WIRING DIAGRAMS

High**PRO**TEC | PROTECTION TECHNOLOGY
MADE SIMPLE

MRA4 | Directional Feeder Protection
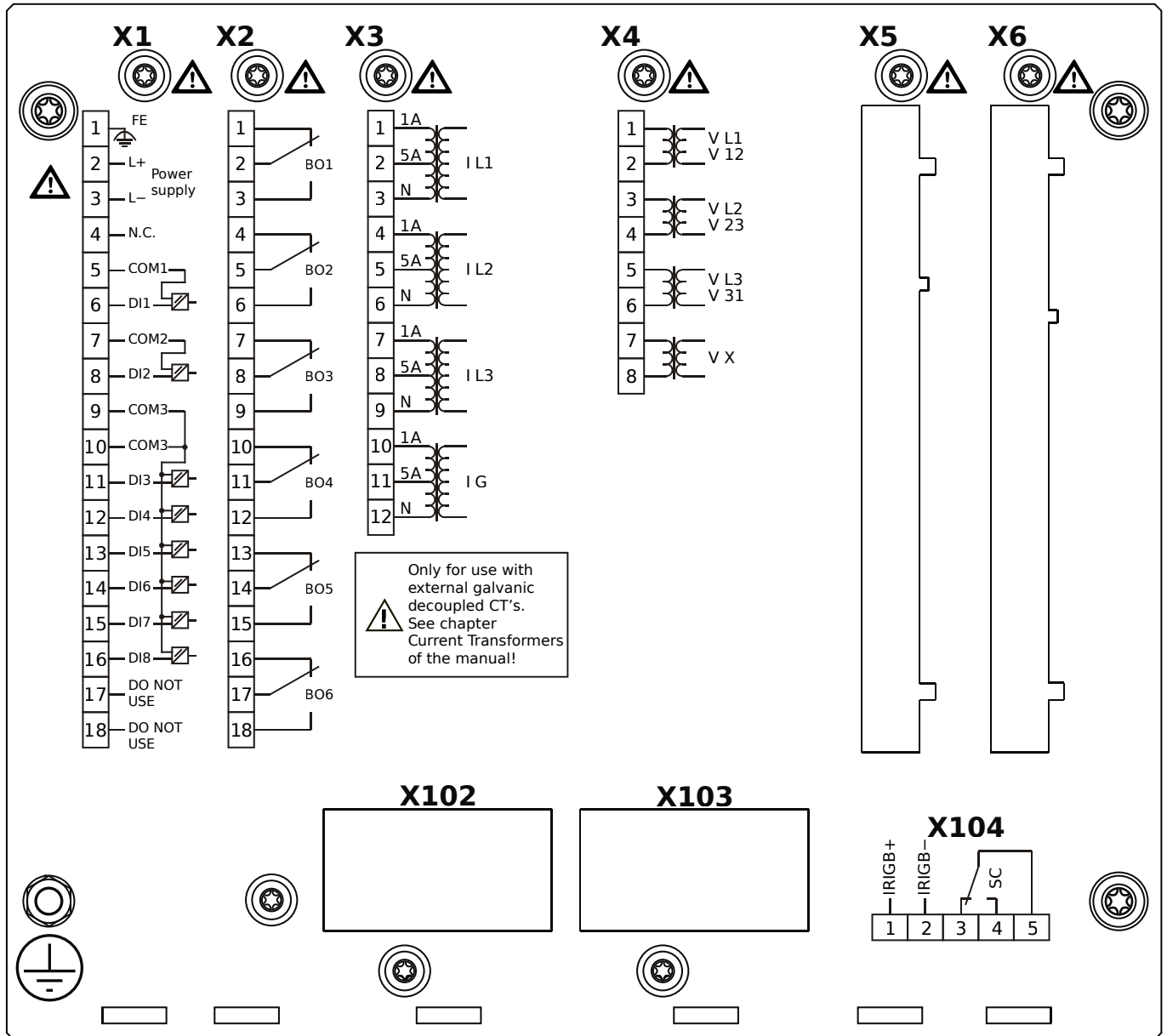
Version: 3.7

Original document

English

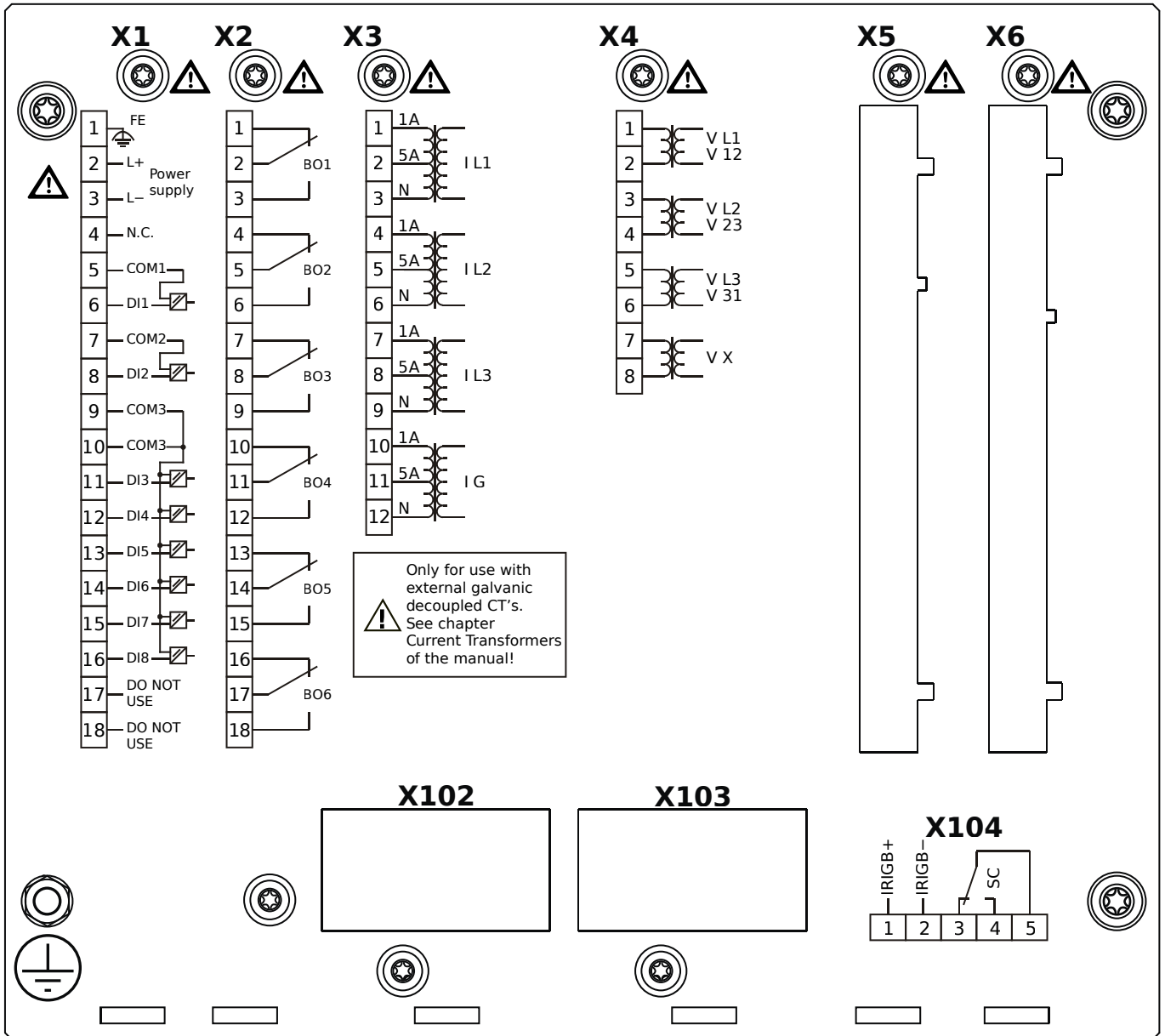This document does not replace the Technical Manual.

MRA4-2A0AAA

X1

1 — FE ⏚
2 — L+ — Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2

1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3

1 — 1A
2 — 5A — I L1
3 — N
4 — 1A
5 — 5A — I L2
6 — N
7 — 1A
8 — 5A — I L3
9 — N
10 — 1A
11 — 5A — I G
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5

X6

X102

X103

X104

IRIGB+ IRIGB− SC
1   2   3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AAB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
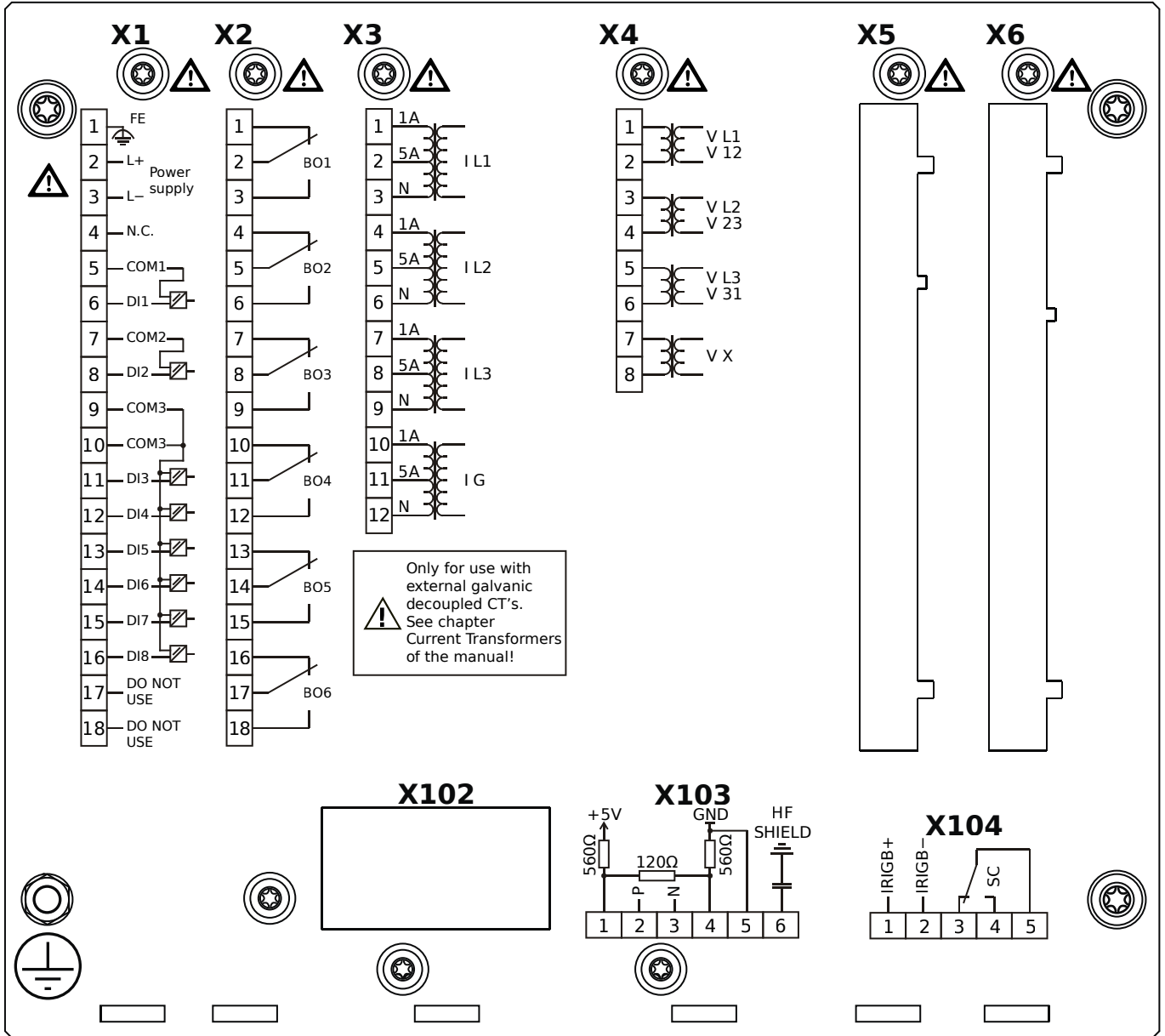**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
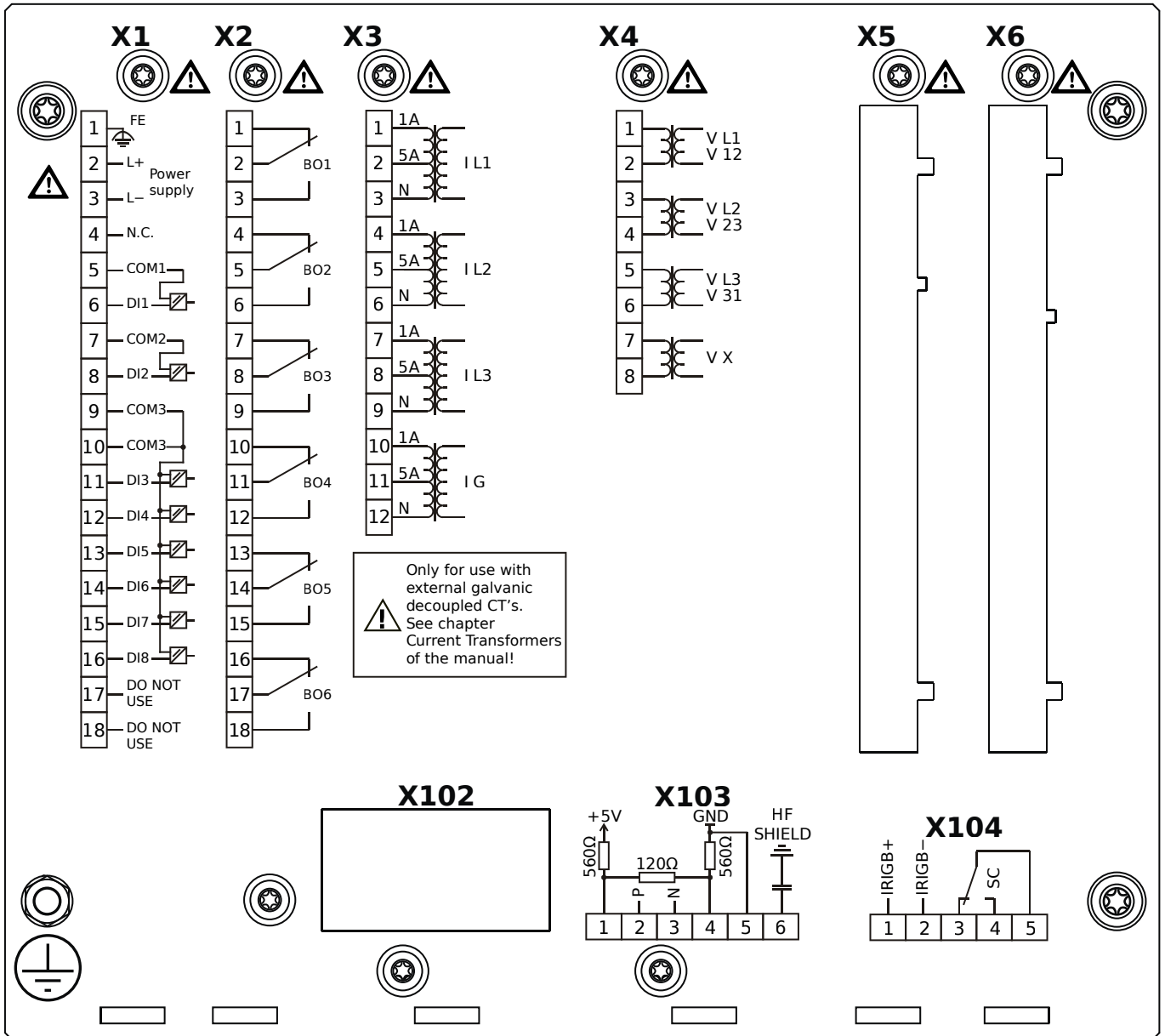**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ABA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103

+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

1	2	3	4	5	6
	P	N			

X104

IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ABB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103

+5V			GND		HF SHIELD
560Ω		120Ω	560Ω		⏚
	P	N			
1	2	3	4	5	6

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
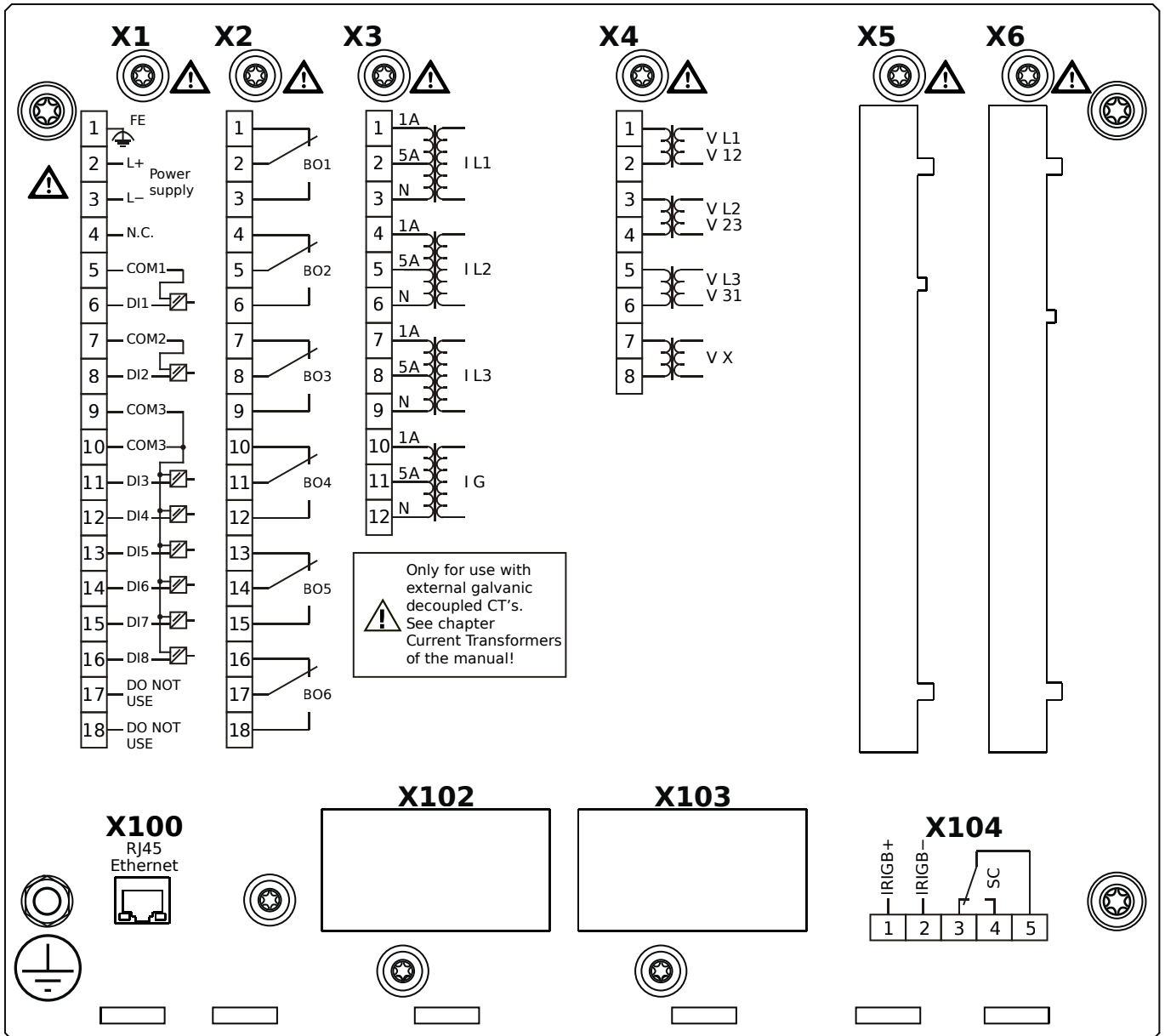**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
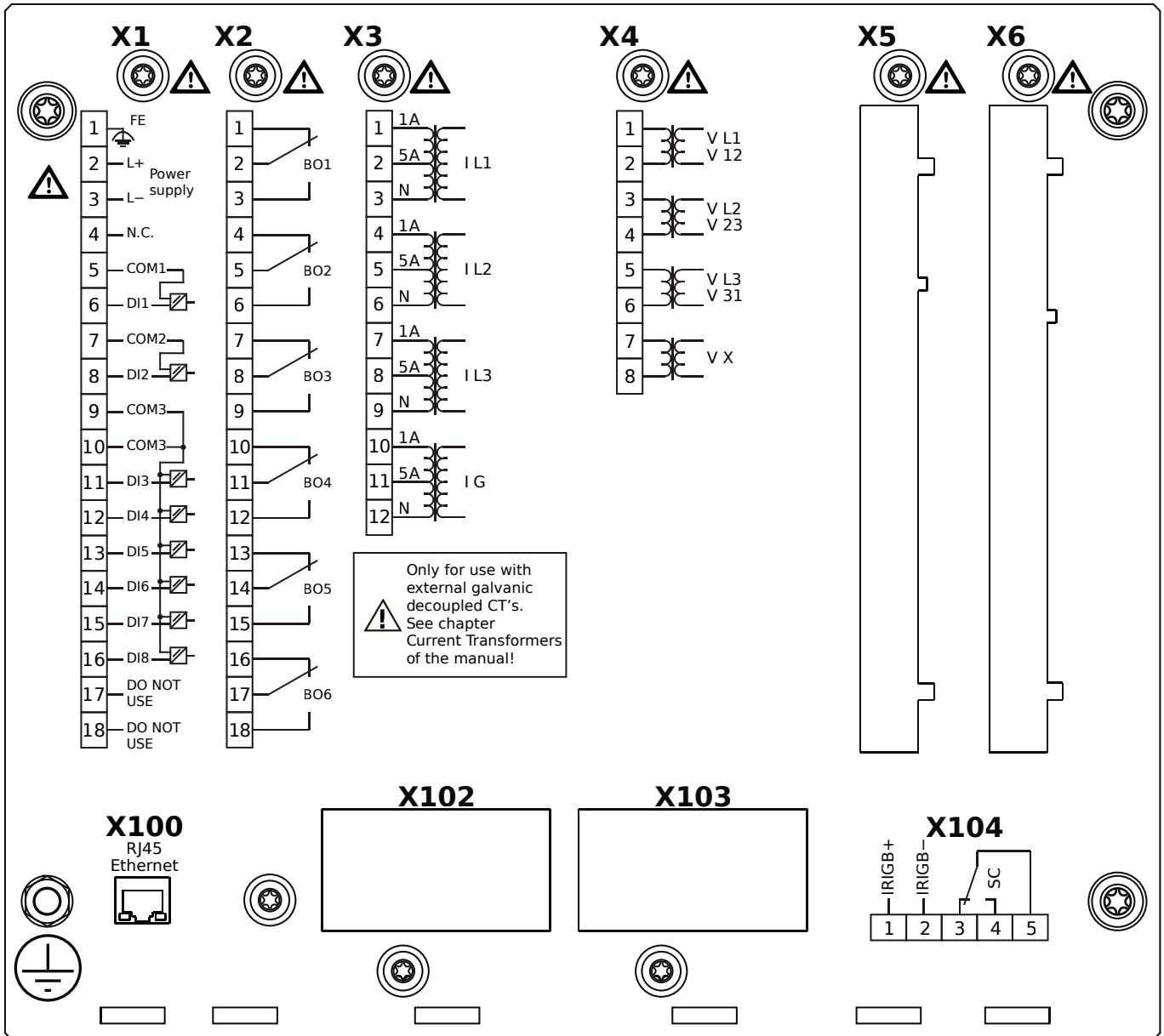**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ACA

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X100
RJ45 Ethernet

X102

X103

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ACB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

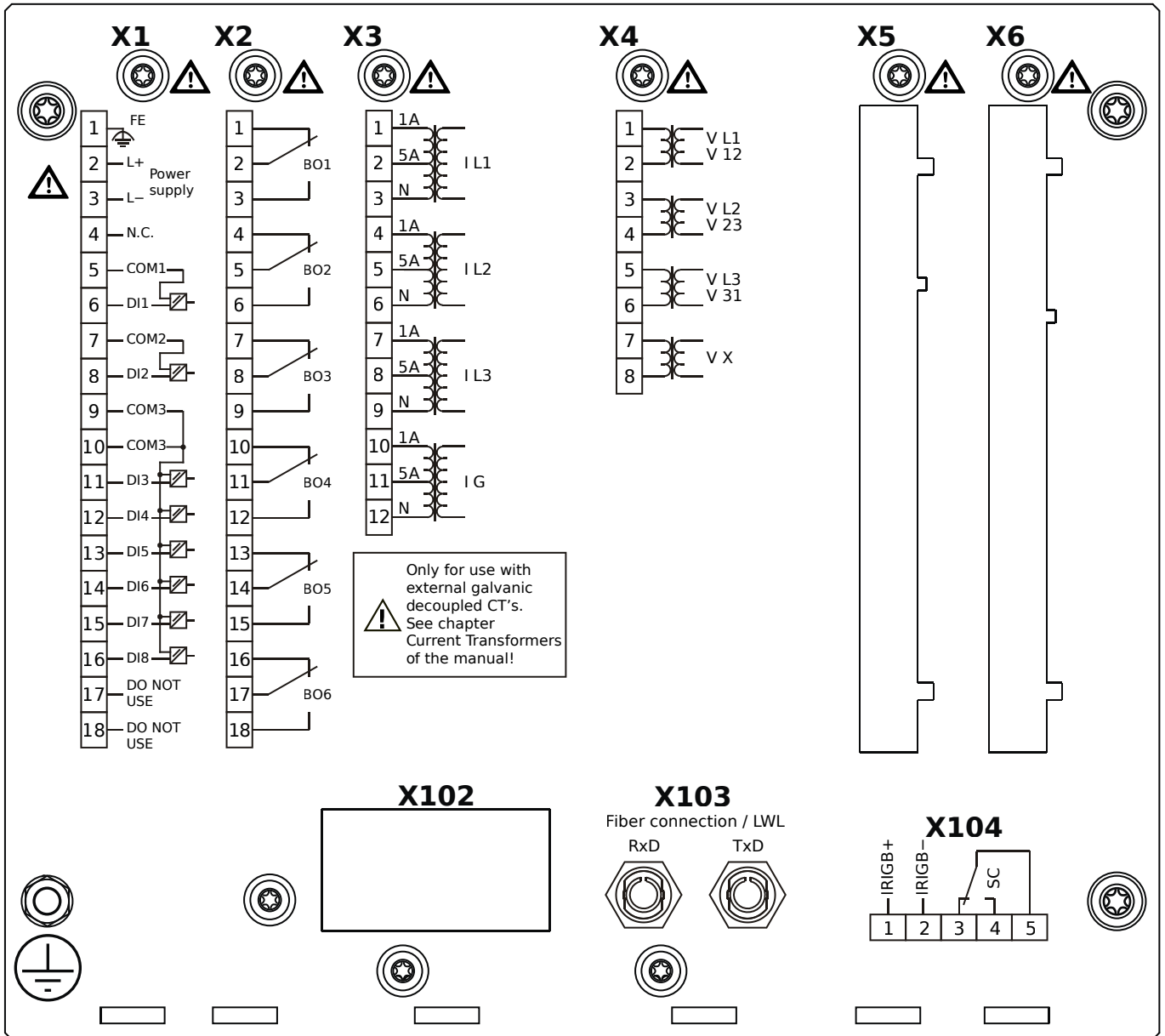**X2**   – OR6: Assembly Group with 6 Output Relays

X3   – TI: Standard current measuring card

X4   – TU: Card with 4 voltage transformer measuring inputs

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

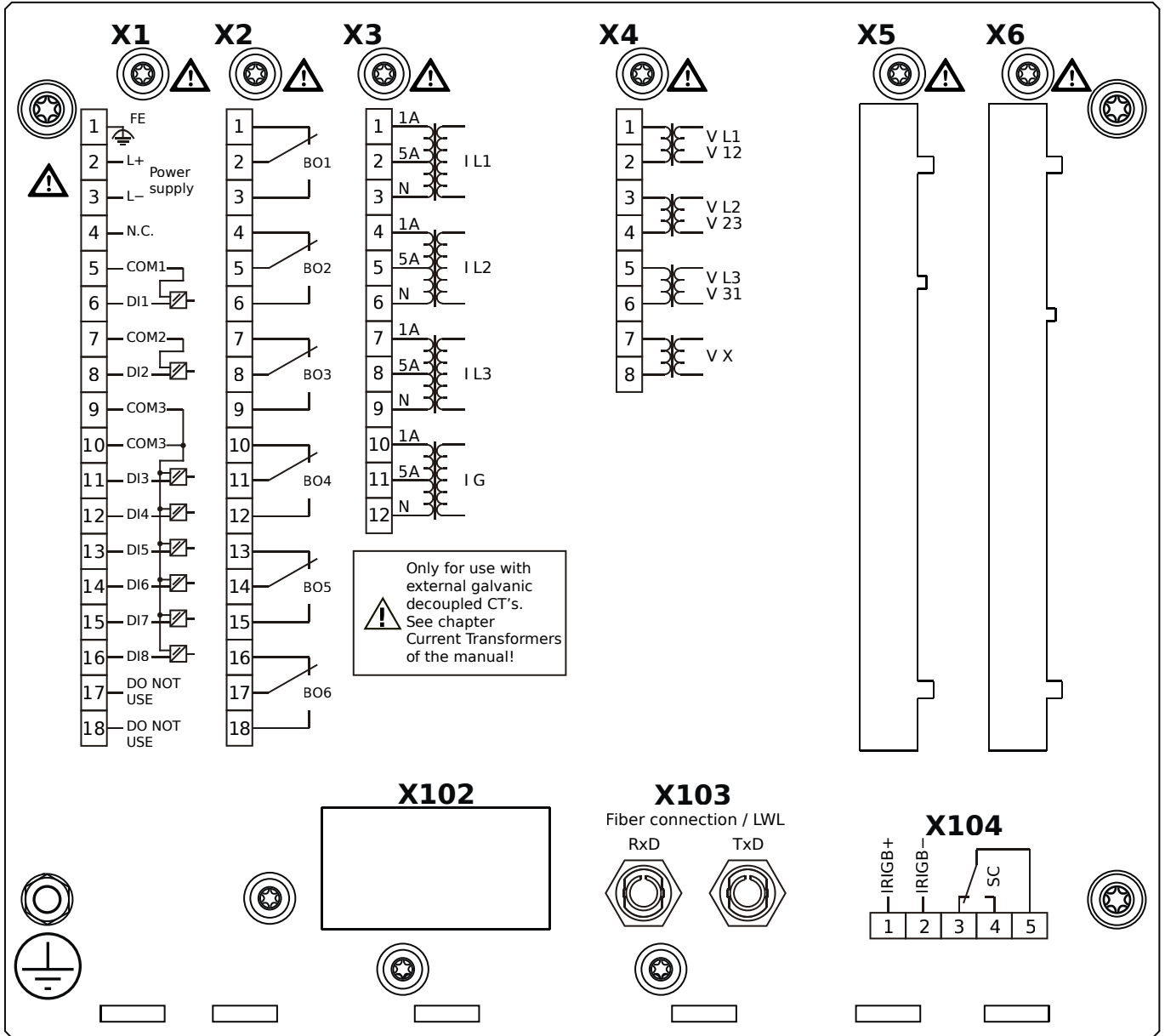**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ADA

X1 **X2** **X3** **X4** **X5** **X6**

X1		X2	X3	X4
1	FE	1	1 1A	1 V L1
2	L+ Power	2 BO1	2 5A I L1	2 V 12
3	L− supply	3	3 N	3 V L2
4	N.C.	4	4 1A	4 V 23
5	COM1	5 BO2	5 5A I L2	5 V L3
6	DI1	6	6 N	6 V 31
7	COM2	7	7 1A	7 V X
8	DI2	8 BO3	8 5A I L3	8
9	COM3	9	9 N	
10	COM3	10	10 1A	
11	DI3	11 BO4	11 5A I G	
12	DI4	12	12 N	
13	DI5	13		
14	DI6	14 BO5		
15	DI7	15		
16	DI8	16		
17	DO NOT USE	17 BO6		
18	DO NOT USE	18		

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
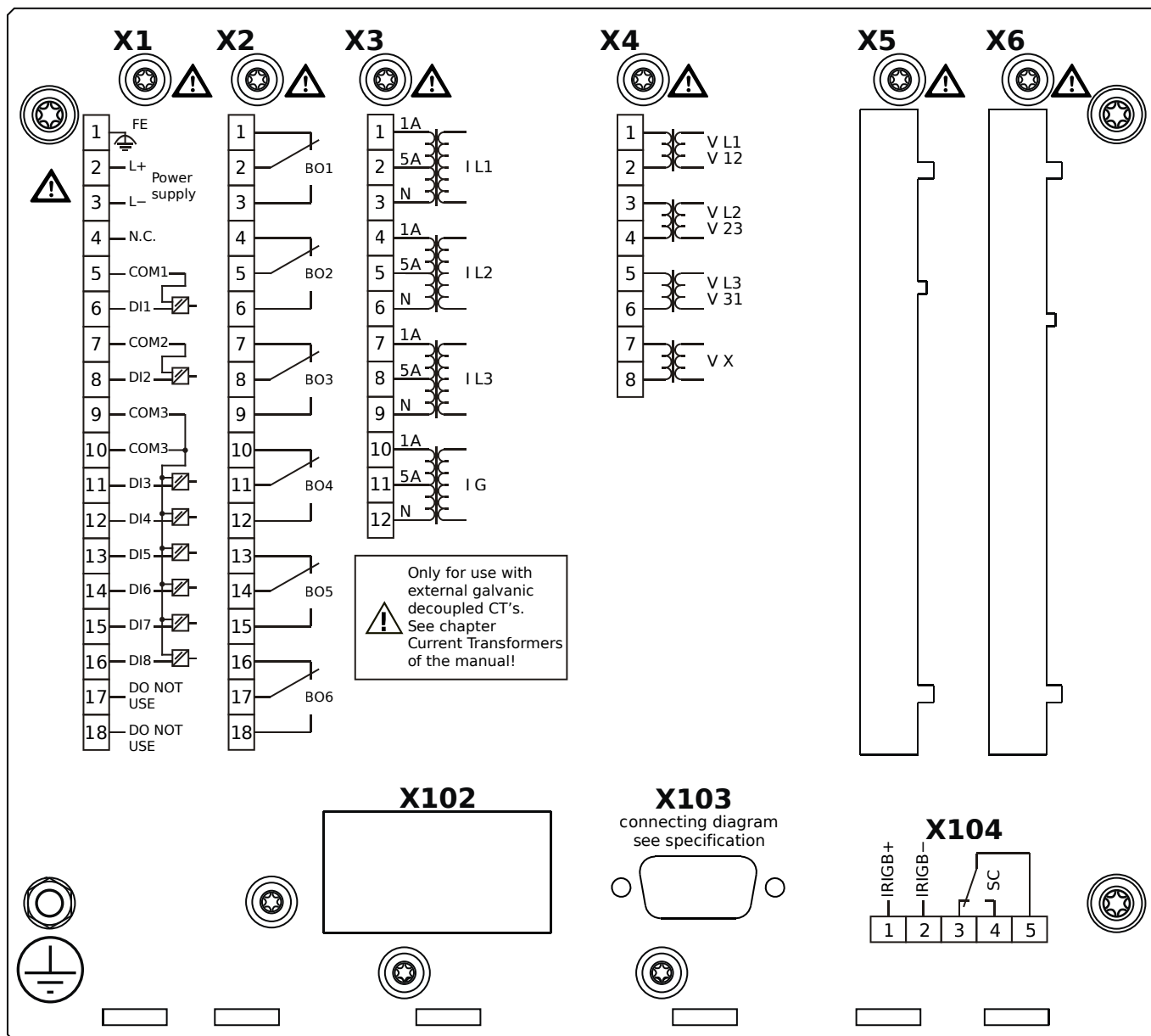**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ADB

X1 — FE, L+, L− Power supply, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N (I L1), 1A, 5A, N (I L2), 1A, 5A, N (I L3), 1A, 5A, N (I G)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1 / V 12, V L2 / V 23, V L3 / V 31, V X

X5

X6

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
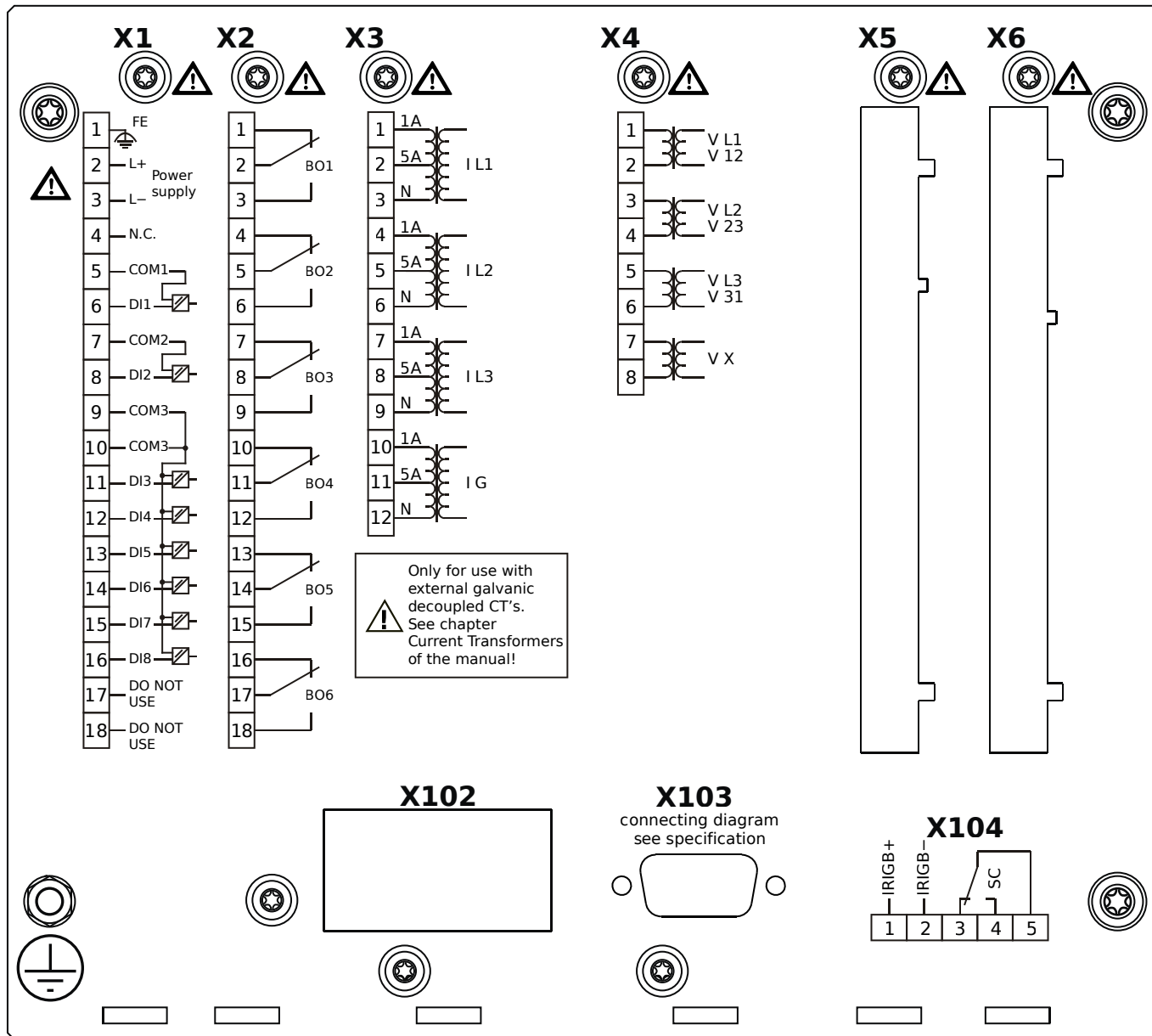**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AEA

X1

1 — FE ⏚
2 — L+ ⎫ Power
3 — L− ⎭ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2

1
2 ⎤ BO1
3
4
5 ⎤ BO2
6
7
8 ⎤ BO3
9
10
11 ⎤ BO4
12
13
14 ⎤ BO5
15
16
17 ⎤ BO6
18

X3

1 1A
2 5A ⎤ I L1
3 N
4 1A
5 5A ⎤ I L2
6 N
7 1A
8 5A ⎤ I L3
9 N
10 1A
11 5A ⎤ I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 ⎤ V L1
2 ⎦ V 12
3 ⎤ V L2
4 ⎦ V 23
5 ⎤ V L3
6 ⎦ V 31
7 ⎤ V X
8

X5

X6

X102

X103
connecting diagram
see specification

X104

IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
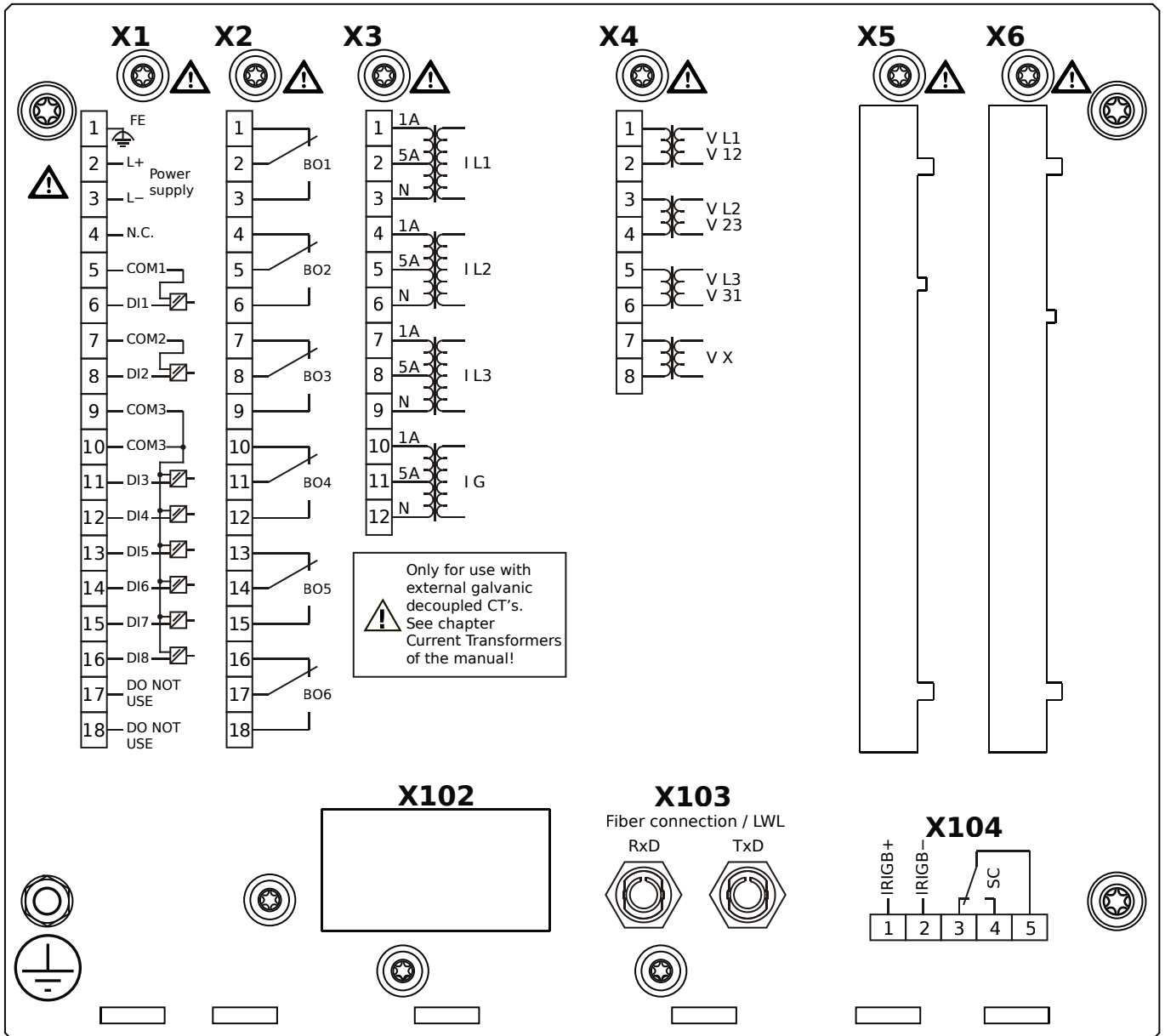**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AEB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5 **X6**

X102

X103
connecting diagram
see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
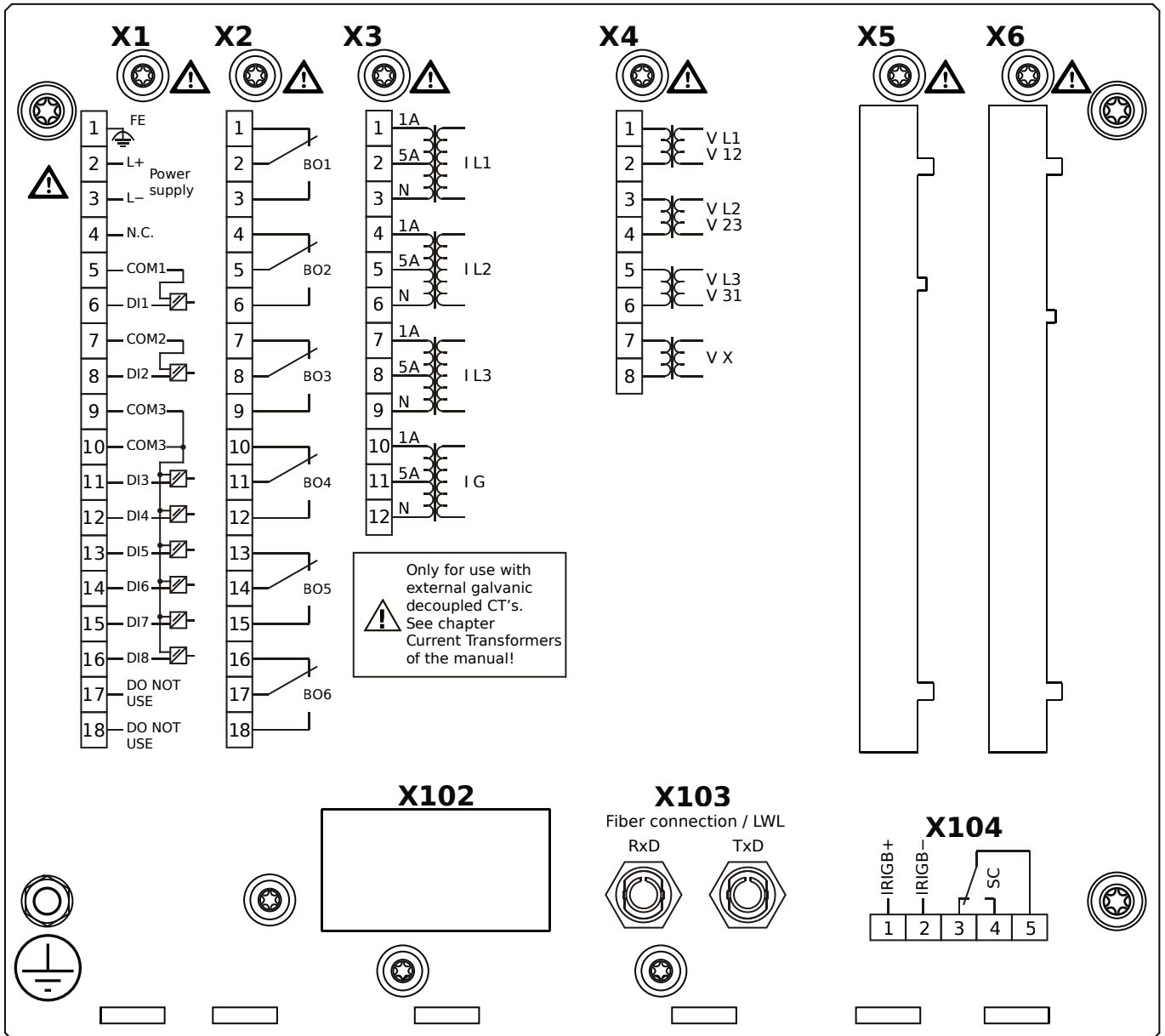**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AFA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AFB

Housing B2, small display, door mounting

    +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

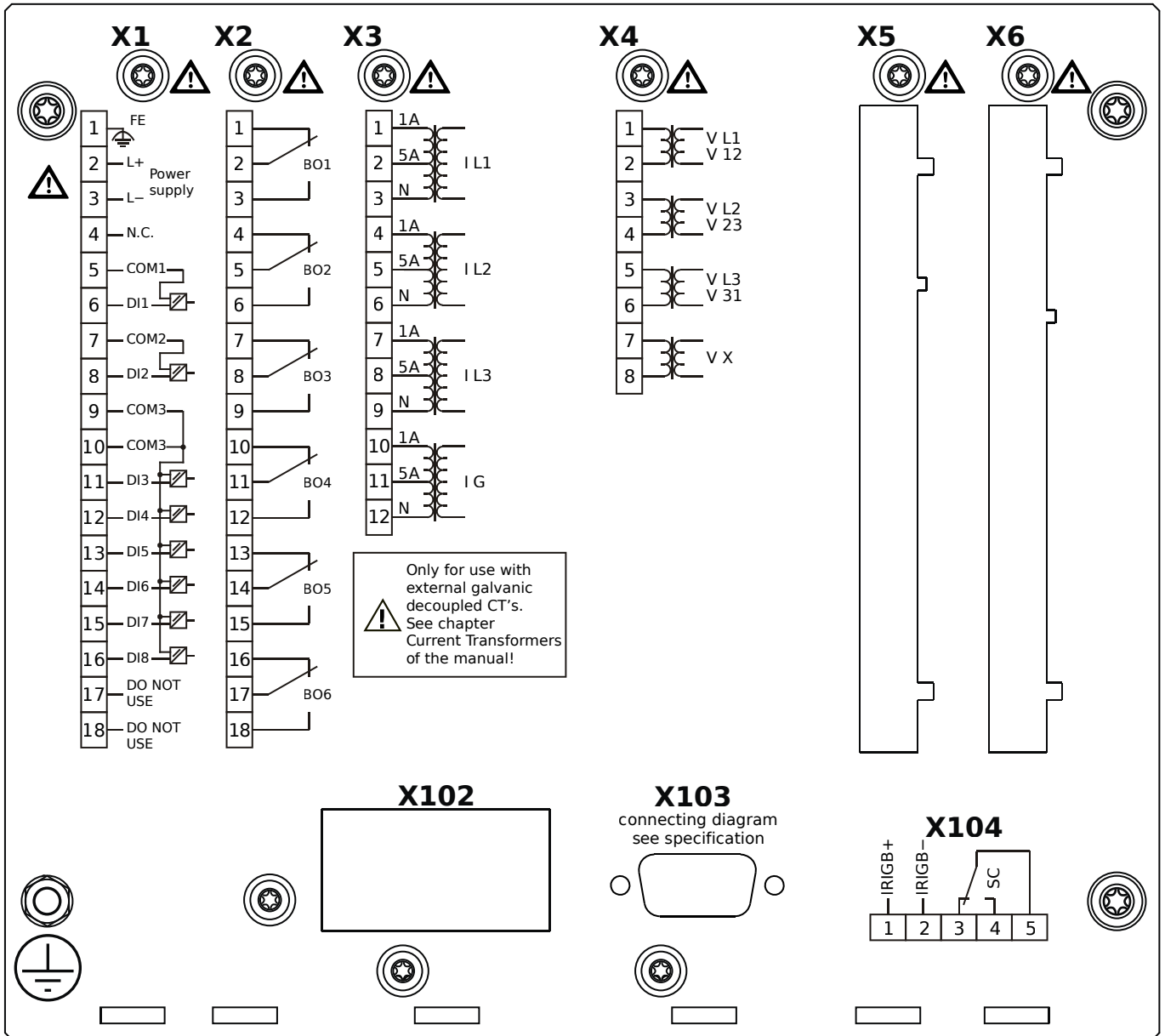**X2**   – OR6: Assembly Group with 6 Output Relays

X3   – TI: Standard current measuring card

X4   – TU: Card with 4 voltage transformer measuring inputs

X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector

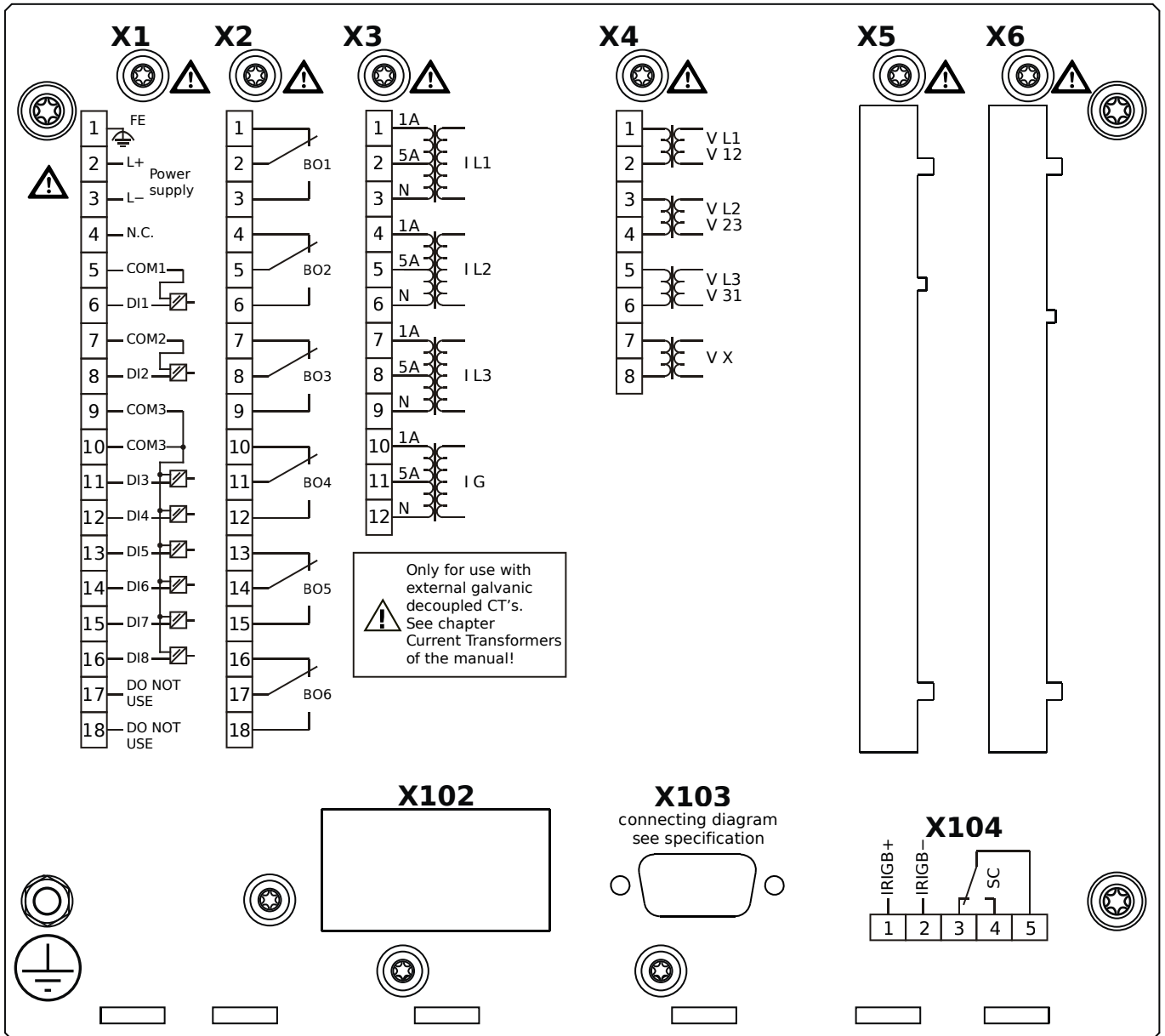**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AGA

X1 — FE, Power supply (L+, L−), N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N (I L1); 1A, 5A, N (I L2); 1A, 5A, N (I L3); 1A, 5A, N (I G)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1, V 12; V L2, V 23; V L3, V 31; V X

X5 **X6**

X102

X103
connecting diagram see specification

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AGB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TI: Standard current measuring card

X4 – TU: Card with 4 voltage transformer measuring inputs

X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AHA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AHB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1		
1	FE	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3		
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4		
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X100
RJ45
Ethernet

X102

X103

X104

1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
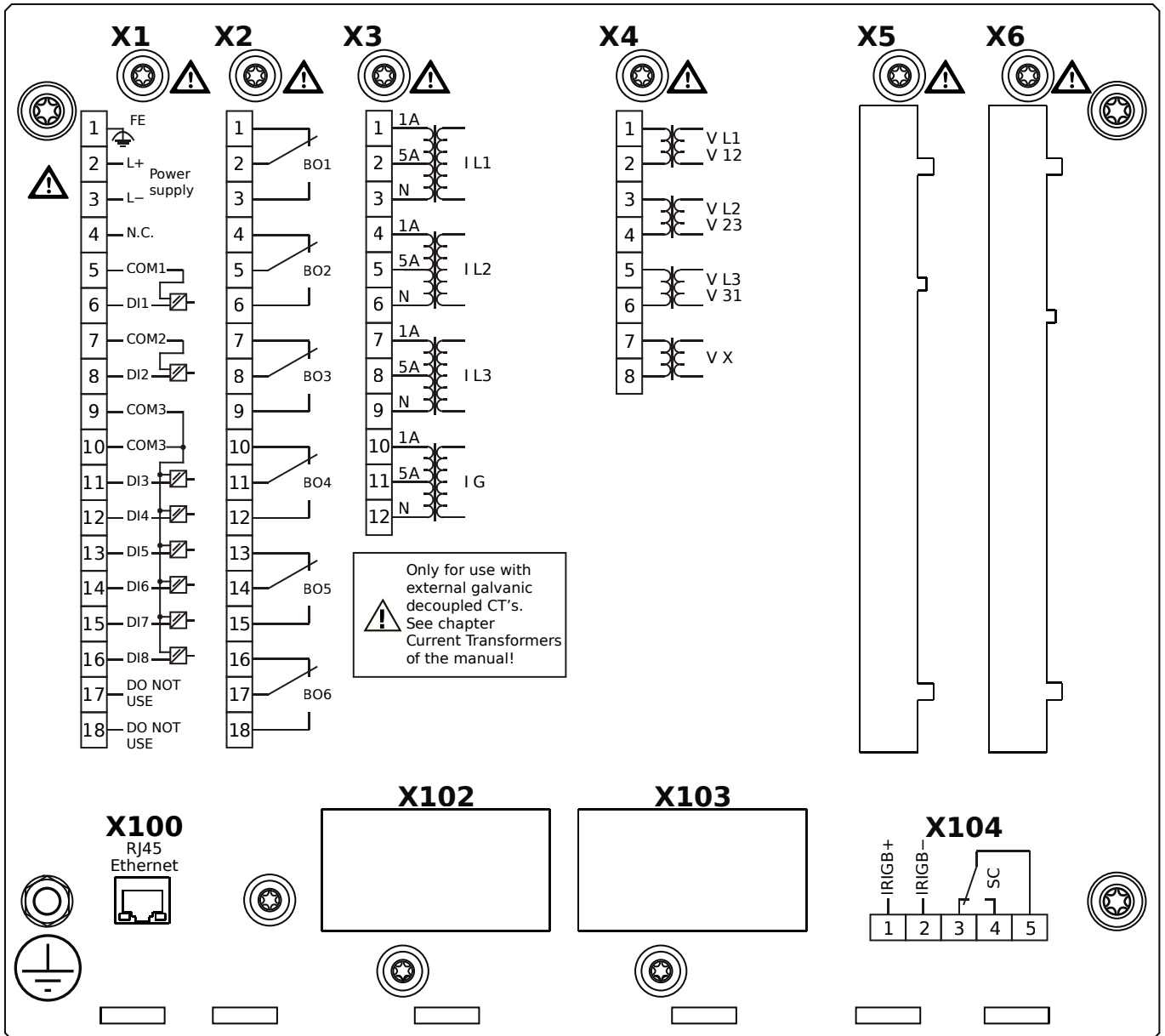**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AIA

X1 **X2** **X3** **X4** **X5** **X6**

X1		
1	FE	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3		
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4		
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X100
RJ45 Ethernet

X102

X103
+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

P   N

1	2	3	4	5	6

X104
IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
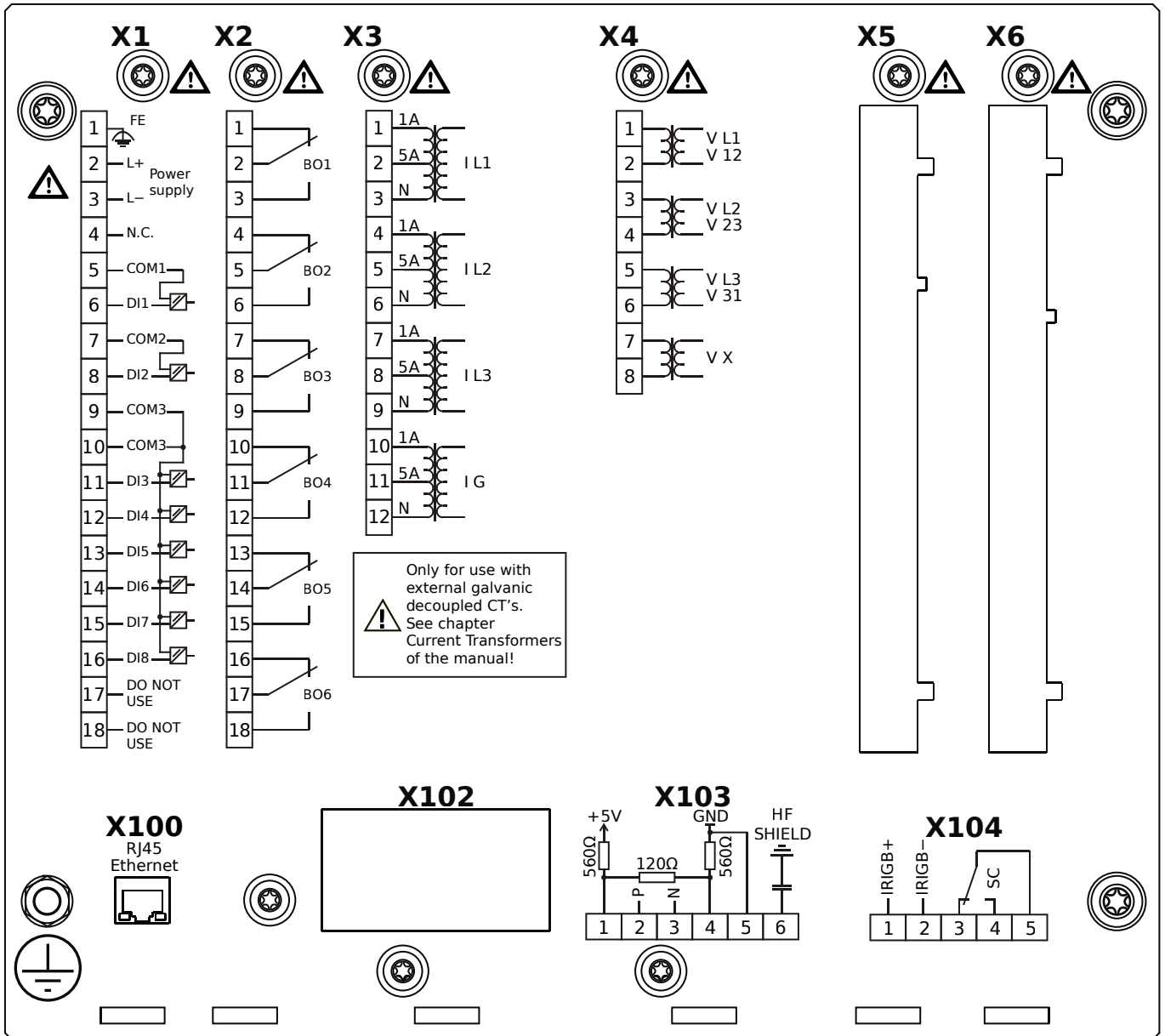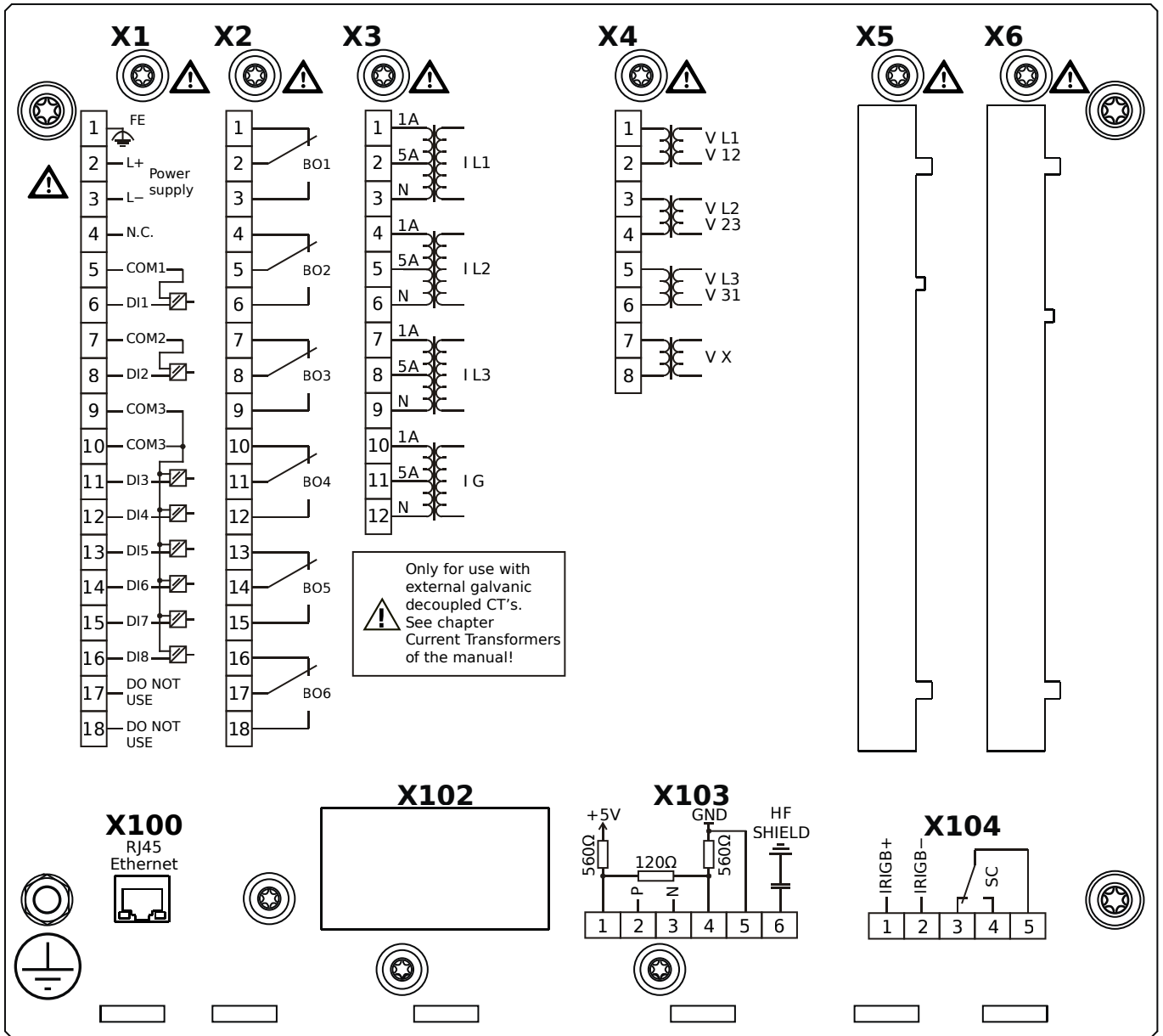**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AIB

X1 — FE, L+, L−, Power supply, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N (I L1); 1A, 5A, N (I L2); 1A, 5A, N (I L3); 1A, 5A, N (I G)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1 / V 12; V L2 / V 23; V L3 / V 31; V X

X5

X6

X100 — RJ45 Ethernet

X102

X103 — +5V, GND, HF SHIELD, 560Ω, 120Ω, 560Ω, P, N — 1 2 3 4 5 6

X104 — IRIGB+, IRIGB−, SC — 1 2 3 4 5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
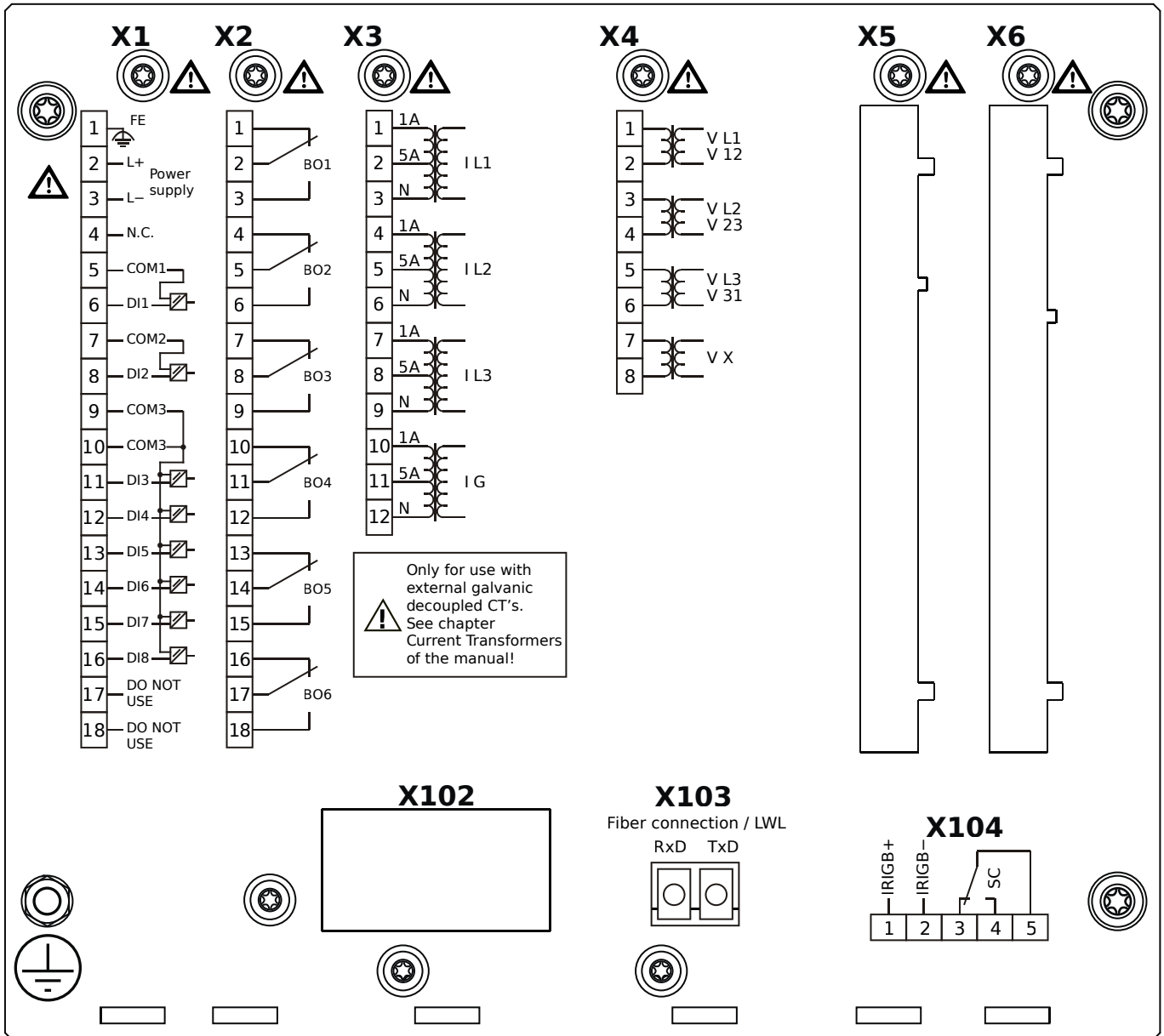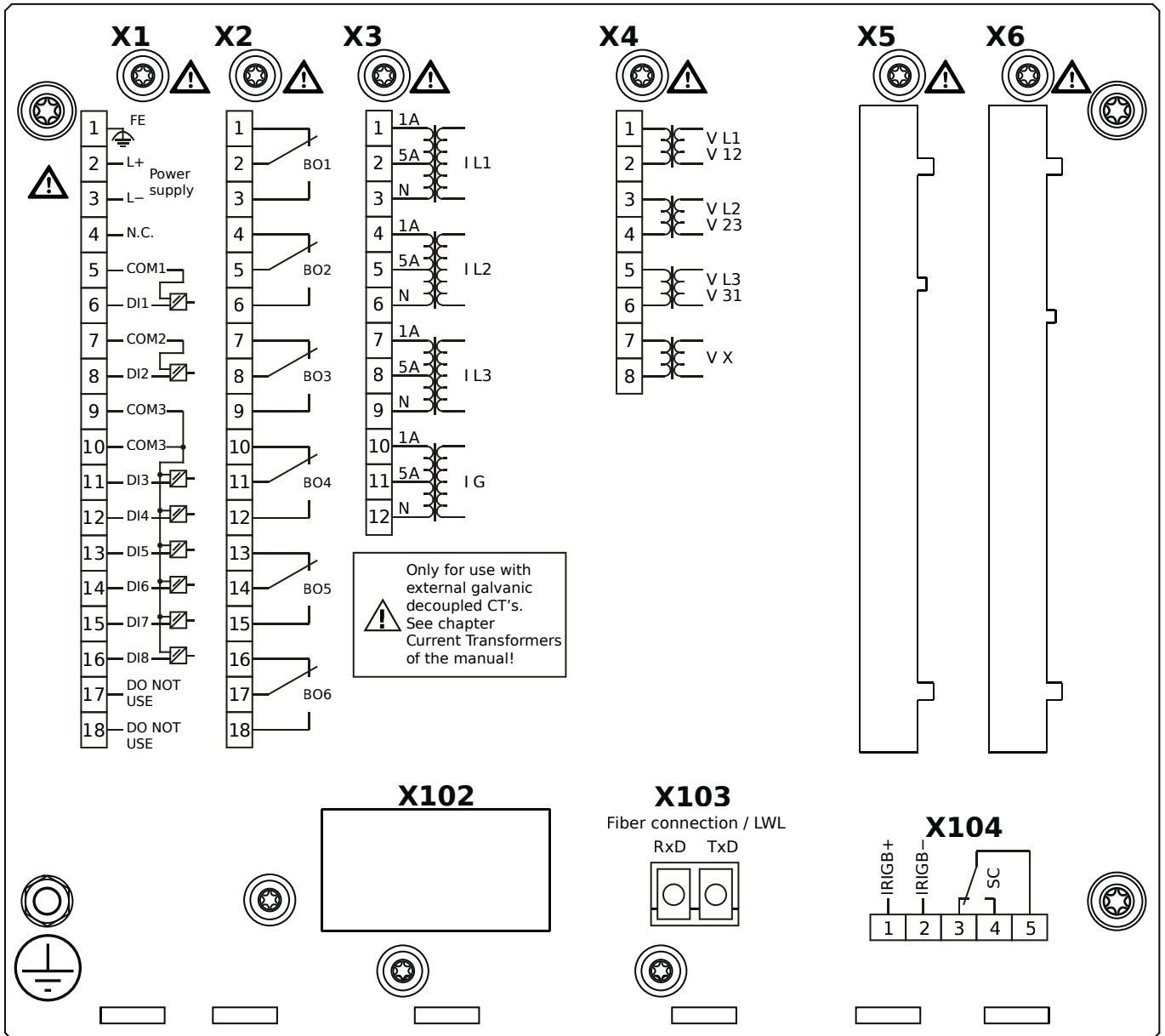**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AKA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0AKB

X1 **X2** **X3** **X4** **X5** **X6**

X1	
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3	
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4	
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
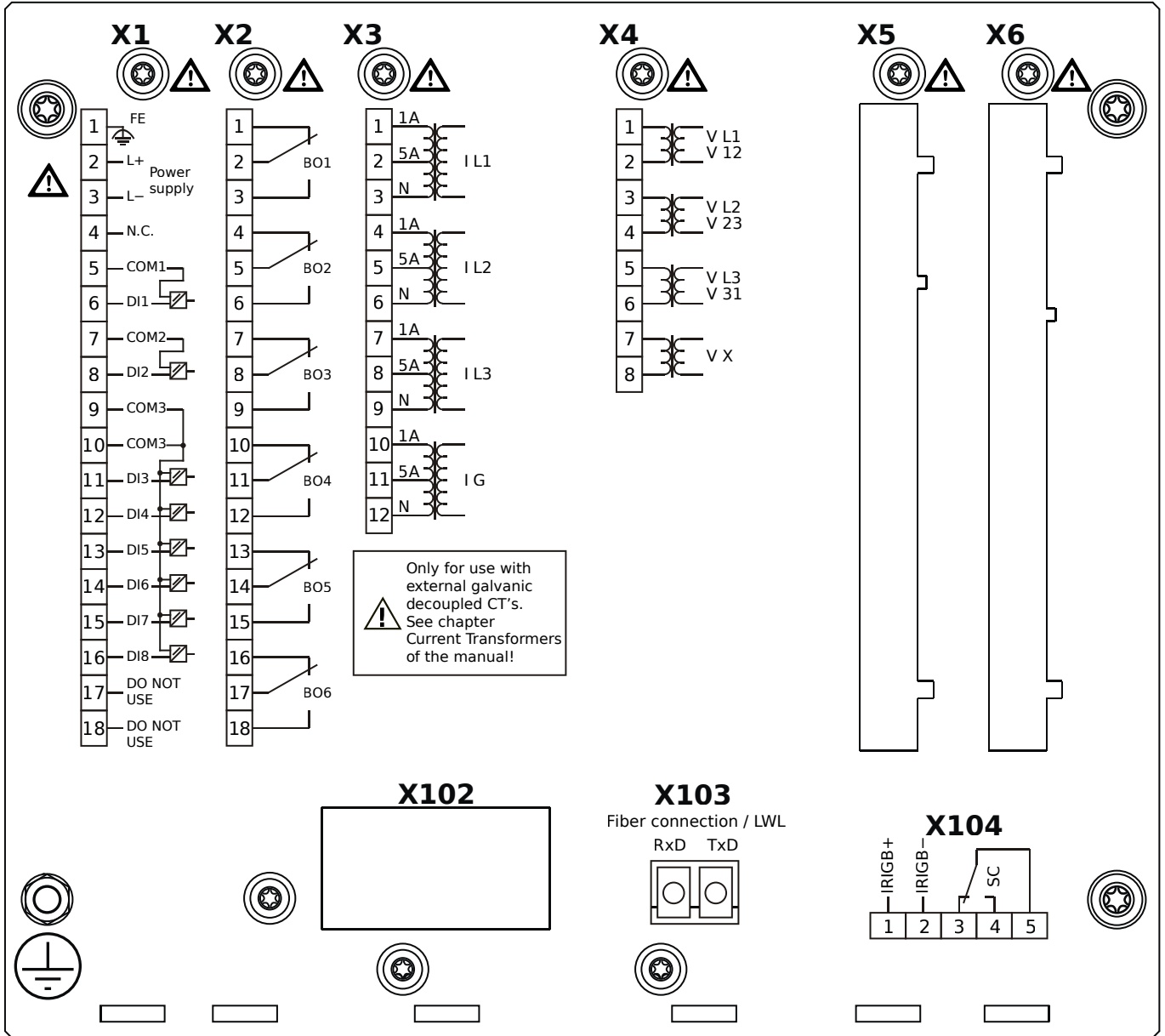**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
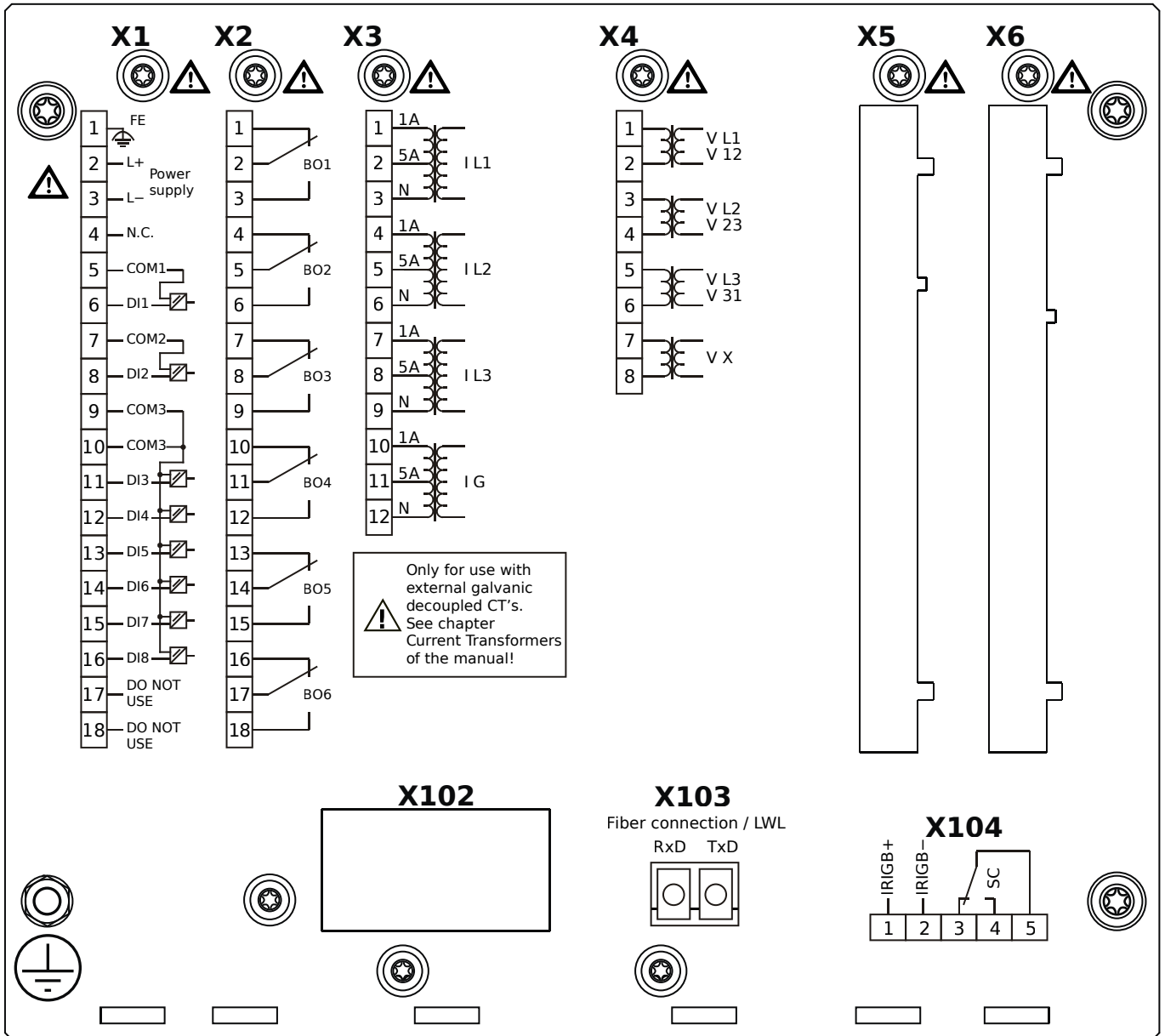**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ALA

X1
1 — FE ⏚
2 — L+ — Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3
1 — 1A
2 — 5A — I L1
3 — N
4 — 1A
5 — 5A — I L2
6 — N
7 — 1A
8 — 5A — I L3
9 — N
10 — 1A
11 — 5A — I G
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5

X6

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ALB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5 **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
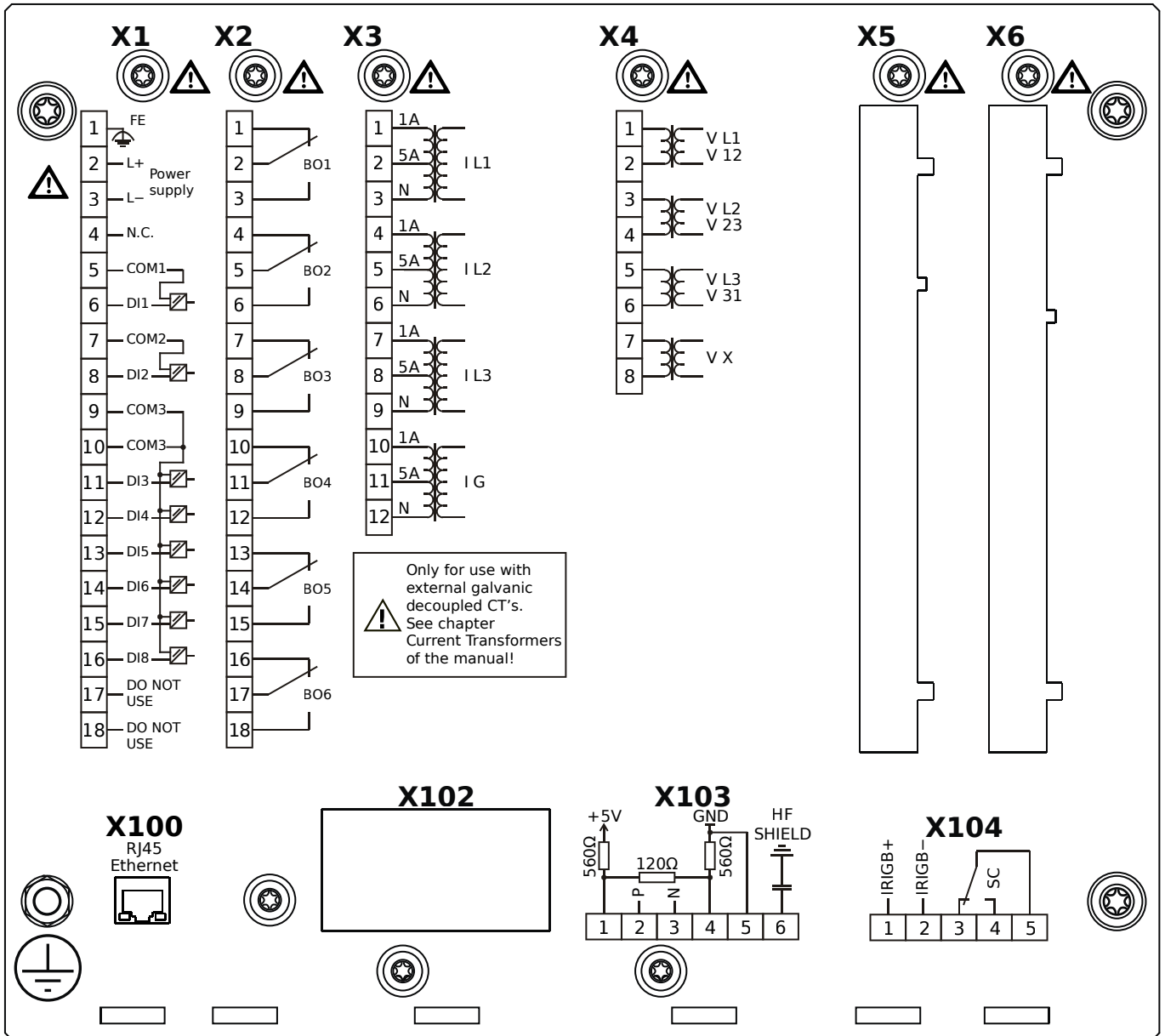**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
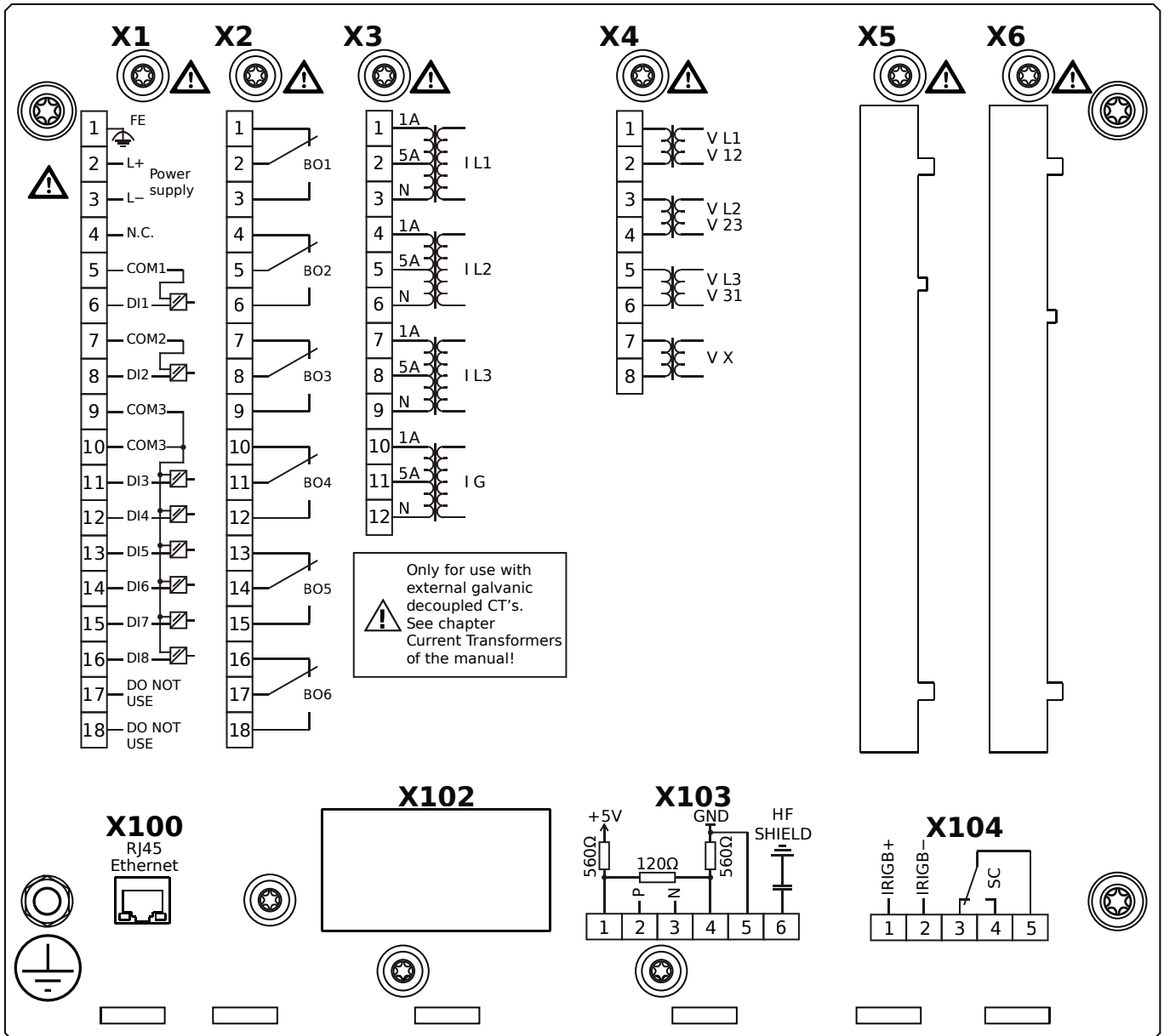**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ATA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0ATB

X1 **X2** **X3** **X4** **X5** **X6**

X1 terminals:
1 FE
2 L+ — Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2 terminals:
1, 2 BO1, 3
4, 5 BO2, 6
7, 8 BO3, 9
10, 11 BO4, 12
13, 14 BO5, 15
16, 17 BO6, 18

X3 terminals:
1 1A, 2 5A, 3 N — I L1
4 1A, 5 5A, 6 N — I L2
7 1A, 8 5A, 9 N — I L3
10 1A, 11 5A, 12 N — I G

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 terminals:
1, 2 V L1 / V 12
3, 4 V L2 / V 23
5, 6 V L3 / V 31
7, 8 V X

X100
RJ45
Ethernet

X102

X103
+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N
1 2 3 4 5 6

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
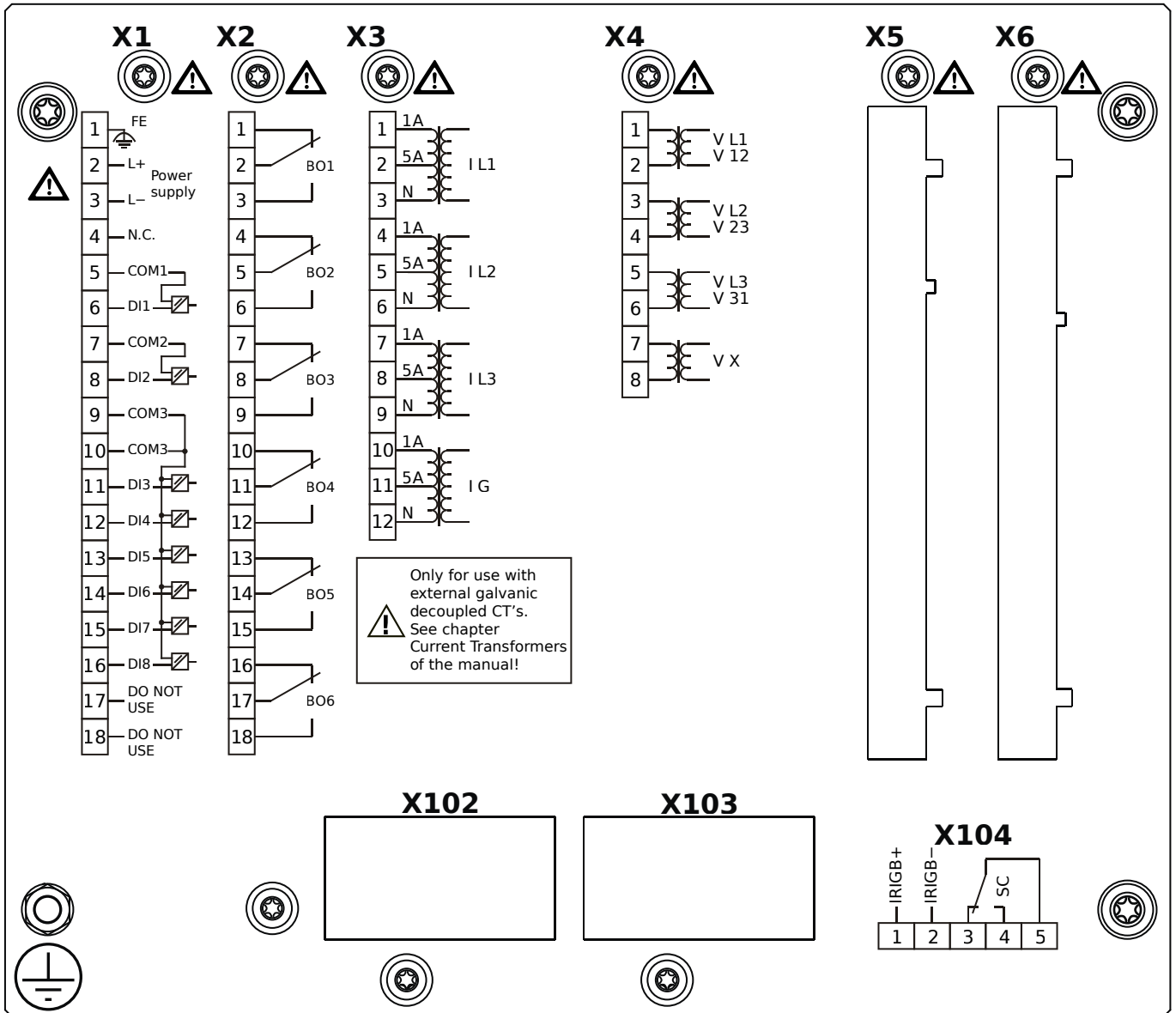**X3** – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
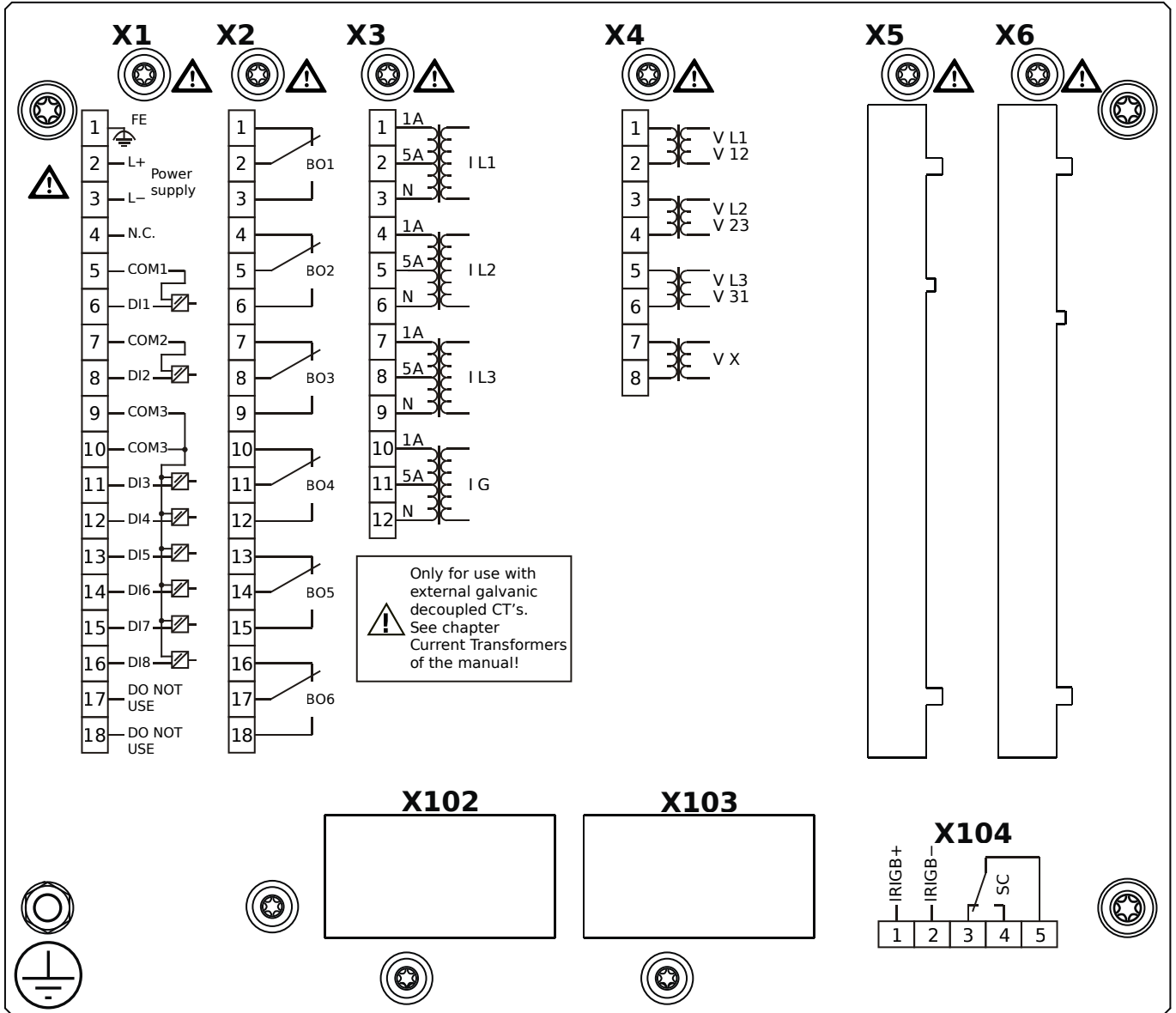**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BAA

X1 **X2** **X3** **X4** **X5** **X6**

X1	
1	FE
2	L+
3	L− Power supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3		
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4		
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X102 **X103**

X104

	IRIGB+	IRIGB−		SC	
	1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BAB

X1 — FE, L+, L−, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3

1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5   **X6**

X102   **X103**   **X104**

IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)

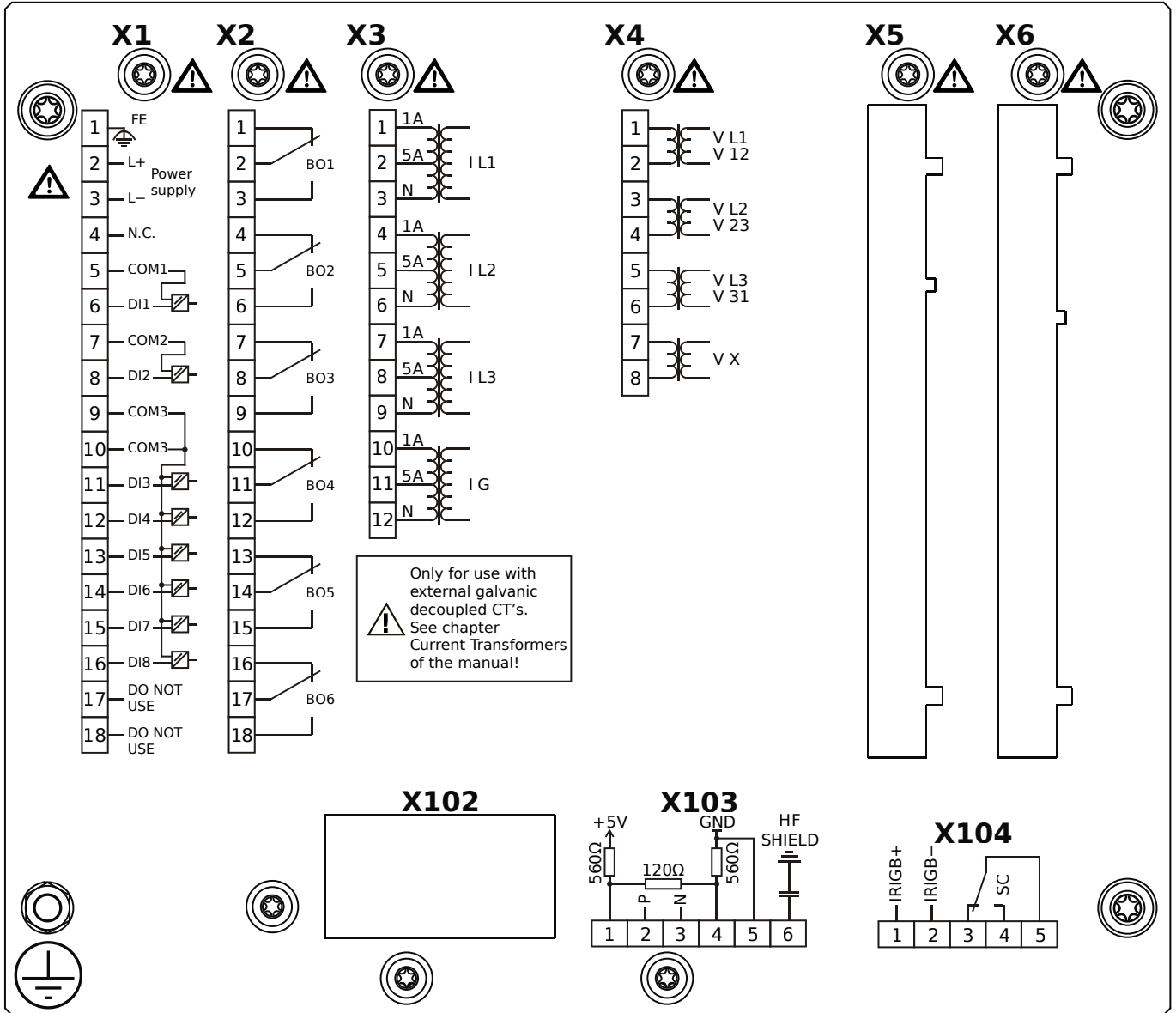**X1**   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2   – OR6: Assembly Group with 6 Output Relays

X3   – TI: Standard current measuring card

X4   – TU: Card with 4 voltage transformer measuring inputs

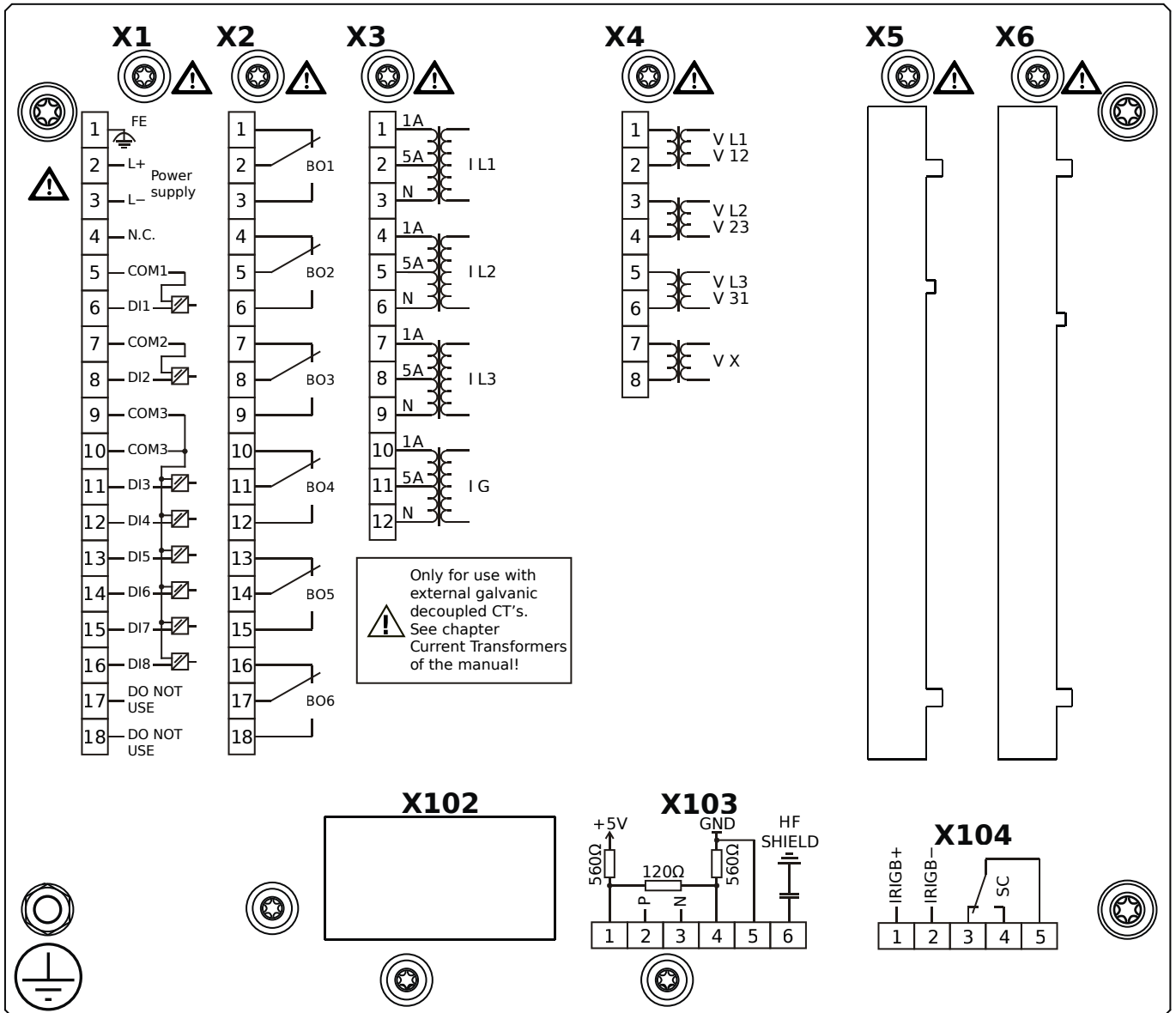**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BBA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5   **X6**

X102

X103

+5V   GND   HF SHIELD
560Ω   120Ω   560Ω

P	N			
1	2	3	4	5	6

X104

IRIGB+   IRIGB−   SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BBB

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
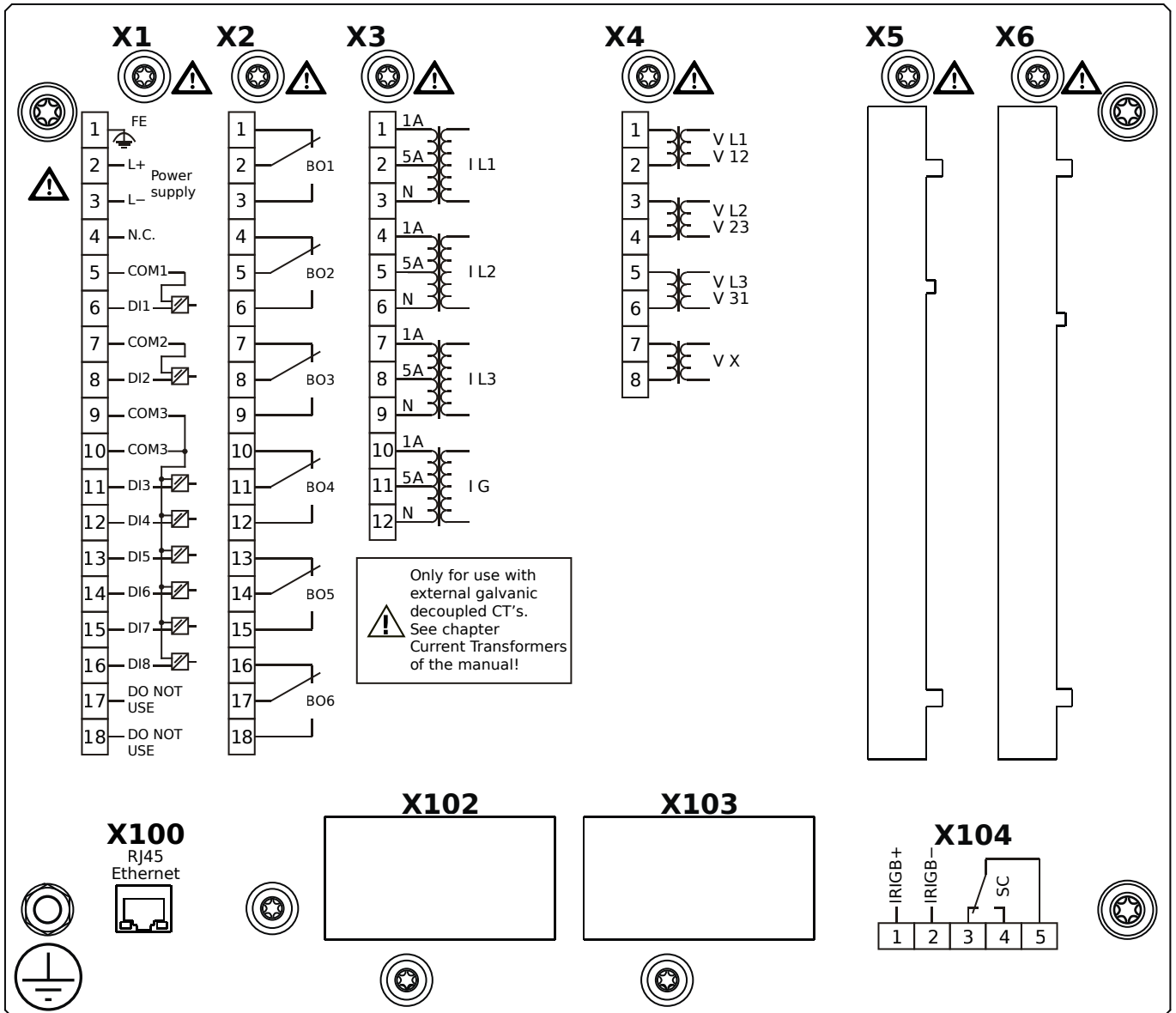
X2   – OR6: Assembly Group with 6 Output Relays

X3   – TI: Standard current measuring card

X4   – TU: Card with 4 voltage transformer measuring inputs

X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals

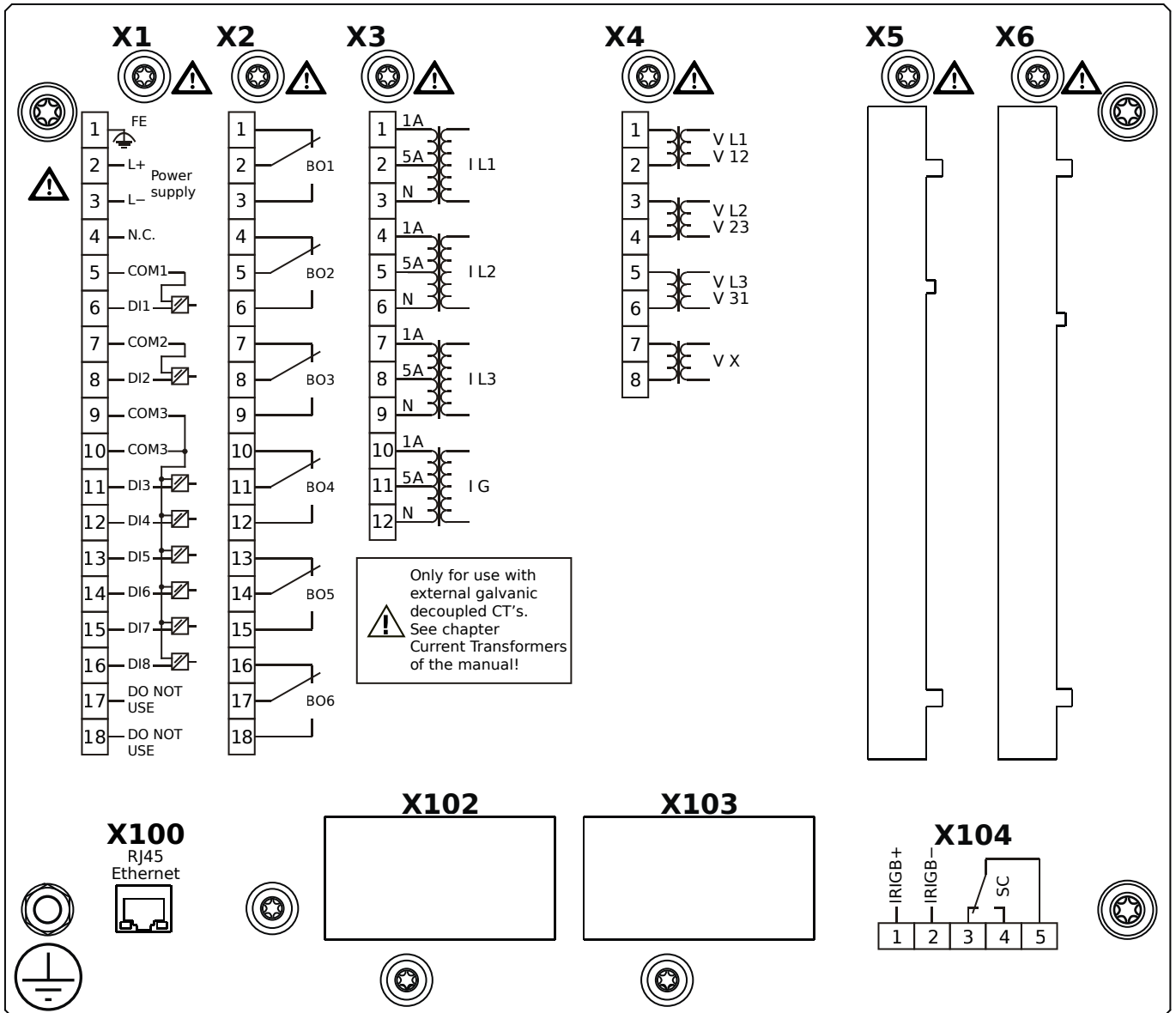**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BCA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BCB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TI: Standard current measuring card

X4 – TU: Card with 4 voltage transformer measuring inputs

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BDA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   ## X6

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
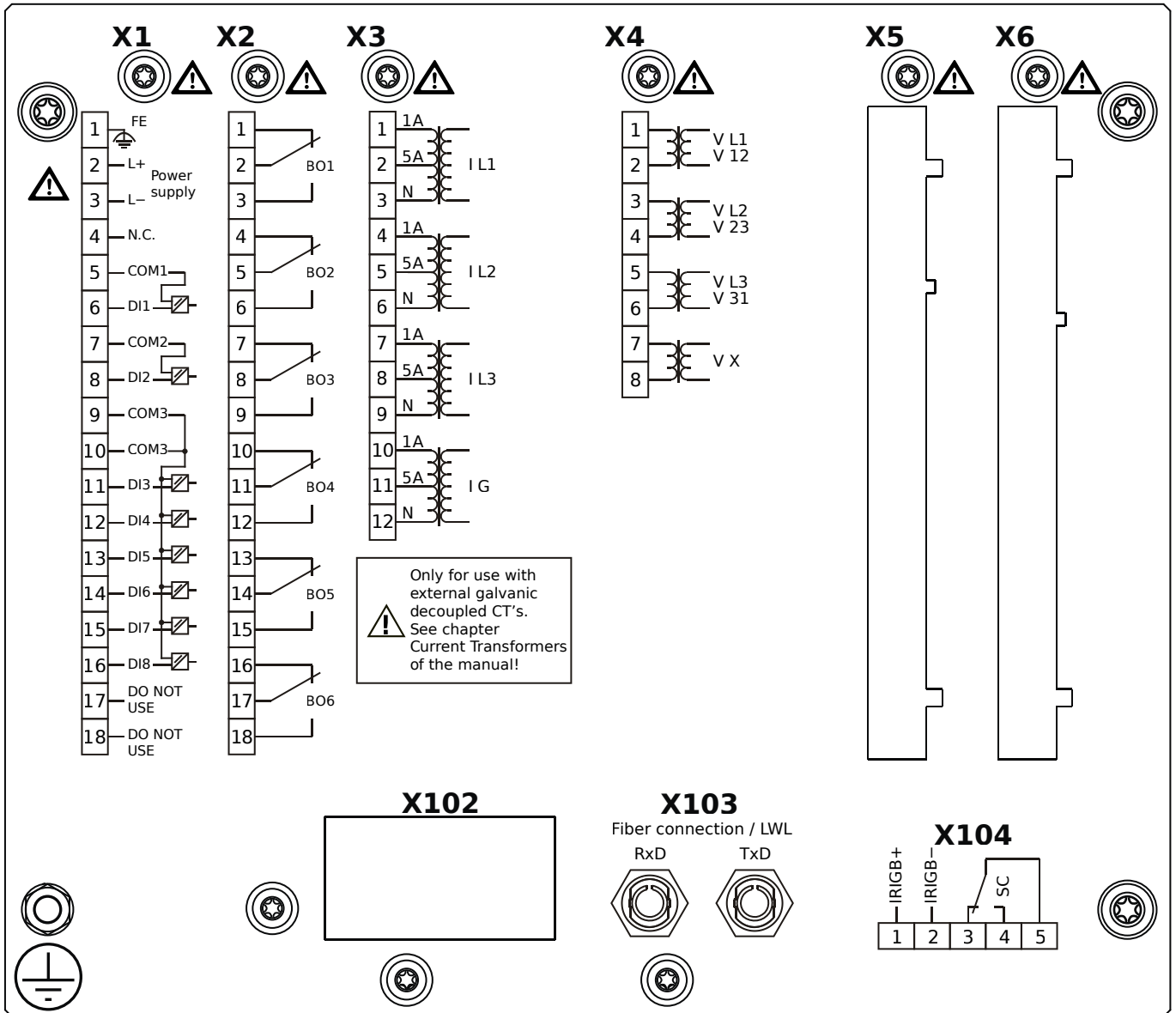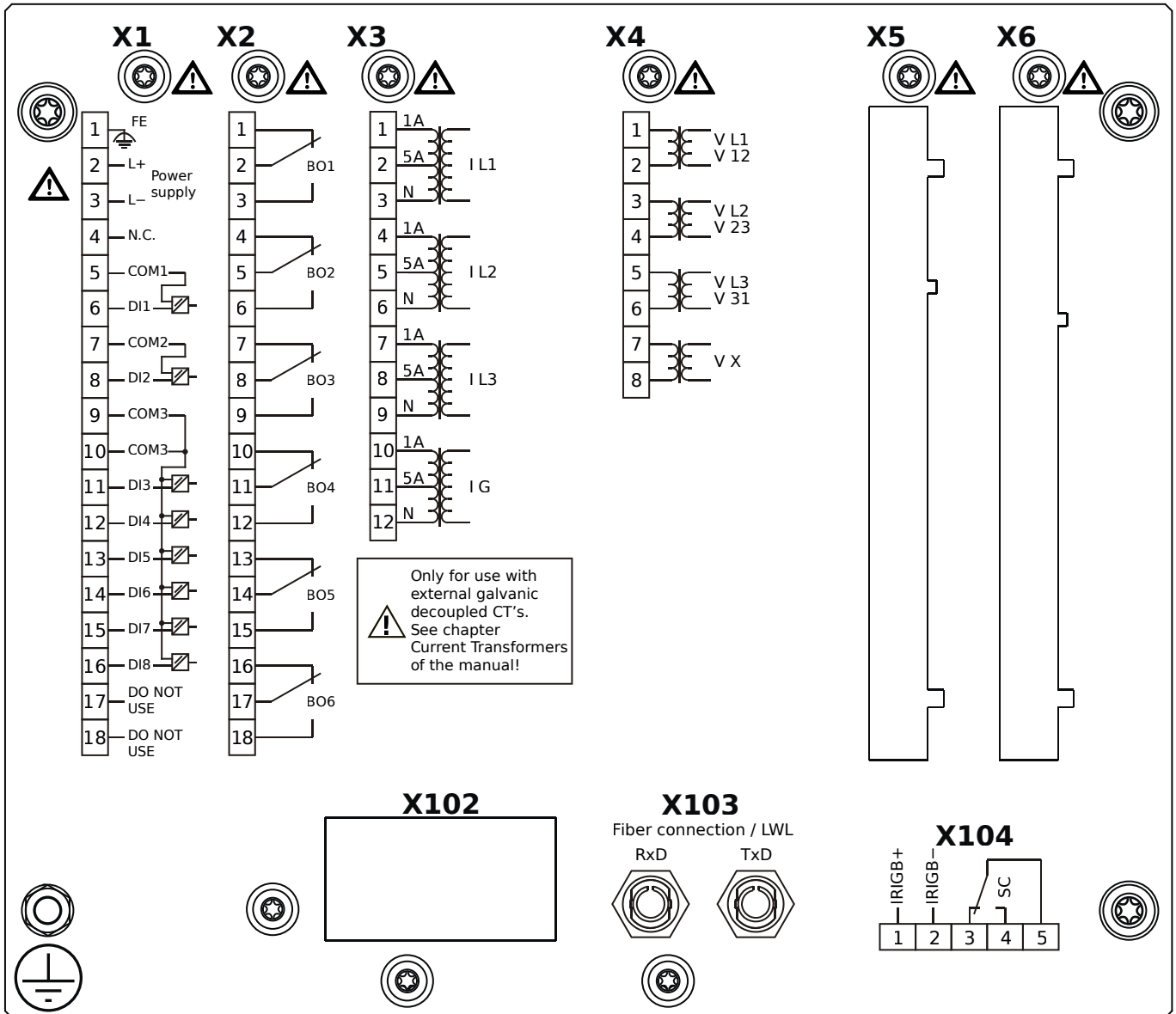**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BDB

X1

1	FE ⏚
2	L+ (Power supply)
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5 **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
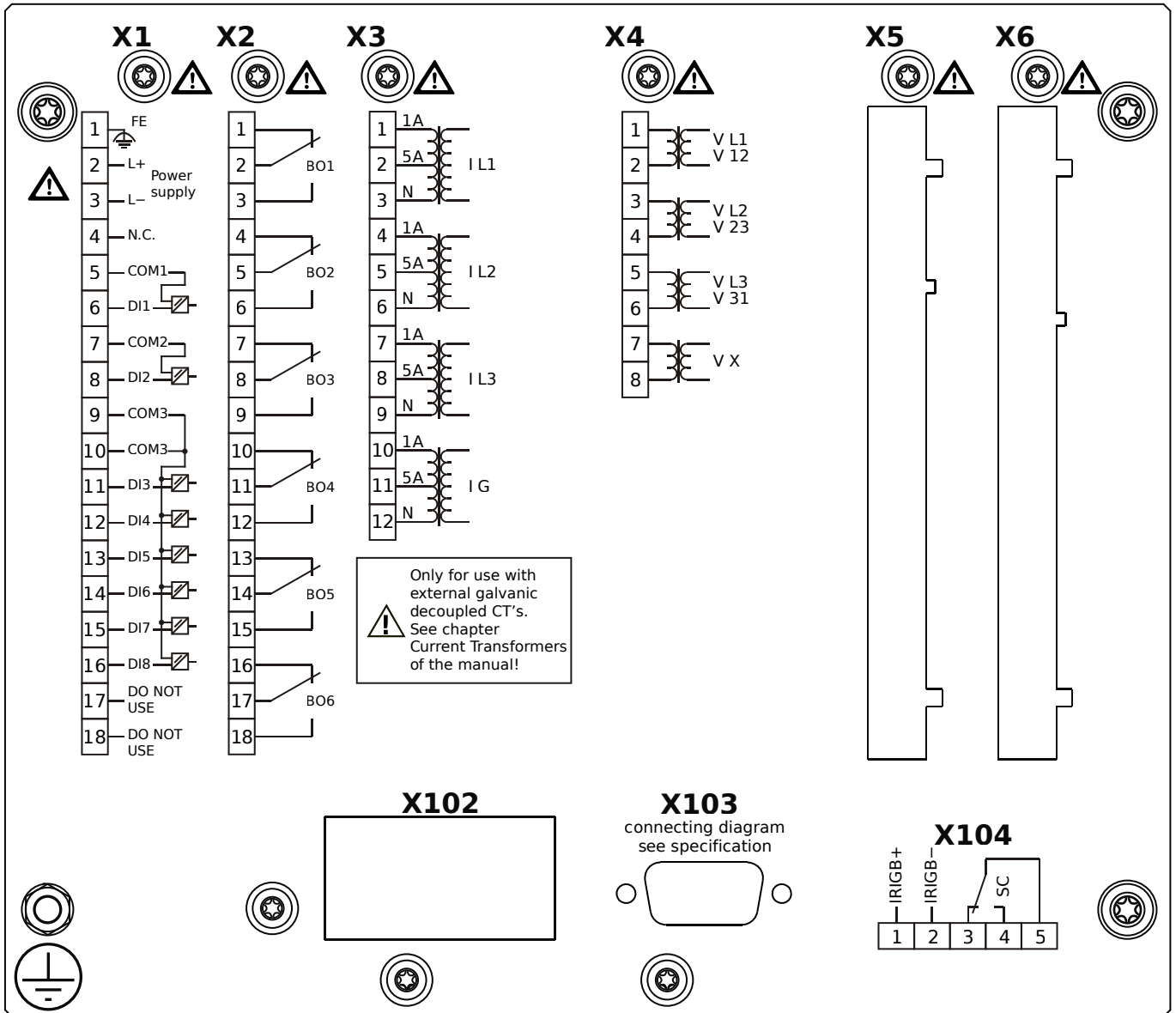**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
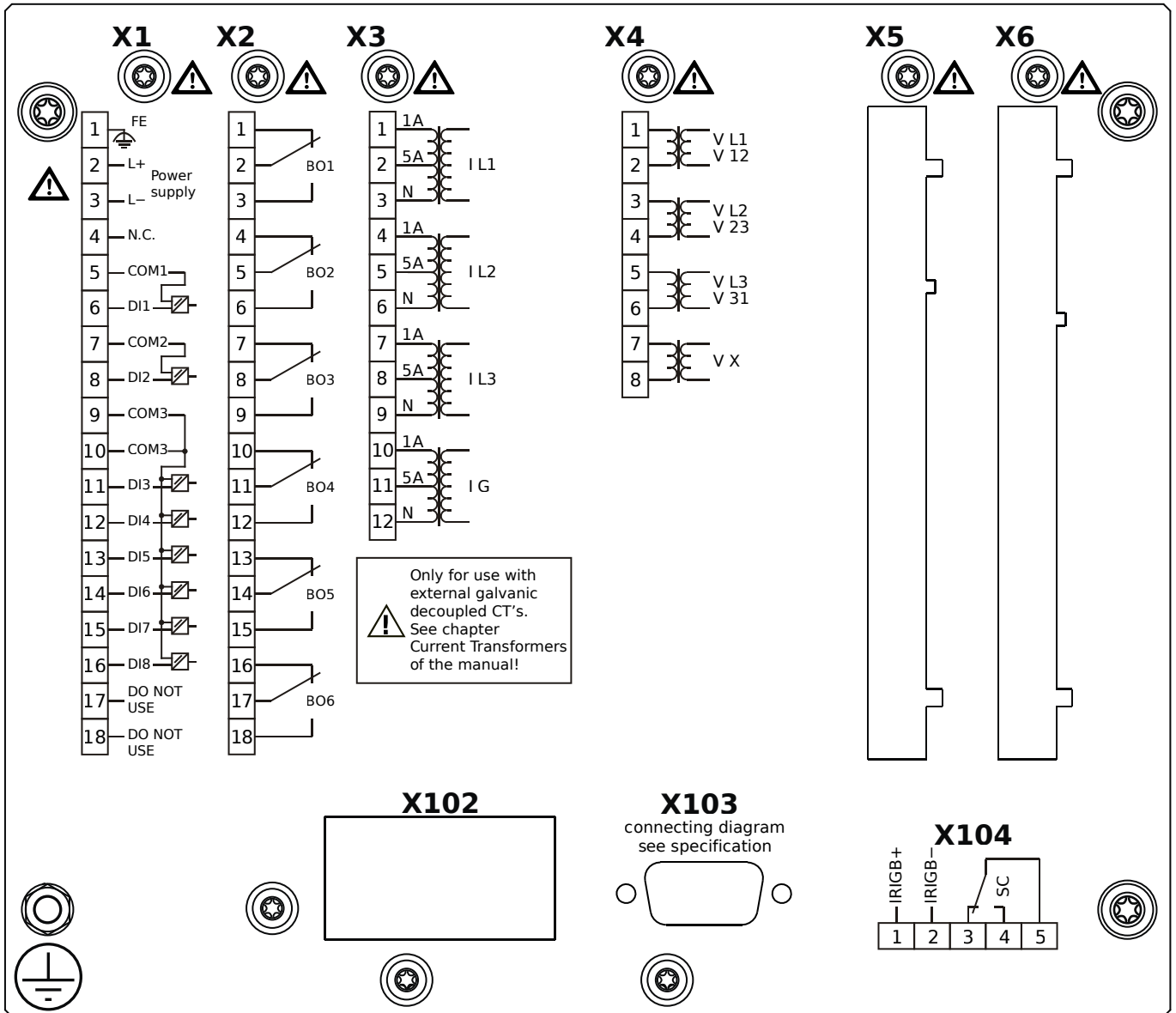**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BEA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BEB

X1 — FE, L+, L−, Power supply, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE (terminals 1–18)

X2 — BO1, BO2, BO3, BO4, BO5, BO6 (terminals 1–18)

X3 — 1A, 5A, N — I L1 / I L2 / I L3 / I G (terminals 1–12)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1 / V 12, V L2 / V 23, V L3 / V 31, V X (terminals 1–8)

X5 **X6**

X102

X103 connecting diagram see specification

X104 — IRIGB+, IRIGB−, SC (terminals 1 2 3 4 5)

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BFA

X1 FE / L+ / L− Power supply / N.C. / COM1 / DI1 / COM2 / DI2 / COM3 / COM3 / DI3 / DI4 / DI5 / DI6 / DI7 / DI8 / DO NOT USE / DO NOT USE

X2 BO1 / BO2 / BO3 / BO4 / BO5 / BO6

X3 1A 5A N I L1 / 1A 5A N I L2 / 1A 5A N I L3 / 1A 5A N I G

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 V L1 / V 12 / V L2 / V 23 / V L3 / V 31 / V X

X5 **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ / IRIGB− / SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
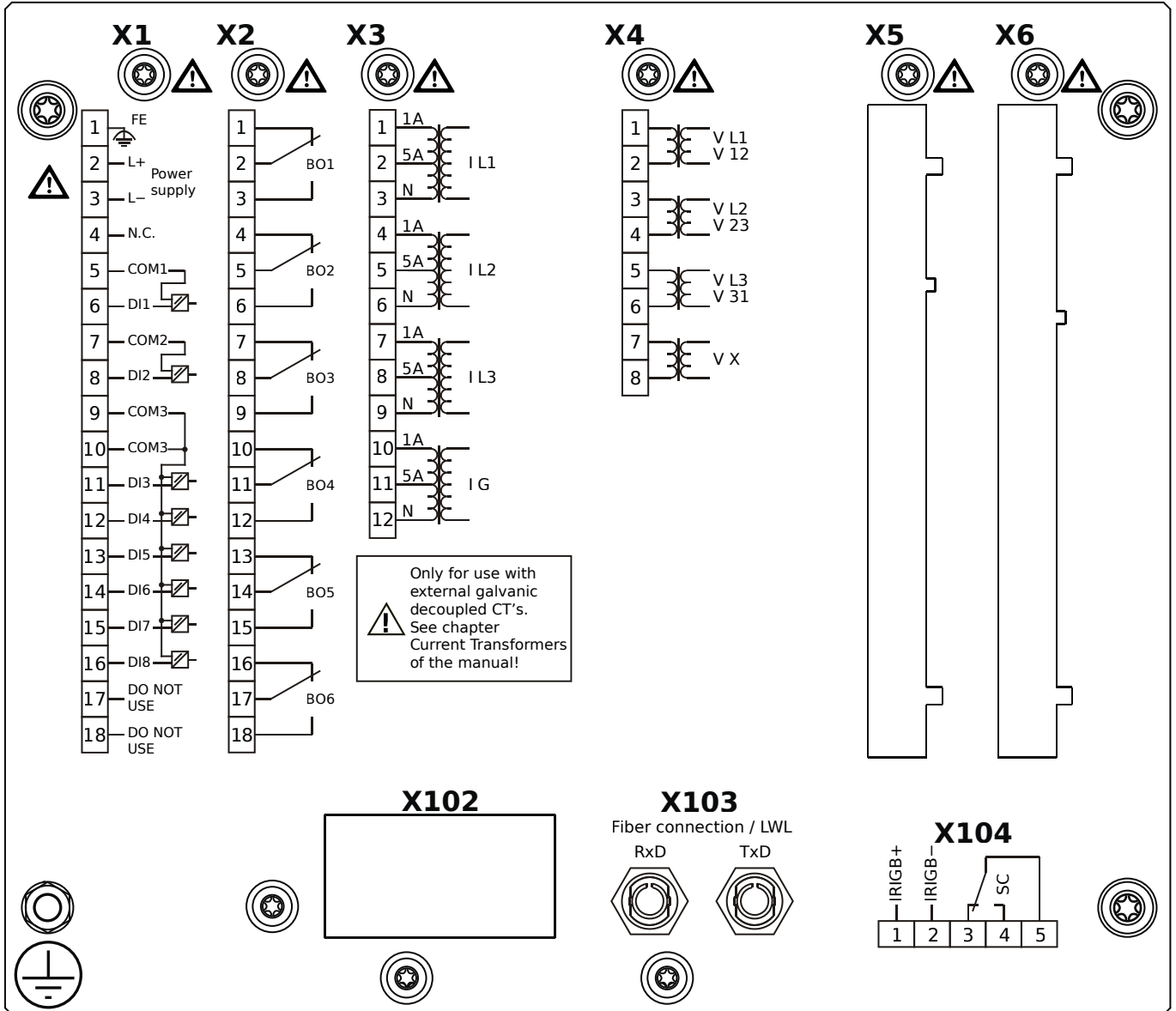**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BFB

X1 **X2** **X3** **X4** **X5** **X6**

X1
1 FE ⏚
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
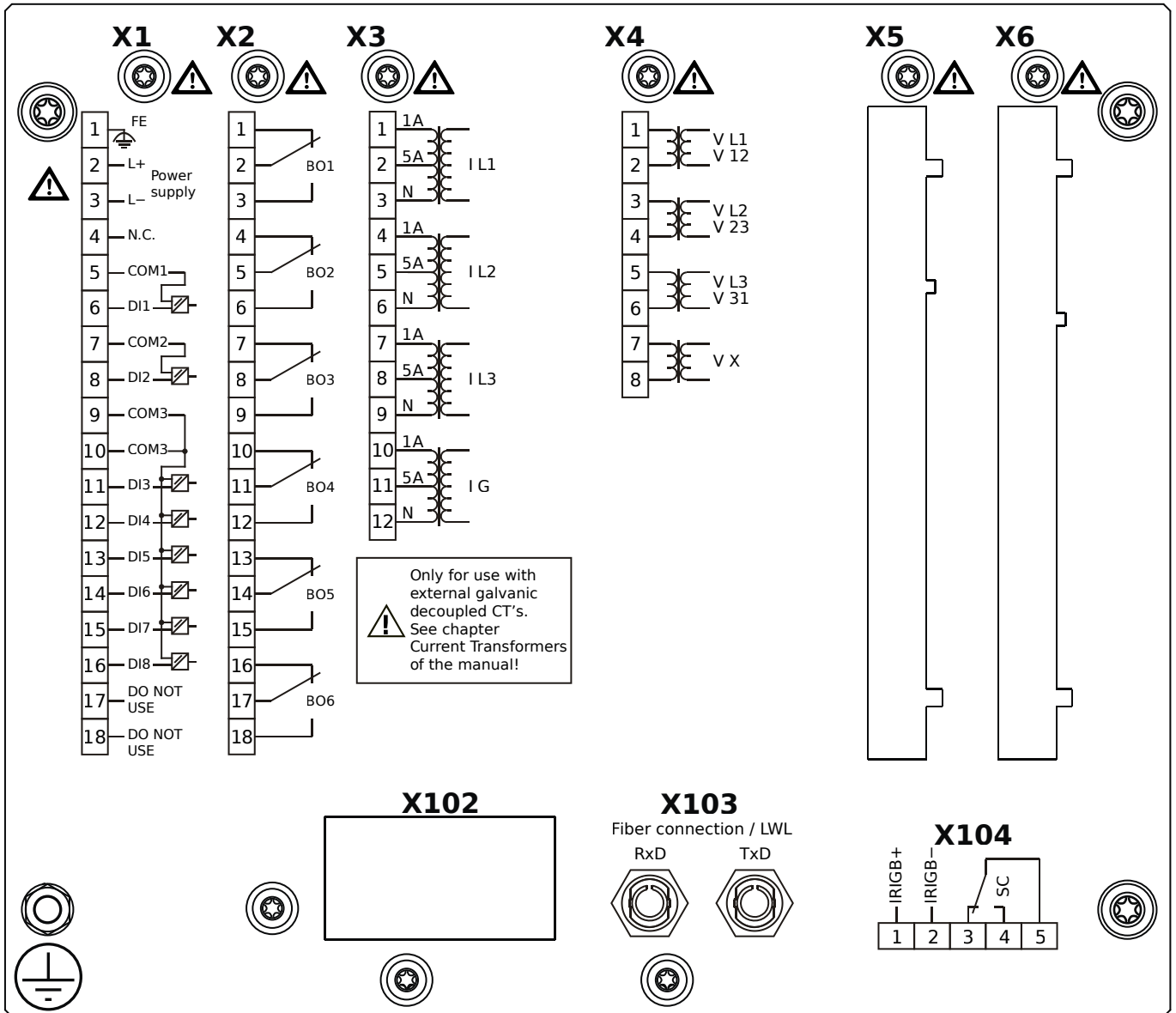**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BGA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
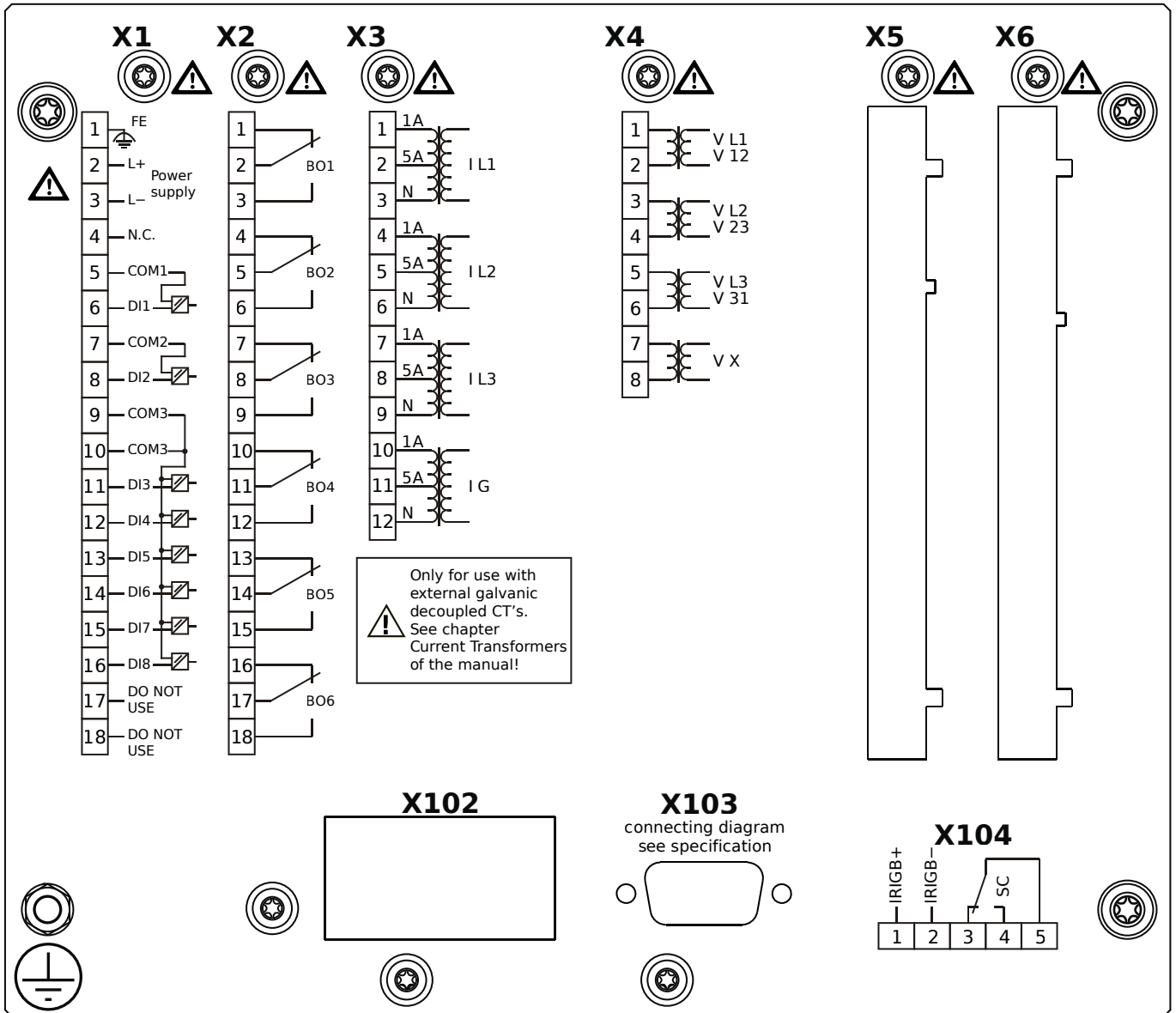**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   ## X6

X102

X103
connecting diagram see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
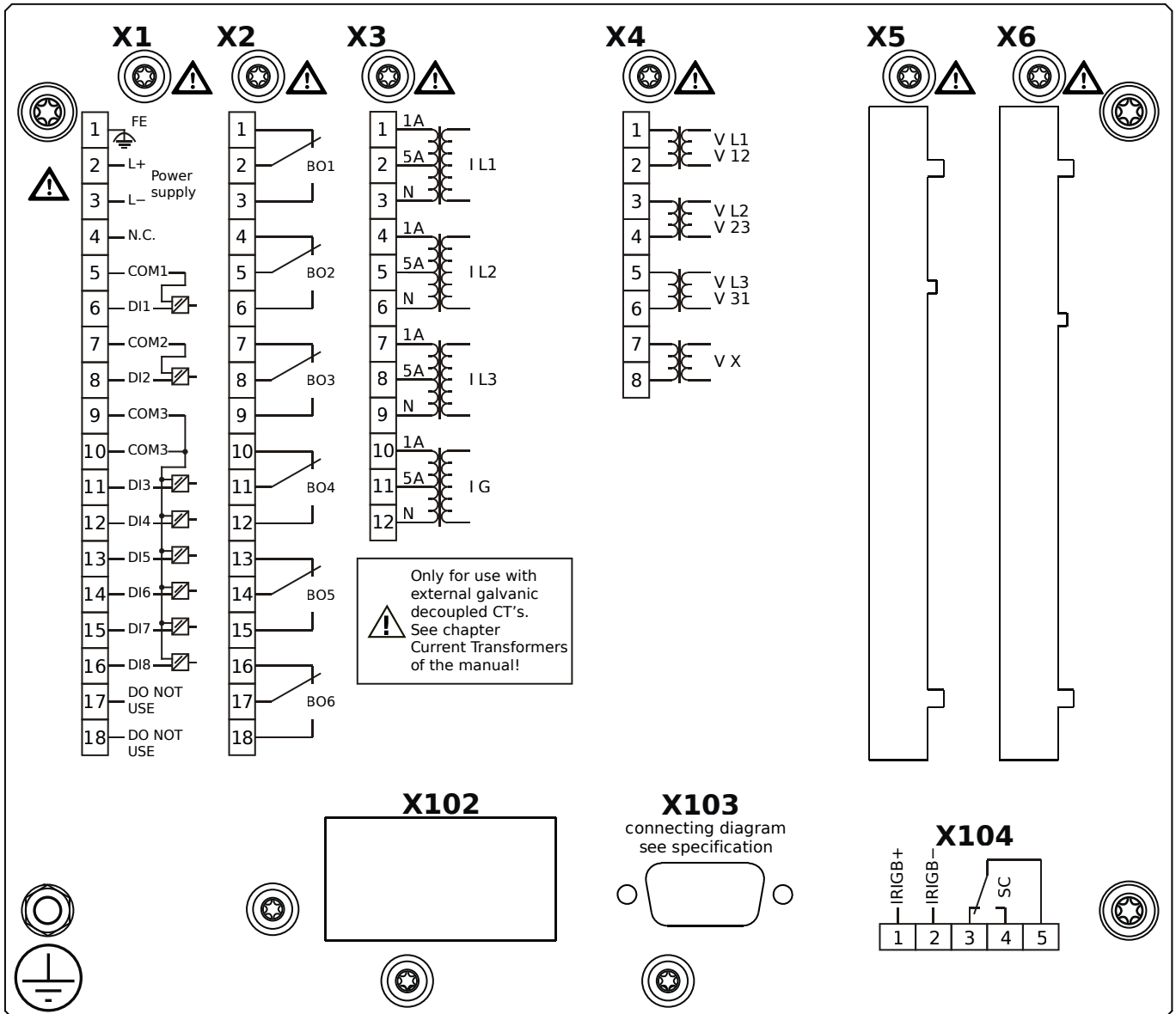**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BHA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BHB

Housing B2, small display, 19" rack mounting

 + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
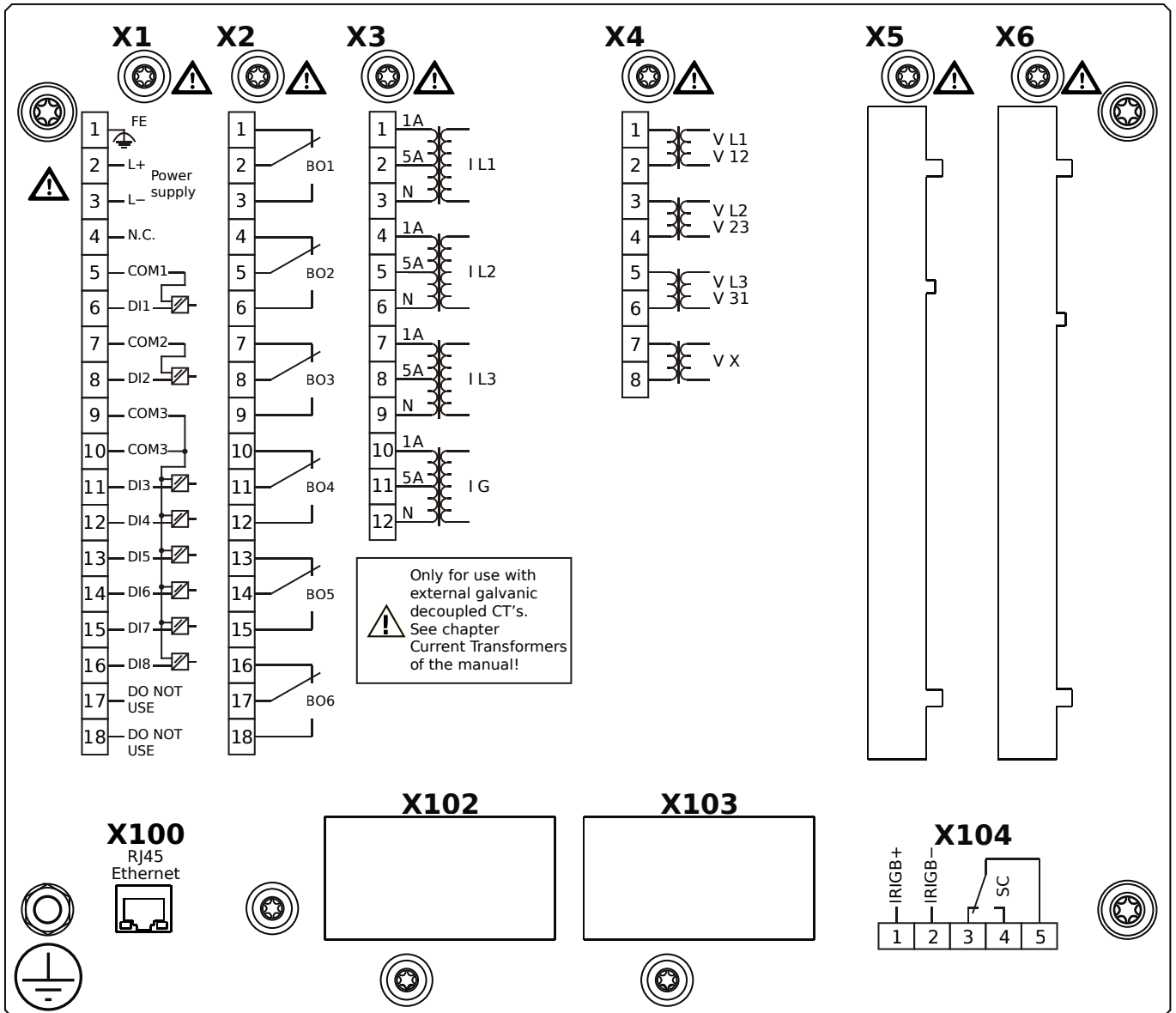**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
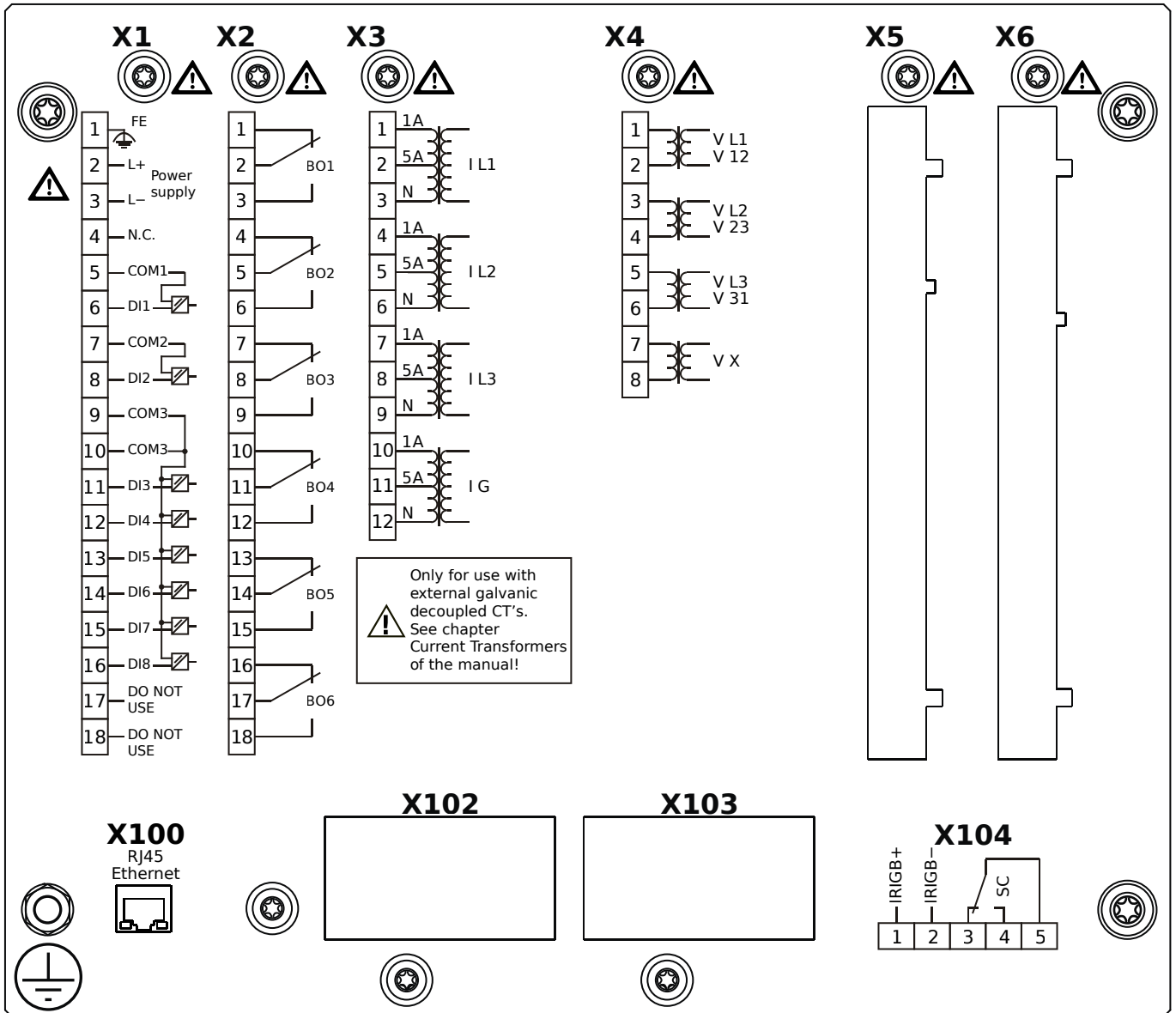**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BIA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BIB

Connector X1 (Power supply, digital inputs):
Terminal	Label	
1	FE	
2	L+	Power supply
3	L−	
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X100 — RJ45 Ethernet

X102

X103 — +5V, GND, HF SHIELD, 560Ω, 120Ω, 560Ω, P, N (1 2 3 4 5 6)

X104 — IRIGB+, IRIGB−, SC (1 2 3 4 5)

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BKA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
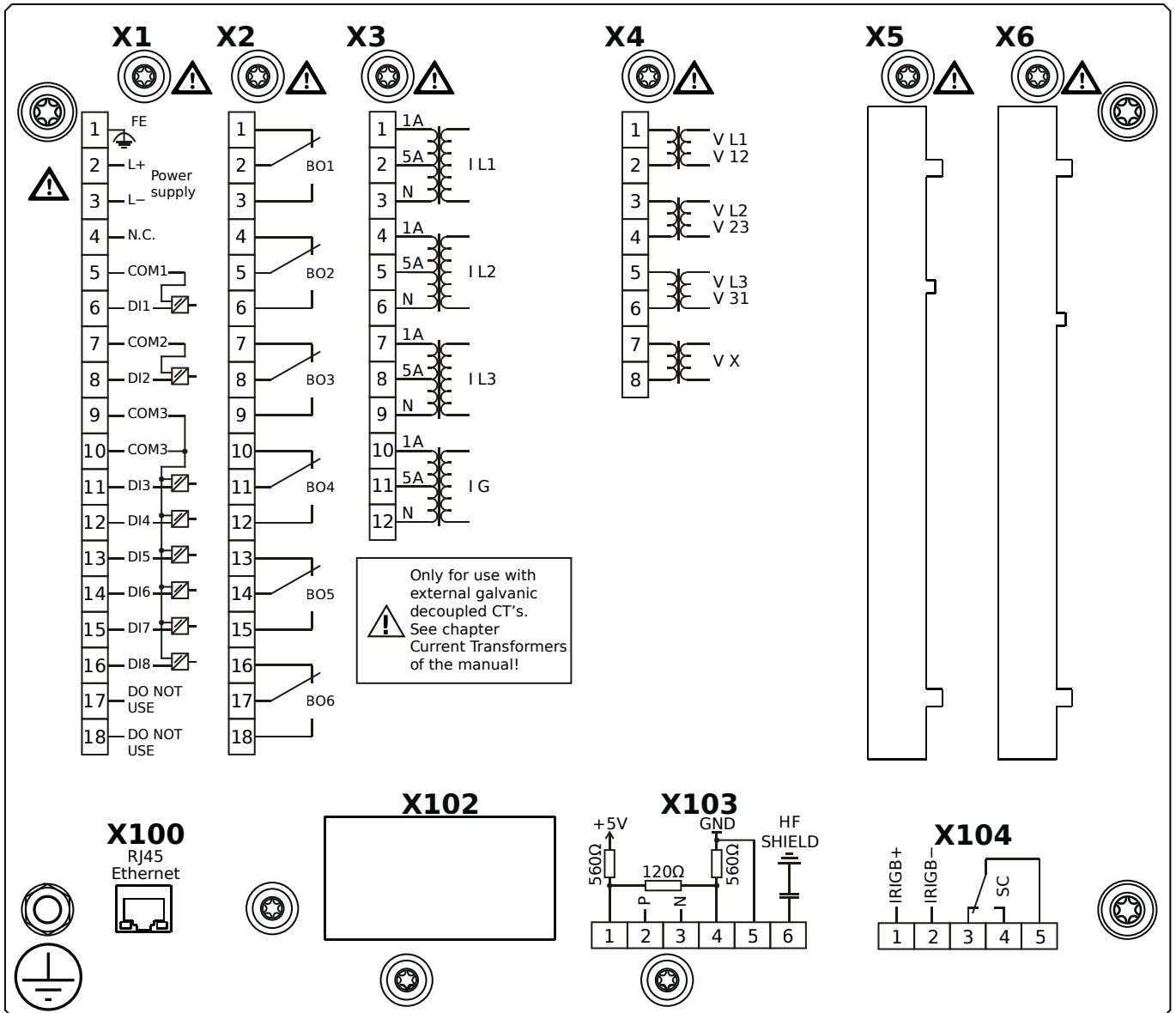
X2 – OR6: Assembly Group with 6 Output Relays

X3 – TI: Standard current measuring card

X4 – TU: Card with 4 voltage transformer measuring inputs

X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BKB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1	
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3	
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4	
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

    +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2   – OR6: Assembly Group with 6 Output Relays

X3   – TI: Standard current measuring card

X4   – TU: Card with 4 voltage transformer measuring inputs

X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

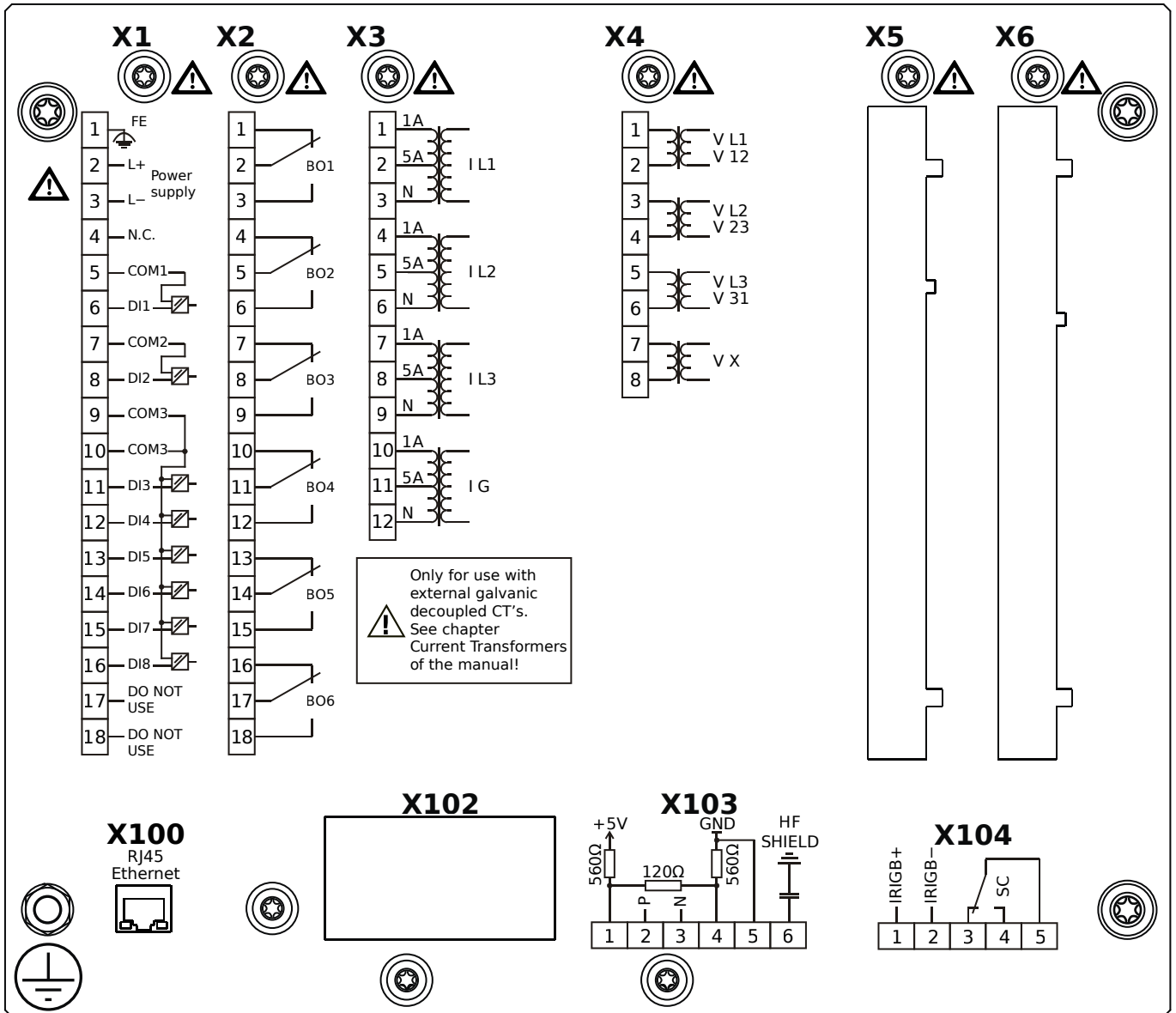**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BLA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TI: Standard current measuring card

X4 – TU: Card with 4 voltage transformer measuring inputs

X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BLB

X1 — FE, Power supply, COM1, DI1, COM2, DI2, COM3, COM3, DI3–DI8, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N — I L1, I L2, I L3, I G

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1, V 12, V L2, V 23, V L3, V 31, V X

X5 **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
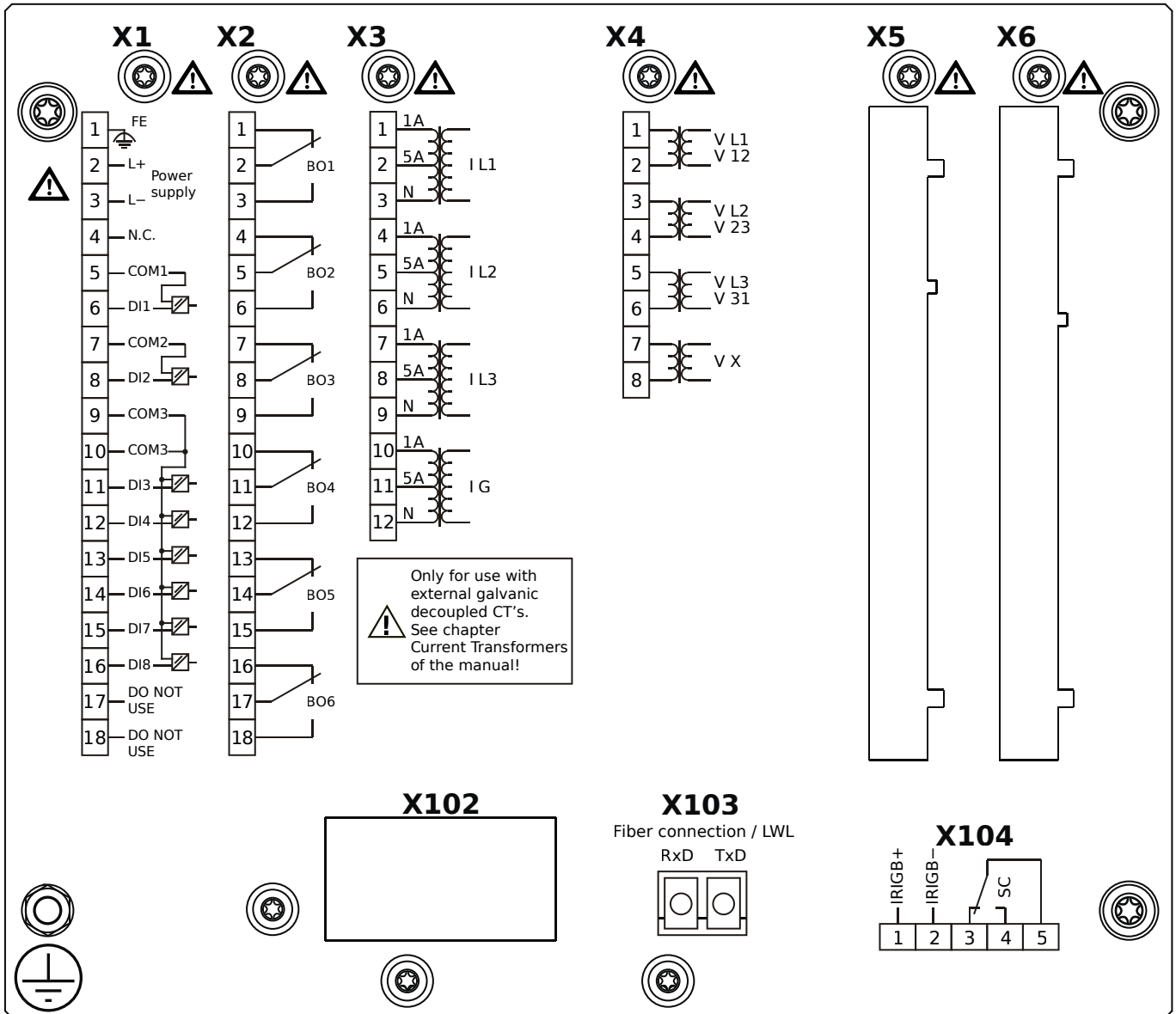**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BTA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A0BTB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AAA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

X6

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
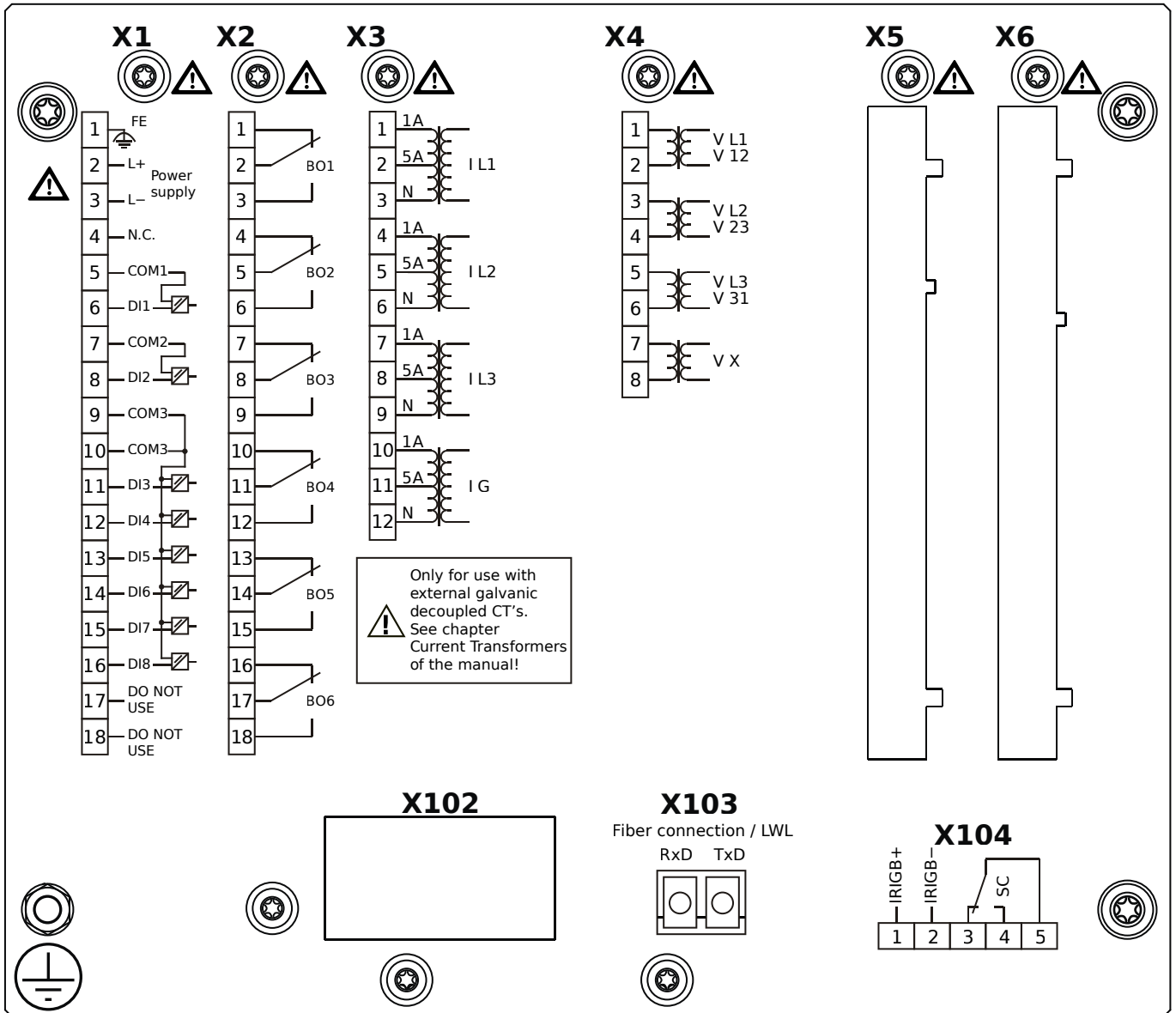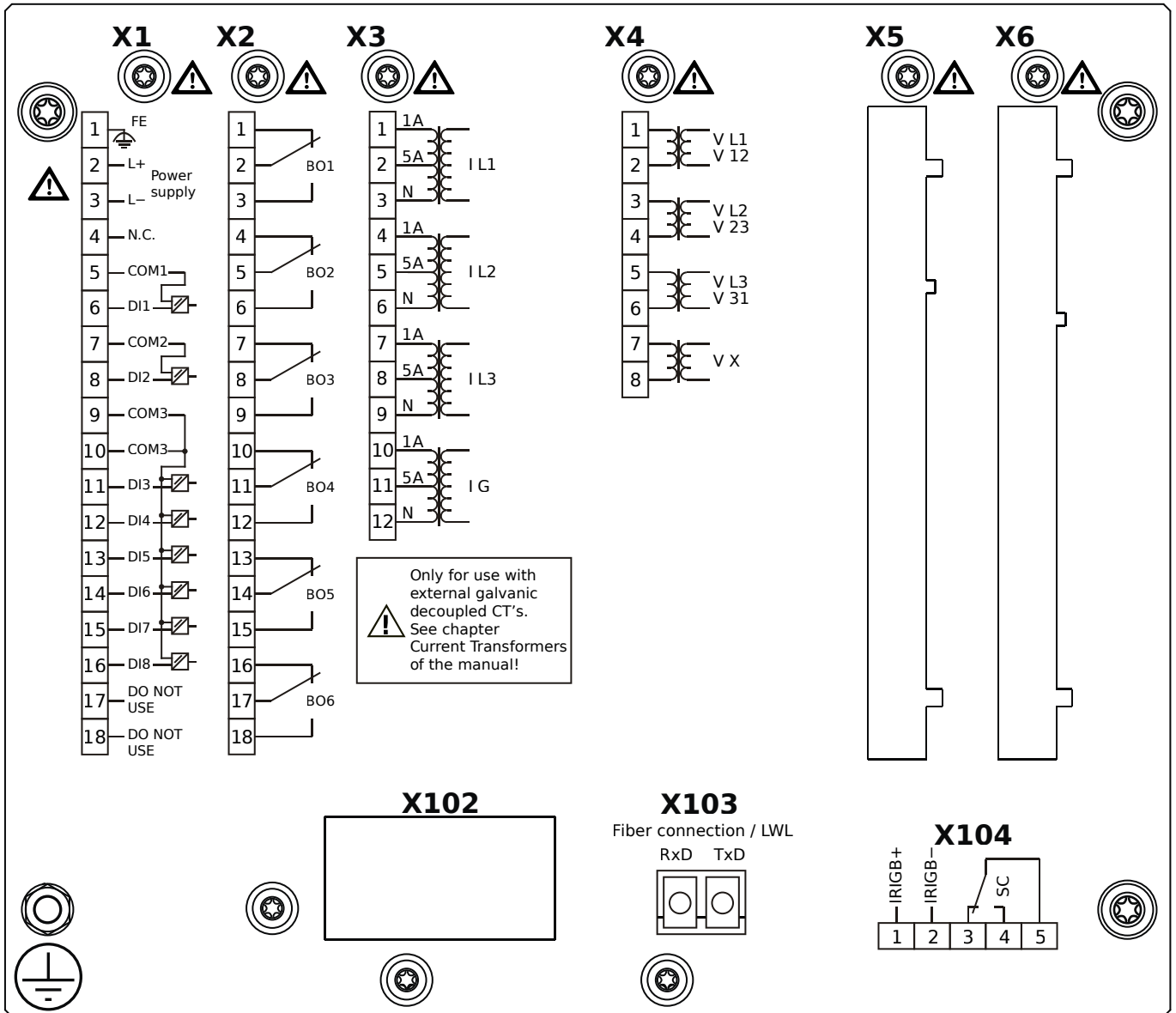**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AAB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ABA

X1 **X2** **X3** **X4** **X5** **X6**

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ⚠ * Caution Sensitive Current Inputs

X102

X103

+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

1	2	3	4	5	6
	P	N			

X104

IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
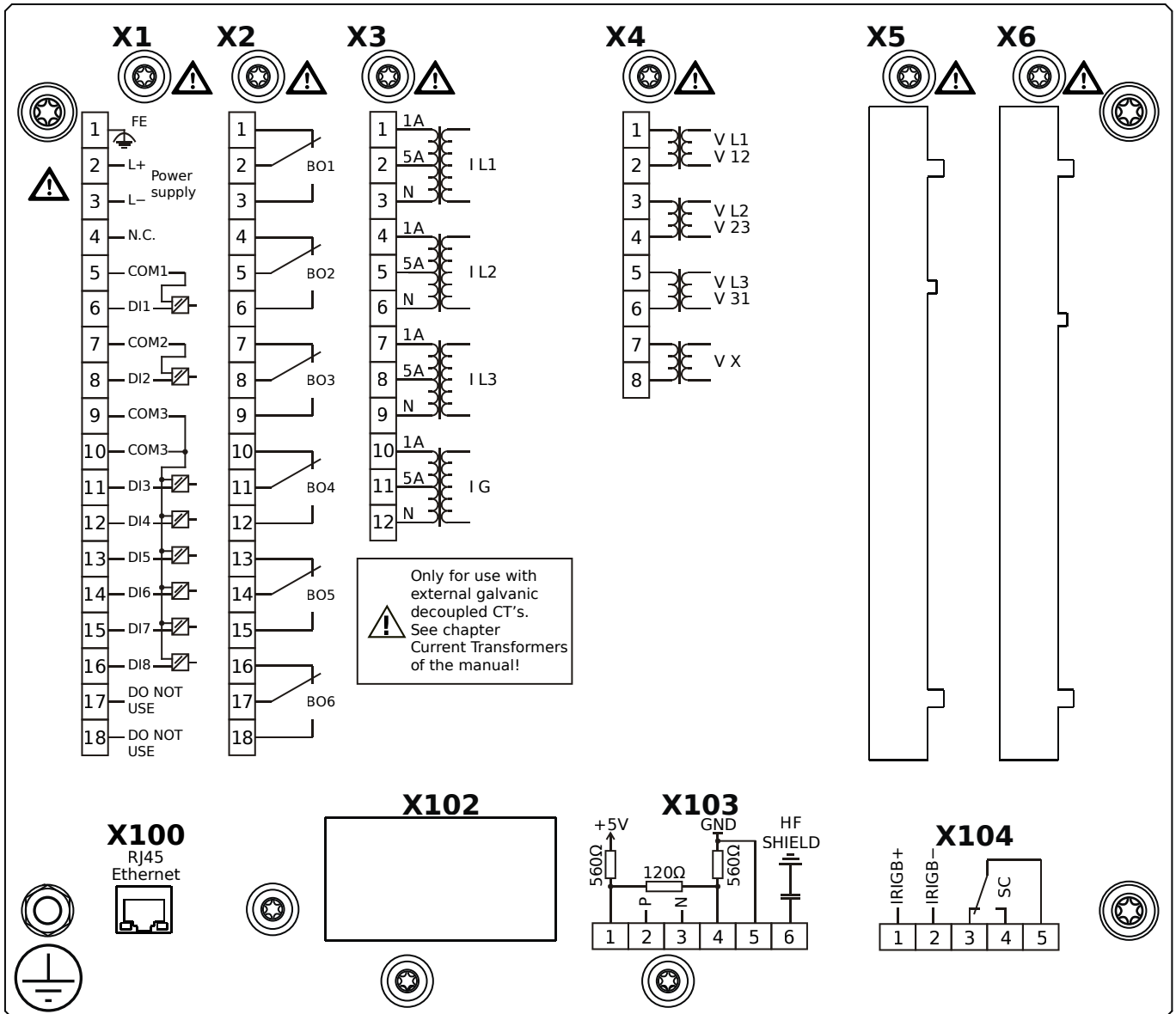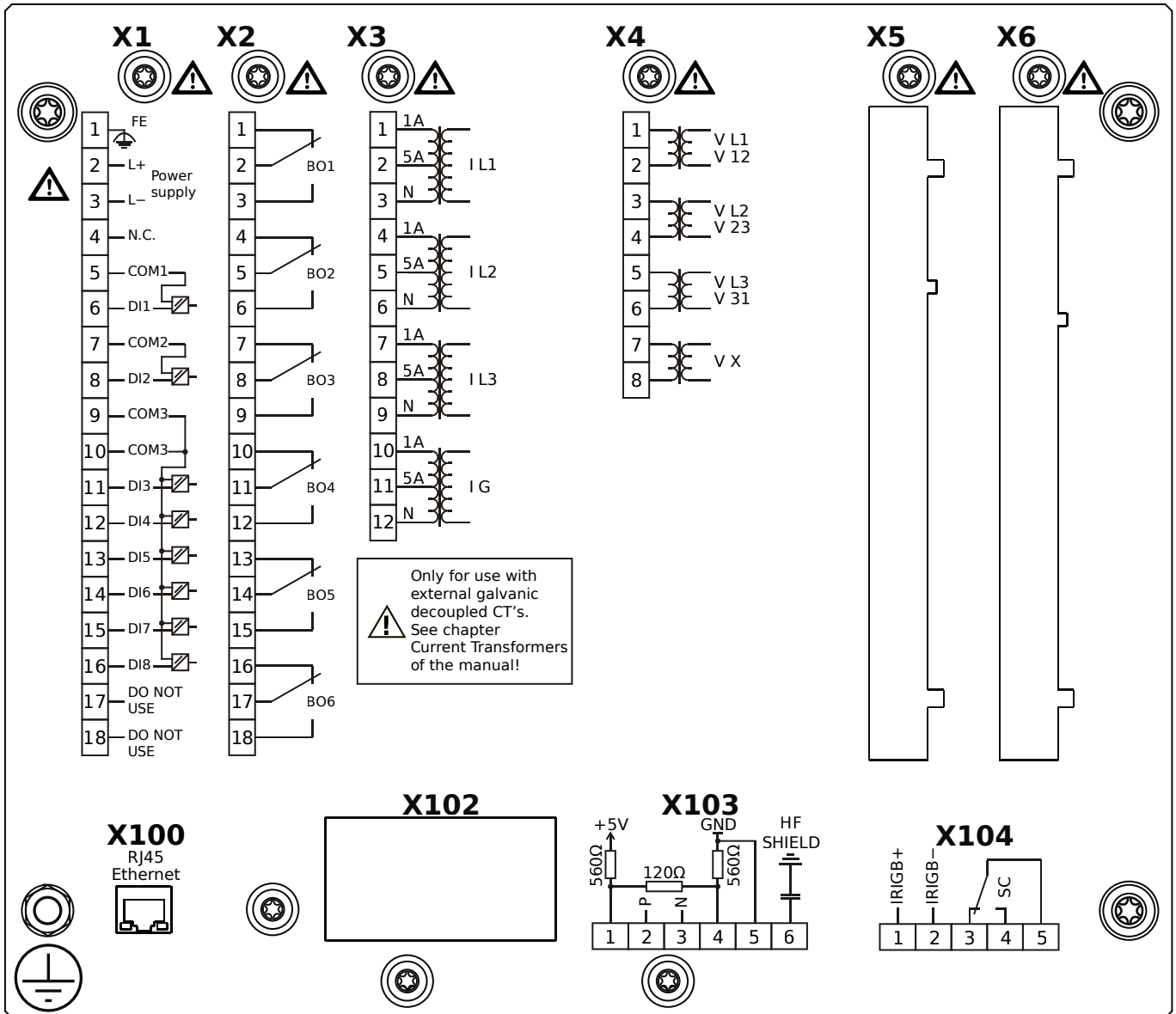**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ABB

X1
1	FE	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5 X6

X102

X103
+5V GND HF SHIELD
560Ω 120Ω 560Ω
1	2	3	4	5	6
	P	N			

X104
IRIGB+ IRIGB− SC
1	2	3	4	5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
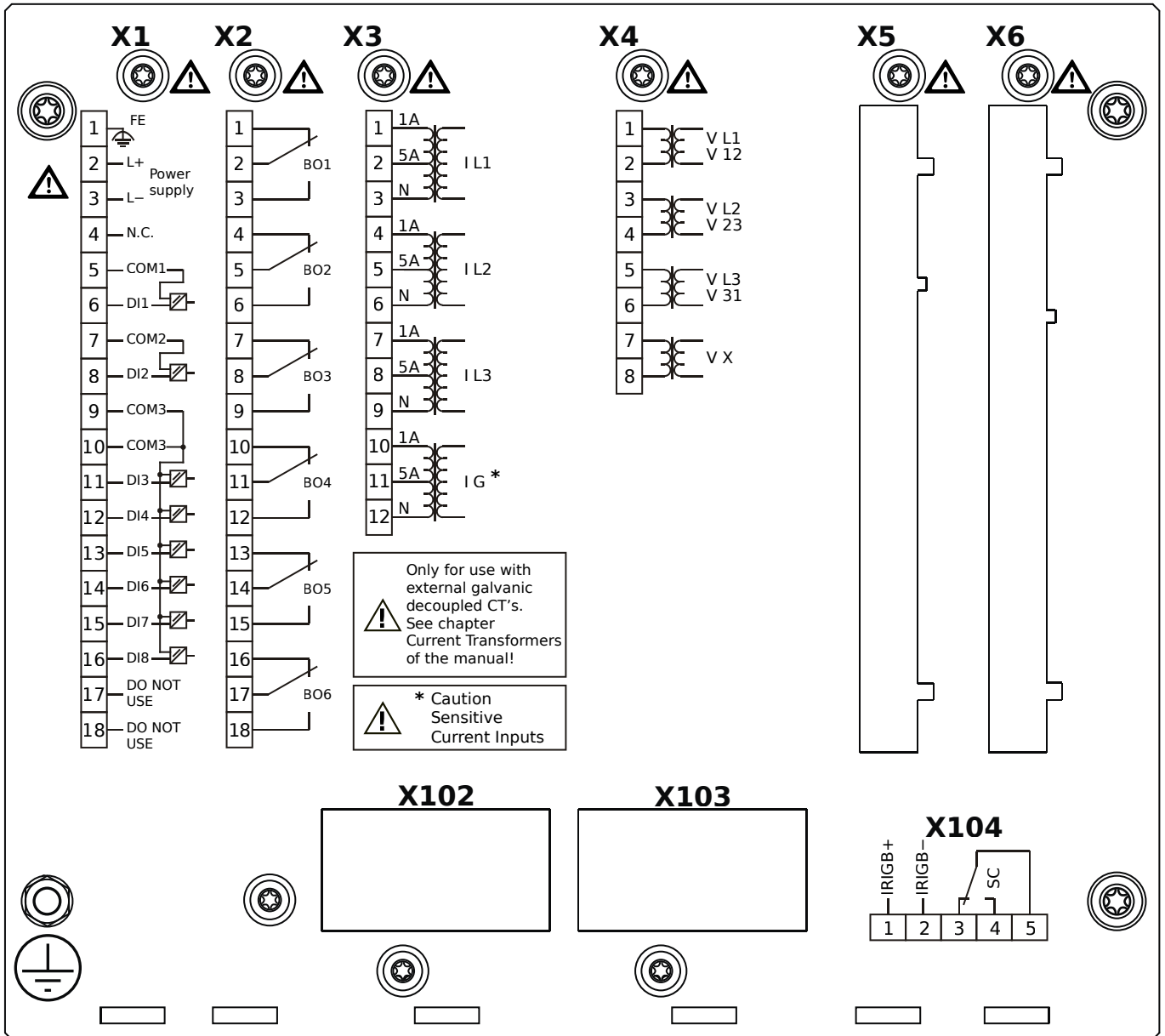**X3** – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ACA

X1 **X2** **X3** **X4** **X5** **X6**

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X100
RJ45 Ethernet

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

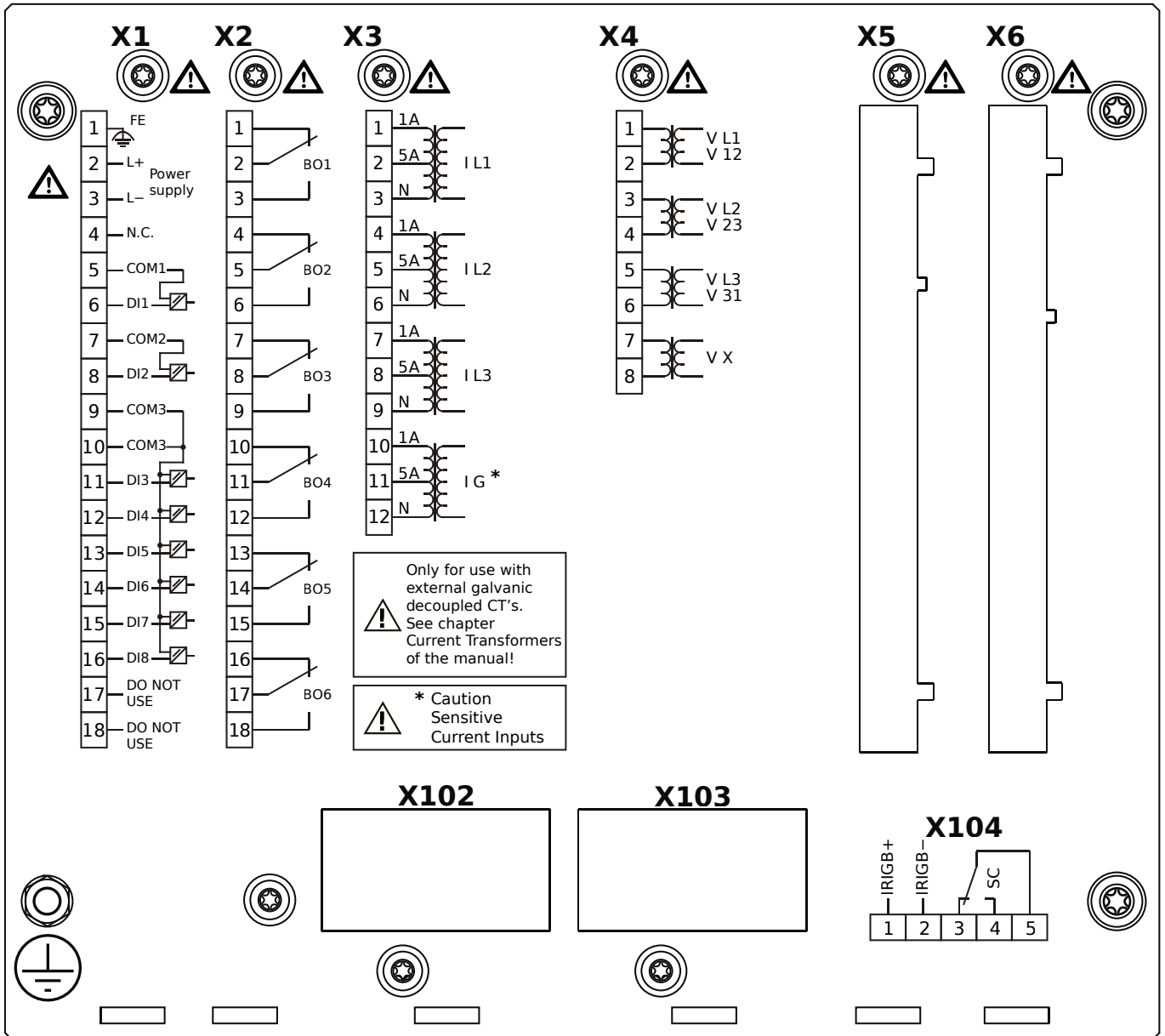**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ACB

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X100
RJ45
Ethernet

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
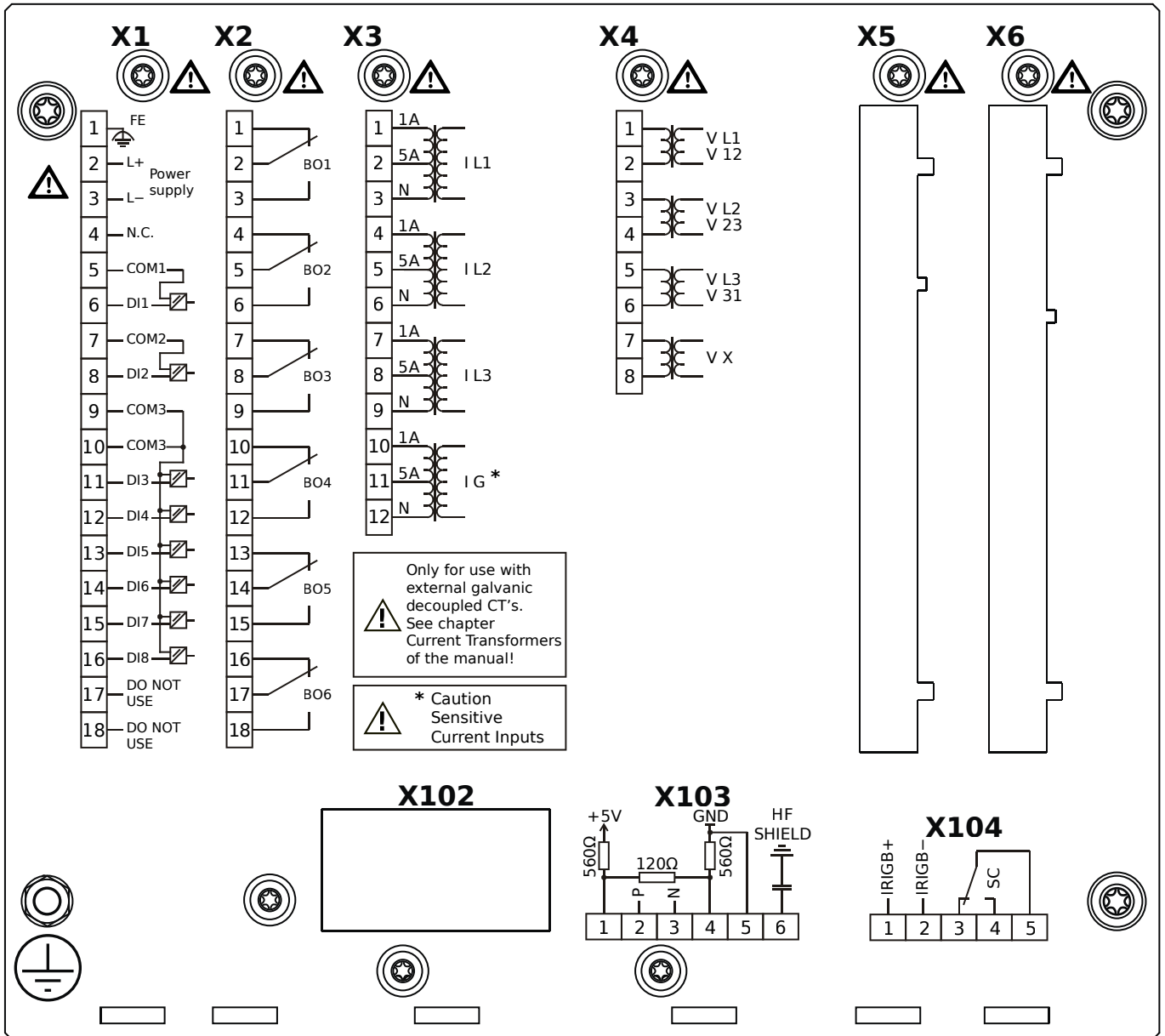**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ADA

X1 **X2** **X3** **X4** **X5** **X6**

1	FE ⏚	1		1	1A
2	L+	2	BO1	2	5A	I L1
3	L−	Power supply	3		3	N
4	N.C.	4		4	1A
5	COM1	5	BO2	5	5A	I L2
6	DI1	6		6	N

X1 terminals:
1 FE ⏚
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2 terminals:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3 terminals:
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 terminals:
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
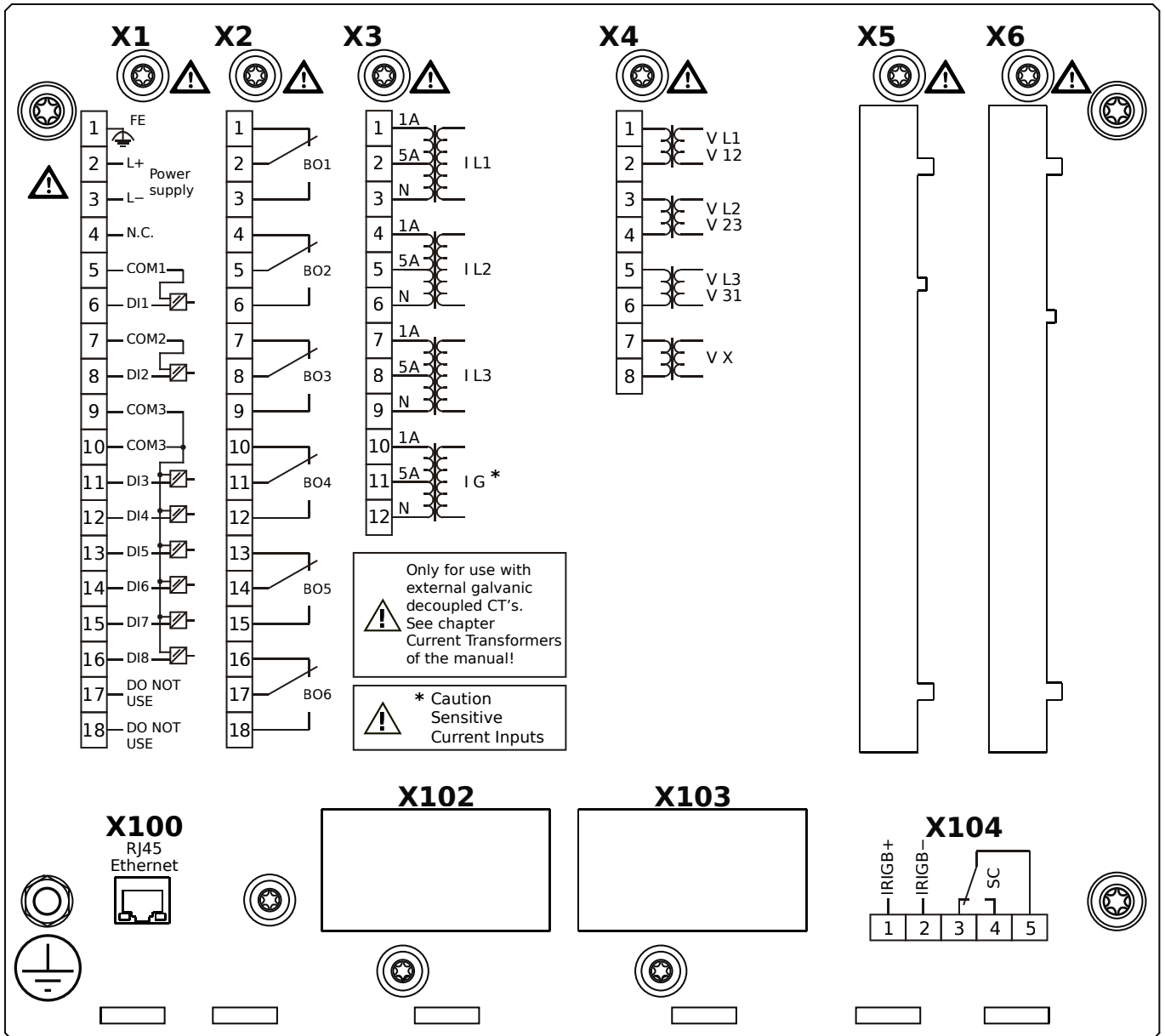**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ADB

Housing B2, small display, door mounting

+   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AEA

X1 FE
1 — ⏚
2 — L+ Power
3 — L− supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5 **X6**

X102

X103
connecting diagram
see specification

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
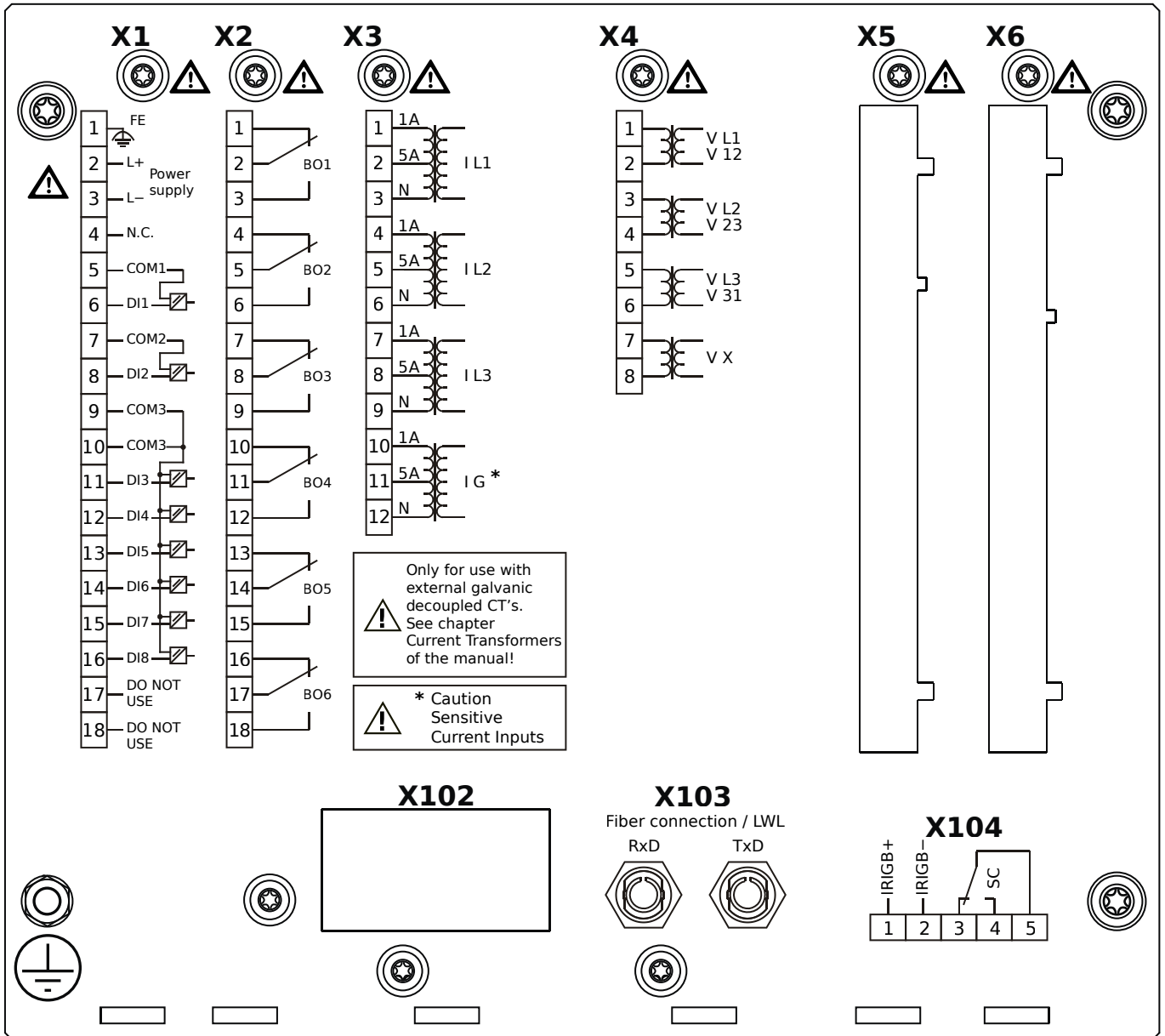**X3** – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AEB

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

FE, L+, L−, Power supply, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N — I L1 / I L2 / I L3 / I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 — V L1, V 12, V L2, V 23, V L3, V 31, V X

X102

X103
connecting diagram see specification

X104
IRIGB+, IRIGB−, SC
1 2 3 4 5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AFA

X1 **X2** **X3**

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3:
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5 **X6**

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+ IRIGB− SC

1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AFB

X1
1 — FE ⏚
2 — L+ ⎤ Power
3 — L− ⎦ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3
1 — 1A
2 — 5A ⎤ I L1
3 — N
4 — 1A
5 — 5A ⎤ I L2
6 — N
7 — 1A
8 — 5A ⎤ I L3
9 — N
10 — 1A
11 — 5A ⎤ I G *
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1 — ⎤ V L1
2 — ⎦ V 12
3 — ⎤ V L2
4 — ⎦ V 23
5 — ⎤ V L3
6 — ⎦ V 31
7 — ⎤ V X
8 — ⎦

X5

X6

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting
  +   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
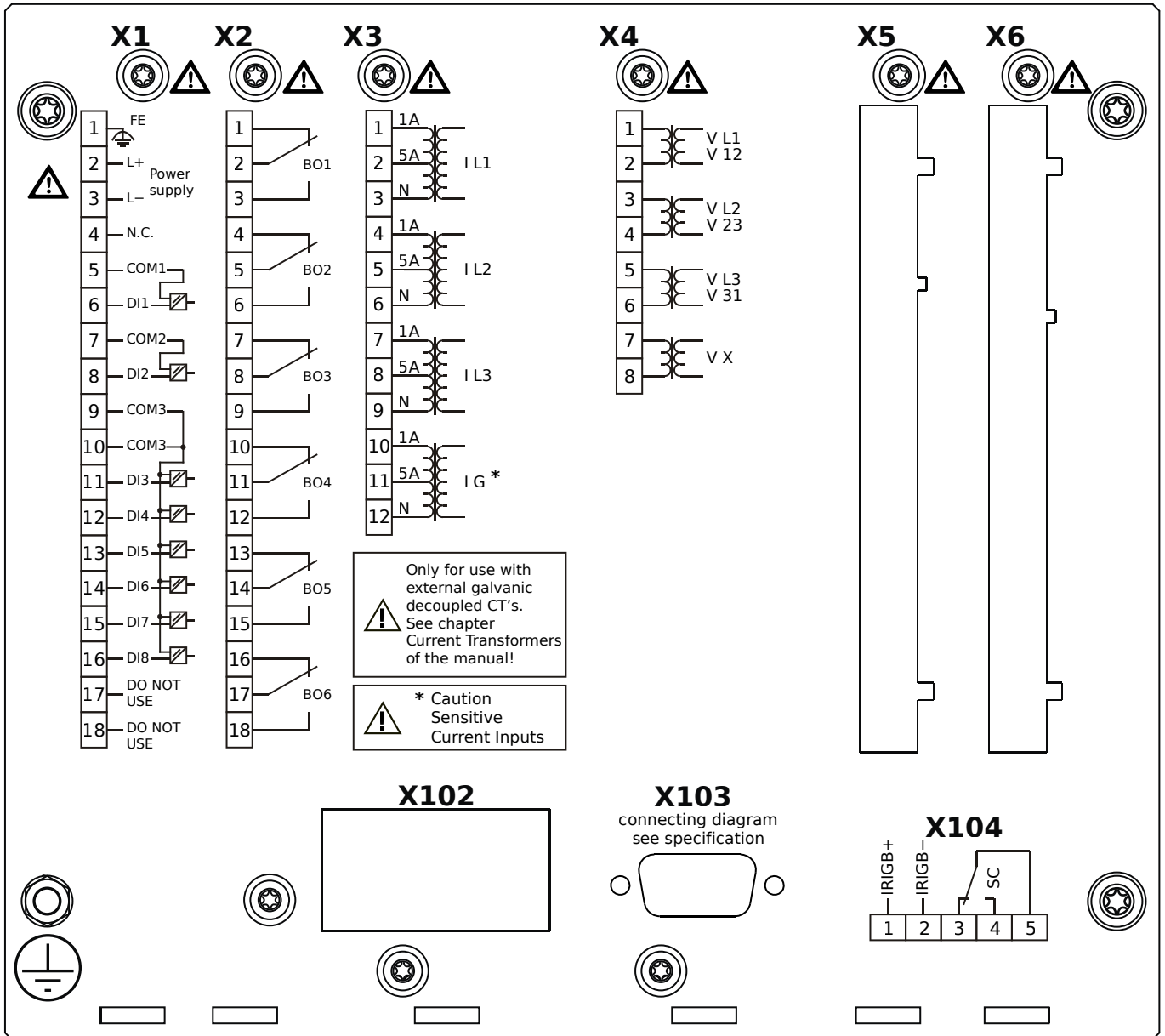**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AGA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5　**X6**

X102

X103
connecting diagram
see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
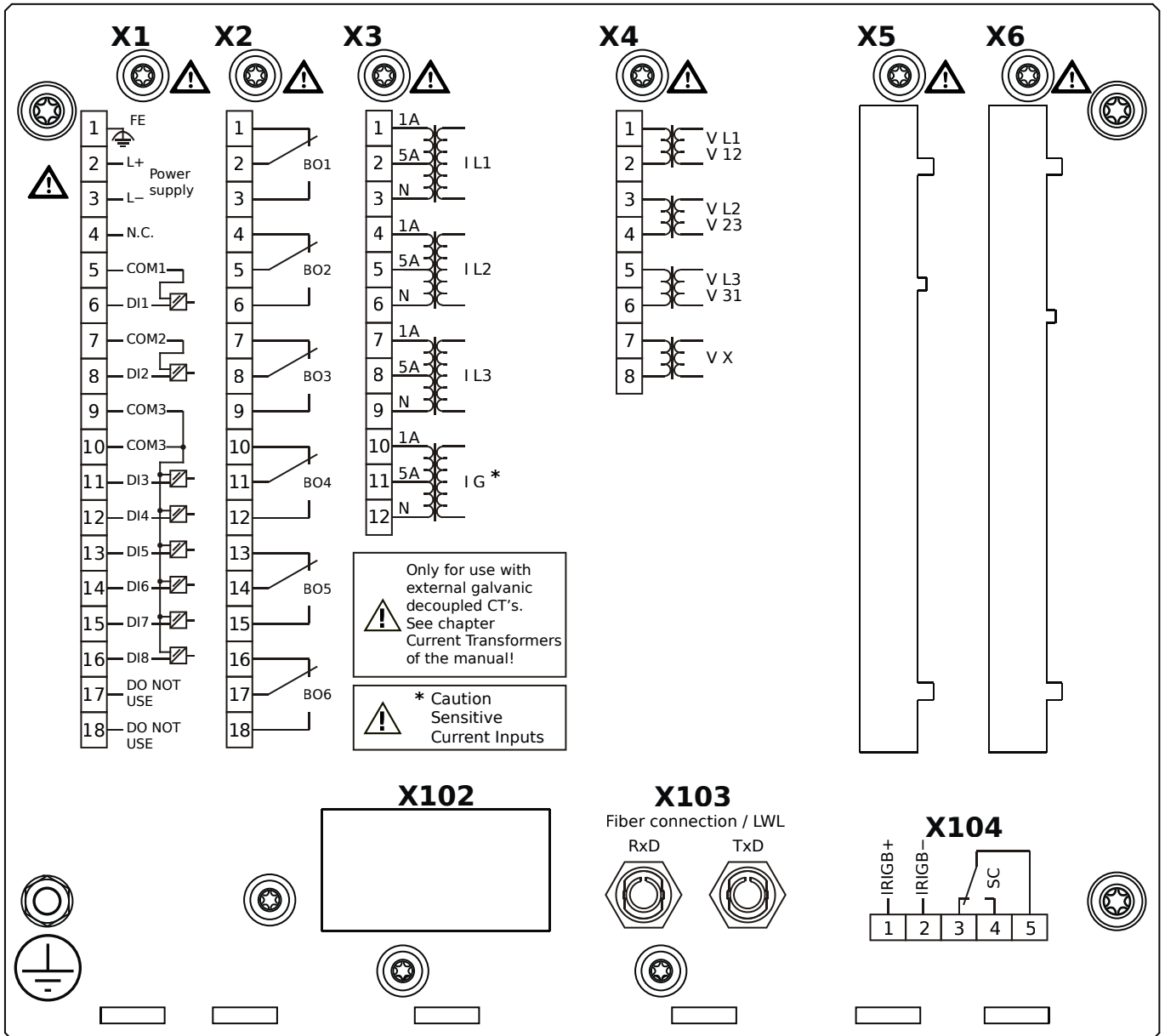**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103
connecting diagram see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AHA

X1	X2	X3	X4	X5	X6

X1
1 — FE
2 — L+ — Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3
1 — 1A
2 — 5A — I L1
3 — N
4 — 1A
5 — 5A — I L2
6 — N
7 — 1A
8 — 5A — I L3
9 — N
10 — 1A
11 — 5A — I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X100
RJ45
Ethernet

X102

X103

X104
IRIGB+ | IRIGB− | | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
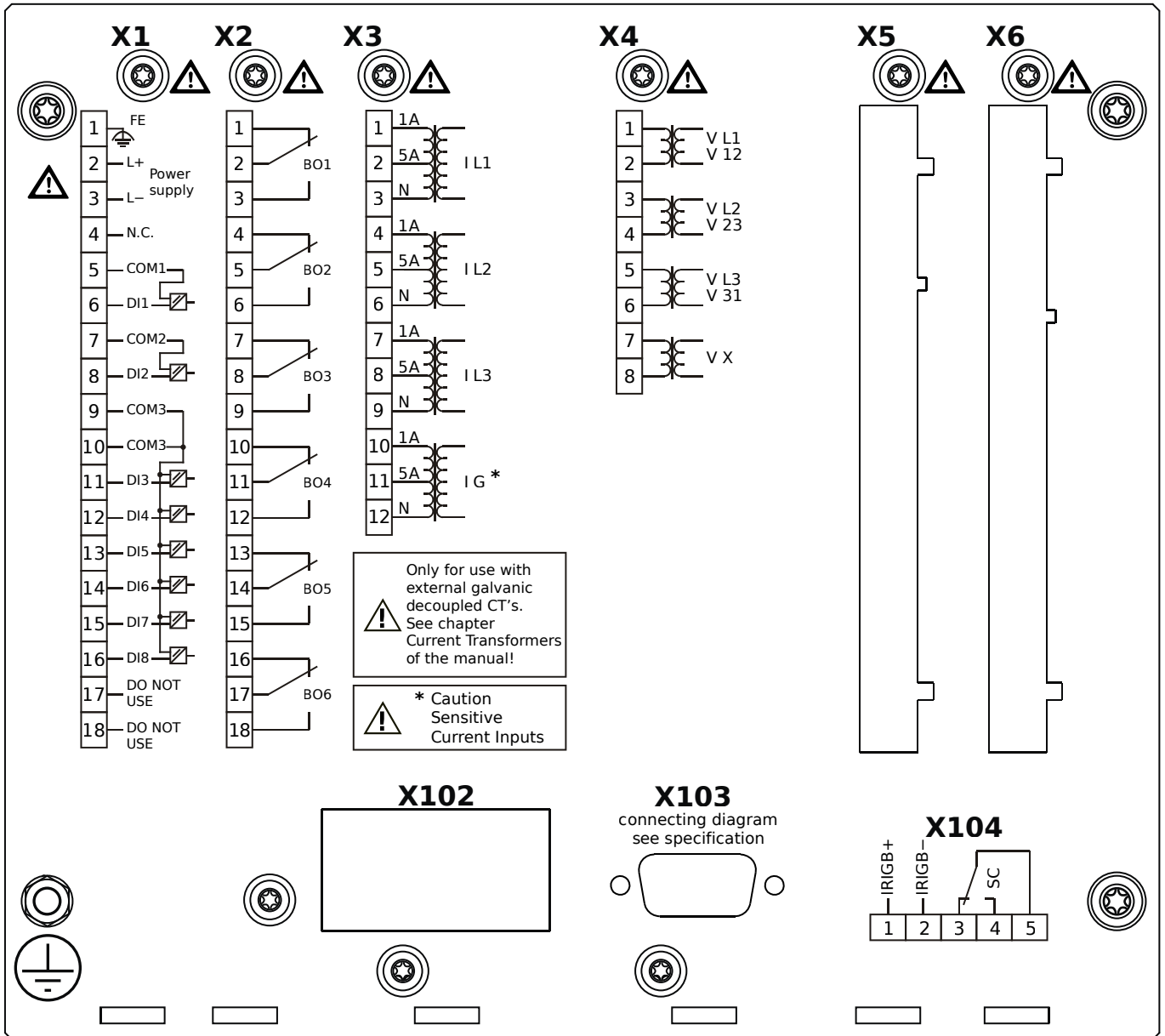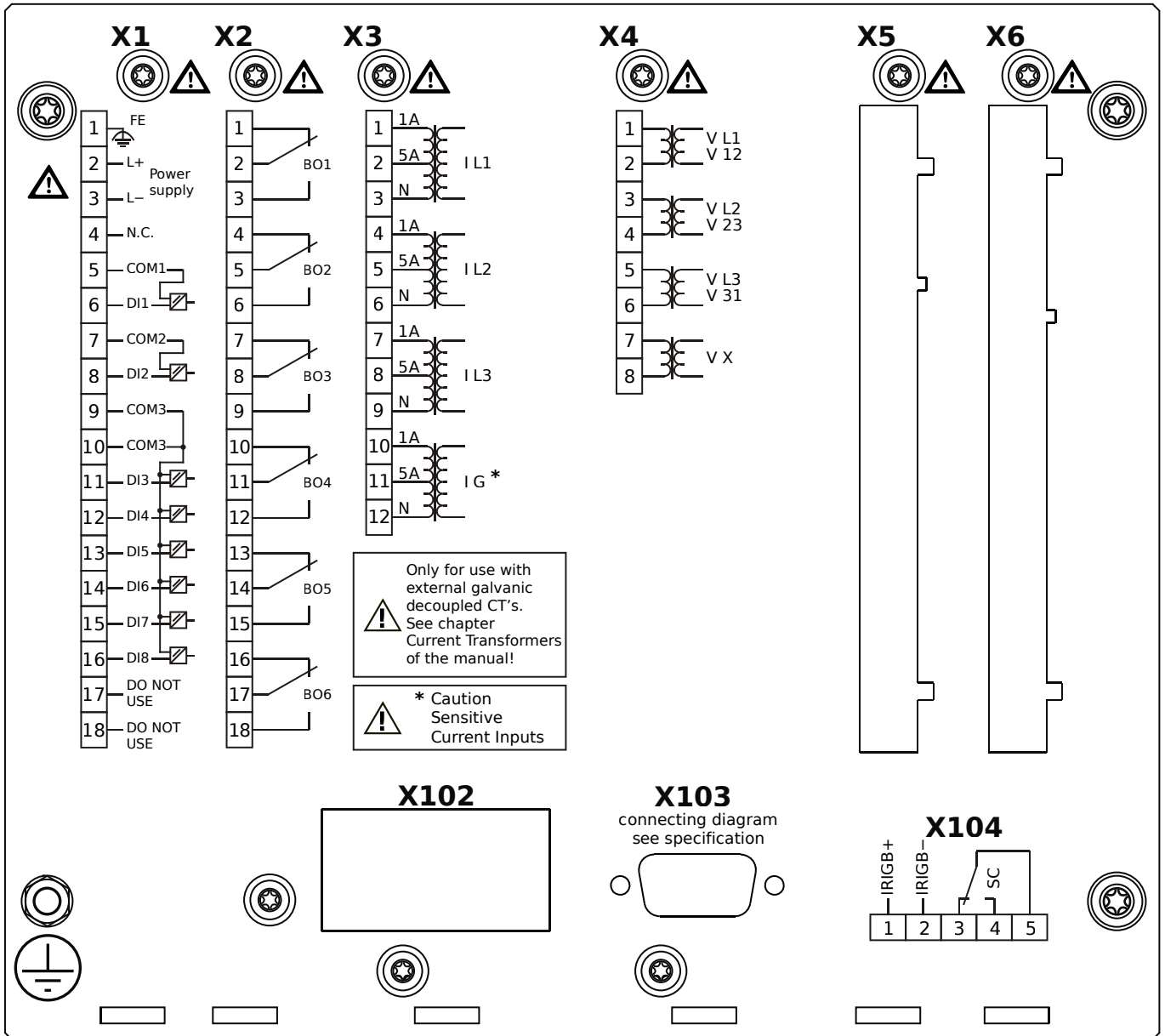**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AHB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5 **X6**

X100
RJ45
Ethernet

X102

X103

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting
  +   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
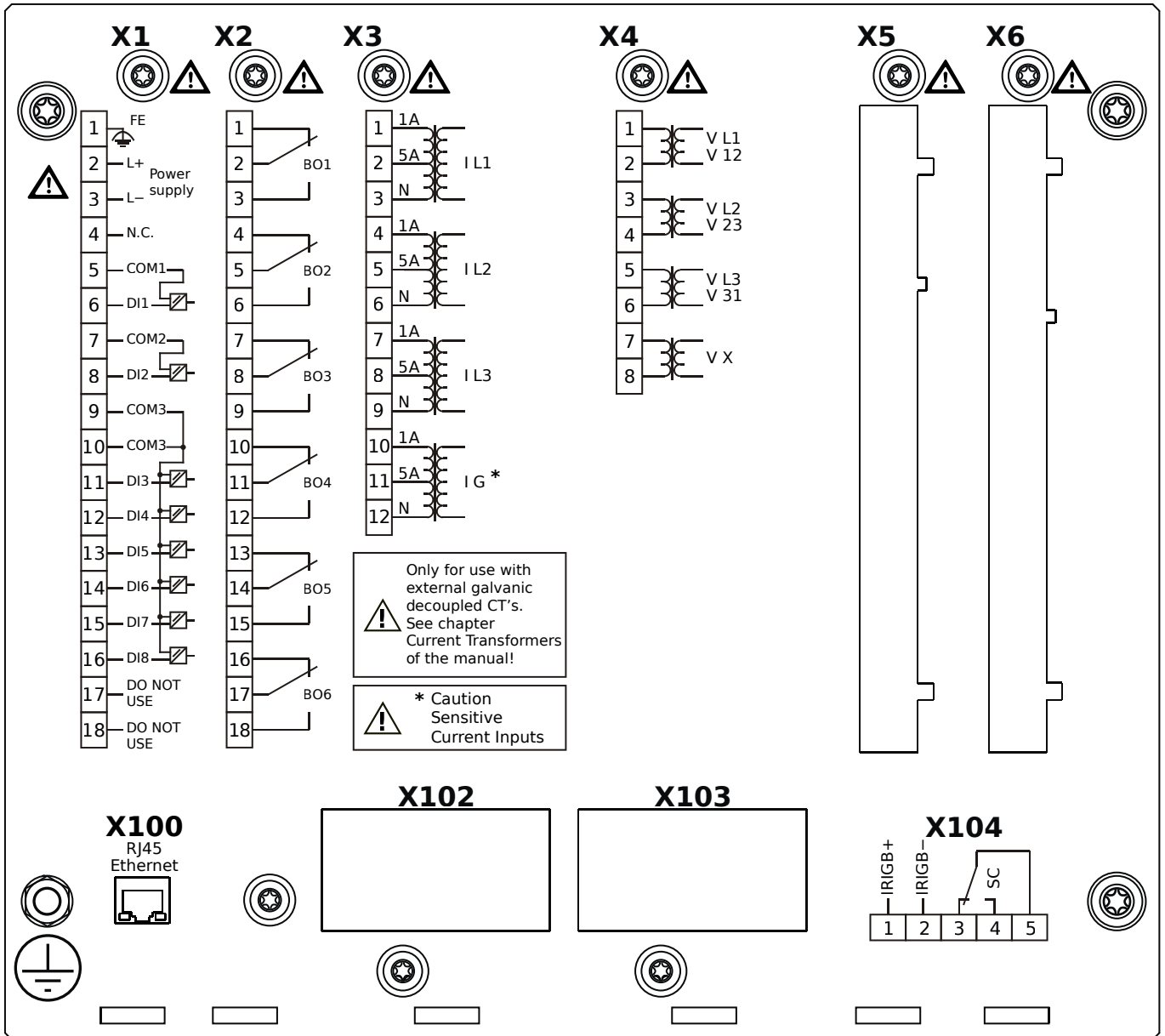**X2**   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AIA

X1

1	FE ⏚
2	L+
3	L− (Power supply)
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5

X6

X100
RJ45 Ethernet

X102

X103

+5V, GND, HF SHIELD

560Ω	P 120Ω N		560Ω		
1	2	3	4	5	6

X104

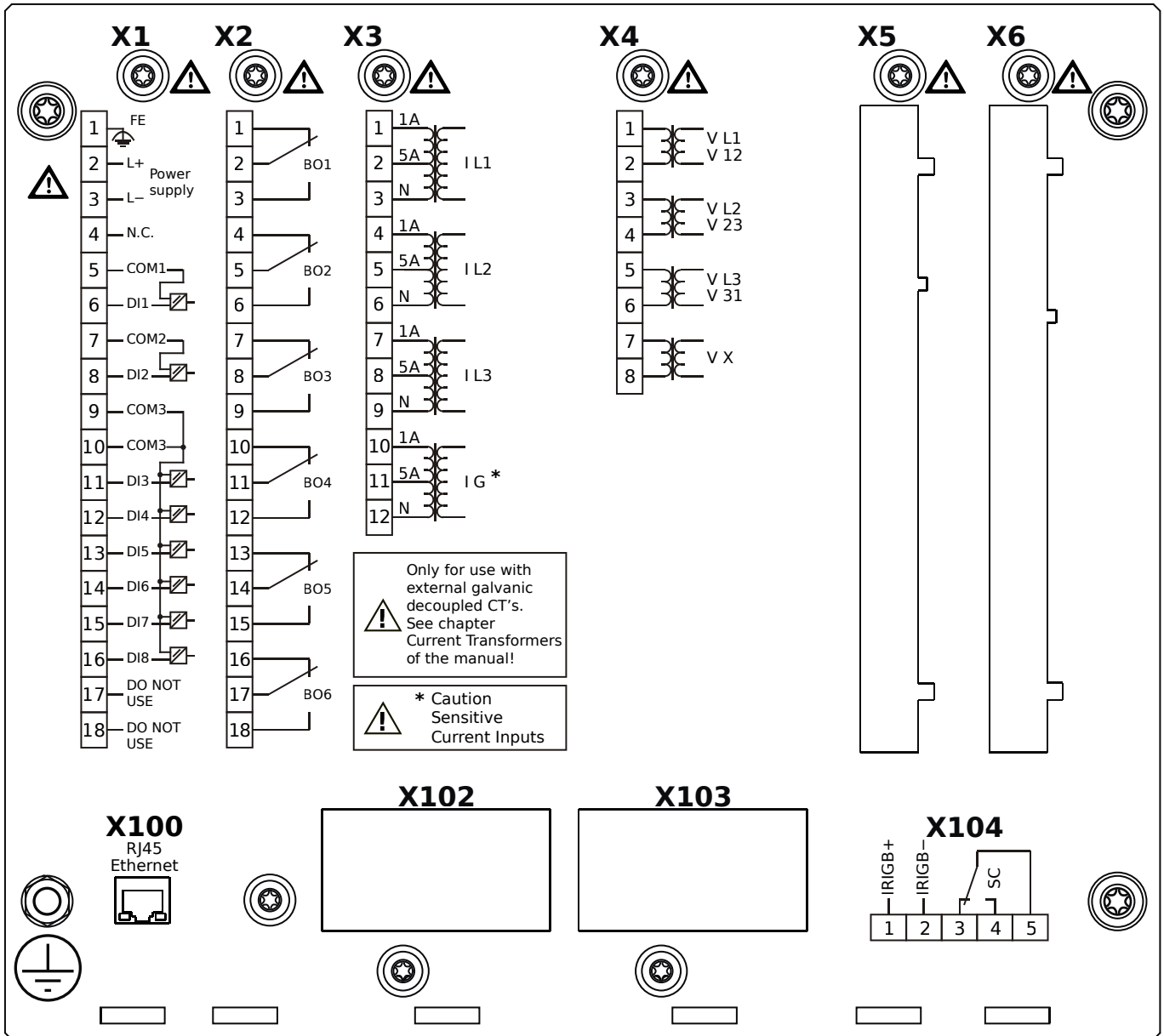IRIGB+, IRIGB−, SC

1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AIB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
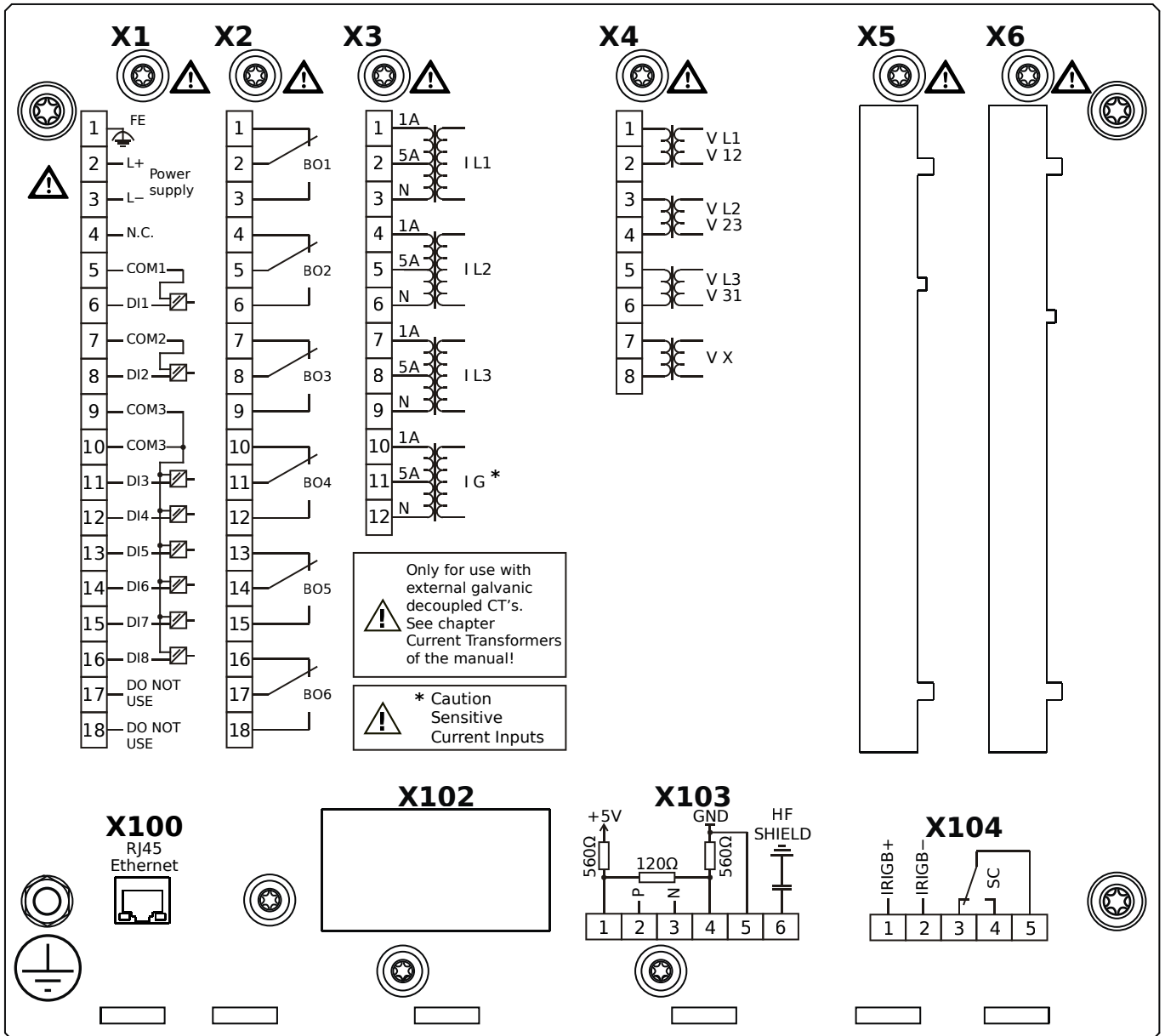**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AKA

X1 — FE
1 — FE
2 — L+ } Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X3
1 — 1A
2 — 5A } I L1
3 — N
4 — 1A
5 — 5A } I L2
6 — N
7 — 1A
8 — 5A } I L3
9 — N
10 — 1A
11 — 5A } I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5

X6

X102

X103
Fiber connection / LWL
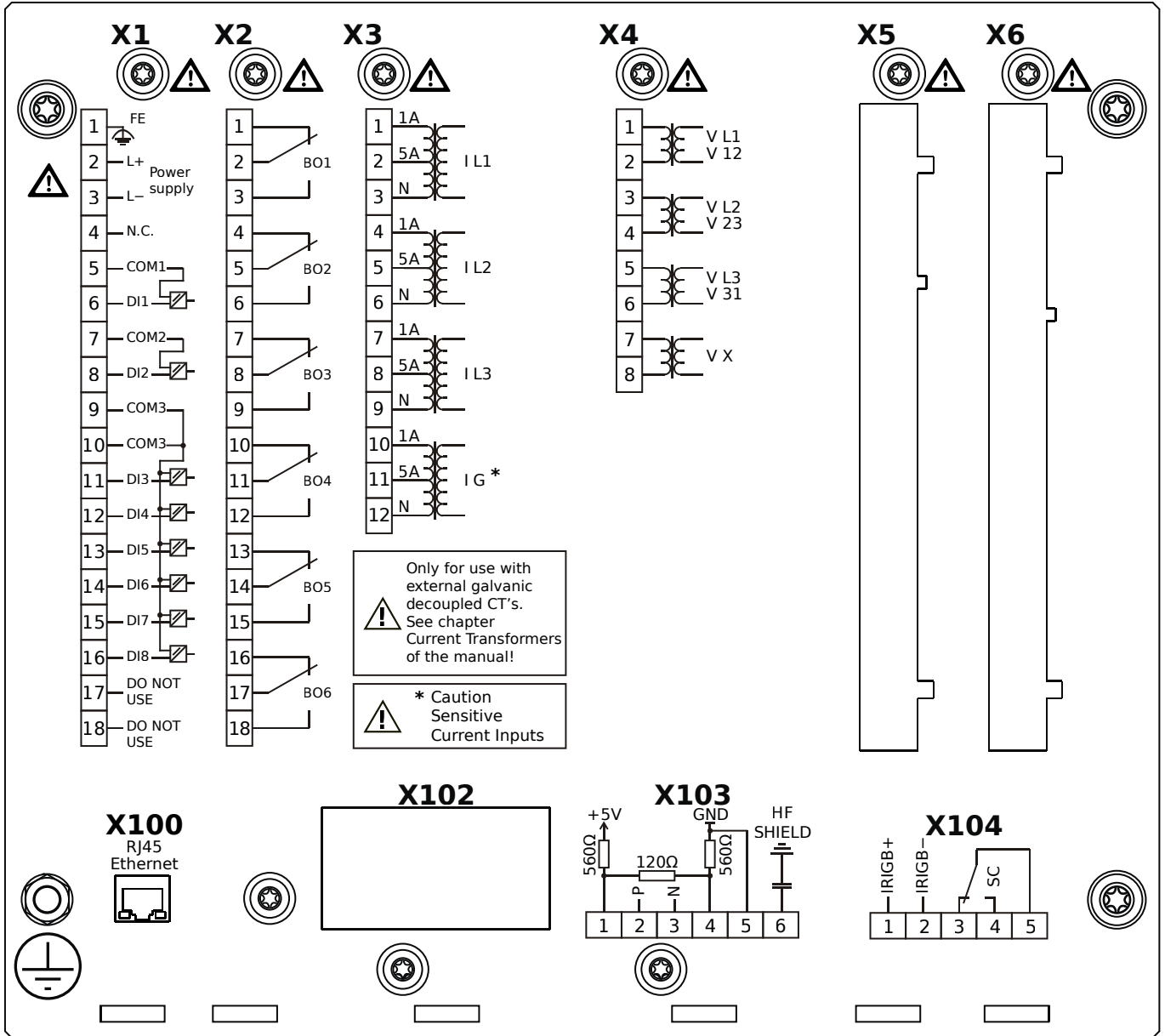RxD   TxD

X104
IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1AKB

X1 **X2** **X3** **X4** **X5** **X6**

X1	
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X102

X103
Fiber connection / LWL
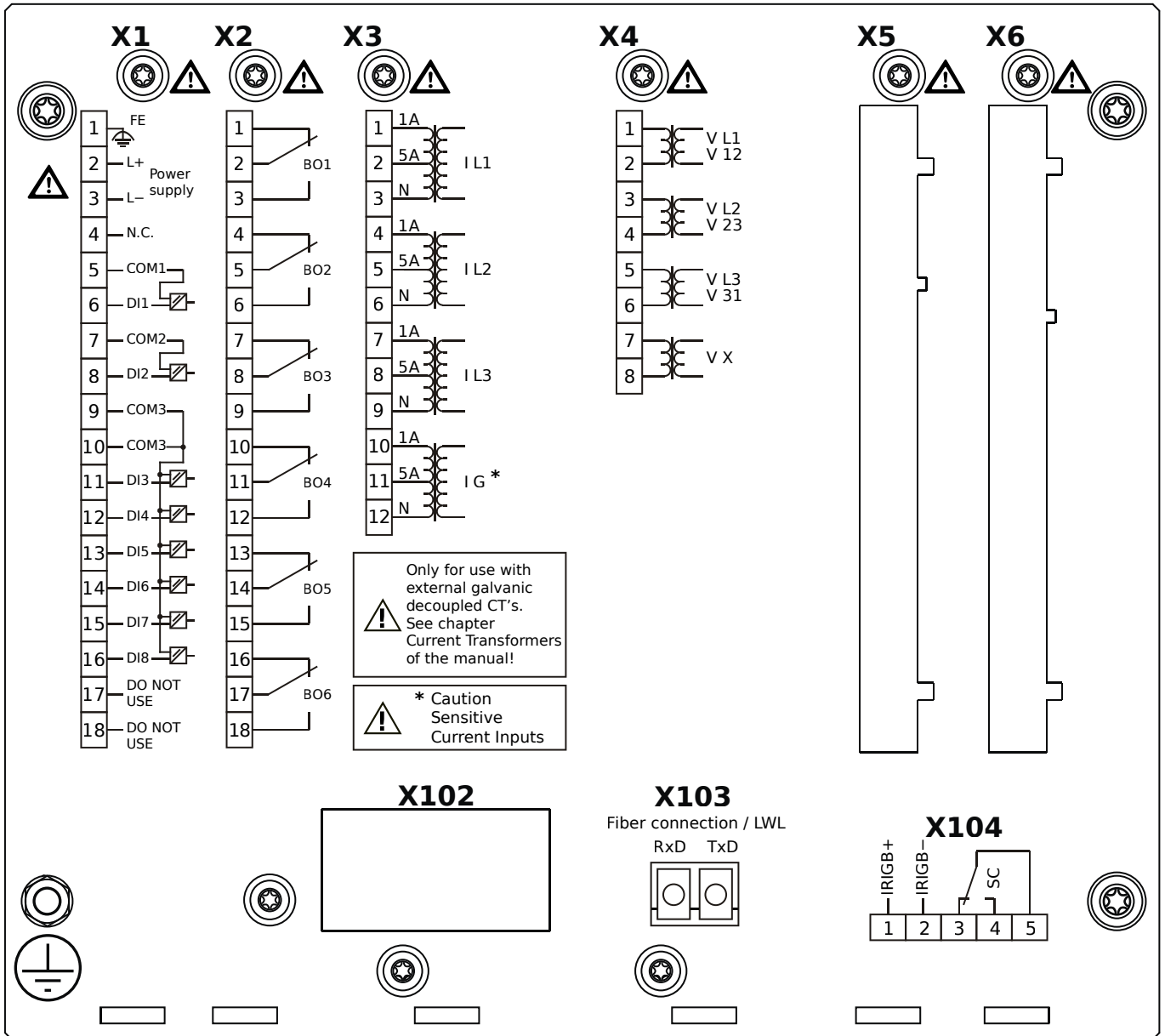RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting

- + Conformal Coating (for installations in harsh environment)
- **X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
- **X2** – OR6: Assembly Group with 6 Output Relays
- **X3** – TIs: Standard phase current measuring card and sensitive ground current measuring
- **X4** – TU: Card with 4 voltage transformer measuring inputs
- **X103** – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
- **X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ALA

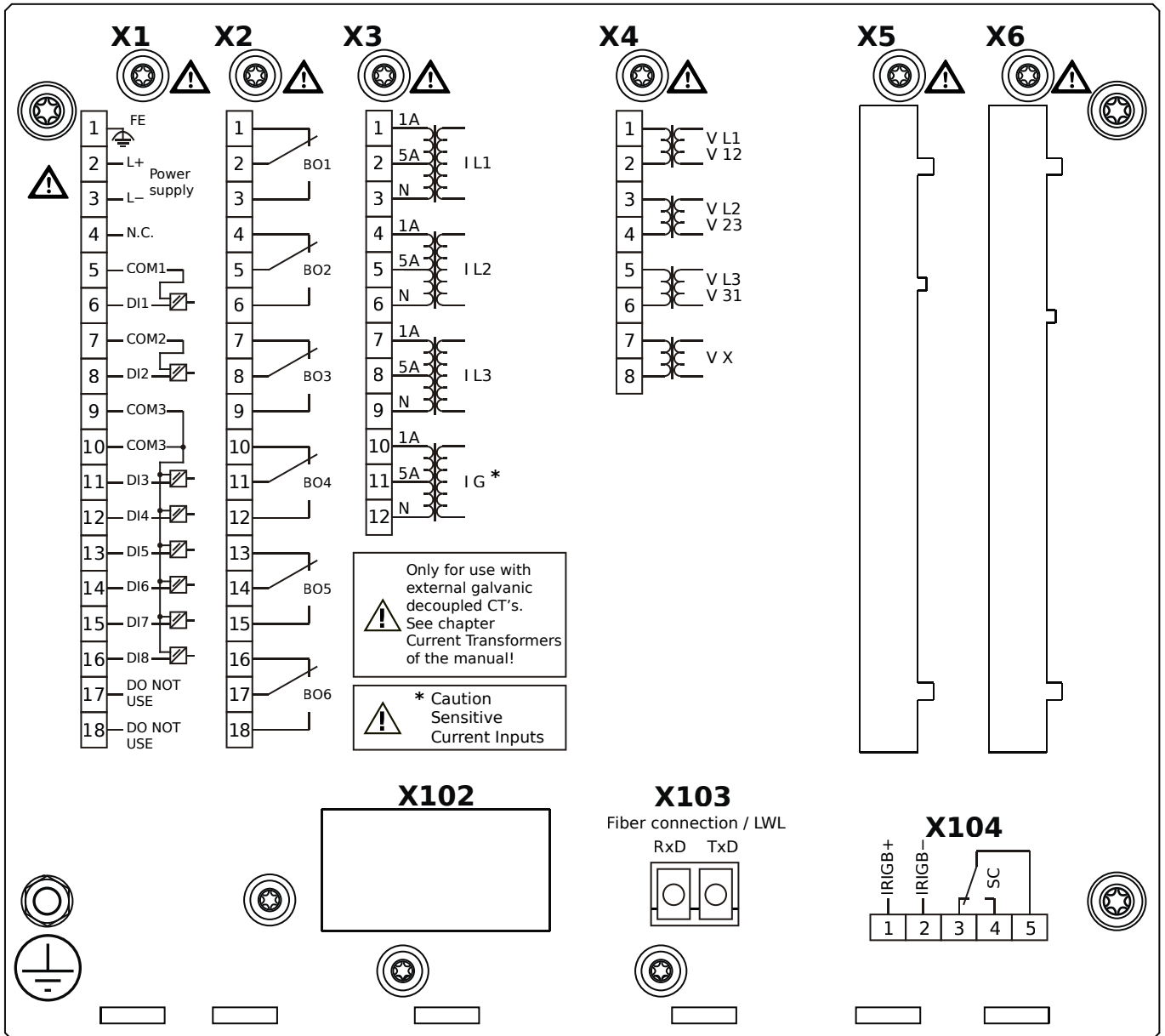**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ALB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
- **+** Conformal Coating (for installations in harsh environment)
- **X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
- **X2** – OR6: Assembly Group with 6 Output Relays
- **X3** – TIs: Standard phase current measuring card and sensitive ground current measuring
- **X4** – TU: Card with 4 voltage transformer measuring inputs
- **X103** – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
- **X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ATA

Housing B2, small display, door mounting
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
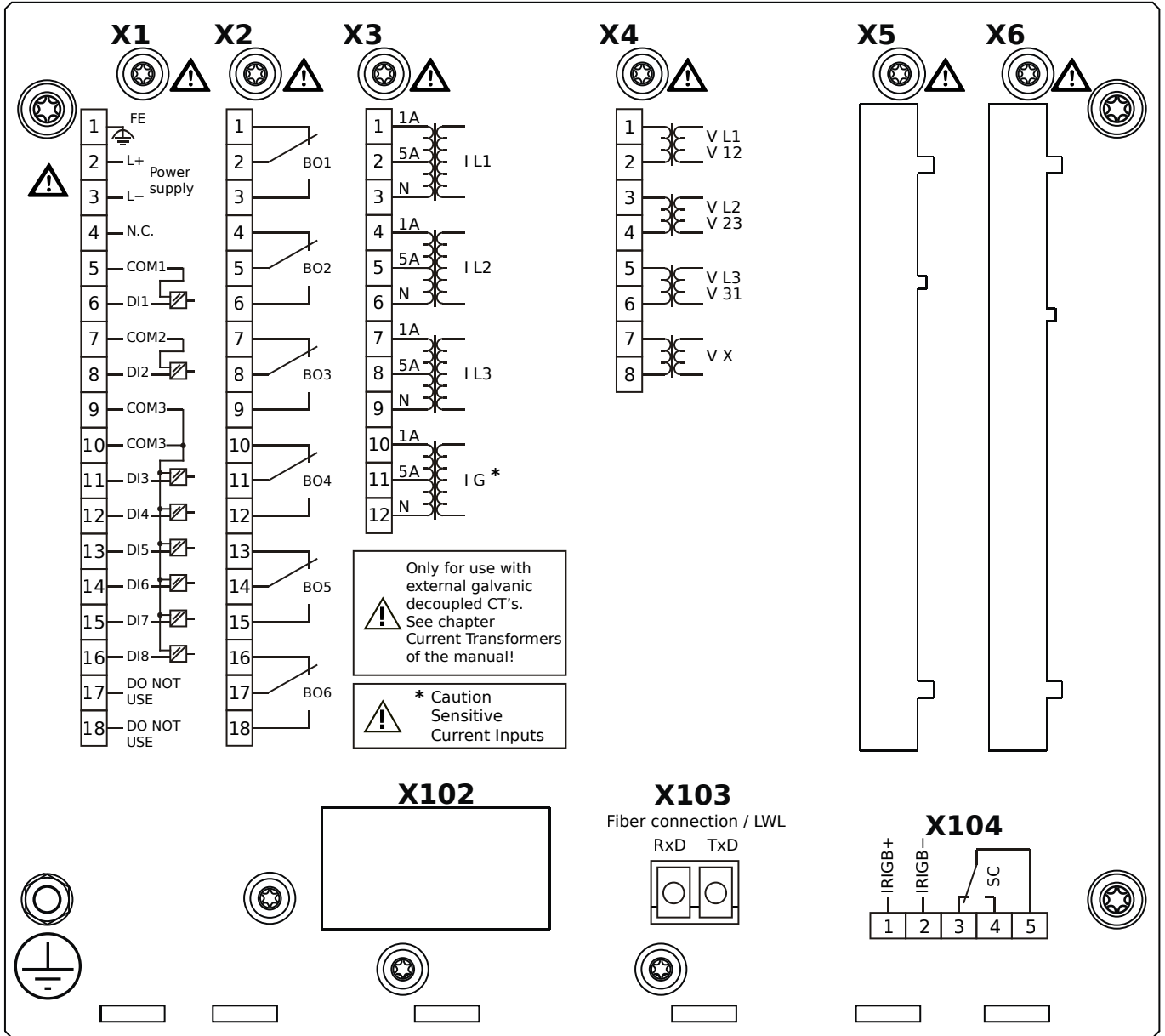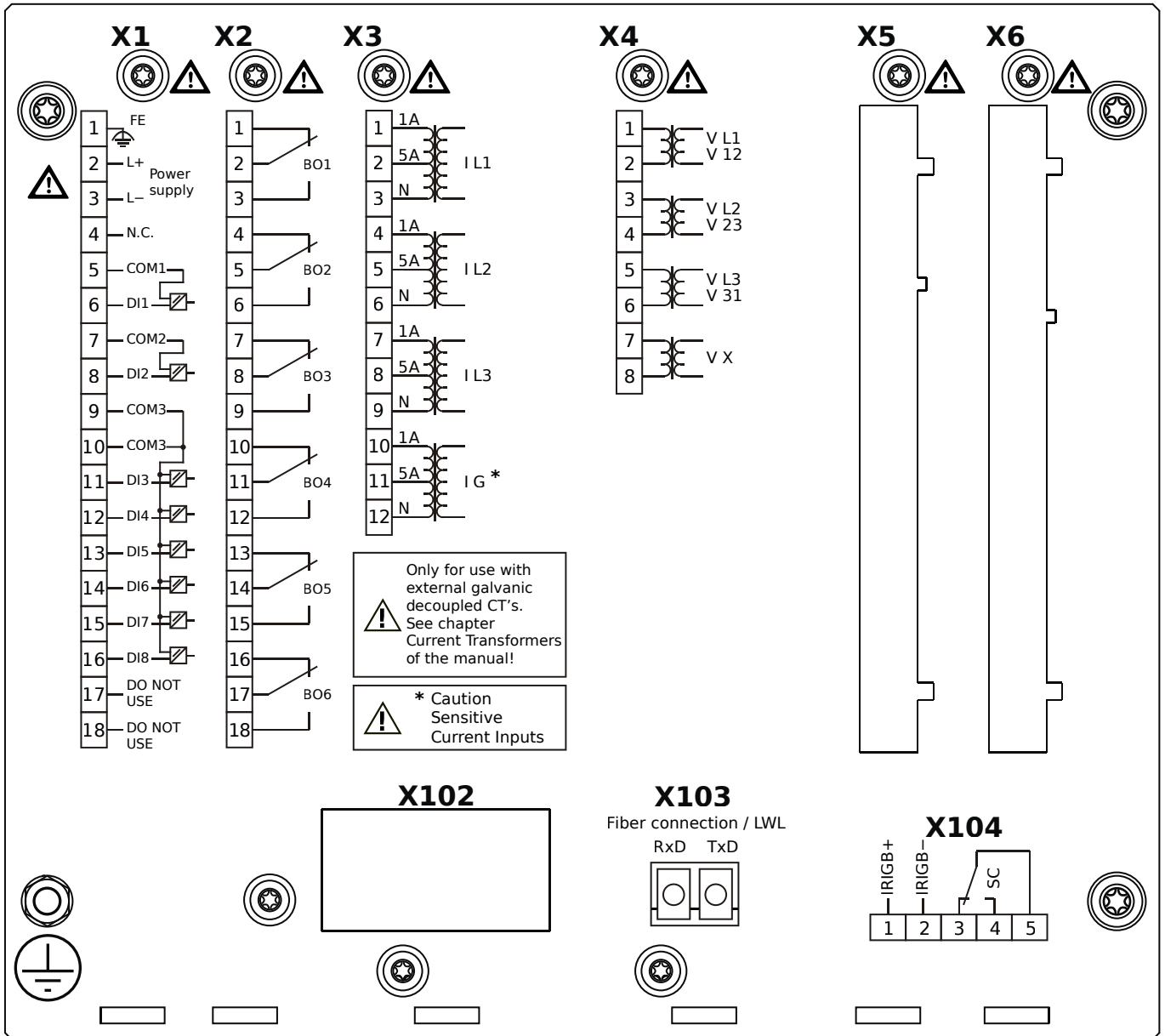**X2**   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1ATB

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   ## X6

X100
RJ45 Ethernet

X102

X103

+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

P   N

| 1 | 2 | 3 | 4 | 5 | 6 |

X104

IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
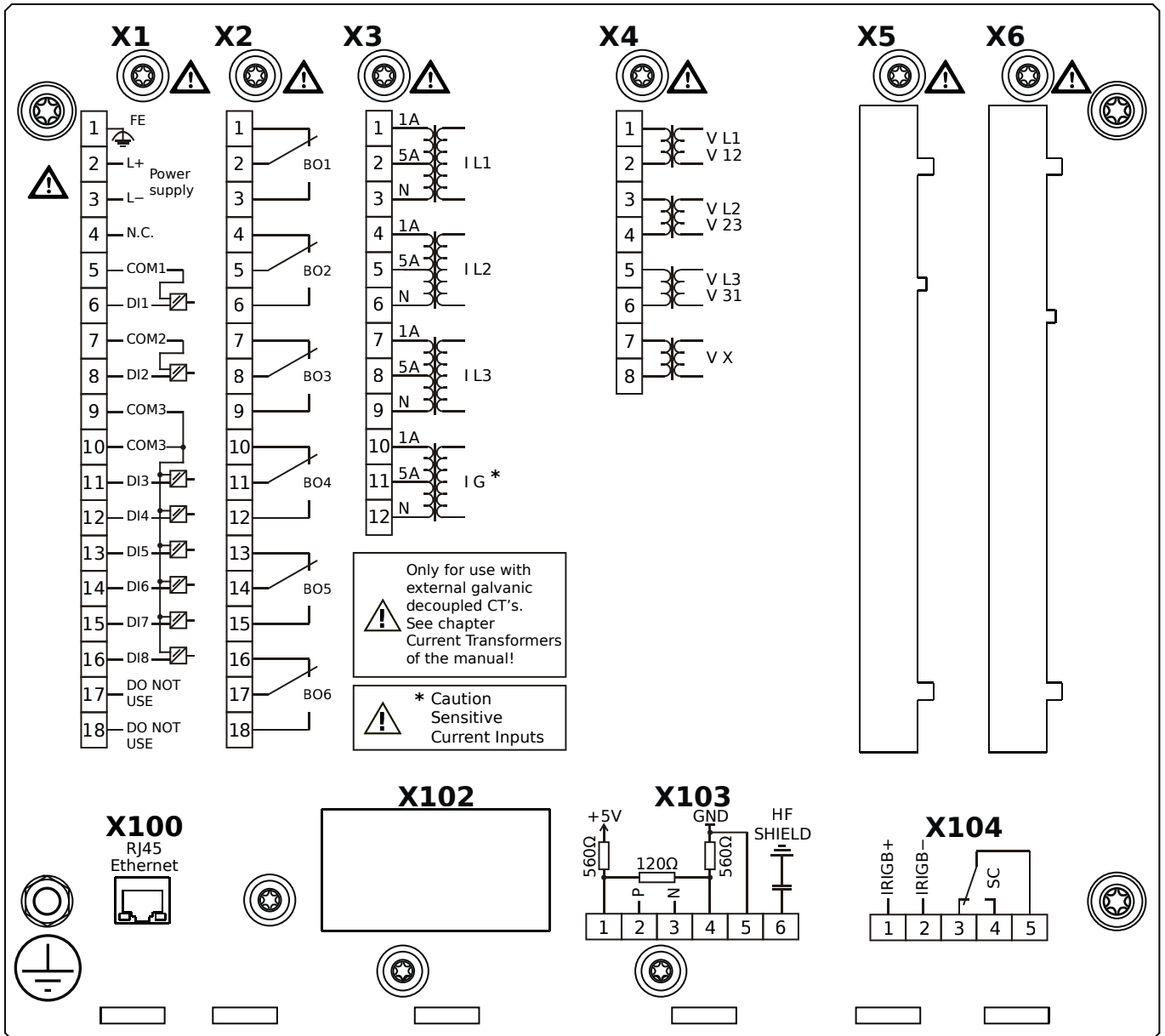**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BAA

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103

X104

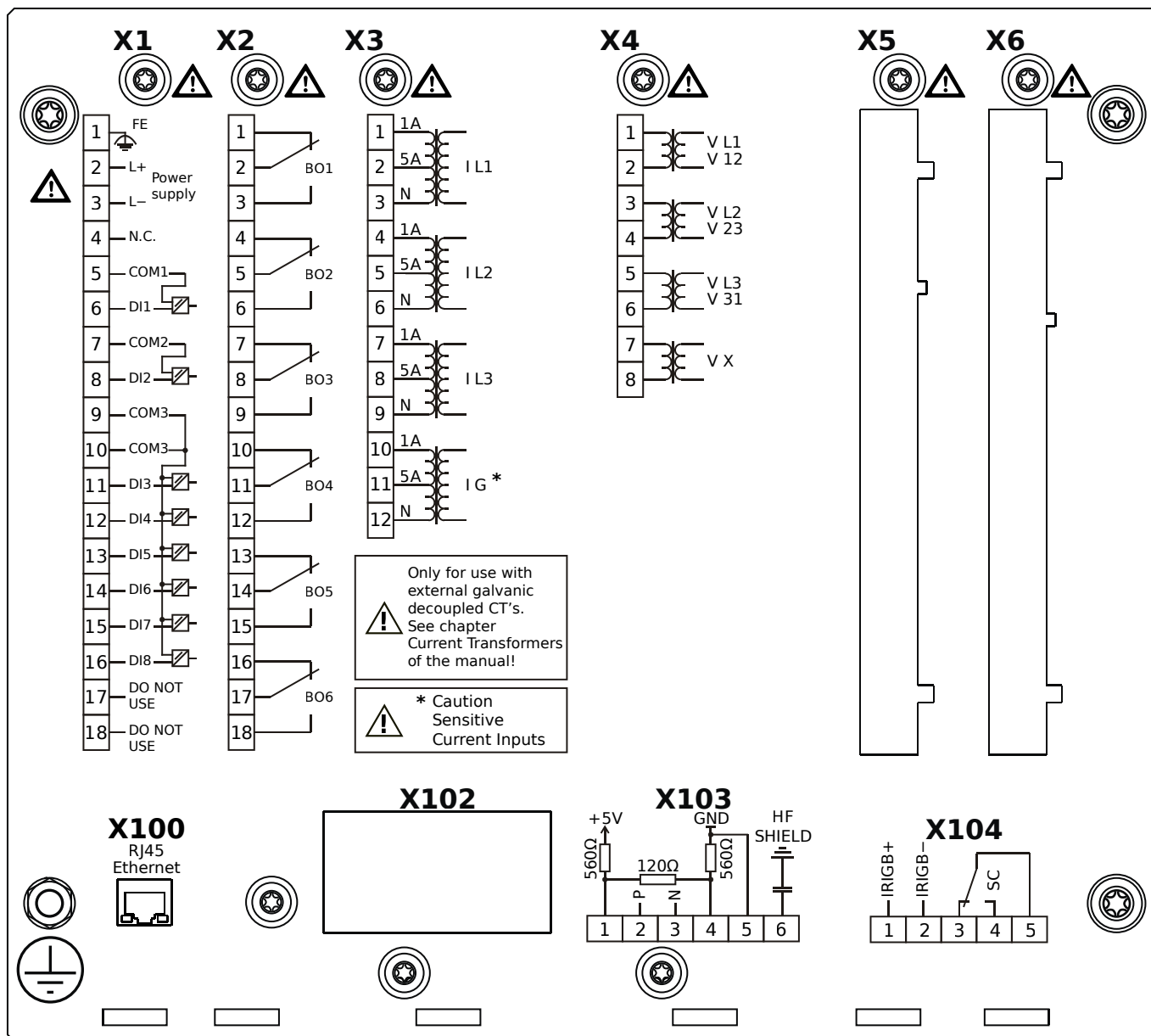| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
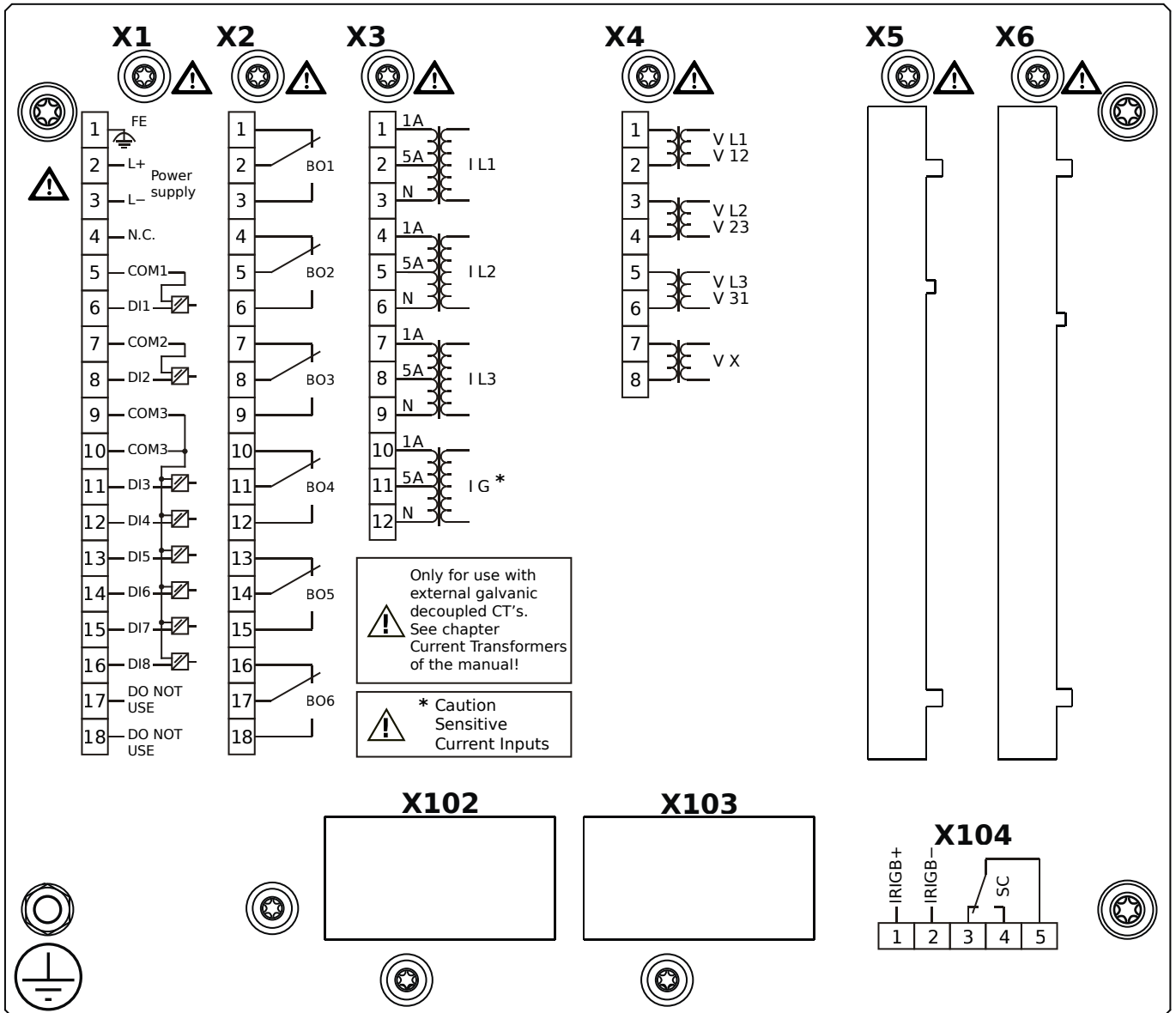**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BAB

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BBA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BBB

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

Terminals and labels:

X1:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3:
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4:
1
2   V L1 / V 12
3
4   V L2 / V 23
5
6   V L3 / V 31
7
8   V X

X5   X6

X102

X103
+5V   GND   HF SHIELD
560Ω   120Ω   560Ω
P   N
1   2   3   4   5   6

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BCA

X1 FE
1 — FE
2 — L+ } Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X3
1 — 1A
2 — 5A } I L1
3 — N
4 — 1A
5 — 5A } I L2
6 — N
7 — 1A
8 — 5A } I L3
9 — N
10 — 1A
11 — 5A } I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5

X6

X100
RJ45 Ethernet

X102

X103

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BCB

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
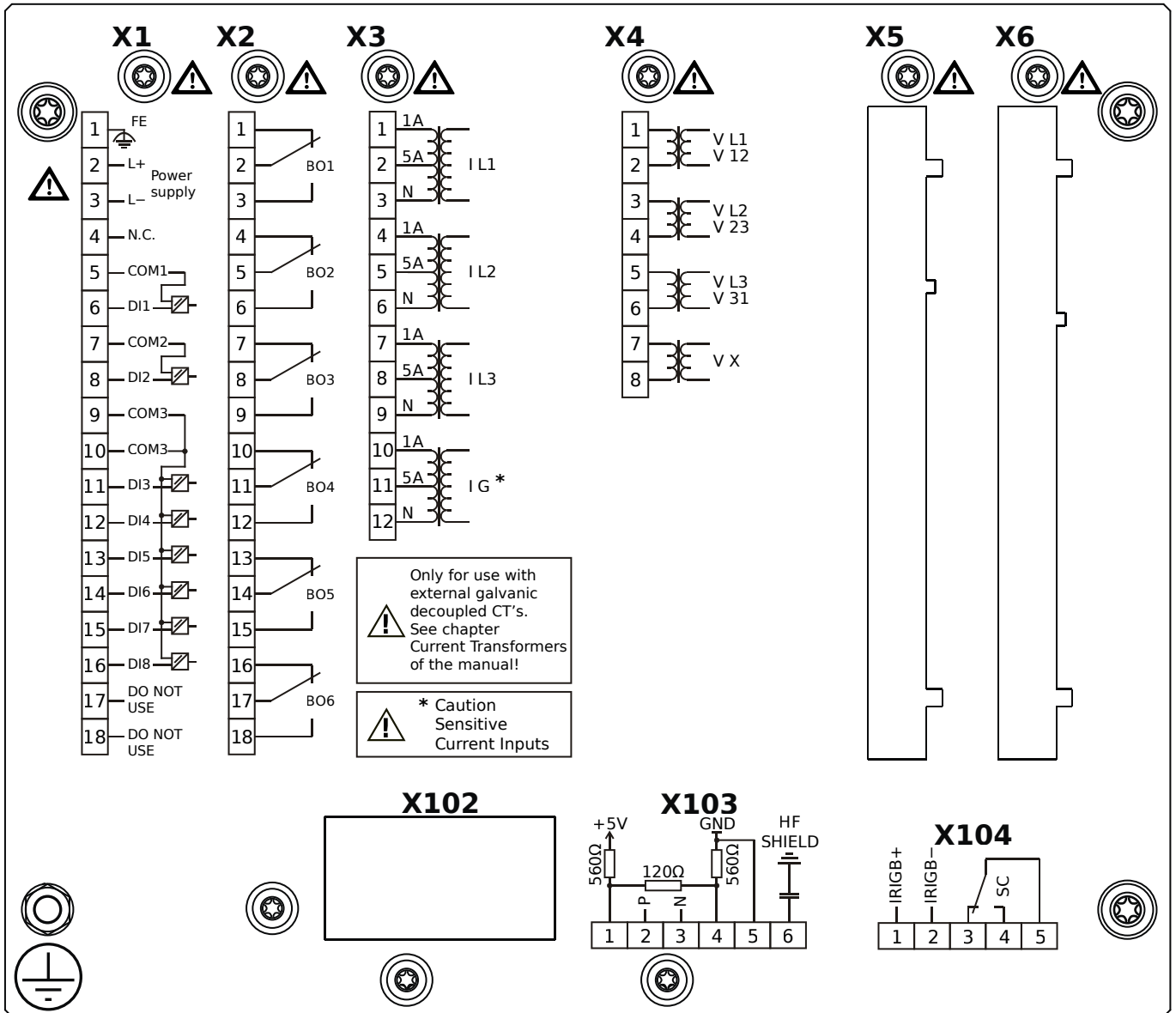**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BDA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5 **X6**

X102

X103
Fiber connection / LWL

RxD TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BDB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5   **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BEA

X1

- 1 — FE ⏚
- 2 — L+ Power supply
- 3 — L−
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2

- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X3

- 1 — 1A
- 2 — 5A I L1
- 3 — N
- 4 — 1A
- 5 — 5A I L2
- 6 — N
- 7 — 1A
- 8 — 5A I L3
- 9 — N
- 10 — 1A
- 11 — 5A I G *
- 12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

- 1 — V L1
- 2 — V 12
- 3 — V L2
- 4 — V 23
- 5 — V L3
- 6 — V 31
- 7 — V X
- 8

X5

X6

X102

X103
connecting diagram
see specification

X104

- IRIGB+ 1
- IRIGB− 2
- 3
- SC 4
- 5

Housing B2, small display, 19" rack mounting
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
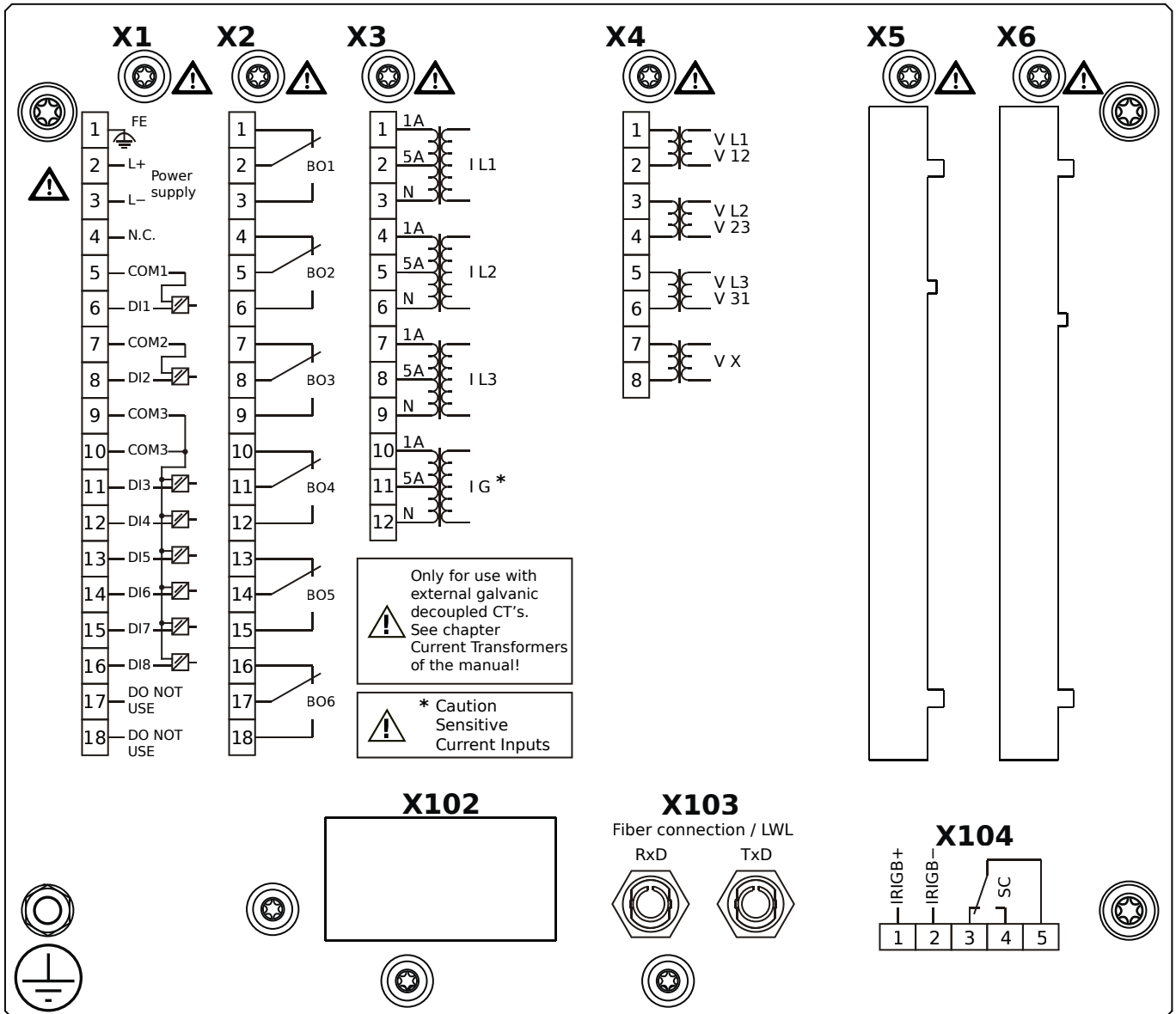**X2**   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BEB

X1 FE, L+, L−, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE
Power supply

X2 BO1, BO2, BO3, BO4, BO5, BO6

X3 1A, 5A, N — I L1; 1A, 5A, N — I L2; 1A, 5A, N — I L3; 1A, 5A, N — I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 V L1, V 12, V L2, V 23, V L3, V 31, V X

X5   **X6**

X102

X103
connecting diagram
see specification

X104
IRIGB+, IRIGB−, SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BFA

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5 **X6**

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
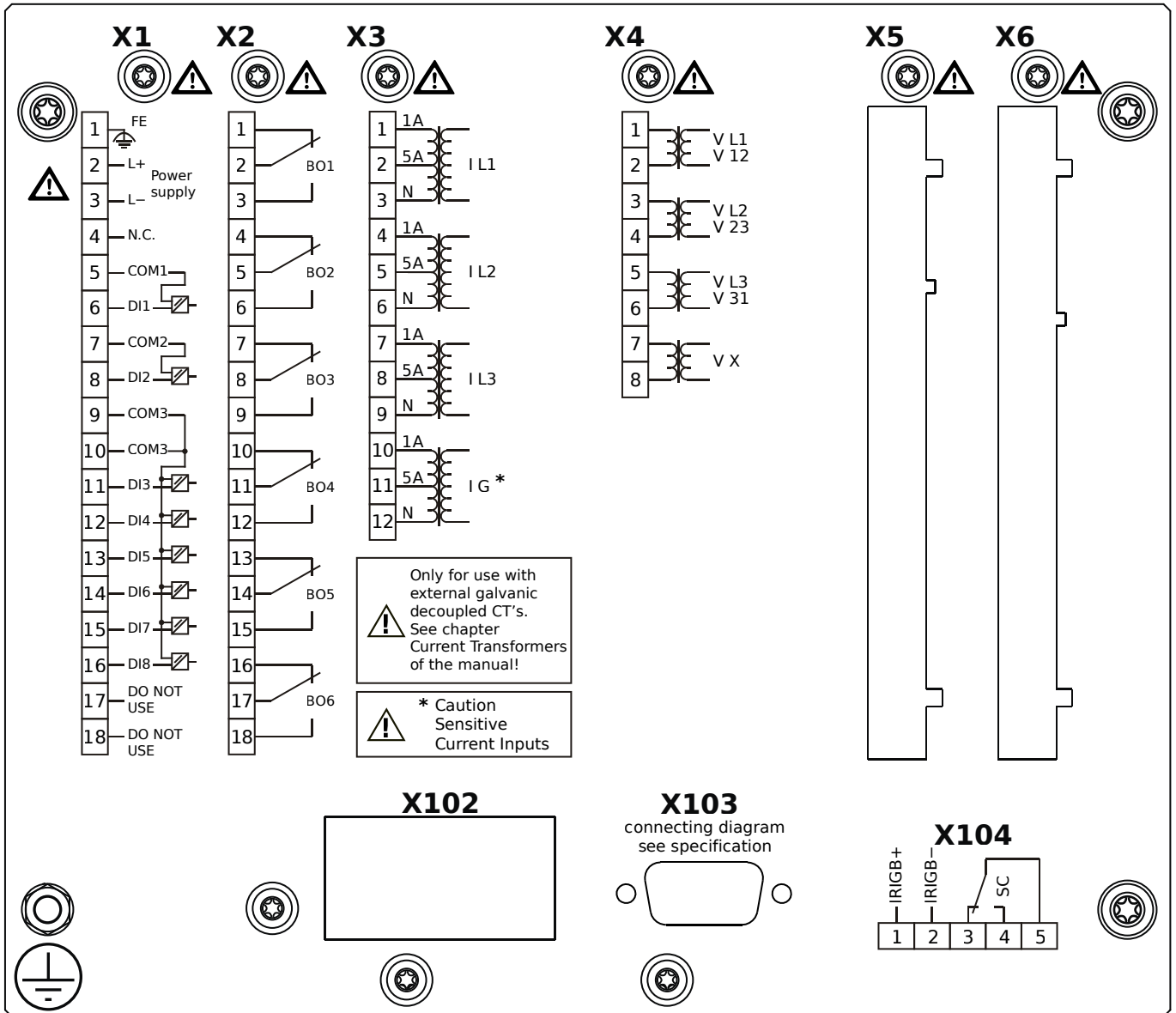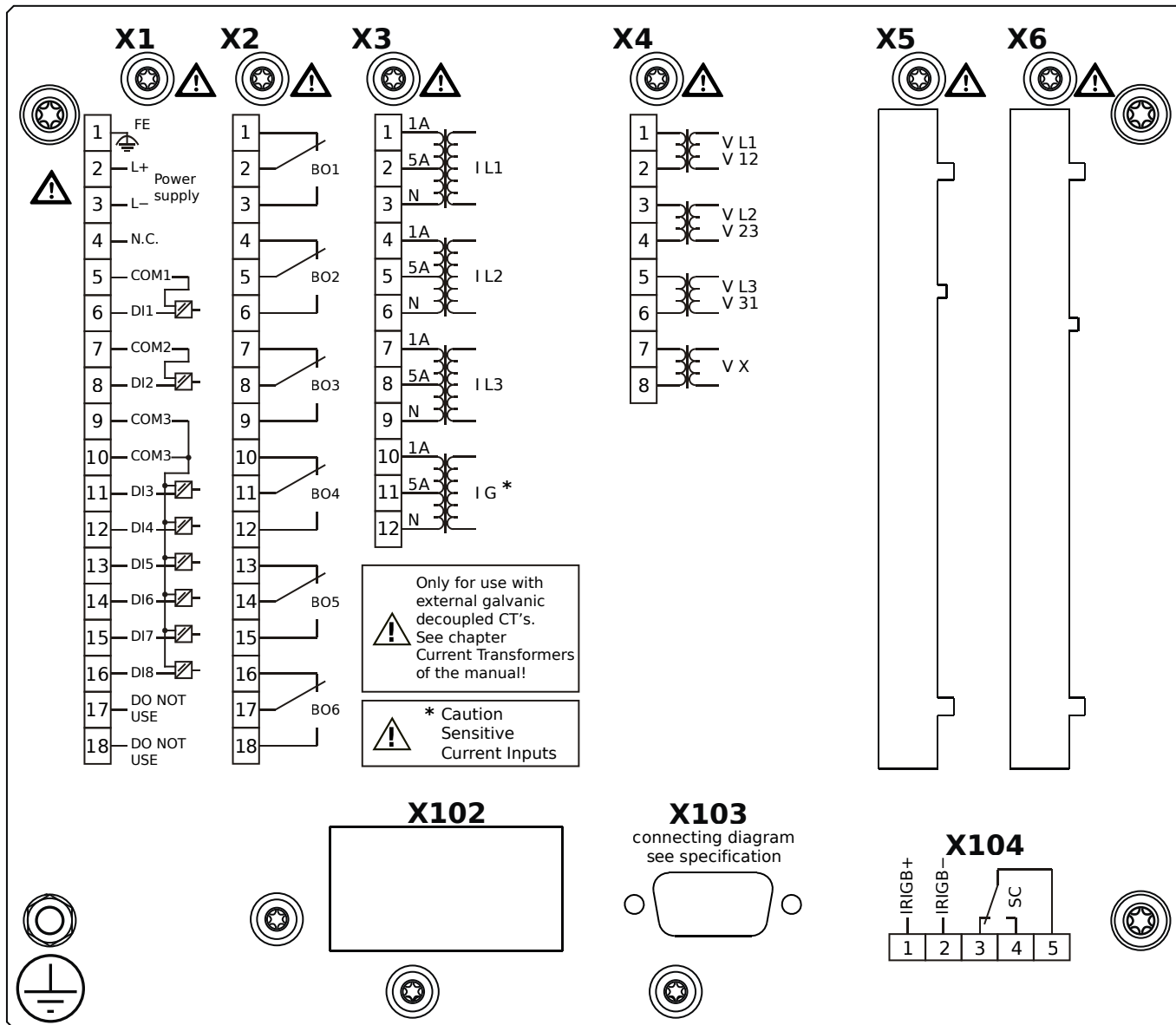**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BFB

X1
1 FE ⏚
2 L+ } Power
3 L− } supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X3
1 1A
2 5A } I L1
3 N
4 1A
5 5A } I L2
6 N
7 1A
8 5A } I L3
9 N
10 1A
11 5A } I G *
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1
2 } V L1 / V 12
3
4 } V L2 / V 23
5
6 } V L3 / V 31
7
8 } V X

X5

X6

X102

X103
Fiber connection / LWL
RxD   TxD

X104
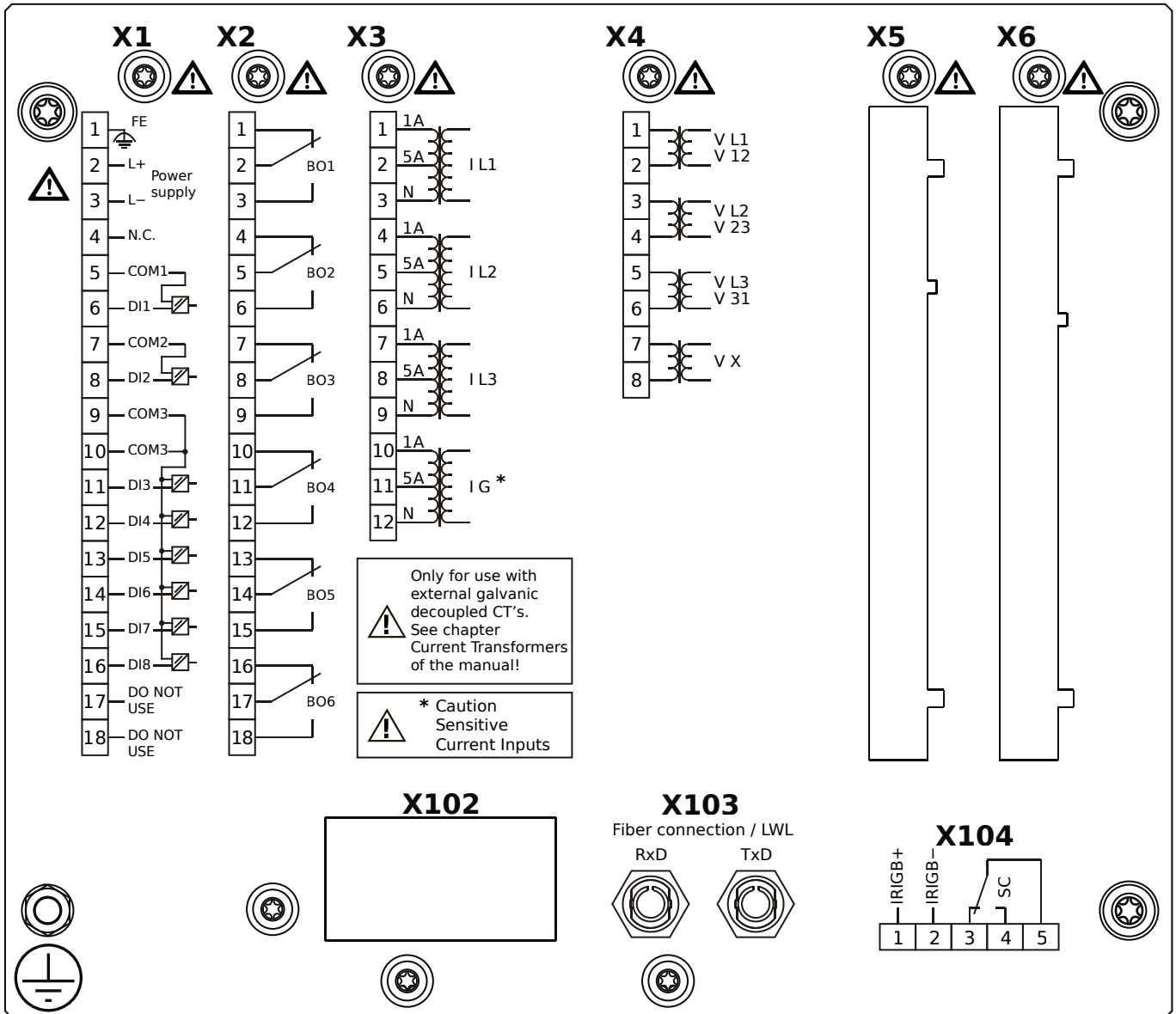IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BGA

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3:
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4:
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X102

X103
connecting diagram
see specification

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

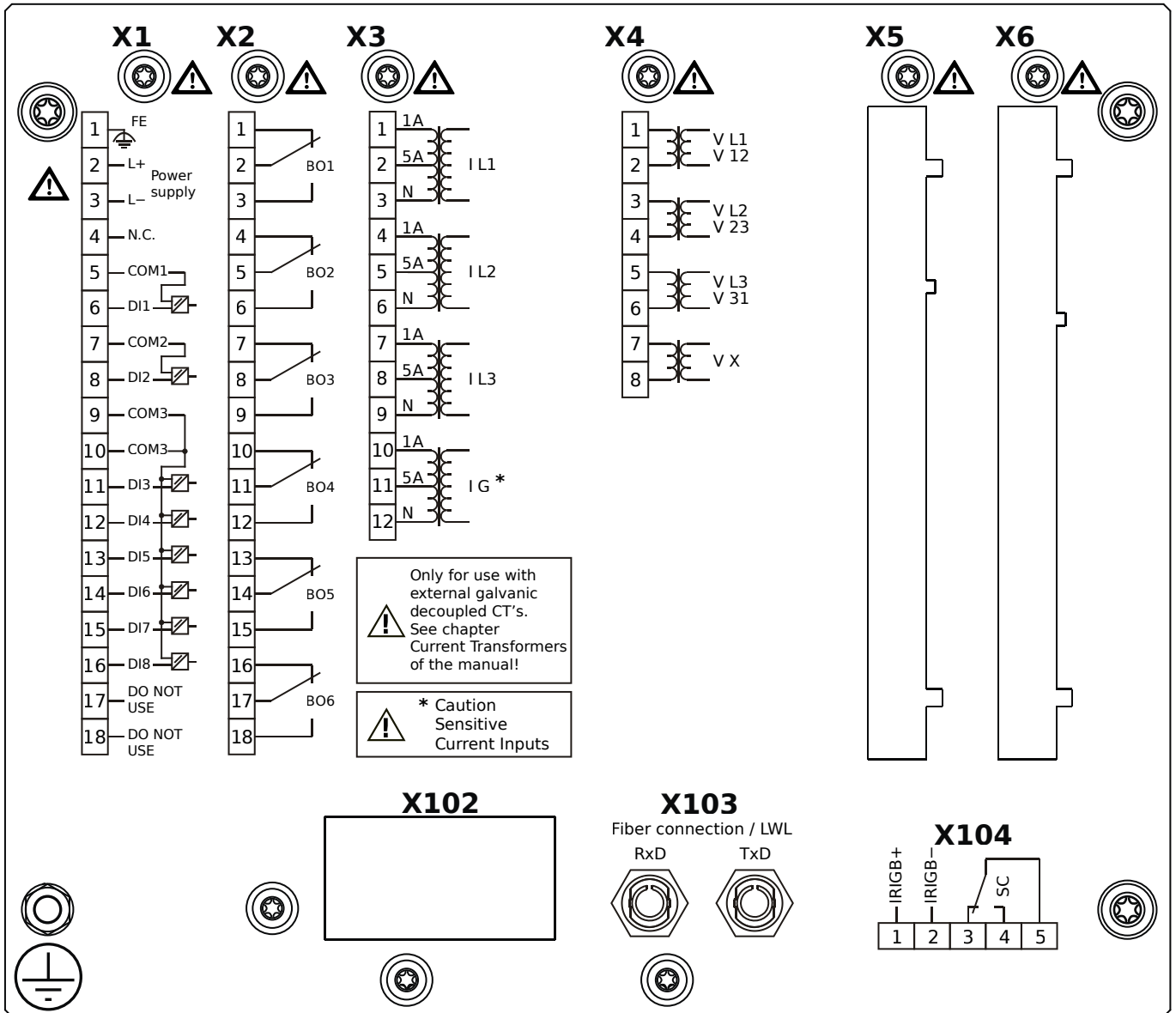**Housing B2, small display, 19" rack mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BGB

X1 FE, L+, L−, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

Power supply

X2 BO1, BO2, BO3, BO4, BO5, BO6

X3 1A, 5A, N (I L1); 1A, 5A, N (I L2); 1A, 5A, N (I L3); 1A, 5A, N (I G *)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 V L1 / V 12, V L2 / V 23, V L3 / V 31, V X

X5   **X6**

X102

X103 connecting diagram see specification

X104 IRIGB+, IRIGB−, SC — 1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BHA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
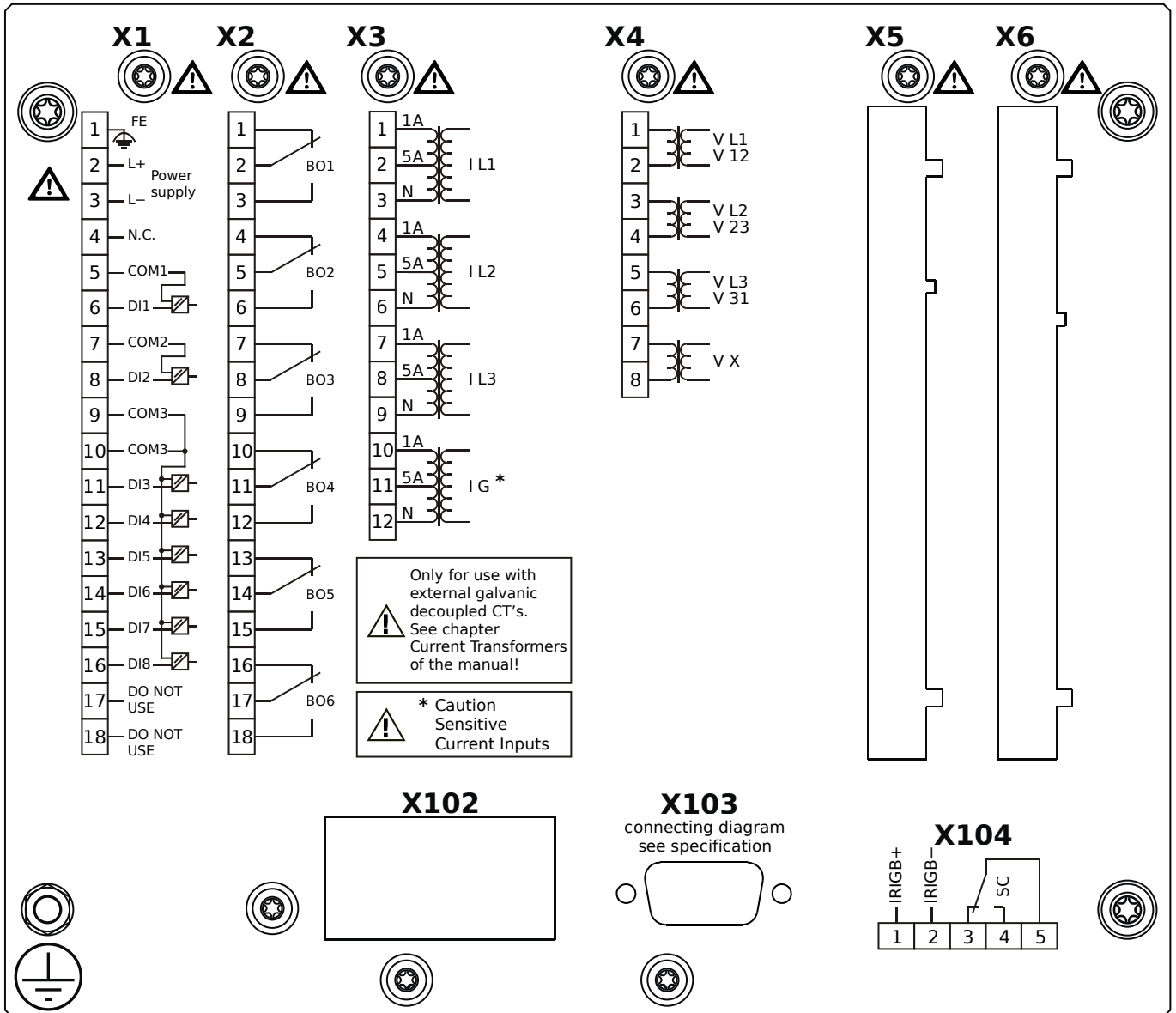**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BHB
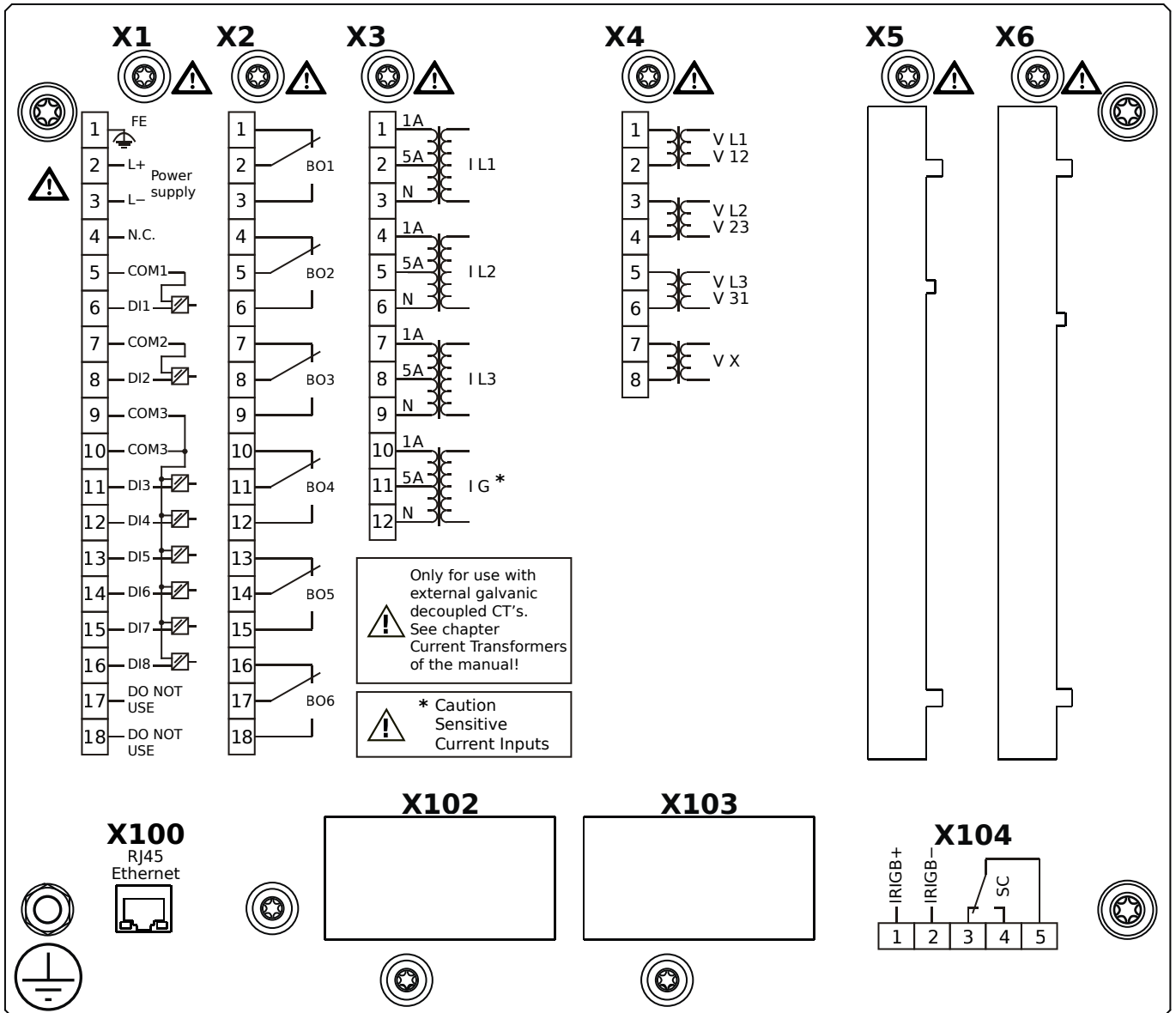
Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
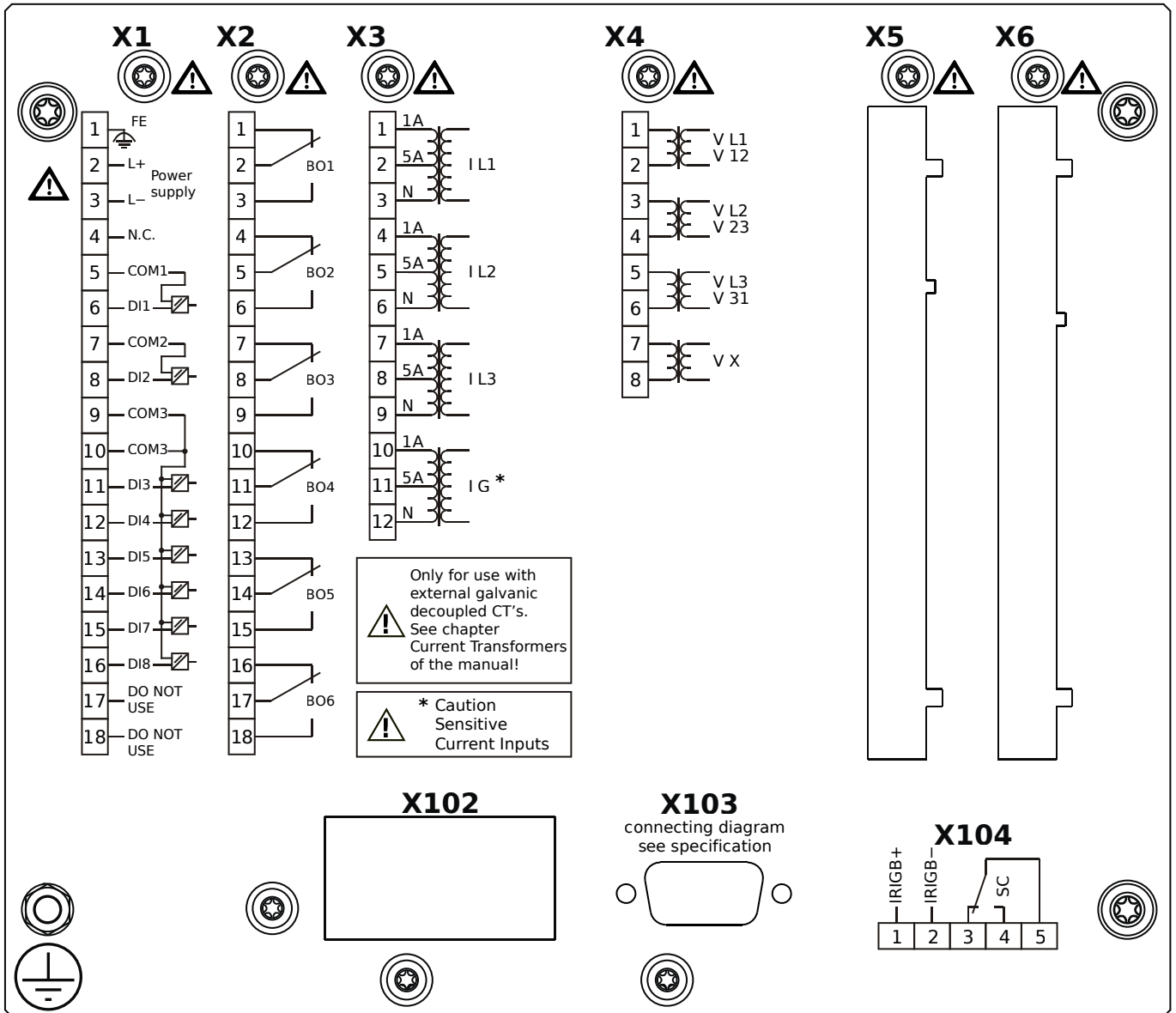**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BIA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BIB

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2   – OR6: Assembly Group with 6 Output Relays

X3   – TIs: Standard phase current measuring card and sensitive ground current measuring

X4   – TU: Card with 4 voltage transformer measuring inputs

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BKA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
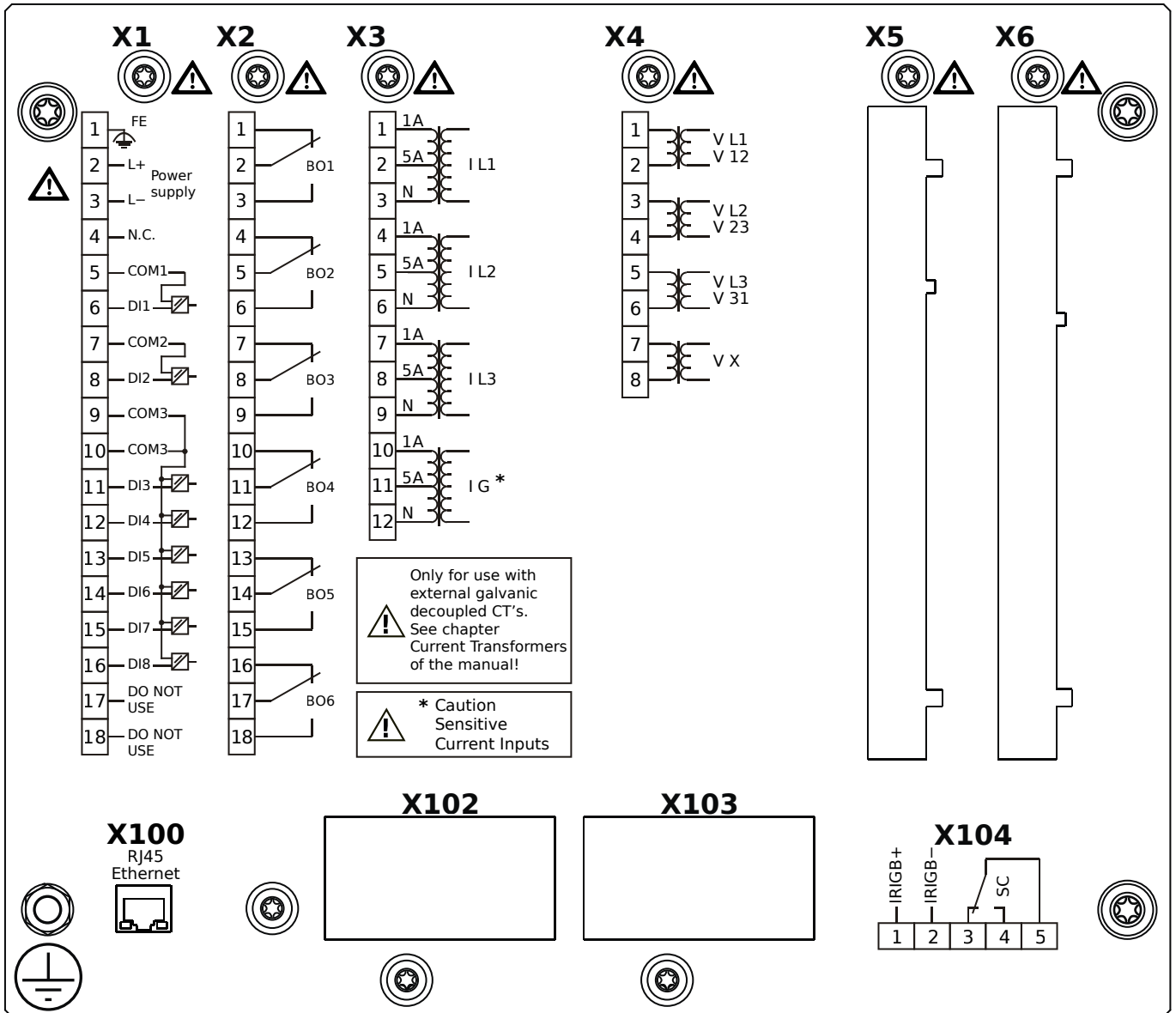**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BKB

X1 **X2** **X3** **X4** **X5** **X6**

X1		
1	FE ⏚	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BLA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5   **X6**

X102

X103

Fiber connection / LWL

RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
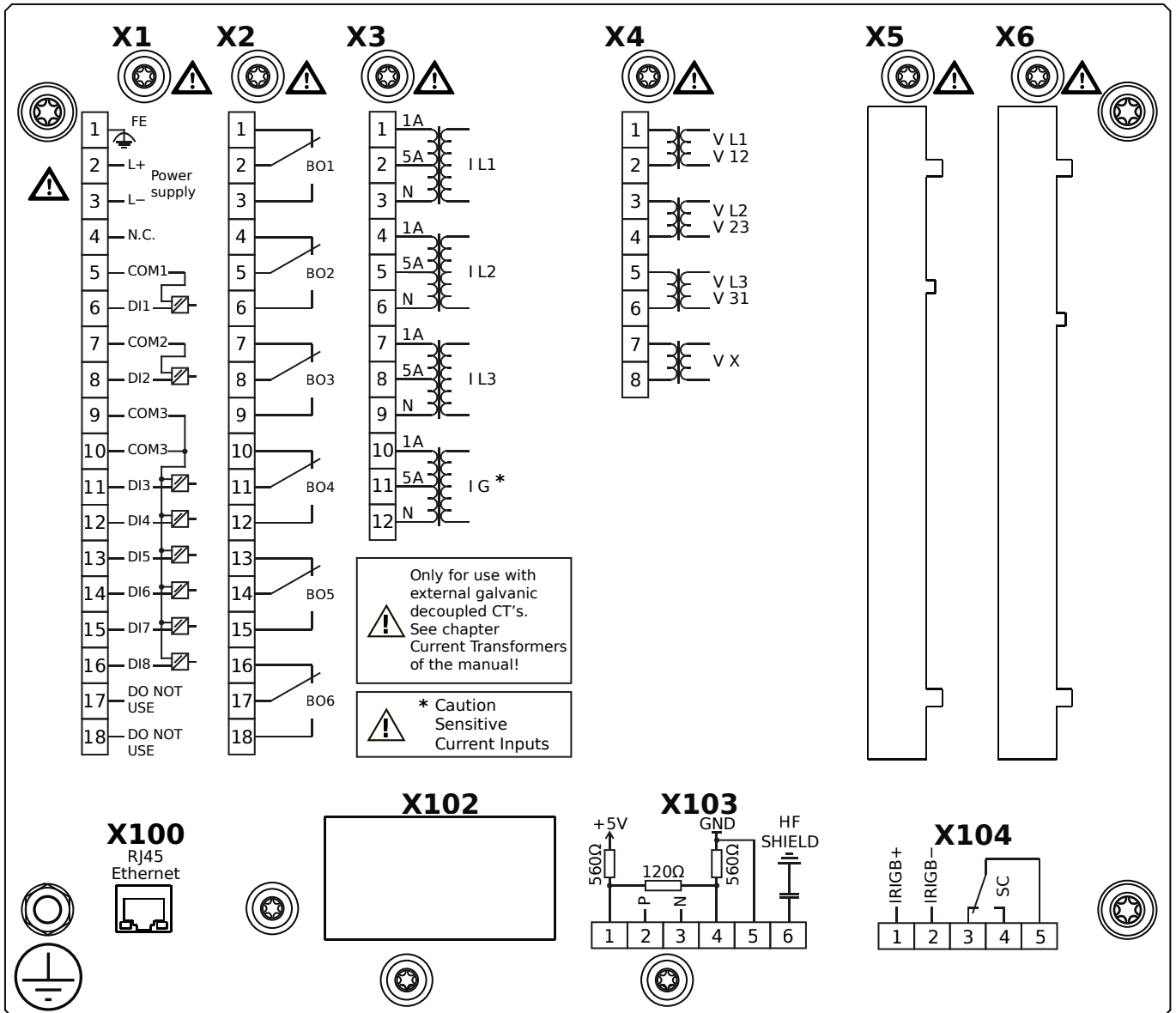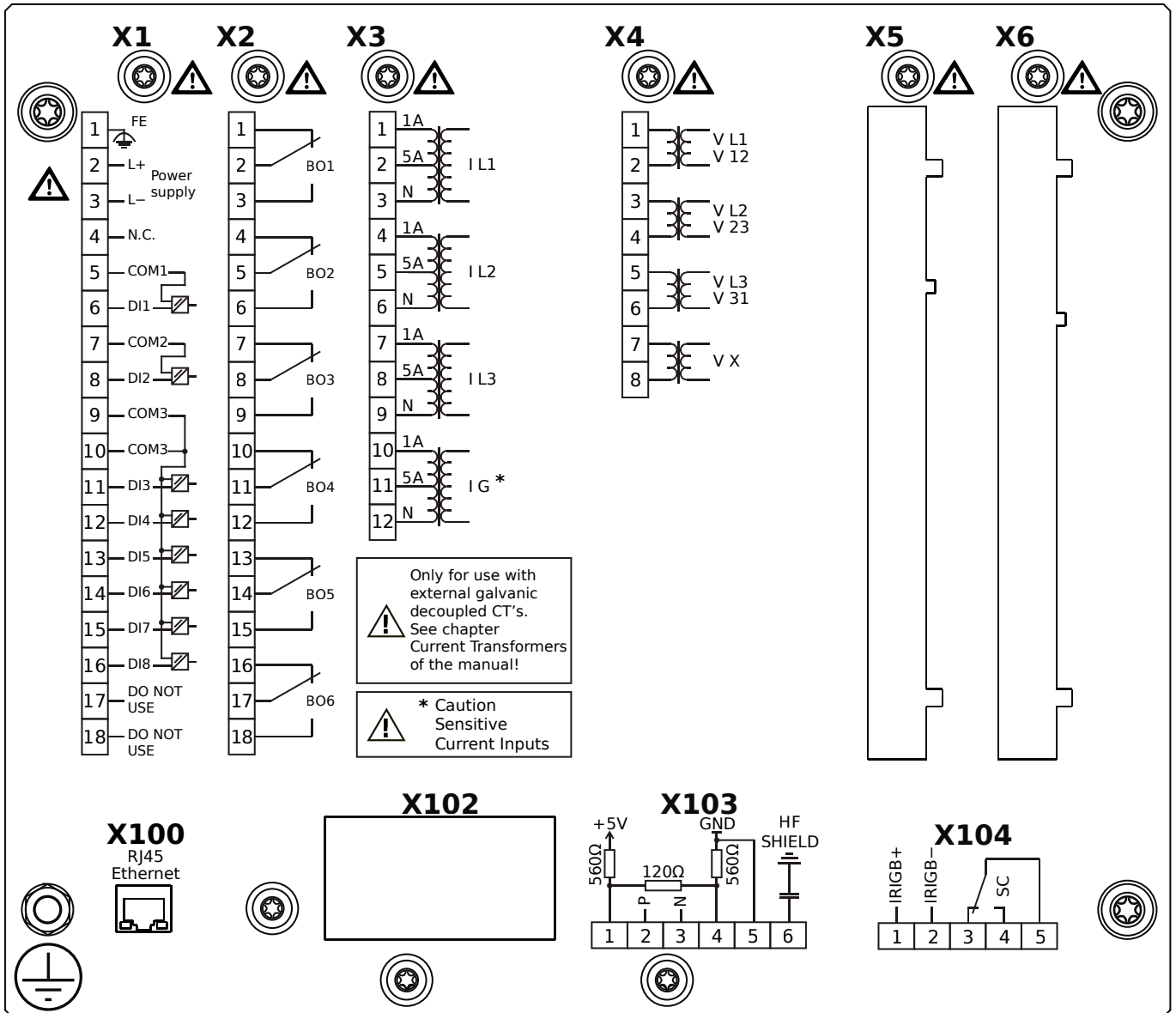**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BLB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5 **X6**

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ | IRIGB− | SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

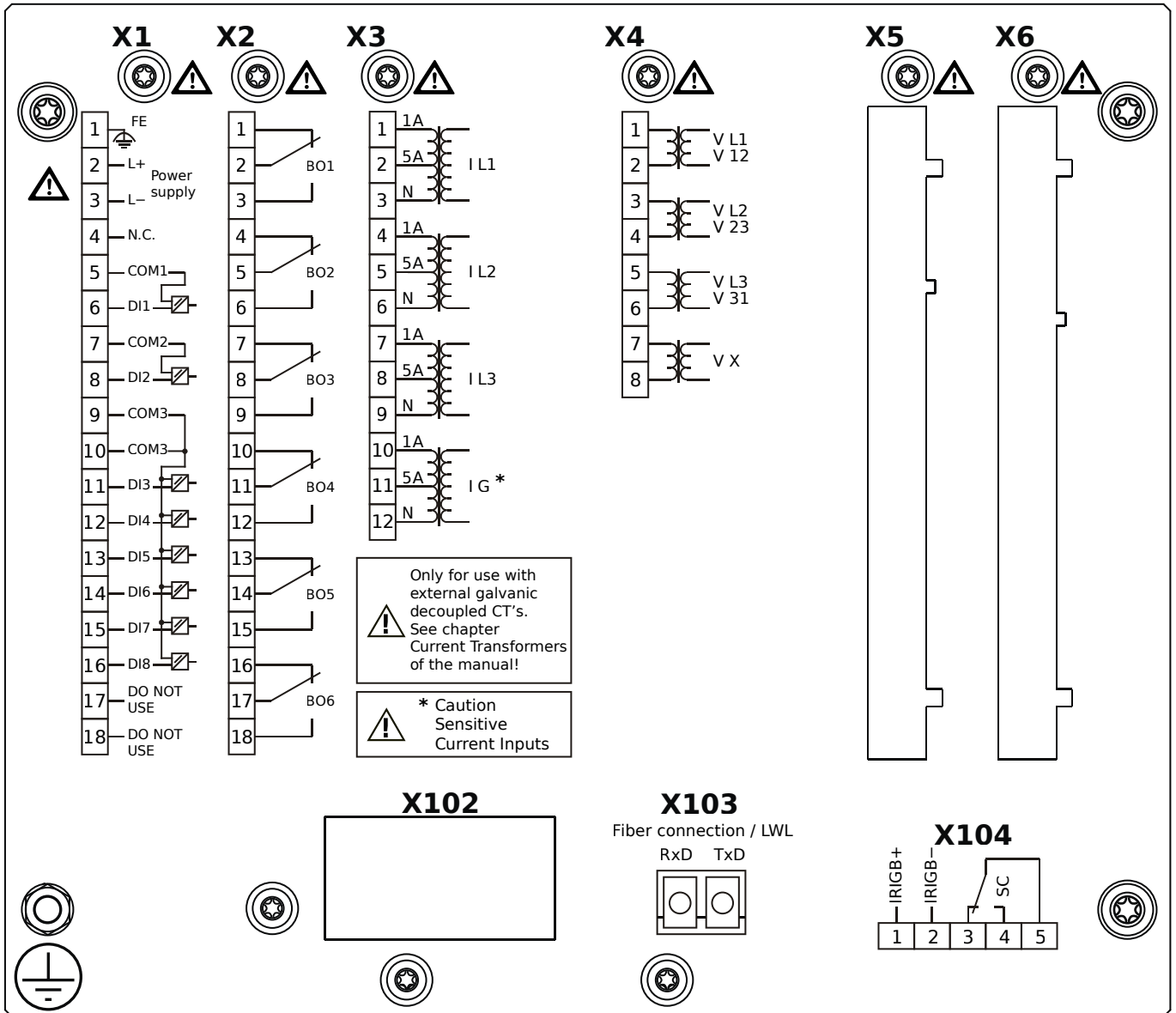**X3** – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

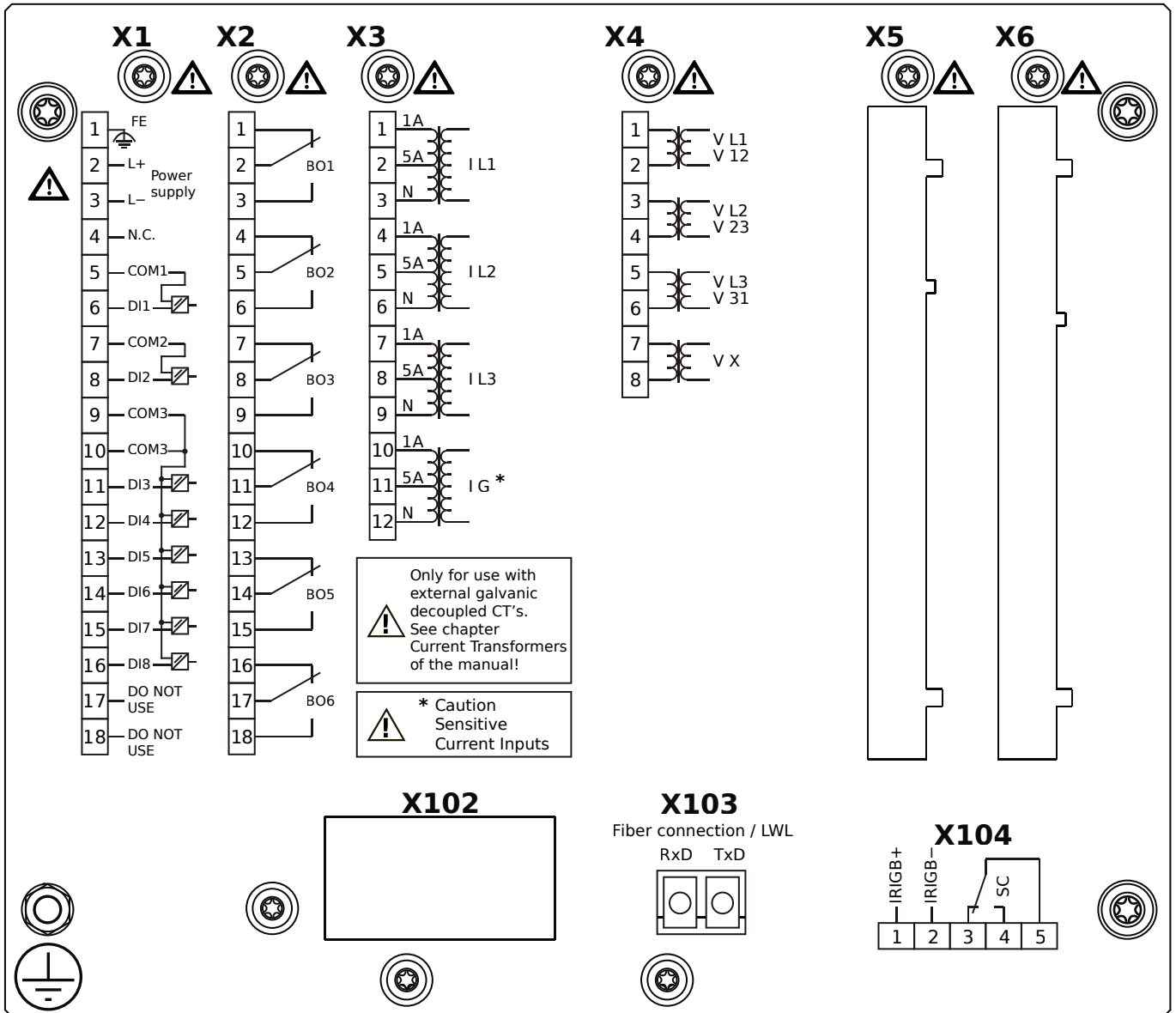**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BTA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2A1BTB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

X4
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X100
RJ45 Ethernet

X102

X103
+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

1	2	3	4	5	6
	P	N			

X104
IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

  +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
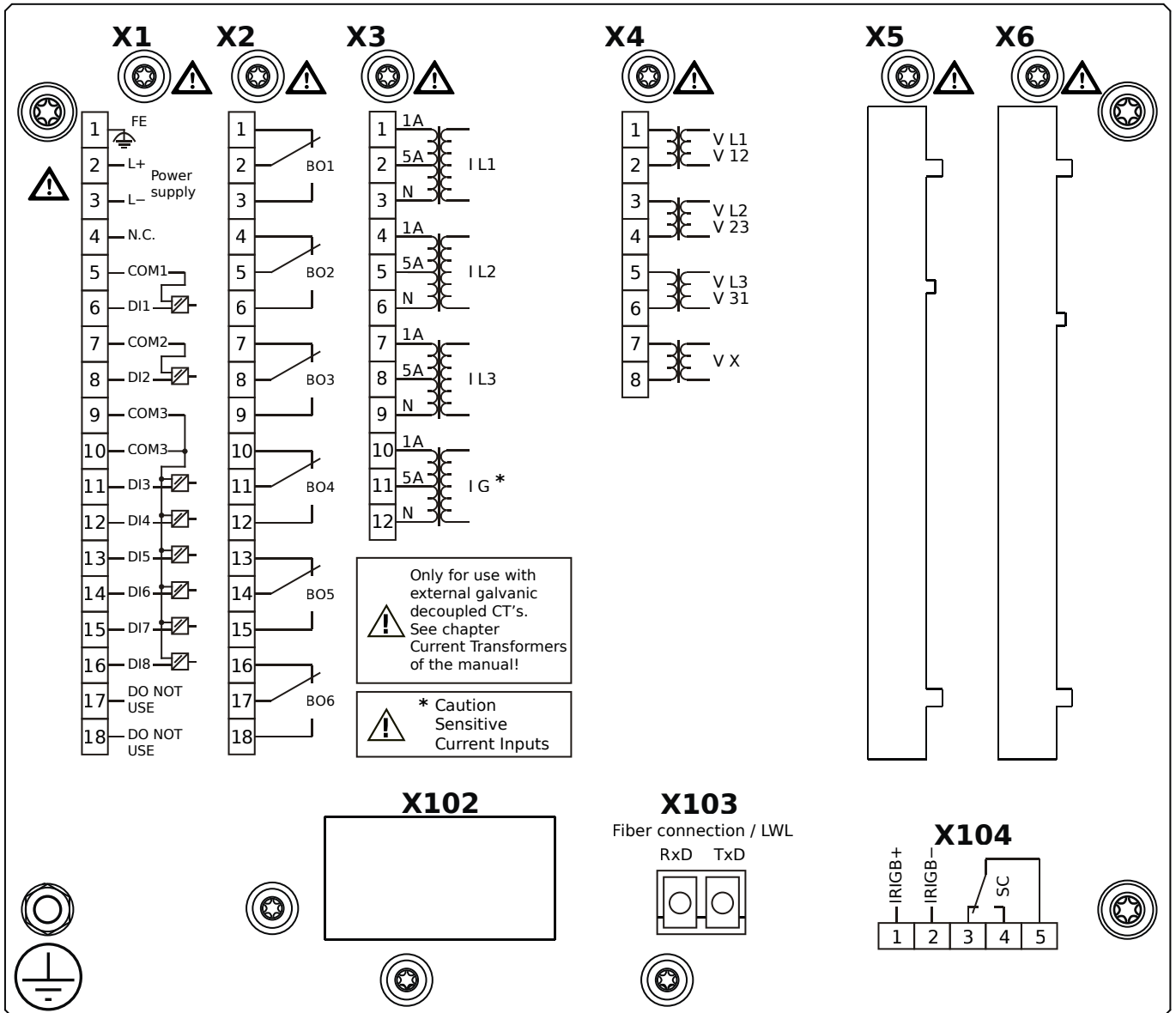**X2** – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AAA

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

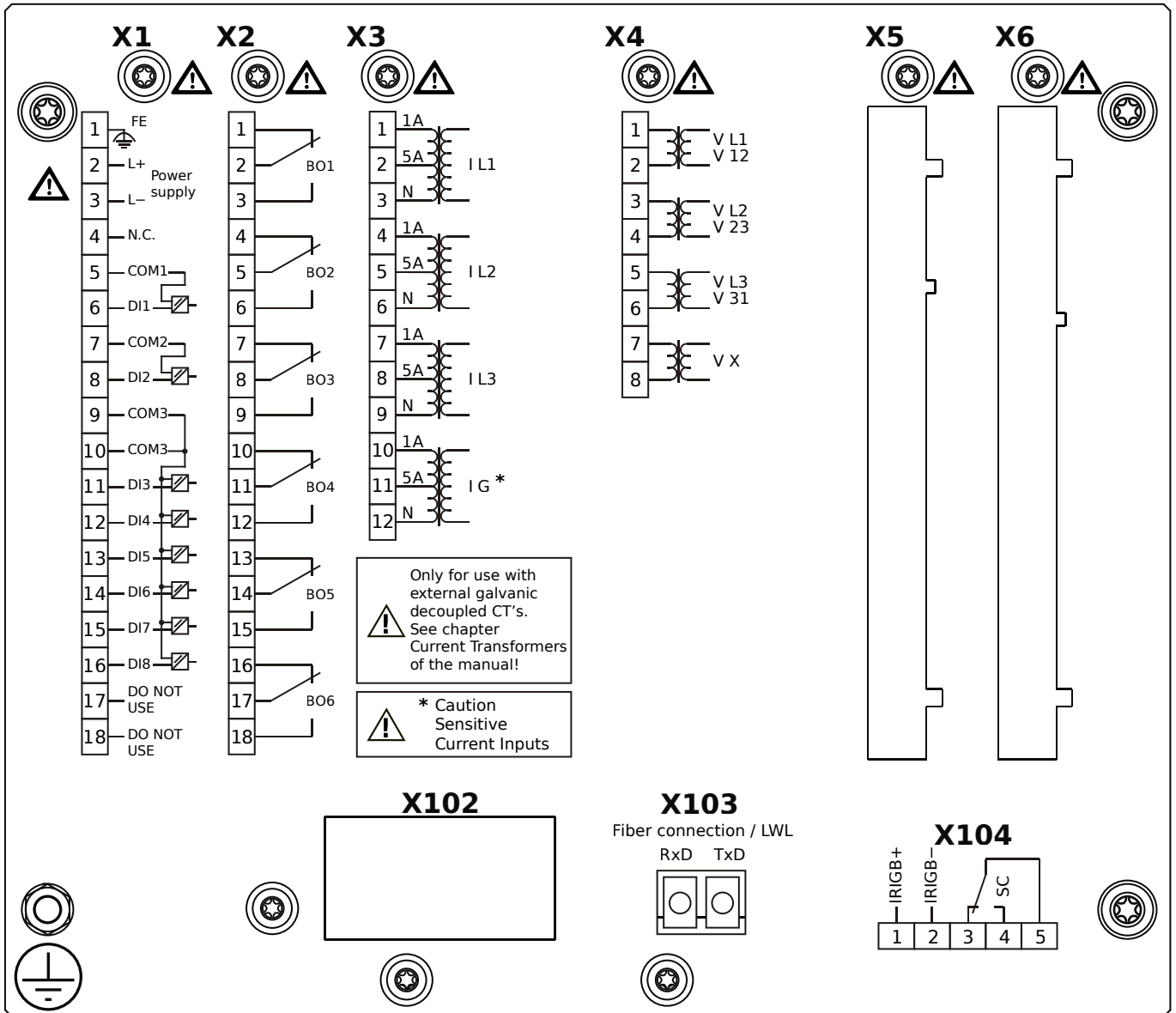**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AAB

X1

1	FE ⏚	
2	L+	Power supply
3	L−	
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. ⚠ See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
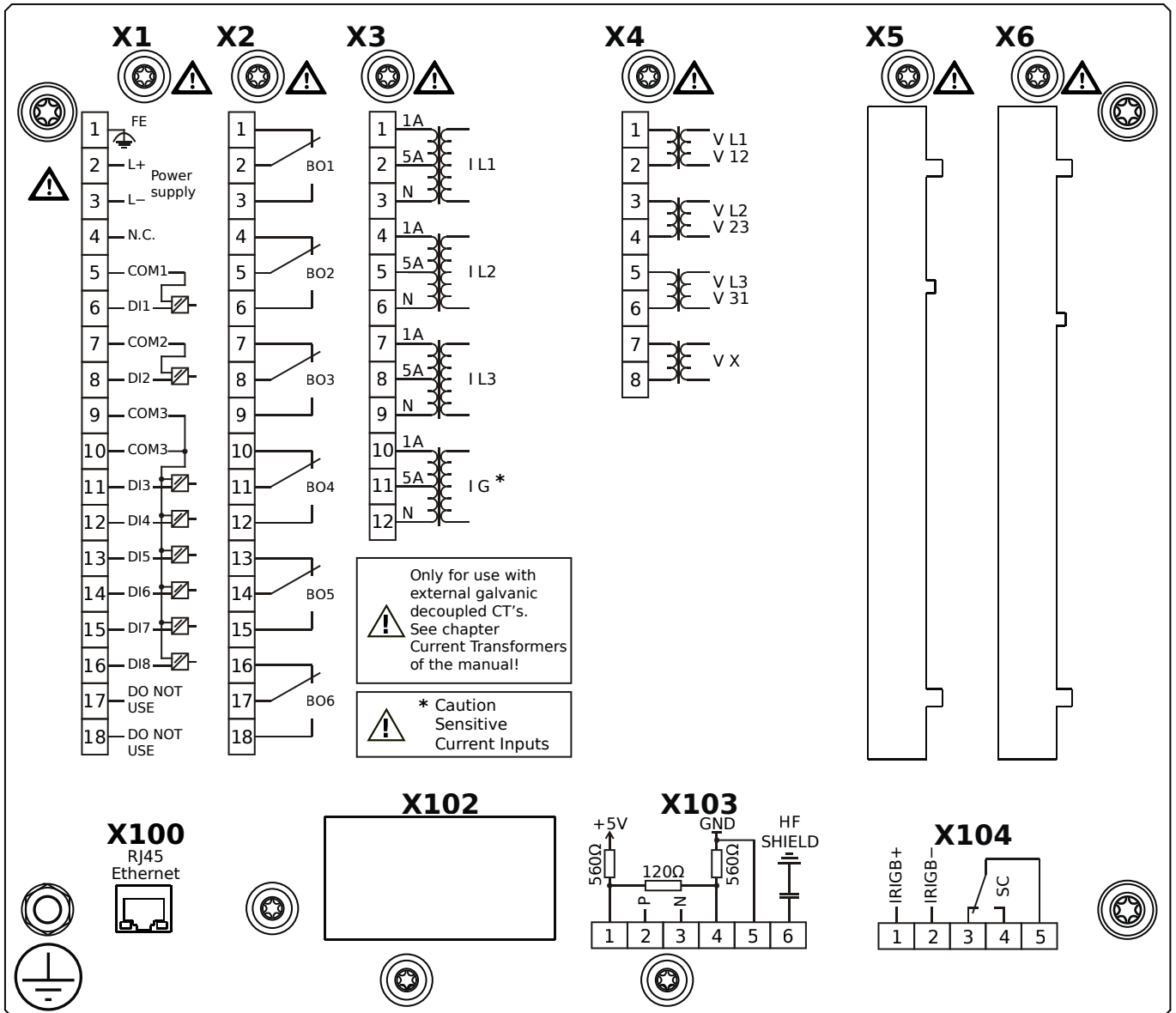**X2**   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – OR6: Assembly Group with 6 Output Relays
X6   – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ABA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N

1	2	3	4	5	6

X104

IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
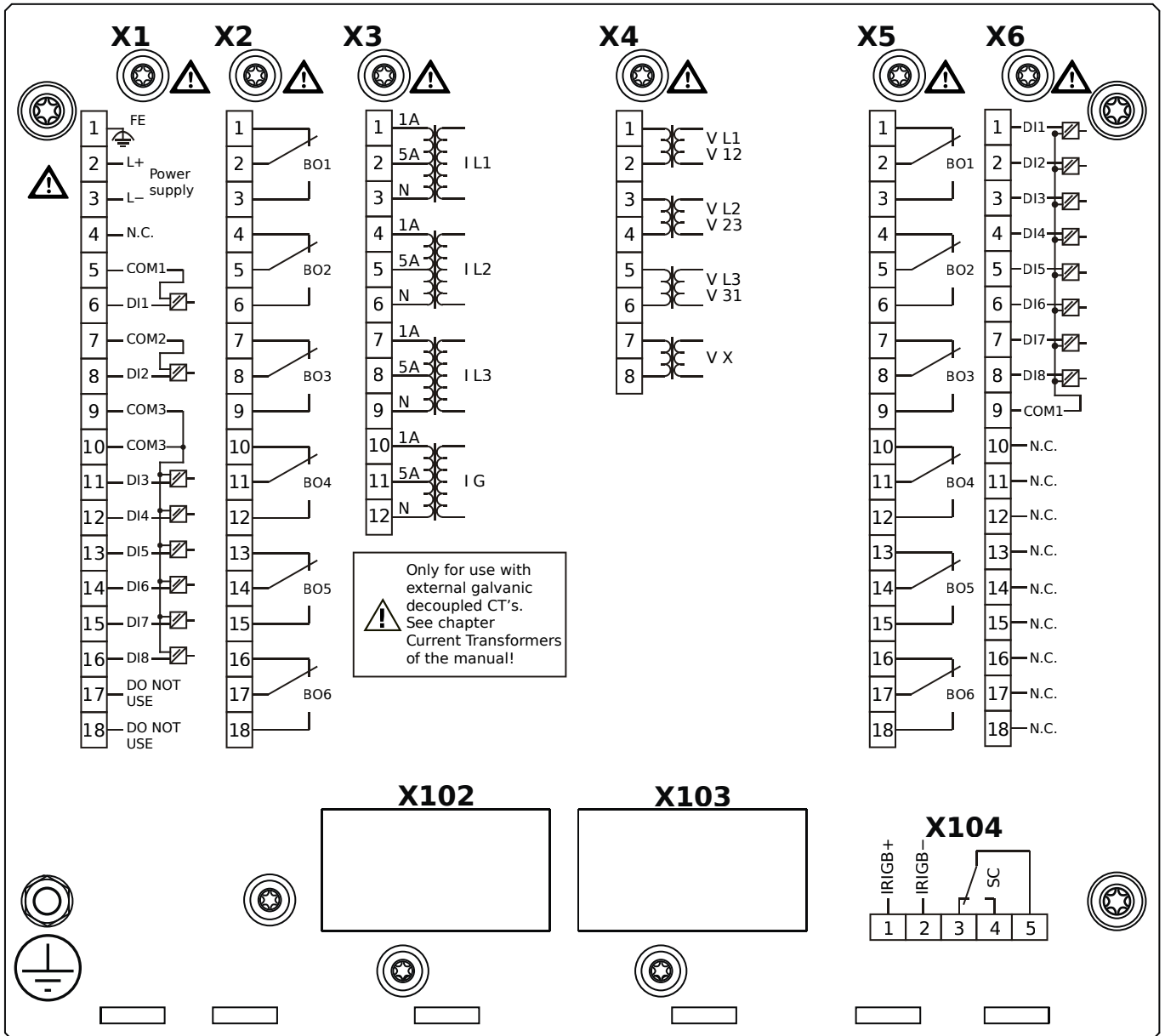**X5** – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ABB

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

+5V		GND		HF SHIELD	
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104

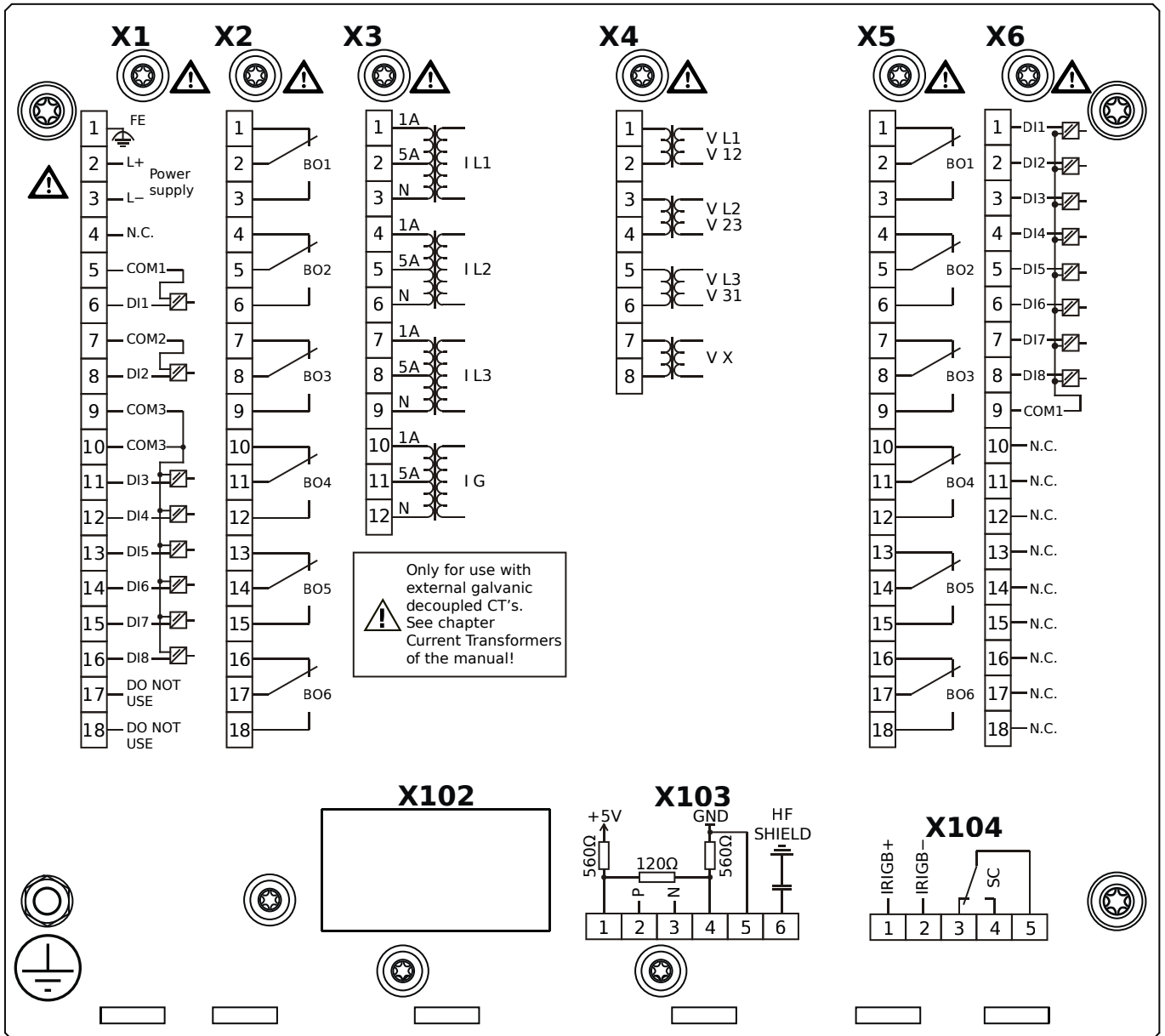| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
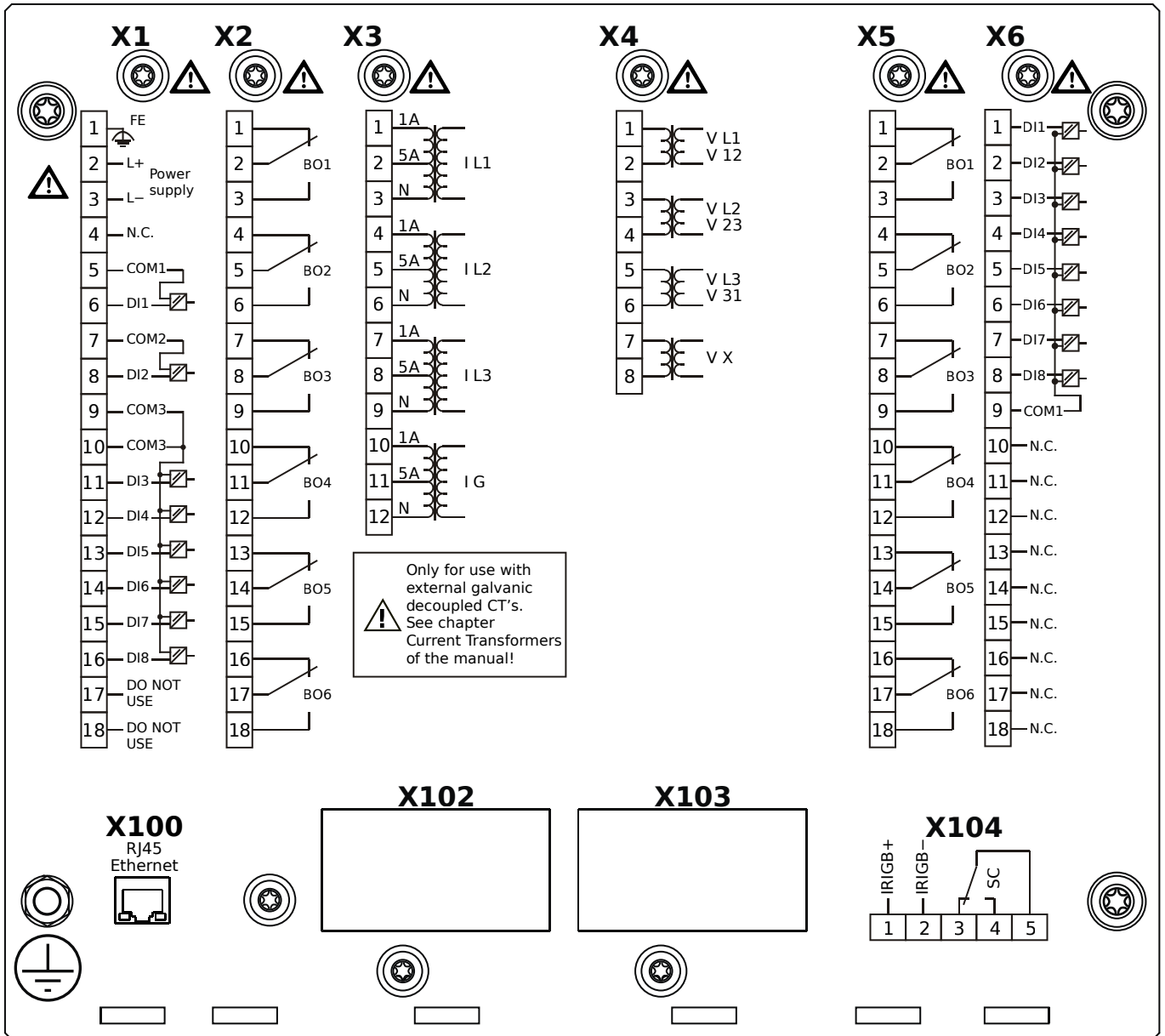**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ACA

X1

1	FE ⏚
2	L+ — Power
3	L− — supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45
Ethernet

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ACB

X1

1 — FE ⏚
2 — L+ ⎤ Power
3 — L− ⎦ supply
4 — N.C.
5 — COM1 ⎤
6 — DI1 ⎦
7 — COM2 ⎤
8 — DI2 ⎦
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2

1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3

1 — 1A
2 — 5A ⎤ I L1
3 — N ⎦
4 — 1A
5 — 5A ⎤ I L2
6 — N ⎦
7 — 1A
8 — 5A ⎤ I L3
9 — N ⎦
10 — 1A
11 — 5A ⎤ I G
12 — N ⎦

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 ⎤ V L1
2 ⎦ V 12
3 ⎤ V L2
4 ⎦ V 23
5 ⎤ V L3
6 ⎦ V 31
7 ⎤ V X
8 ⎦

X5

1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X6

1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X100
RJ45 Ethernet

X102

X103

X104

IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
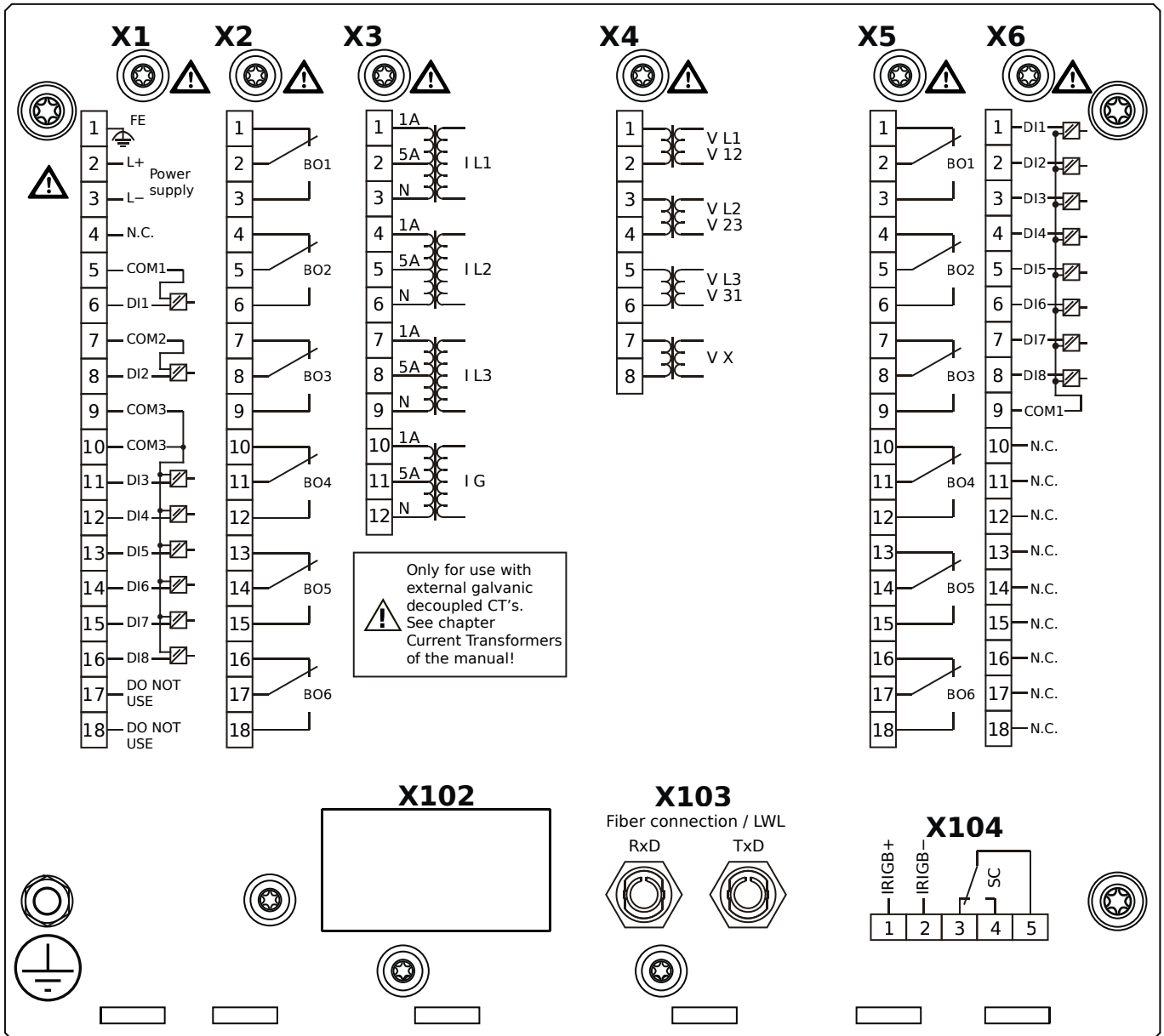**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
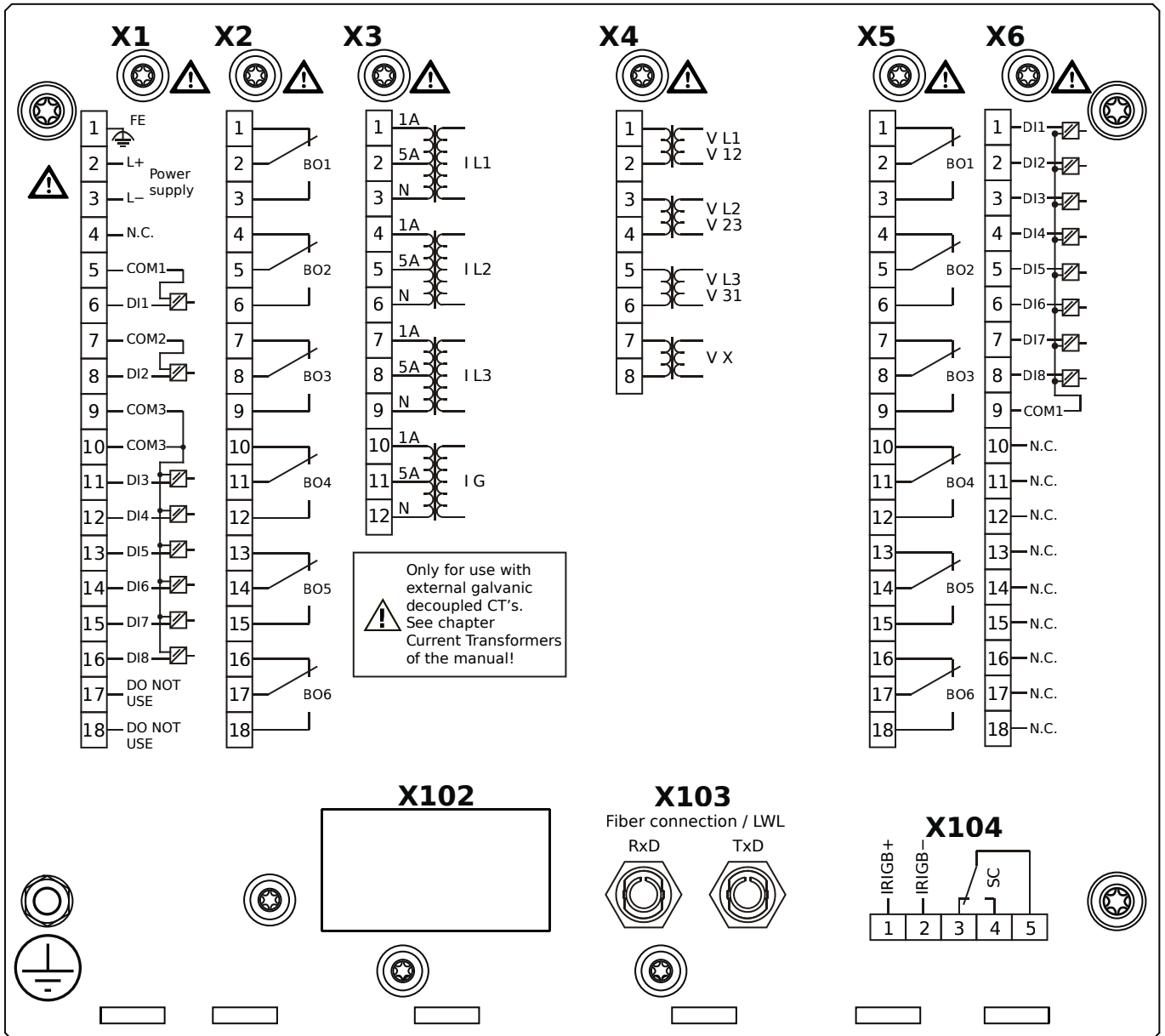**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ADA

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1
- 1 — FE
- 2 — L+   Power supply
- 3 — L−
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X3
- 1 1A
- 2 5A — I L1
- 3 N
- 4 1A
- 5 5A — I L2
- 6 N
- 7 1A
- 8 5A — I L3
- 9 N
- 10 1A
- 11 5A — I G
- 12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
- 1 — V L1
- 2 — V 12
- 3 — V L2
- 4 — V 23
- 5 — V L3
- 6 — V 31
- 7 — V X
- 8

X5
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X6
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — N.C.
- 11 — N.C.
- 12 — N.C.
- 13 — N.C.
- 14 — N.C.
- 15 — N.C.
- 16 — N.C.
- 17 — N.C.
- 18 — N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ADB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
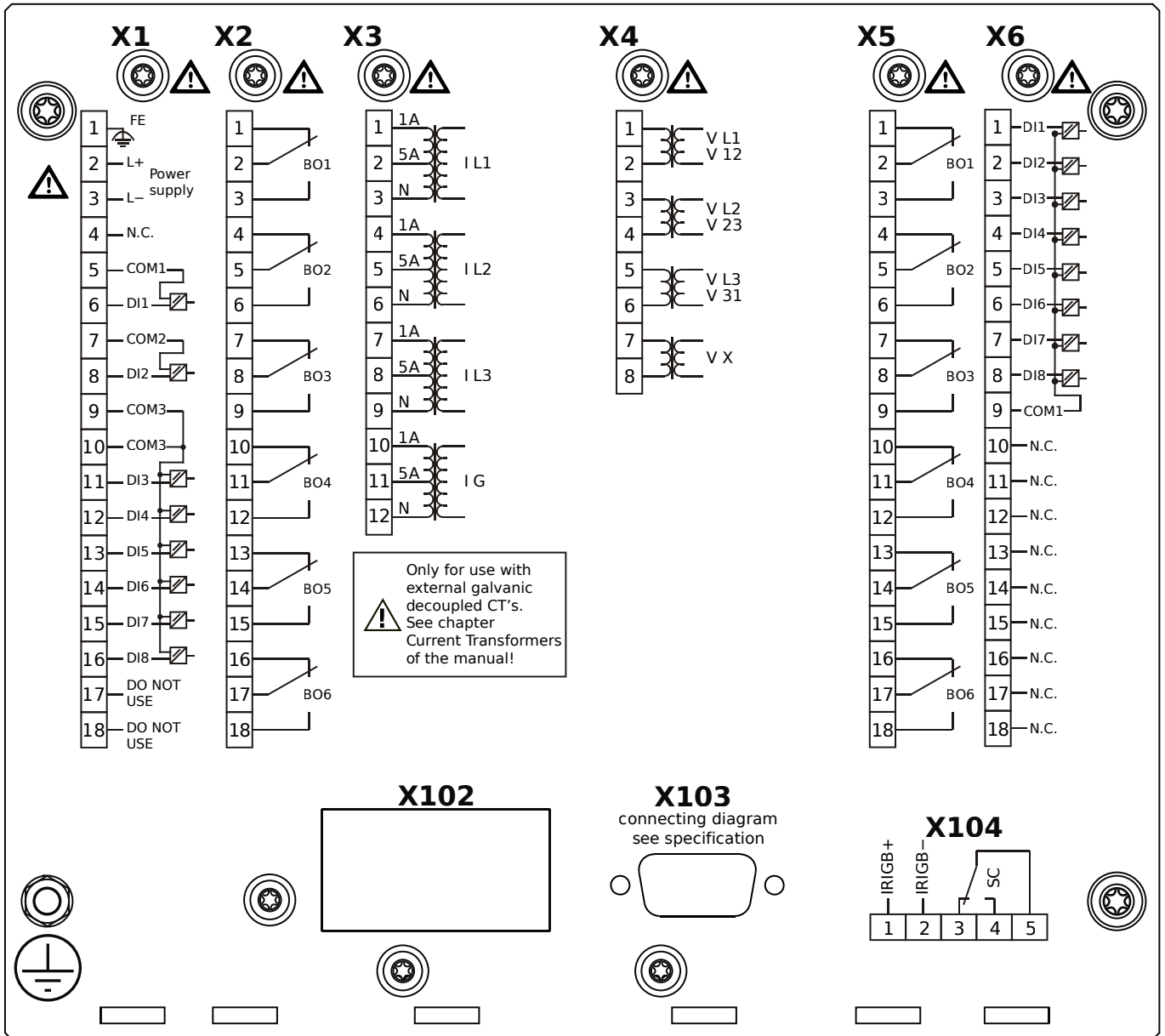IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
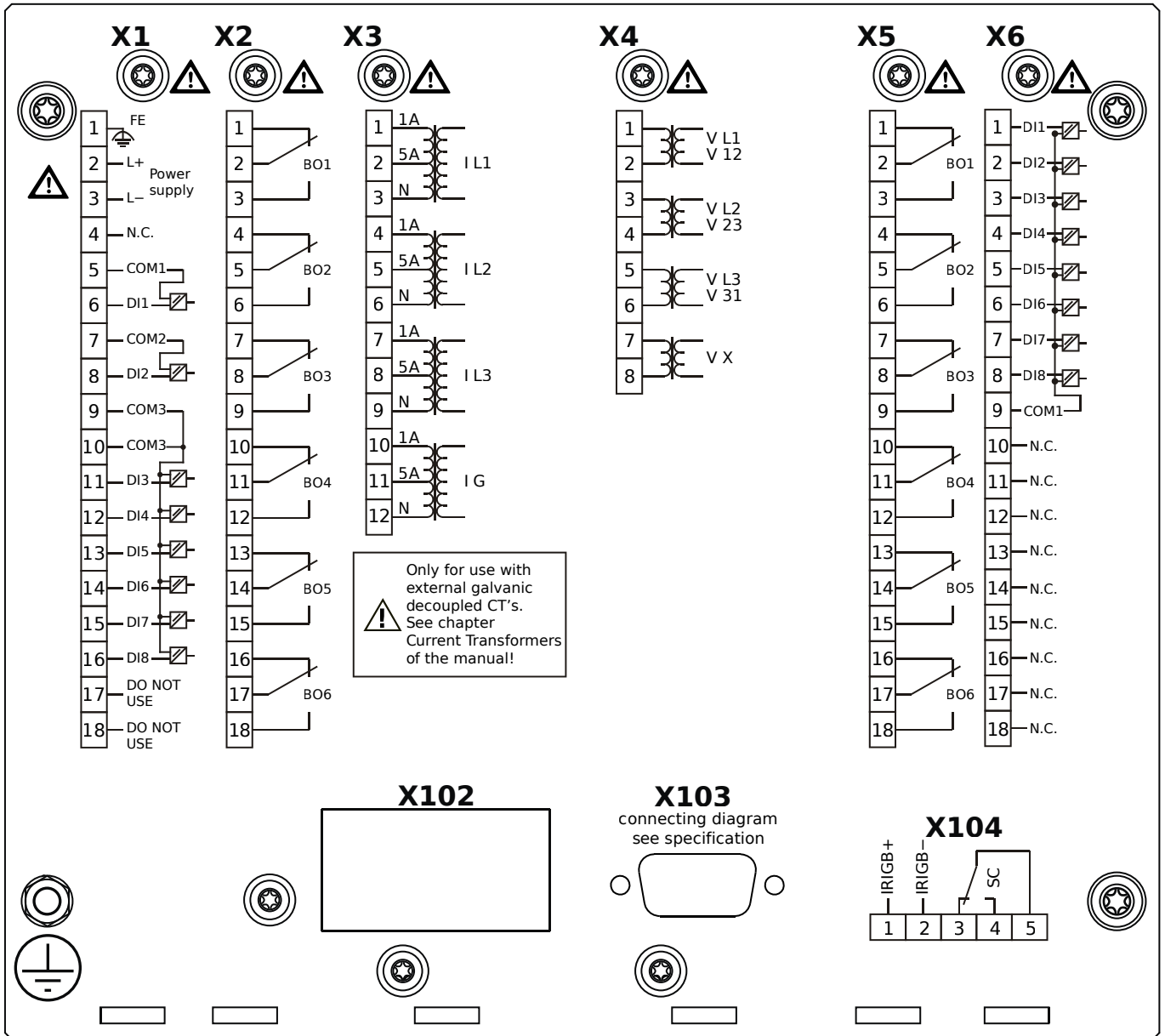**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AEA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
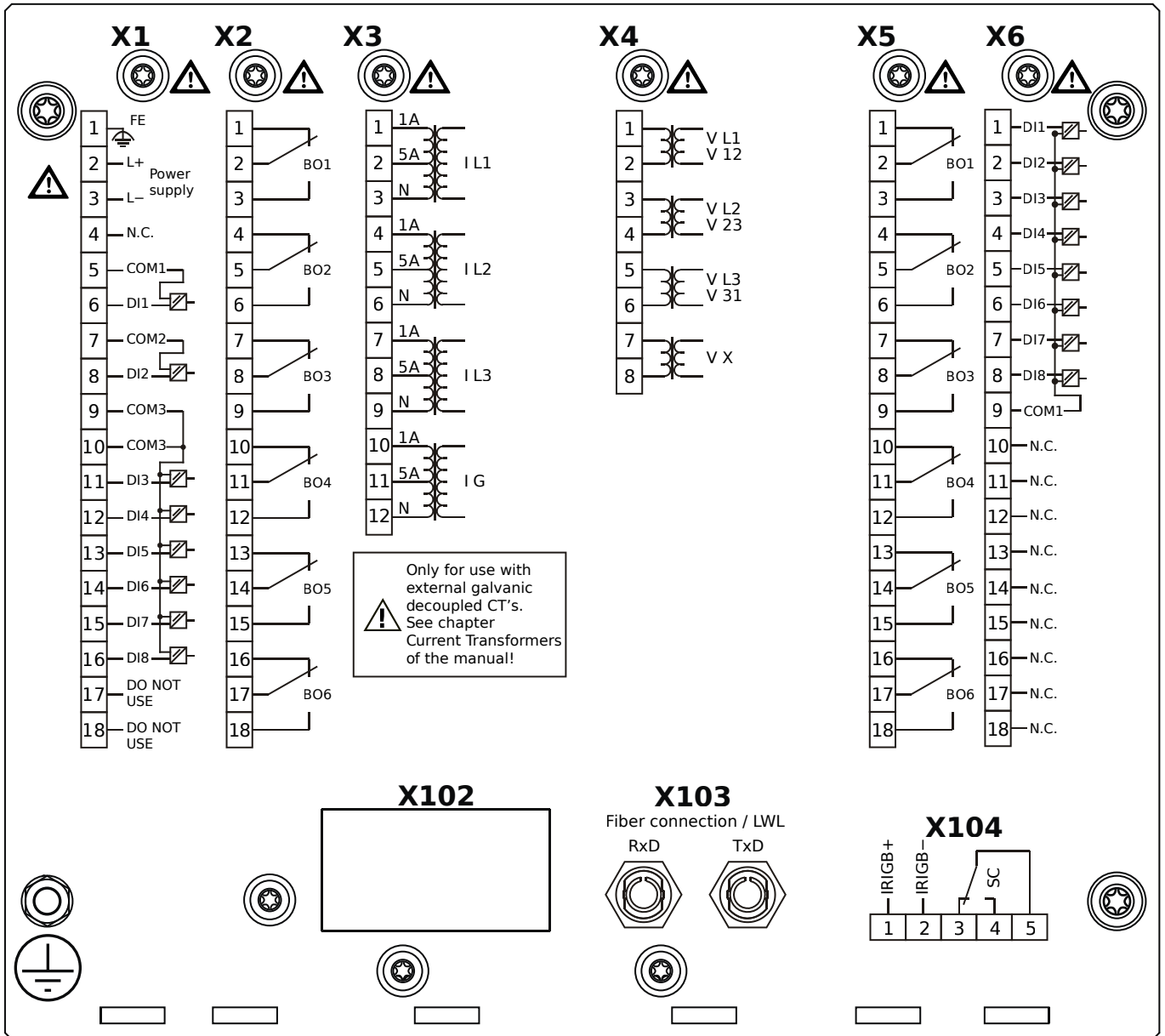
MRA4-2D0AEB

X1 — FE, L+, L−, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE (terminals 1–18), Power supply

X2 — BO1, BO2, BO3, BO4, BO5, BO6 (terminals 1–18)

X3 — 1A, 5A, N (I L1); 1A, 5A, N (I L2); 1A, 5A, N (I L3); 1A, 5A, N (I G) (terminals 1–12)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — V L1, V 12; V L2, V 23; V L3, V 31; V X (terminals 1–8)

X5 — BO1, BO2, BO3, BO4, BO5, BO6 (terminals 1–18)

X6 — DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, COM1, N.C., N.C., N.C., N.C., N.C., N.C., N.C., N.C., N.C. (terminals 1–18)

X102

X103 connecting diagram see specification

X104 — IRIGB+, IRIGB−, SC (terminals 1 2 3 4 5)

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
- **X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
- **X2** – OR6: Assembly Group with 6 Output Relays
- **X3** – TI: Standard current measuring card
- **X4** – TU: Card with 4 voltage transformer measuring inputs
- **X5** – OR6: Assembly Group with 6 Output Relays
- **X6** – DI8: Assembly Group with 8 Digital Inputs
- **X103** – Profibus-DP, RS485, D-SUB
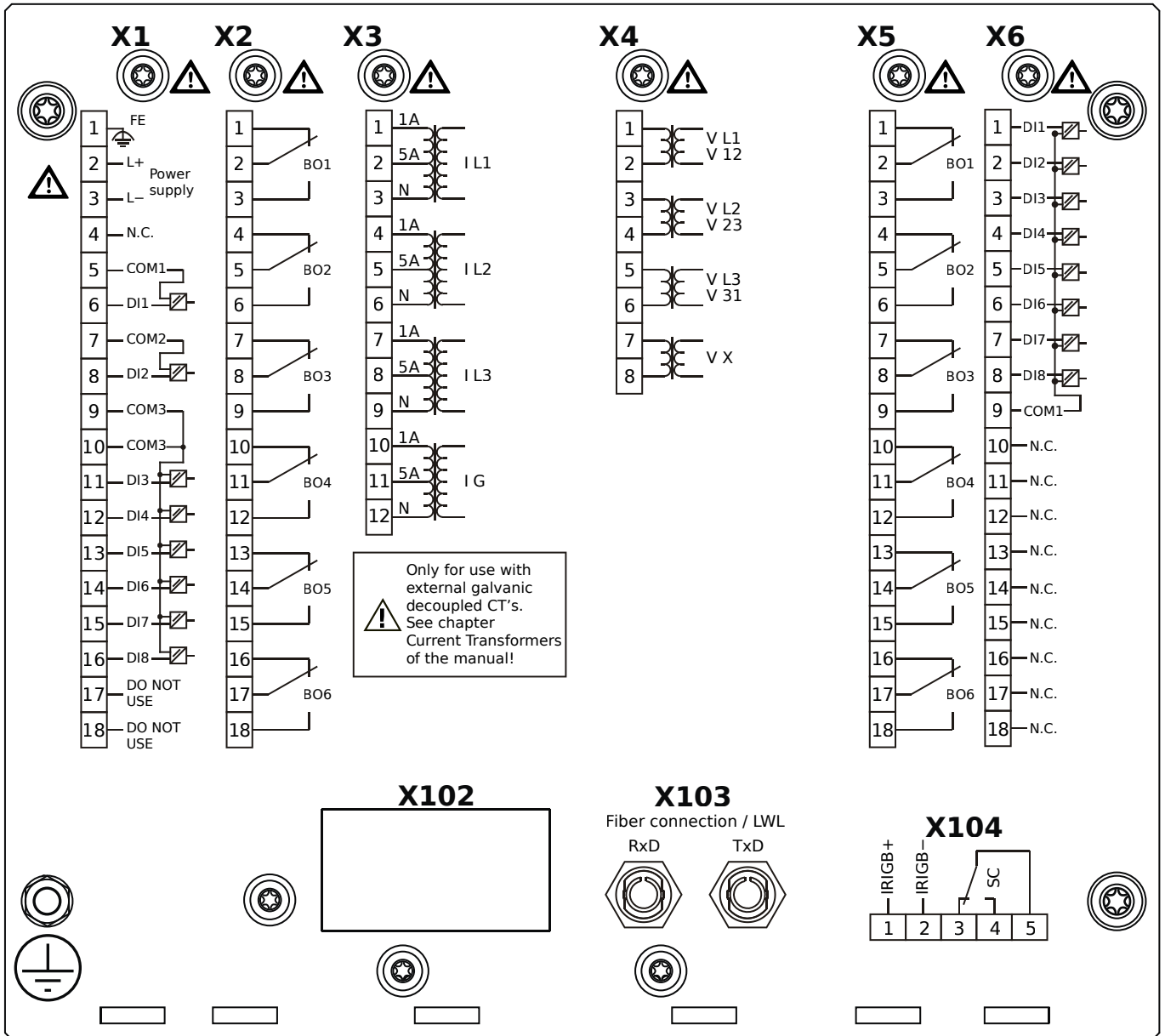- **X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AFA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
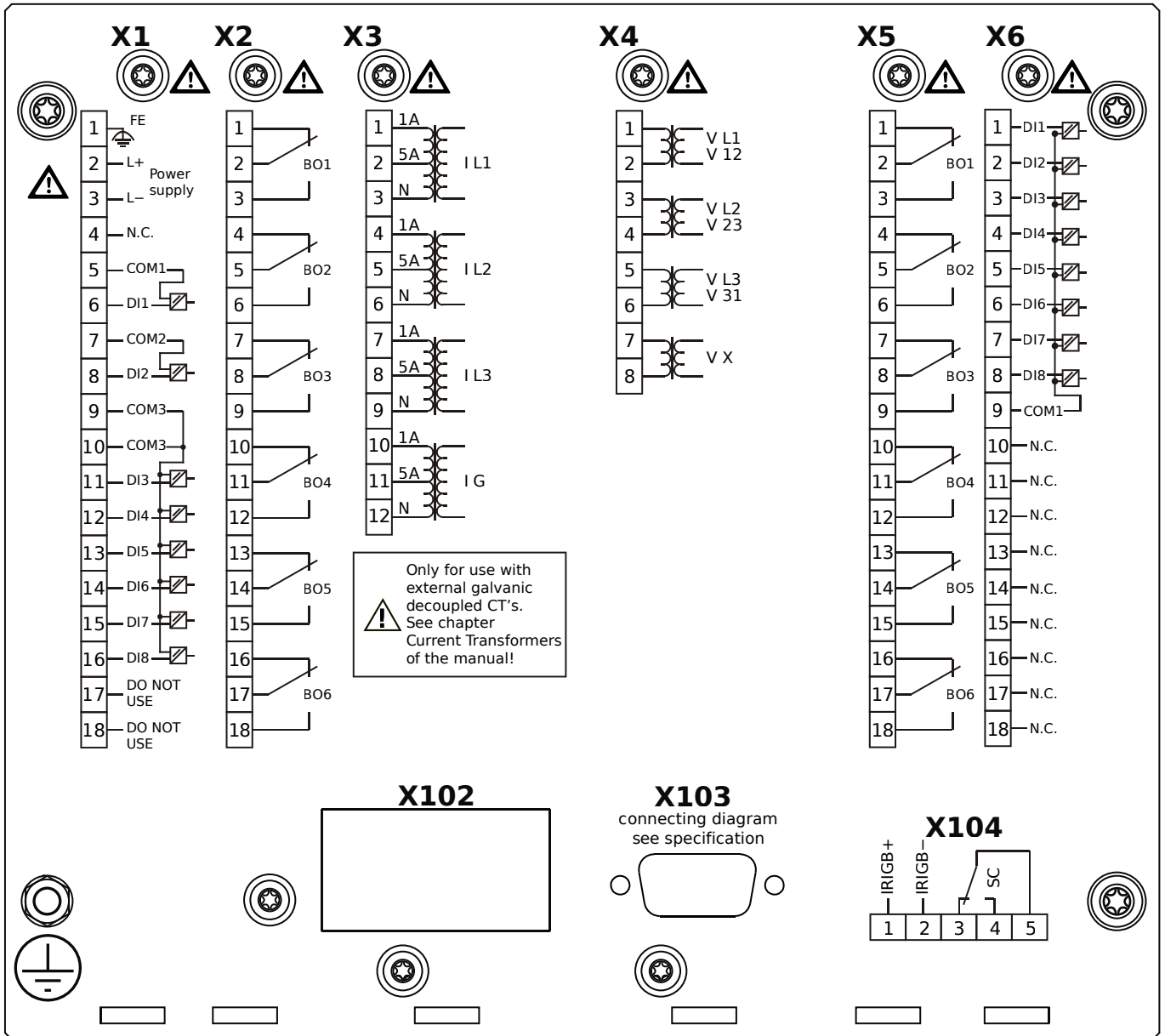
MRA4-2D0AFB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
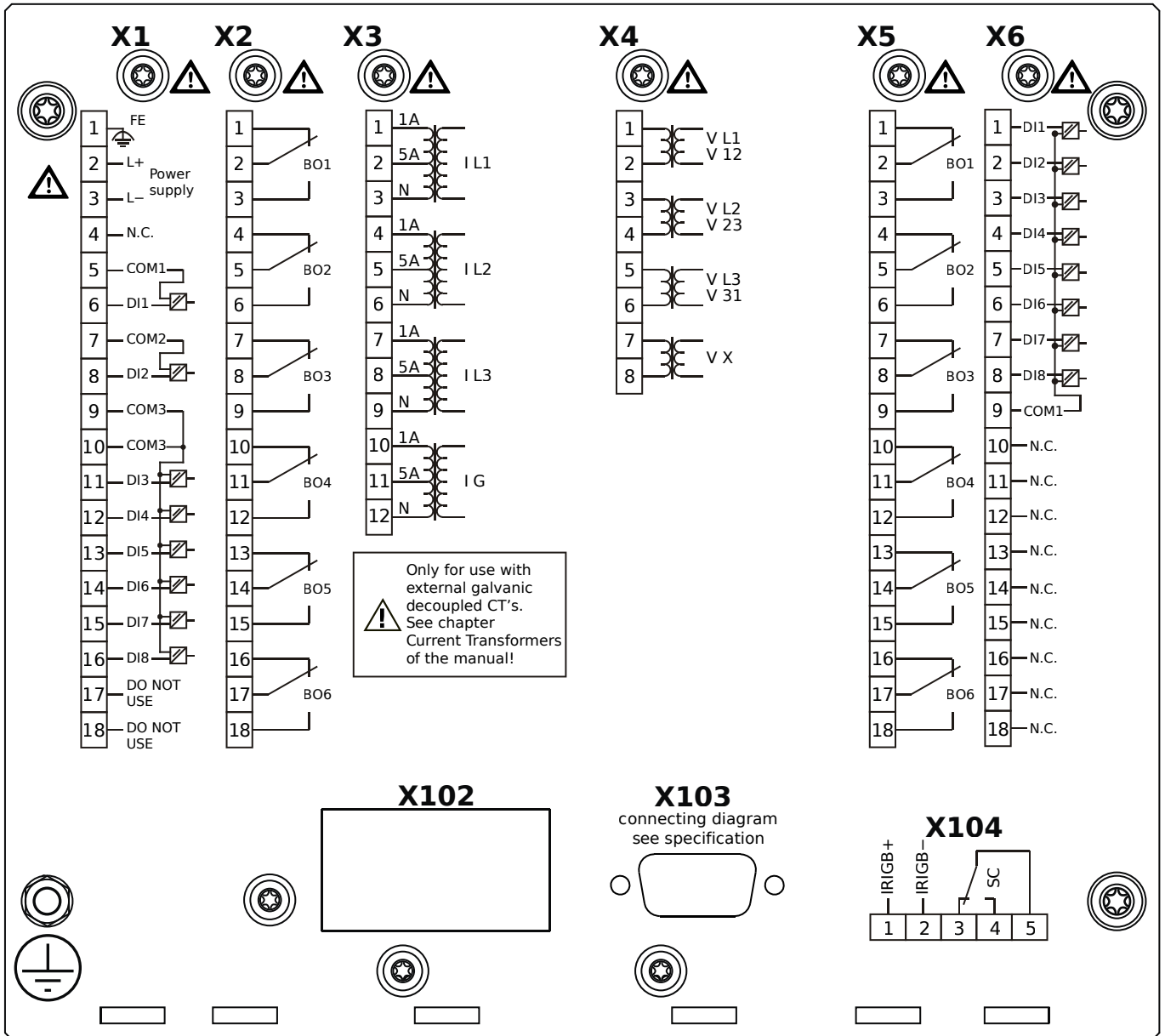**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AGA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AGB

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
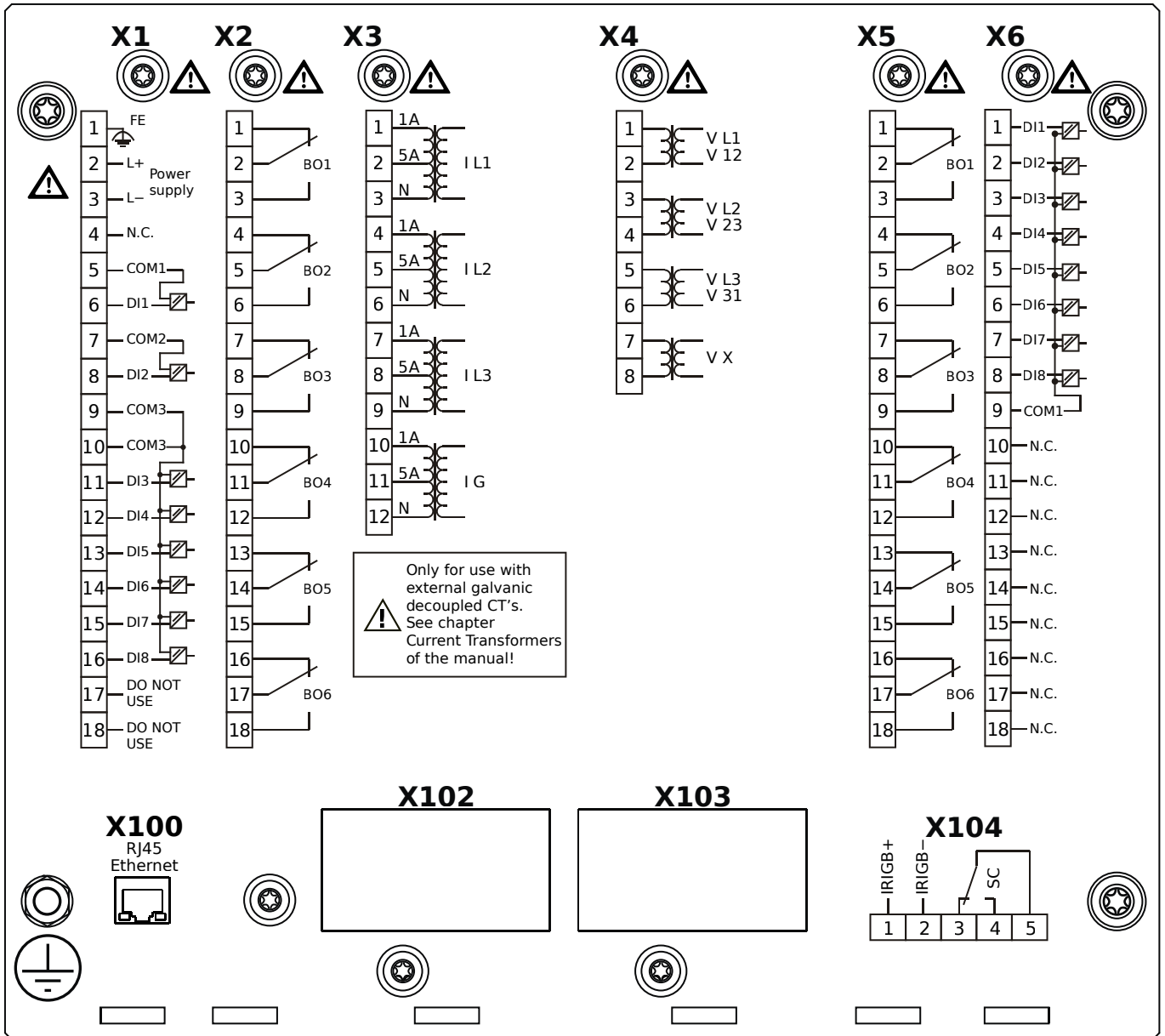
Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
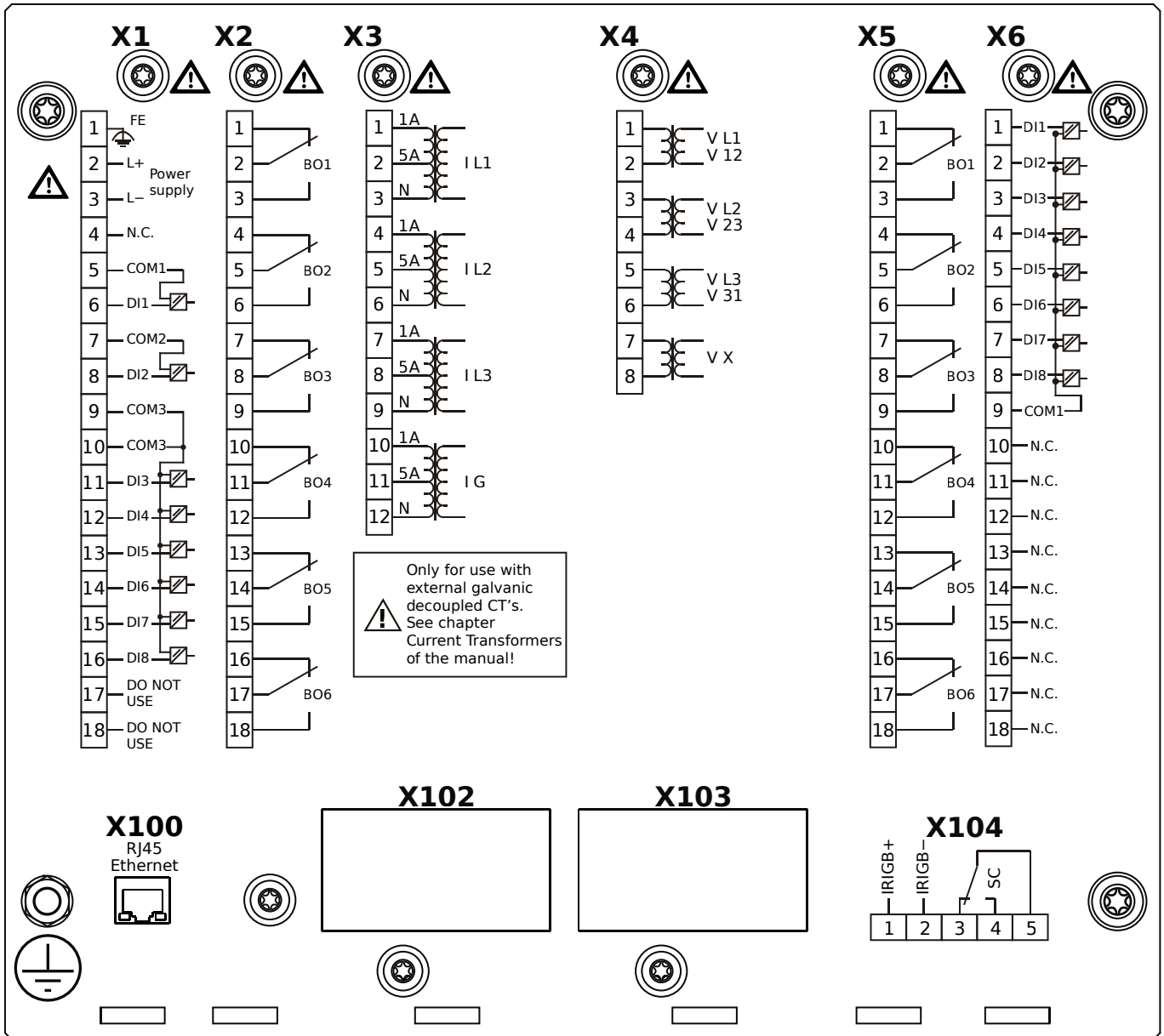**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AHA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AHB

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AIA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AIB

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
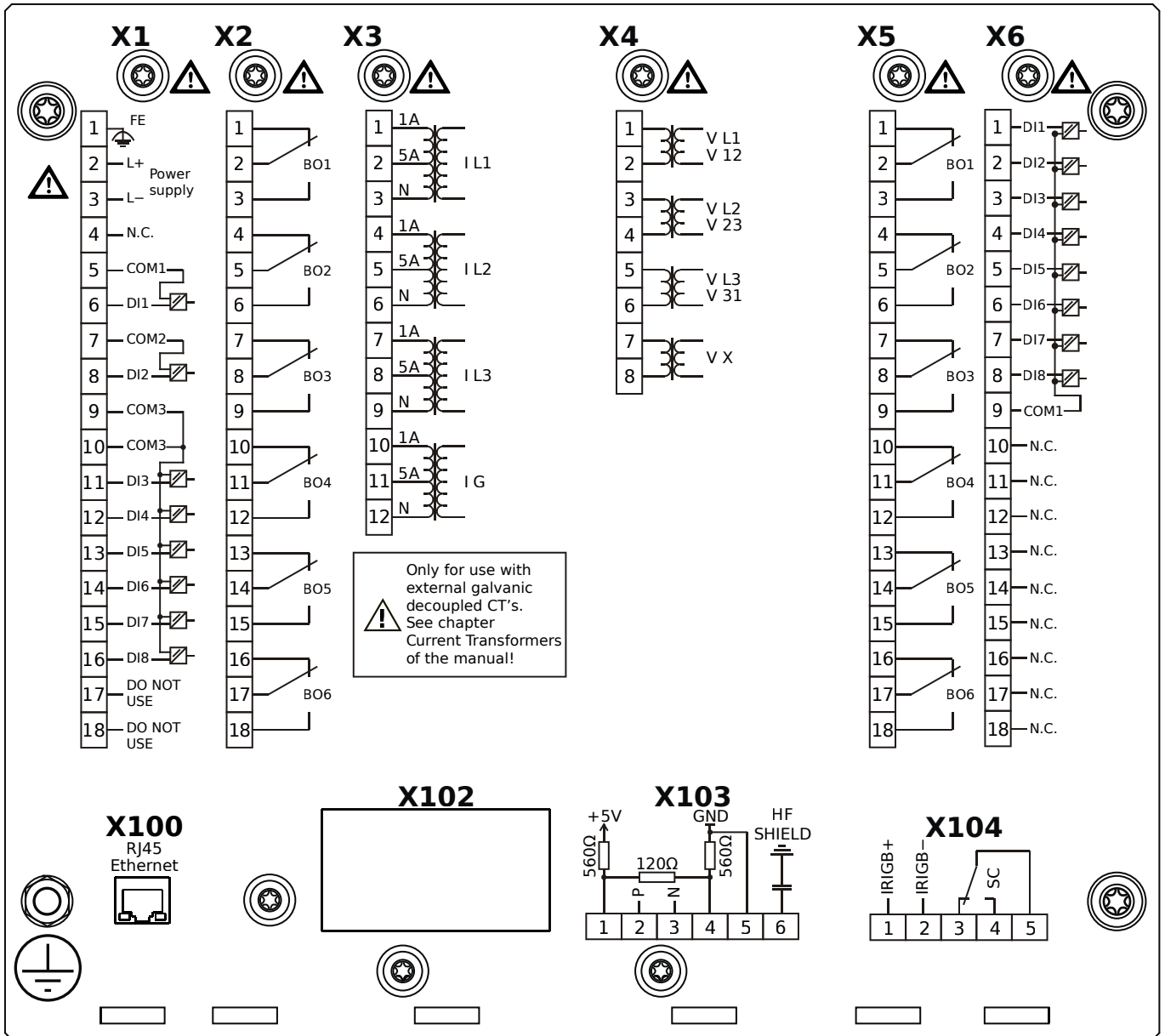**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0AKA

X1
1 — FE ⏚
2 — L+ ⎱ Power
3 — L− ⎰ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎰ I L1
3 N
4 1A
5 5A ⎰ I L2
6 N
7 1A
8 5A ⎰ I L3
9 N
10 1A
11 5A ⎰ I G
12 N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎰ V L1
2 ⎰ V 12
3 ⎰ V L2
4 ⎰ V 23
5 ⎰ V L3
6 ⎰ V 31
7 ⎰ V X
8

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

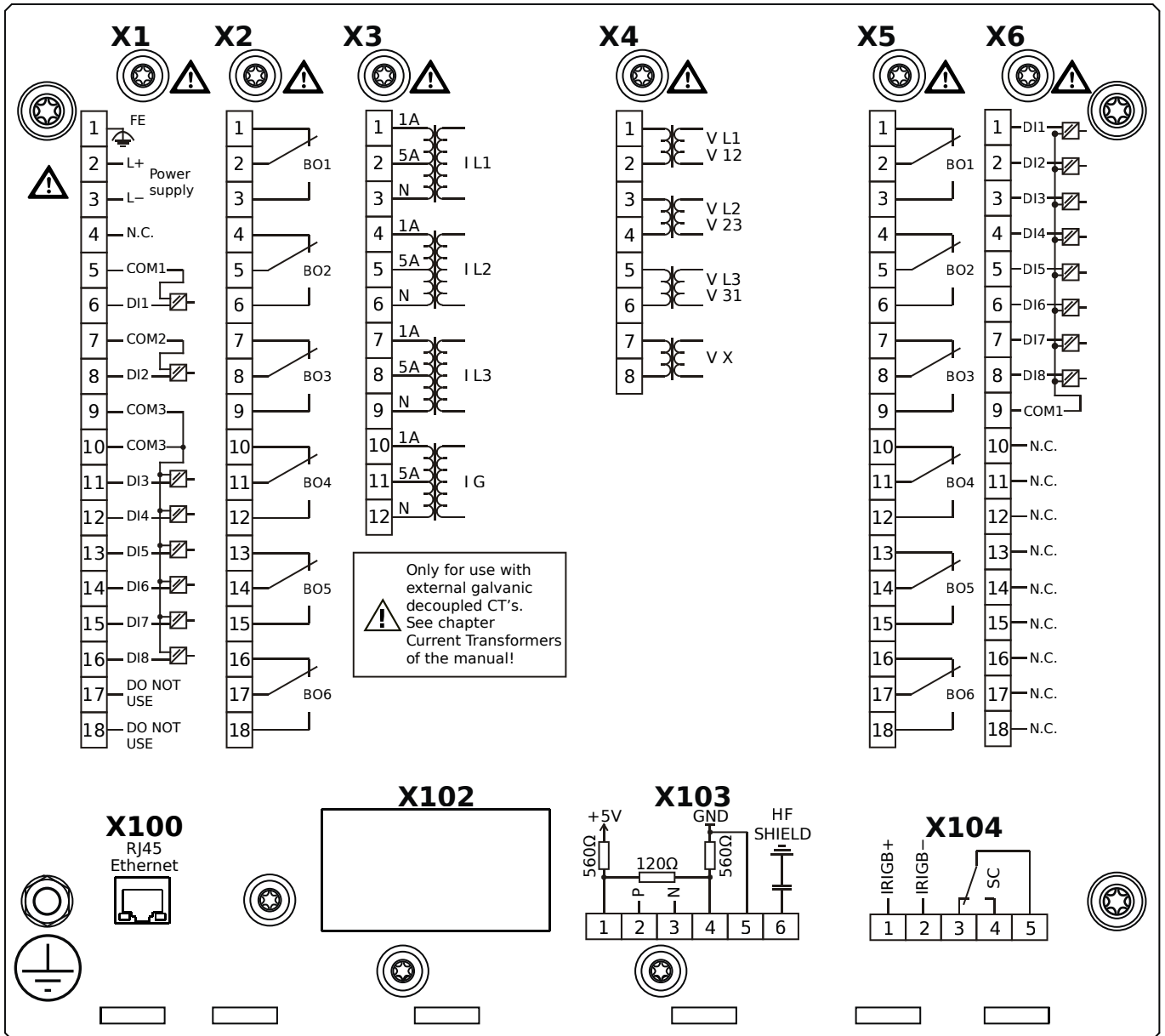**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
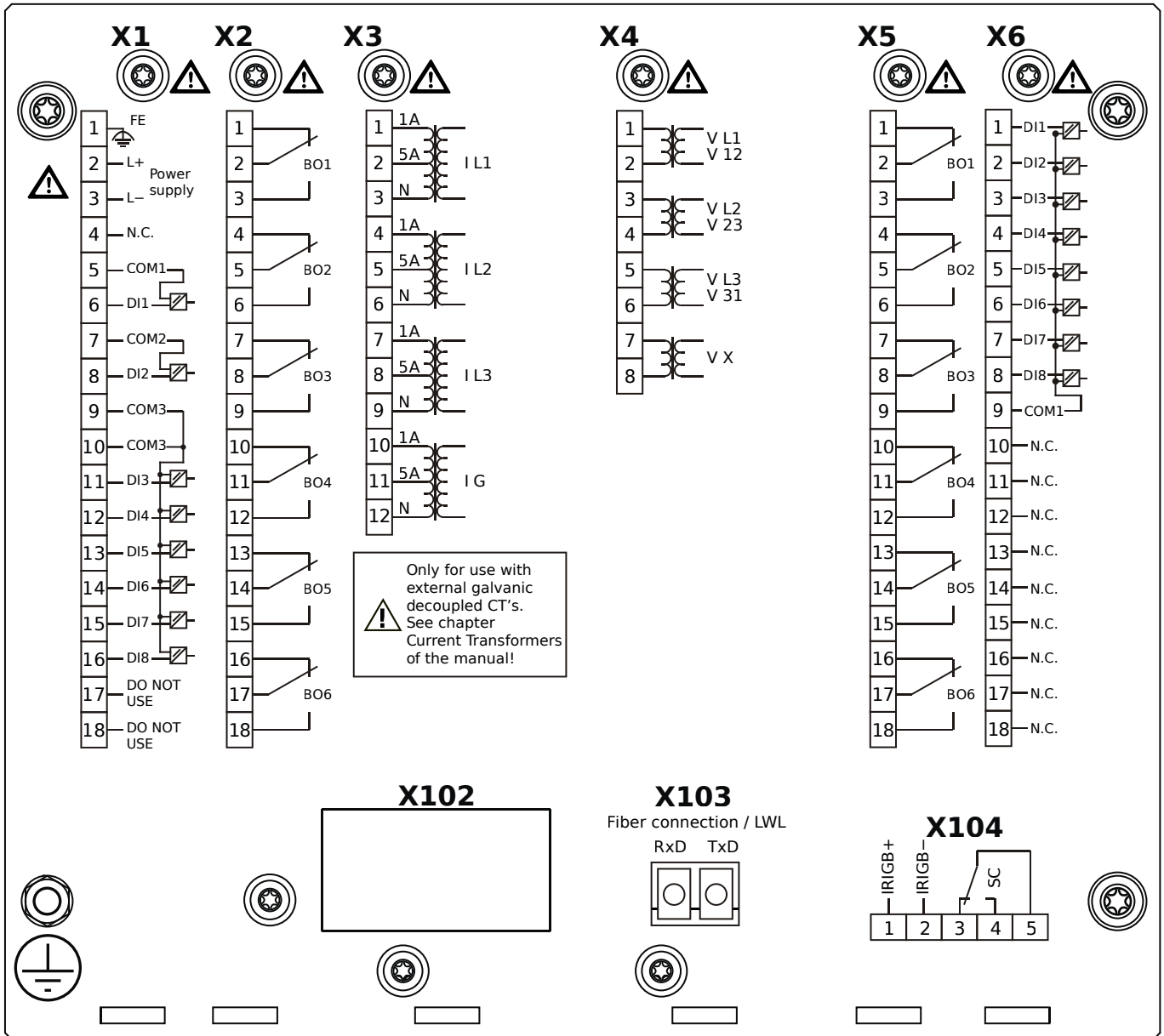
MRA4-2D0AKB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – OR6: Assembly Group with 6 Output Relays
X6   – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ALA

X1
- 1 — FE ⏚
- 2 — L+ ⎫ Power
- 3 — L− ⎬ supply
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2
- 1
- 2 ⎱ BO1
- 3
- 4
- 5 ⎱ BO2
- 6
- 7
- 8 ⎱ BO3
- 9
- 10
- 11 ⎱ BO4
- 12
- 13
- 14 ⎱ BO5
- 15
- 16
- 17 ⎱ BO6
- 18

X3
- 1 — 1A
- 2 — 5A ⎱ I L1
- 3 — N
- 4 — 1A
- 5 — 5A ⎱ I L2
- 6 — N
- 7 — 1A
- 8 — 5A ⎱ I L3
- 9 — N
- 10 — 1A
- 11 — 5A ⎱ I G
- 12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
- 1 ⎱ V L1
- 2 ⎰ V 12
- 3 ⎱ V L2
- 4 ⎰ V 23
- 5 ⎱ V L3
- 6 ⎰ V 31
- 7 ⎱ V X
- 8 ⎰

X5
- 1
- 2 ⎱ BO1
- 3
- 4
- 5 ⎱ BO2
- 6
- 7
- 8 ⎱ BO3
- 9
- 10
- 11 ⎱ BO4
- 12
- 13
- 14 ⎱ BO5
- 15
- 16
- 17 ⎱ BO6
- 18

X6
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — N.C.
- 11 — N.C.
- 12 — N.C.
- 13 — N.C.
- 14 — N.C.
- 15 — N.C.
- 16 — N.C.
- 17 — N.C.
- 18 — N.C.

X102

X103
Fiber connection / LWL
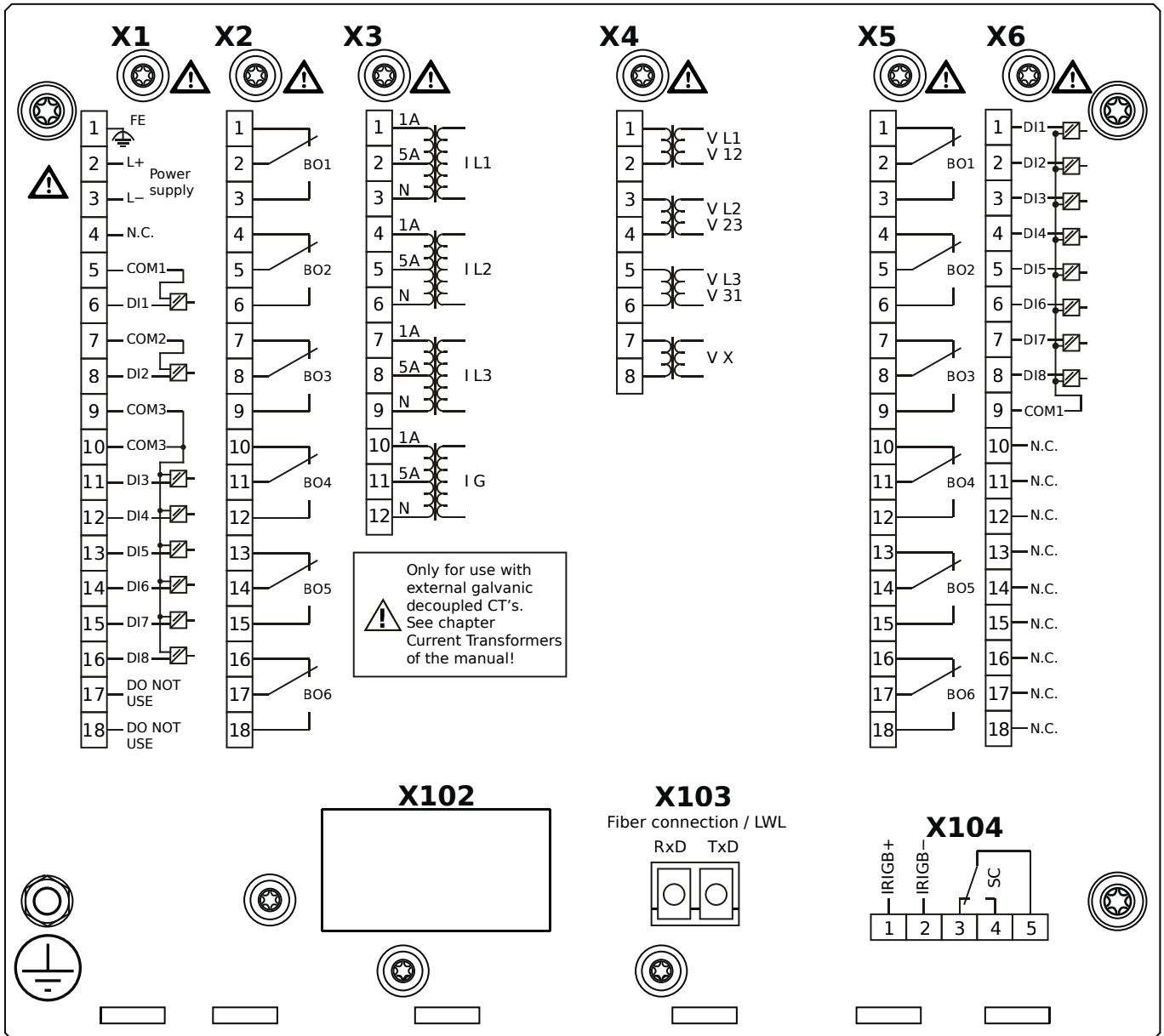RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ALB

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
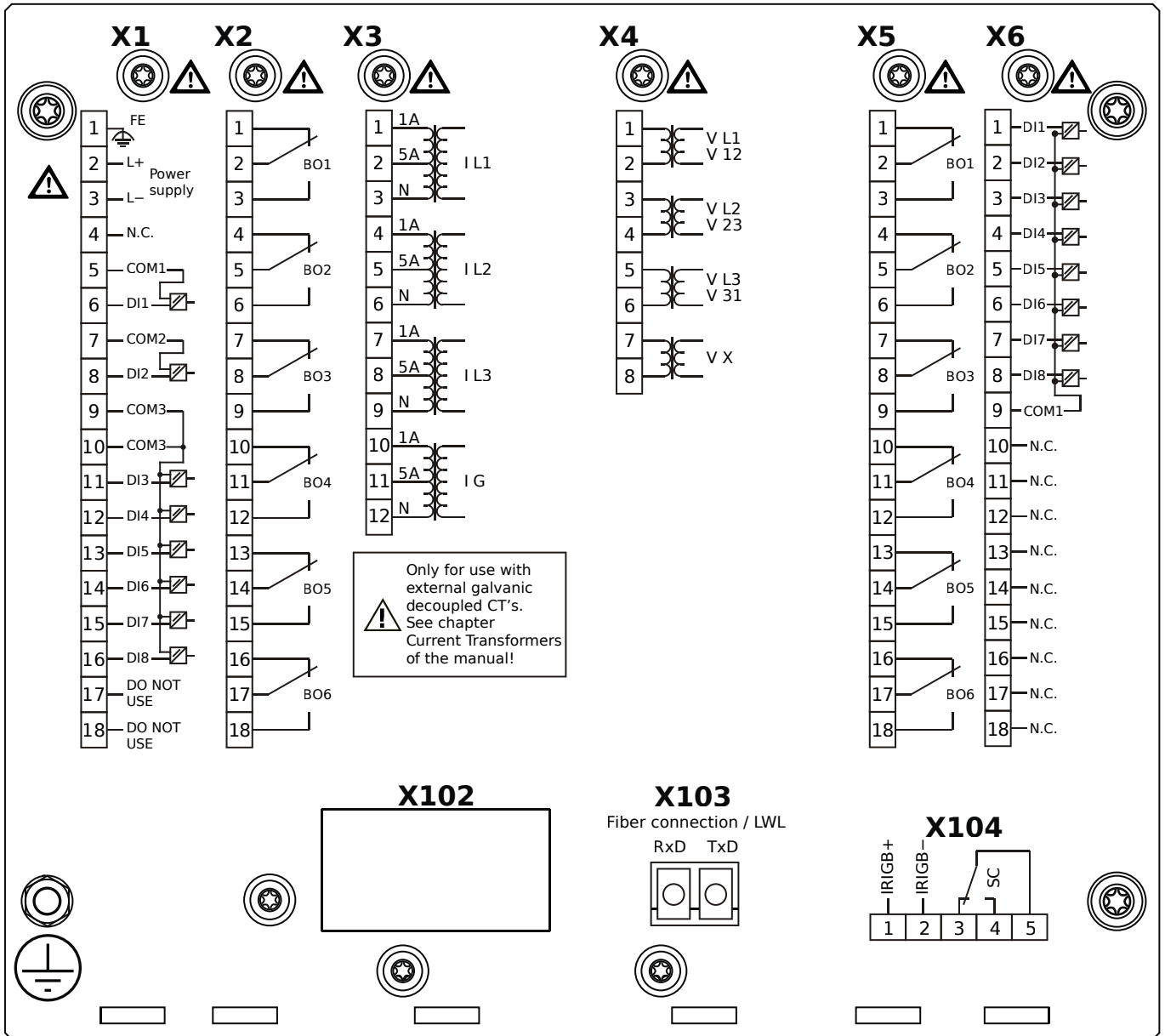**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ATA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0ATB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
1	2 P	3 N	4	5	6

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

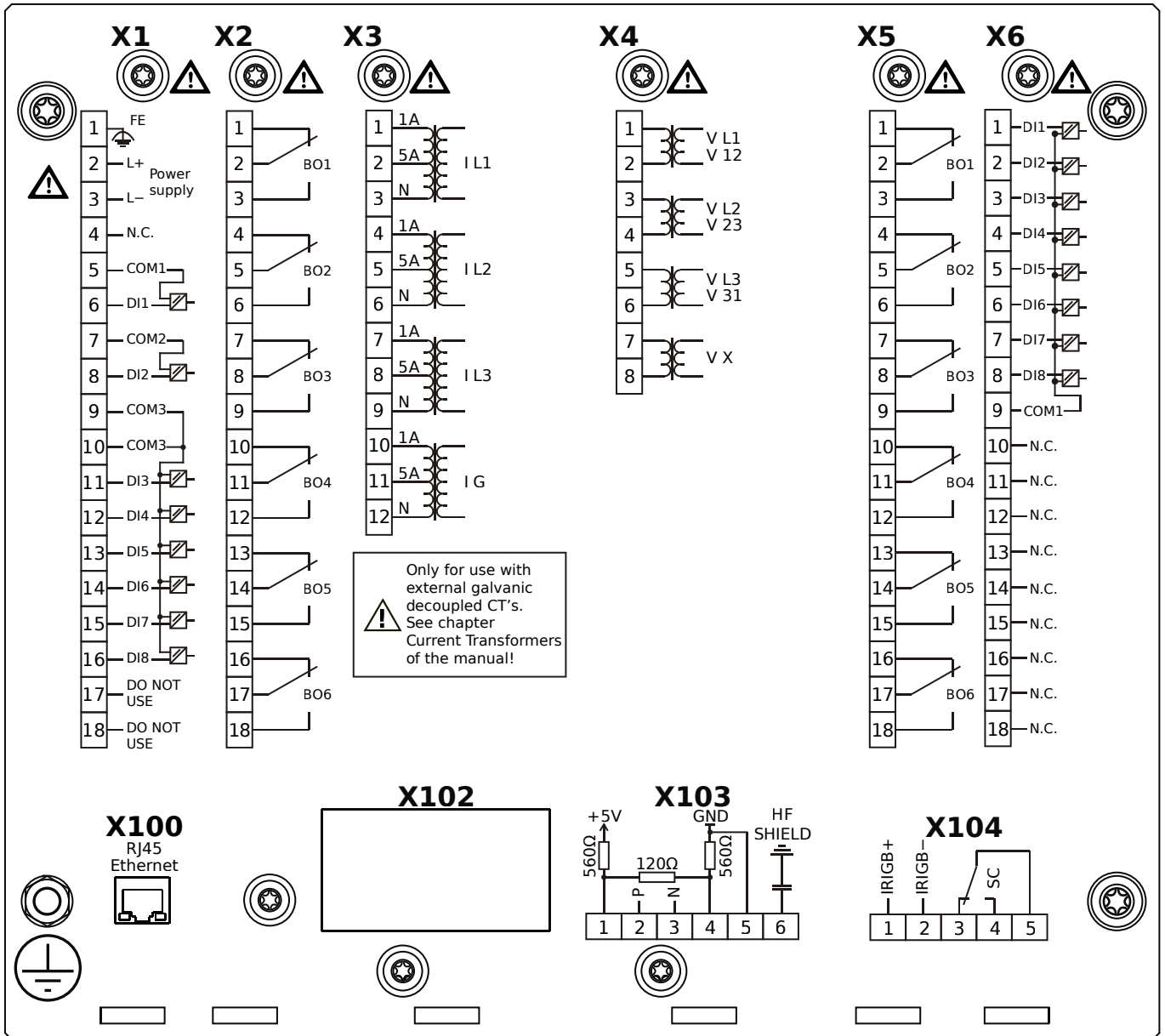**Housing B2, small display, door mounting**

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BAA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104

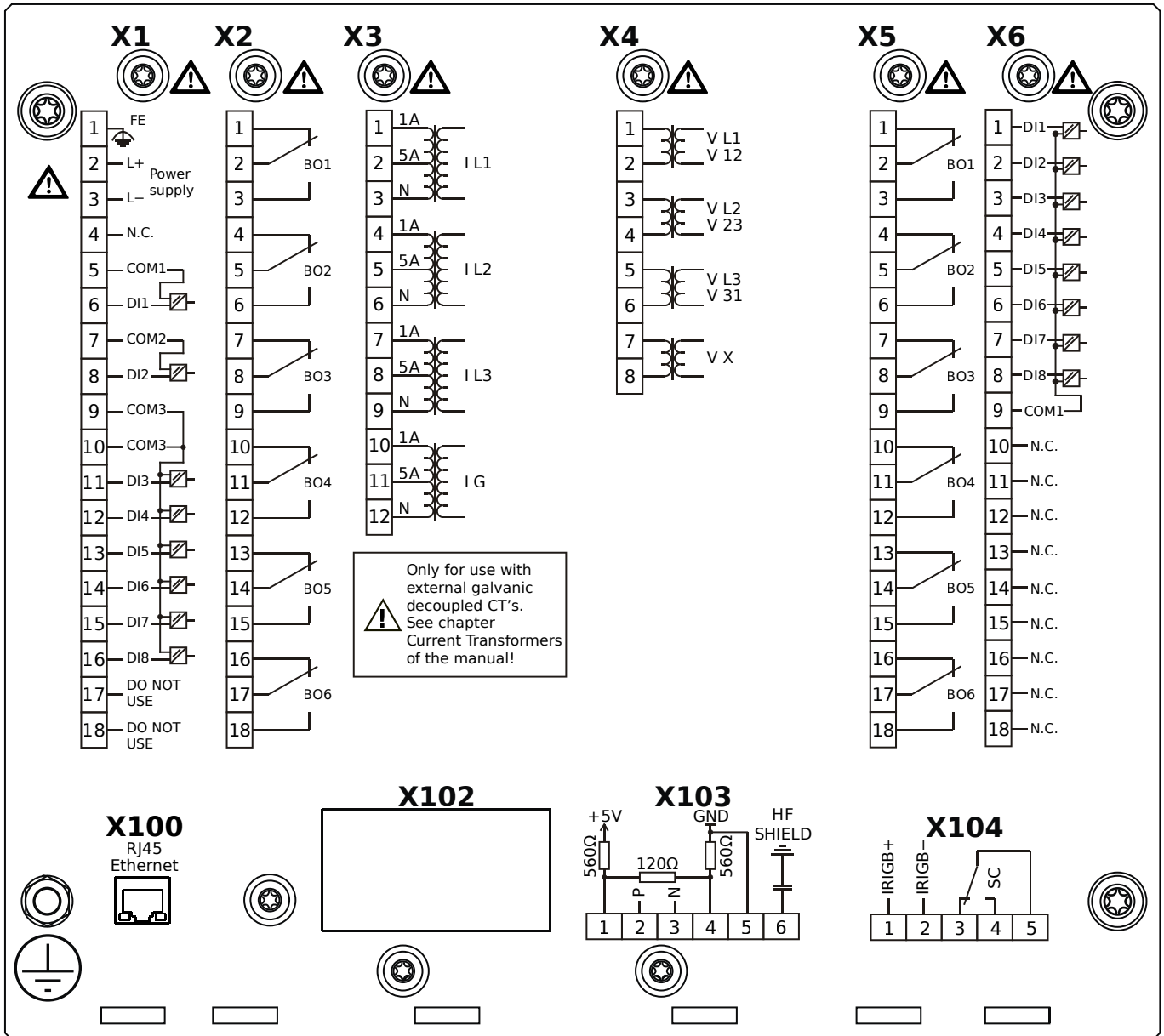| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BAB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
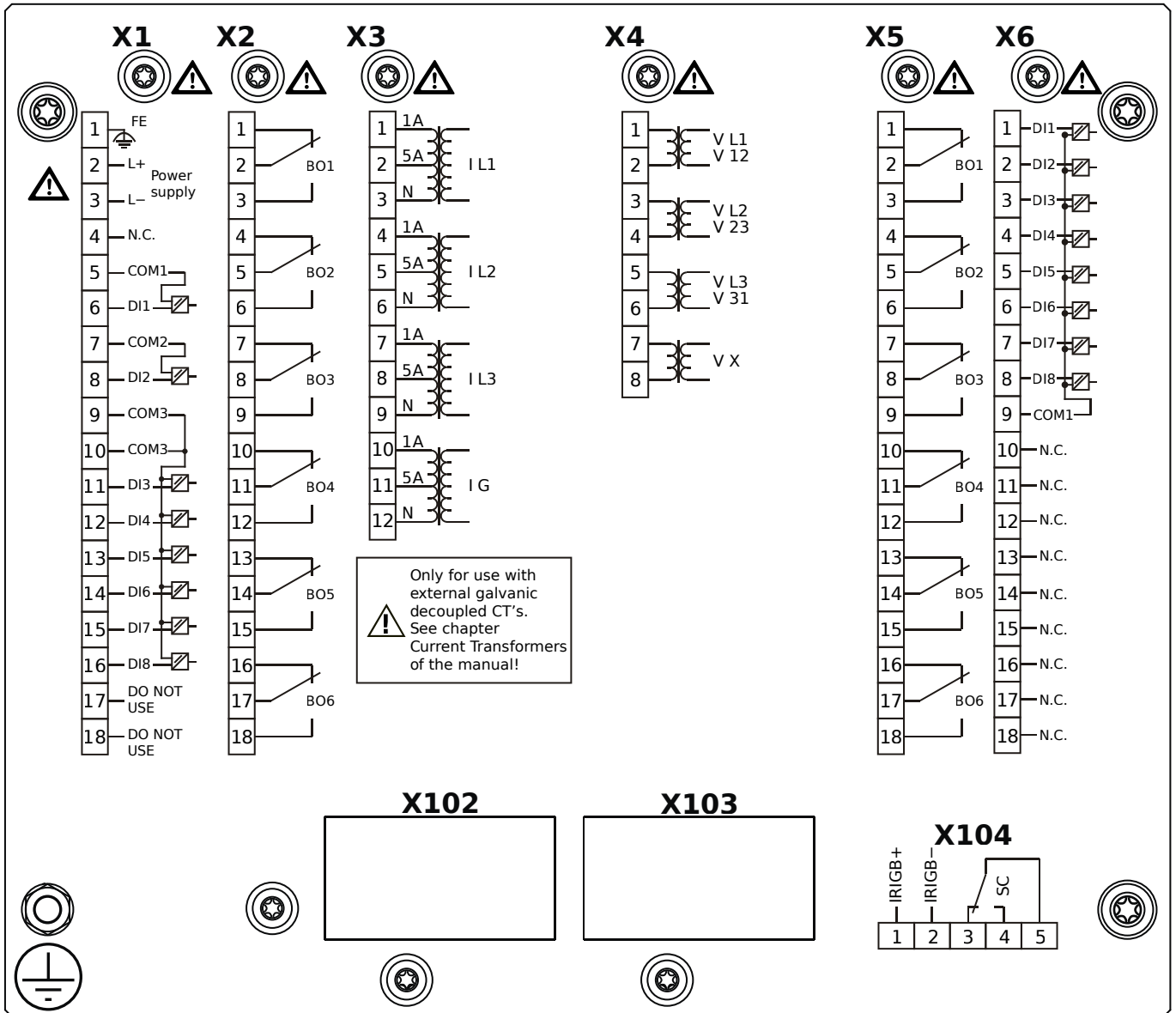**X5** – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BBA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

+5V		GND		HF SHIELD	
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104

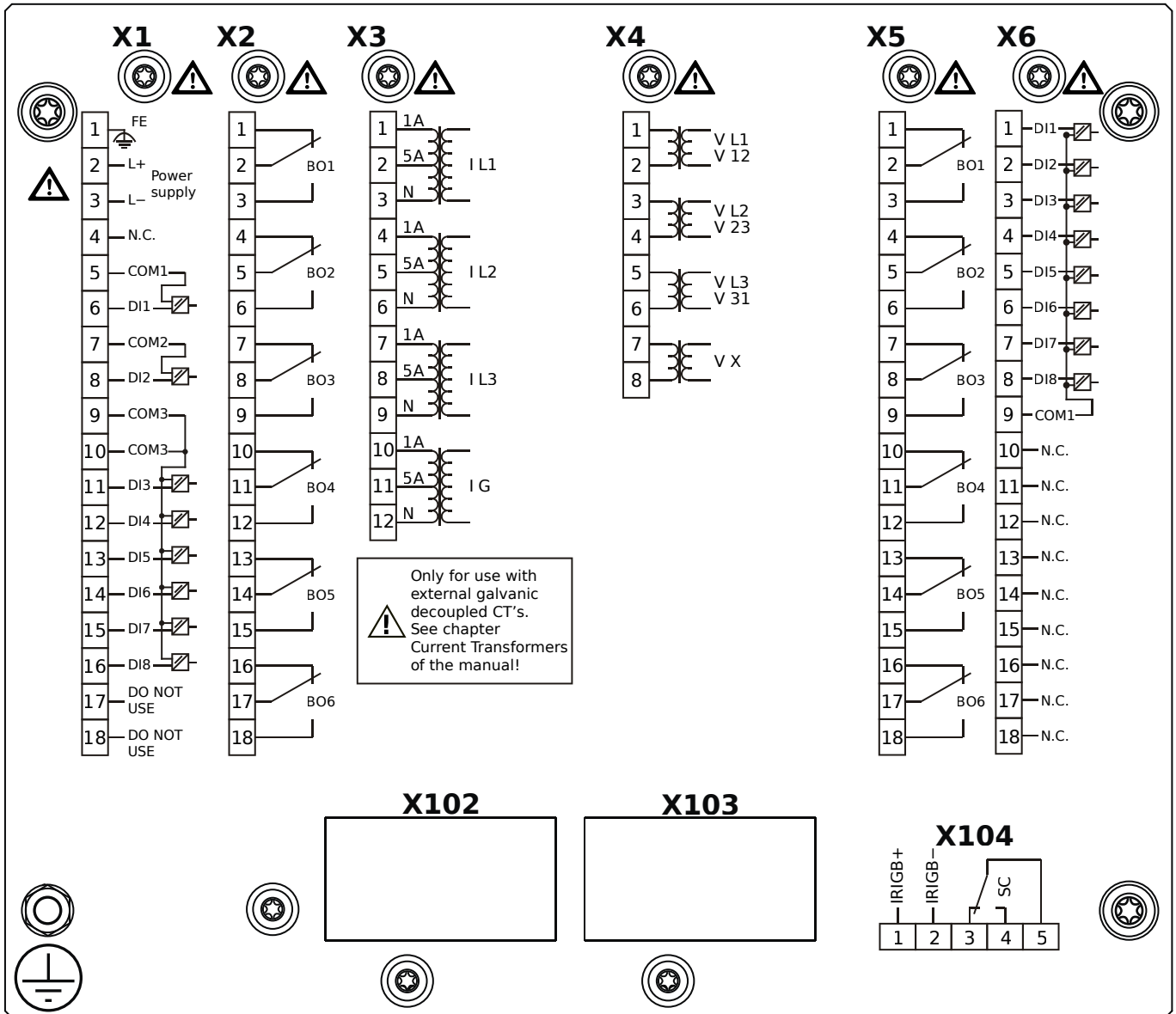| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
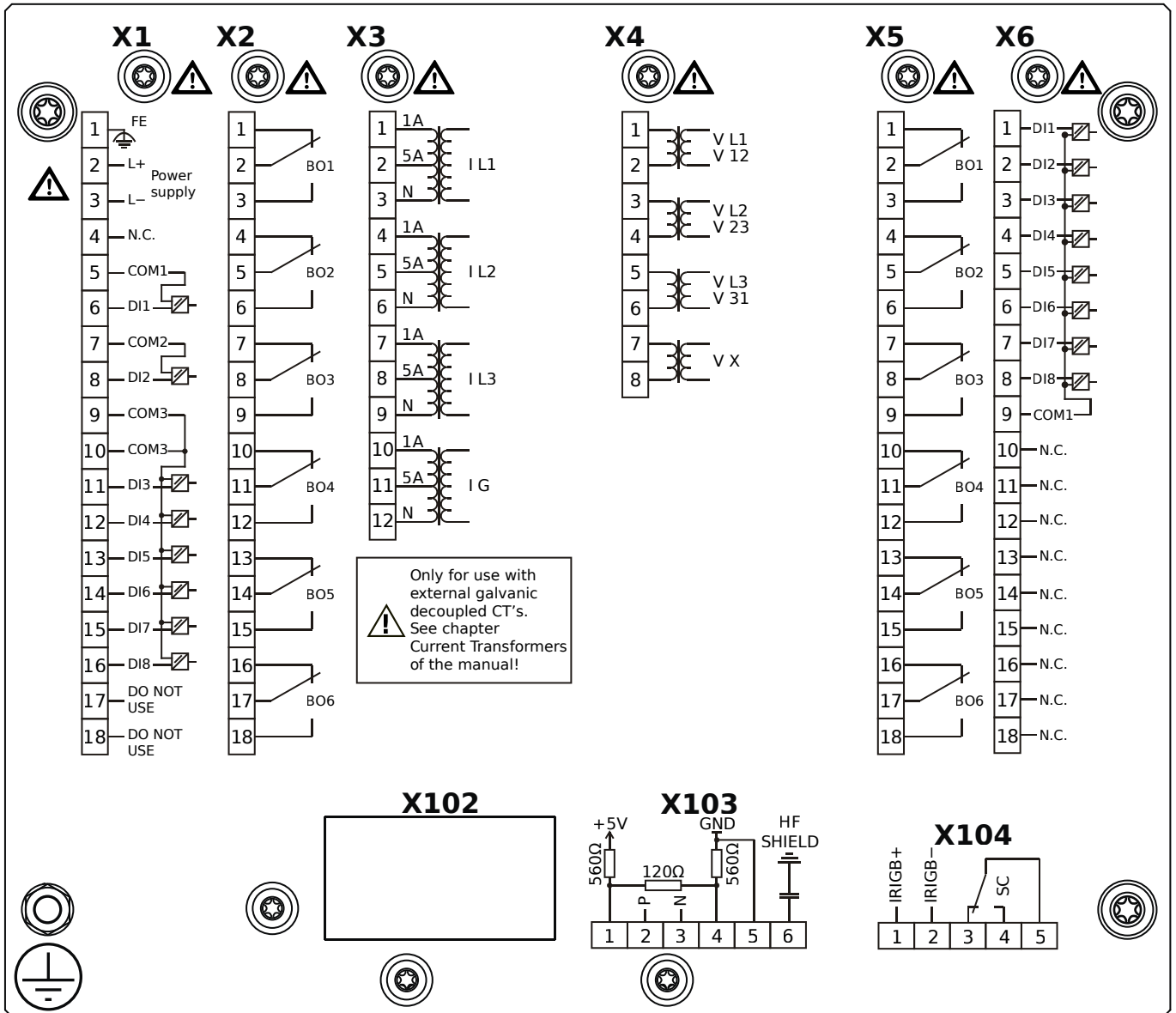**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BBB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BCA

Only for use with
external galvanic
decoupled CT's.
See chapter
Current Transformers
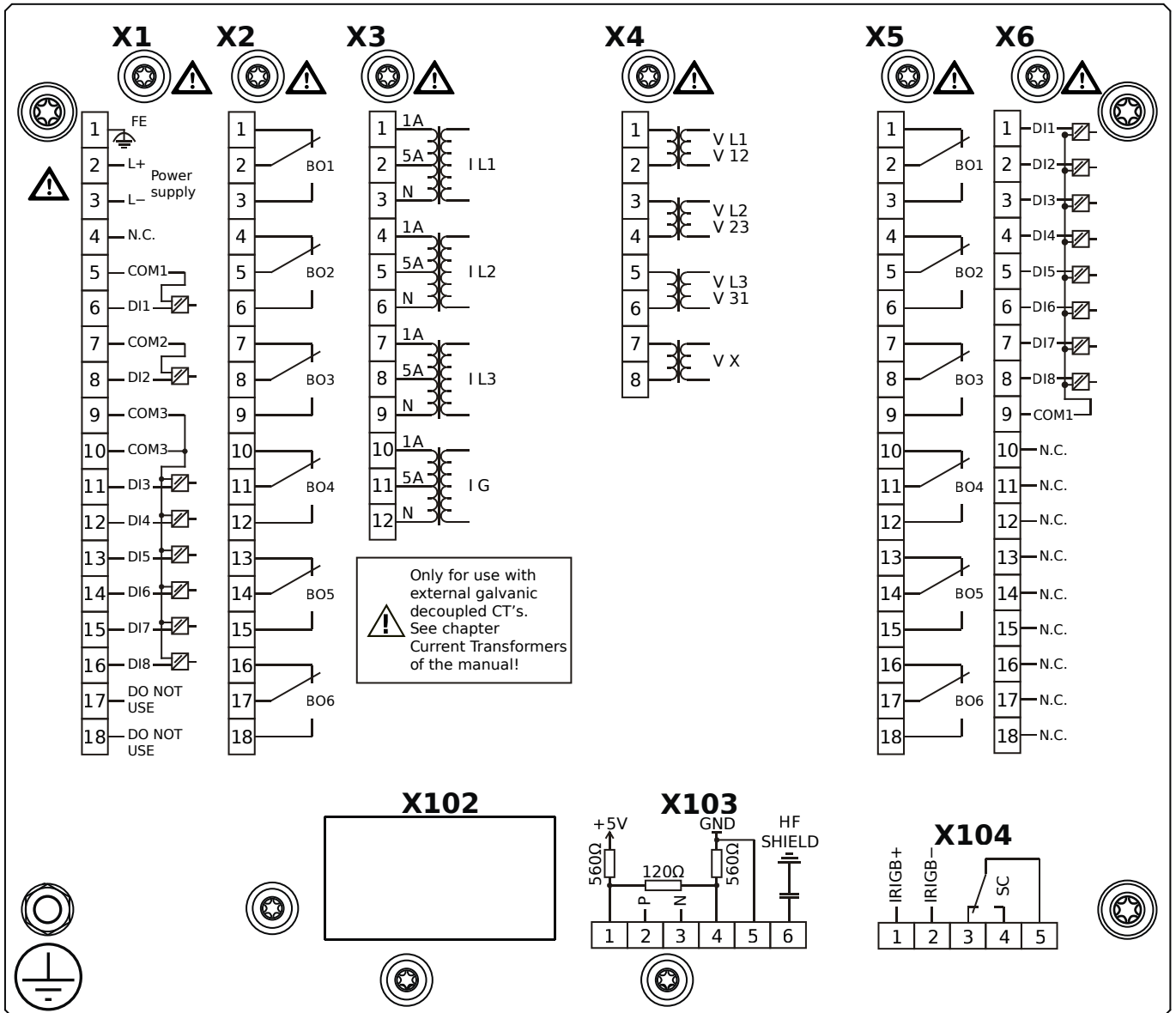of the manual!

X100 RJ45 Ethernet

X102

X103

X104

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BCB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

X104

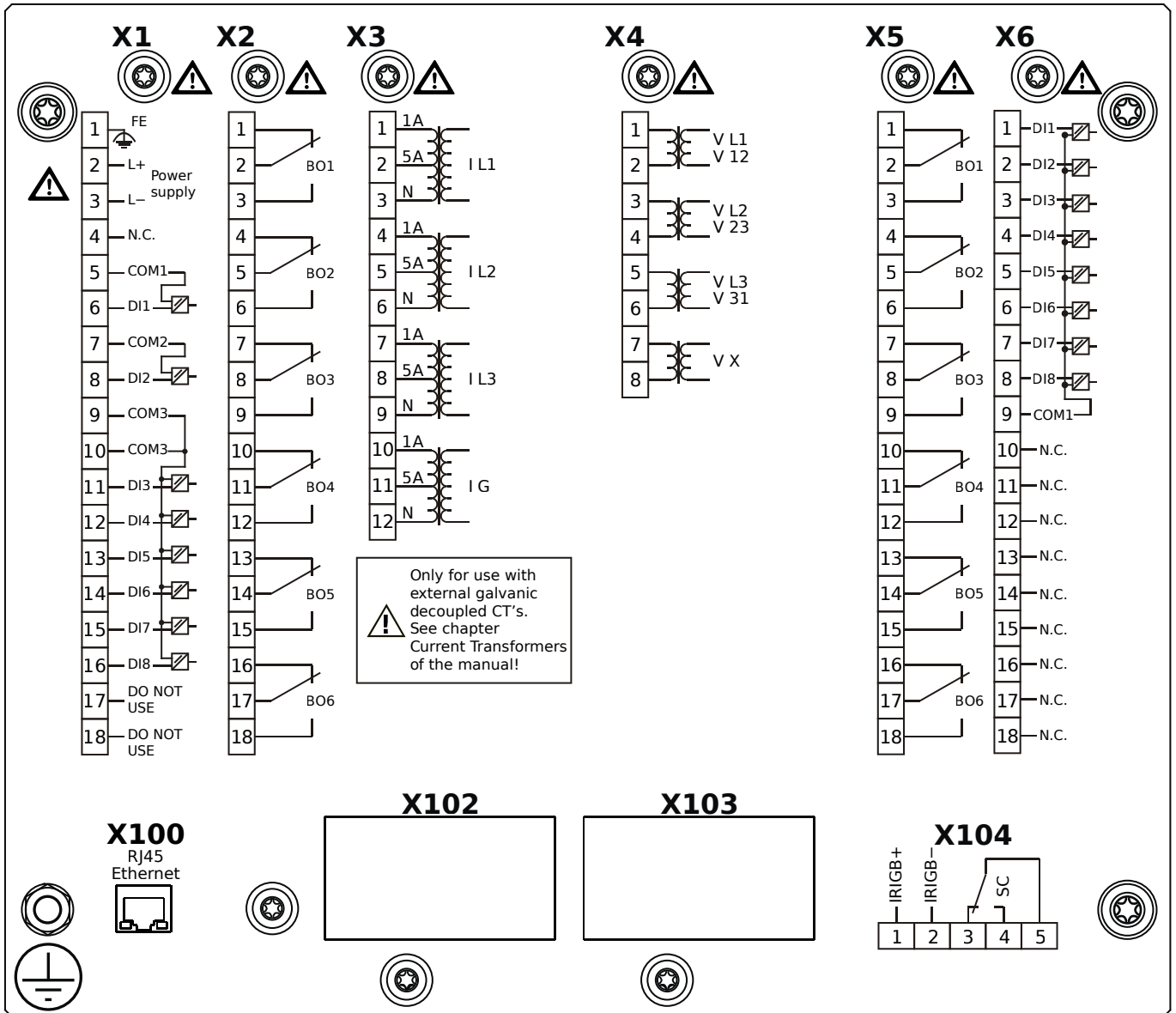| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
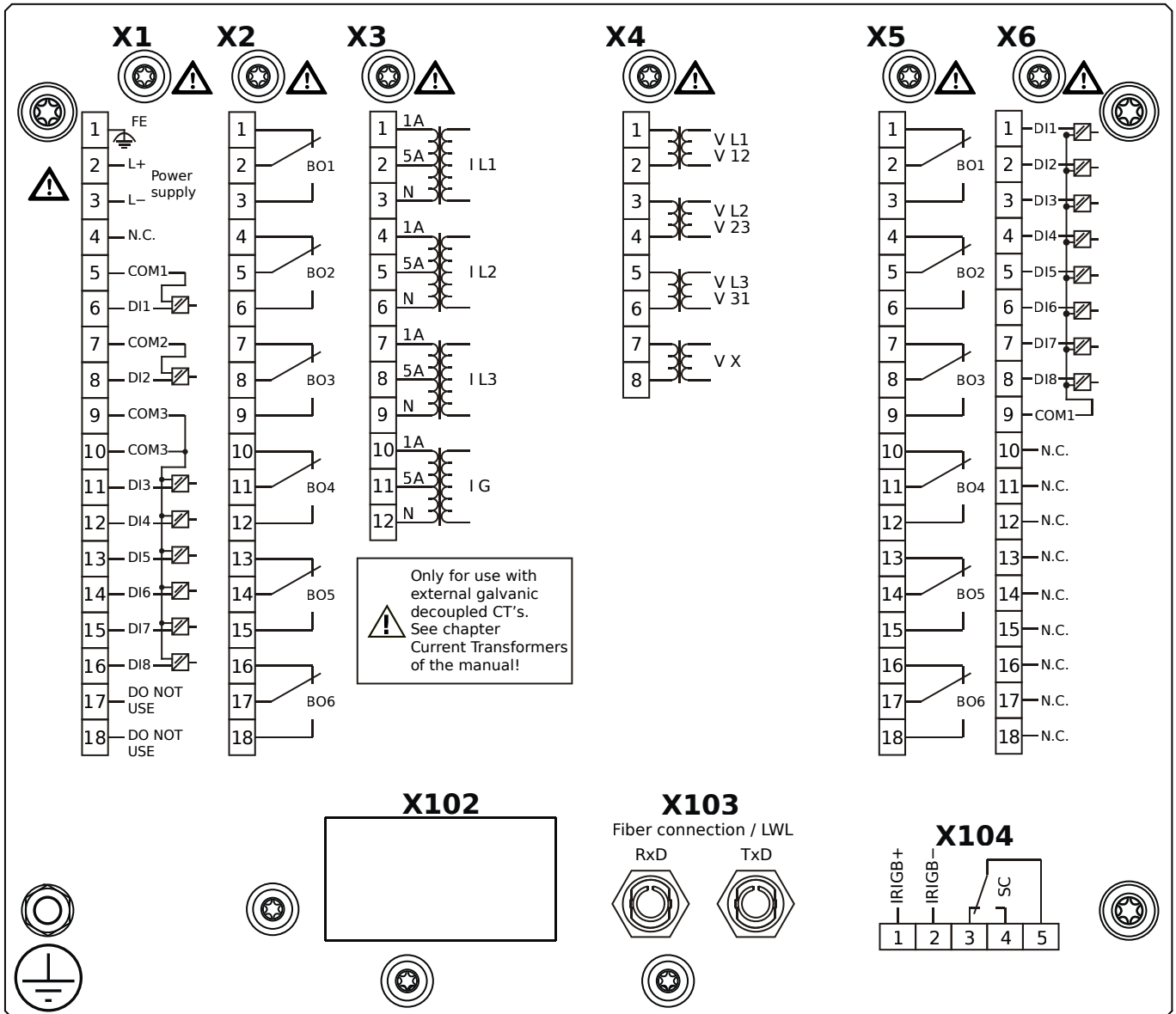**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BDA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A	I L1
3	N
4	1A
5	5A	I L2
6	N
7	1A
8	5A	I L3
9	N
10	1A
11	5A	I G
12	N

Only for use with external galvanic decoupled CT's. ⚠ See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104

| IRIGB+ | IRIGB− | | SC | |
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BDB

X1
1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
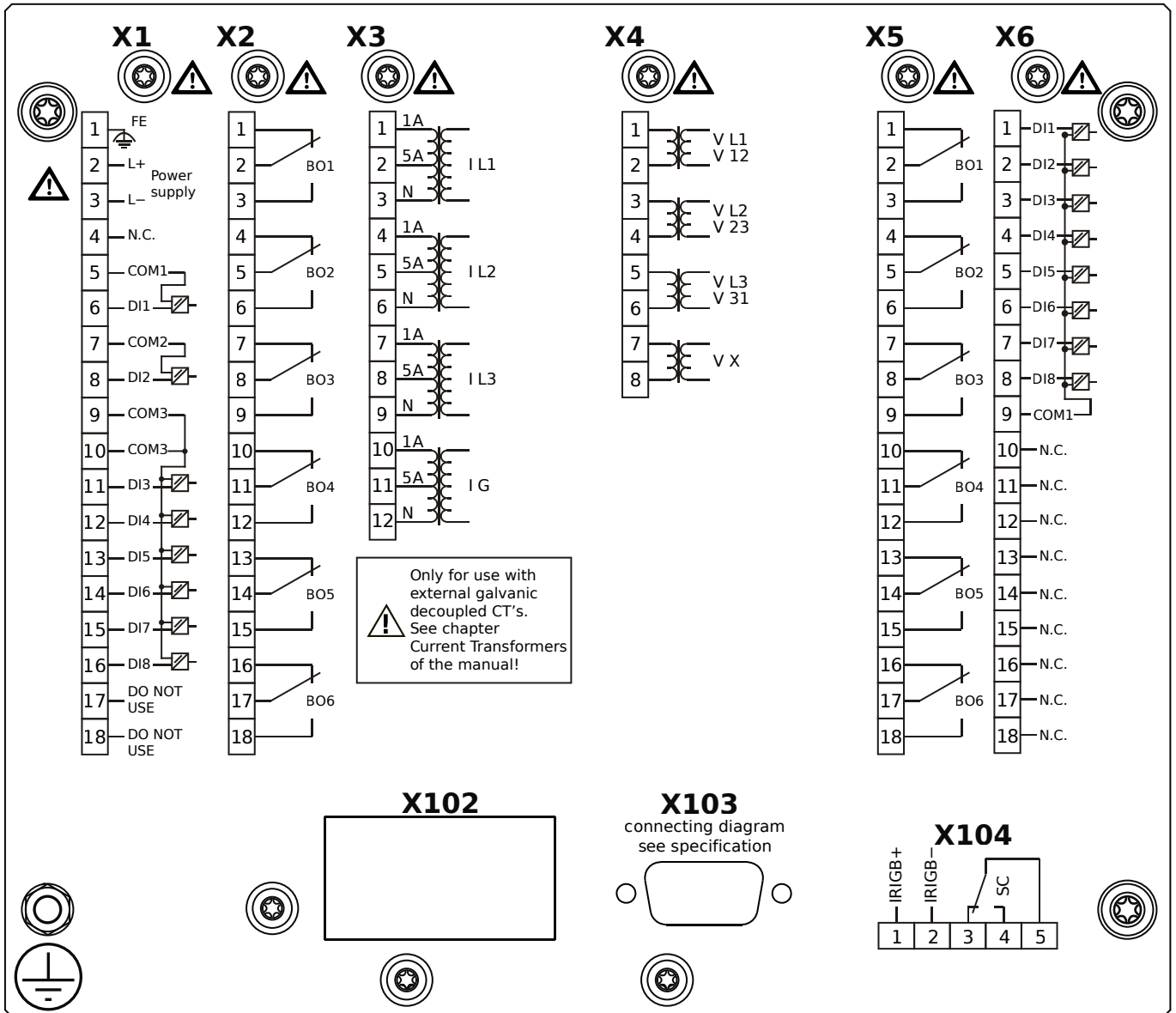**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
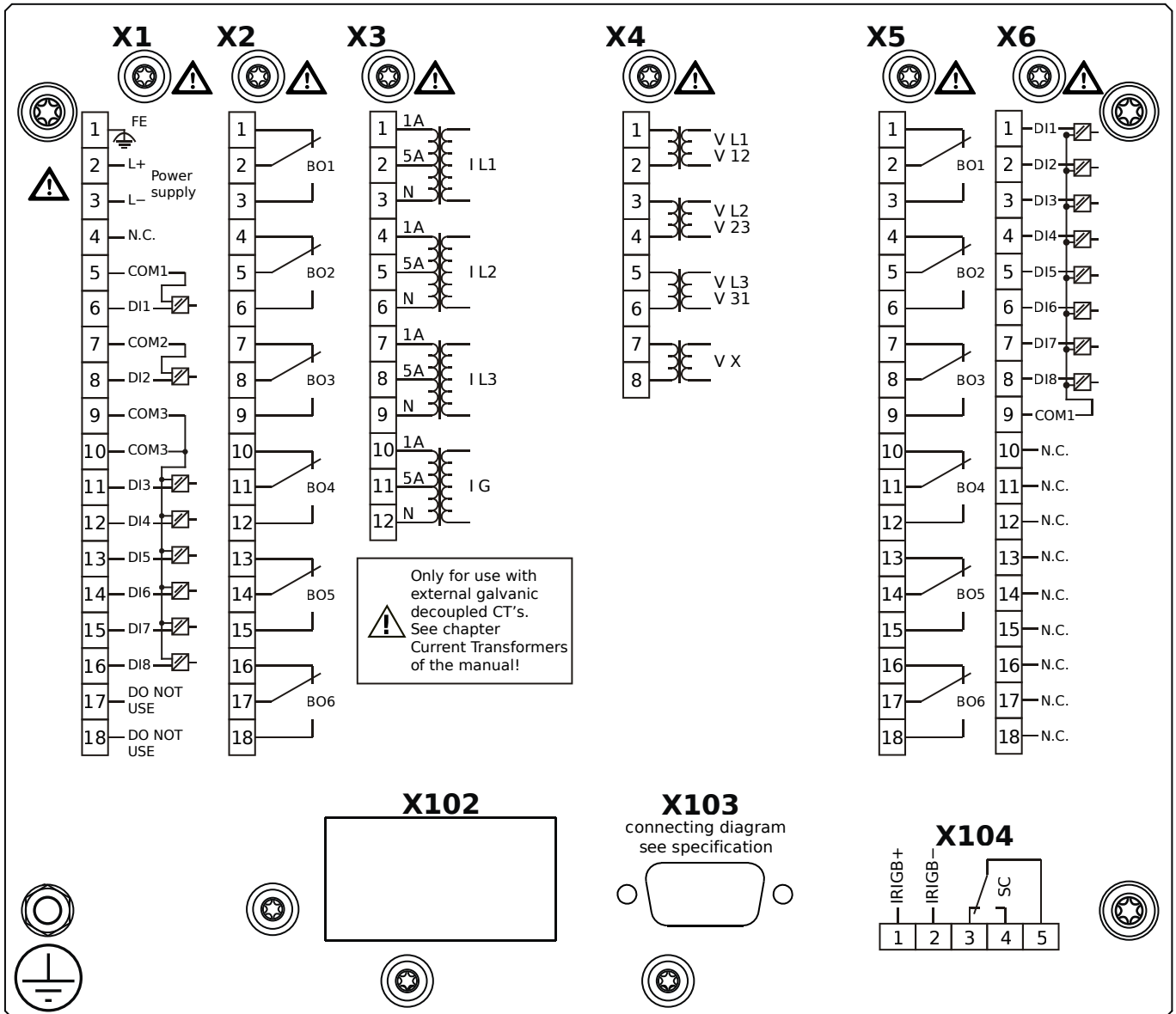**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BEA

X1 **X2** **X3** **X4** **X5** **X6**

X1
1 – FE
2 – L+ Power supply
3 – L–
4 – N.C.
5 – COM1
6 – DI1
7 – COM2
8 – DI2
9 – COM3
10 – COM3
11 – DI3
12 – DI4
13 – DI5
14 – DI6
15 – DI7
16 – DI8
17 – DO NOT USE
18 – DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1   V L1
2   V 12
3   V L2
4   V 23
5   V L3
6   V 31
7   V X
8

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 – DI1
2 – DI2
3 – DI3
4 – DI4
5 – DI5
6 – DI6
7 – DI7
8 – DI8
9 – COM1
10 – N.C.
11 – N.C.
12 – N.C.
13 – N.C.
14 – N.C.
15 – N.C.
16 – N.C.
17 – N.C.
18 – N.C.

X102

X103
connecting diagram see specification

X104
IRIGB+ IRIGB– SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BEB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram
see specification

X104

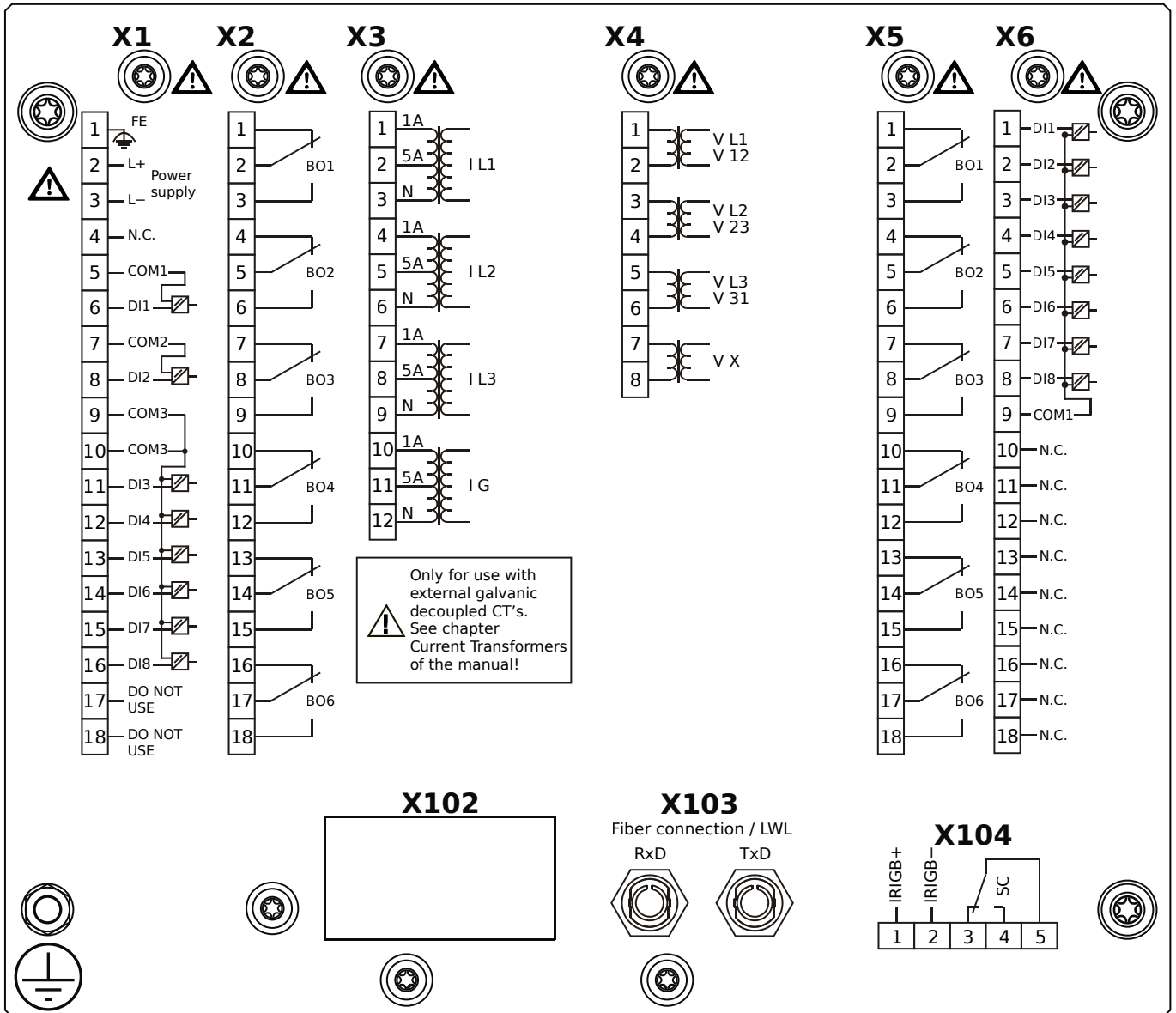| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
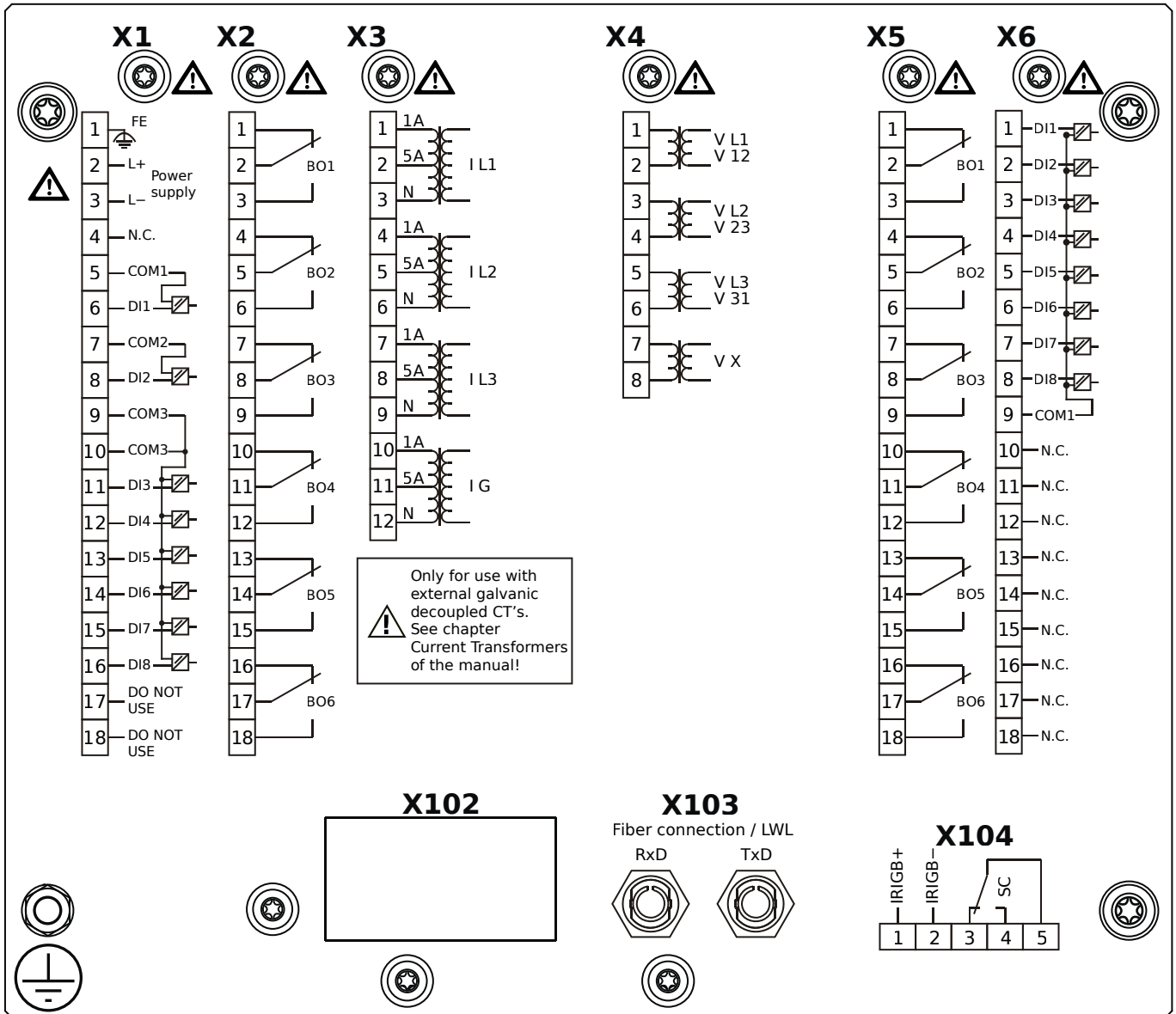
MRA4-2D0BFA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
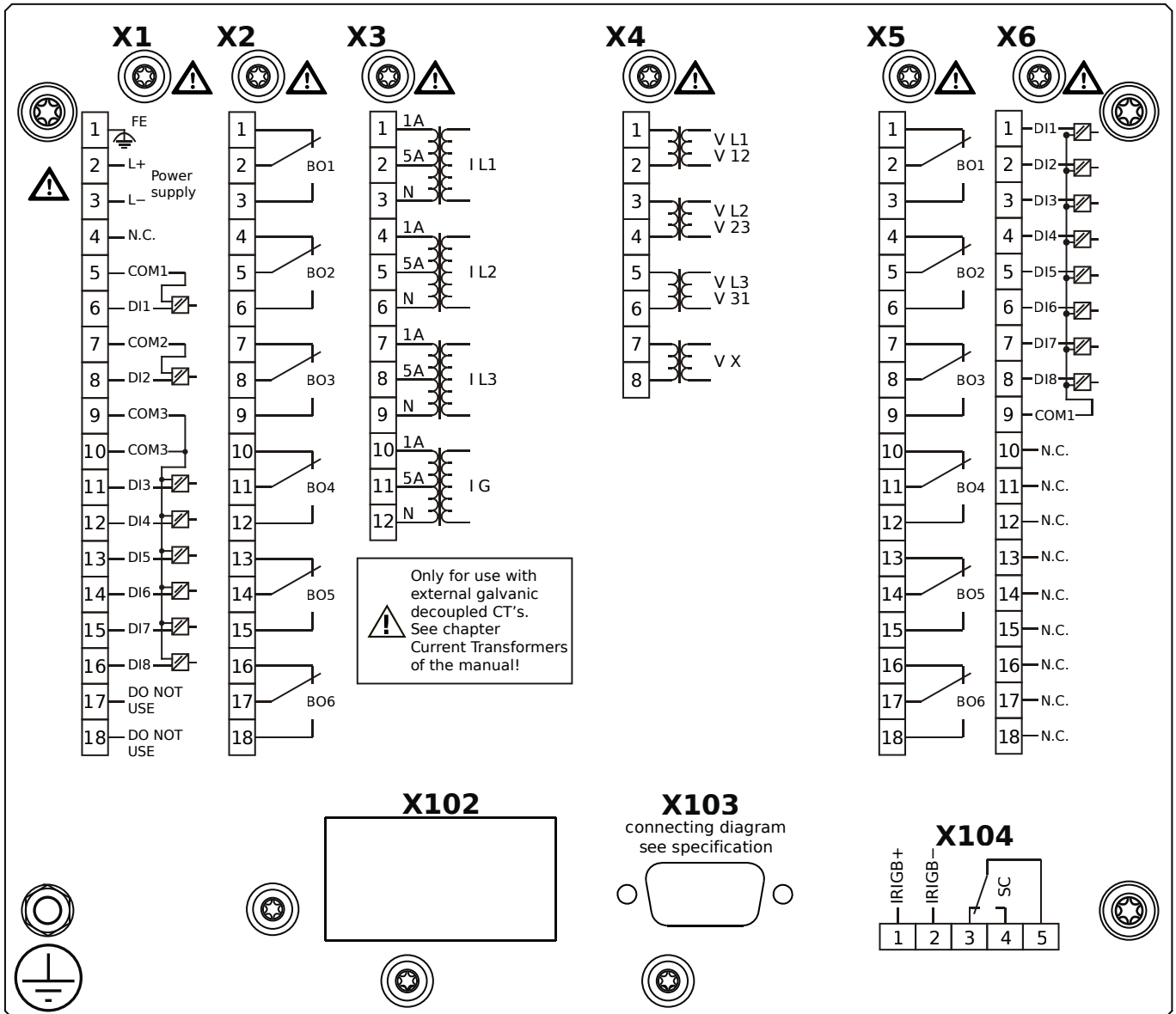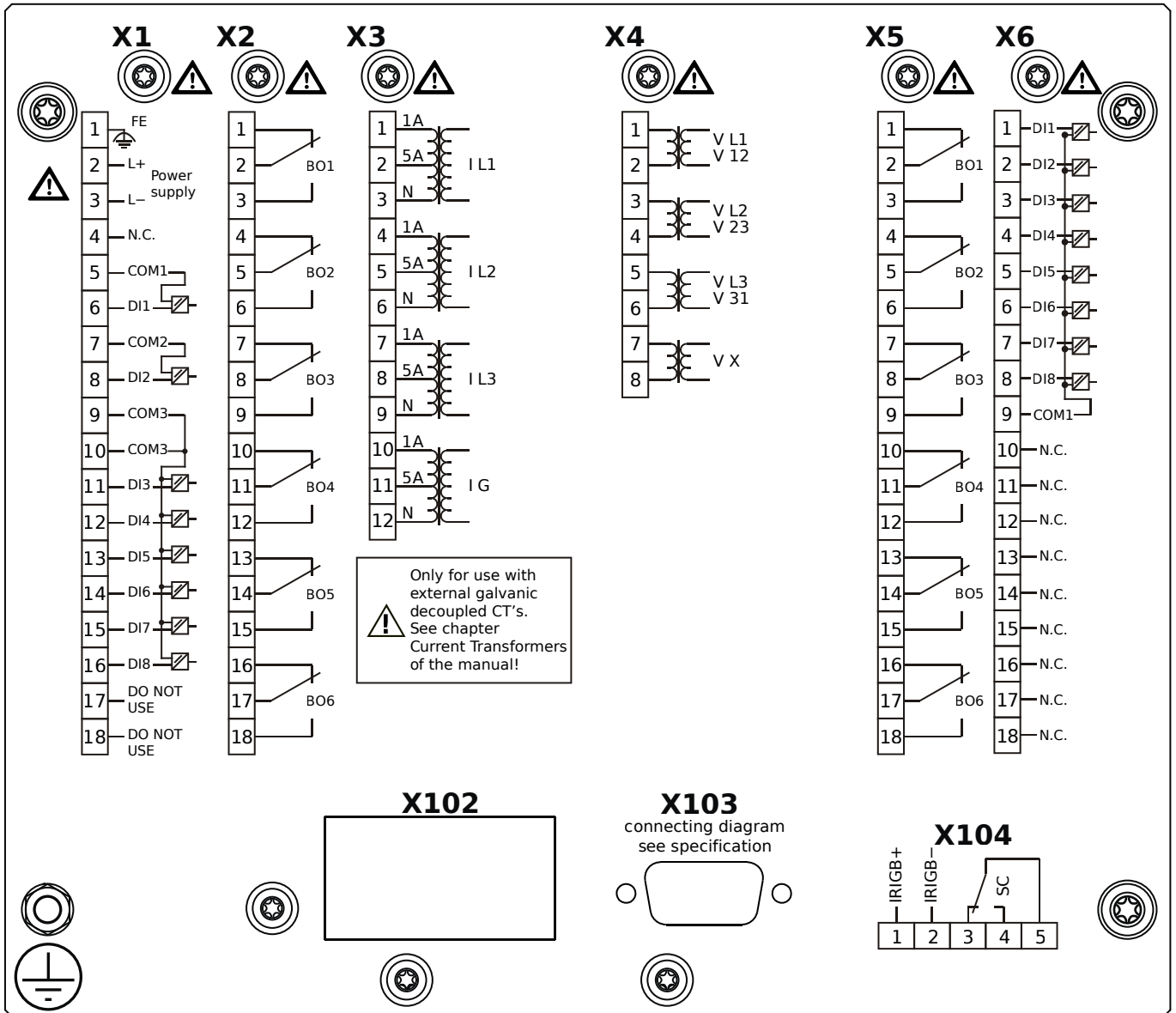**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BFB

X1

1 FE ⏚
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3

1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BGA

X1
1	FE ⏚	
2	L+	Power supply
3	L−	
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
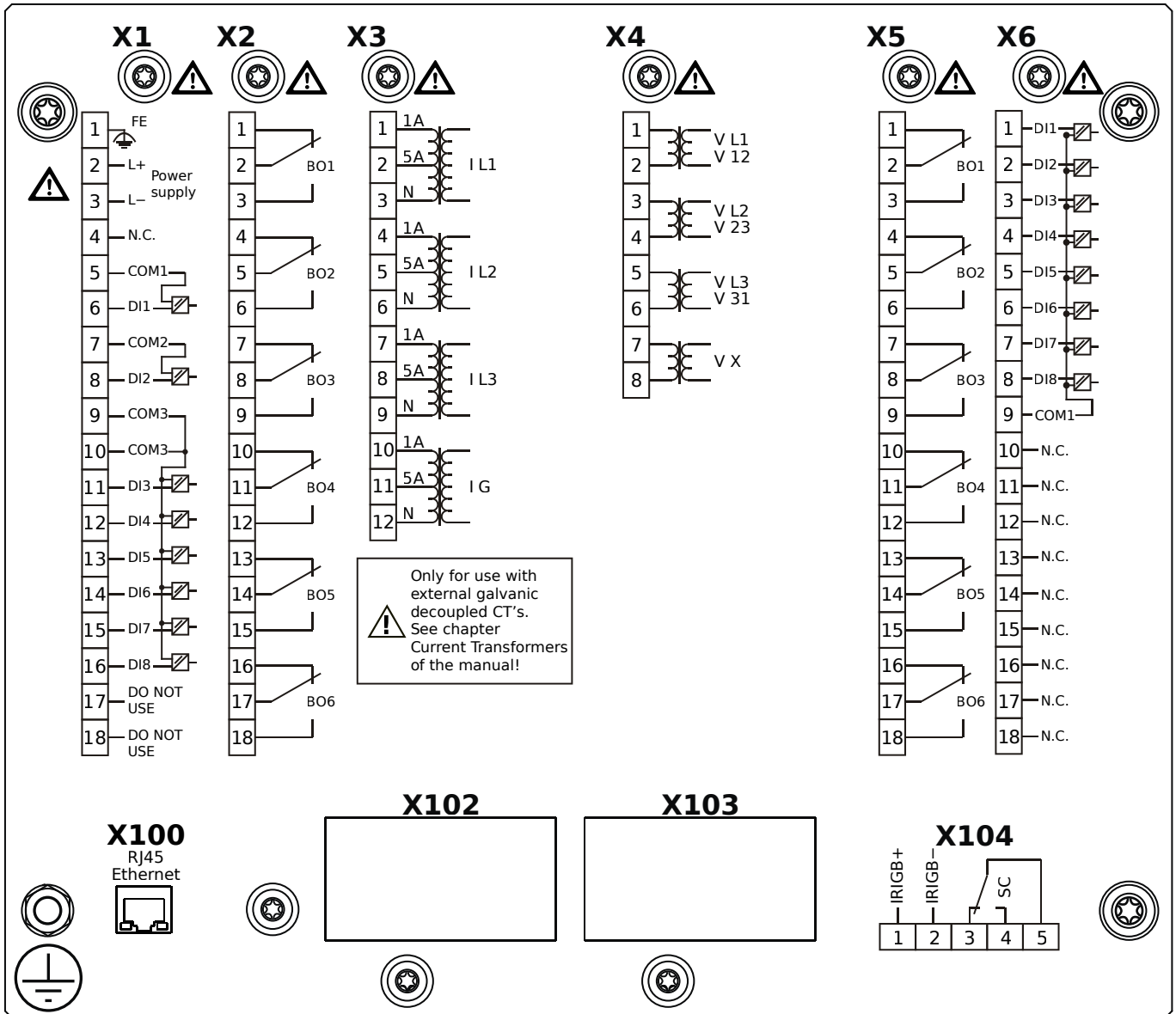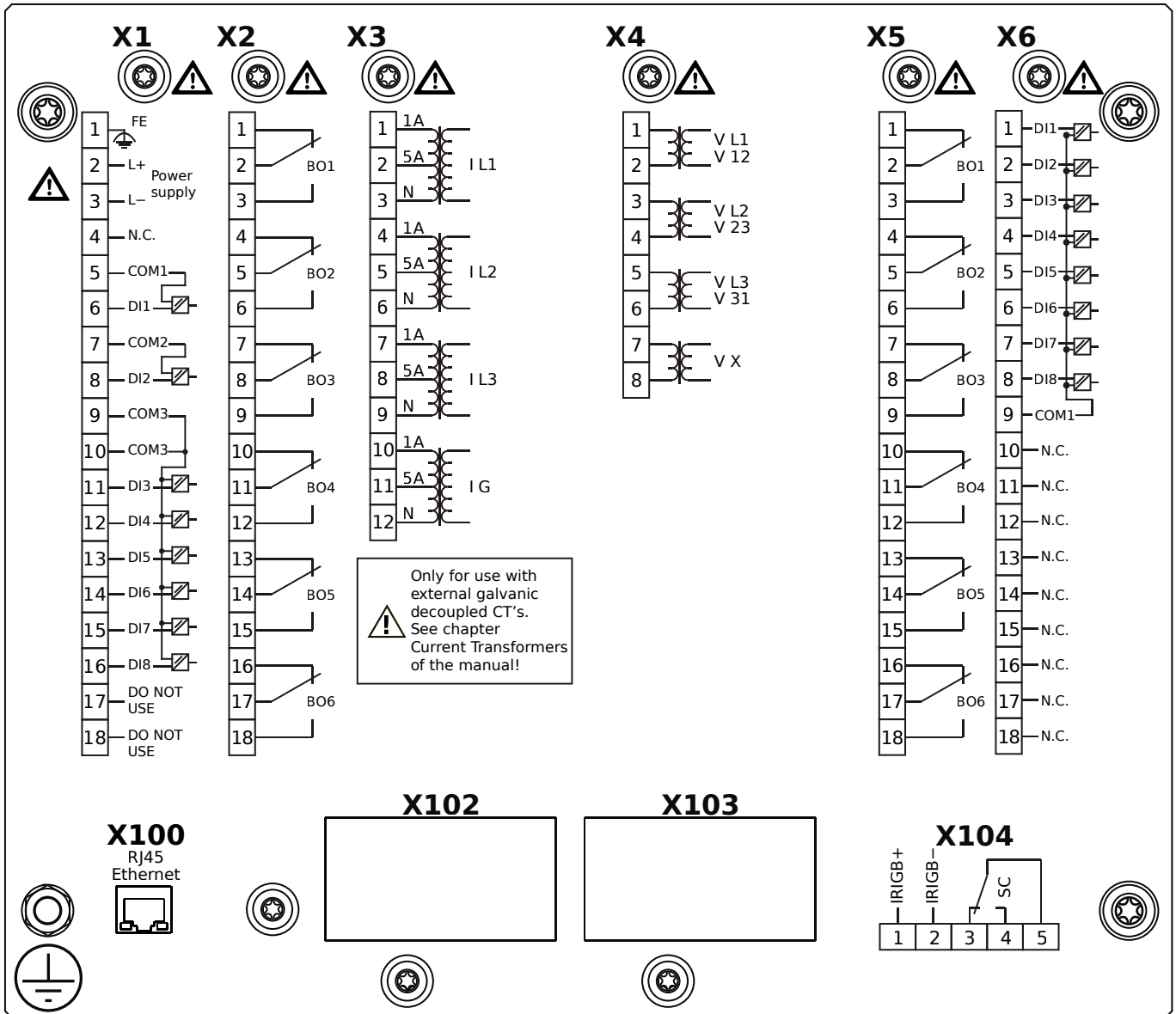**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BGB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
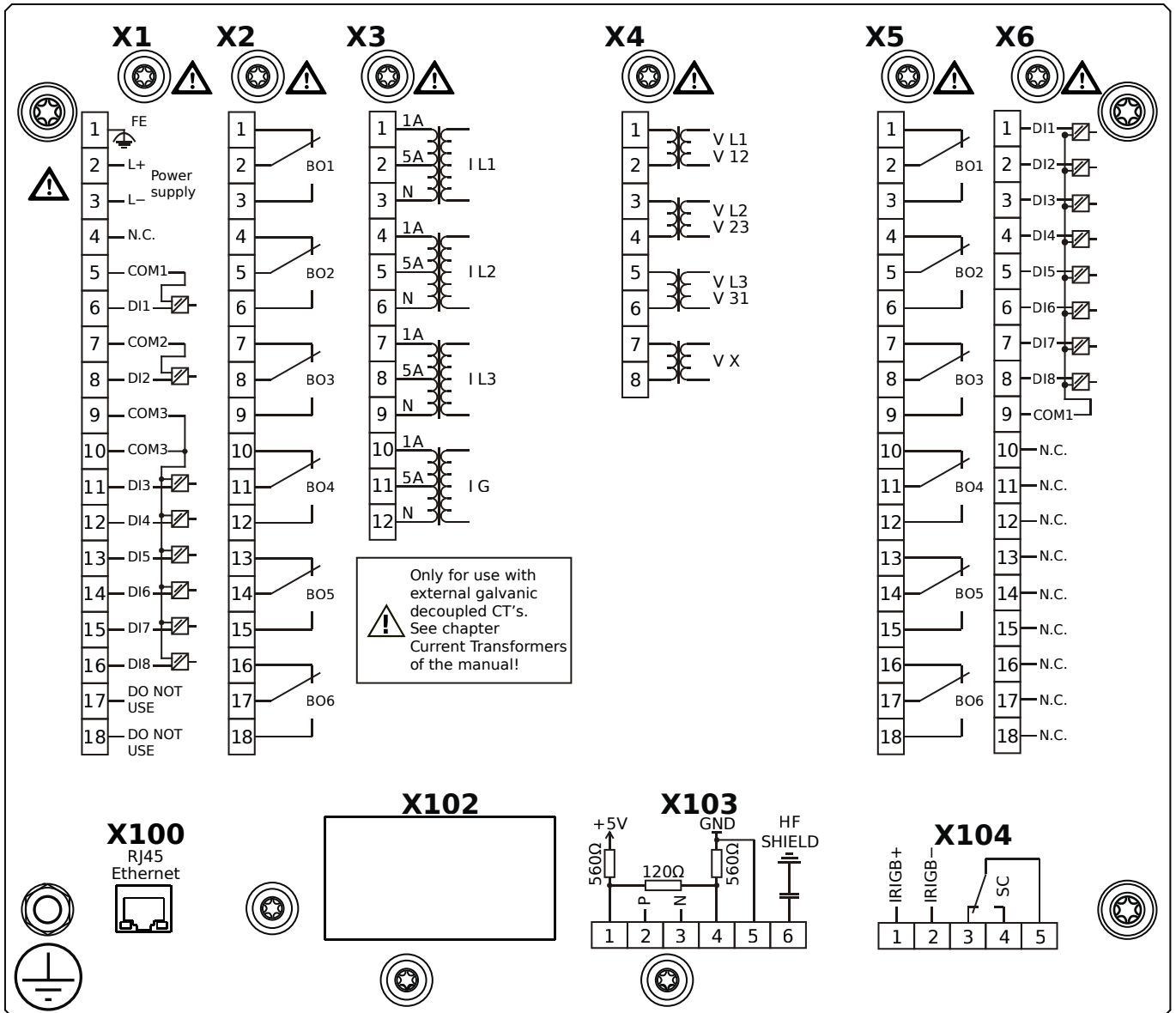**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BHA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
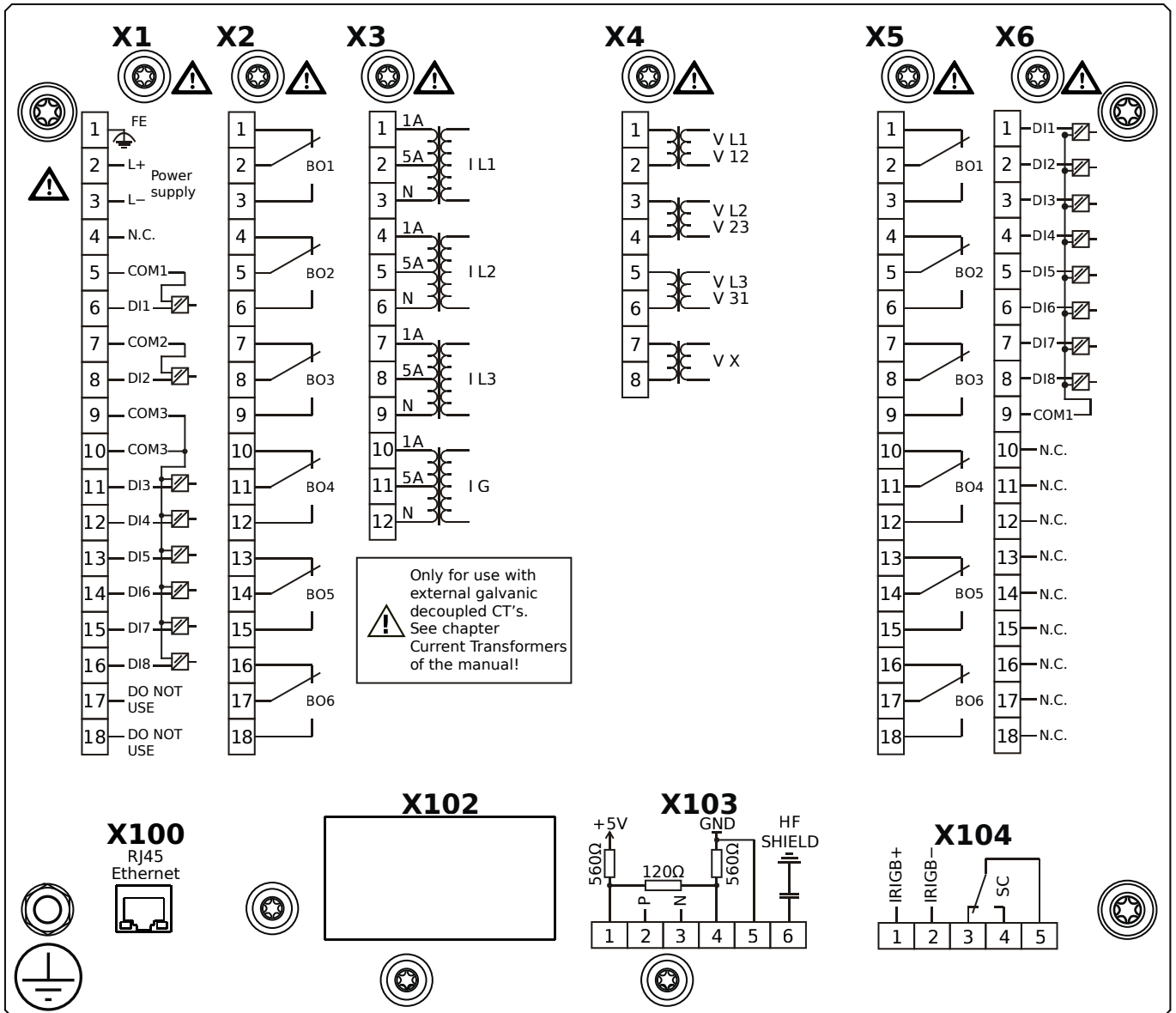**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BHB

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BIA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
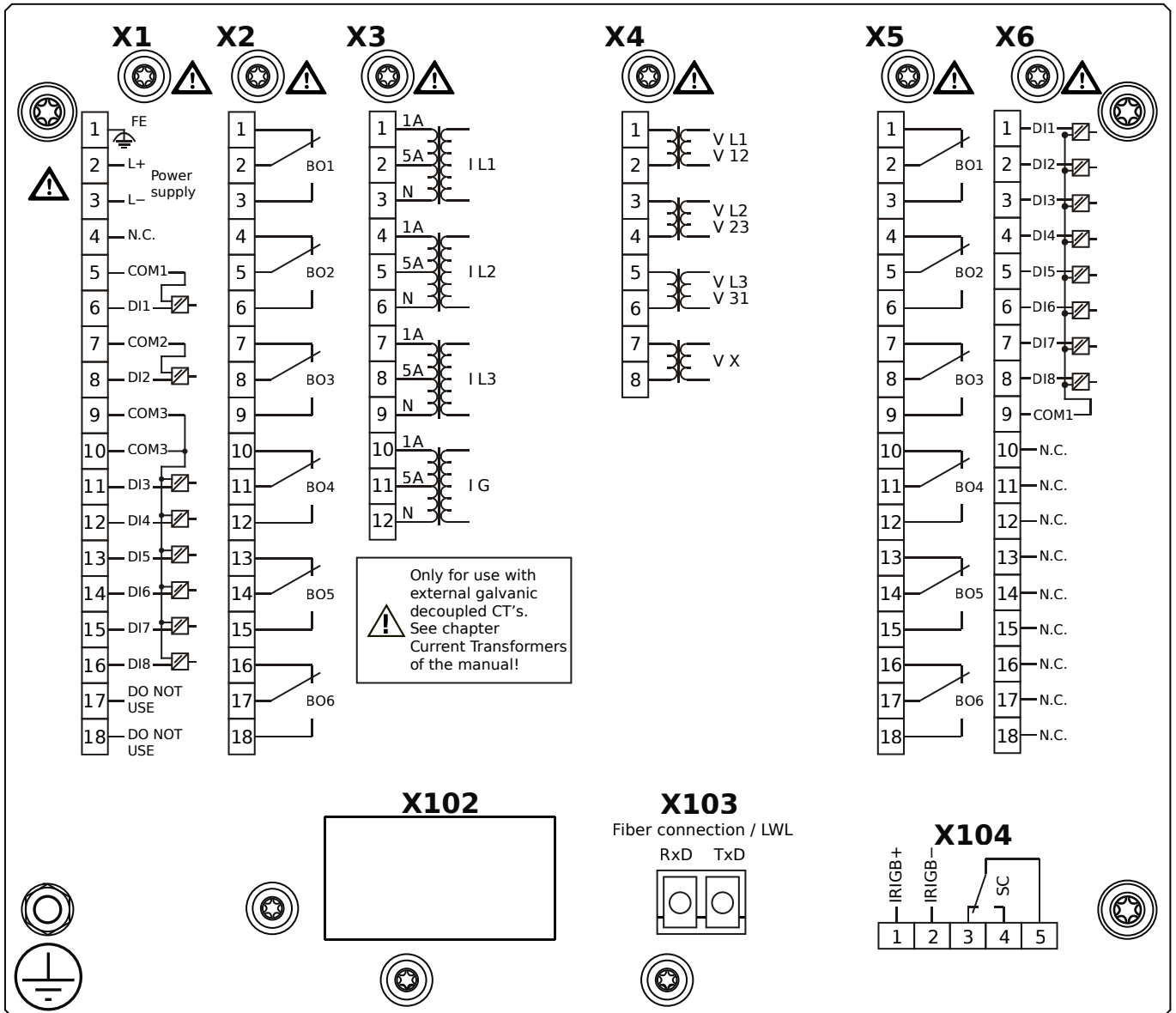**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BIB

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
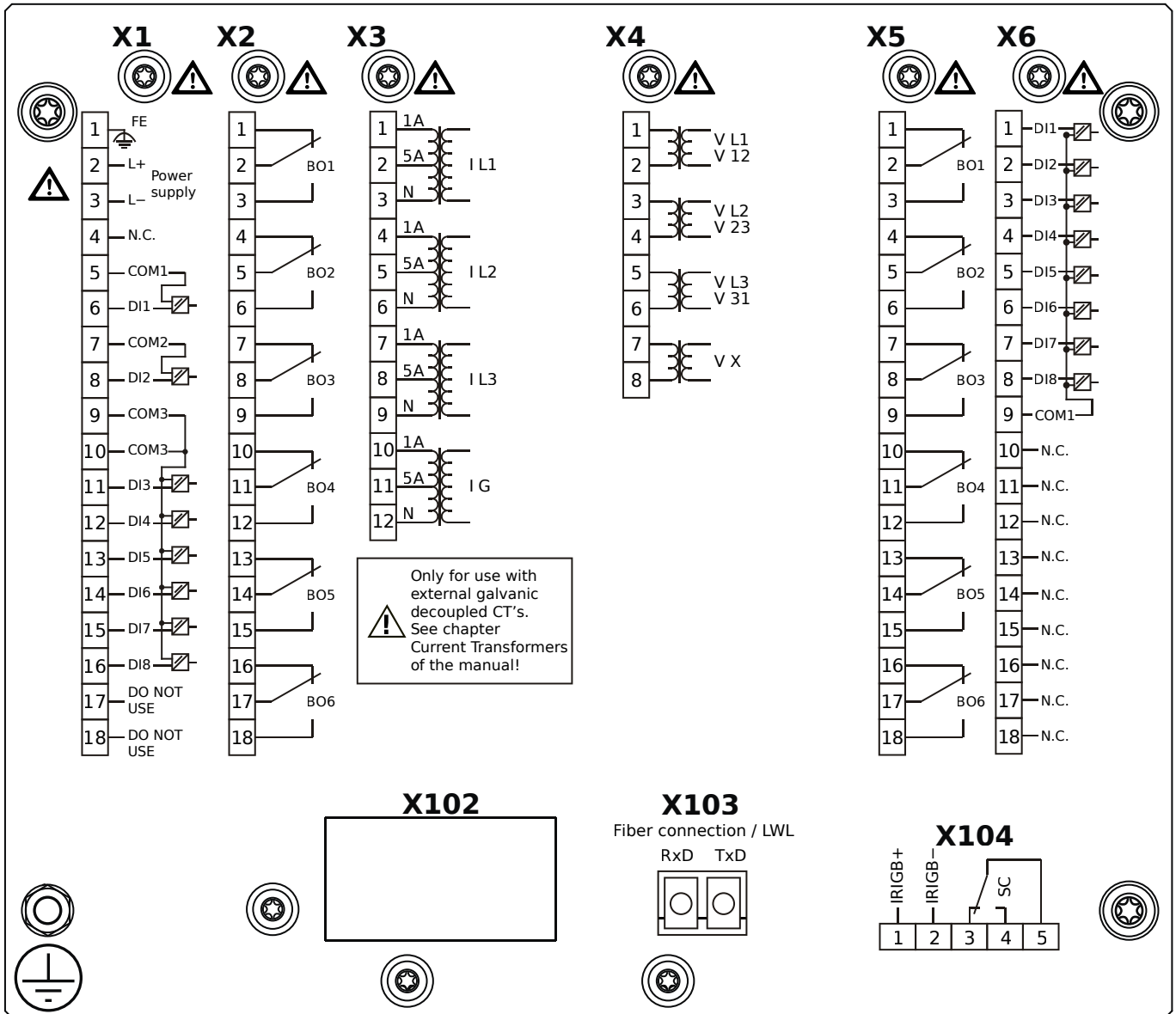**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BKA

X1 — DI8-X1
FE
L+ Power supply
L−
N.C.
COM1
DI1
COM2
DI2
COM3
COM3
DI3
DI4
DI5
DI6
DI7
DI8
DO NOT USE
DO NOT USE

X2
BO1
BO2
BO3
BO4
BO5
BO6

X3
1A
5A   I L1
N
1A
5A   I L2
N
1A
5A   I L3
N
1A
5A   I G
N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
V L1
V 12
V L2
V 23
V L3
V 31
V X

X5
BO1
BO2
BO3
BO4
BO5
BO6

X6
DI1
DI2
DI3
DI4
DI5
DI6
DI7
DI8
COM1
N.C.
N.C.
N.C.
N.C.
N.C.
N.C.
N.C.
N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BKB

X1
1 — FE ⏚
2 — L+ ⎤ Power
3 — L− ⎦ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎤ I L1
3 N
4 1A
5 5A ⎤ I L2
6 N
7 1A
8 5A ⎤ I L3
9 N
10 1A
11 5A ⎤ I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎤ V L1
2 ⎦ V 12
3 ⎤ V L2
4 ⎦ V 23
5 ⎤ V L3
6 ⎦ V 31
7 ⎤ V X
8 ⎦

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
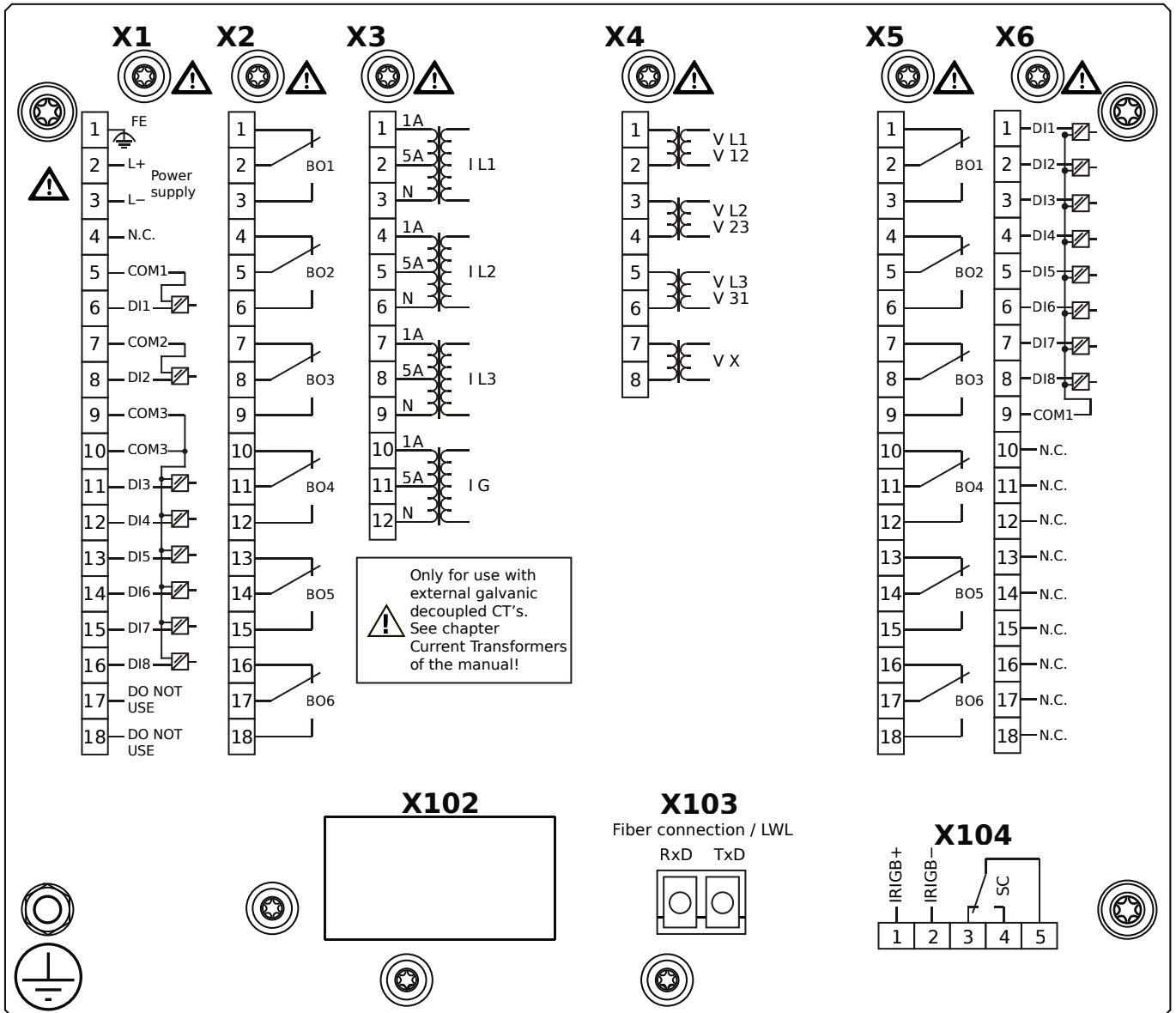IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting

  +   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
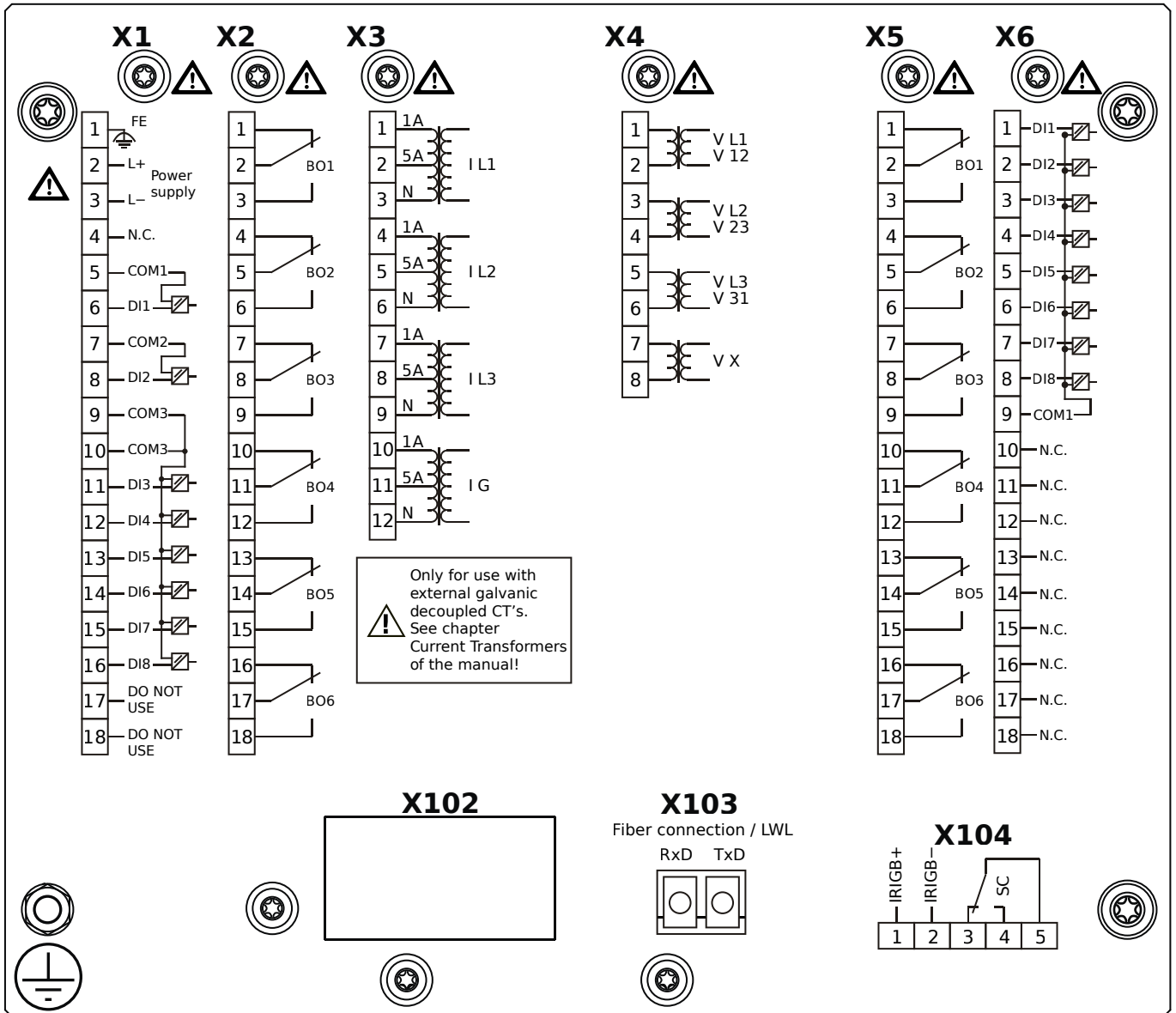**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BLA

X1

1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

> Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ | IRIGB− | | SC |
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
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X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
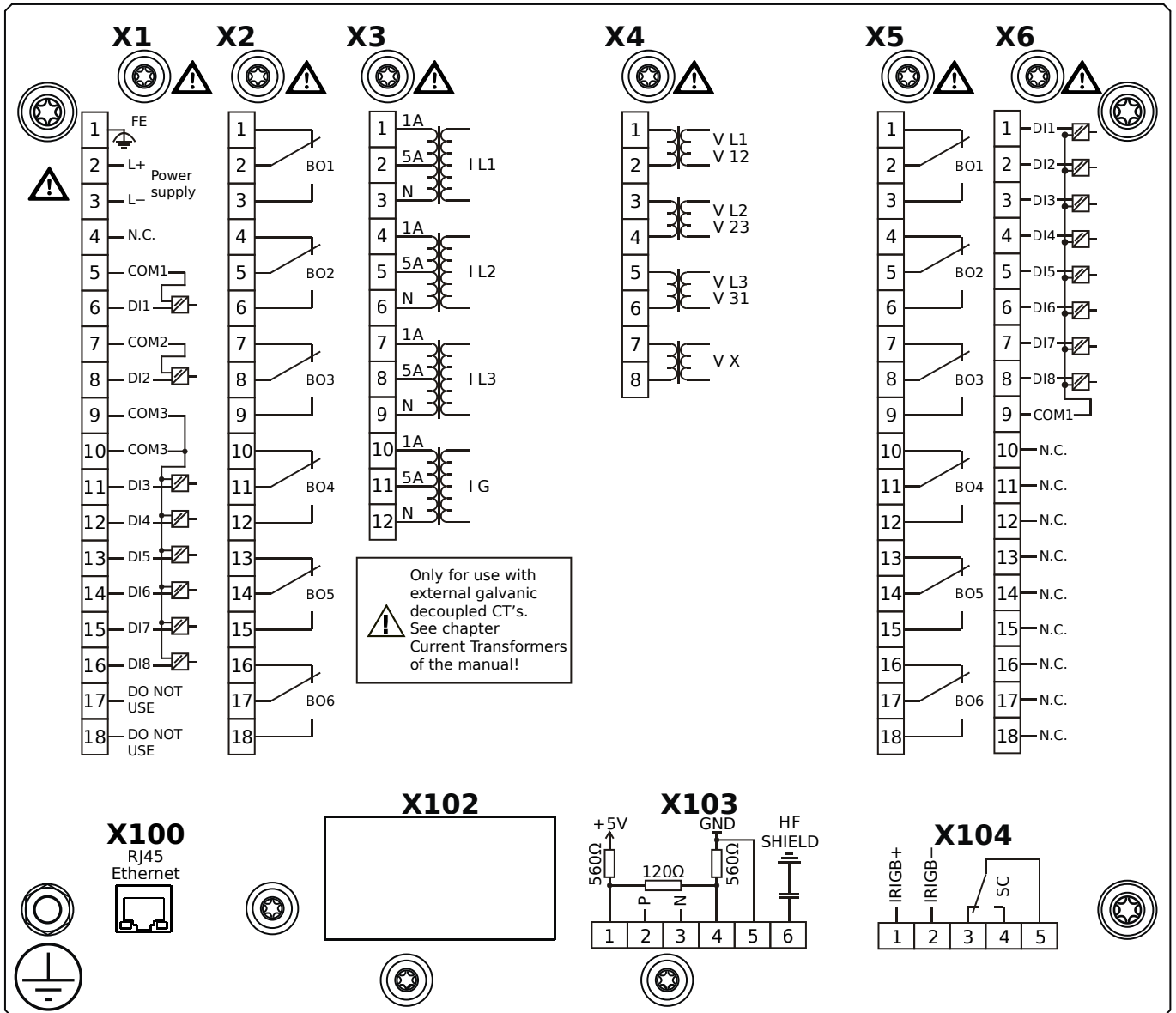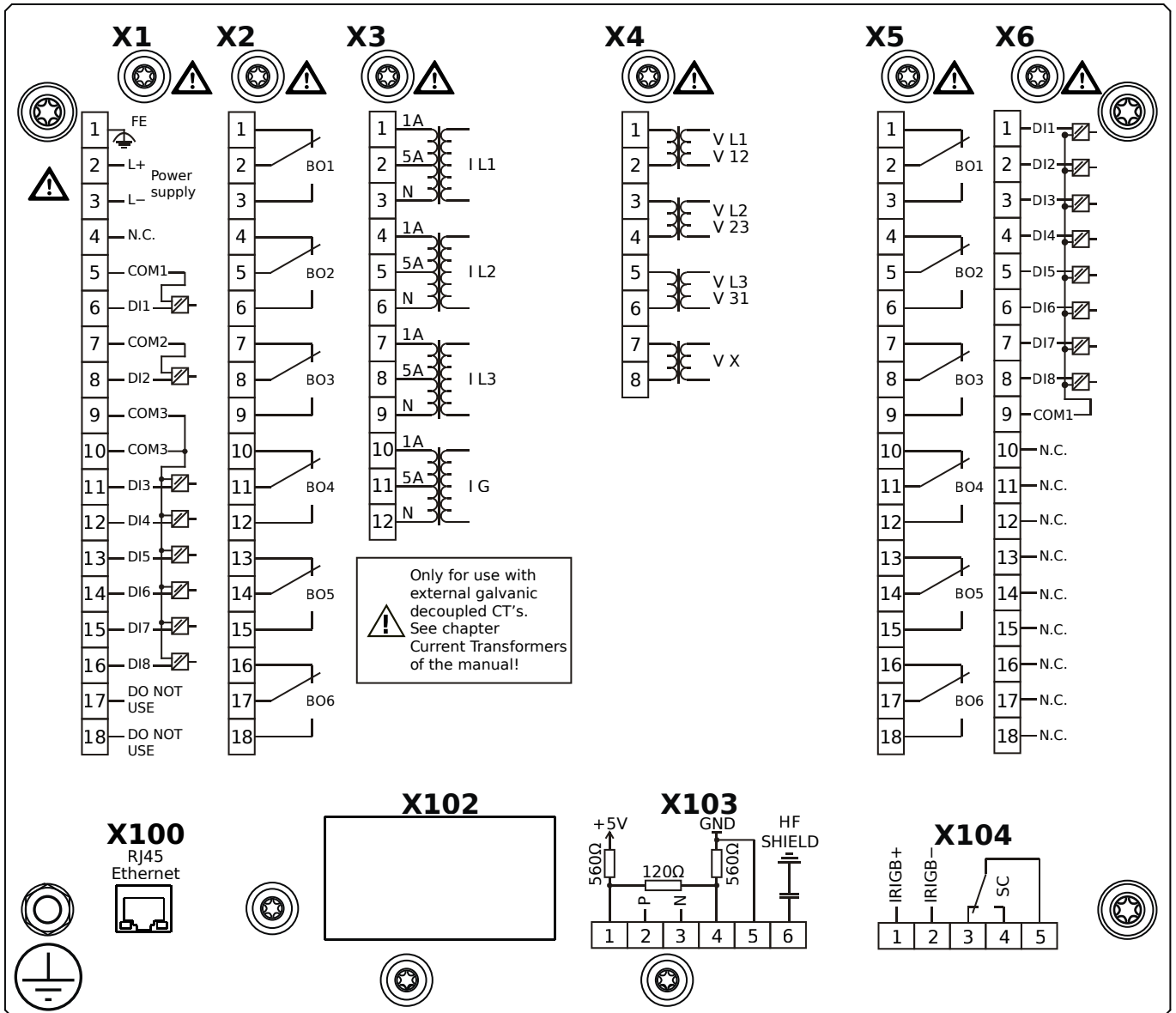**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BLB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BTA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
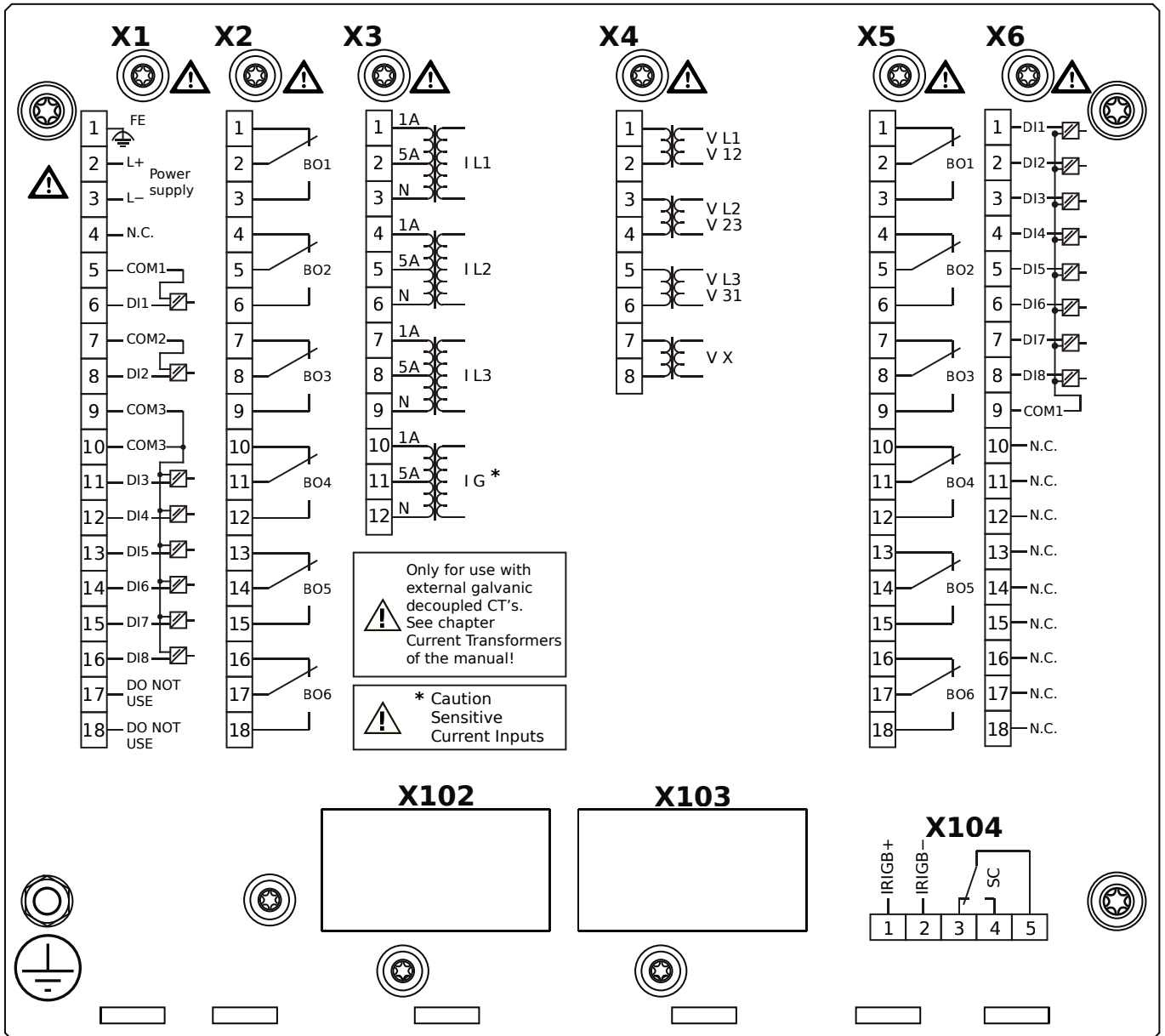**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D0BTB

X1

1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
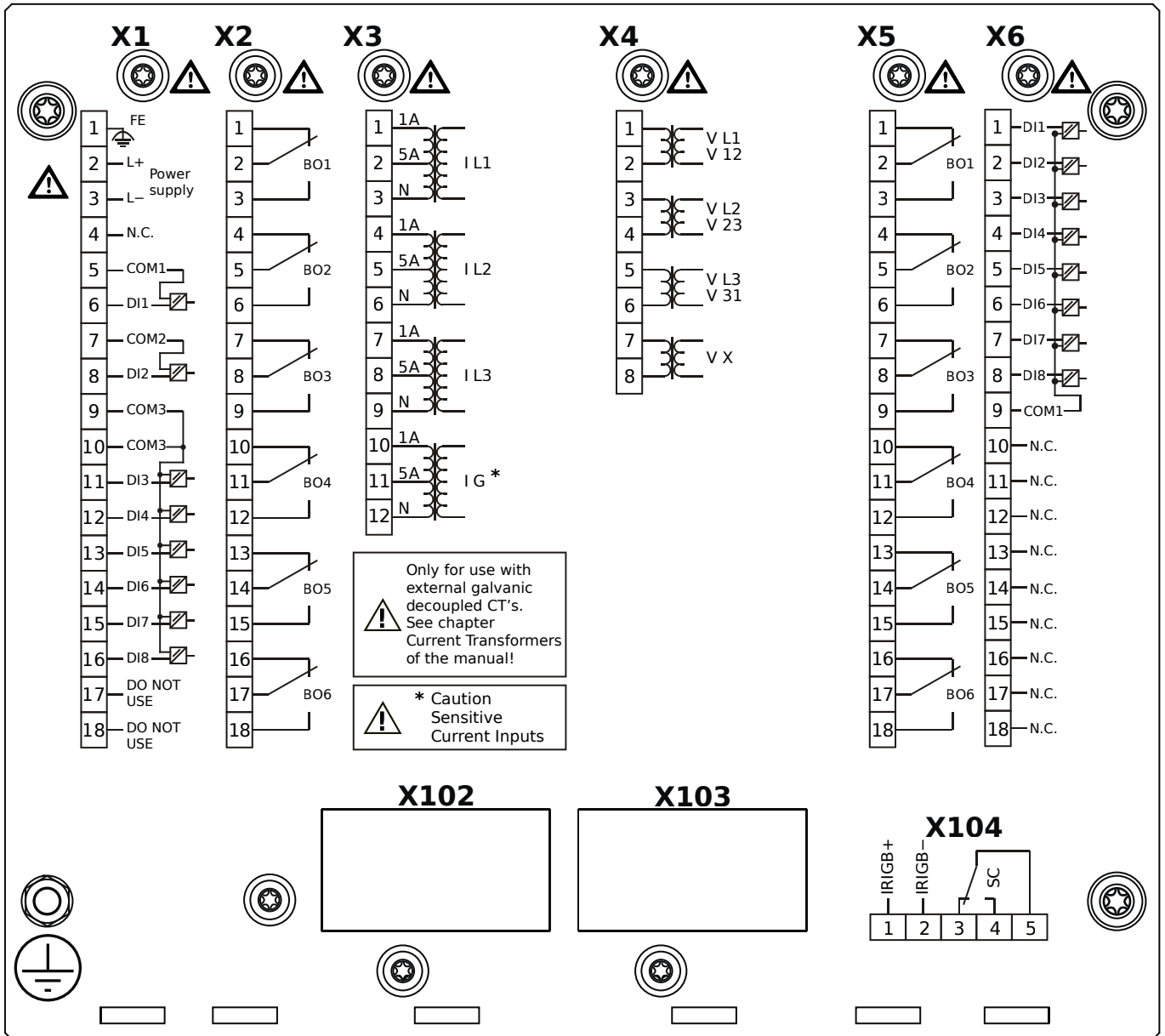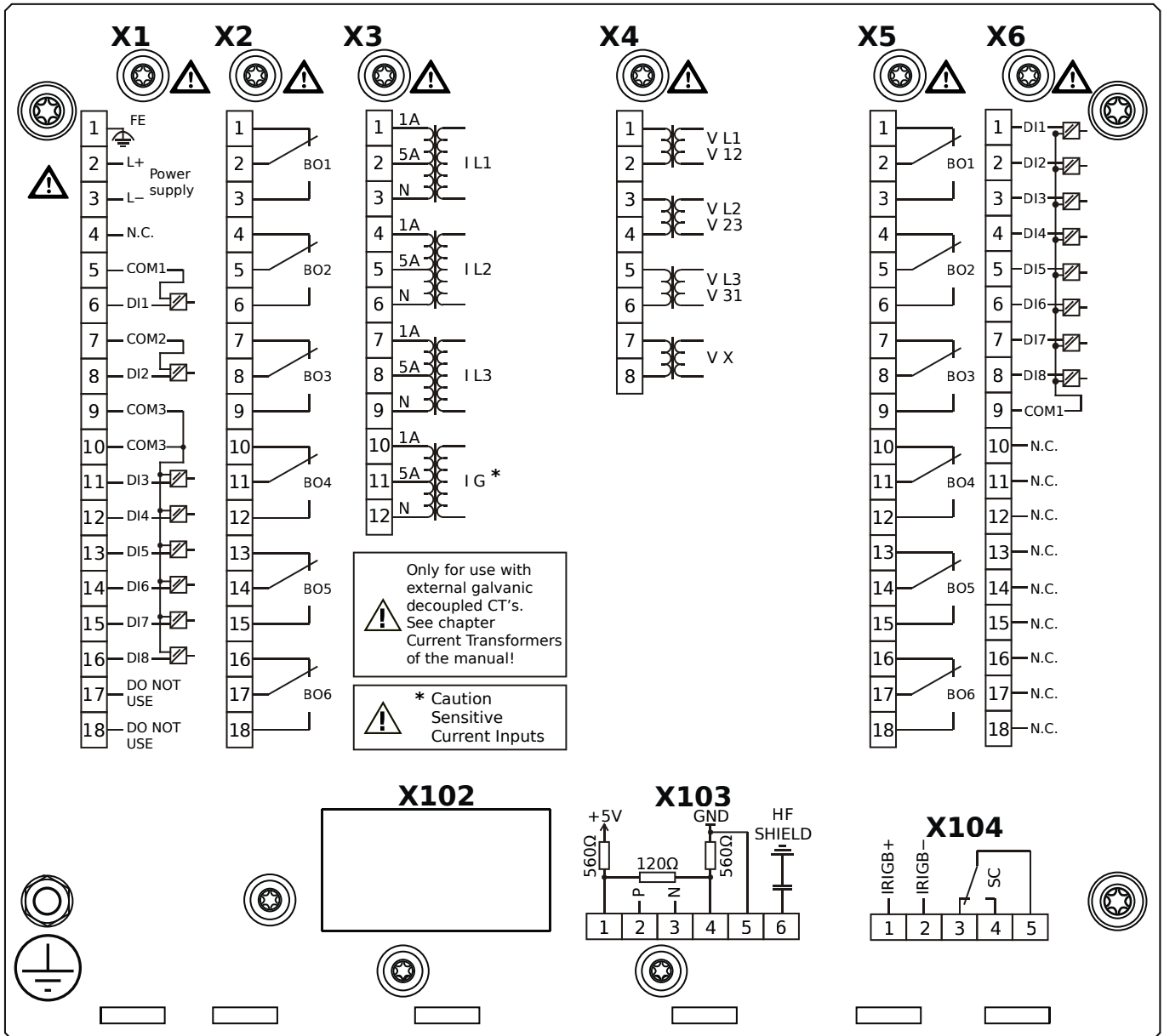**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AAA

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A	I L1
3	N
4	1A
5	5A	I L2
6	N
7	1A
8	5A	I L3
9	N
10	1A
11	5A	I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
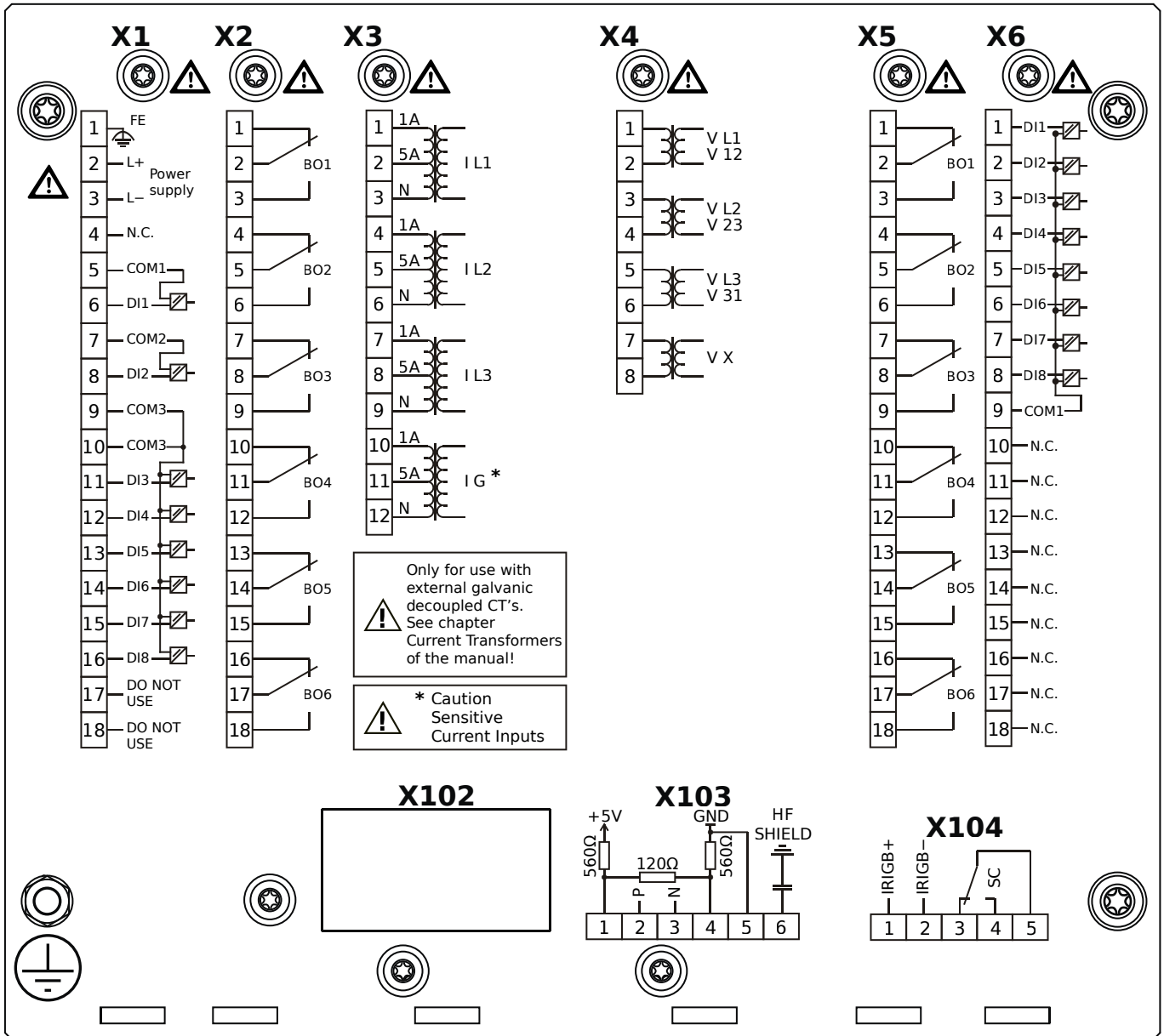**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AAB

X1

1	FE ⏚	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

X104

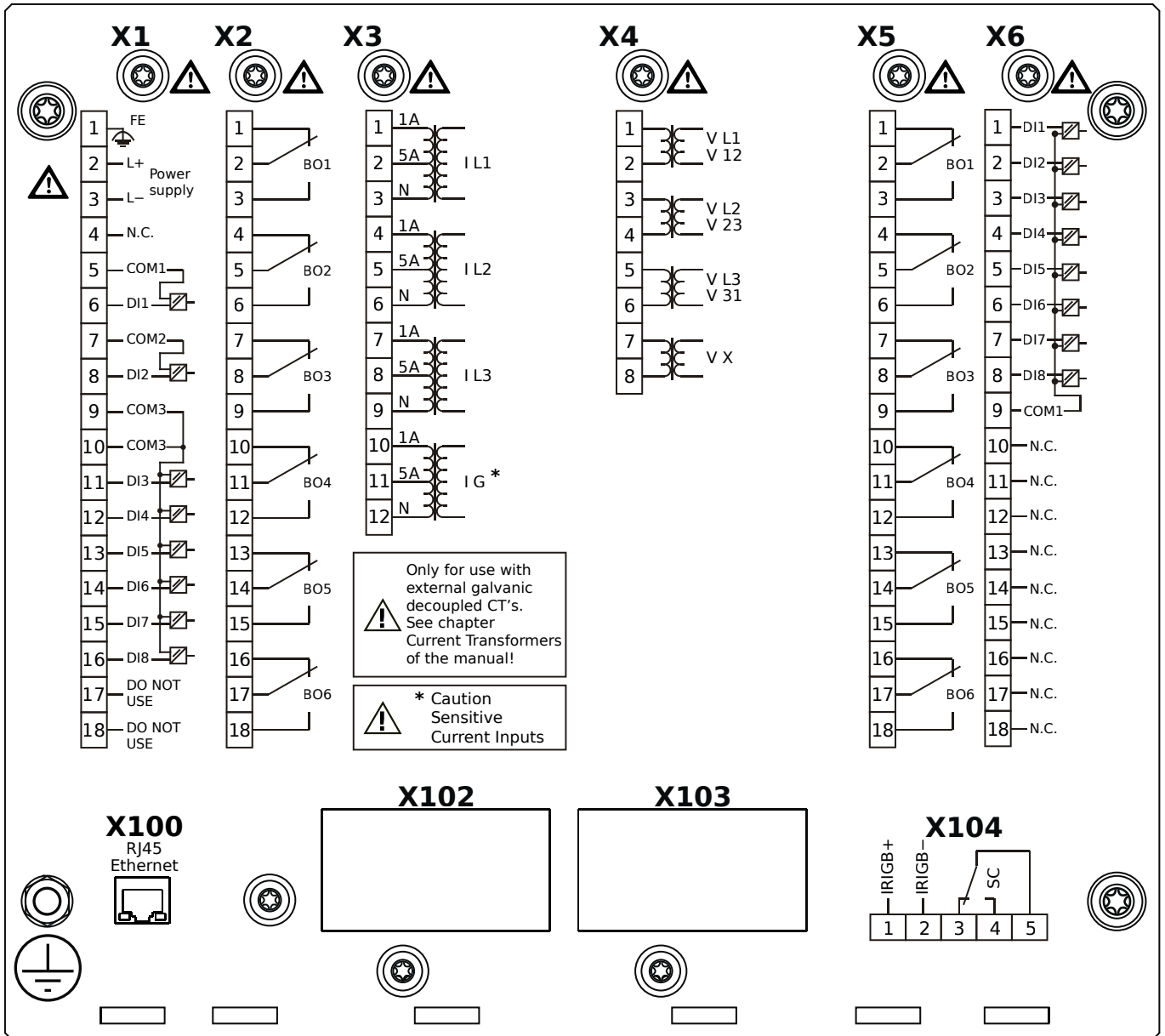| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ABA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

> Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103

+5V		GND		HF SHIELD	
560Ω		120Ω	560Ω		
	P	N			
1	2	3	4	5	6

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ABB

Wiring Diagram Labels

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X102

X103
+5V 560Ω 120Ω P N 560Ω GND HF SHIELD
| 1 | 2 | 3 | 4 | 5 | 6 |

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
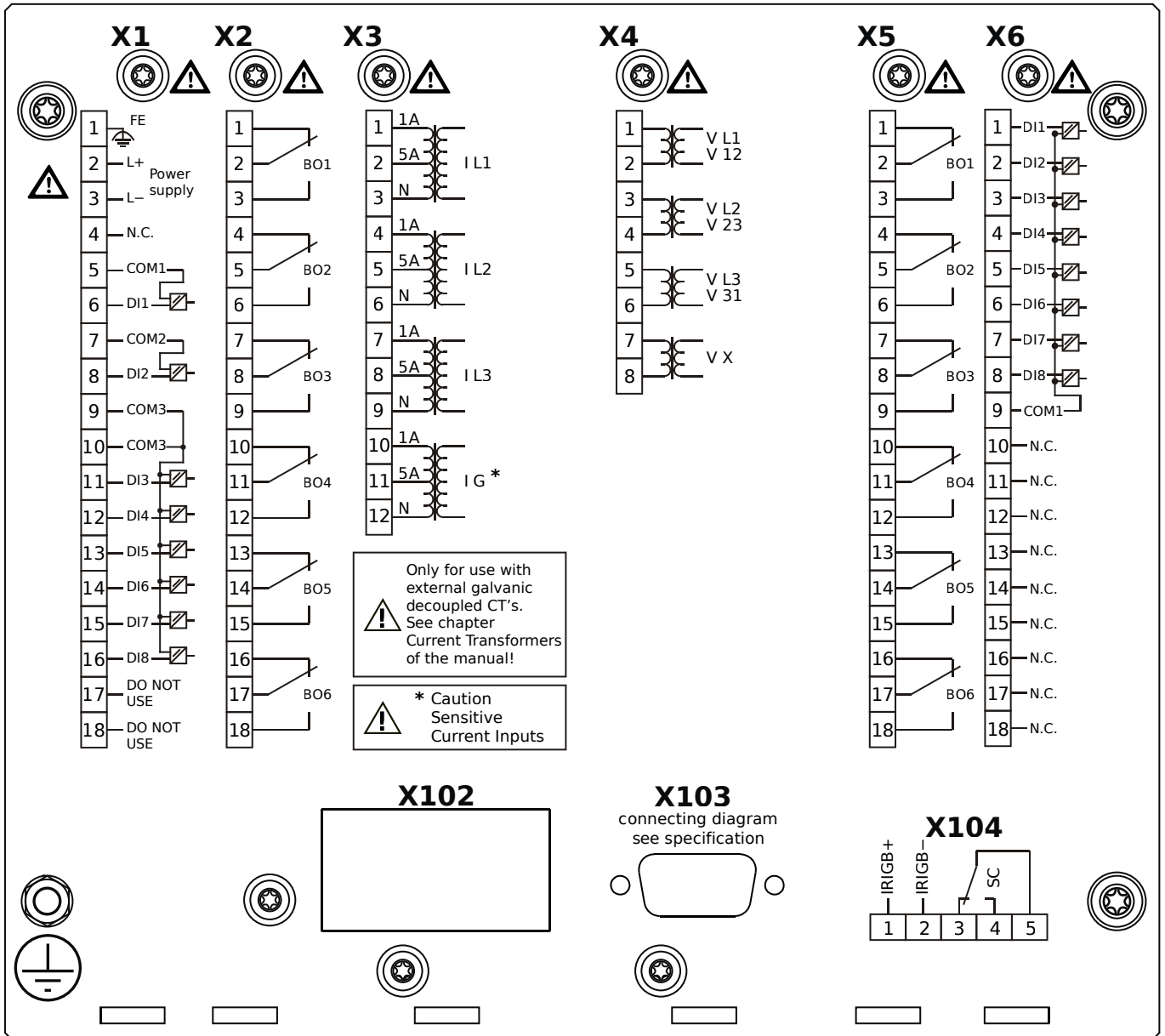**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ACA

X1
1 — FE ⏚
2 — L+ — Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3
1 — 1A
2 — 5A — I L1
3 — N
4 — 1A
5 — 5A — I L2
6 — N
7 — 1A
8 — 5A — I L3
9 — N
10 — 1A
11 — 5A — I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X100
RJ45 Ethernet
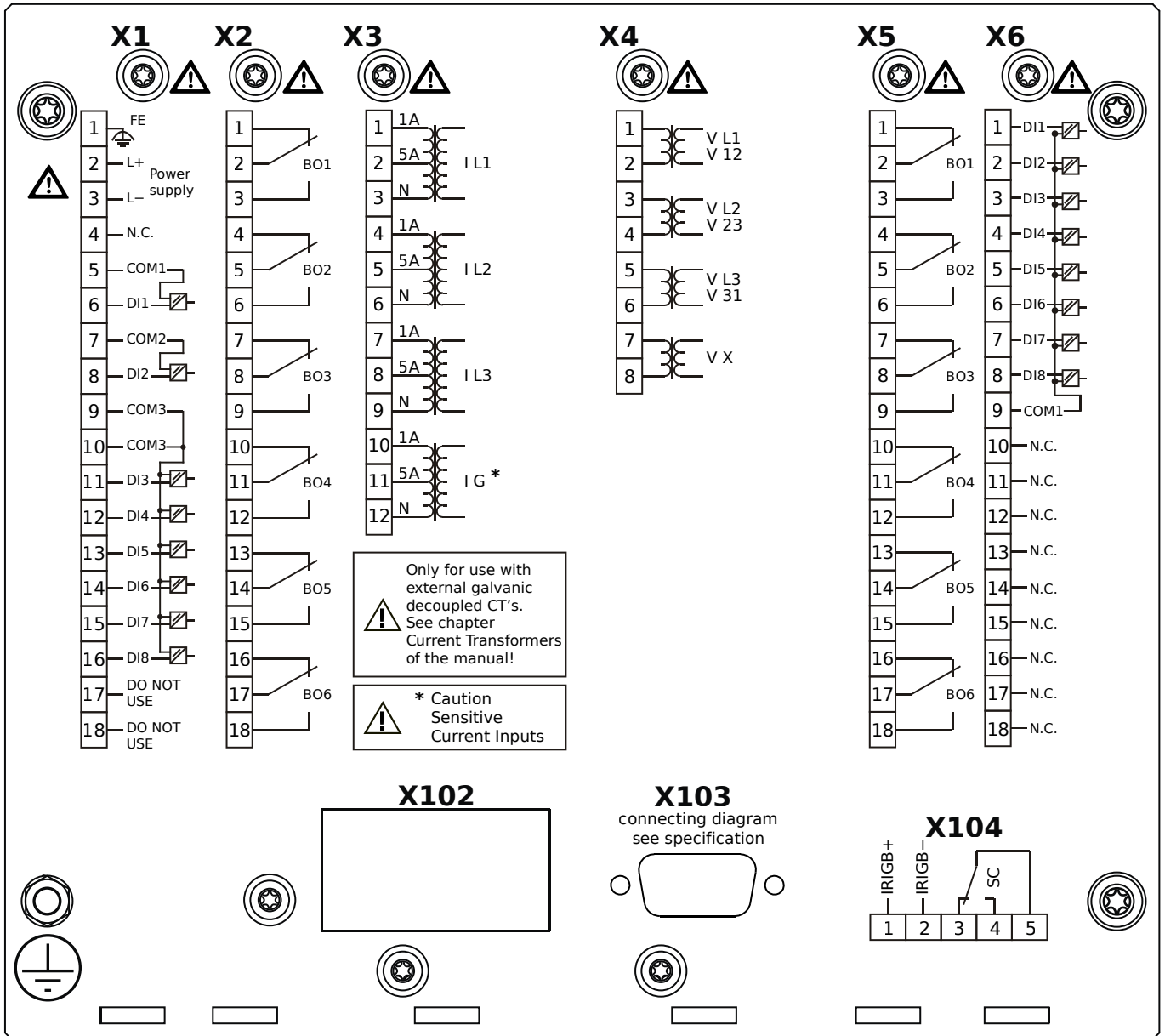
X102

X103

X104
IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
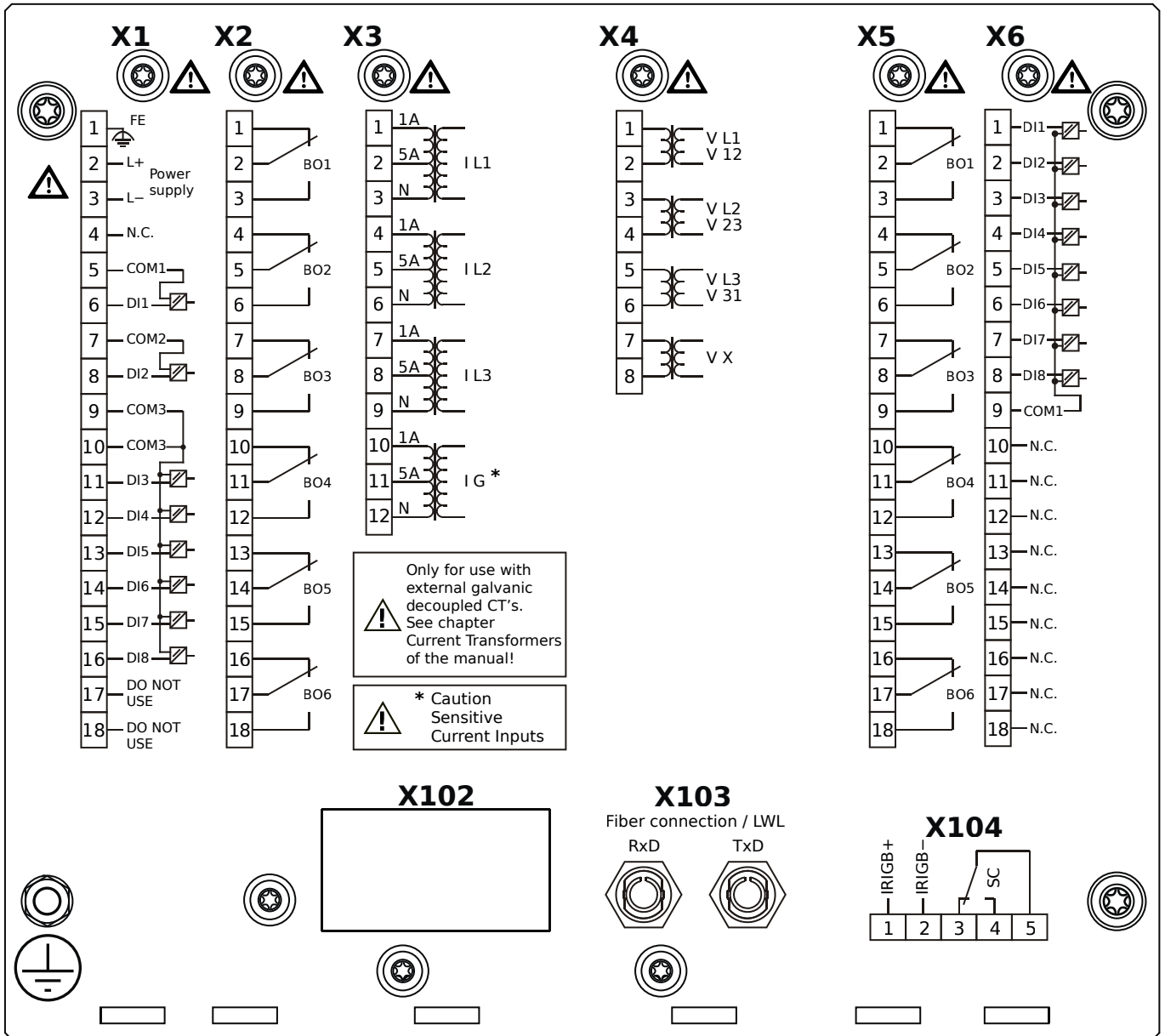**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ACB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ADA

X1
1 FE ⏚
2 L+ ⎫ Power
3 L− ⎬ supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎫ I L1
3 N
4 1A
5 5A ⎫ I L2
6 N
7 1A
8 5A ⎫ I L3
9 N
10 1A
11 5A ⎫ I G *
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1 ⎫ V L1
2 ⎬ V 12
3 ⎫ V L2
4 ⎬ V 23
5 ⎫ V L3
6 ⎬ V 31
7 ⎫ V X
8

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103
Fiber connection / LWL
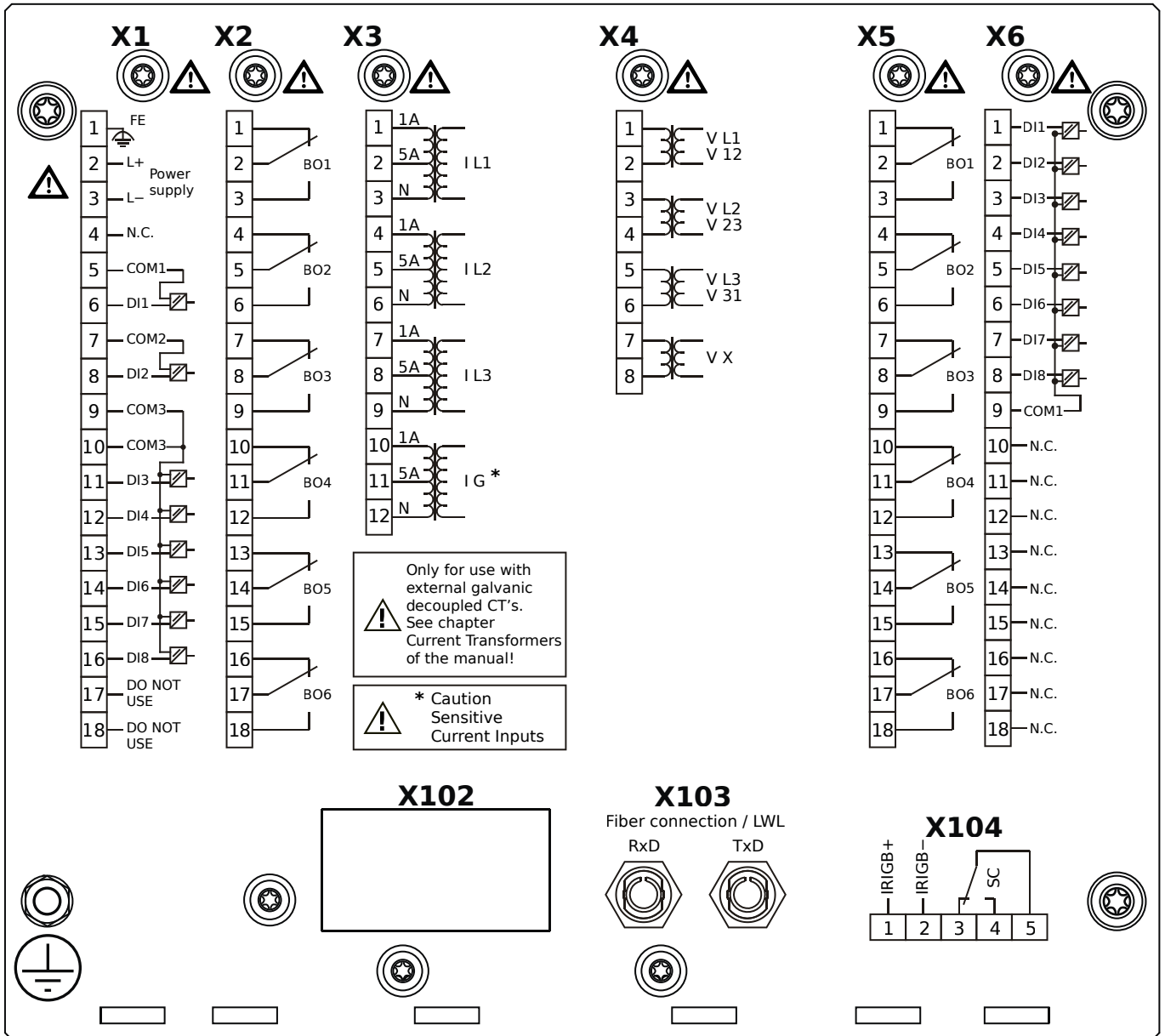RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ADB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104

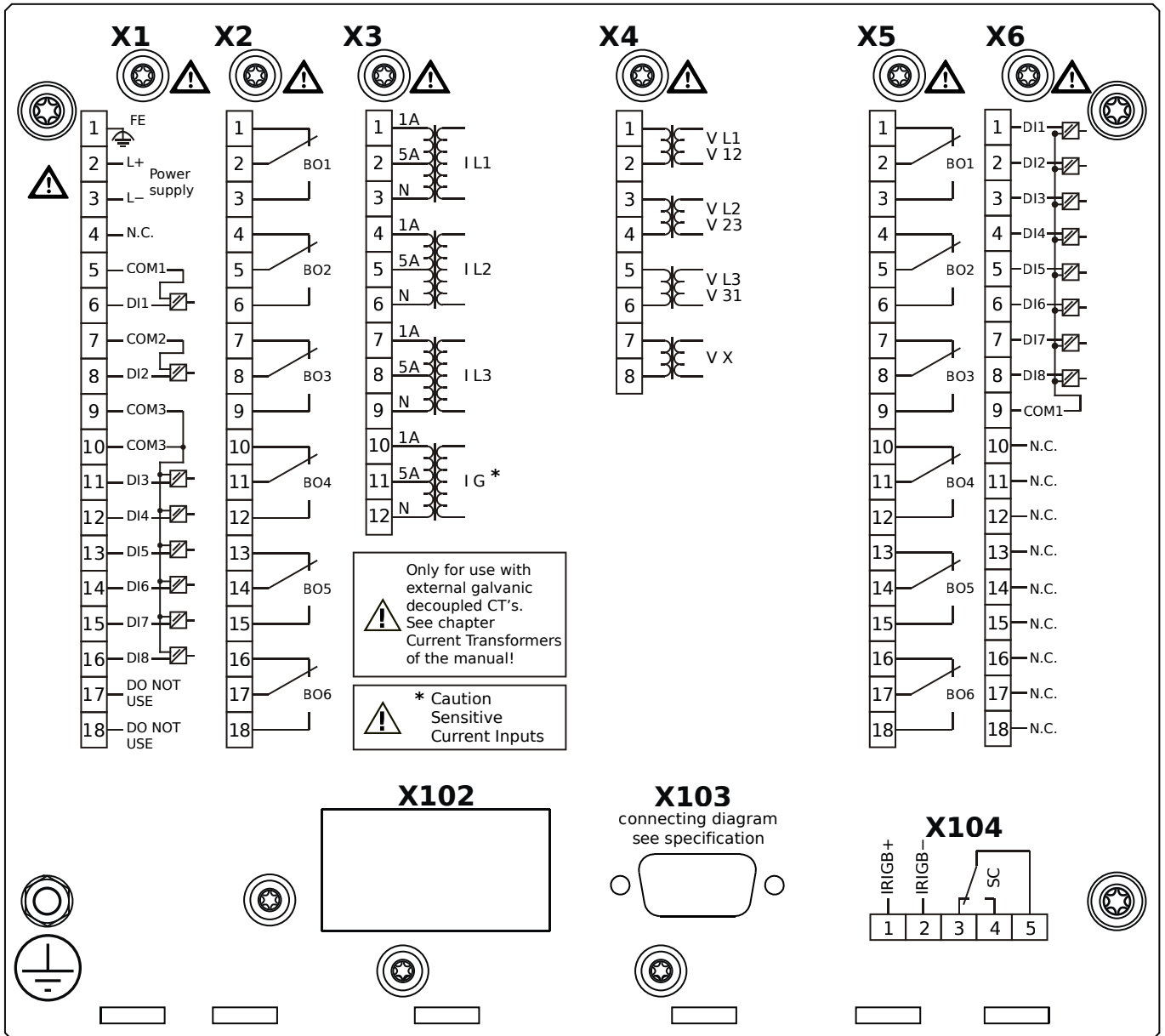| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
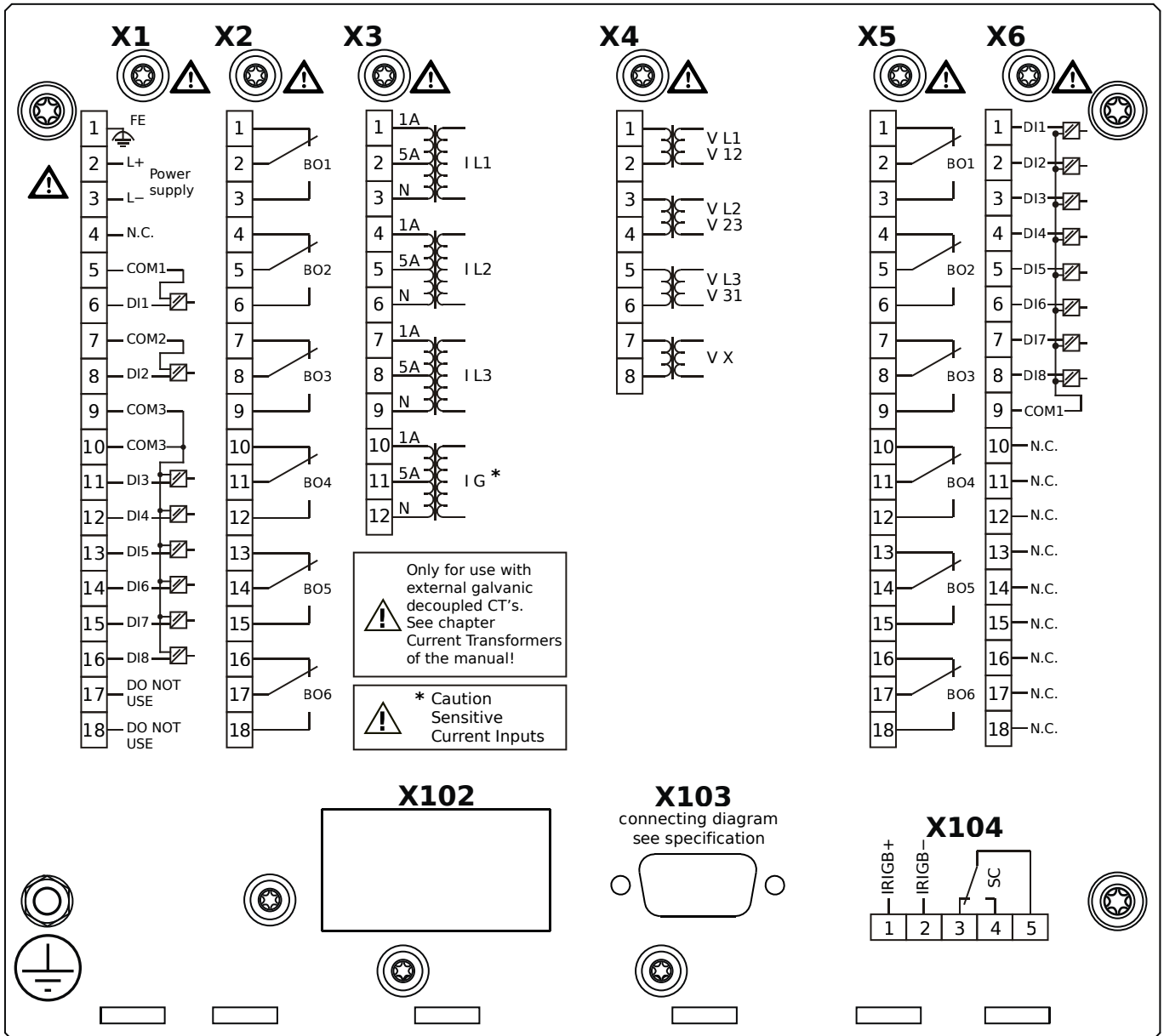**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AEA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AEB

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104

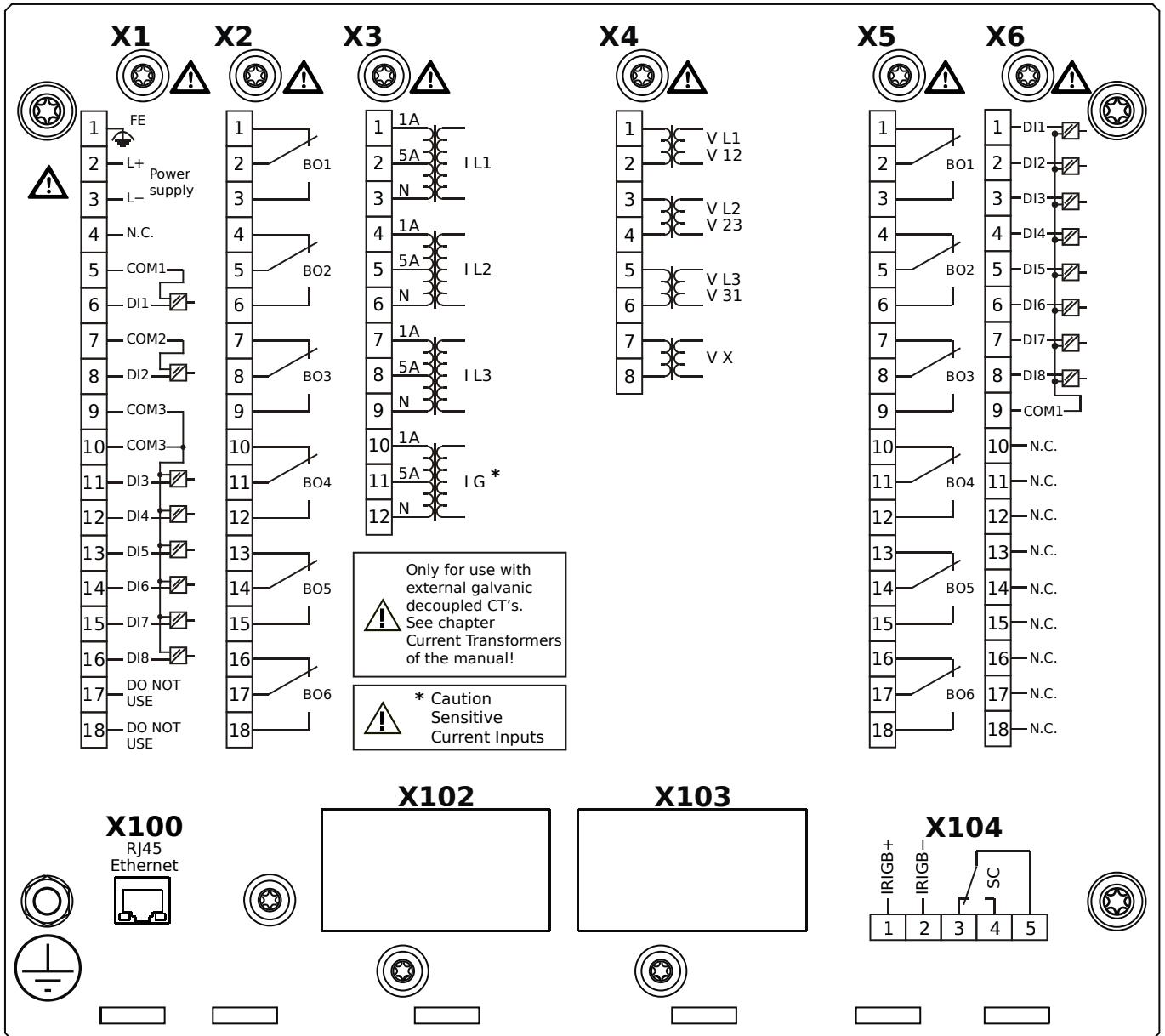| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AFA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
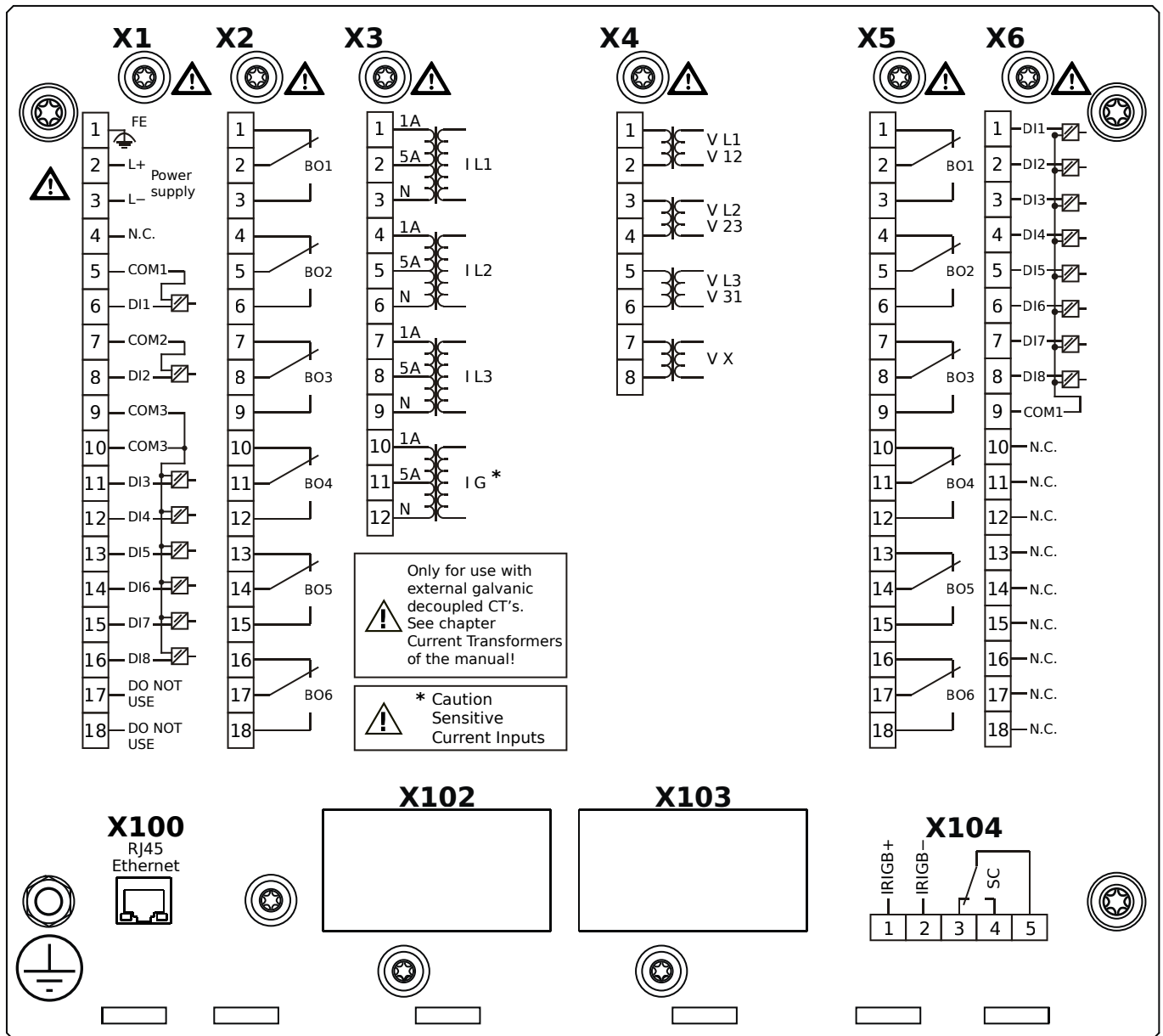RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
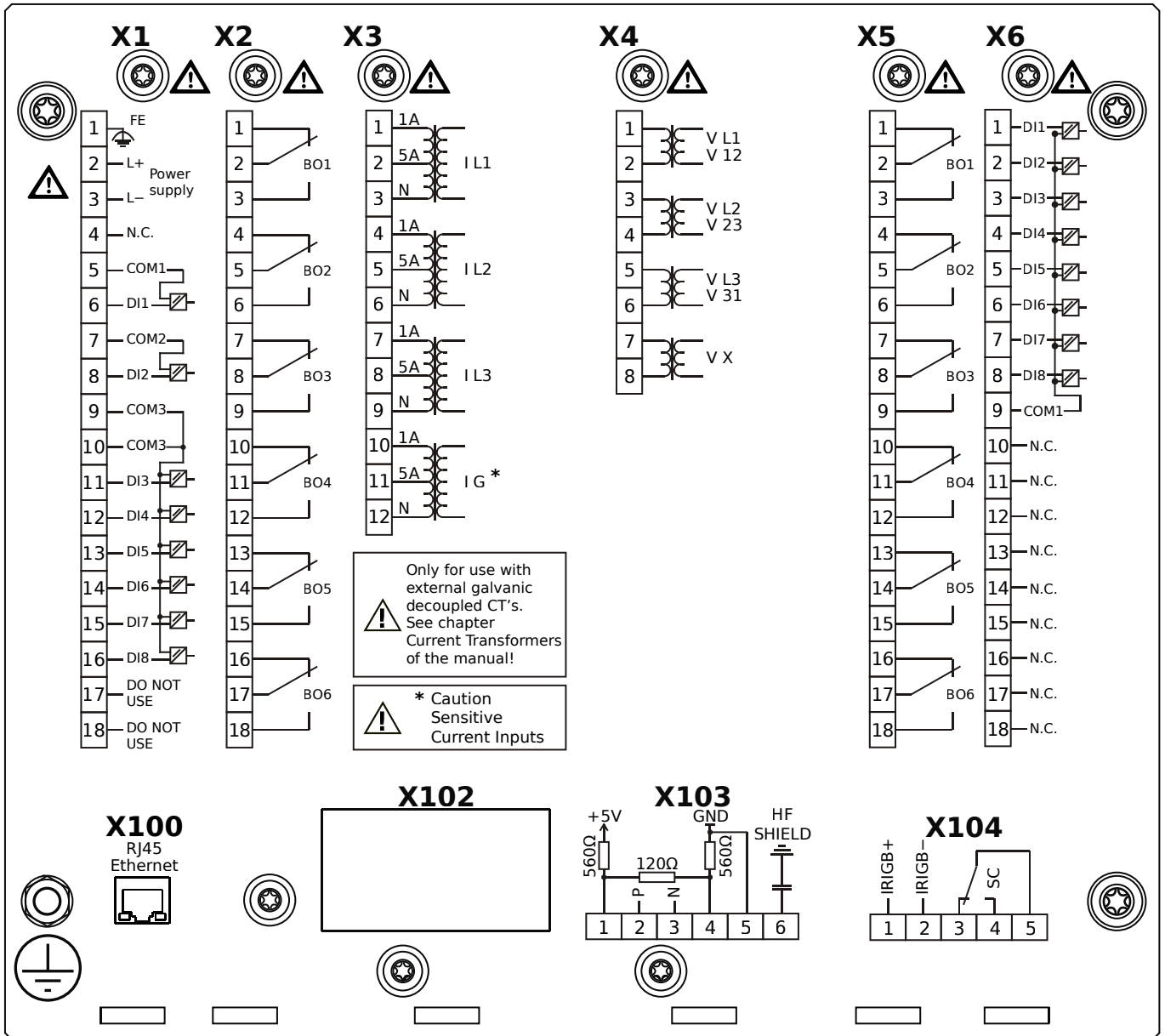**X5** – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AFB

X1
- 1 FE ⏚
- 2 L+ Power supply
- 3 L−
- 4 N.C.
- 5 COM1
- 6 DI1
- 7 COM2
- 8 DI2
- 9 COM3
- 10 COM3
- 11 DI3
- 12 DI4
- 13 DI5
- 14 DI6
- 15 DI7
- 16 DI8
- 17 DO NOT USE
- 18 DO NOT USE

X2
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X3
- 1 1A
- 2 5A I L1
- 3 N
- 4 1A
- 5 5A I L2
- 6 N
- 7 1A
- 8 5A I L3
- 9 N
- 10 1A
- 11 5A I G *
- 12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
- 1 V L1
- 2 V 12
- 3 V L2
- 4 V 23
- 5 V L3
- 6 V 31
- 7 V X
- 8

X5
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X6
- 1 DI1
- 2 DI2
- 3 DI3
- 4 DI4
- 5 DI5
- 6 DI6
- 7 DI7
- 8 DI8
- 9 COM1
- 10 N.C.
- 11 N.C.
- 12 N.C.
- 13 N.C.
- 14 N.C.
- 15 N.C.
- 16 N.C.
- 17 N.C.
- 18 N.C.

X102

X103
Fiber connection / LWL
RxD TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AGA

X1
1	FE ⏚
2	L+
3	L−
	Power supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AGB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X5 – OR6: Assembly Group with 6 Output Relays

X6 – DI8: Assembly Group with 8 Digital Inputs

X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB

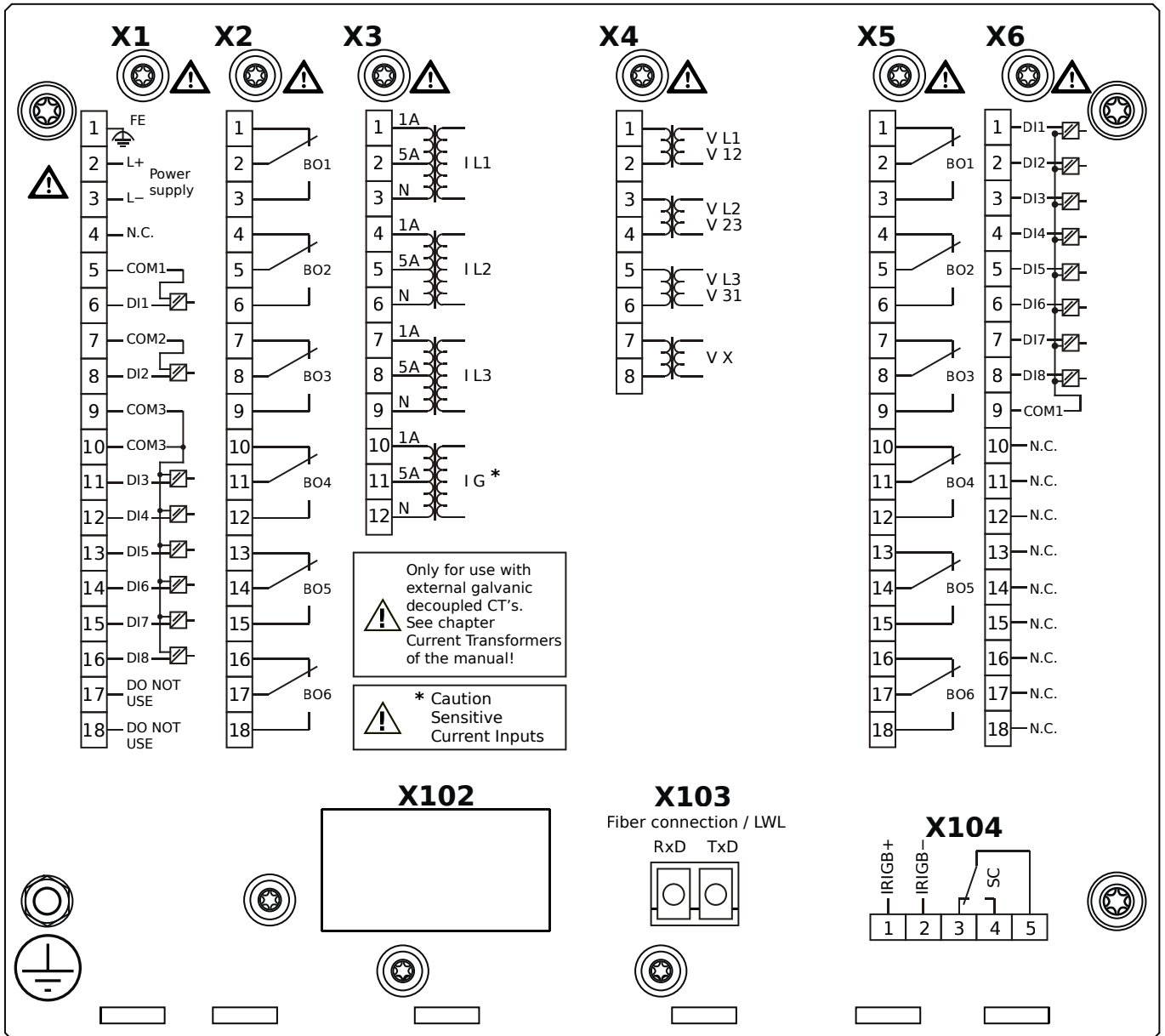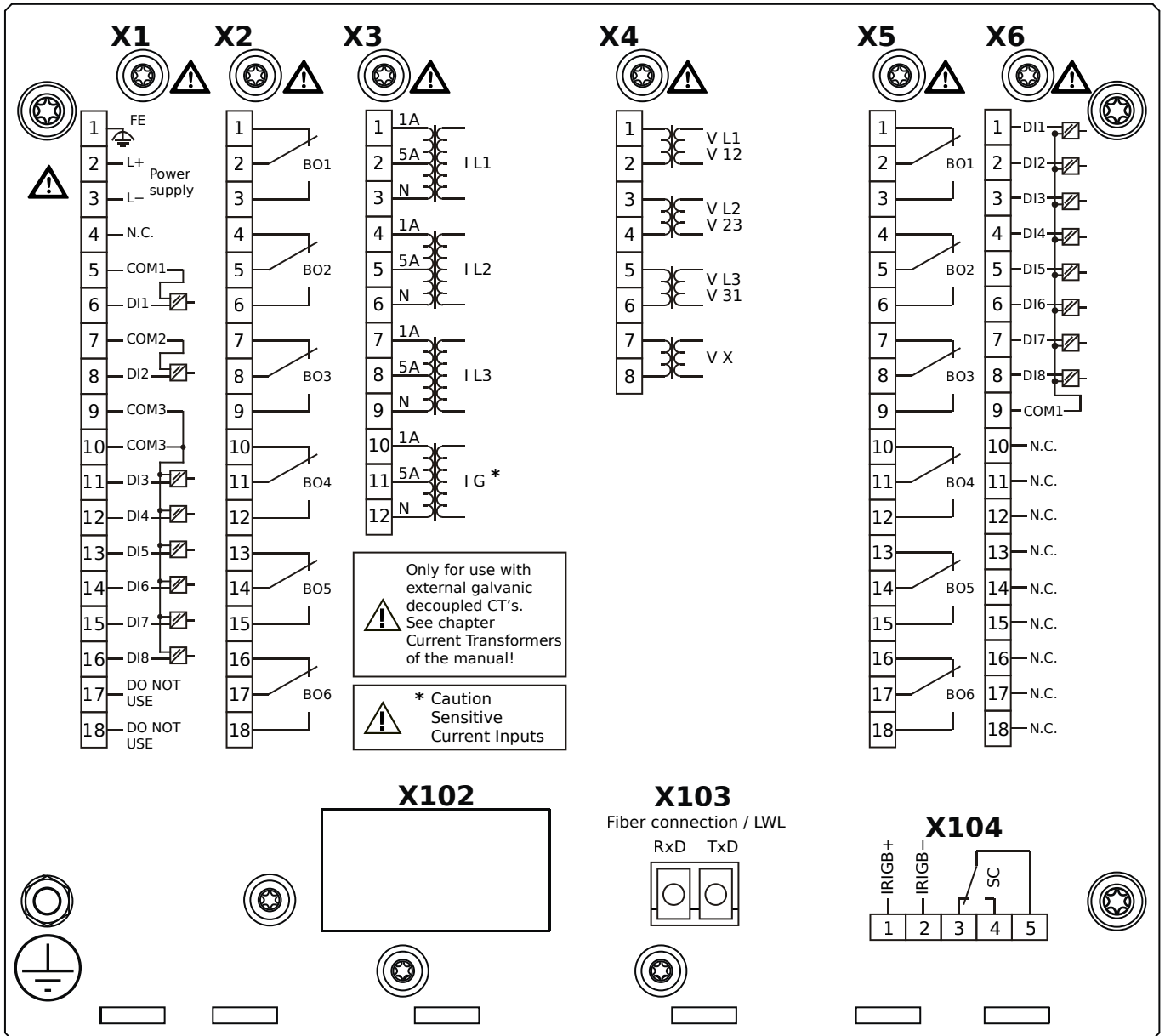**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AHA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AHB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
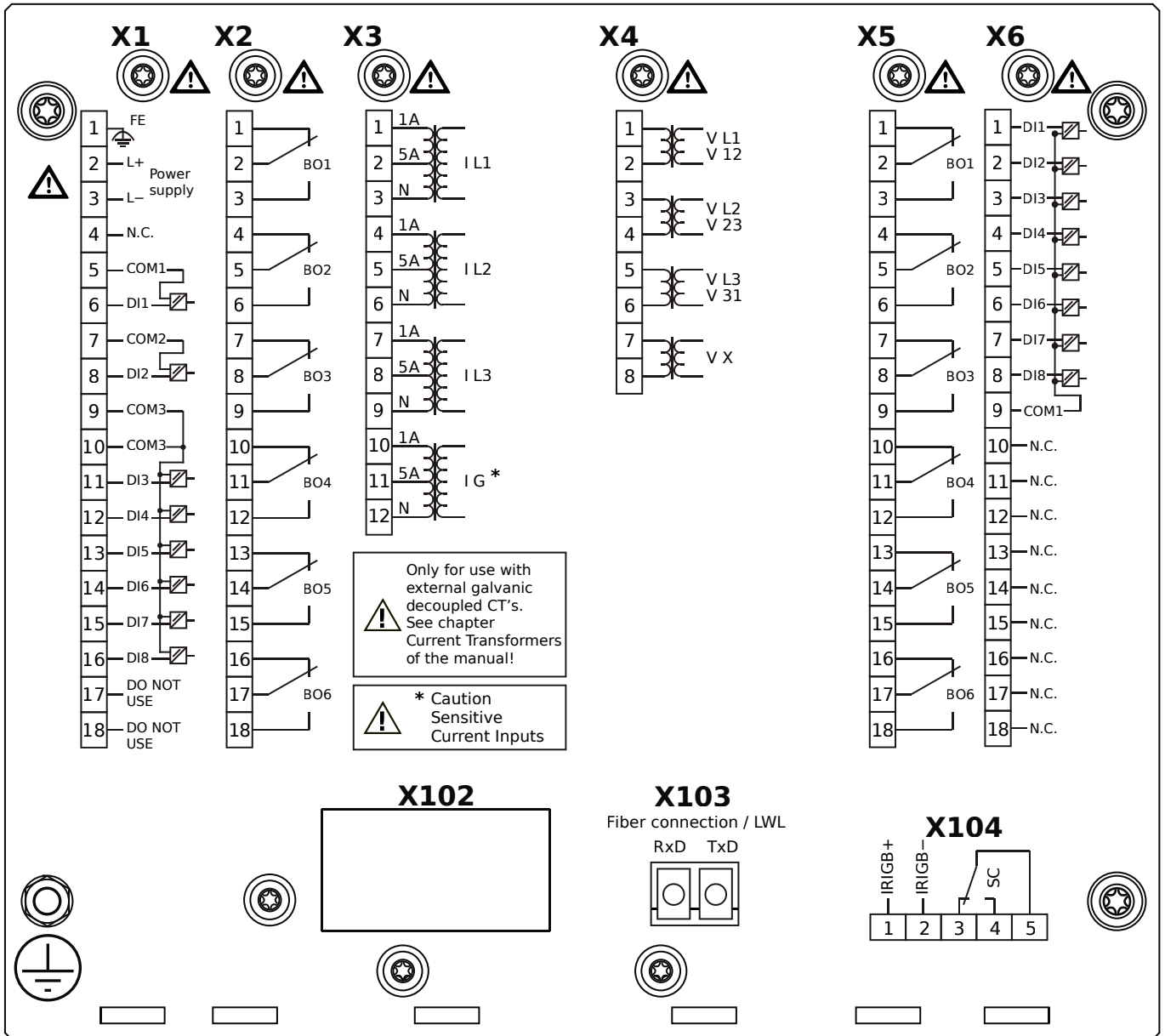
MRA4-2D1AIA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
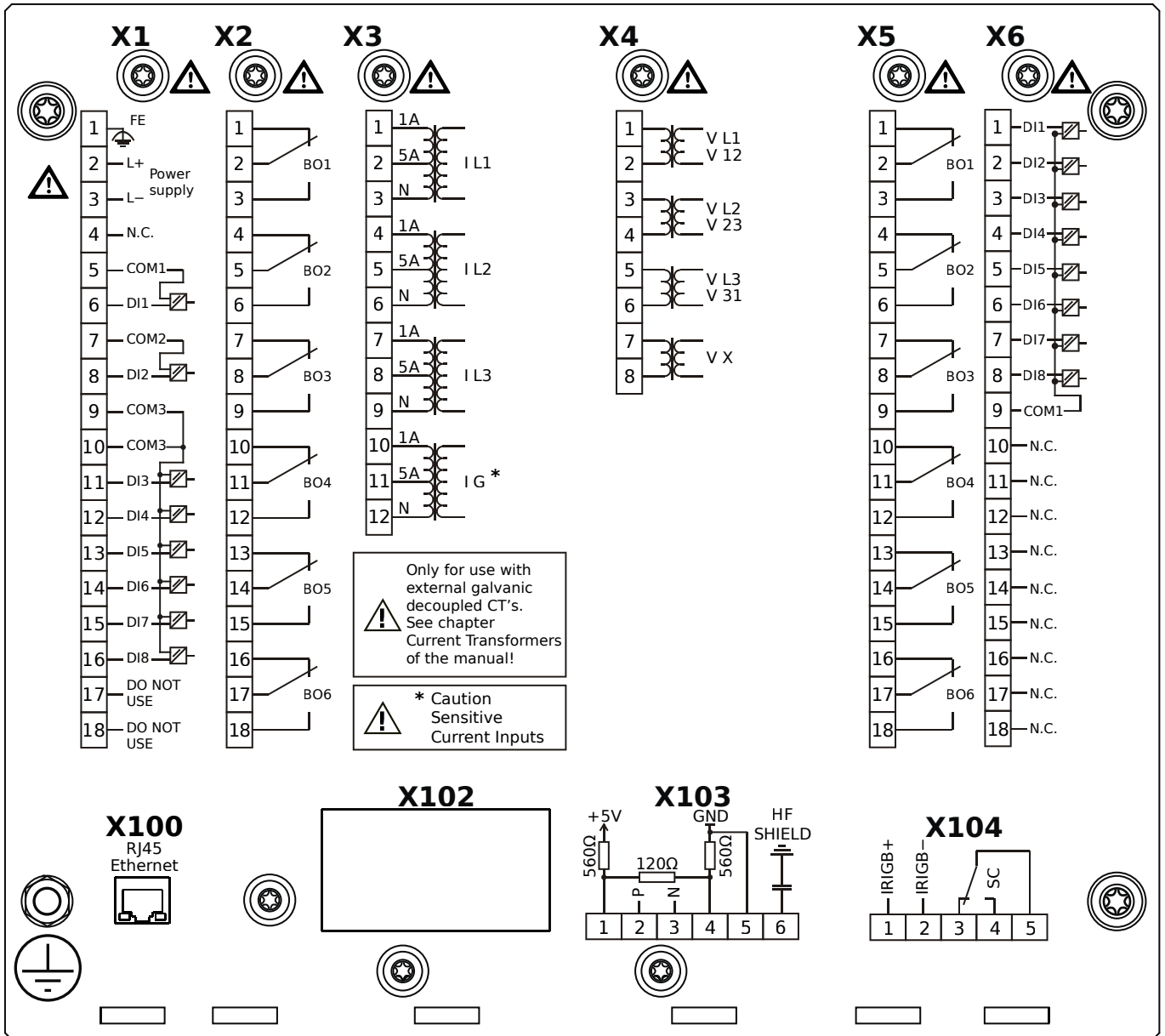**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AIB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2   – OR6: Assembly Group with 6 Output Relays

X3   – TIs: Standard phase current measuring card and sensitive ground current measuring

X4   – TU: Card with 4 voltage transformer measuring inputs

X5   – OR6: Assembly Group with 6 Output Relays

X6   – DI8: Assembly Group with 8 Digital Inputs

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AKA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1AKB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ALA

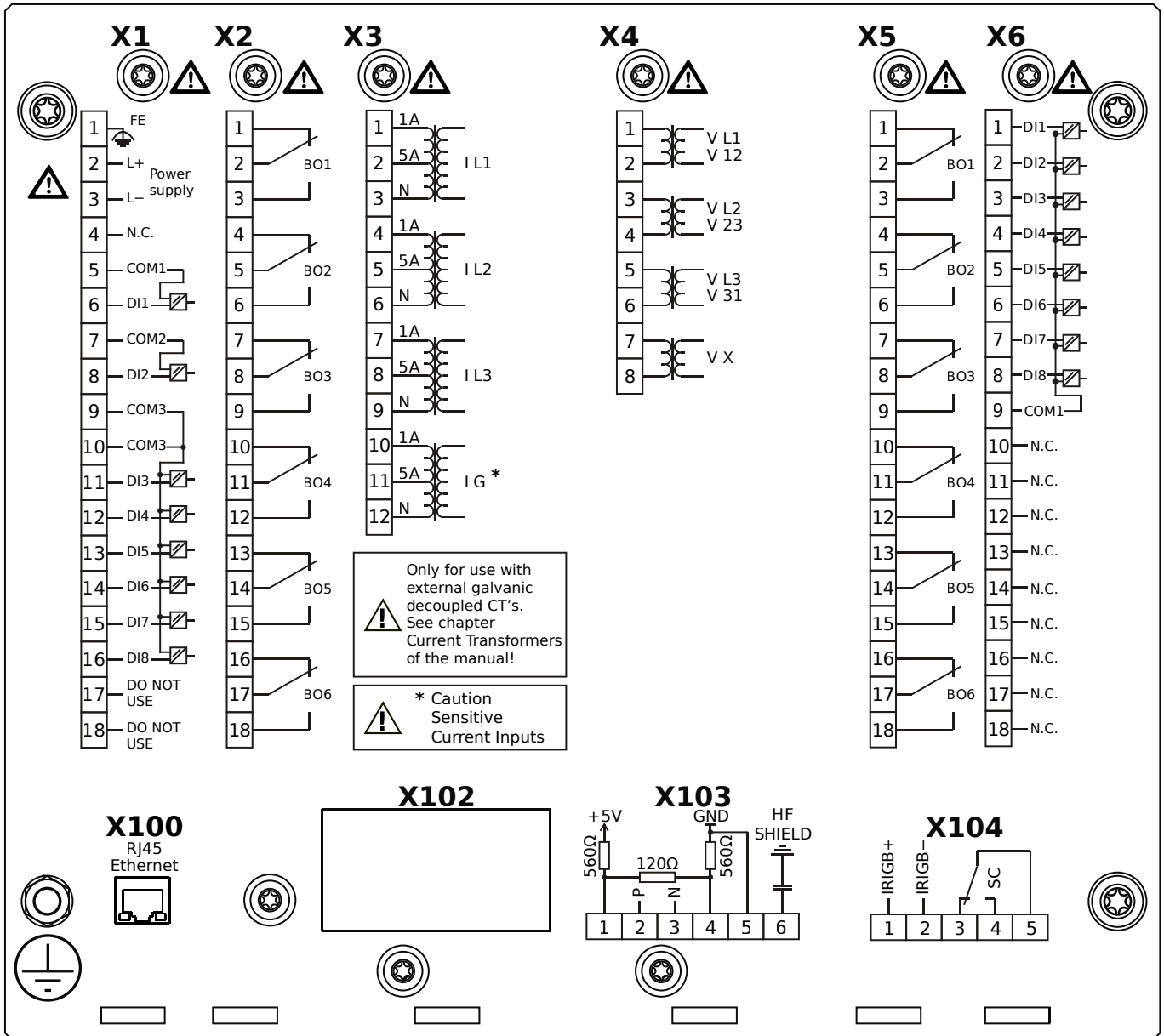## X1

1	FE ⏚	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
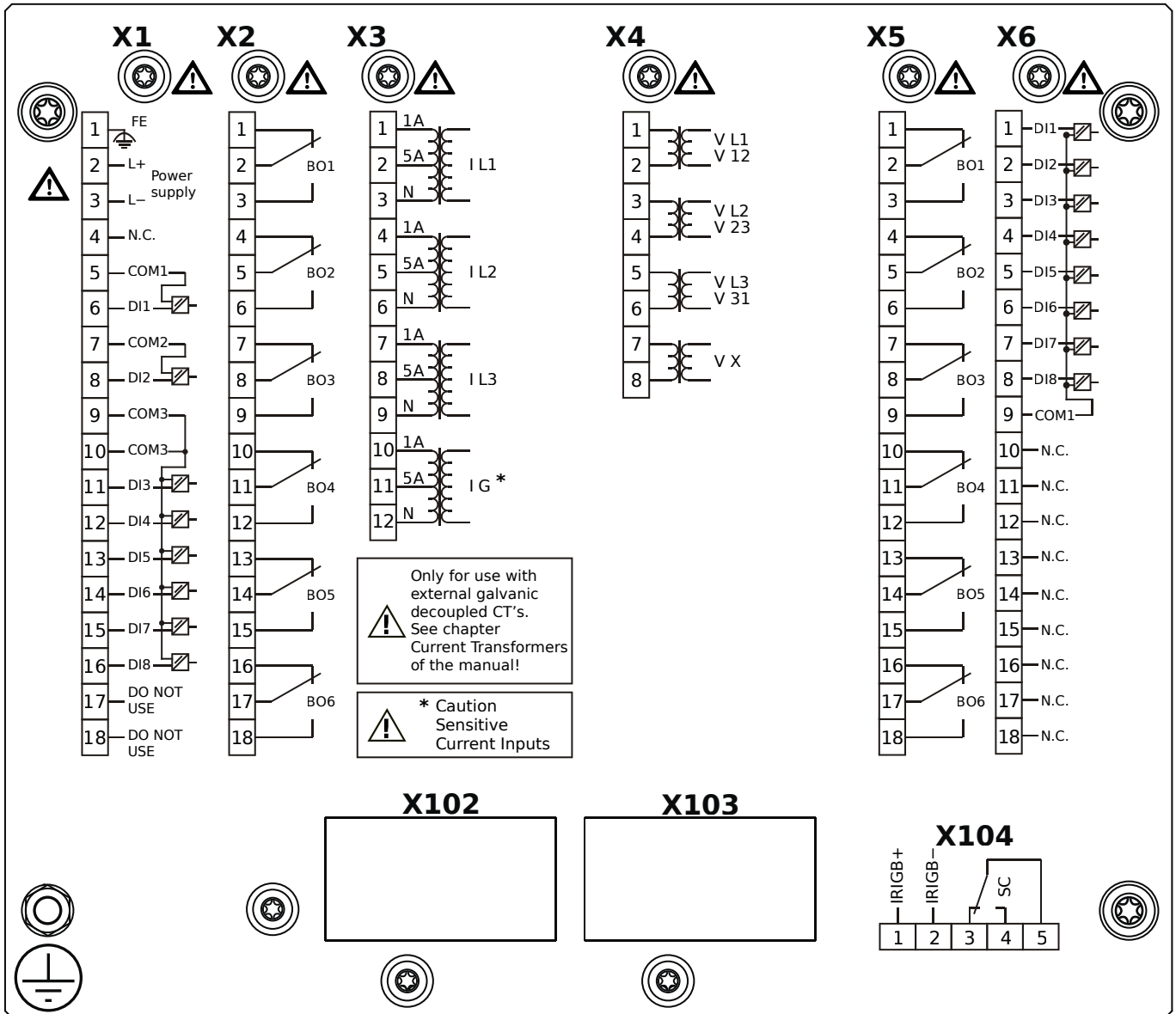**X5** – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ALB

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
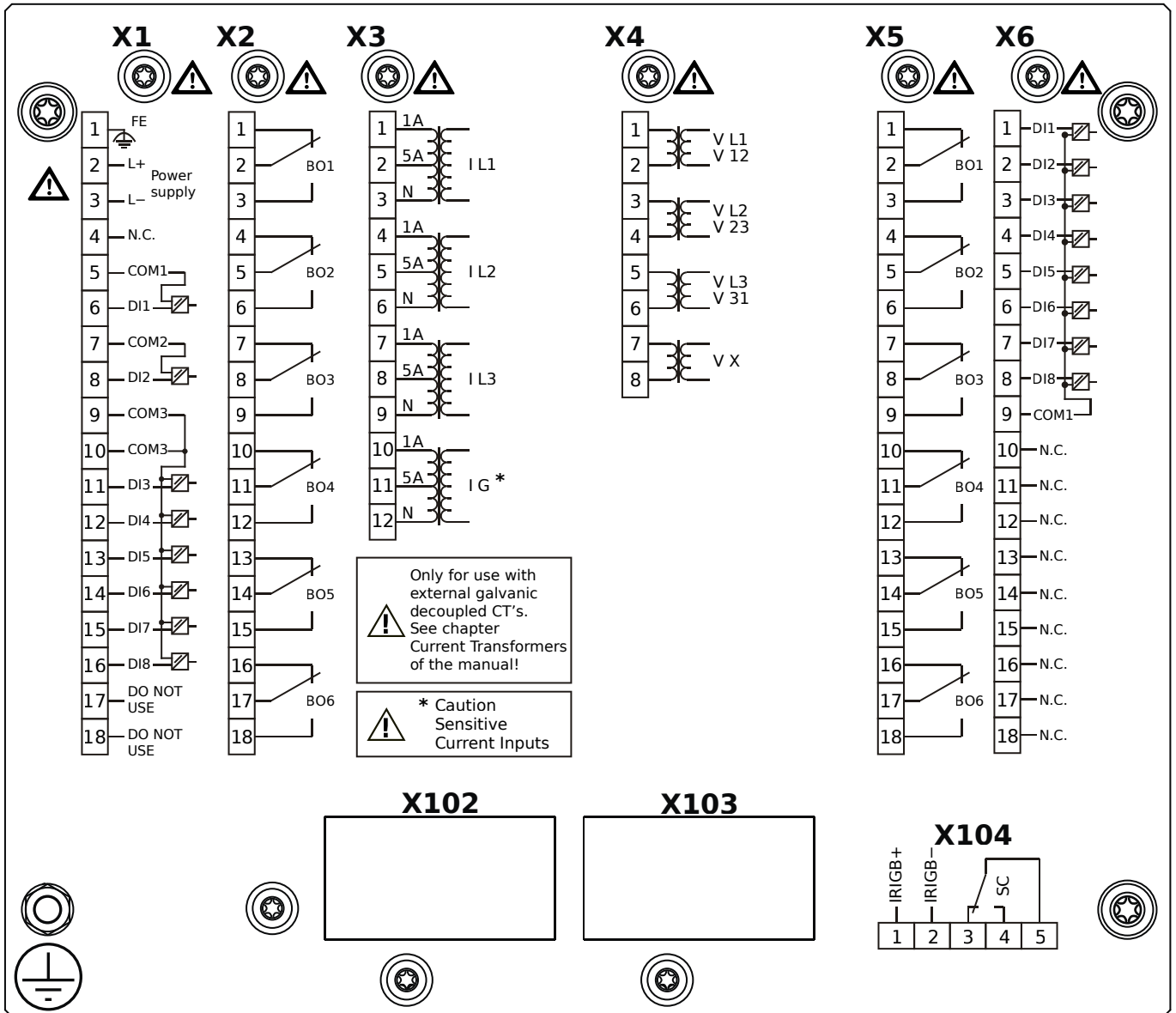
MRA4-2D1ATA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1ATB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
1	2 (P)	3 (N)	4	5	6

X104

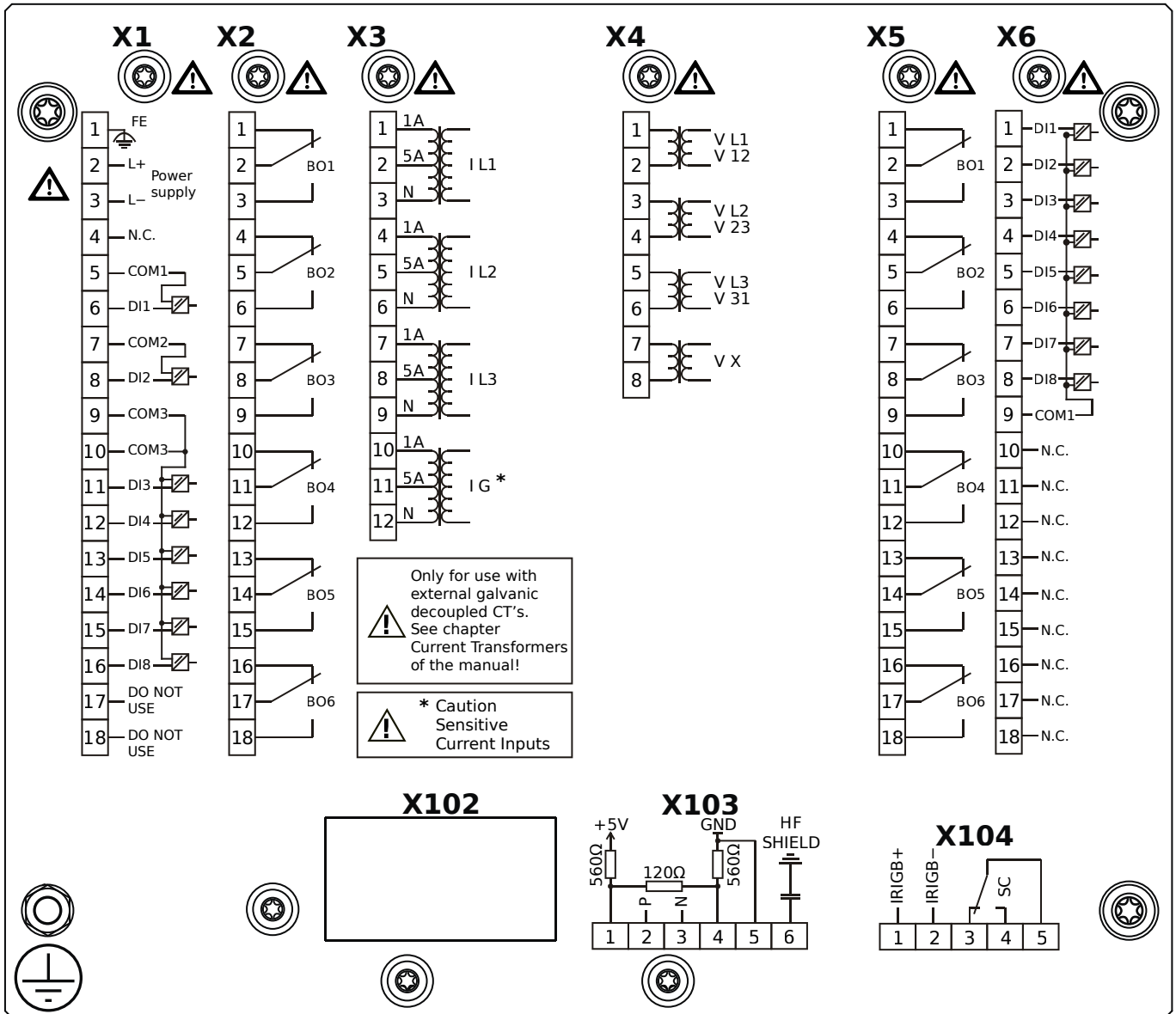| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
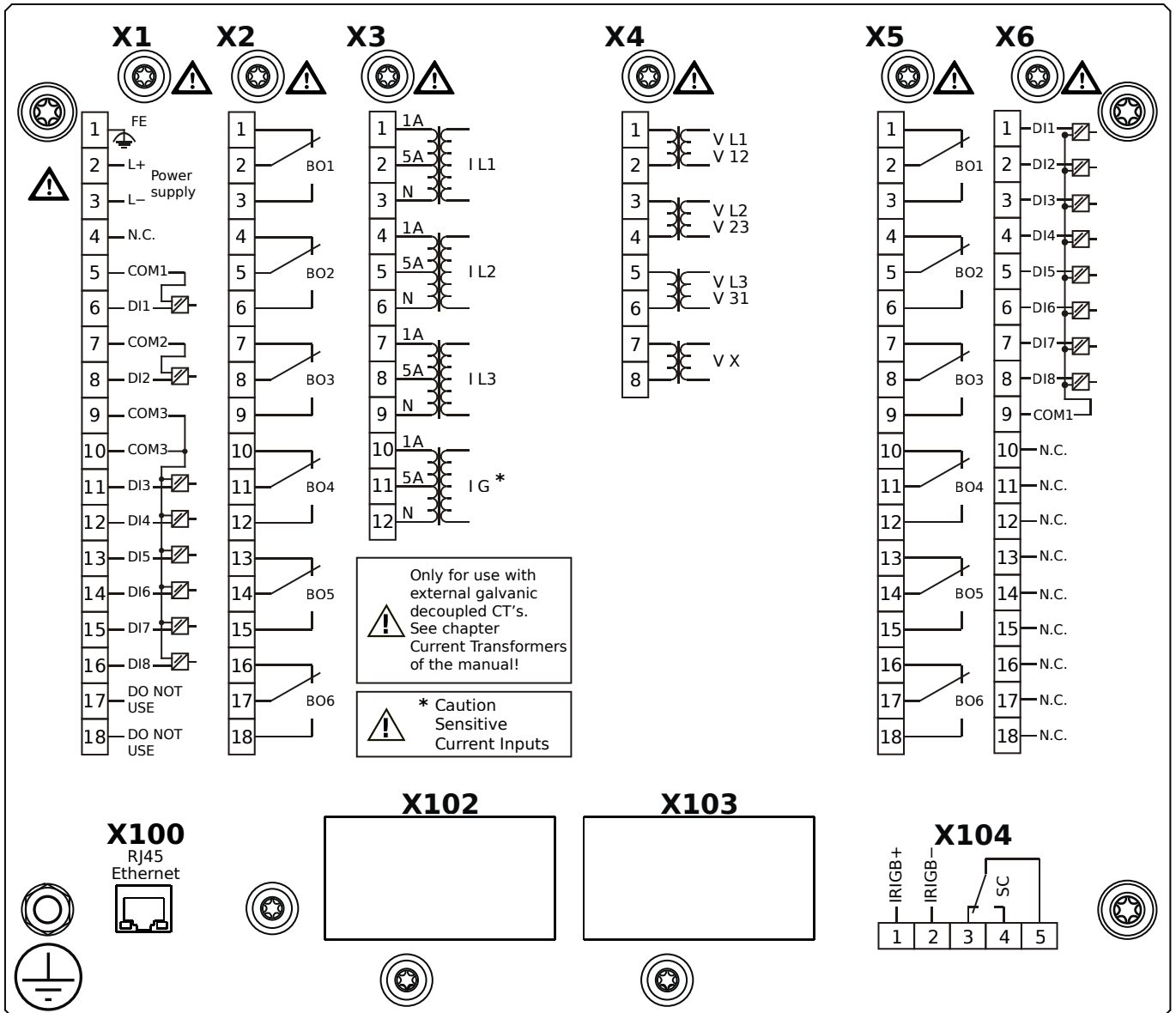**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BAA

X1
1 — FE
2 — L+ Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3
1 — 1A
2 — 5A   I L1
3 — N
4 — 1A
5 — 5A   I L2
6 — N
7 — 1A
8 — 5A   I L3
9 — N
10 — 1A
11 — 5A   I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1
2   V L1 / V 12
3
4   V L2 / V 23
5
6   V L3 / V 31
7
8   V X

X5
1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X102

X103

X104
1 IRIGB+
2 IRIGB−
3
4   SC
5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BAB

X1
1 FE ⏚
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
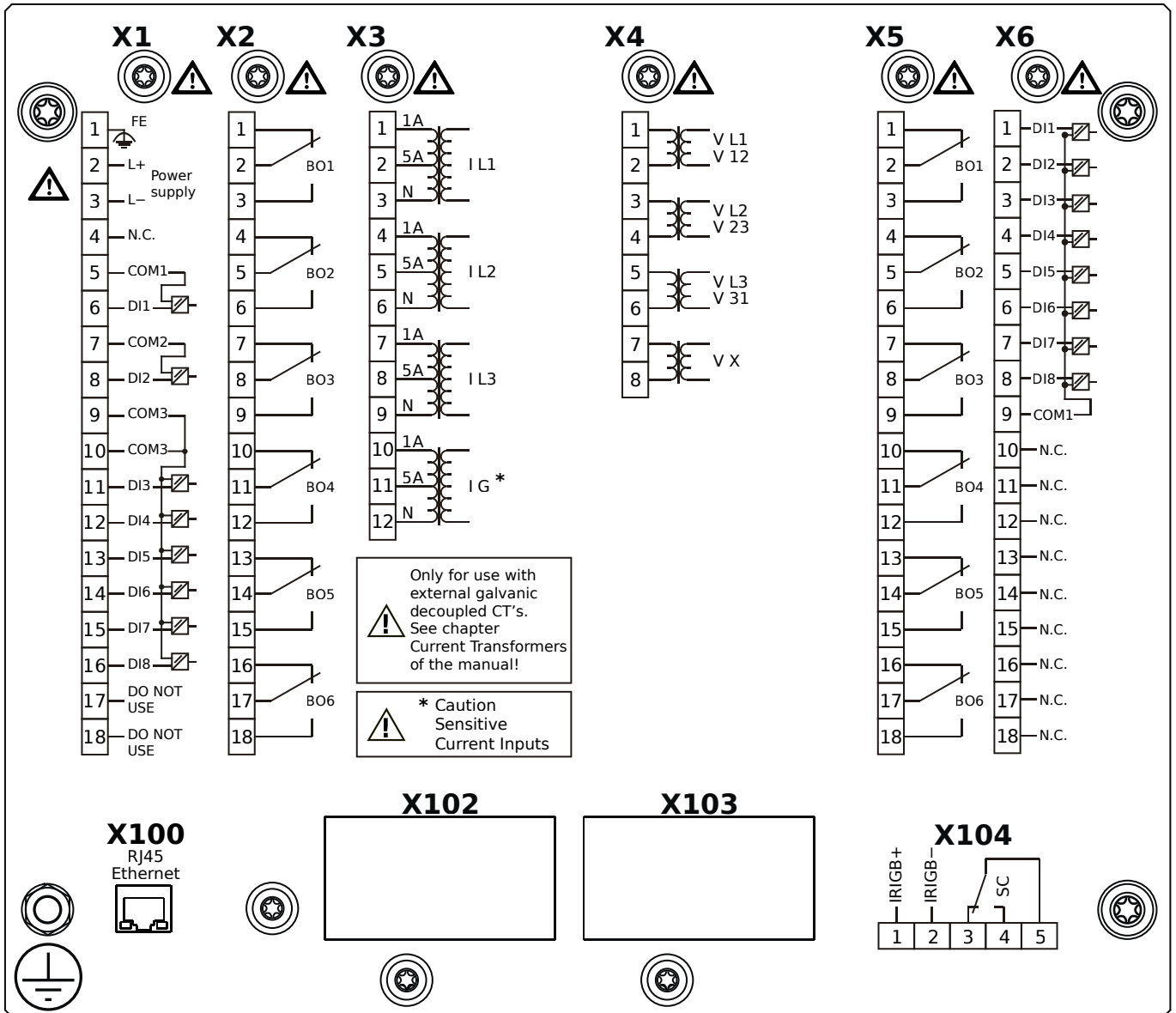
MRA4-2D1BBA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BBB

X1 **X2** **X3** **X4** **X5** **X6**

X1		X2	X3	X4	X5	X6
1	FE	1	1	1A	1	V L1	1	1	DI1
2	L+ Power	2	BO1	2	5A	I L1	2	V 12	2	BO1	2	DI2
3	L− supply	3	3	N	3	3	3	DI3
4	N.C.	4	4	1A	4	V L2	4	4	DI4
5	COM1	5	BO2	5	5A	I L2	5	V 23	5	BO2	5	DI5
6	DI1	6	6	N	6	6	6	DI6
7	COM2	7	7	1A	7	V L3	7	7	DI7
8	DI2	8	BO3	8	5A	I L3	8	V 31	8	BO3	8	DI8
9	COM3	9	9	N			9	9	COM1
10	COM3	10	BO4	10	1A	7	V X	10	BO4	10	N.C.
11	DI3	11	11	5A	I G *	8		11	11	N.C.
12	DI4	12	12	N			12	12	N.C.
13	DI5	13	BO5				13	BO5	13	N.C.
14	DI6	14					14	14	N.C.
15	DI7	15					15	15	N.C.
16	DI8	16	BO6				16	BO6	16	N.C.
17	DO NOT USE	17					17	17	N.C.
18	DO NOT USE	18					18	18	N.C.

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X102

X103

+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

P   N

| 1 | 2 | 3 | 4 | 5 | 6 |

X104

IRIGB+   IRIGB−   SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BCA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

X104

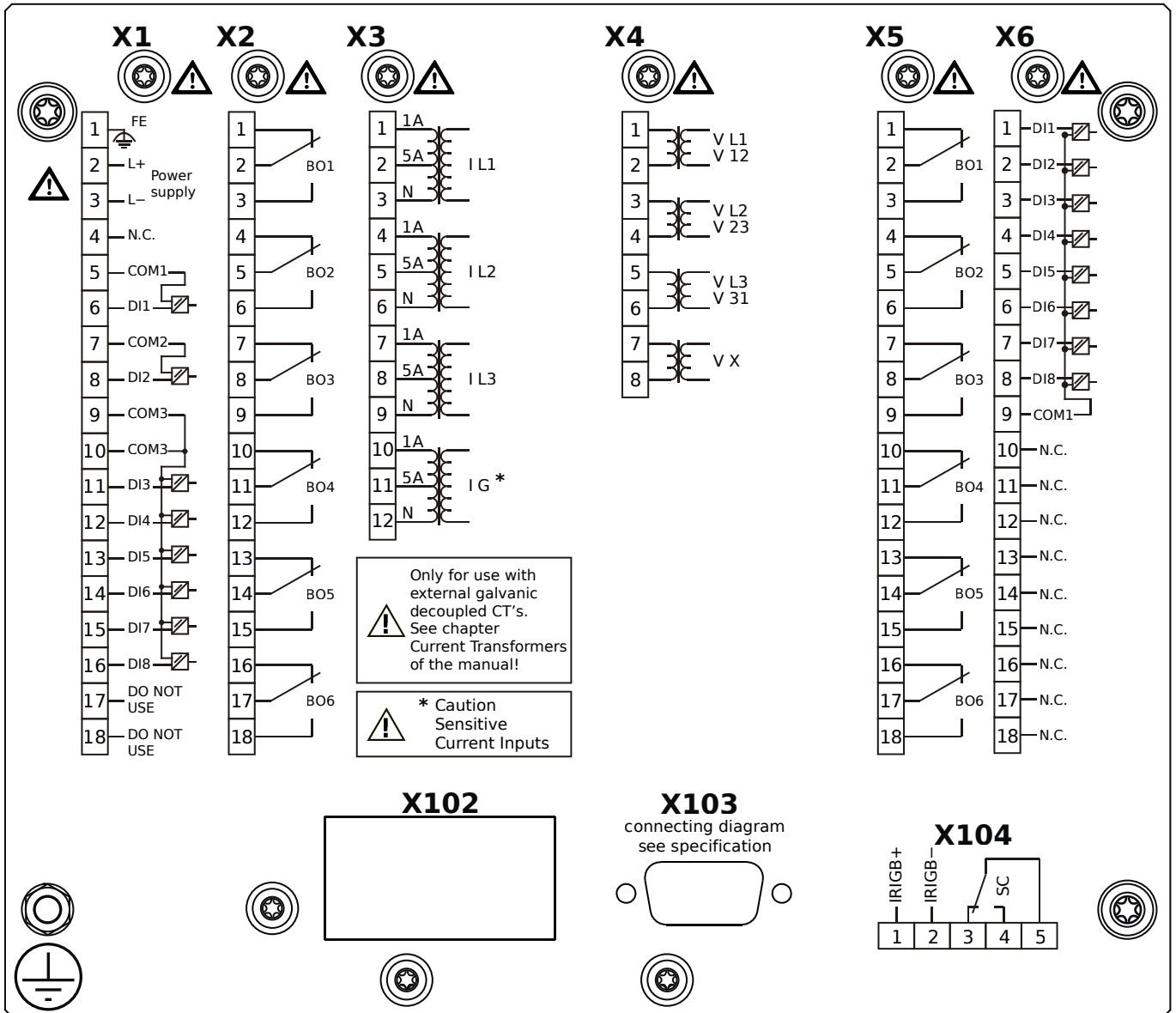| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BCB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

X104
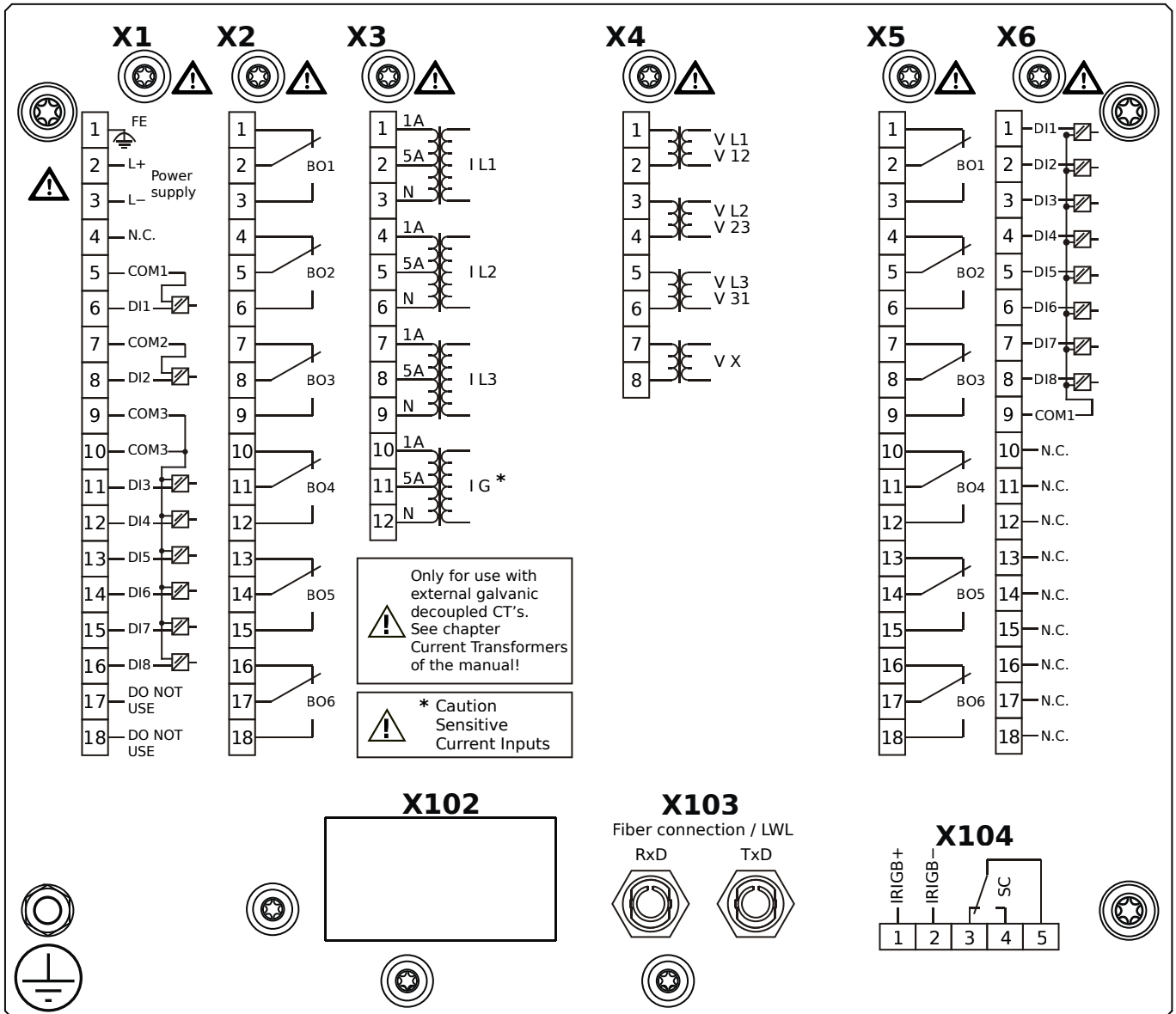| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BDA

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
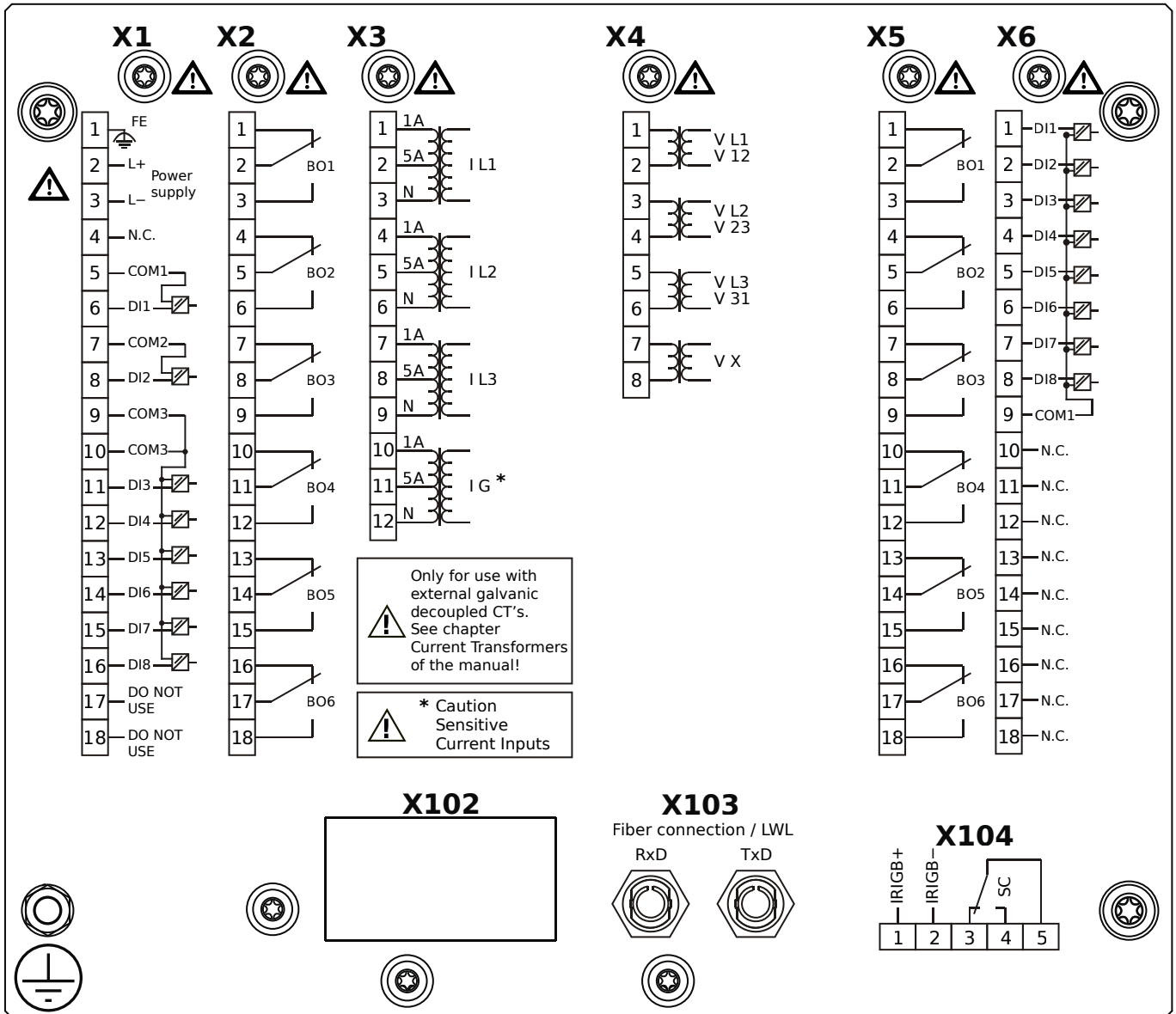RxD   TxD

X104
IRIGB+   IRIGB−   SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
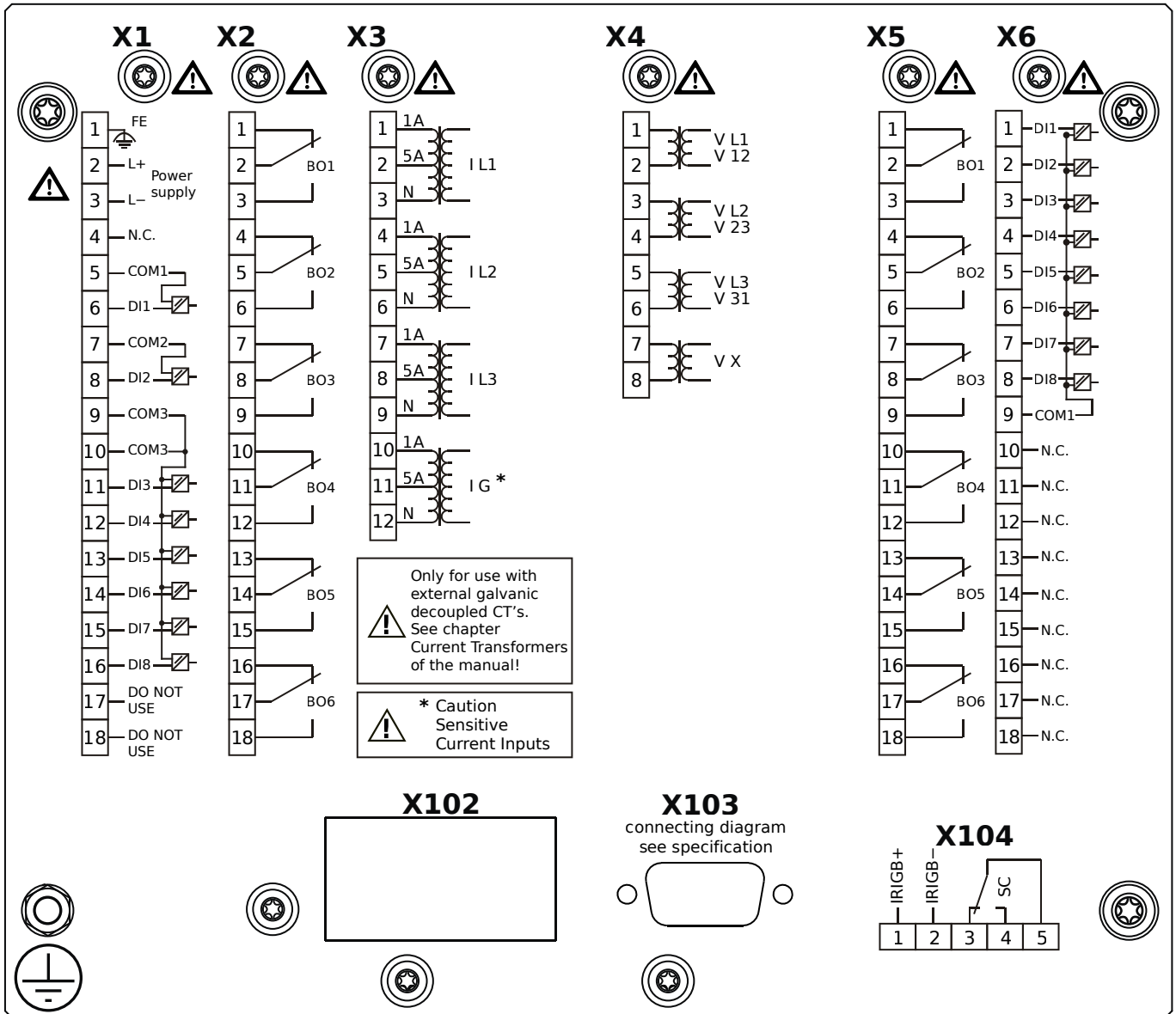**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BDB

X1
1 — FE ⏚
2 — L+ } Power
3 — L− } supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X3
1 — 1A
2 — 5A } I L1
3 — N
4 — 1A
5 — 5A } I L2
6 — N
7 — 1A
8 — 5A } I L3
9 — N
10 — 1A
11 — 5A } I G *
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1
2 } V L1 V 12
3
4 } V L2 V 23
5
6 } V L3 V 31
7
8 } V X

X5
1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — N.C.
11 — N.C.
12 — N.C.
13 — N.C.
14 — N.C.
15 — N.C.
16 — N.C.
17 — N.C.
18 — N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BEA

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

Housing B2, small display, 19" rack mounting

MRA4-2D1BEB

X1

1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3

1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103
connecting diagram see specification
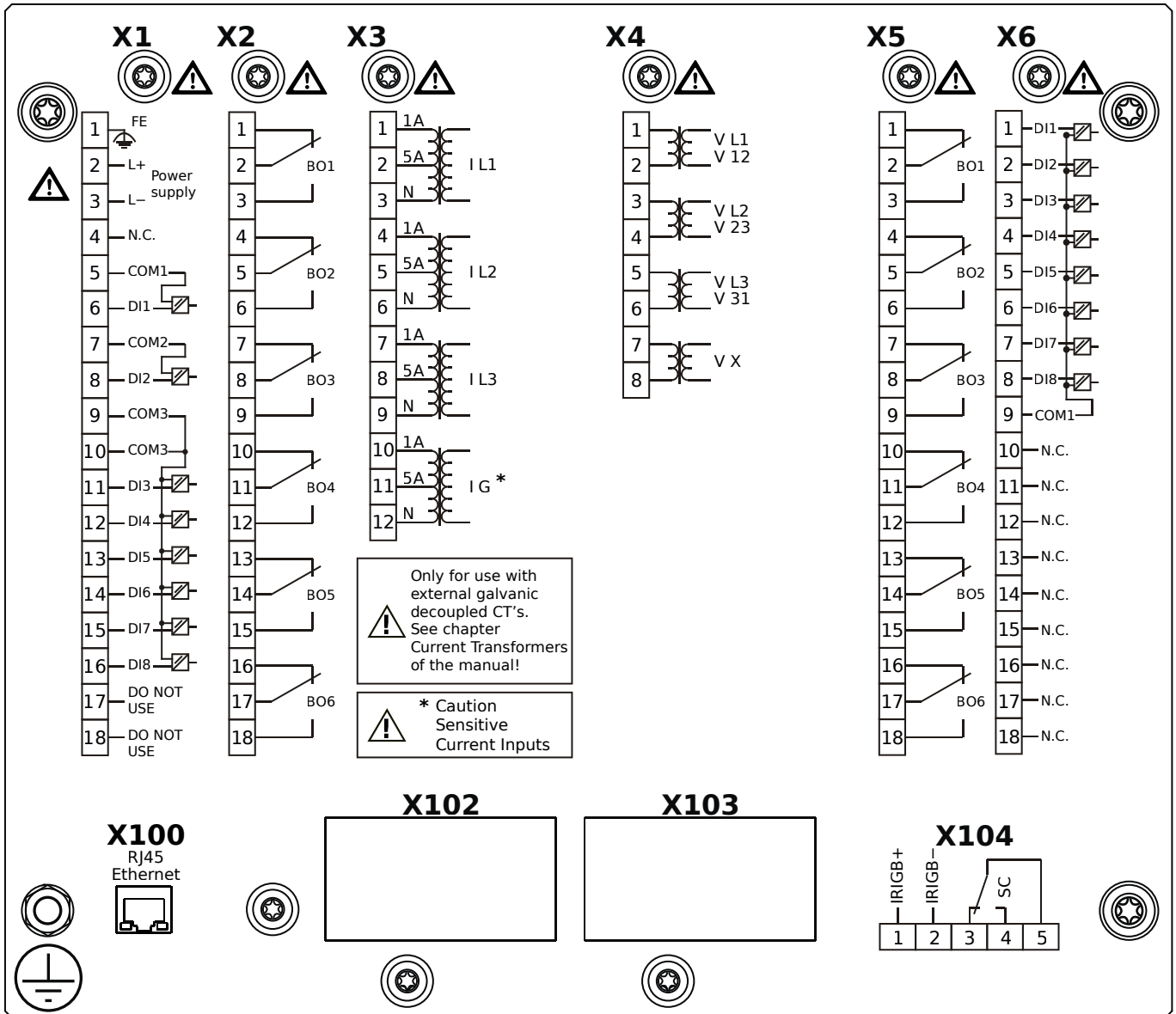
X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19” rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Profibus-DP, RS485, D-SUB
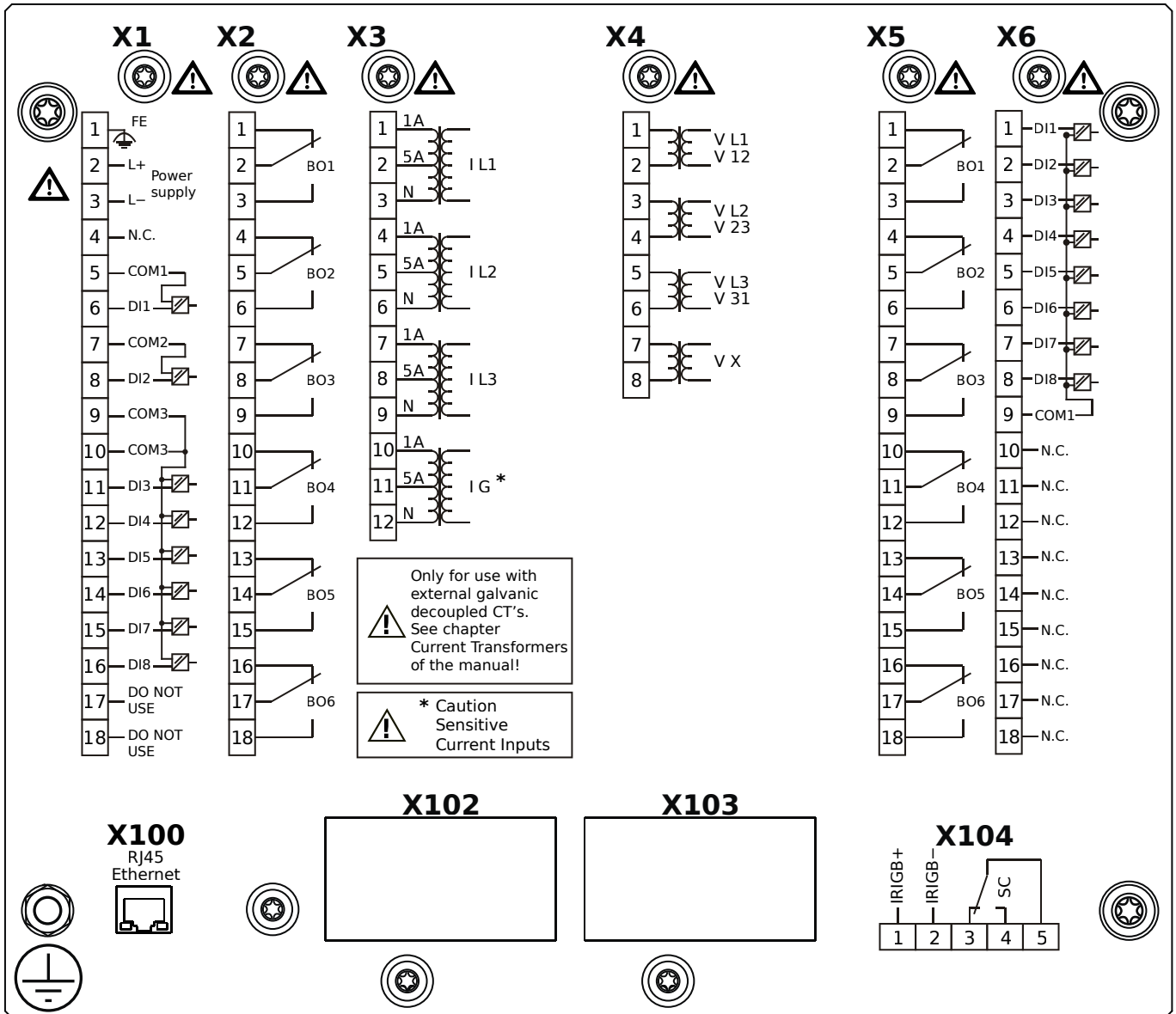**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BFA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BFB

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X1 1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2 1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3 1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5 1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6 1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BGA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
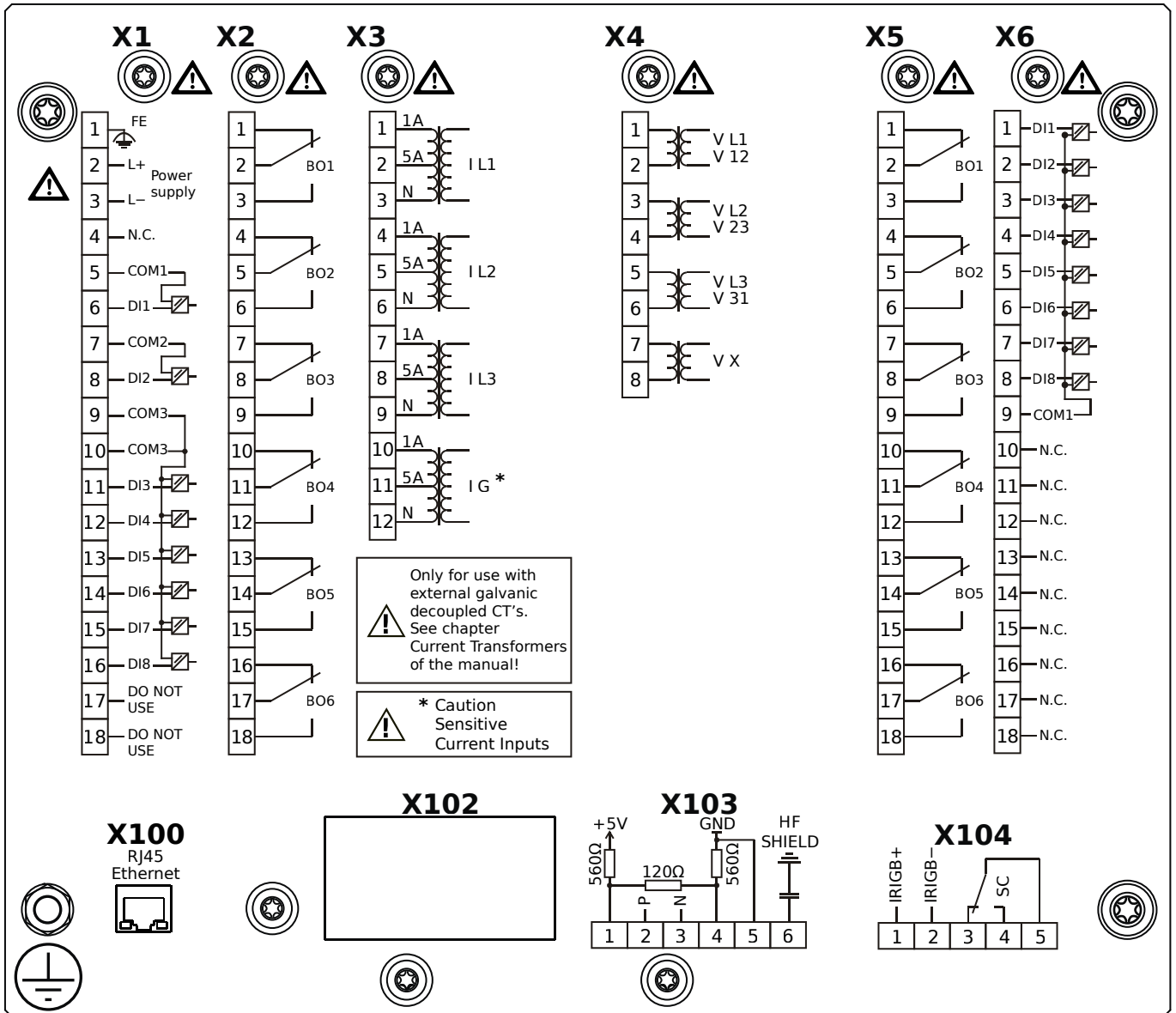**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BGB

X1 — FE, L+, L−, Power supply, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A / 5A / N: I L1, I L2, I L3, I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 — V L1, V 12, V L2, V 23, V L3, V 31, V X

X5 — BO1, BO2, BO3, BO4, BO5, BO6

X6 — DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, COM1, N.C. (×9)

X102

X103 connecting diagram see specification

X104 — IRIGB+, IRIGB−, SC — 1 2 3 4 5

Housing B2, small display, 19" rack mounting

+   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – OR6: Assembly Group with 6 Output Relays
X6   – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BHA

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1, 2 BO1, 3, 4, 5 BO2, 6, 7, 8 BO3, 9, 10, 11 BO4, 12, 13, 14 BO5, 15, 16, 17 BO6, 18

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1, 2 BO1, 3, 4, 5 BO2, 6, 7, 8 BO3, 9, 10, 11 BO4, 12, 13, 14 BO5, 15, 16, 17 BO6, 18

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BHB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45
Ethernet

X102

X103

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting
   +   Conformal Coating (for installations in harsh environment)
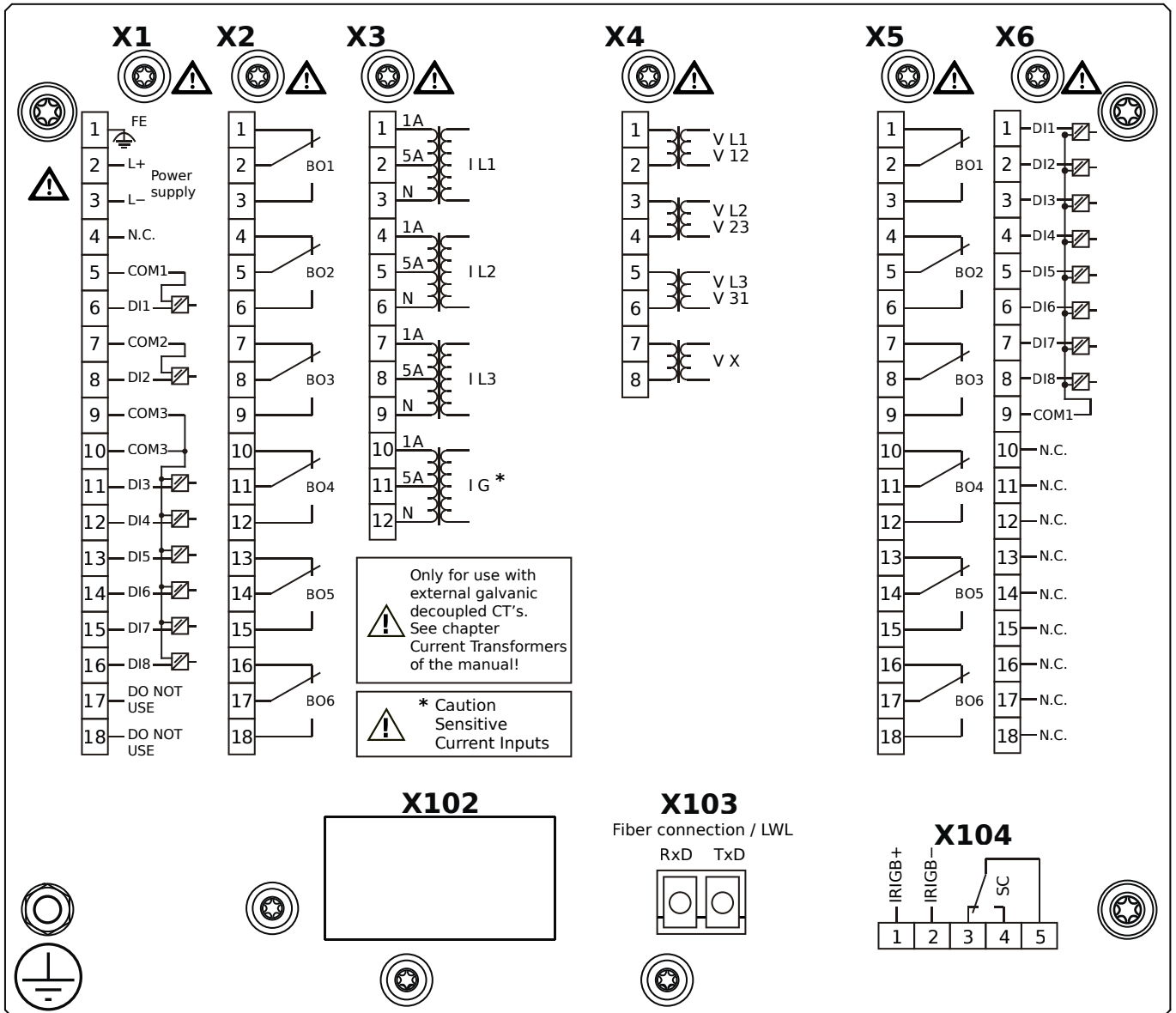**X1**   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – OR6: Assembly Group with 6 Output Relays
X6   – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BIA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

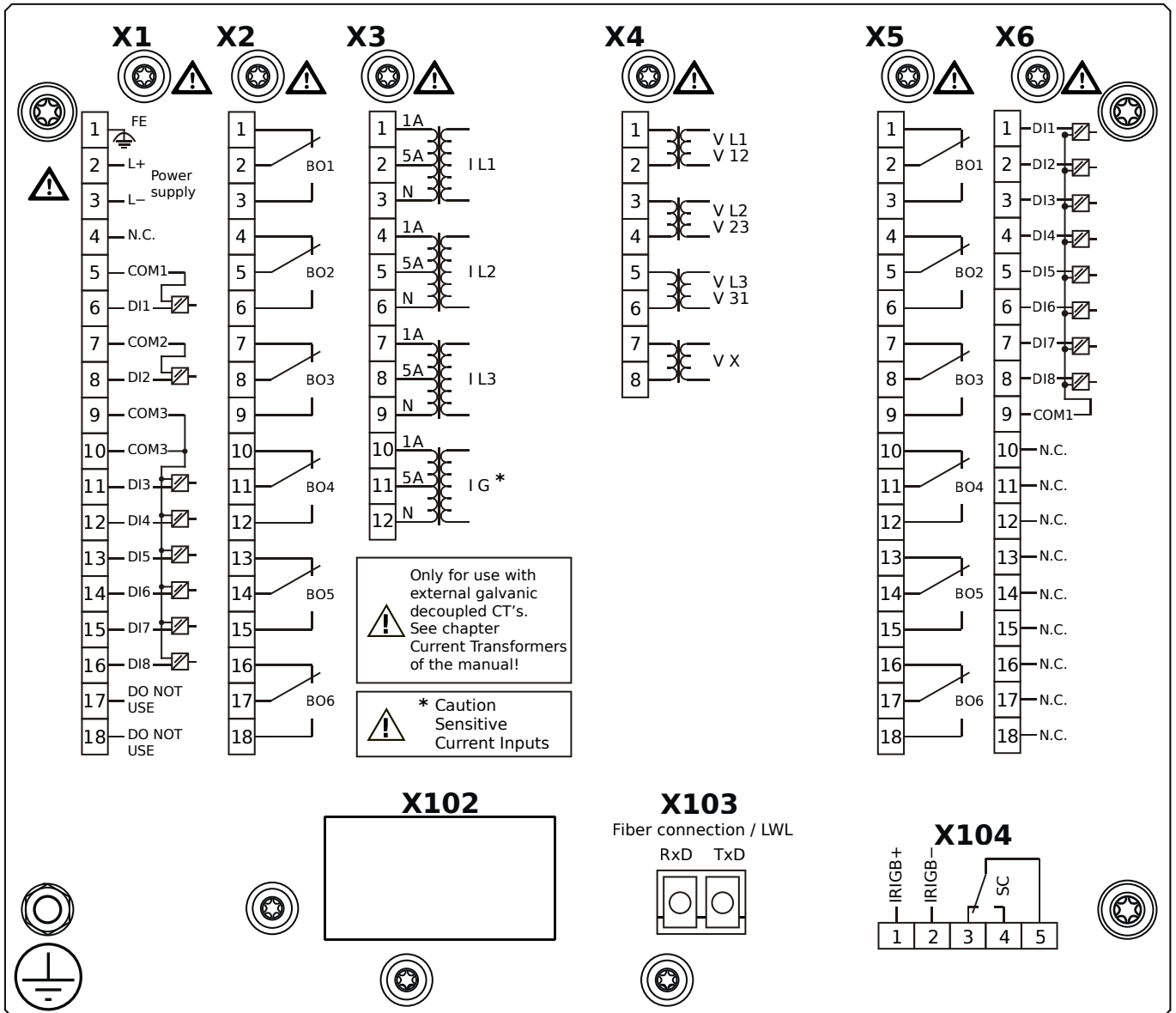**Housing B2, small display, 19" rack mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BIB

Terminal assignments:

X1 — DI8-X1: Wide-range power supply unit
- 1 FE
- 2 L+ / 3 L− Power supply
- 4 N.C.
- 5 COM1
- 6 DI1
- 7 COM2
- 8 DI2
- 9 COM3
- 10 COM3
- 11 DI3
- 12 DI4
- 13 DI5
- 14 DI6
- 15 DI7
- 16 DI8
- 17 DO NOT USE
- 18 DO NOT USE

X2 — OR6
- 1–3 BO1
- 4–6 BO2
- 7–9 BO3
- 10–12 BO4
- 13–15 BO5
- 16–18 BO6

X3 — TIs
- 1 1A / 2 5A / 3 N : I L1
- 4 1A / 5 5A / 6 N : I L2
- 7 1A / 8 5A / 9 N : I L3
- 10 1A / 11 5A / 12 N : I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 — TU
- 1 / 2 V L1, V 12
- 3 / 4 V L2, V 23
- 5 / 6 V L3, V 31
- 7 / 8 V X

X5 — OR6
- 1–3 BO1
- 4–6 BO2
- 7–9 BO3
- 10–12 BO4
- 13–15 BO5
- 16–18 BO6

X6 — DI8
- 1 DI1
- 2 DI2
- 3 DI3
- 4 DI4
- 5 DI5
- 6 DI6
- 7 DI7
- 8 DI8
- 9 COM1
- 10–18 N.C.

X100 RJ45 Ethernet

X102

X103
- 560Ω / 120Ω / 560Ω
- +5V, GND, HF SHIELD
- 1 / 2 P / 3 N / 4 / 5 / 6

X104
- IRIGB+ / IRIGB− / SC
- 1 / 2 / 3 / 4 / 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
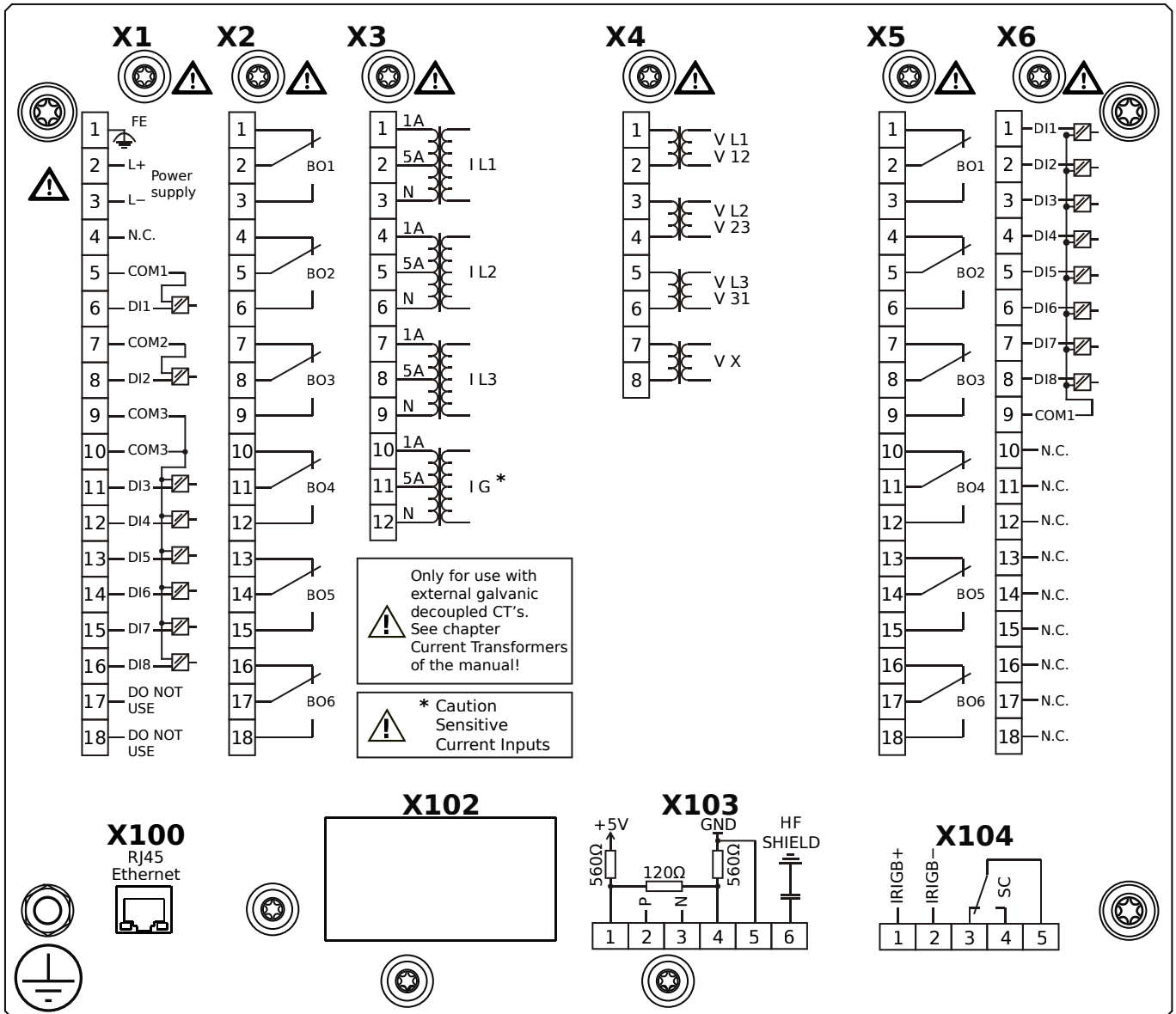**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BKA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BKB

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
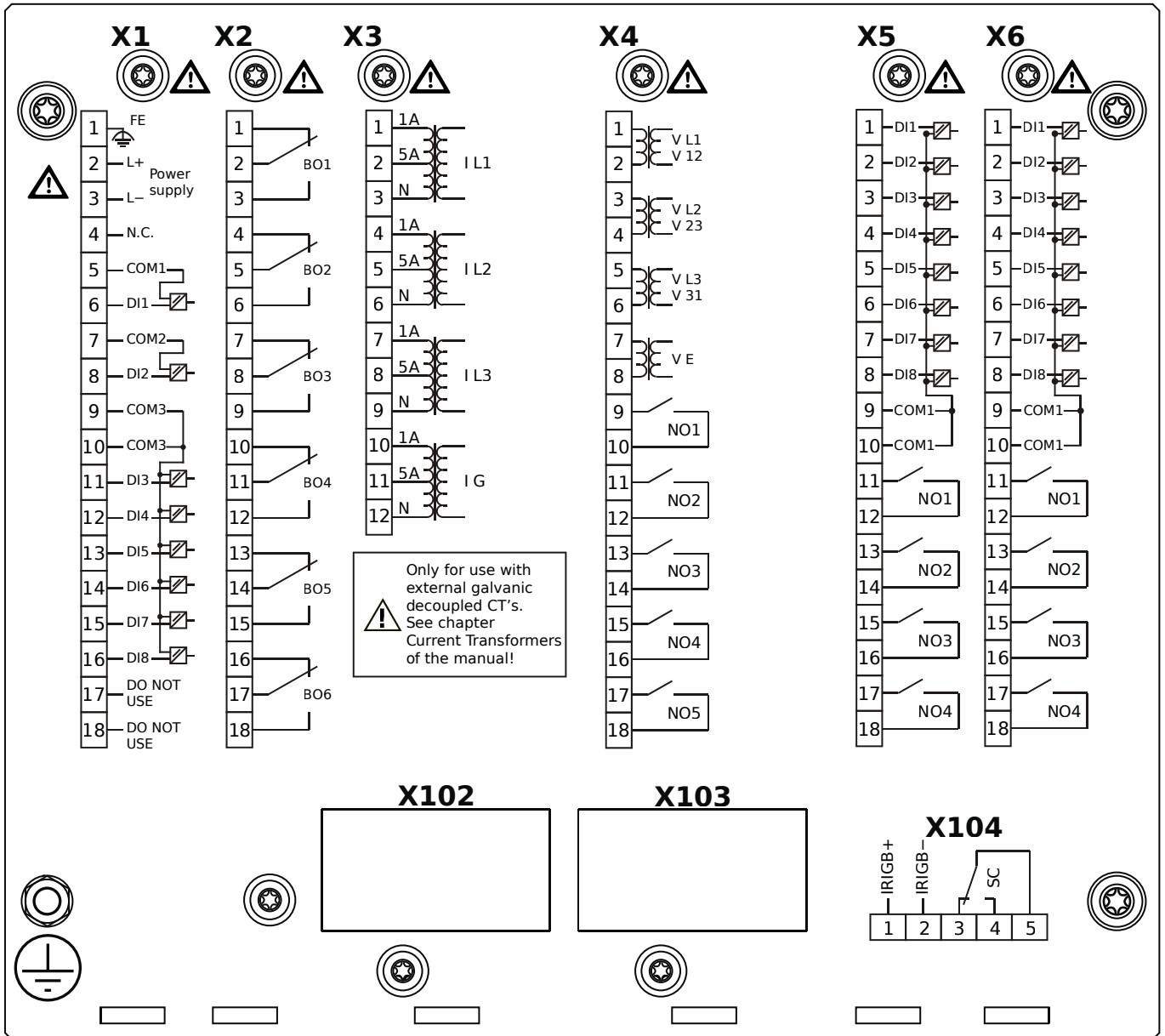**X5** – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BLA

X1

1	FE ⏚	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G *
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BLB

X1

1 FE ⏚
2 L+] Power
3 L−] supply
4 N.C.
5 COM1 ⌐
6 DI1 ⌐
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2] BO1
3
4
5] BO2
6
7
8] BO3
9
10
11] BO4
12
13
14] BO5
15
16
17] BO6
18

X3

1 1A
2 5A] I L1
3 N
4 1A
5 5A] I L2
6 N
7 1A
8 5A] I L3
9 N
10 1A
11 5A] I G *
12 N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ⚠ * Caution Sensitive Current Inputs

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5

1
2] BO1
3
4
5] BO2
6
7
8] BO3
9
10
11] BO4
12
13
14] BO5
15
16
17] BO6
18

X6

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
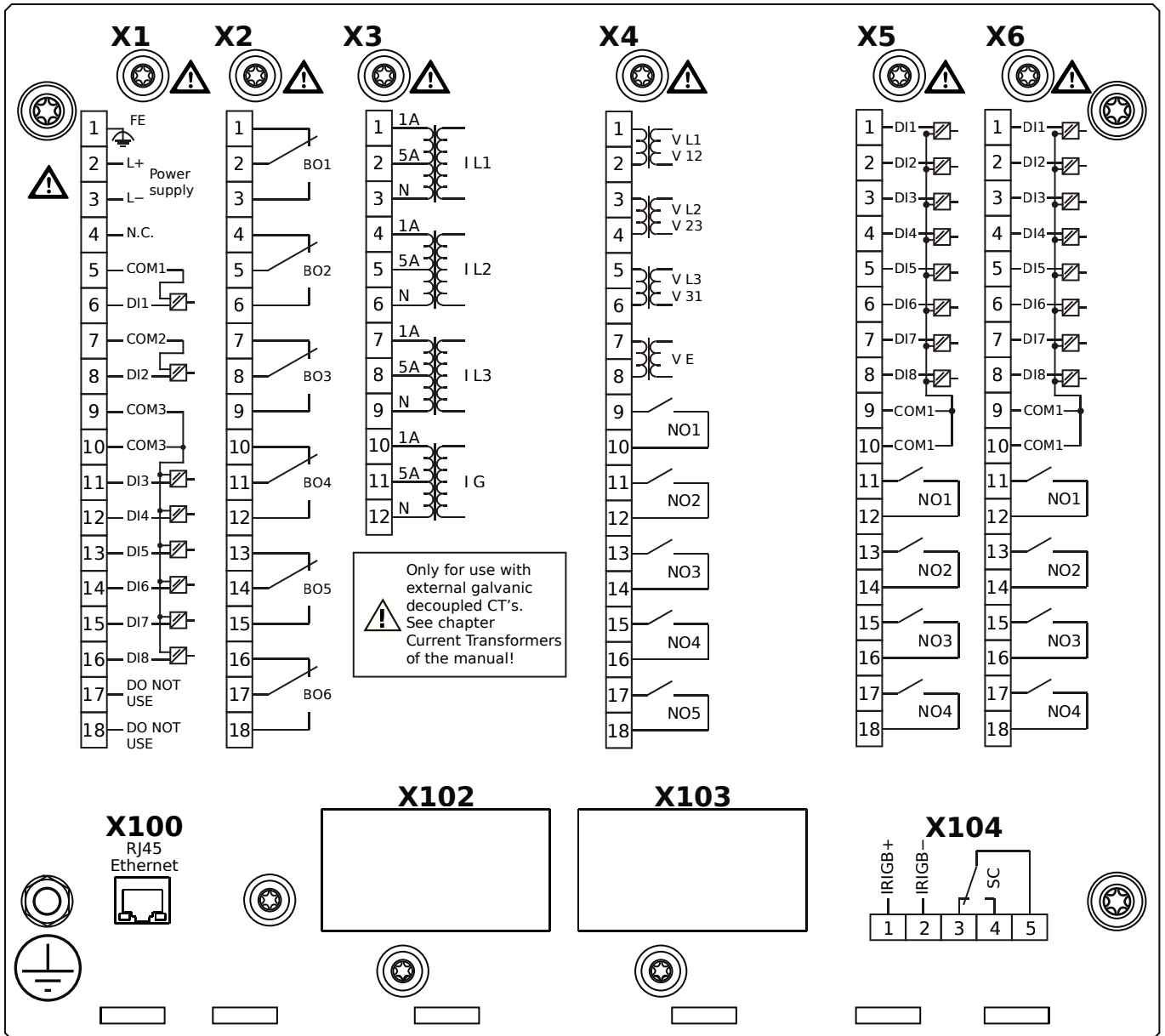**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BTA

X1
1 FE
2 L+ } Power
3 L− } supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A } I L1
3 N
4 1A
5 5A } I L2
6 N
7 1A
8 5A } I L3
9 N
10 1A
11 5A } I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X100
RJ45 Ethernet

X102

X103
+5V 560Ω 120Ω GND 560Ω HF SHIELD
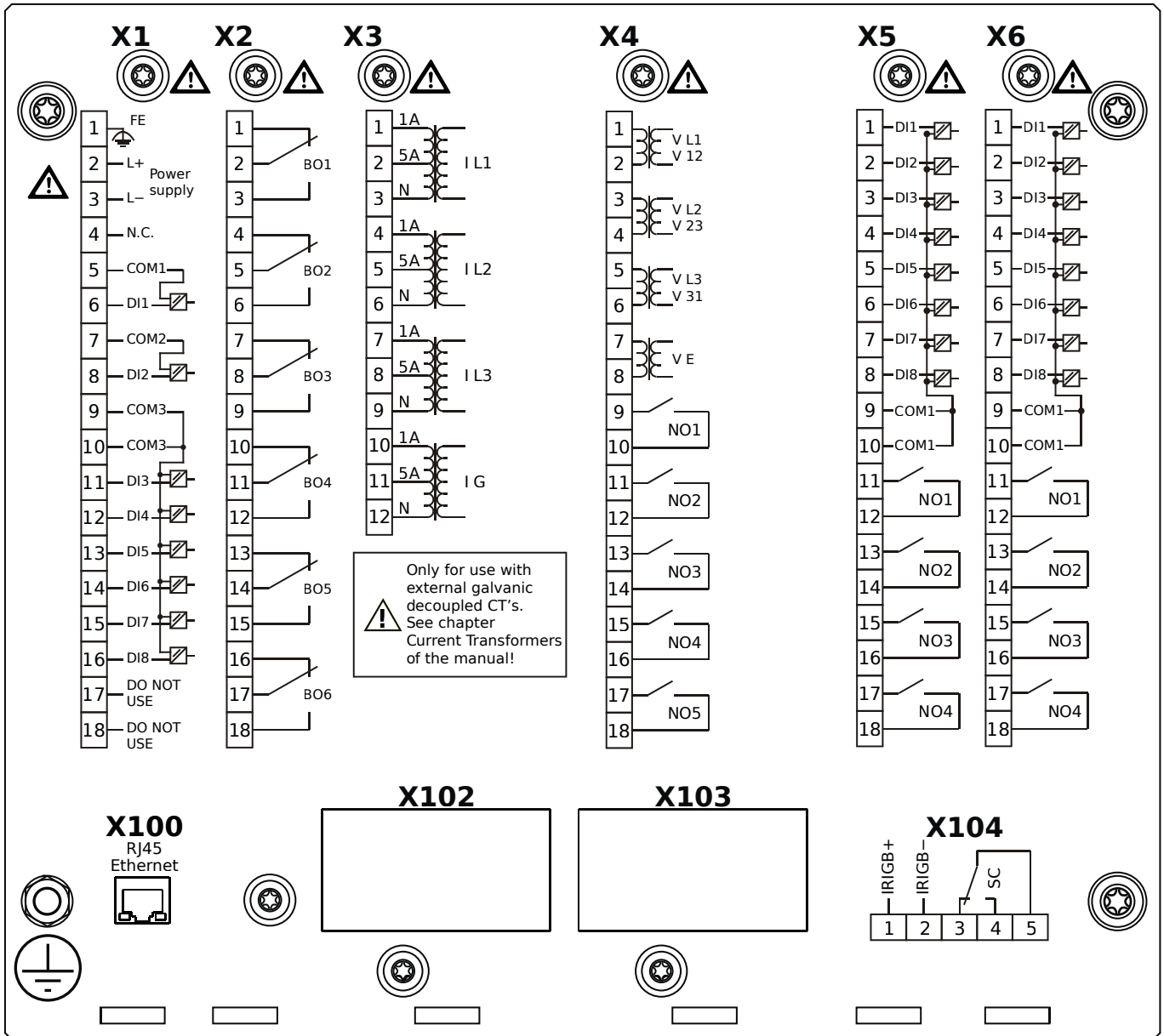P N
1 2 3 4 5 6

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
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X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2D1BTB

X1 **X2** **X3** **X4** **X5** **X6**

X1 terminals:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2 terminals:
1, 2 BO1, 3
4, 5 BO2, 6
7, 8 BO3, 9
10, 11 BO4, 12
13, 14 BO5, 15
16, 17 BO6, 18

X3 terminals:
1 1A, 2 5A, 3 N — I L1
4 1A, 5 5A, 6 N — I L2
7 1A, 8 5A, 9 N — I L3
10 1A, 11 5A, 12 N — I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 terminals:
1, 2 V L1 / V 12
3, 4 V L2 / V 23
5, 6 V L3 / V 31
7, 8 V X

X5 terminals:
1, 2 BO1, 3
4, 5 BO2, 6
7, 8 BO3, 9
10, 11 BO4, 12
13, 14 BO5, 15
16, 17 BO6, 18

X6 terminals:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 N.C.
11 N.C.
12 N.C.
13 N.C.
14 N.C.
15 N.C.
16 N.C.
17 N.C.
18 N.C.

X100
RJ45 Ethernet

X102

X103
+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N
1 2 3 4 5 6

X104
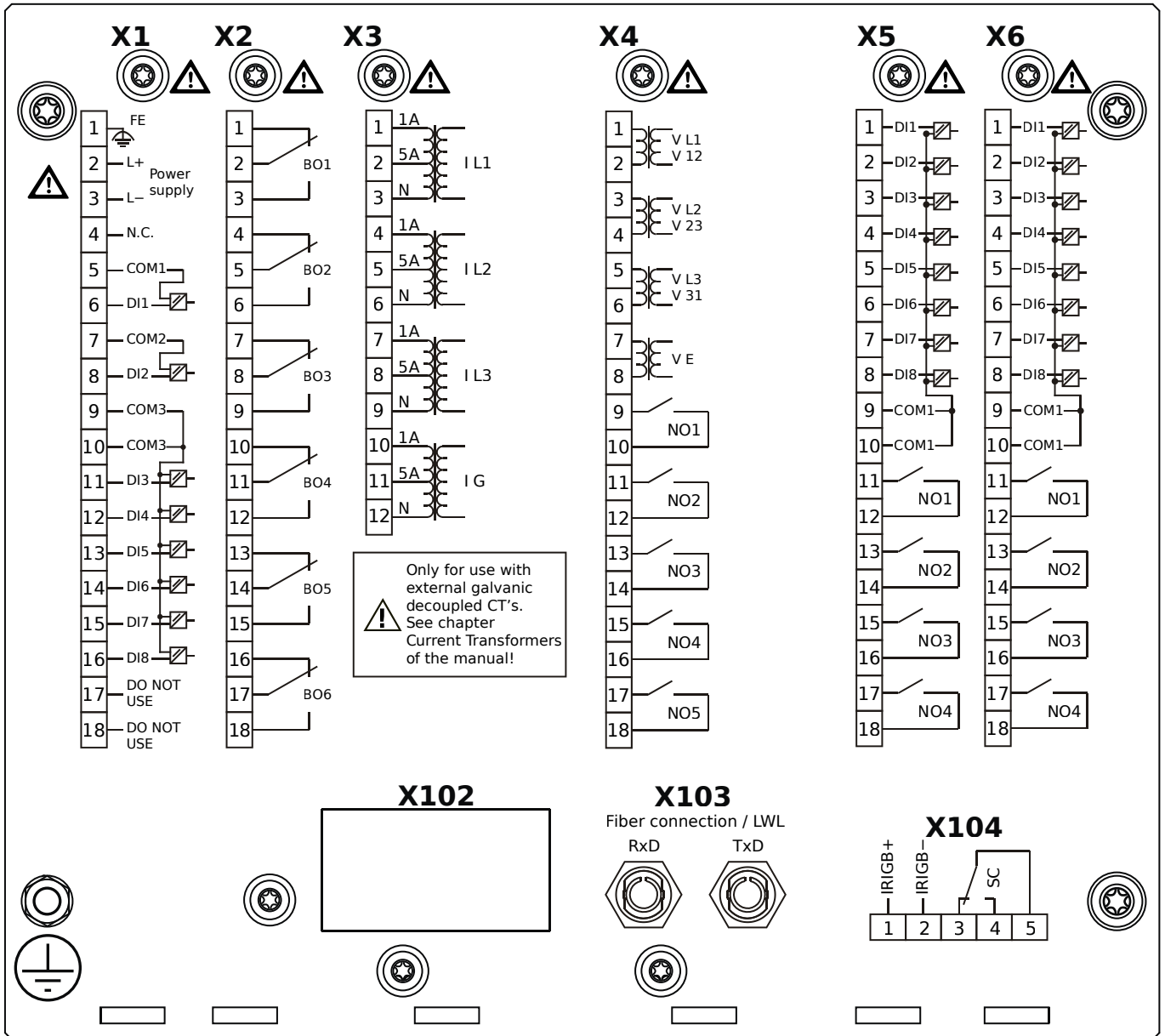IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – OR6: Assembly Group with 6 Output Relays
X6 – DI8: Assembly Group with 8 Digital Inputs
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AAA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A · I L1
3	N
4	1A
5	5A · I L2
6	N
7	1A
8	5A · I L3
9	N
10	1A
11	5A · I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104

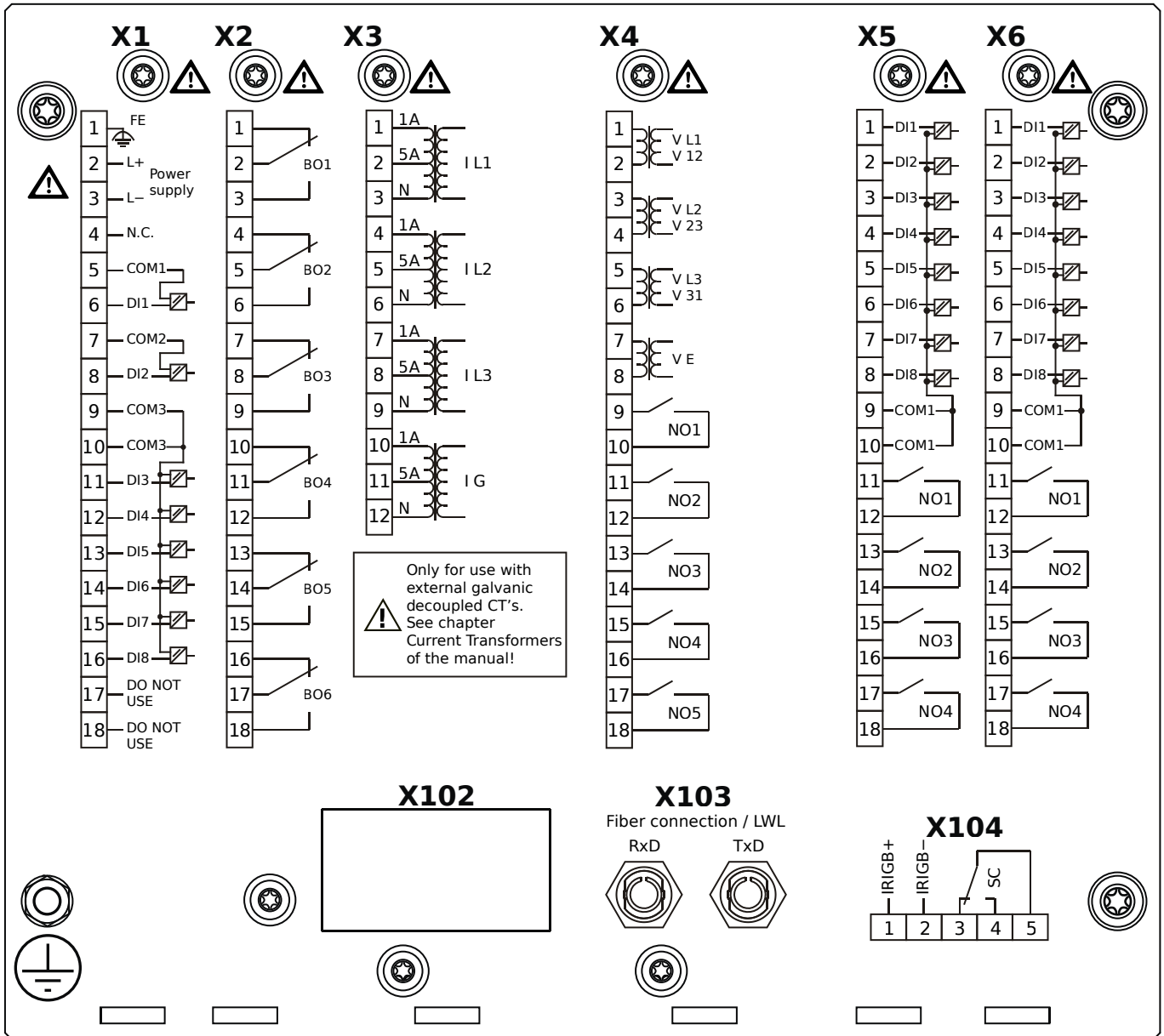| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AAB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104

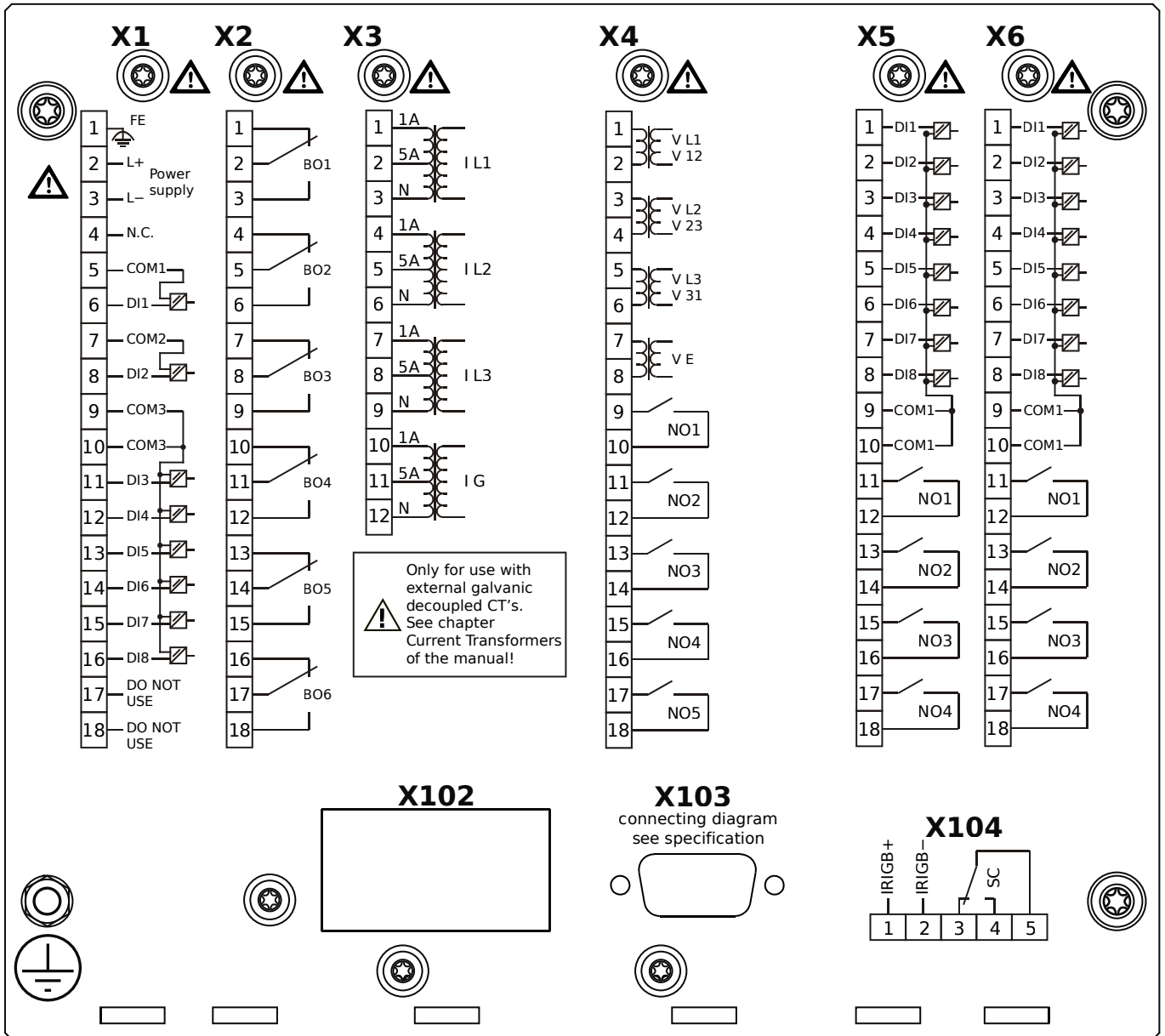| 1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
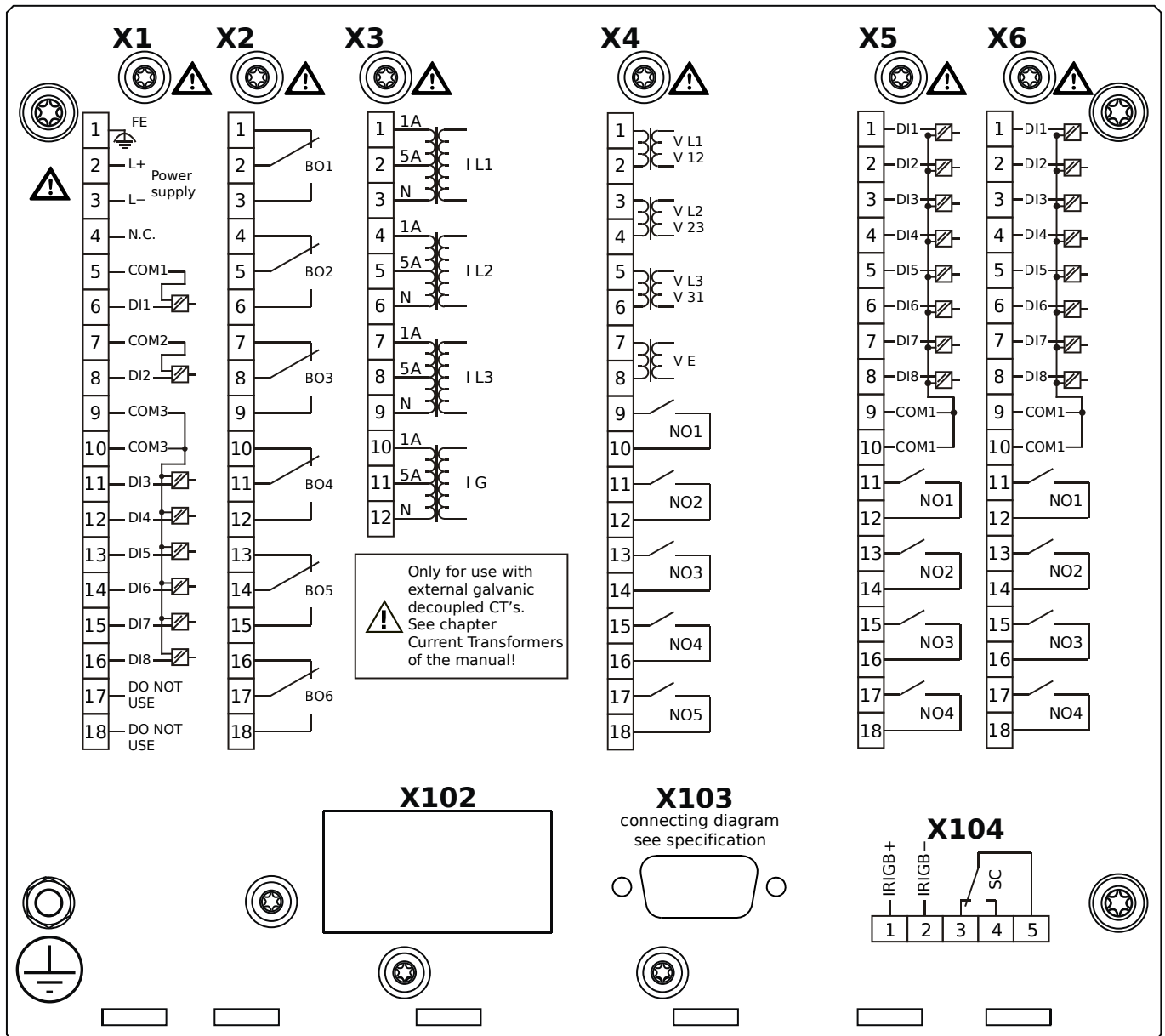**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ABA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ABB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N
| 1 | 2 | 3 | 4 | 5 | 6 |

X104
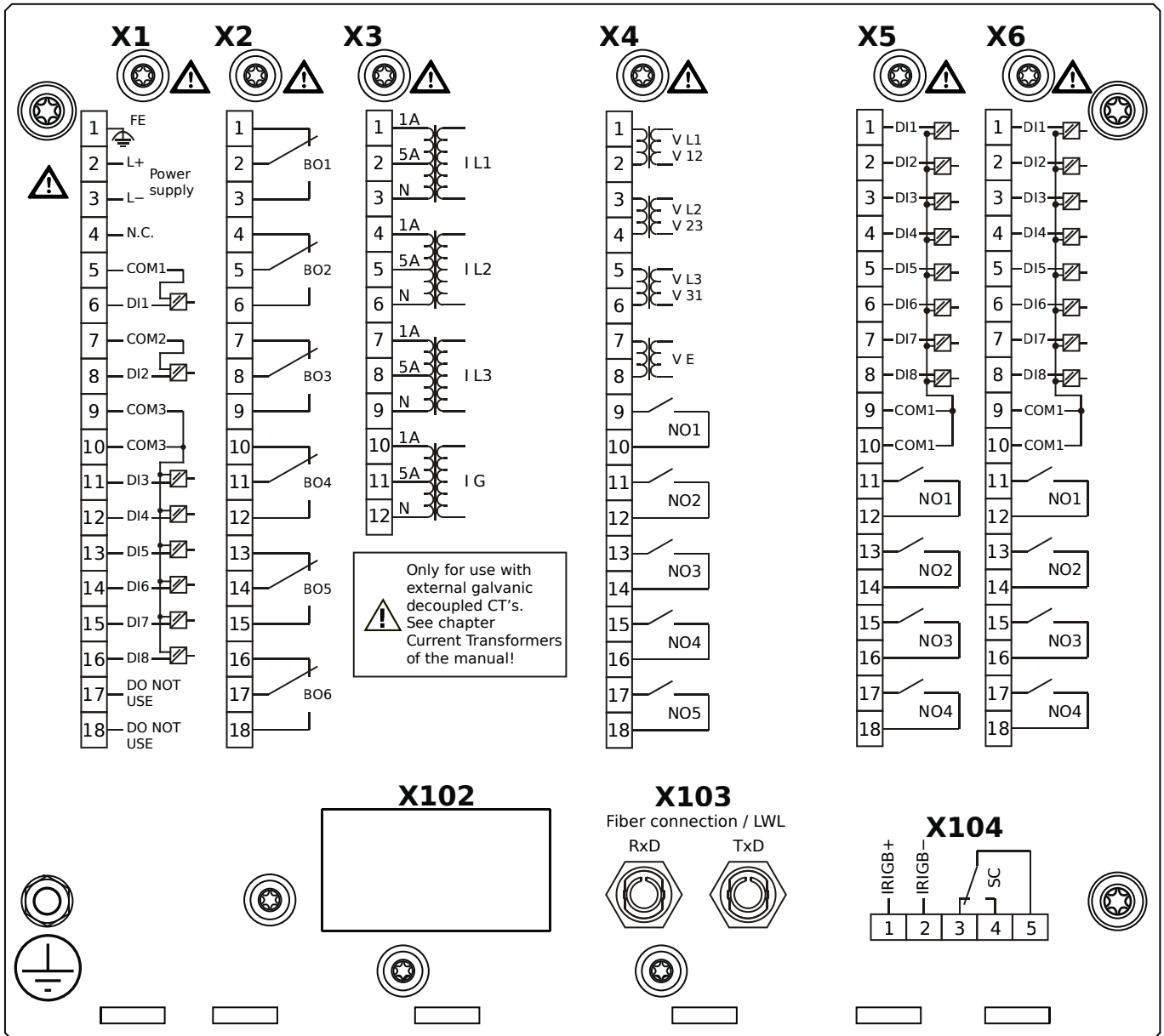IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ACA

Only for use with
external galvanic
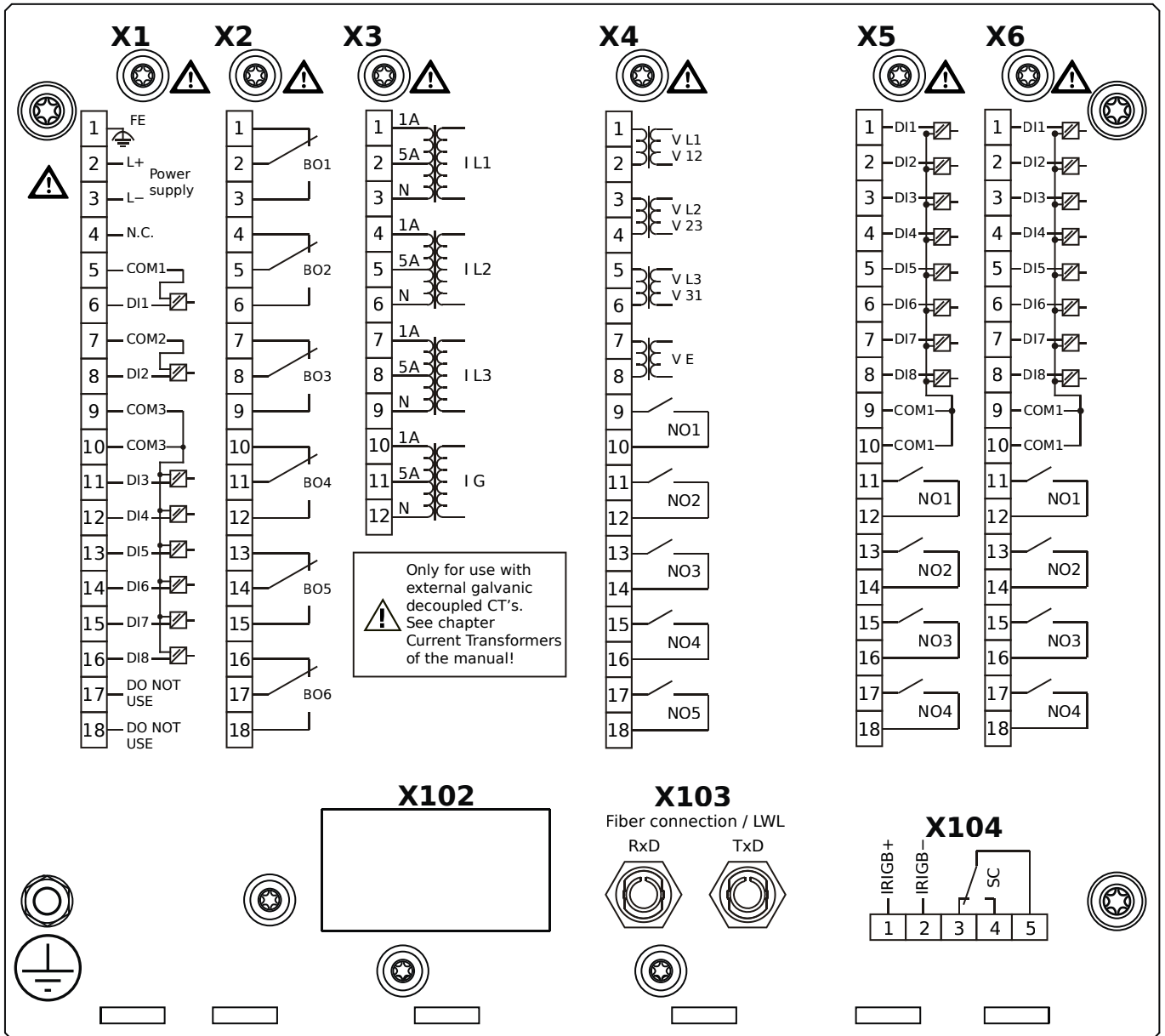decoupled CT's.
See chapter
Current Transformers
of the manual!

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ACB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104

IRIGB+ | IRIGB− | SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ADA

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

Housing B2, small display, door mounting

MRA4-2E0ADB

X1

1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ | IRIGB− | SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AEA

X1

1 FE ⏚
2 L+ | Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3

1 1A
2 5A | I L1
3 N
4 1A
5 5A | I L2
6 N
7 1A
8 5A | I L3
9 N
10 1A
11 5A | I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
connecting diagram see specification

X104
1 IRIGB+
2 IRIGB−
3 SC
4
5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
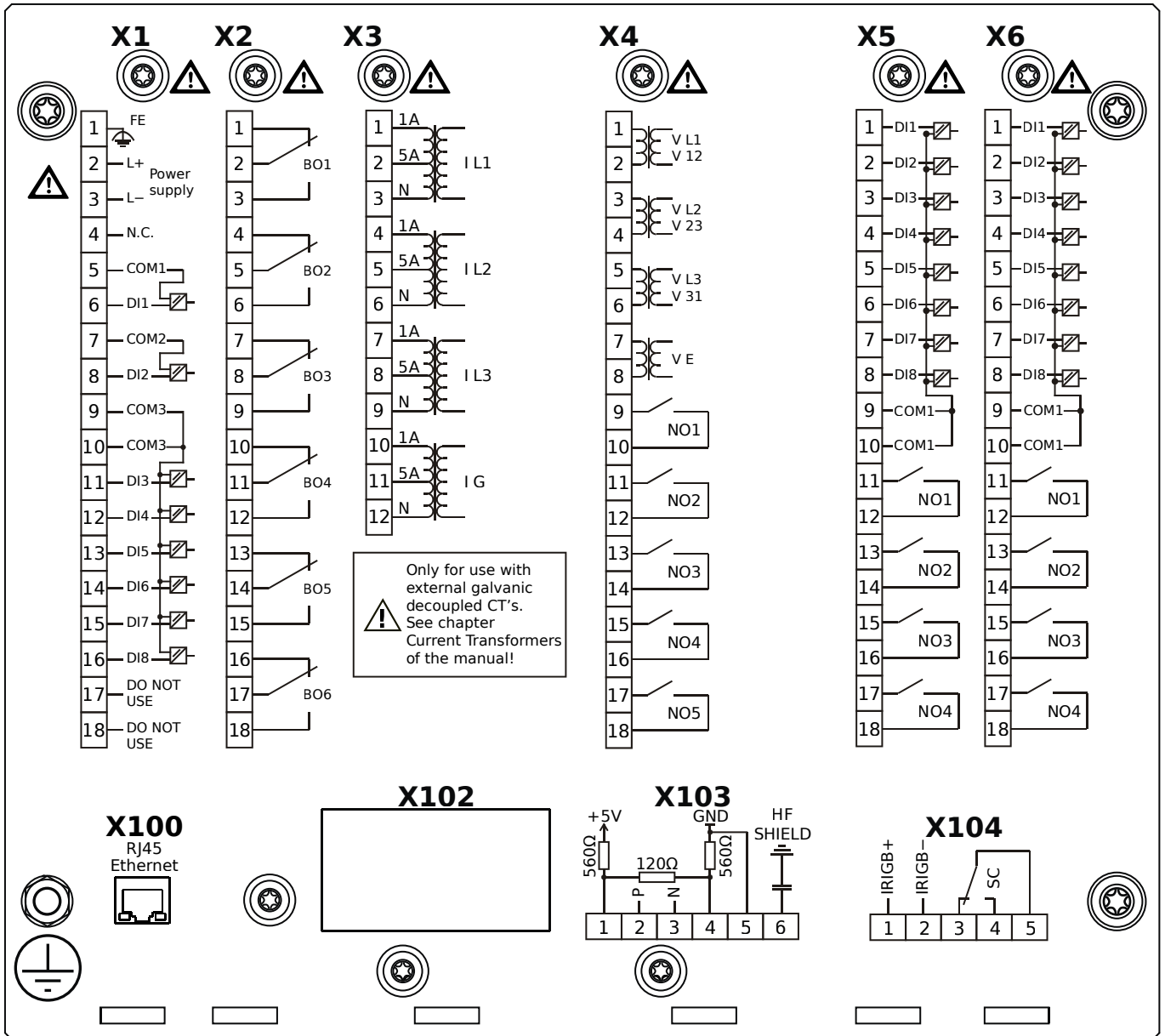**X4** – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AEB

X1
- 1 — FE ⏚
- 2 — L+ } Power supply
- 3 — L−
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2
- 1
- 2 } BO1
- 3
- 4
- 5 } BO2
- 6
- 7
- 8 } BO3
- 9
- 10
- 11 } BO4
- 12
- 13
- 14 } BO5
- 15
- 16
- 17 } BO6
- 18

X3
- 1 — 1A
- 2 — 5A } I L1
- 3 — N
- 4 — 1A
- 5 — 5A } I L2
- 6 — N
- 7 — 1A
- 8 — 5A } I L3
- 9 — N
- 10 — 1A
- 11 — 5A } I G
- 12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
- 1
- 2 } V L1, V 12
- 3
- 4 } V L2, V 23
- 5
- 6 } V L3, V 31
- 7
- 8 } V E
- 9
- 10 } NO1
- 11
- 12 } NO2
- 13
- 14 } NO3
- 15
- 16 } NO4
- 17
- 18 } NO5

X5
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — COM1
- 11
- 12 } NO1
- 13
- 14 } NO2
- 15
- 16 } NO3
- 17
- 18 } NO4

X6
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — COM1
- 11
- 12 } NO1
- 13
- 14 } NO2
- 15
- 16 } NO3
- 17
- 18 } NO4

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
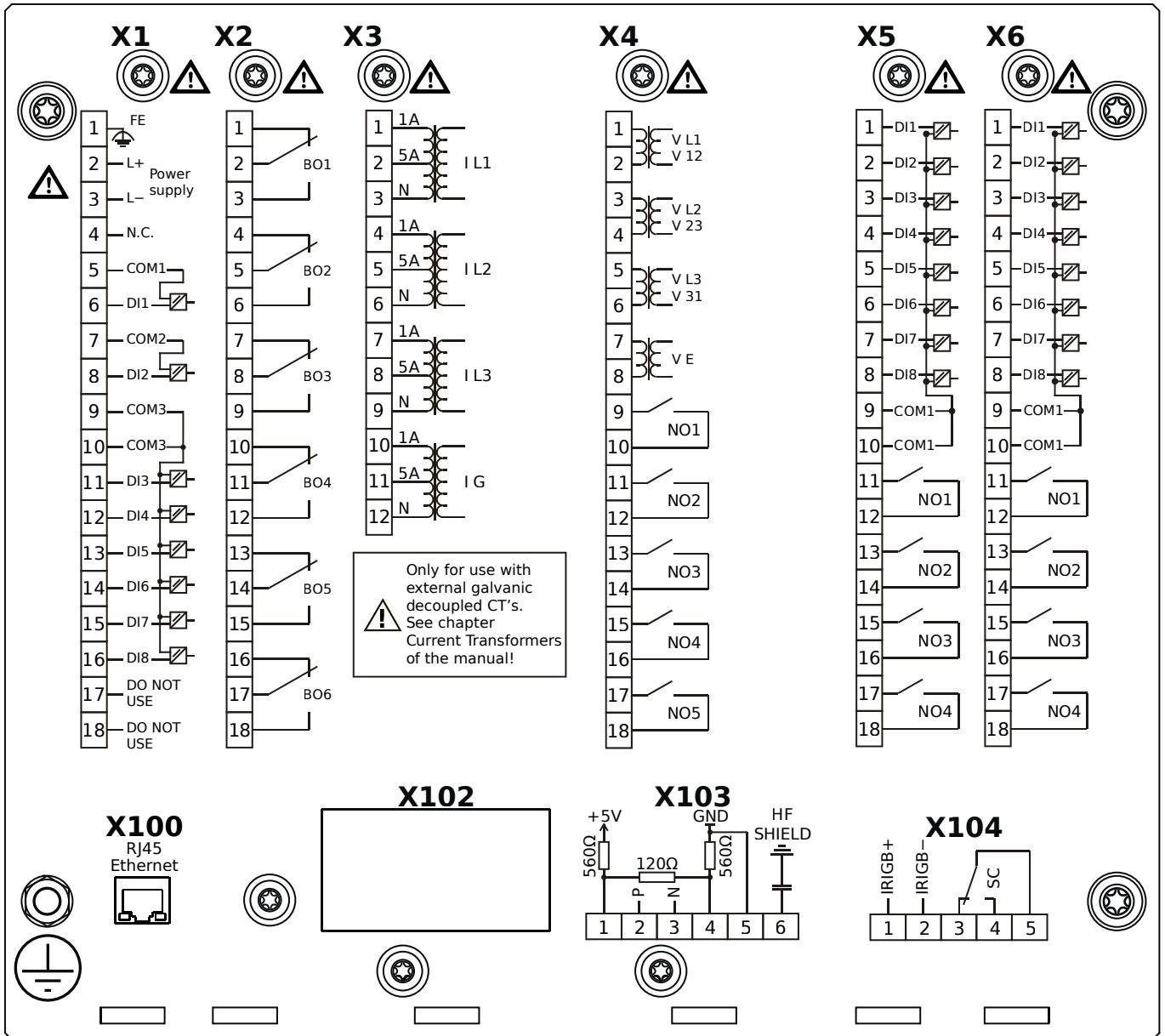
MRA4-2E0AFA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AFB

X1
1 — FE ⏚
2 — L+ ⎤ Power
3 — L− ⎦ supply
4 — N.C.
5 — COM1 ⎤
6 — DI1 ⎦
7 — COM2 ⎤
8 — DI2 ⎦
9 — COM3 ⎤
10 — COM3 ⎦
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 — 1A
2 — 5A   I L1
3 — N
4 — 1A
5 — 5A   I L2
6 — N
7 — 1A
8 — 5A   I L3
9 — N
10 — 1A
11 — 5A   I G
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎤ V L1
2 ⎦ V 12
3 ⎤ V L2
4 ⎦ V 23
5 ⎤ V L3
6 ⎦ V 31
7 ⎤ V E
8 ⎦
9
10 NO1
11
12 NO2
13
14 NO3
15
16 NO4
17
18 NO5

X5
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11
12 NO1
13
14 NO2
15
16 NO3
17
18 NO4

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11
12 NO1
13
14 NO2
15
16 NO3
17
18 NO4

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AGA

X1

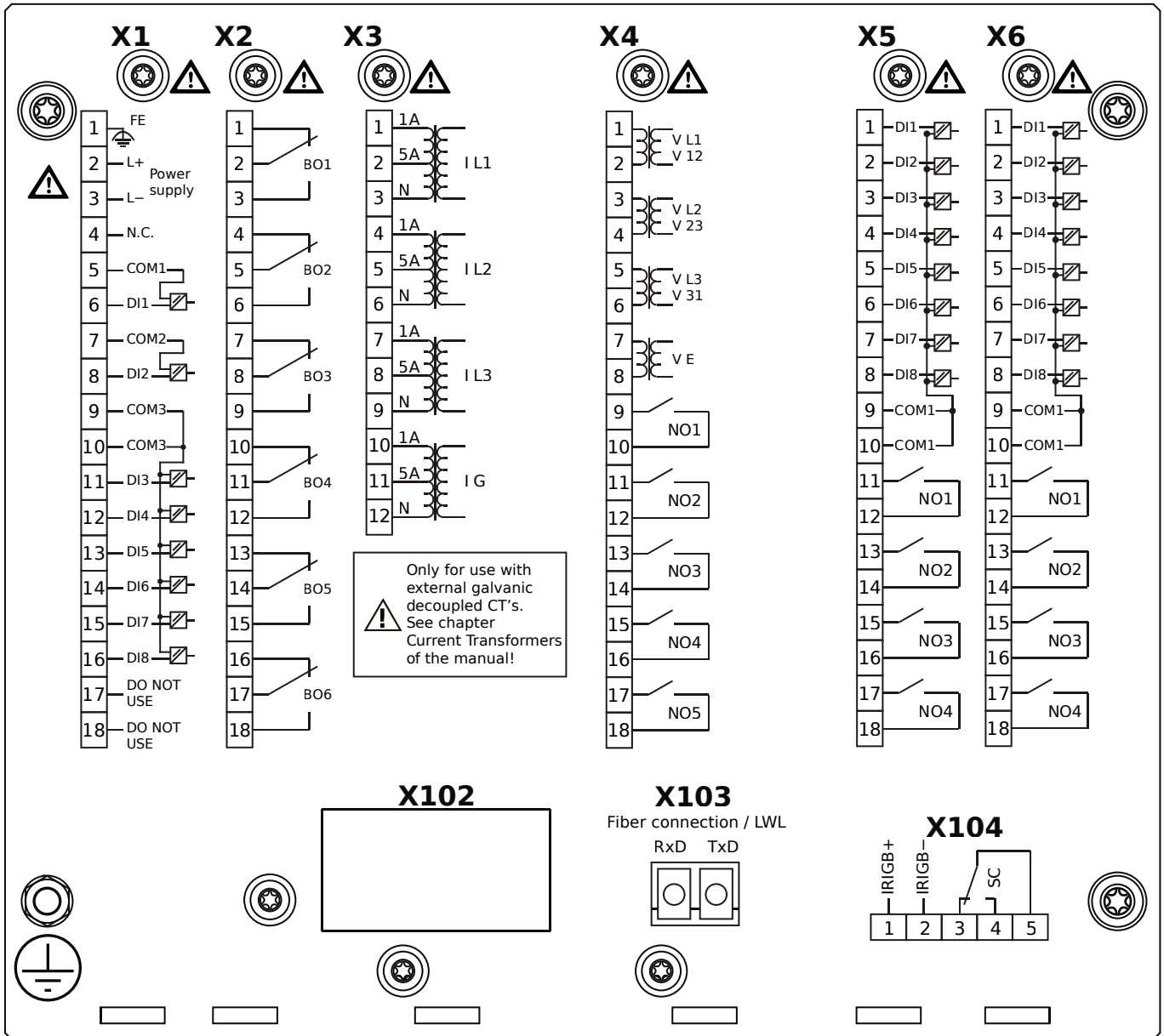|	
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram see specification

X104
IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104
IRIGB+ | IRIGB− | SC

1	2	3	4	5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
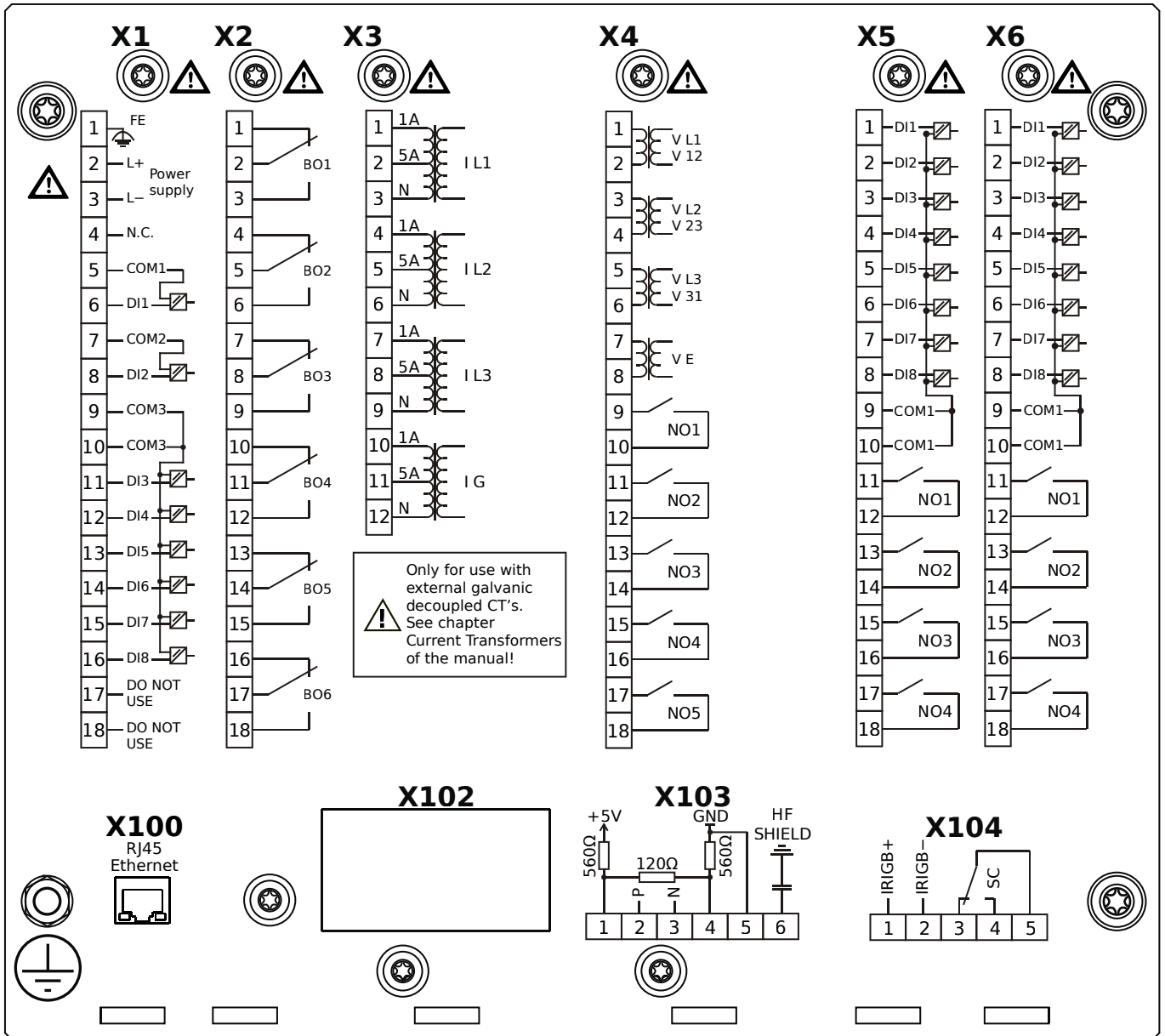**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AHA

X1 — 1 FE, 2 L+, 3 L− (Power supply), 4 N.C., 5 COM1, 6 DI1, 7 COM2, 8 DI2, 9 COM3, 10 COM3, 11 DI3, 12 DI4, 13 DI5, 14 DI6, 15 DI7, 16 DI8, 17 DO NOT USE, 18 DO NOT USE

X2 — 1, 2 BO1, 3, 4, 5 BO2, 6, 7, 8 BO3, 9, 10, 11 BO4, 12, 13, 14 BO5, 15, 16, 17 BO6, 18

X3 — 1 1A, 2 5A, 3 N (I L1), 4 1A, 5 5A, 6 N (I L2), 7 1A, 8 5A, 9 N (I L3), 10 1A, 11 5A, 12 N (I G)

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4 — 1, 2 V L1 / V 12, 3, 4 V L2 / V 23, 5, 6 V L3 / V 31, 7, 8 V E, 9, 10 NO1, 11, 12 NO2, 13, 14 NO3, 15, 16 NO4, 17, 18 NO5

X5 — 1 DI1, 2 DI2, 3 DI3, 4 DI4, 5 DI5, 6 DI6, 7 DI7, 8 DI8, 9 COM1, 10 COM1, 11, 12 NO1, 13, 14 NO2, 15, 16 NO3, 17, 18 NO4

X6 — 1 DI1, 2 DI2, 3 DI3, 4 DI4, 5 DI5, 6 DI6, 7 DI7, 8 DI8, 9 COM1, 10 COM1, 11, 12 NO1, 13, 14 NO2, 15, 16 NO3, 17, 18 NO4

X100 — RJ45 Ethernet

X102

X103

X104 — 1 IRIGB+, 2 IRIGB−, 3, 4 SC, 5

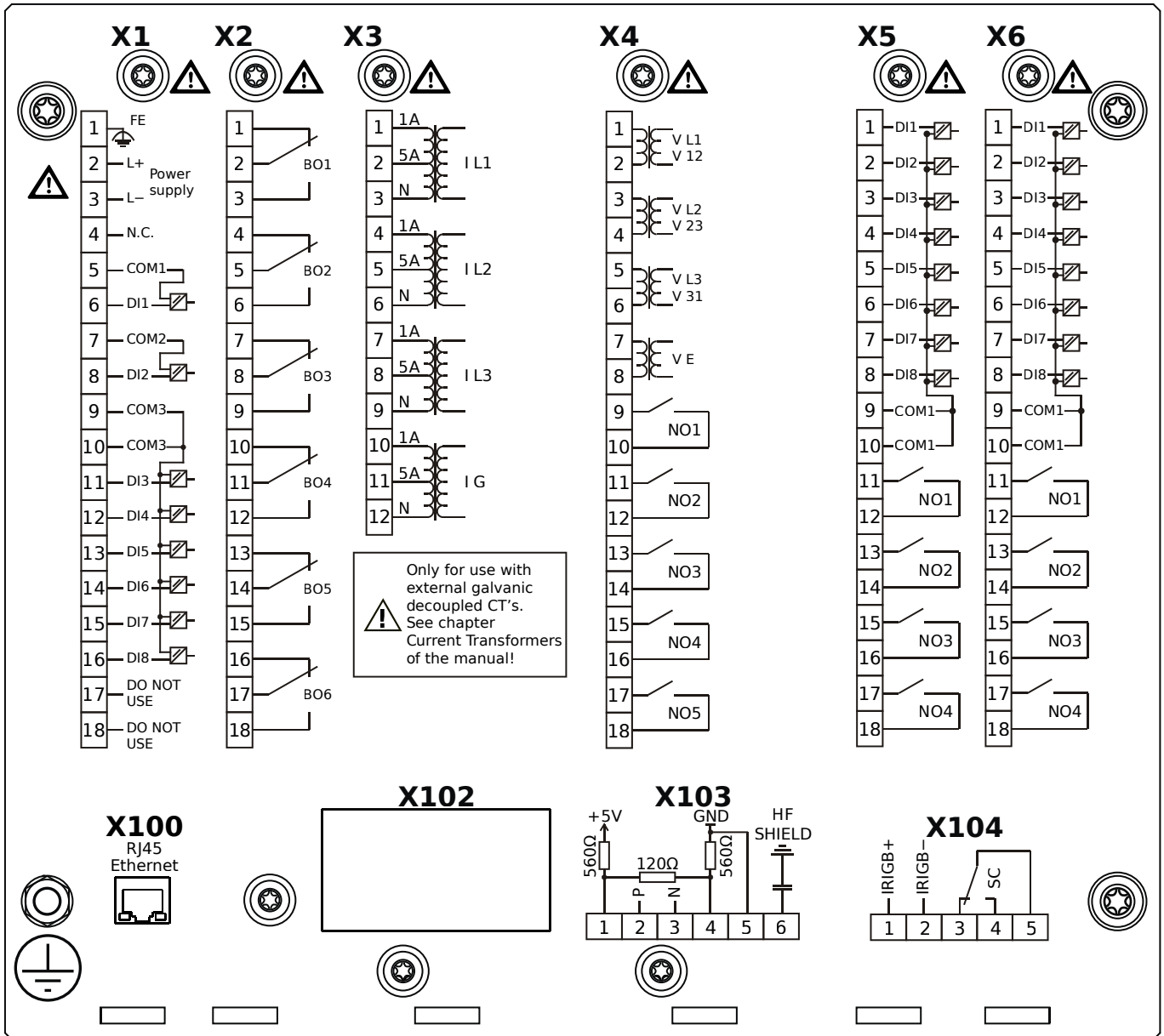**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AHB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AIA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AIB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
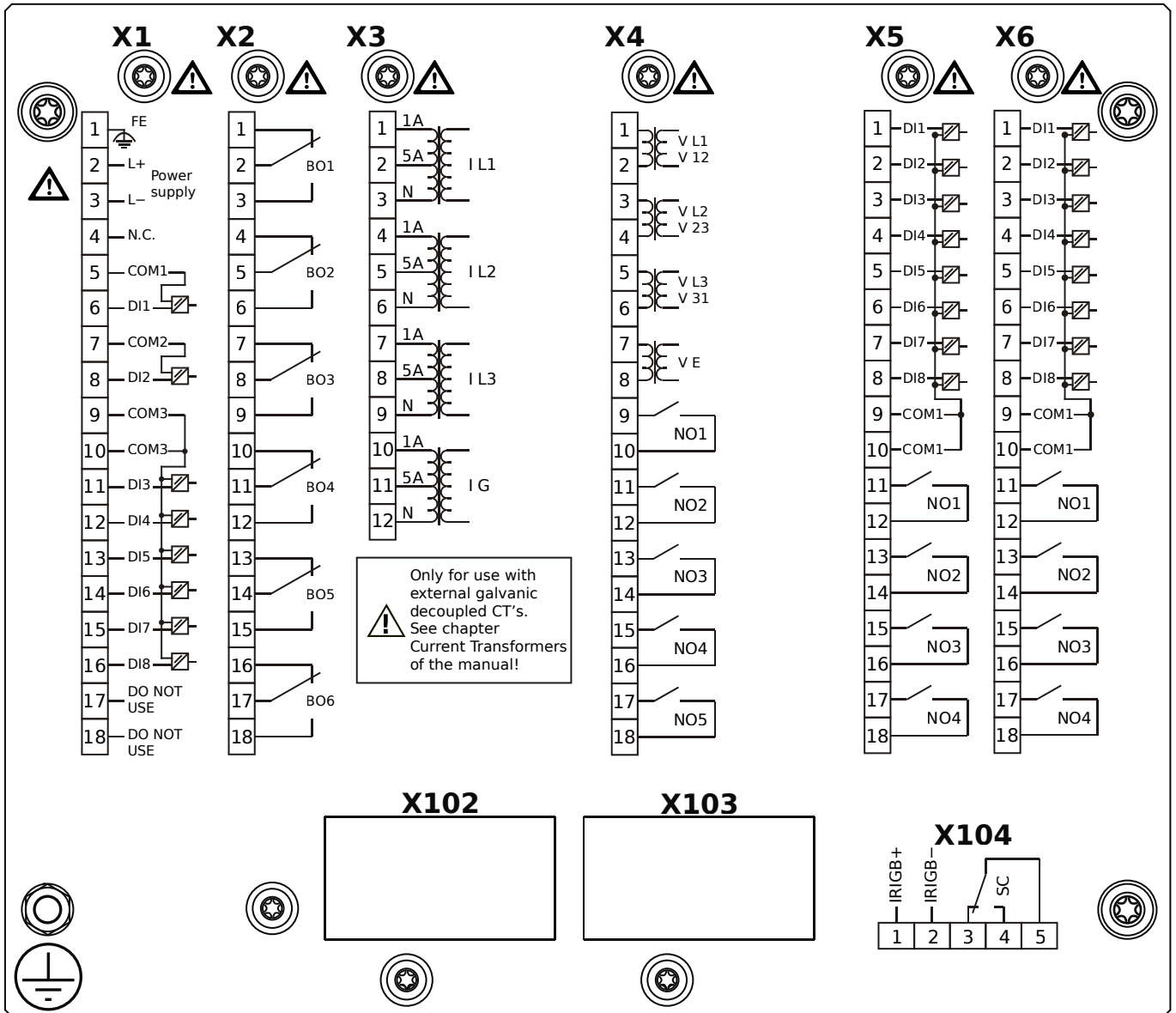**X5**   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
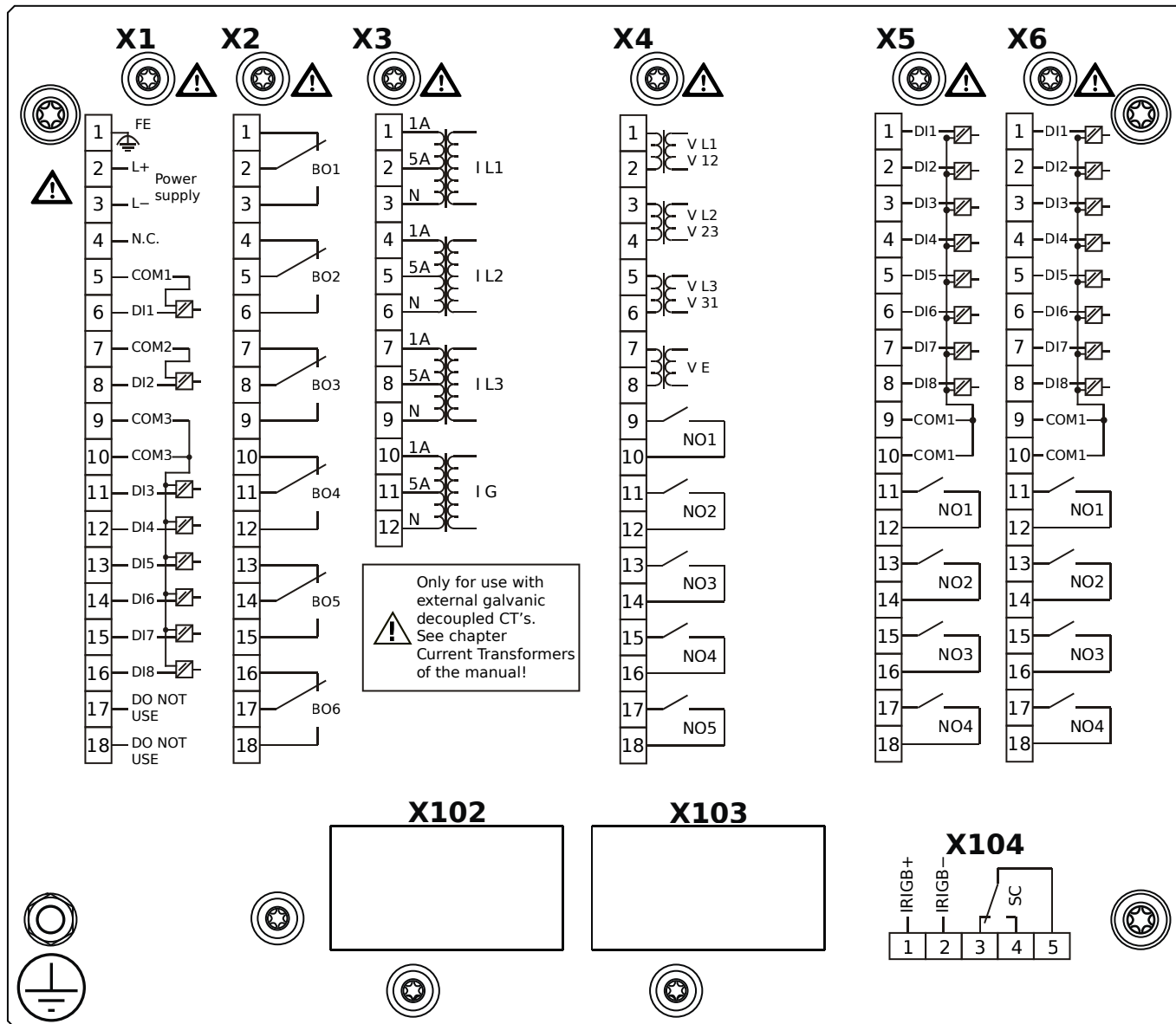**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AKA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0AKB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ALA

Housing B2, small display, door mounting

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ALB

X1
1 FE ⏚
2 L+ ⎫ Power
3 L− ⎬ supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎫ I L1
3 N
4 1A
5 5A ⎫ I L2
6 N
7 1A
8 5A ⎫ I L3
9 N
10 1A
11 5A ⎫ I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎫ V L1
2 ⎬ V 12
3 ⎫ V L2
4 ⎬ V 23
5 ⎫ V L3
6 ⎬ V 31
7 ⎫ V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ATA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N

1	2	3	4	5	6

X104

IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
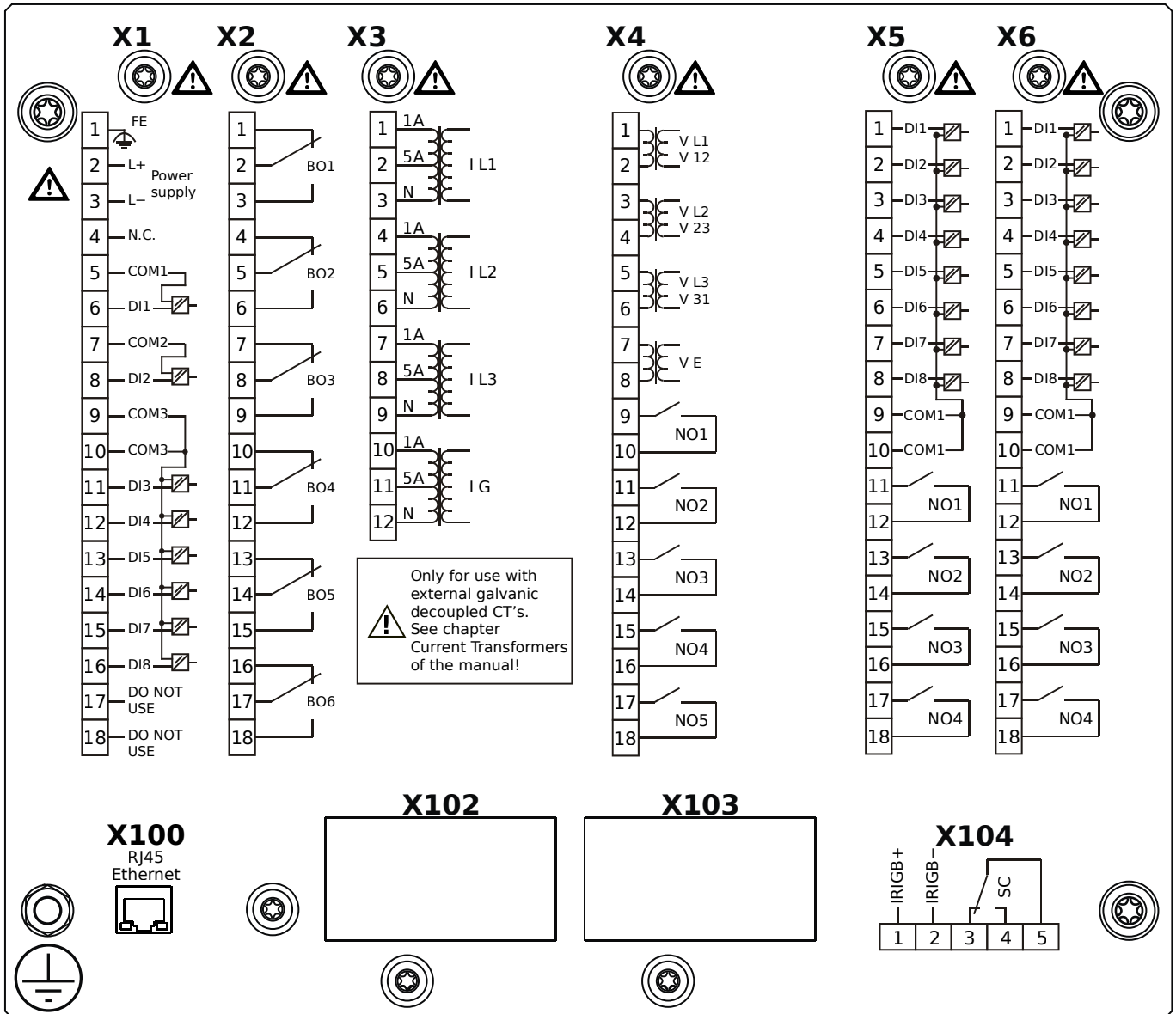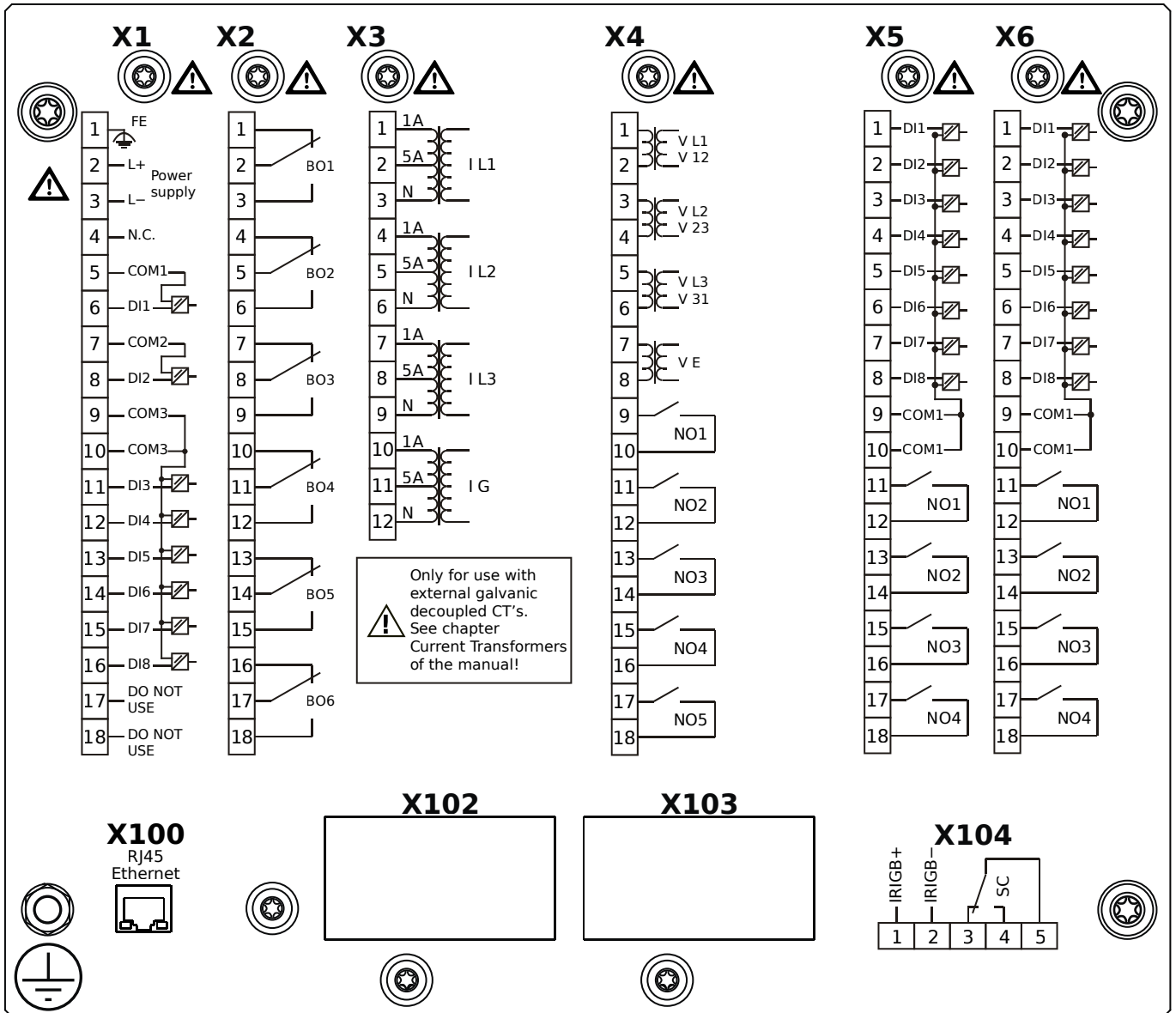**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0ATB

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103
+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104
IRIGB+	IRIGB−	SC		
1	2	3	4	5

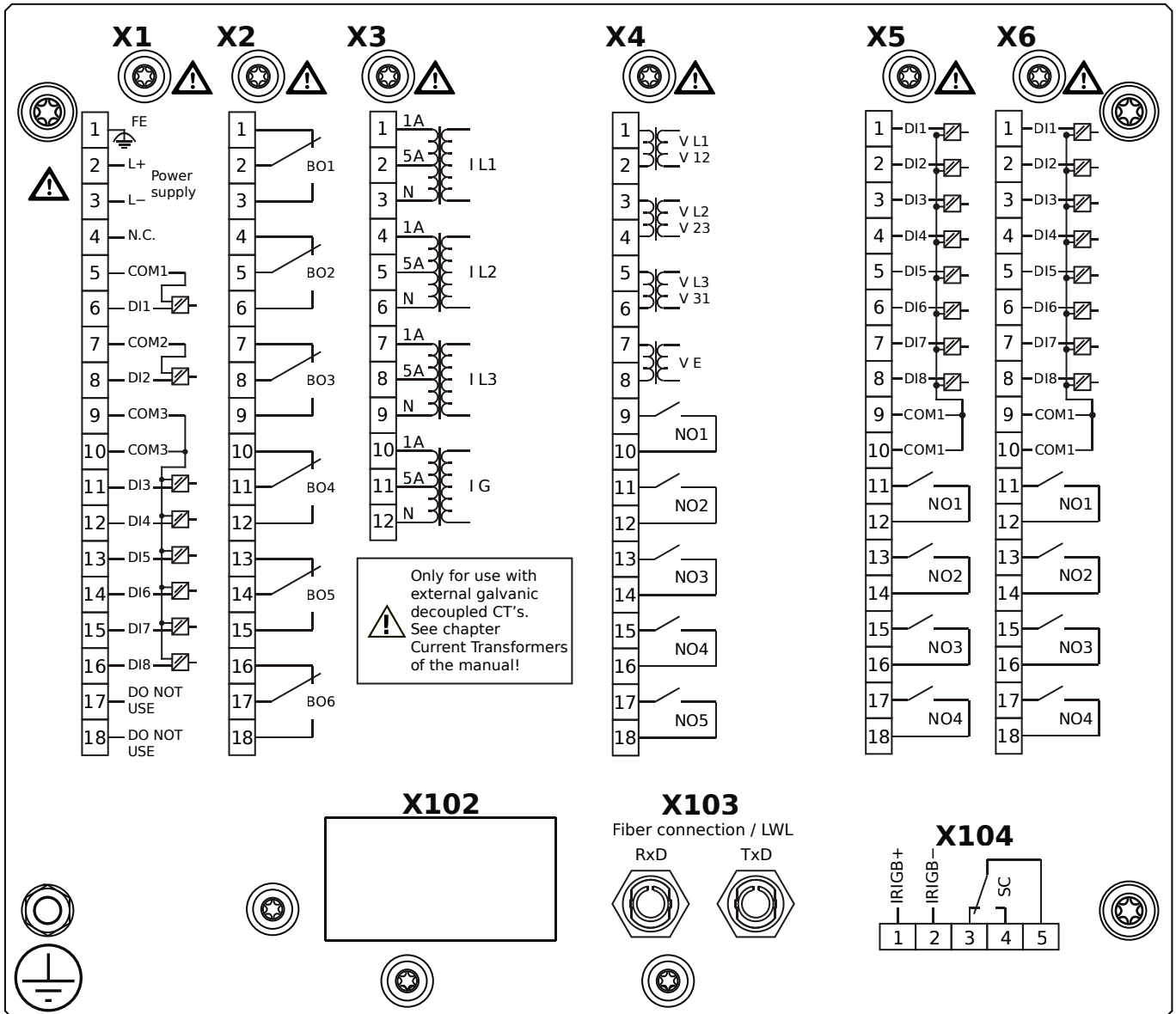**Housing B2, small display, door mounting**
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BAA

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104
1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BAB

X1
1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104
1	2	3	4	5
IRIGB+	IRIGB−	SC		

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
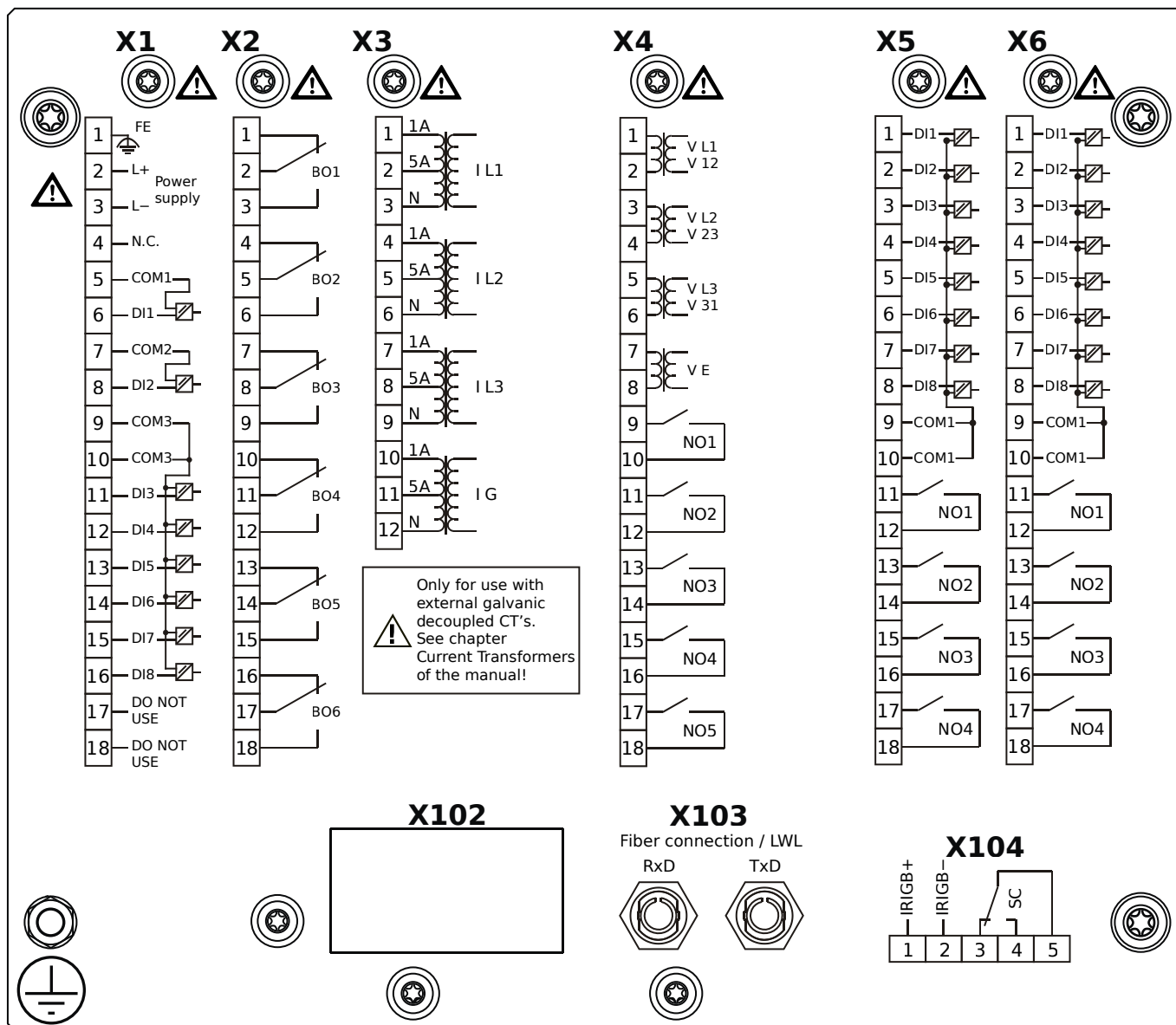**X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BBA

X1 **X2** **X3** **X4** **X5** **X6**

X1:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3:
1 1A
2 5A / I L1
3 N
4 1A
5 5A / I L2
6 N
7 1A
8 5A / I L3
9 N
10 1A
11 5A / I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4:
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
+5V   GND   HF SHIELD
560Ω   120Ω   560Ω
P   N
1 2 3 4 5 6

X104
IRIGB+   IRIGB−   SC
1 2 3 4 5

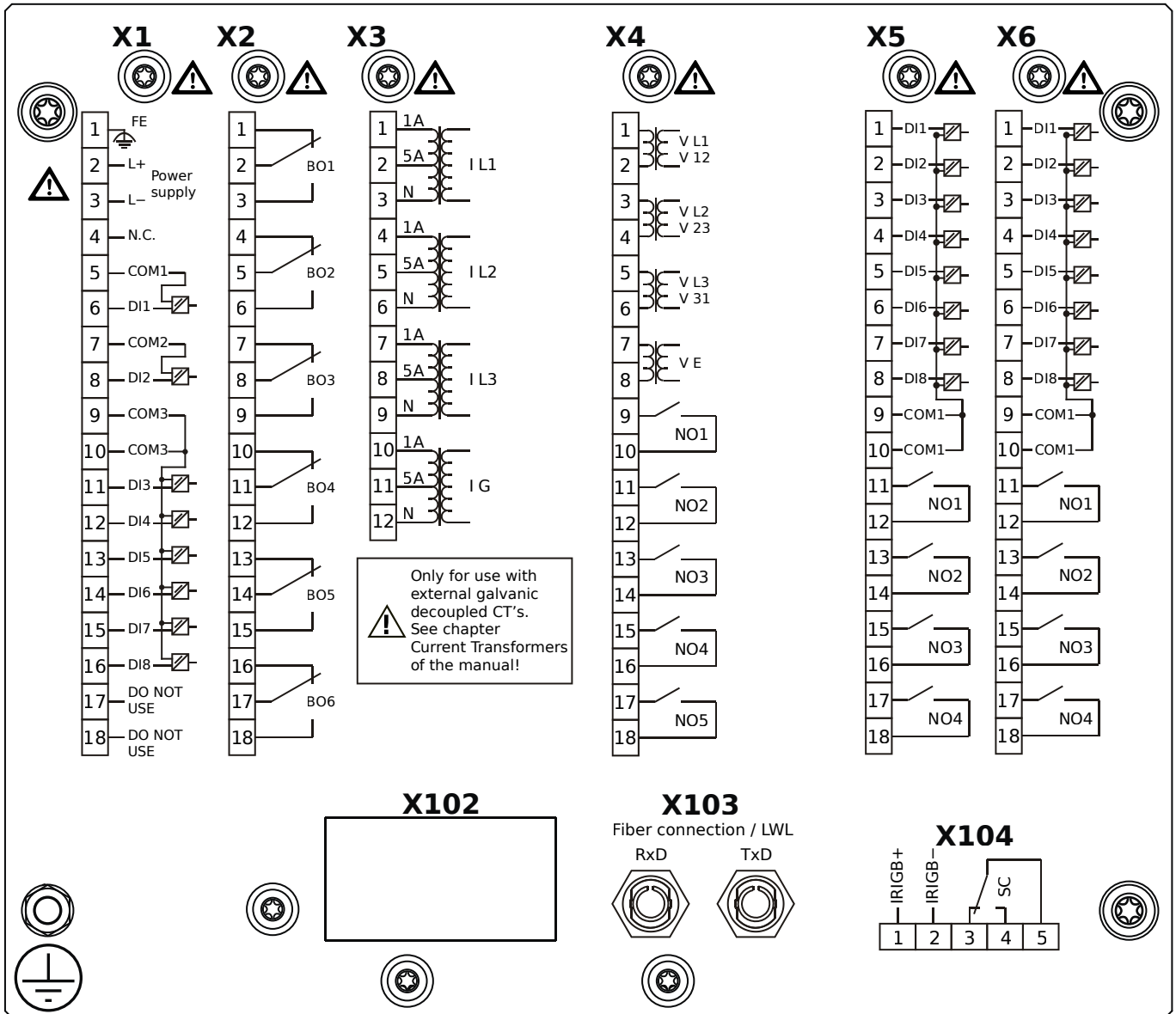**Housing B2, small display, 19" rack mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BBB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

+5V   GND   HF SHIELD

560Ω   120Ω   560Ω

1	2	3	4	5	6
	P	N			

X104

IRIGB+ IRIGB− SC

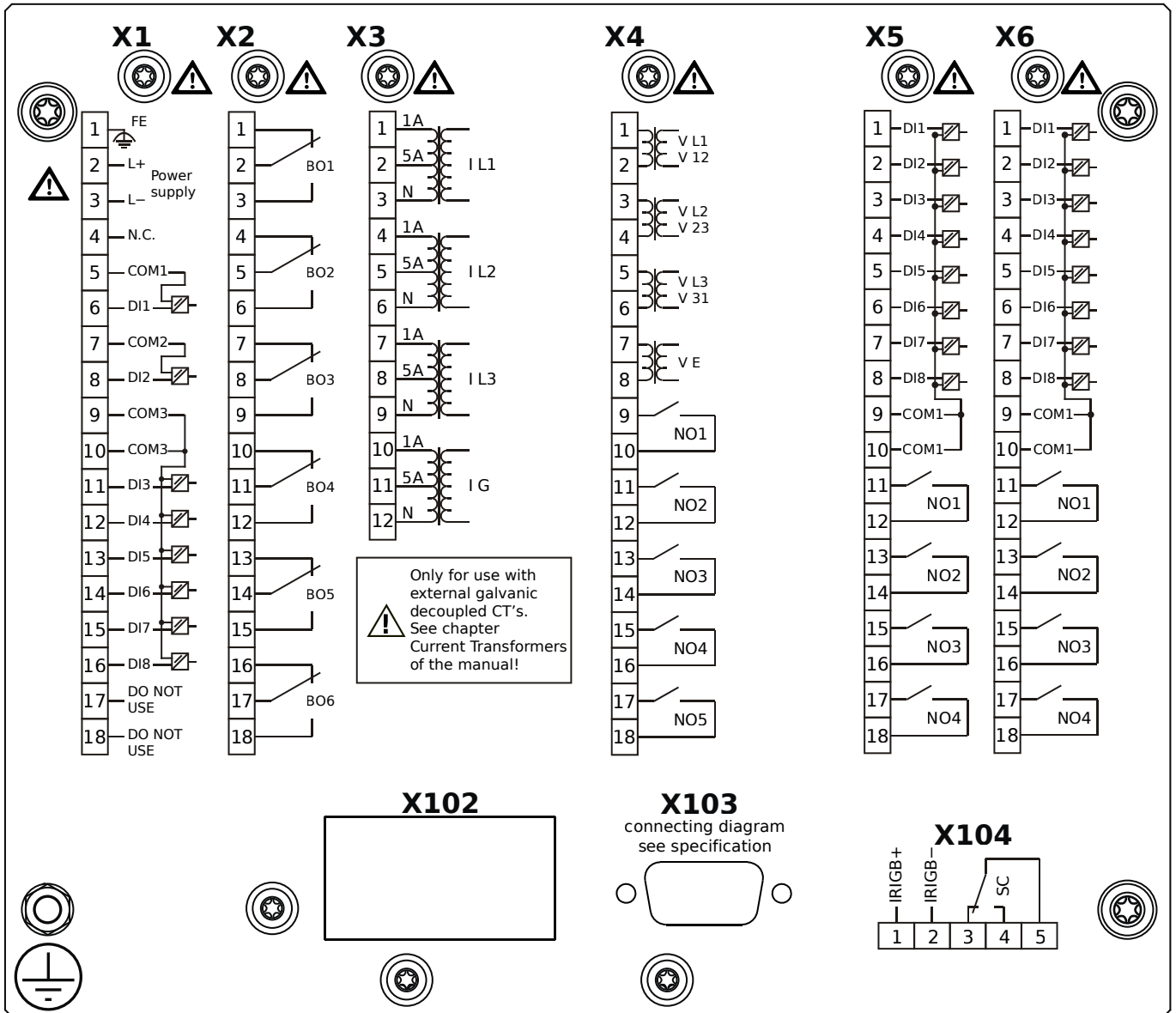| 1	2	3	4	5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BCA

X1 **X2** **X3** **X4** **X5** **X6**

X1:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2:
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3:
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4:
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X100
RJ45 Ethernet
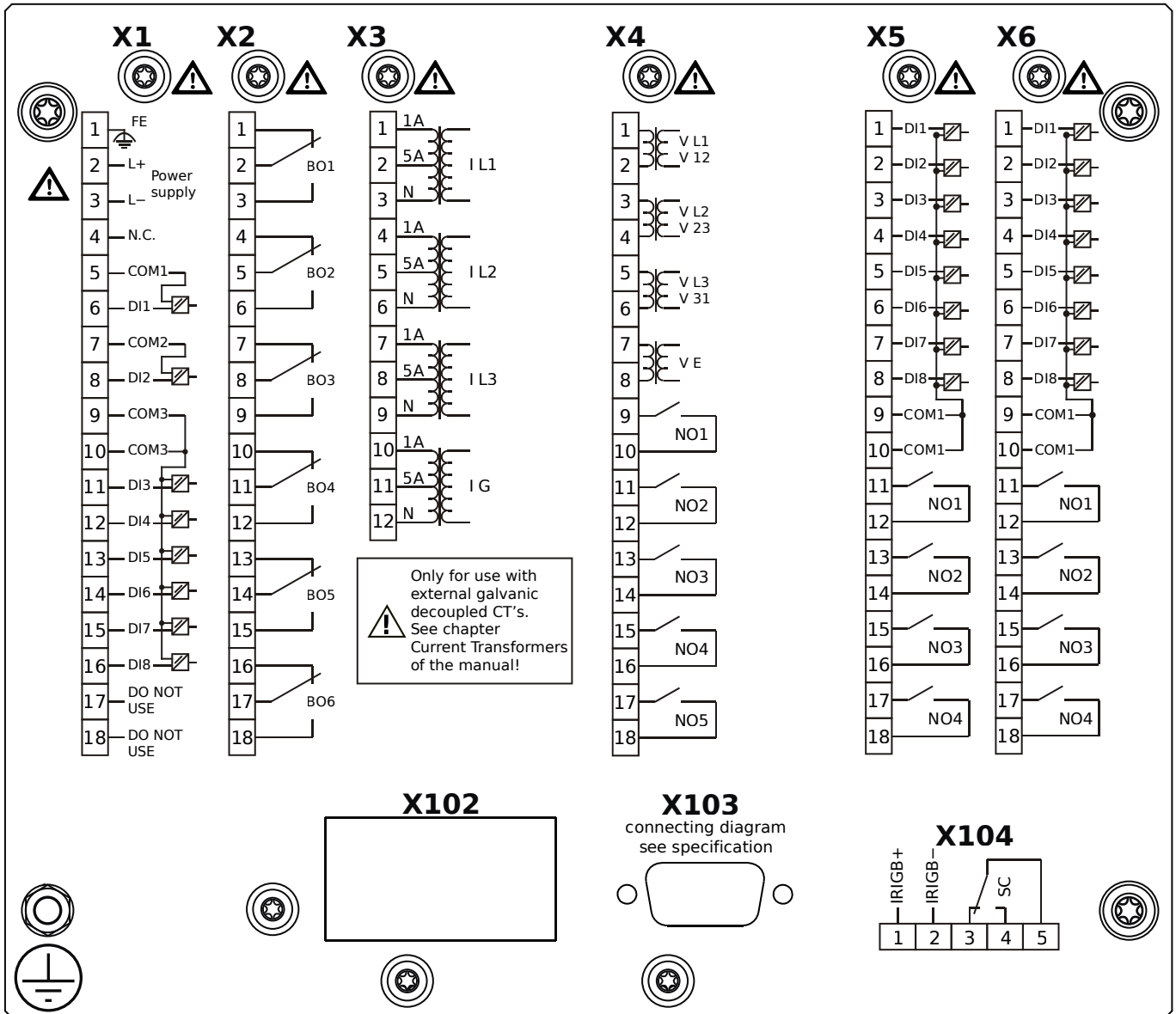
X102

X103

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BCB

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104
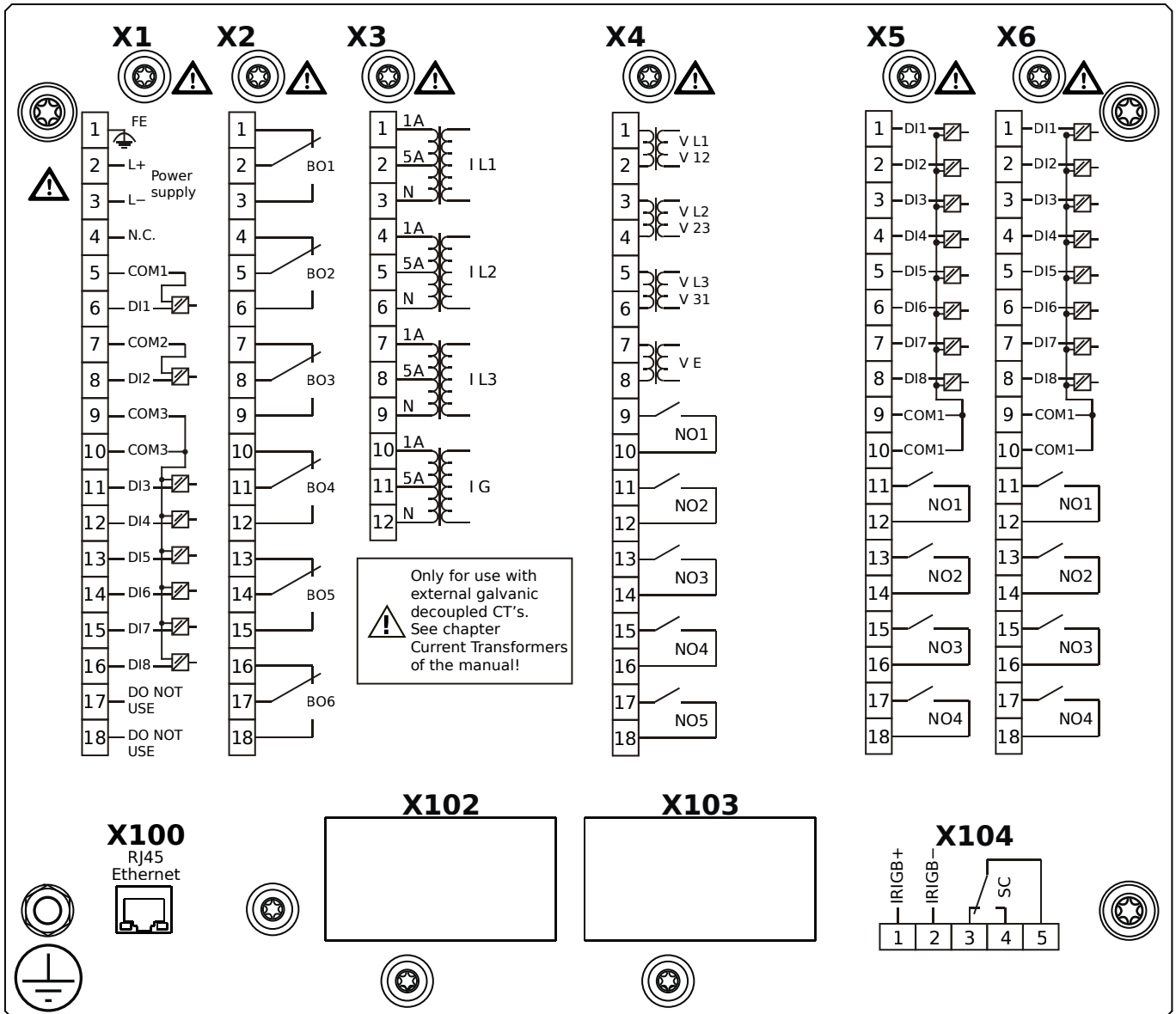| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
+   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BDA

X1 – DI8-X1

1	FE ⏚
2	L+
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

Power supply

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
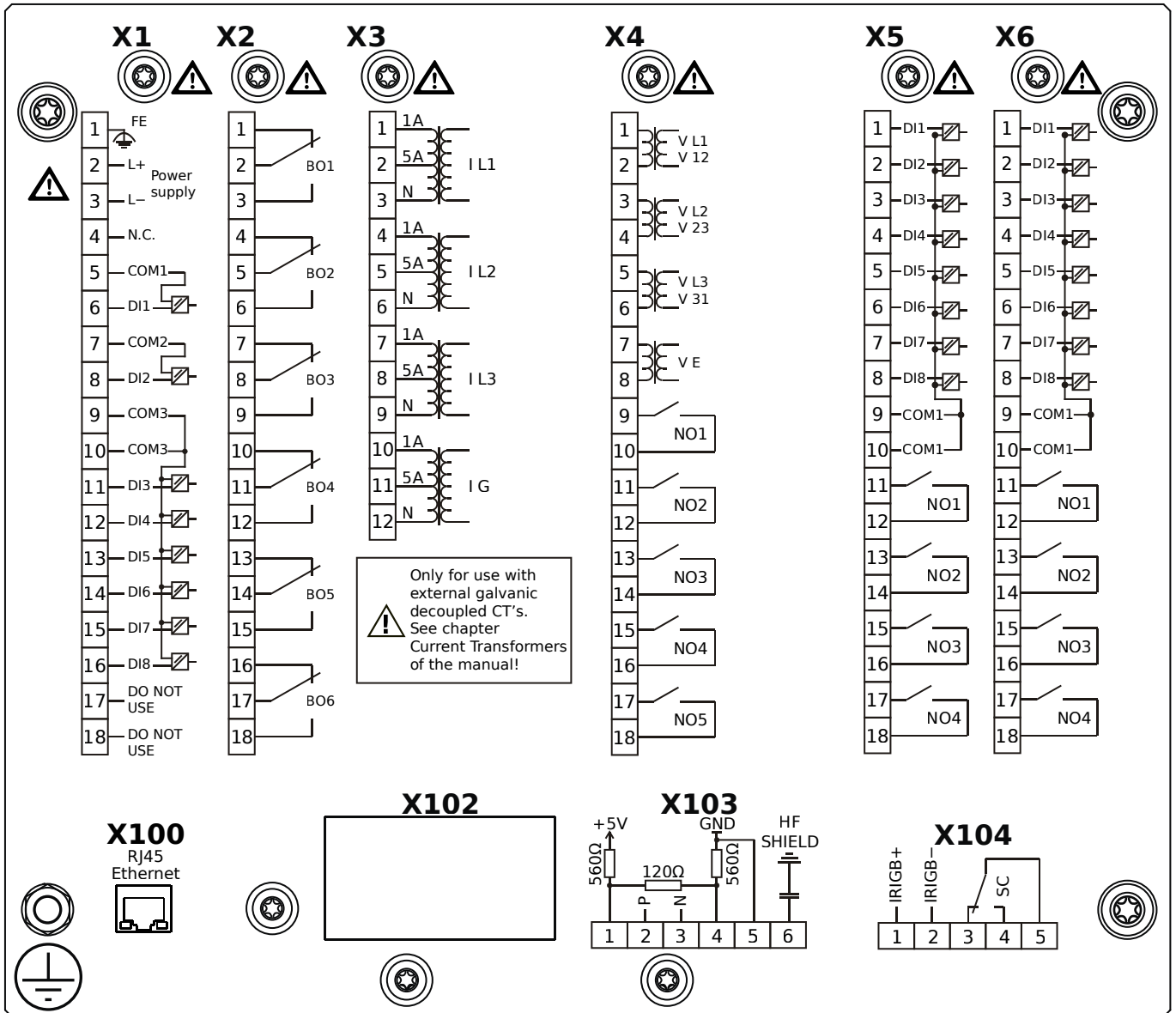**X4** – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BDB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
  +   Conformal Coating (for installations in harsh environment)
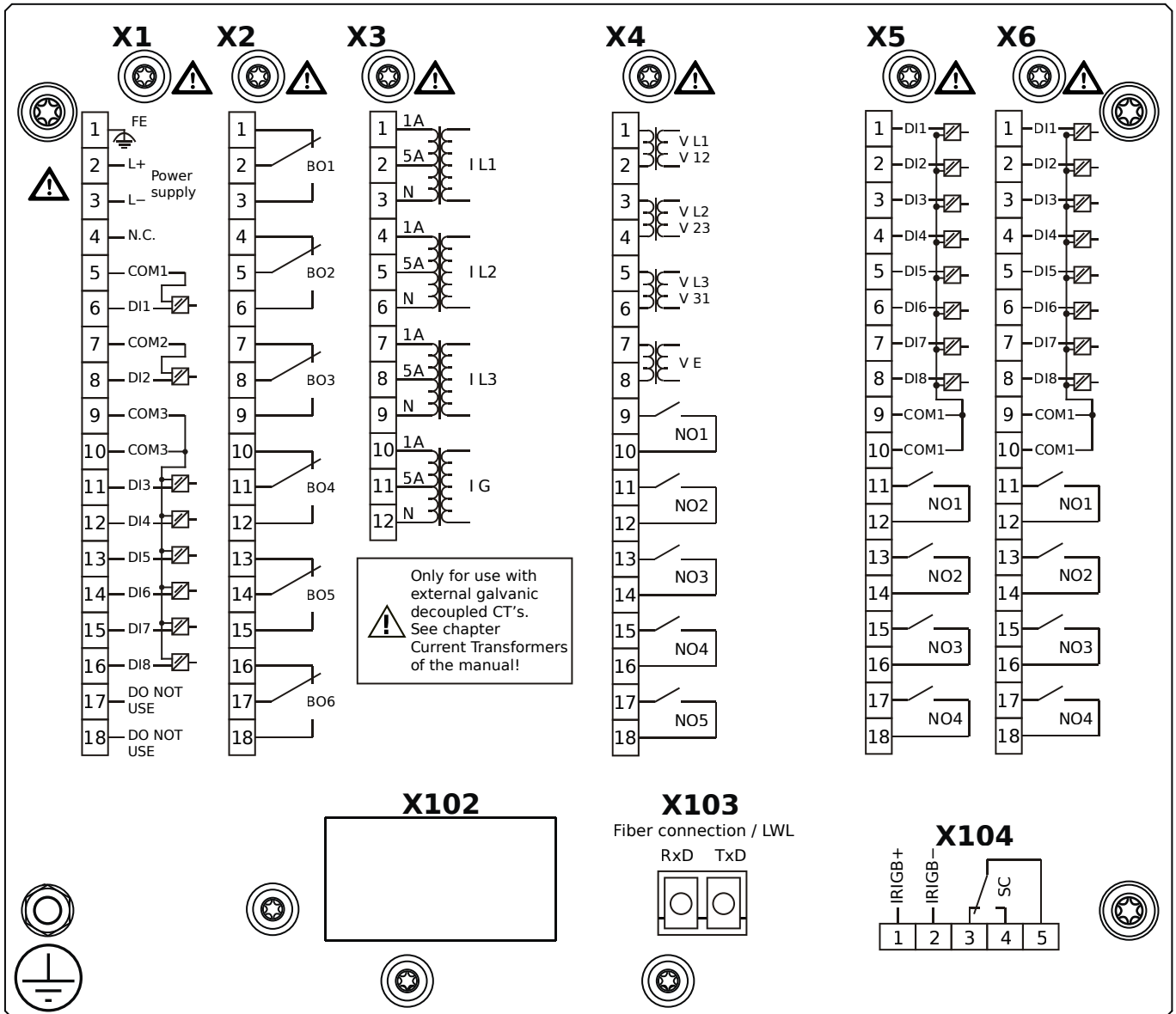**X1**   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BEA

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104
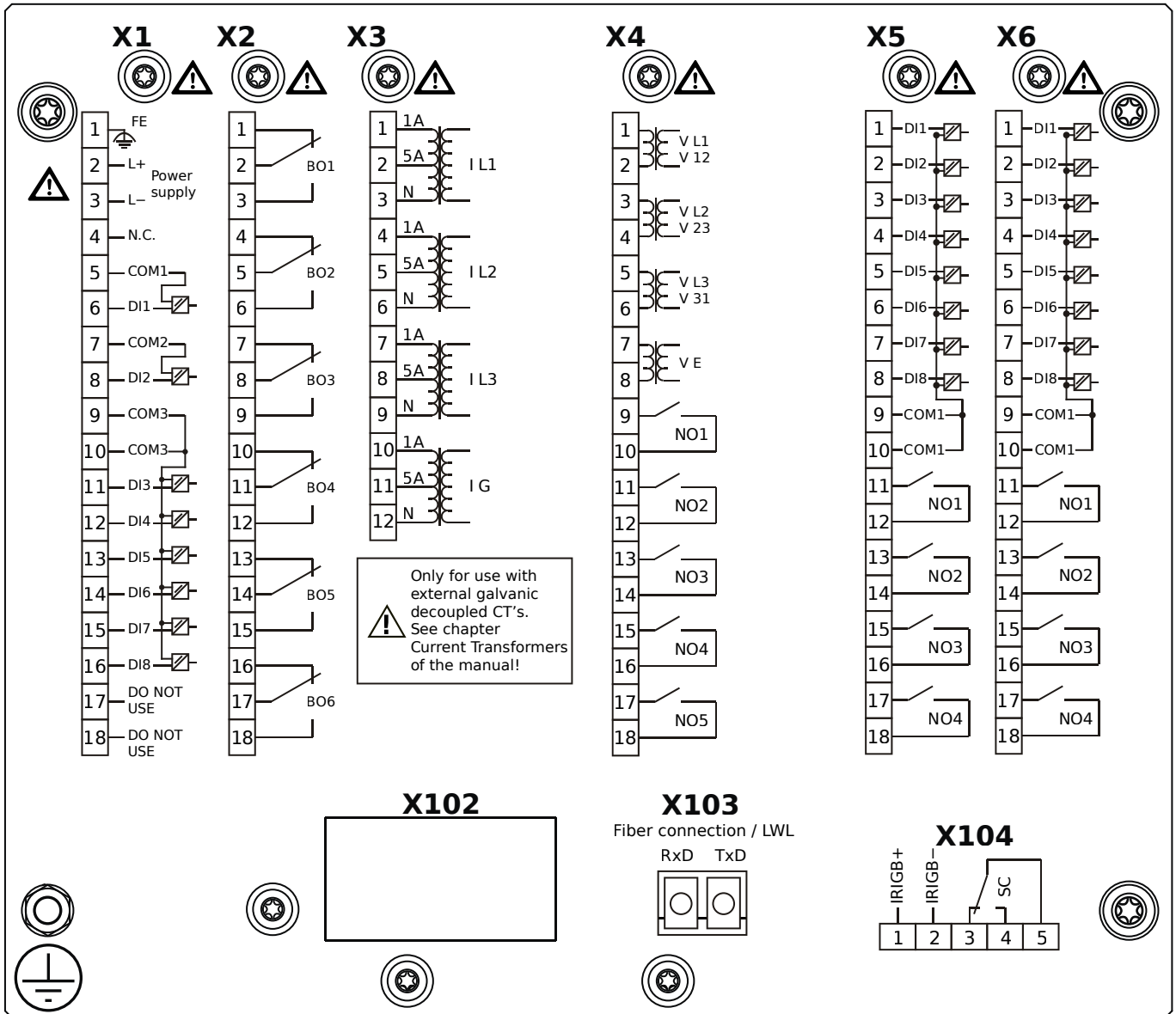| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BEB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram see specification

X104

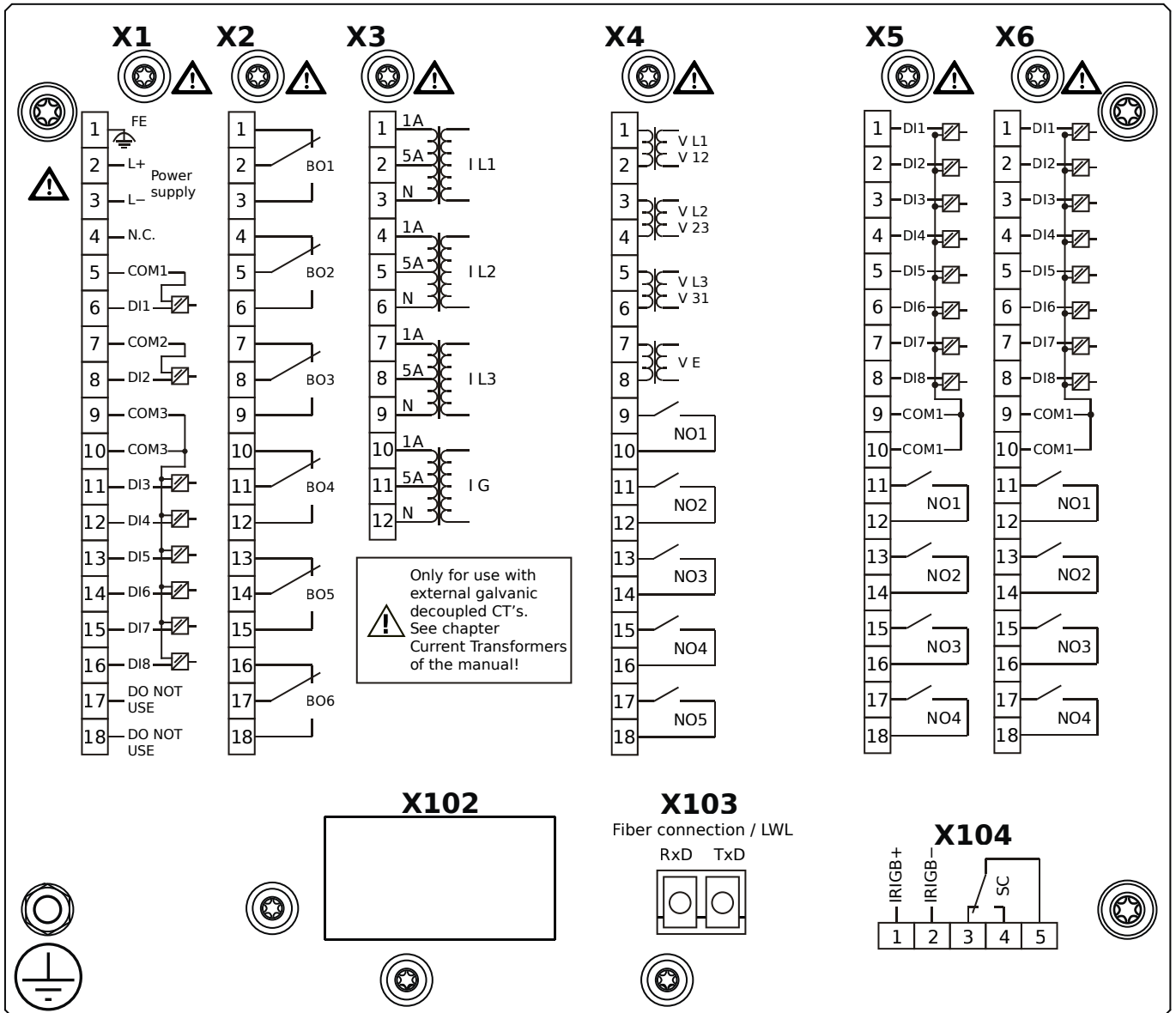| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BFA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A · I L1
3	N
4	1A
5	5A · I L2
6	N
7	1A
8	5A · I L3
9	N
10	1A
11	5A · I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BFB

X1
1 — FE ⏚
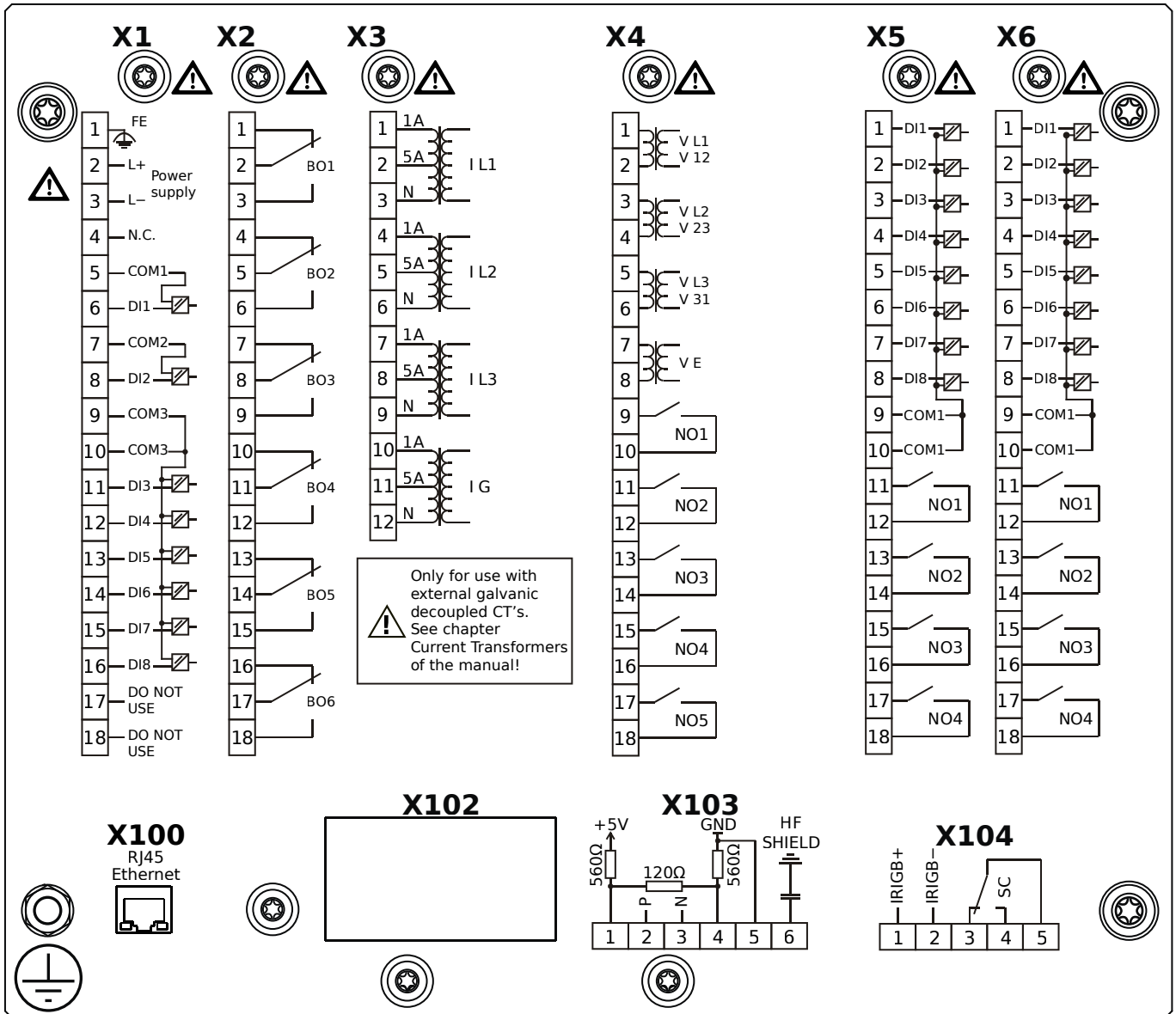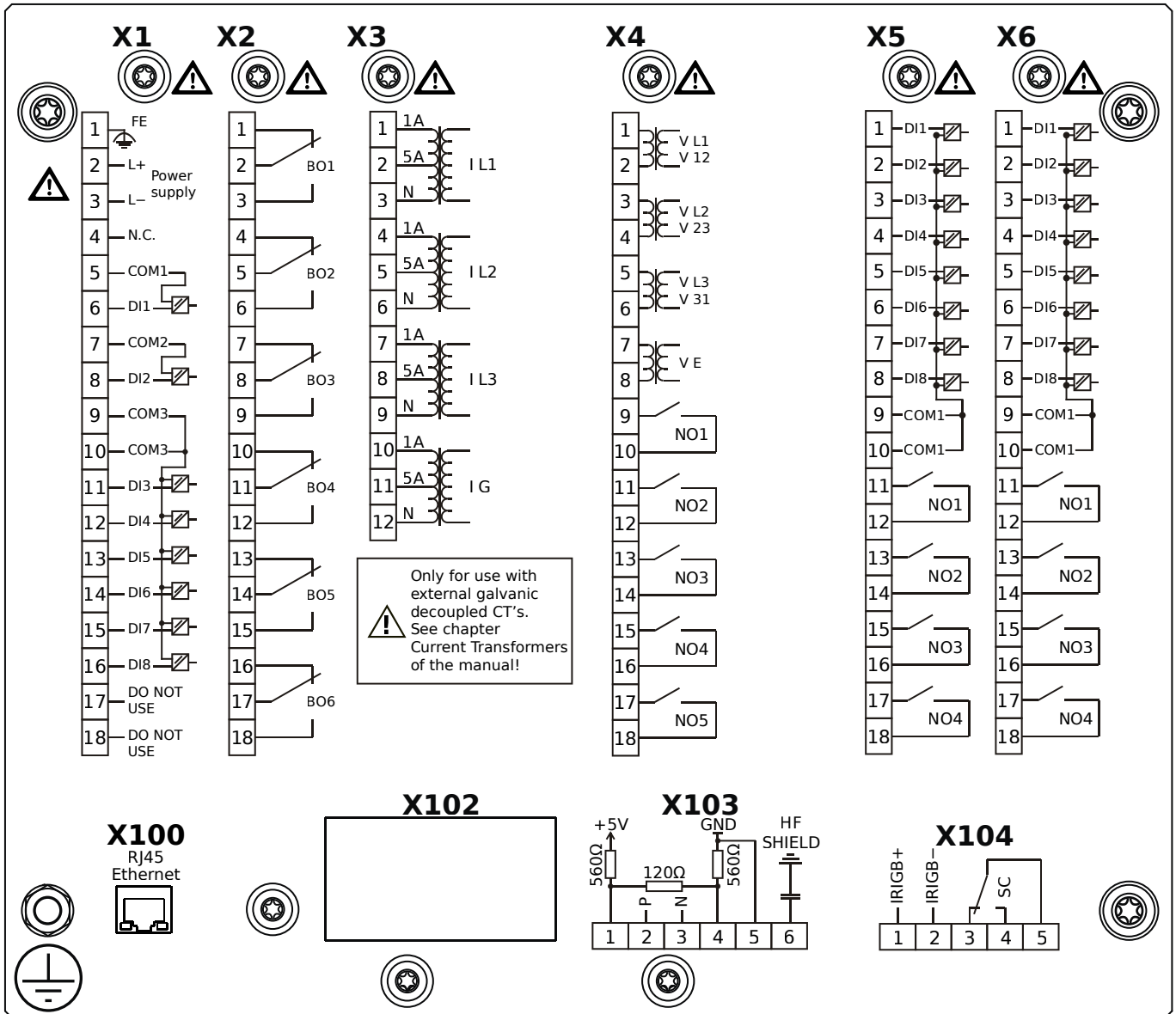2 — L+ ⎫ Power
3 — L− ⎬ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎫ V L1
2 ⎬ V 12
3 ⎫ V L2
4 ⎬ V 23
5 ⎫ V L3
6 ⎬ V 31
7 ⎫ V E
8 ⎭
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BGA

X1
1	FE ⏚
2	L+
3	L− (Power supply)
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A (I L1)
3	N
4	1A
5	5A (I L2)
6	N
7	1A
8	5A (I L3)
9	N
10	1A
11	5A (I G)
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram see specification

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
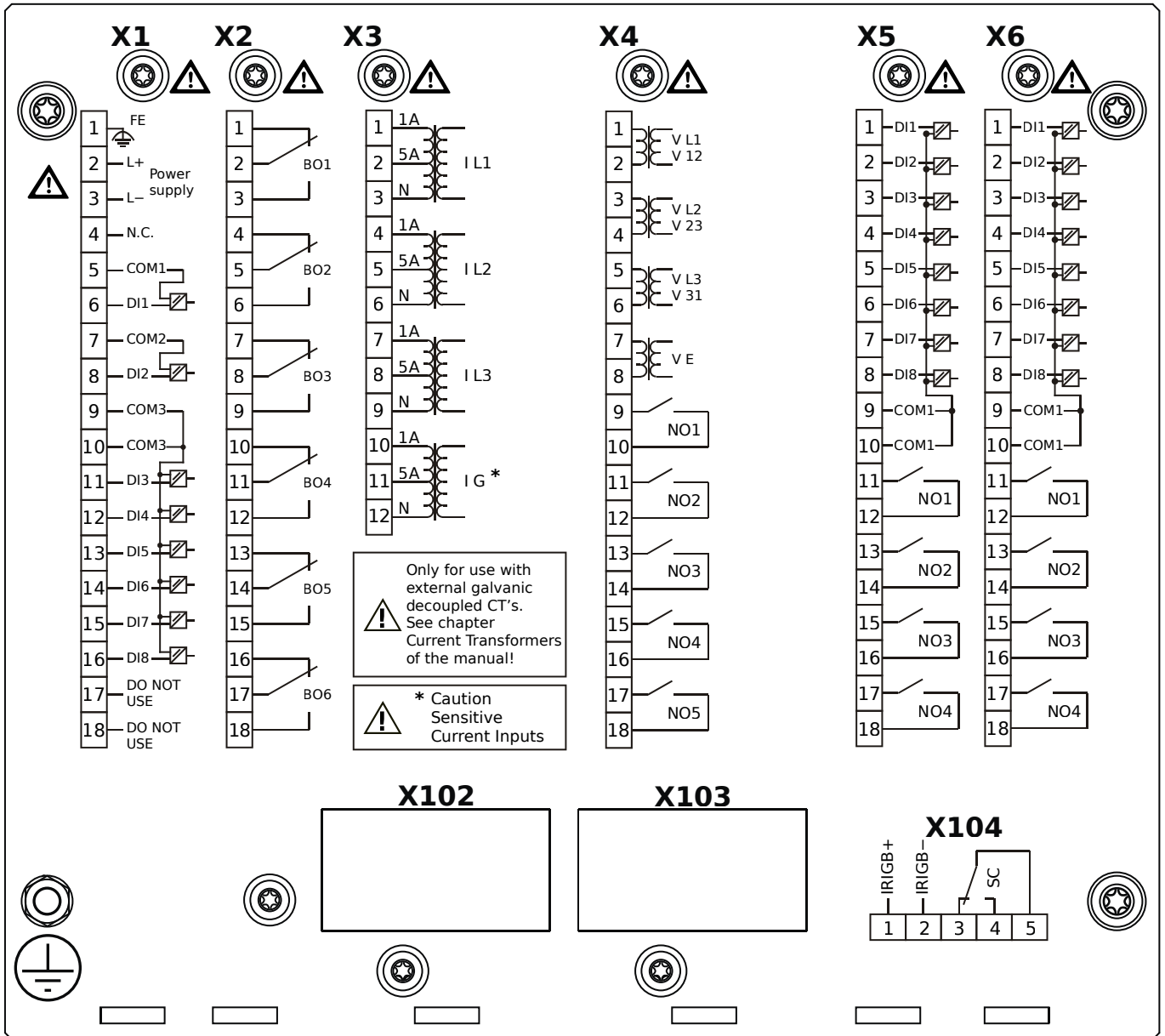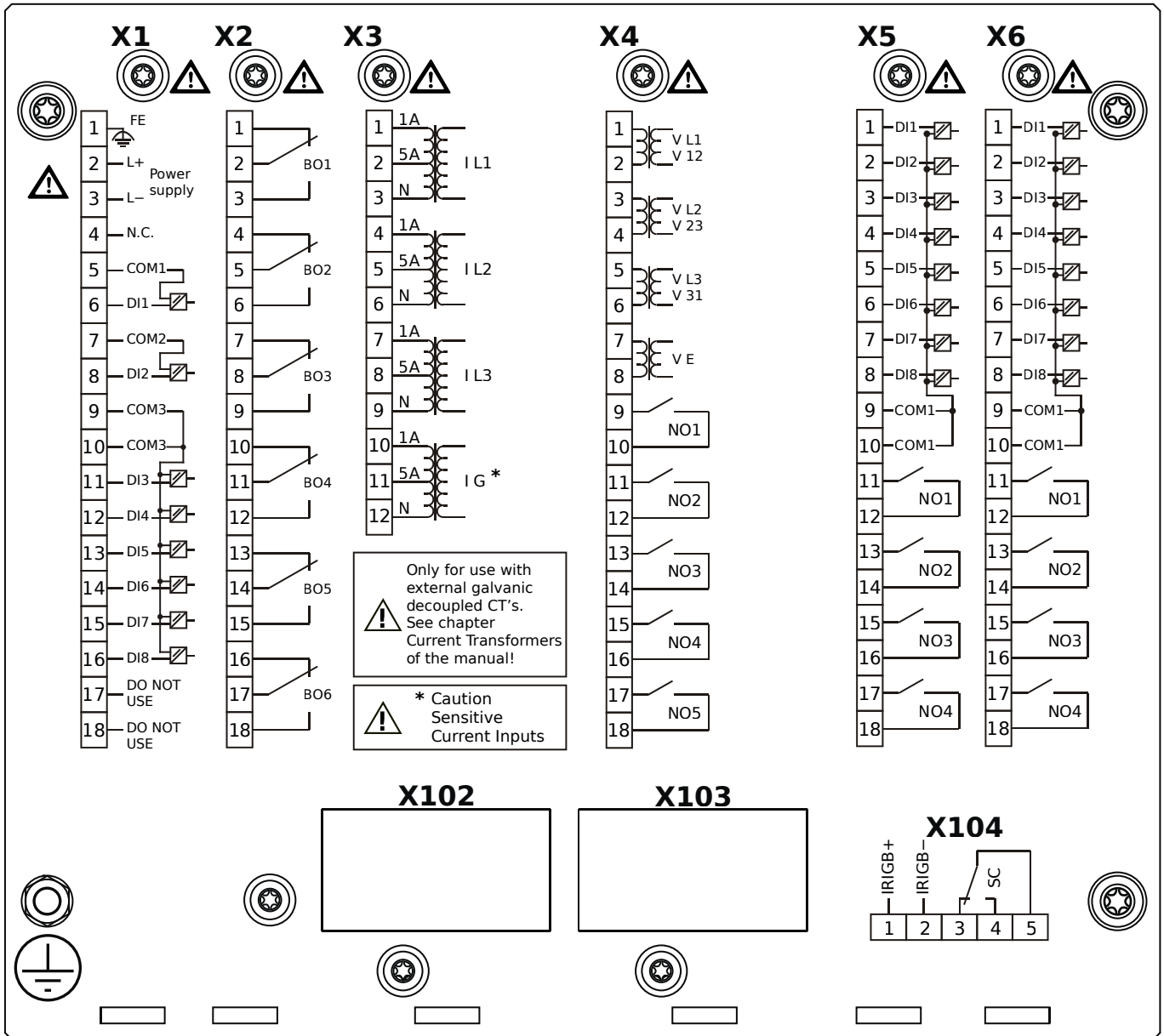**X5** – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

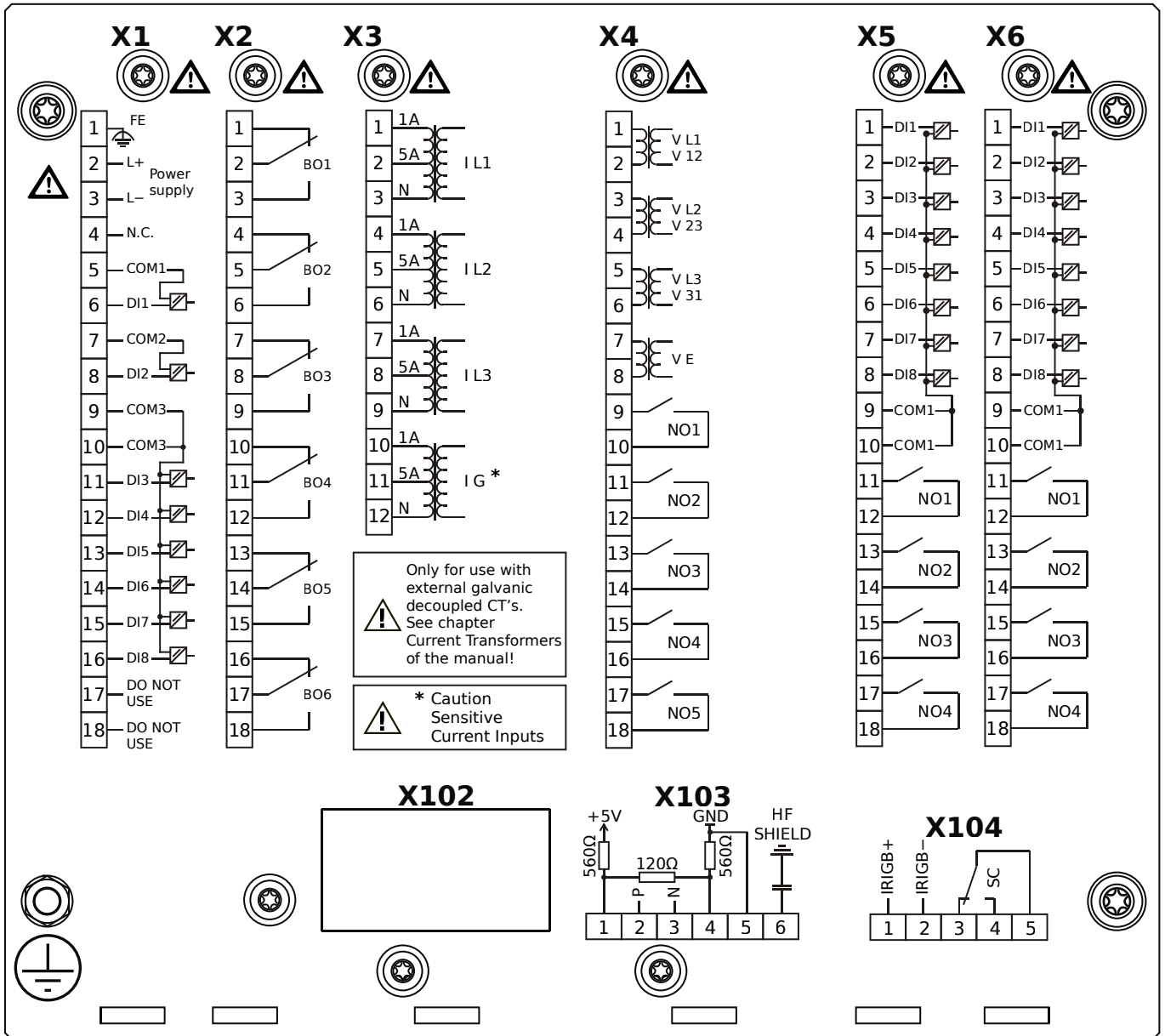**X104**
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BHA

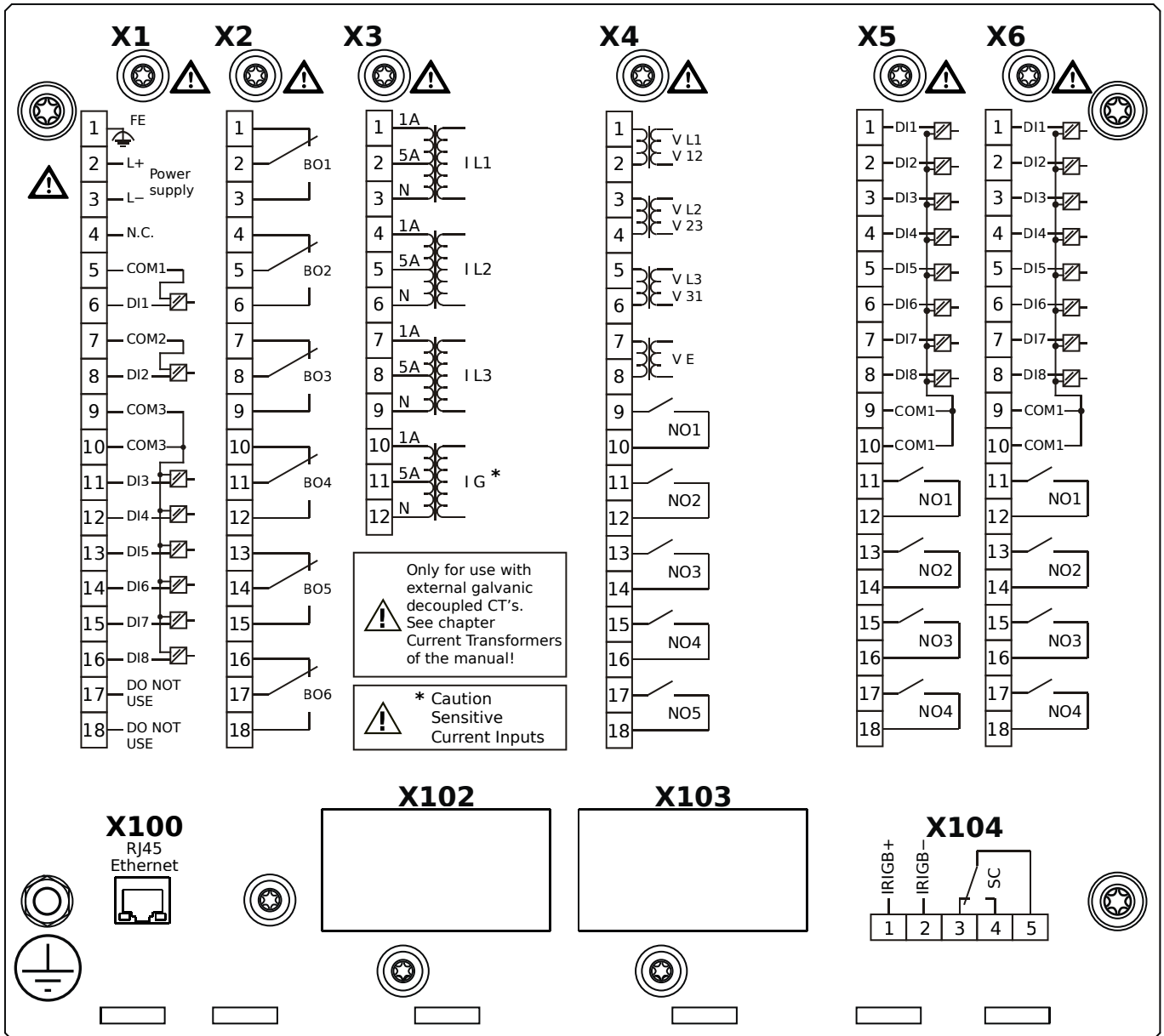

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BHB

X1
1 FE
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X100
RJ45 Ethernet

X102

X103

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
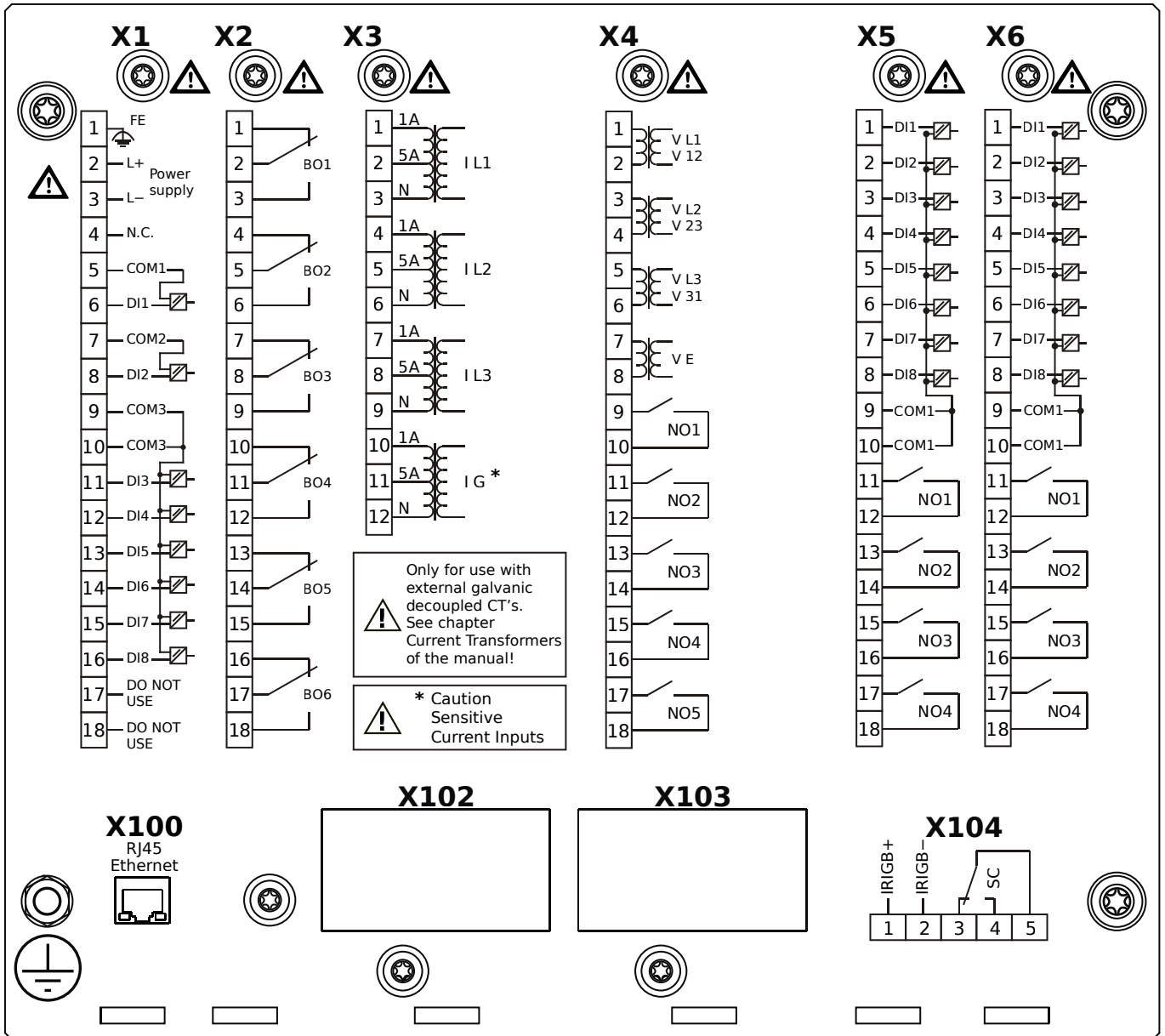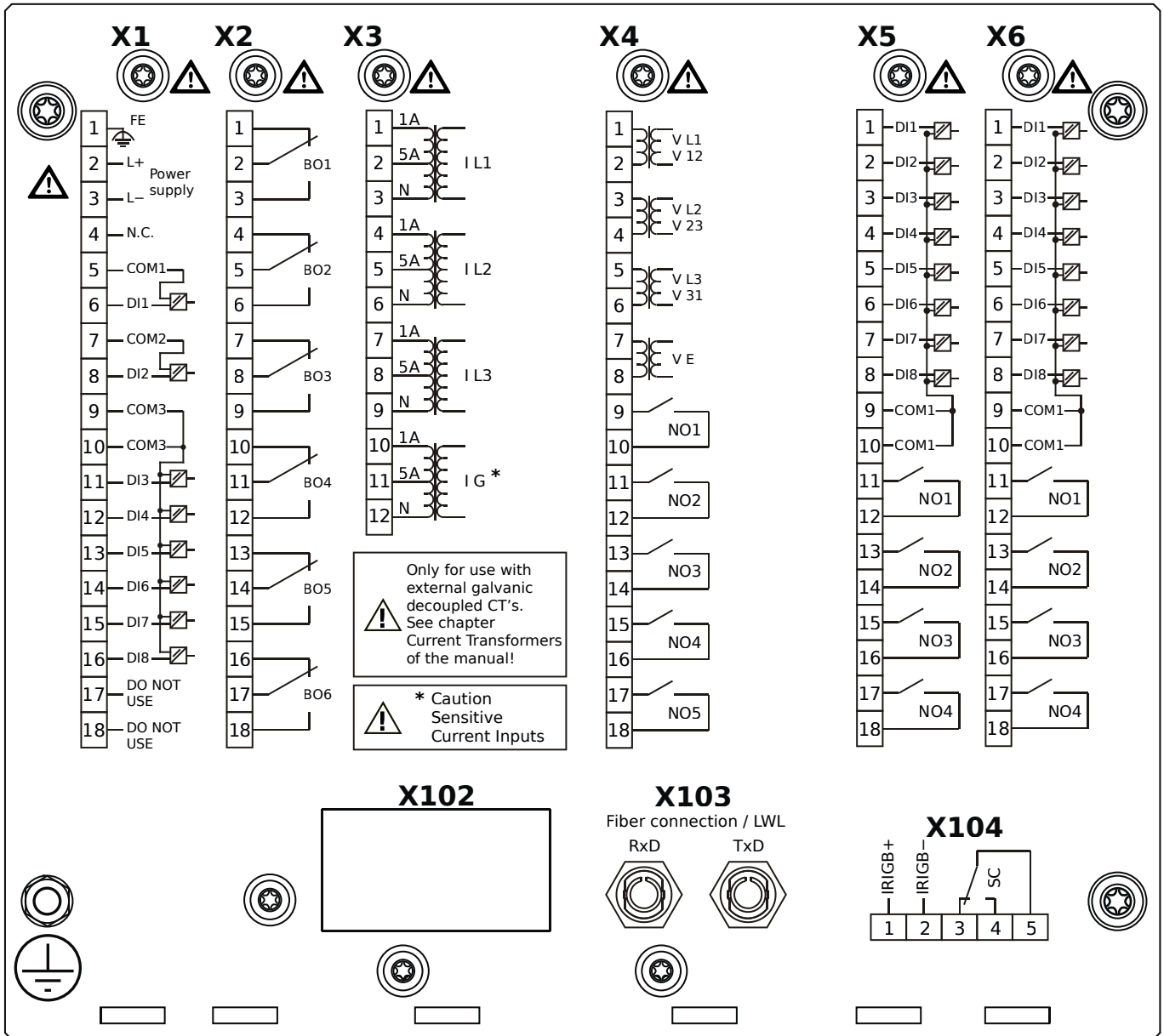**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BIA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BIB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BKA

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104

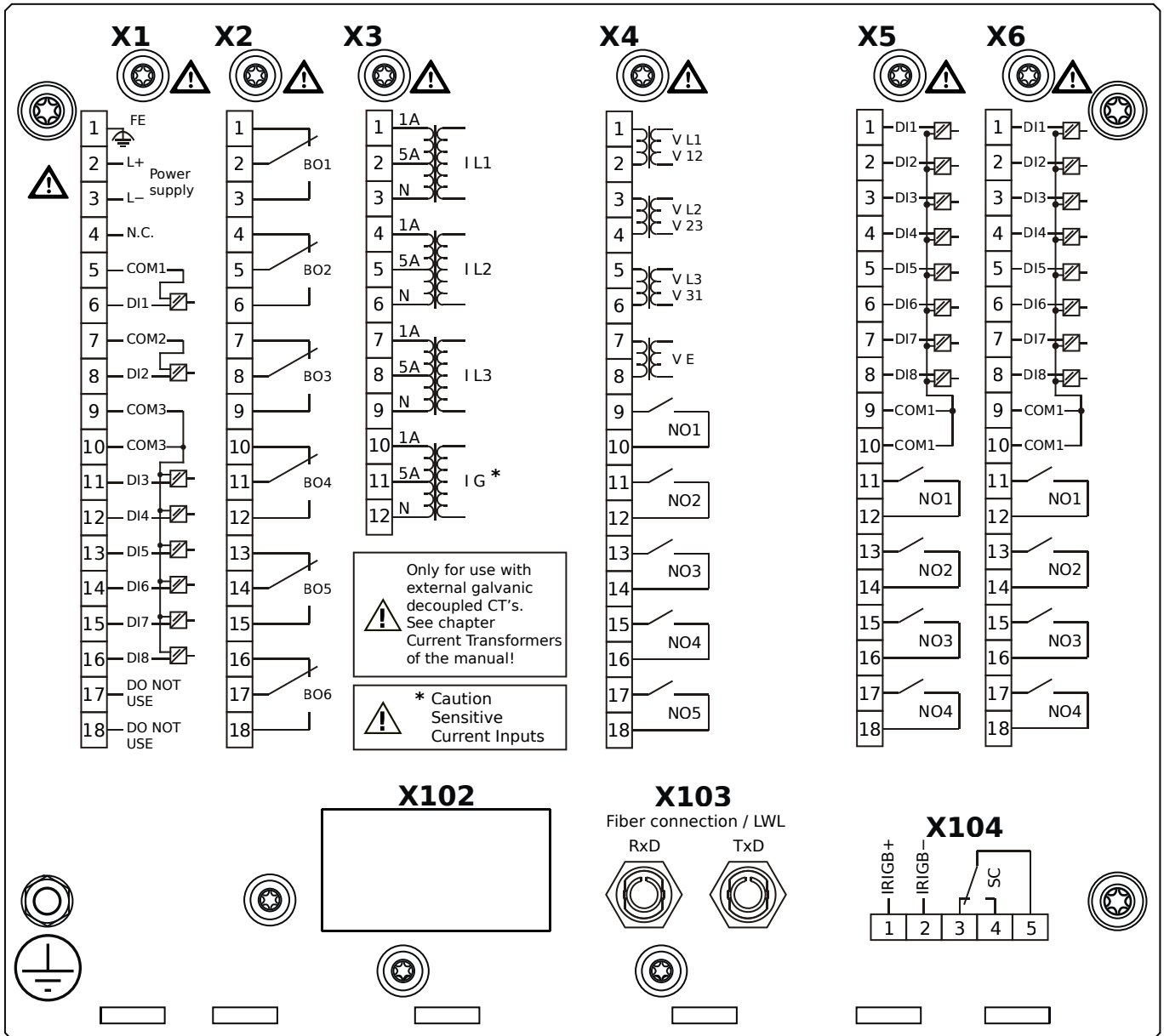| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BKB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104

IRIGB+   IRIGB−   SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BLA

X1

1	FE ⏚
2	L+
3	L−
	Power supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD
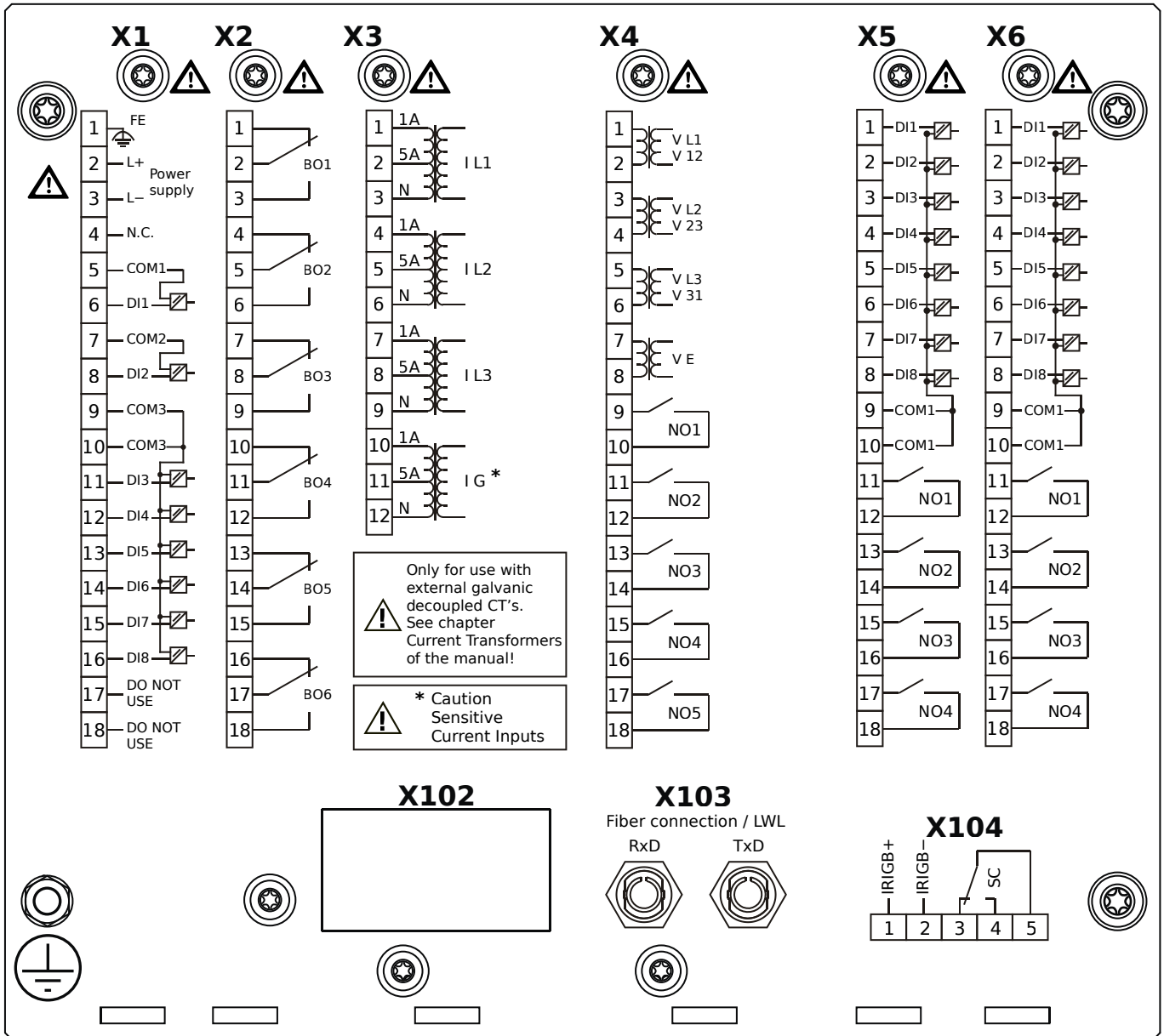
X104

IRIGB+ | IRIGB− | | SC |
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BLB

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
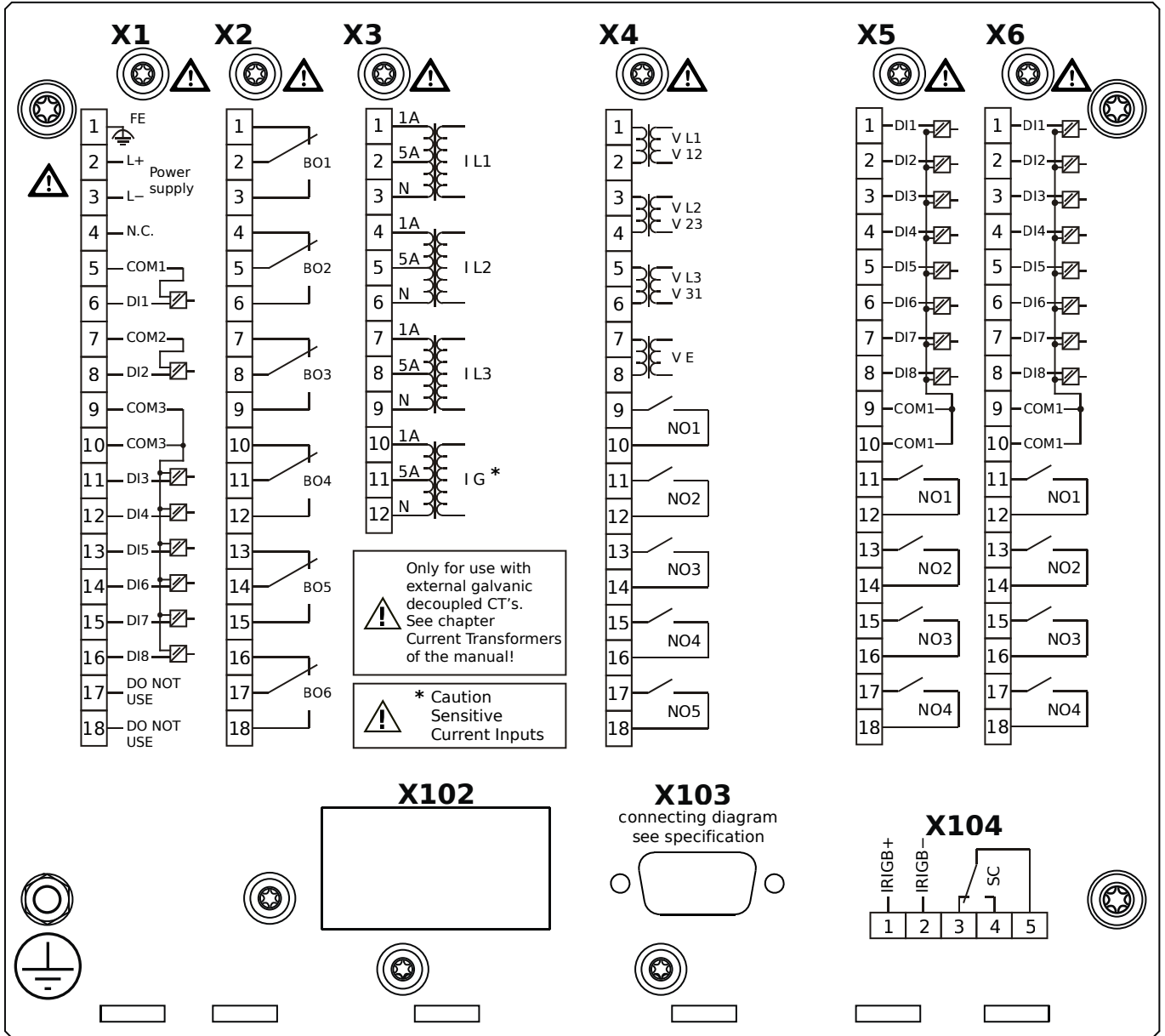IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BTA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
1	2 P	3 N	4	5	6

X104

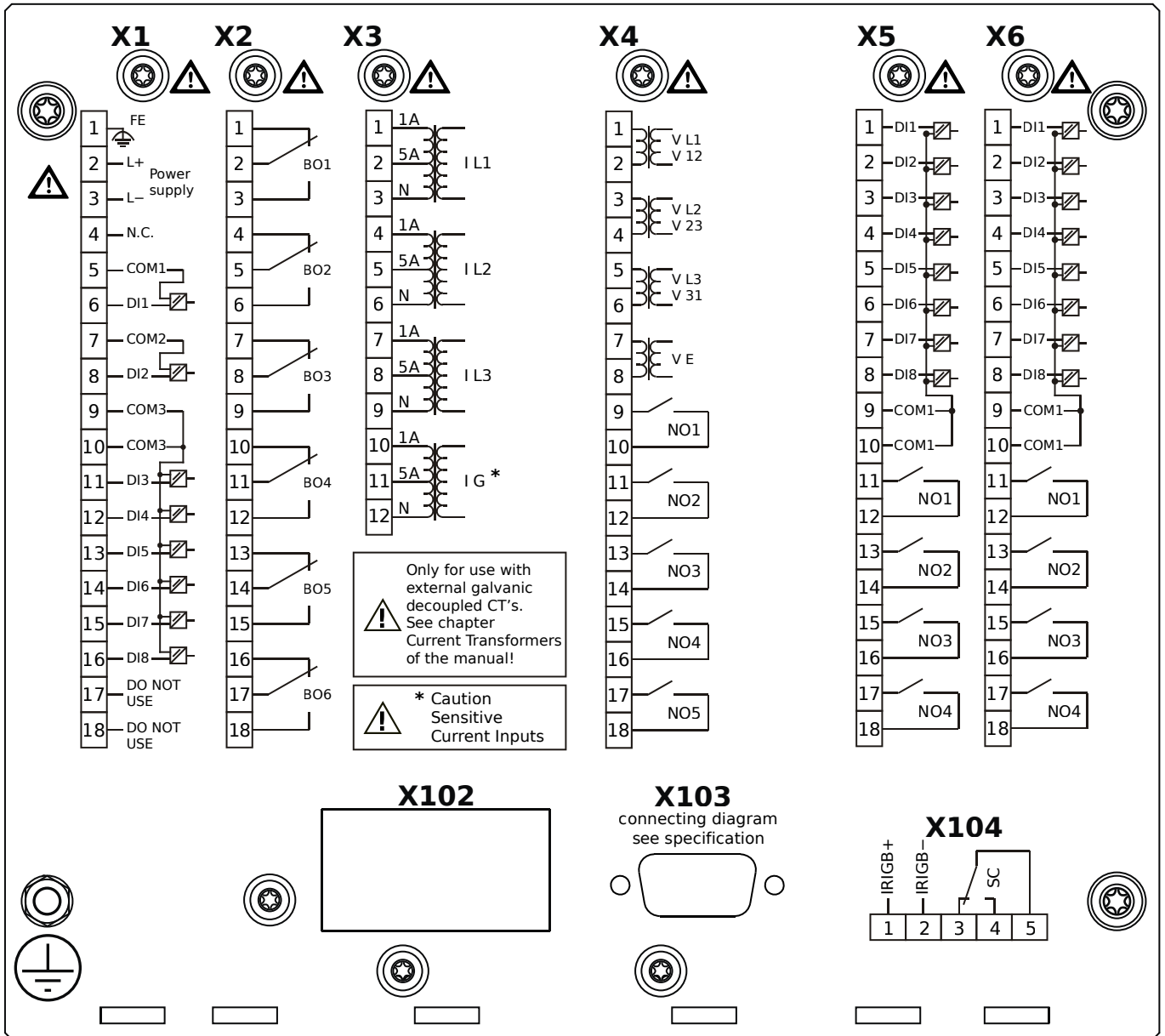| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
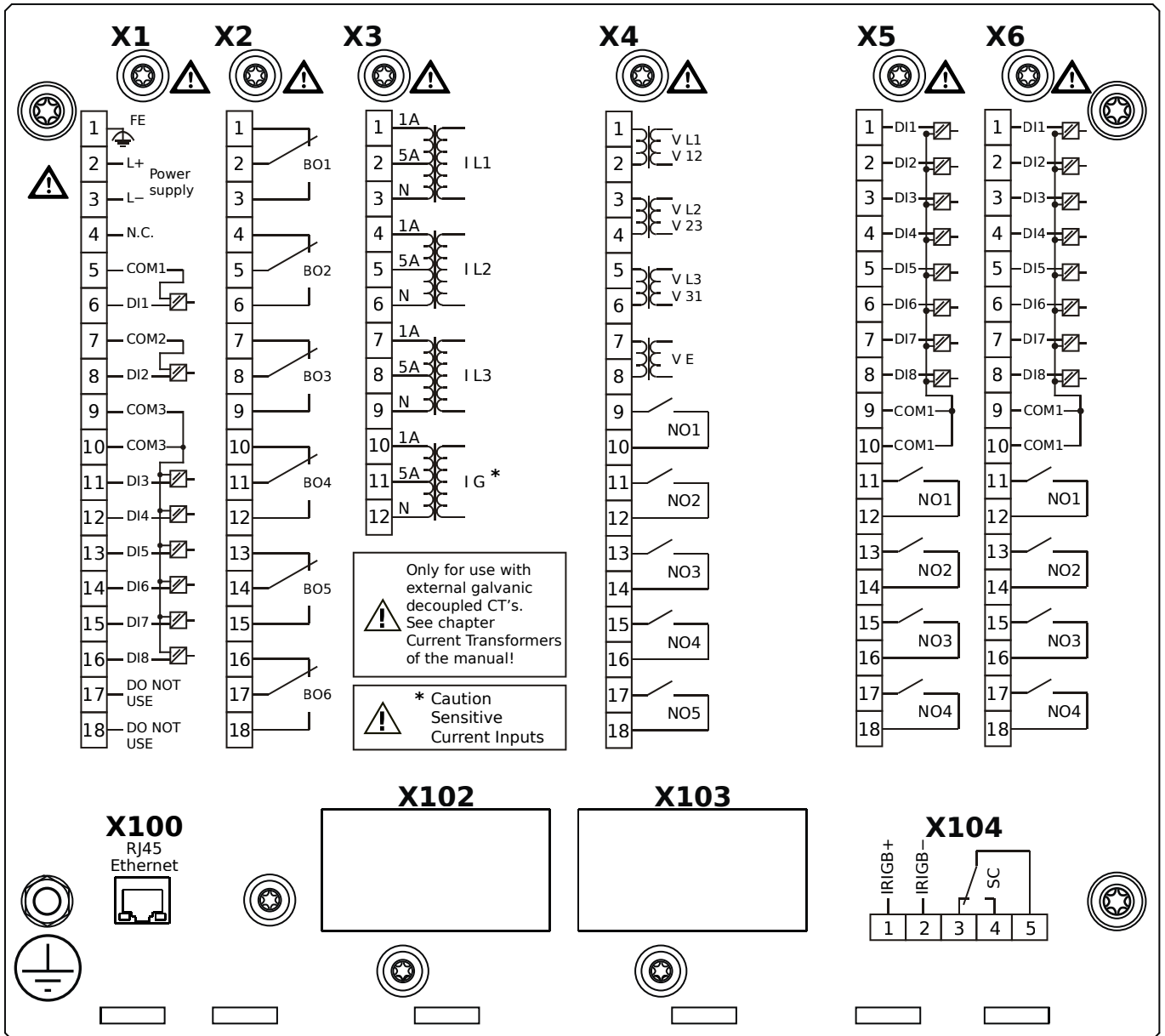**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E0BTB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AAA

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104

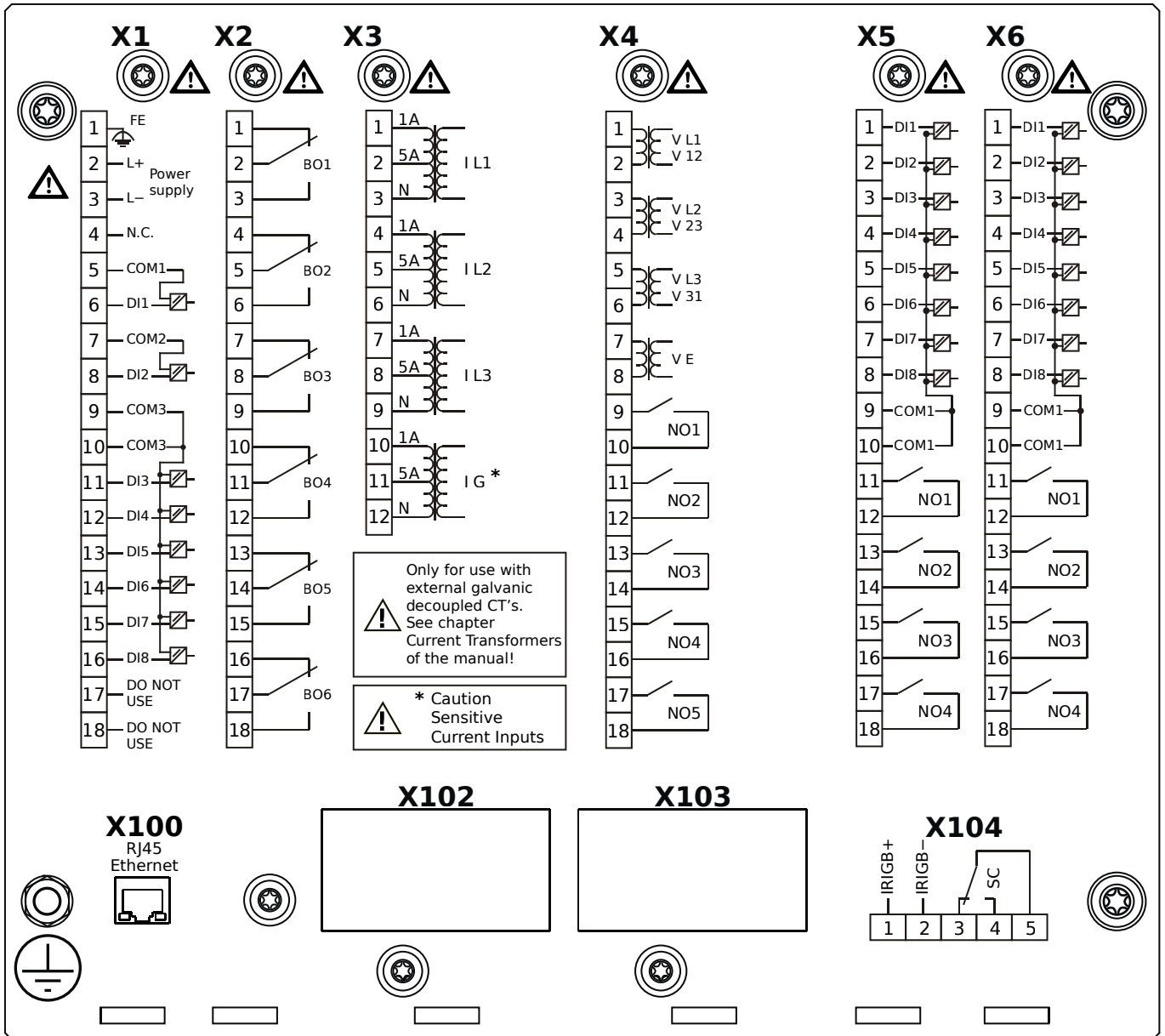| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
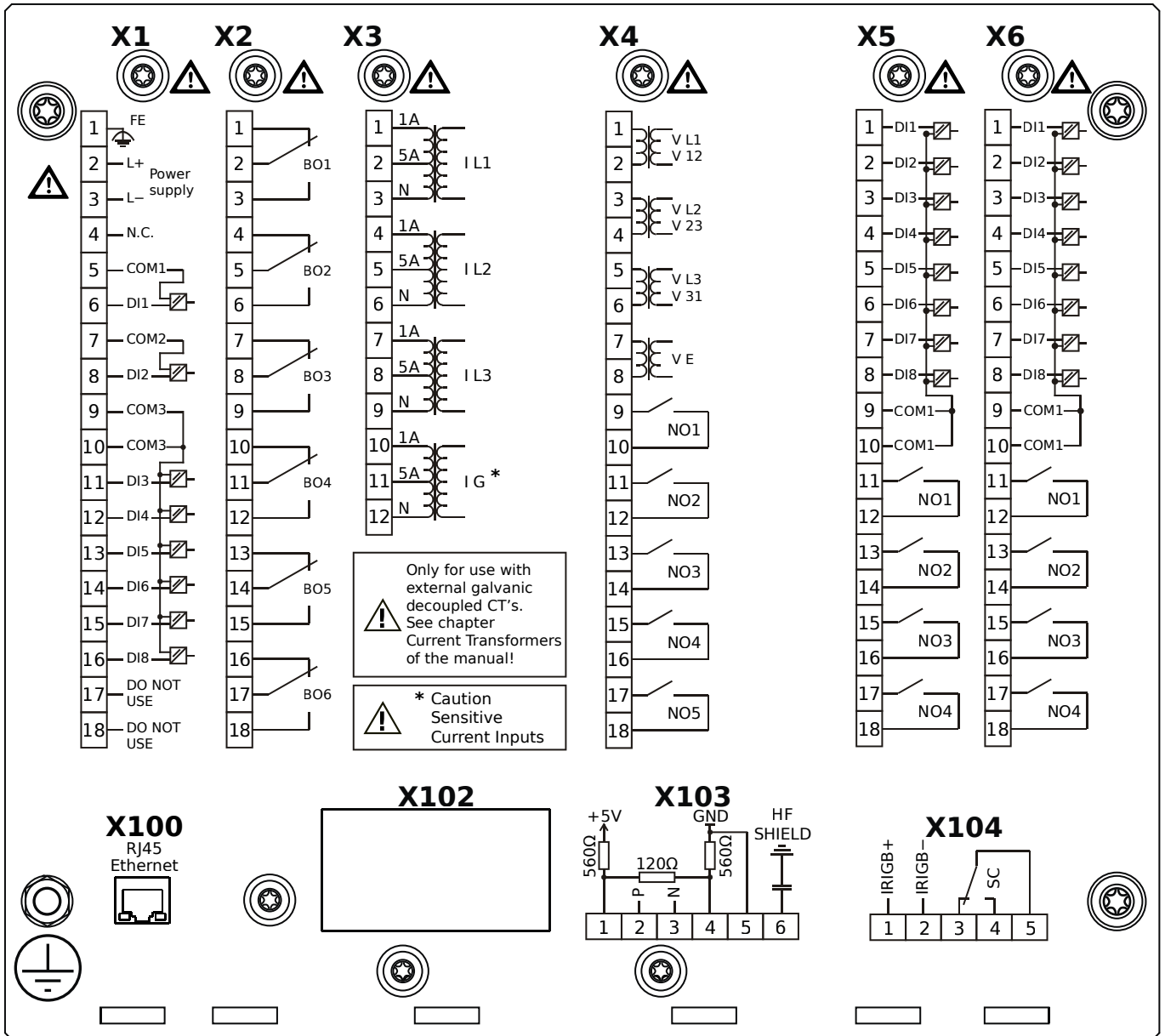**X5** – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AAB

X1
1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104
1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
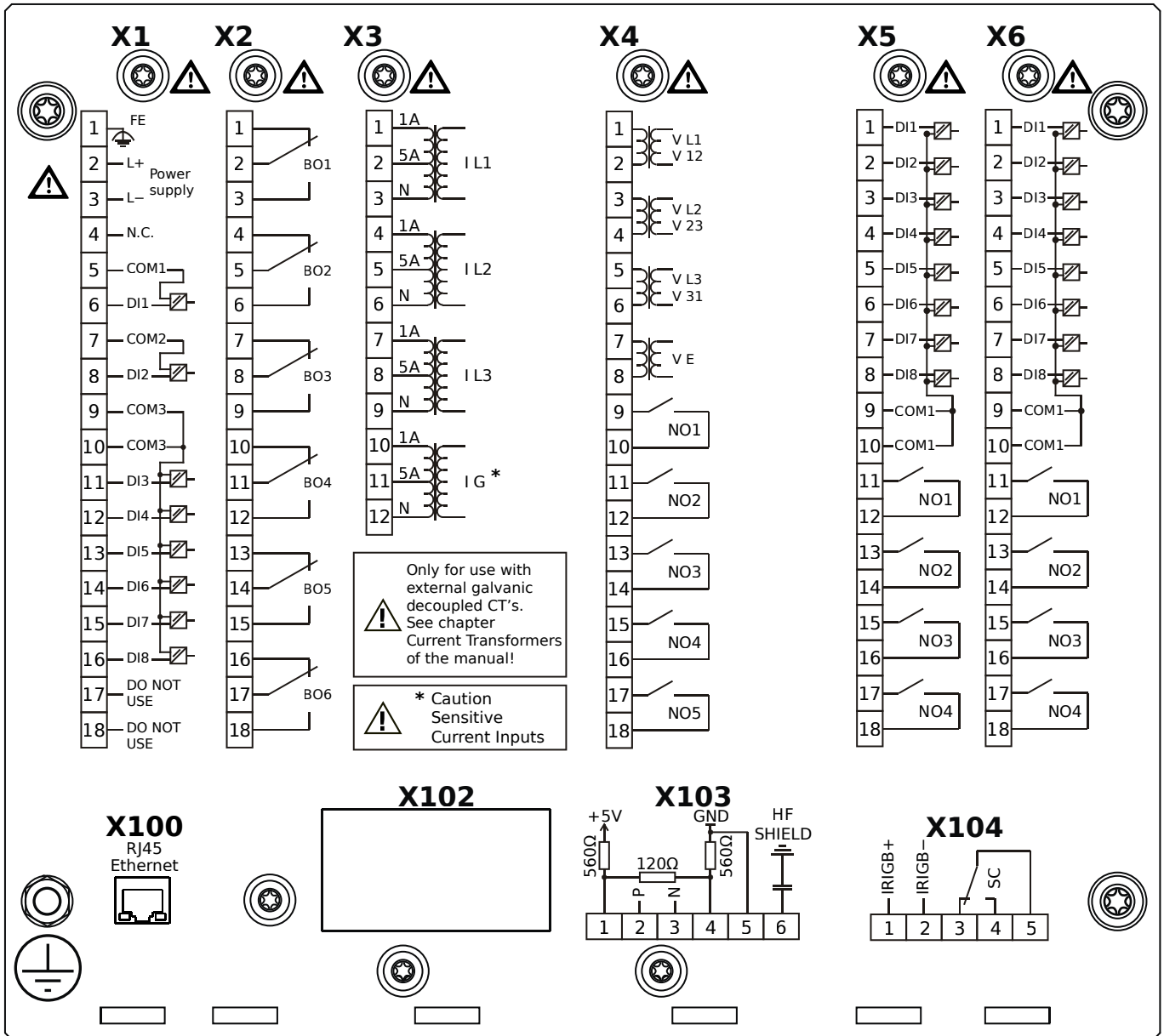
MRA4-2E1ABA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ABB

X1

1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

+5V   GND   HF SHIELD
560Ω   120Ω   560Ω
P   N

1	2	3	4	5	6

X104

IRIGB+   IRIGB−   SC

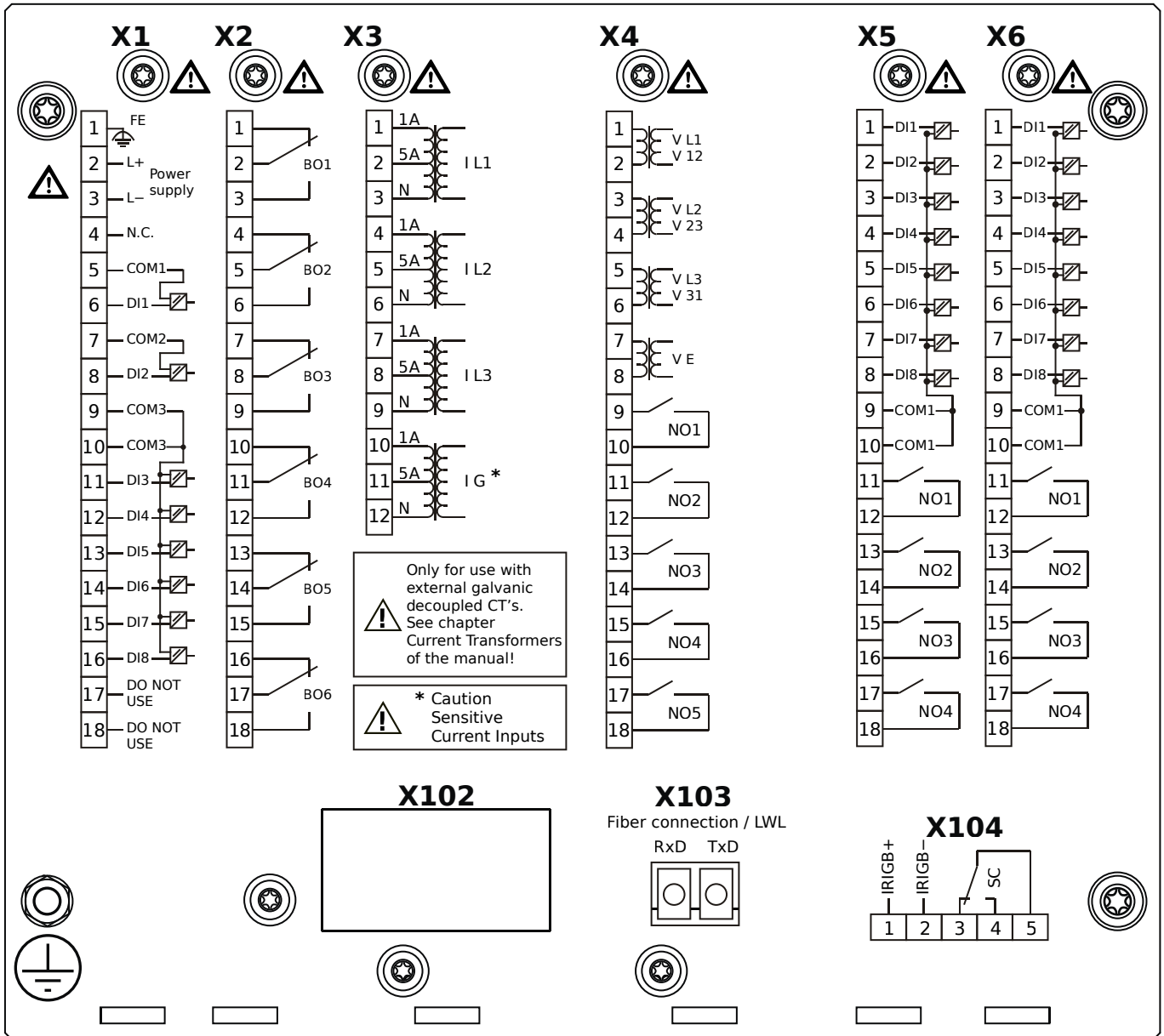| 1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
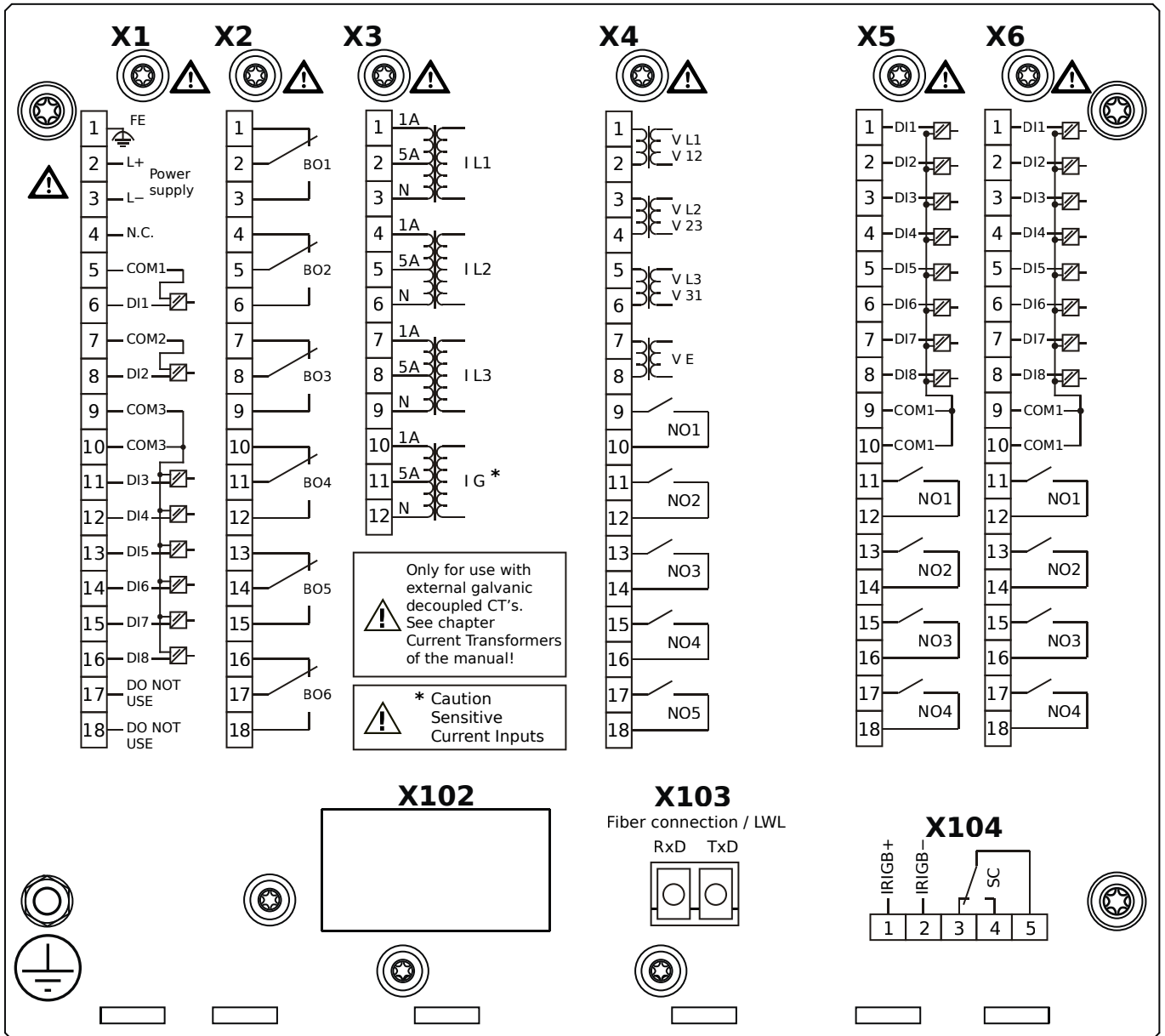**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ACA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ACB

X1 **X2** **X3** **X4** **X5** **X6**

1 — FE	
2 — L+ Power	
3 — L− supply	
4 — N.C.	
5 — COM1	
6 — DI1	
7 — COM2	
8 — DI2	
9 — COM3	
10 — COM3	
11 — DI3	
12 — DI4	
13 — DI5	
14 — DI6	
15 — DI7	
16 — DI8	
17 — DO NOT USE	
18 — DO NOT USE	

X2:
1 / 2 BO1 / 3 / 4 / 5 BO2 / 6 / 7 / 8 BO3 / 9 / 10 / 11 BO4 / 12 / 13 / 14 BO5 / 15 / 16 / 17 BO6 / 18

X3:
1 1A / 2 5A I L1 / 3 N
4 1A / 5 5A I L2 / 6 N
7 1A / 8 5A I L3 / 9 N
10 1A / 11 5A I G * / 12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4:
1 / 2 V L1 V 12 / 3 / 4 V L2 V 23 / 5 / 6 V L3 V 31 / 7 / 8 V E
9 / 10 NO1 / 11 / 12 NO2 / 13 / 14 NO3 / 15 / 16 NO4 / 17 / 18 NO5

X5:
1 DI1 / 2 DI2 / 3 DI3 / 4 DI4 / 5 DI5 / 6 DI6 / 7 DI7 / 8 DI8 / 9 COM1 / 10 COM1 / 11 / 12 NO1 / 13 / 14 NO2 / 15 / 16 NO3 / 17 / 18 NO4

X6:
1 DI1 / 2 DI2 / 3 DI3 / 4 DI4 / 5 DI5 / 6 DI6 / 7 DI7 / 8 DI8 / 9 COM1 / 10 COM1 / 11 / 12 NO1 / 13 / 14 NO2 / 15 / 16 NO3 / 17 / 18 NO4

X100
RJ45 Ethernet

X102

X103

X104
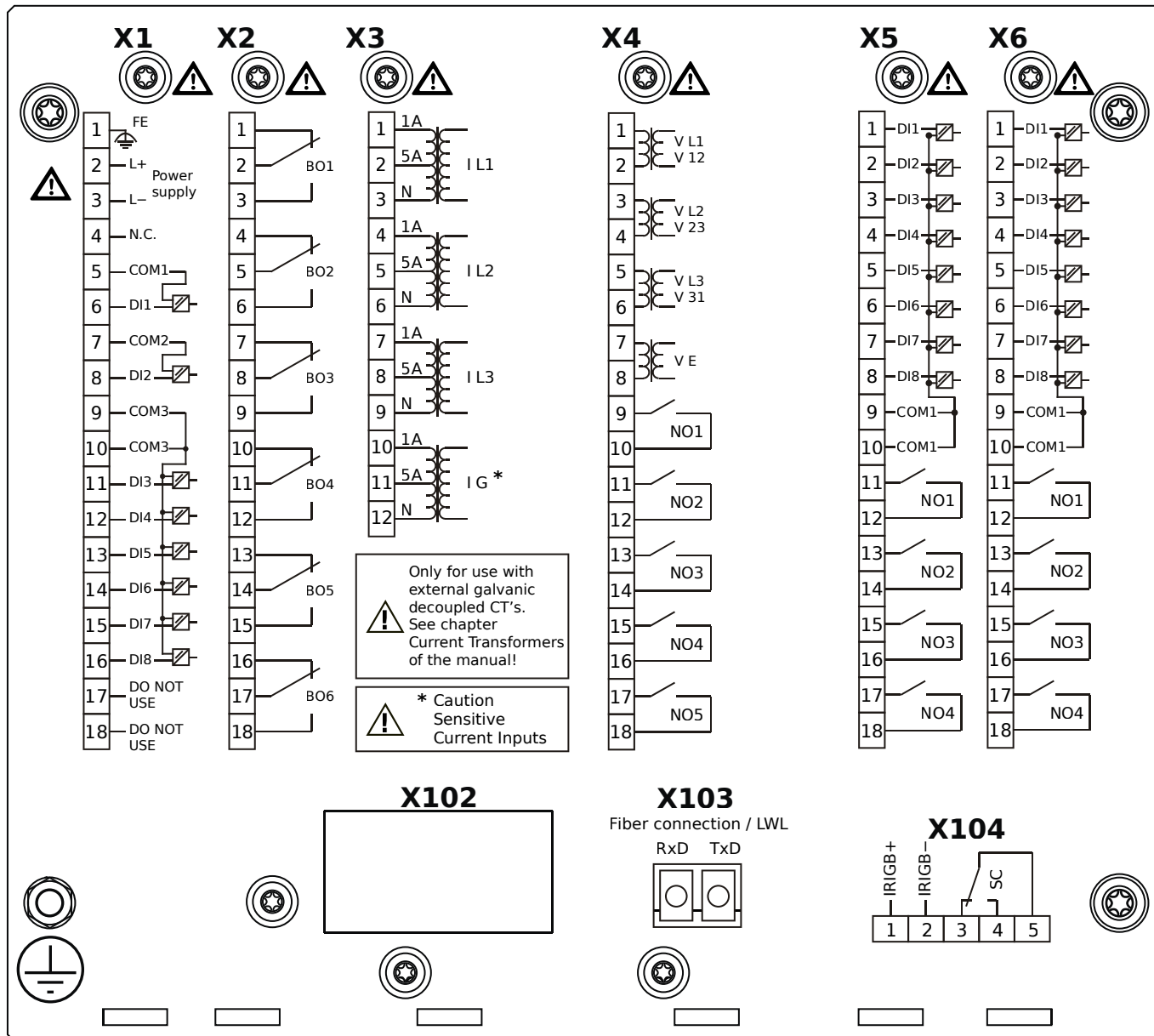IRIGB+ / IRIGB− / SC
1 2 3 4 5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
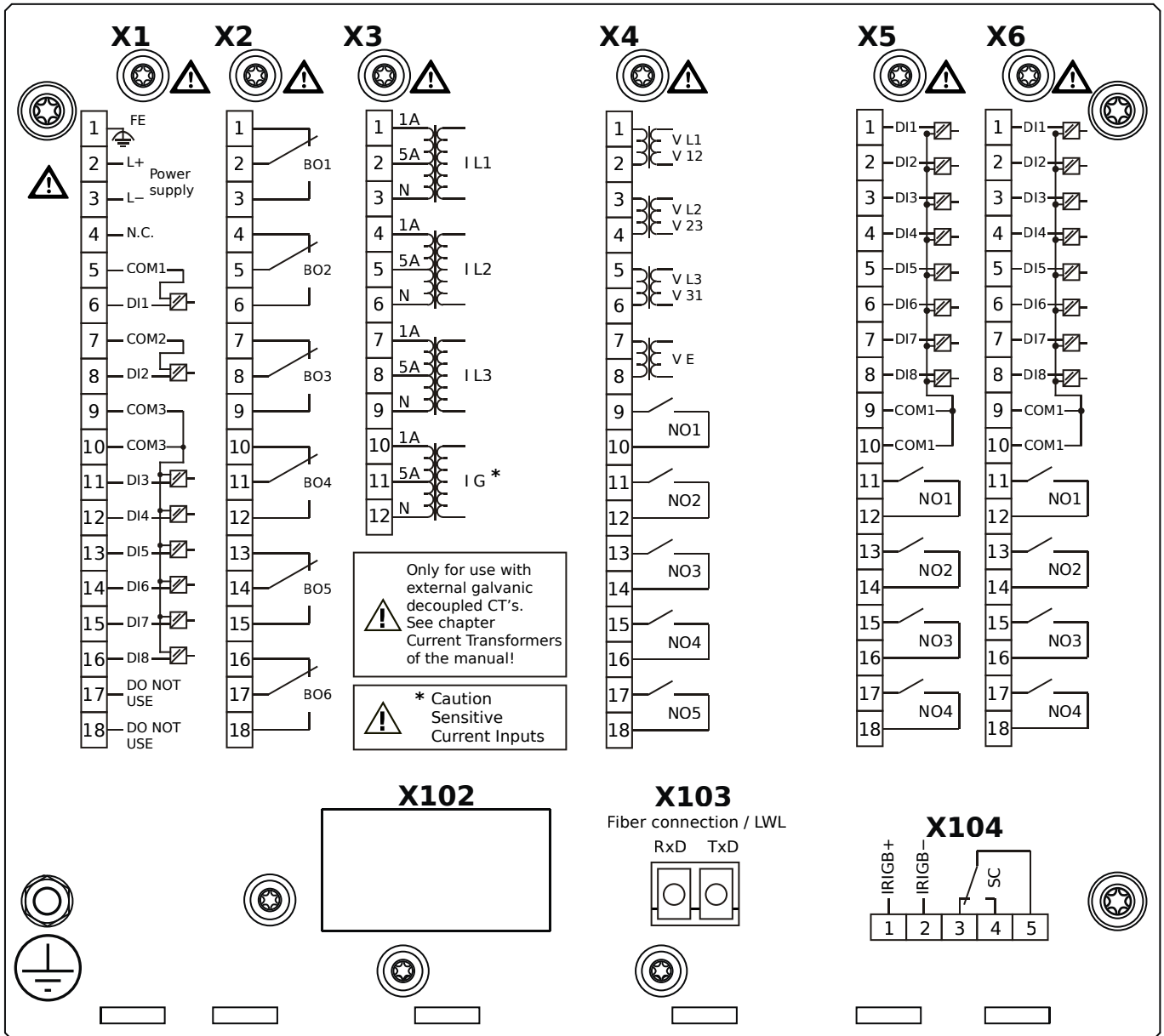**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ADA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ADB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD TxD

X104
IRIGB+ IRIGB− SC

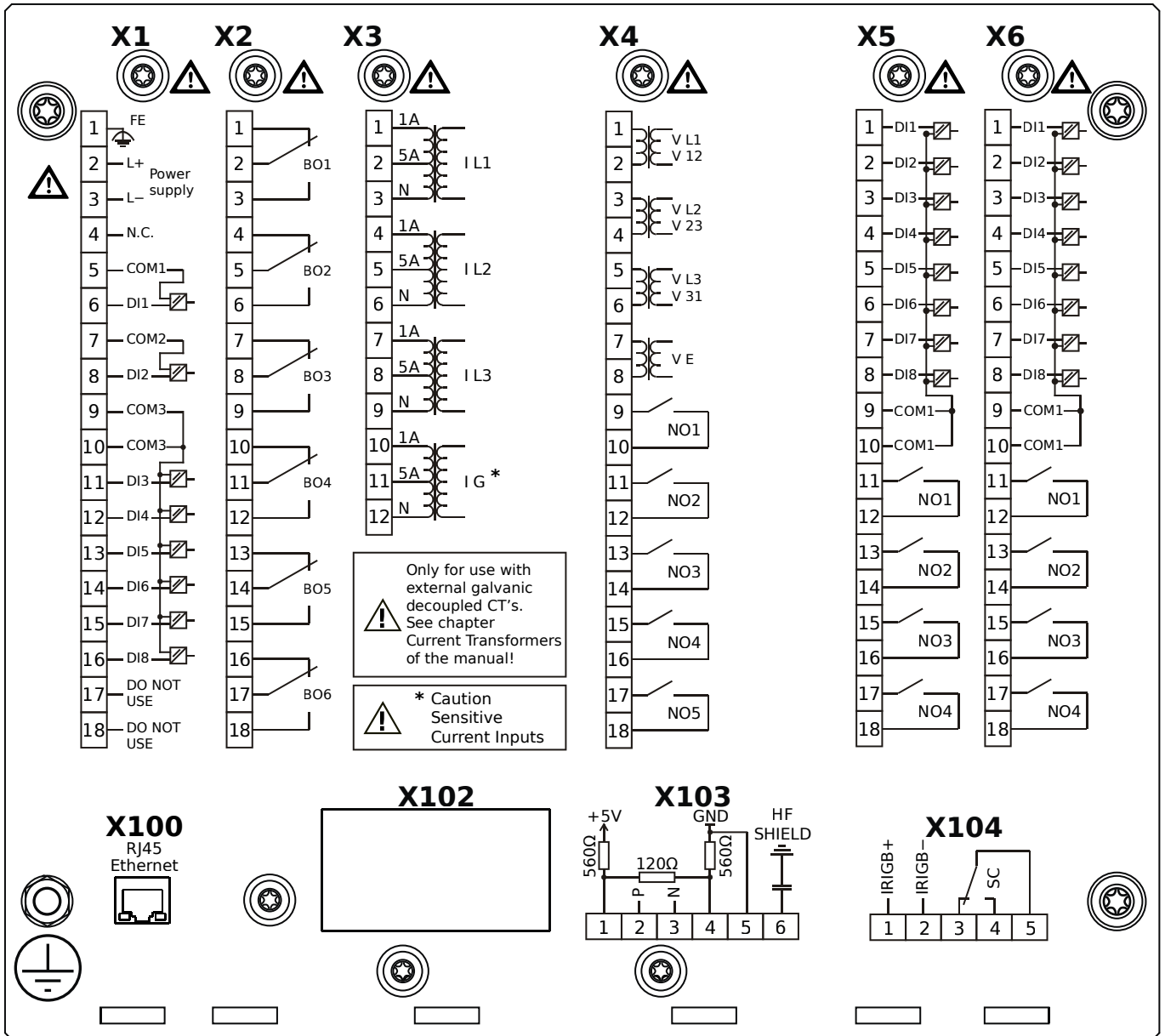| 1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AEA

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

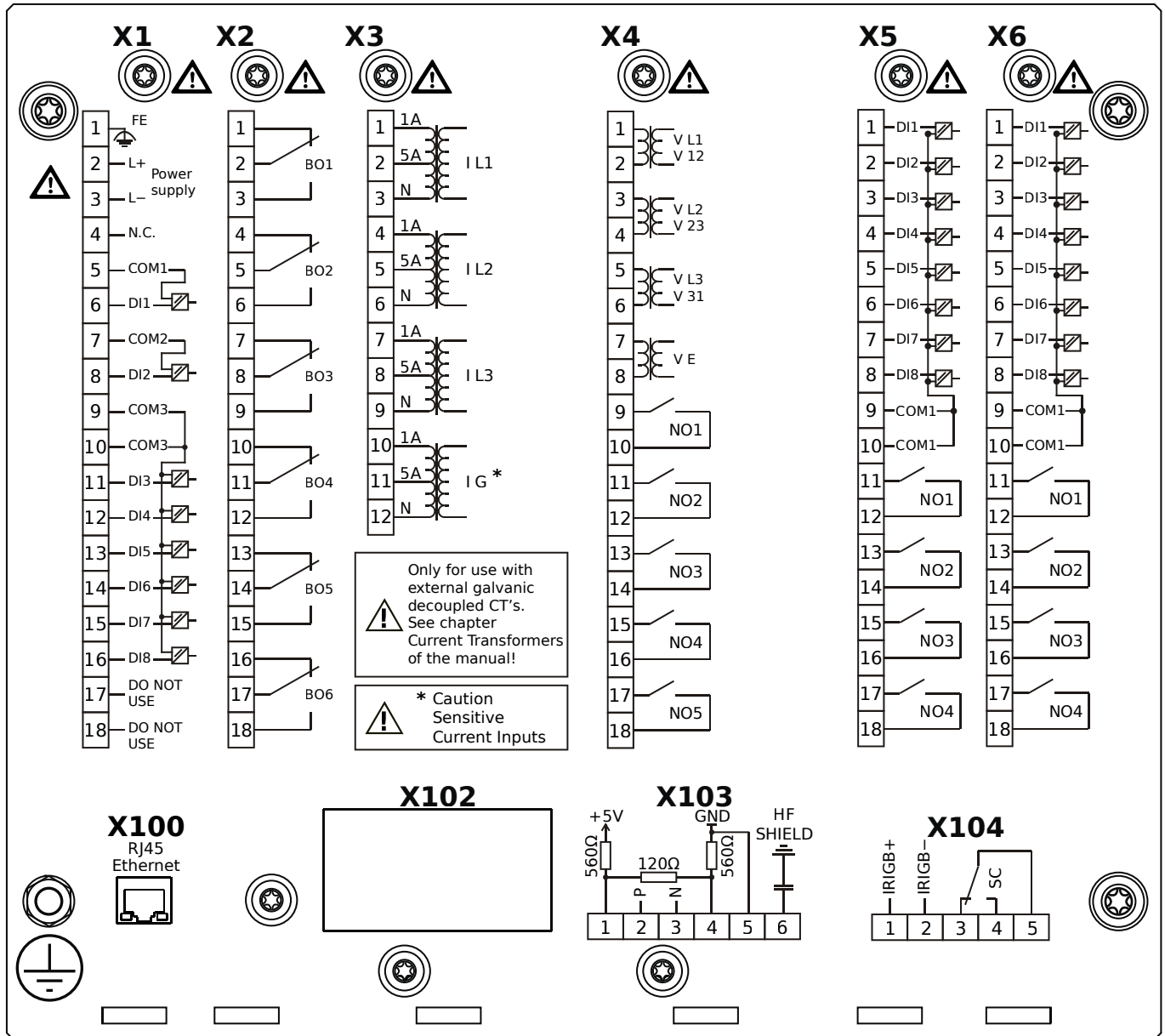**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
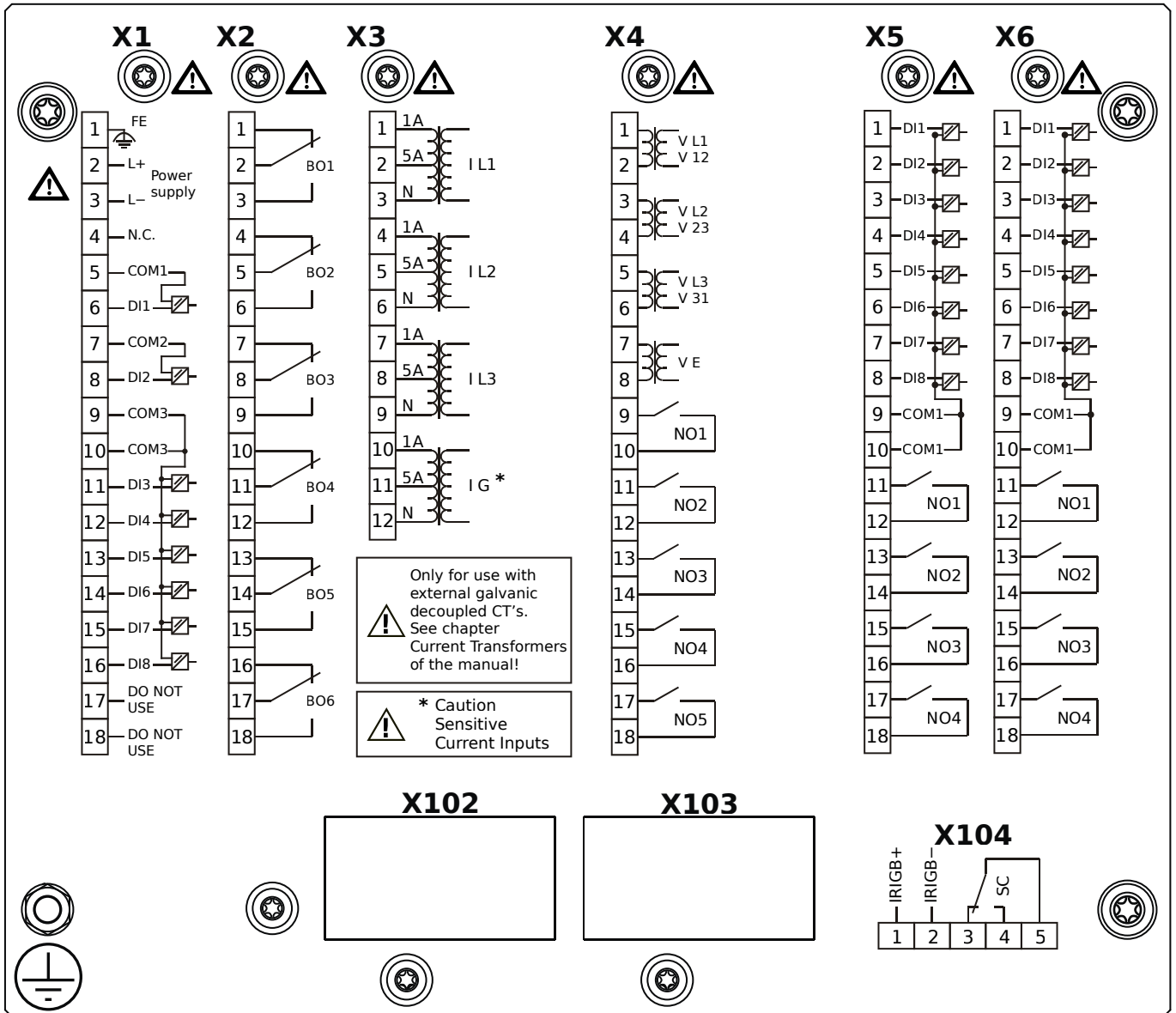
MRA4-2E1AEB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AFA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AFB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
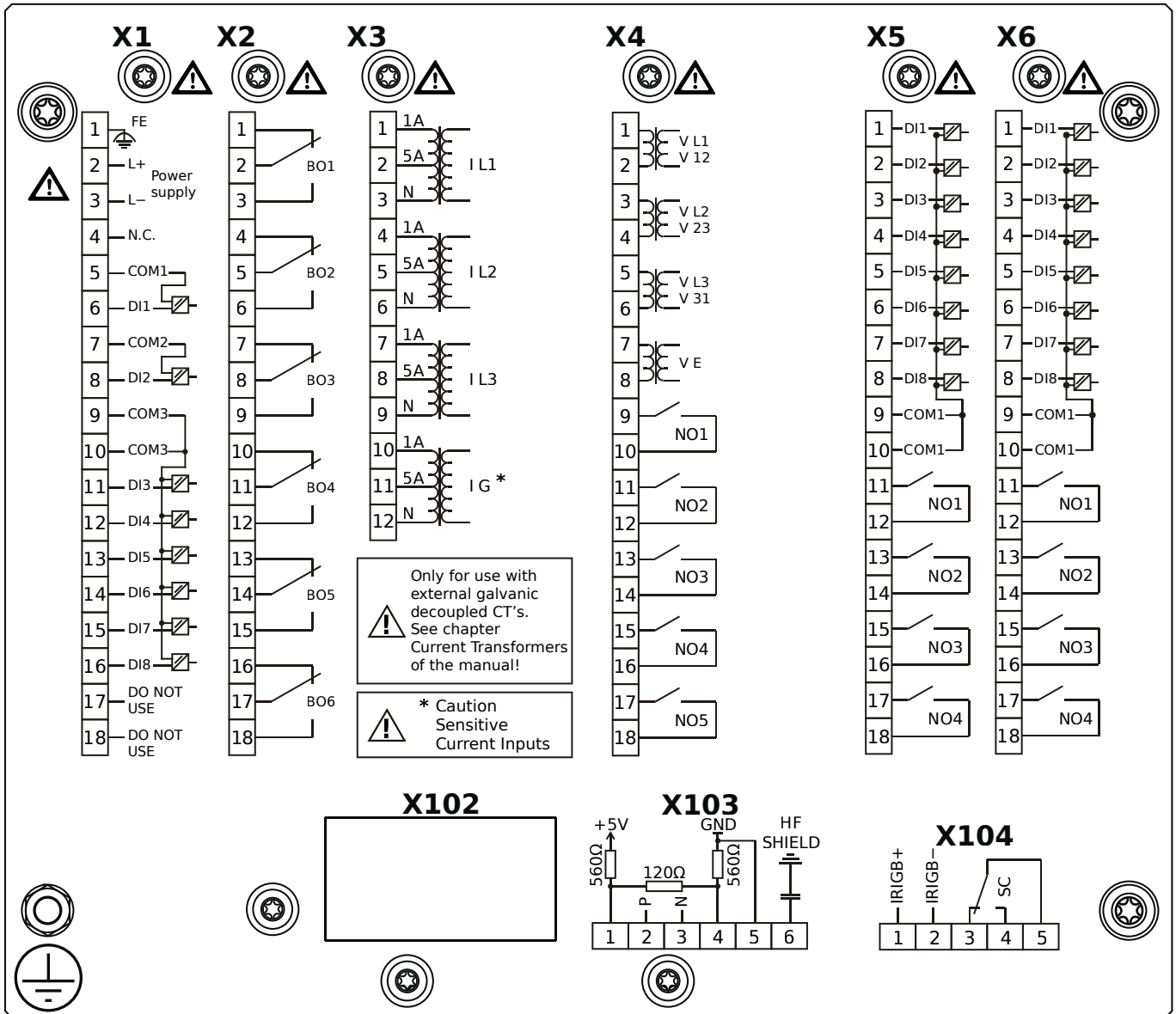
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AGA

X1
1	FE ⏚
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram see specification

X104
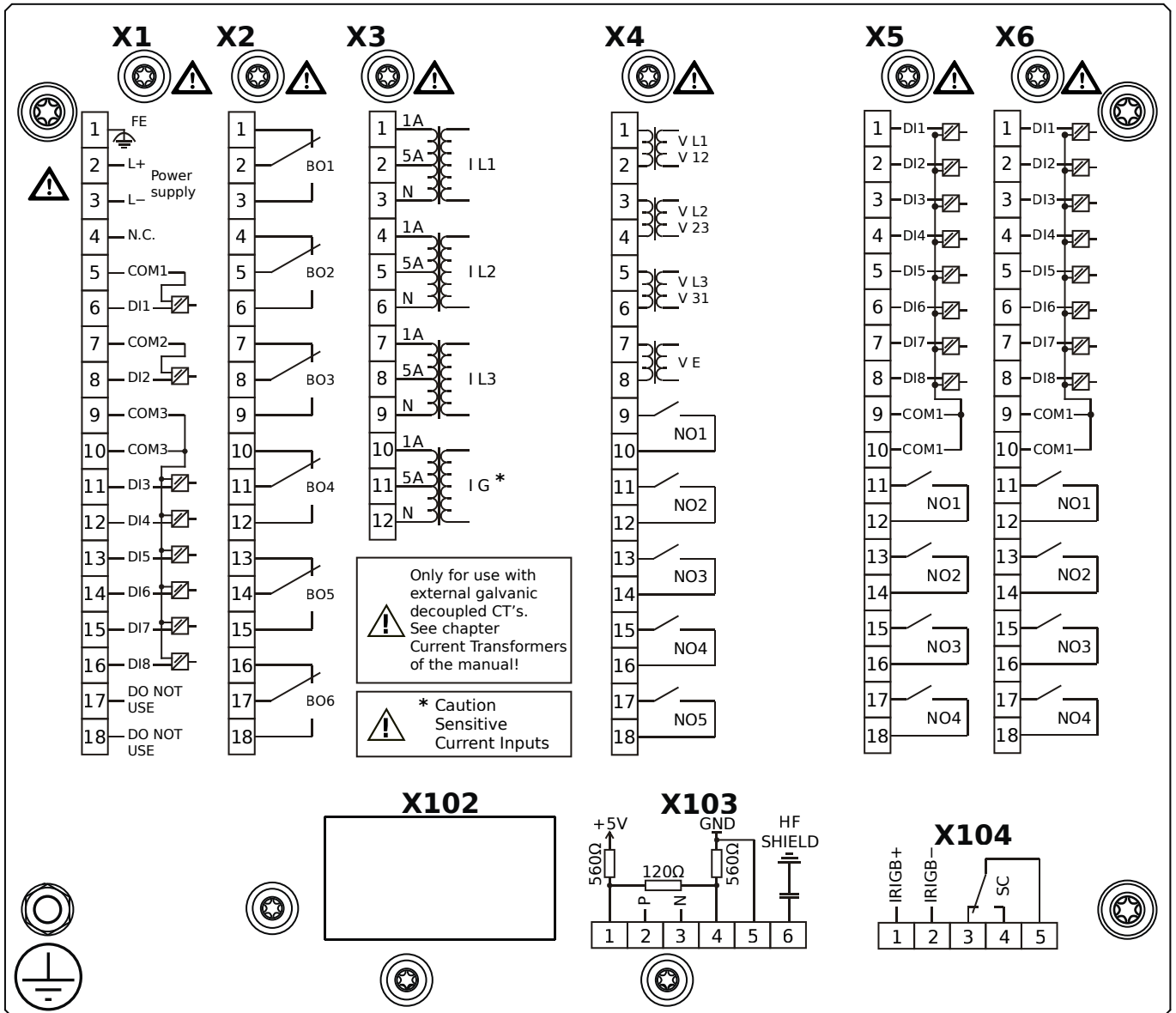| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification
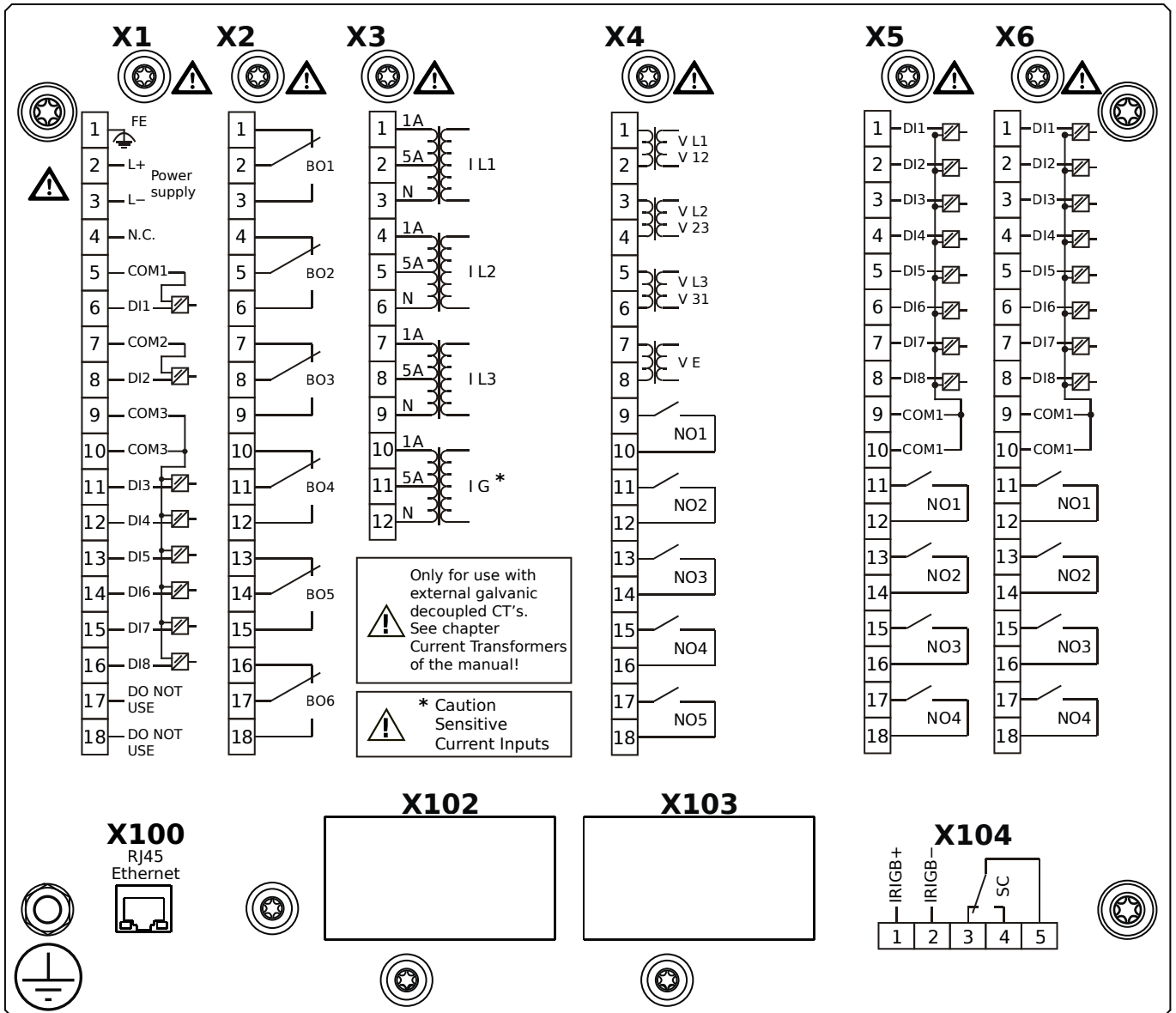
X104

IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
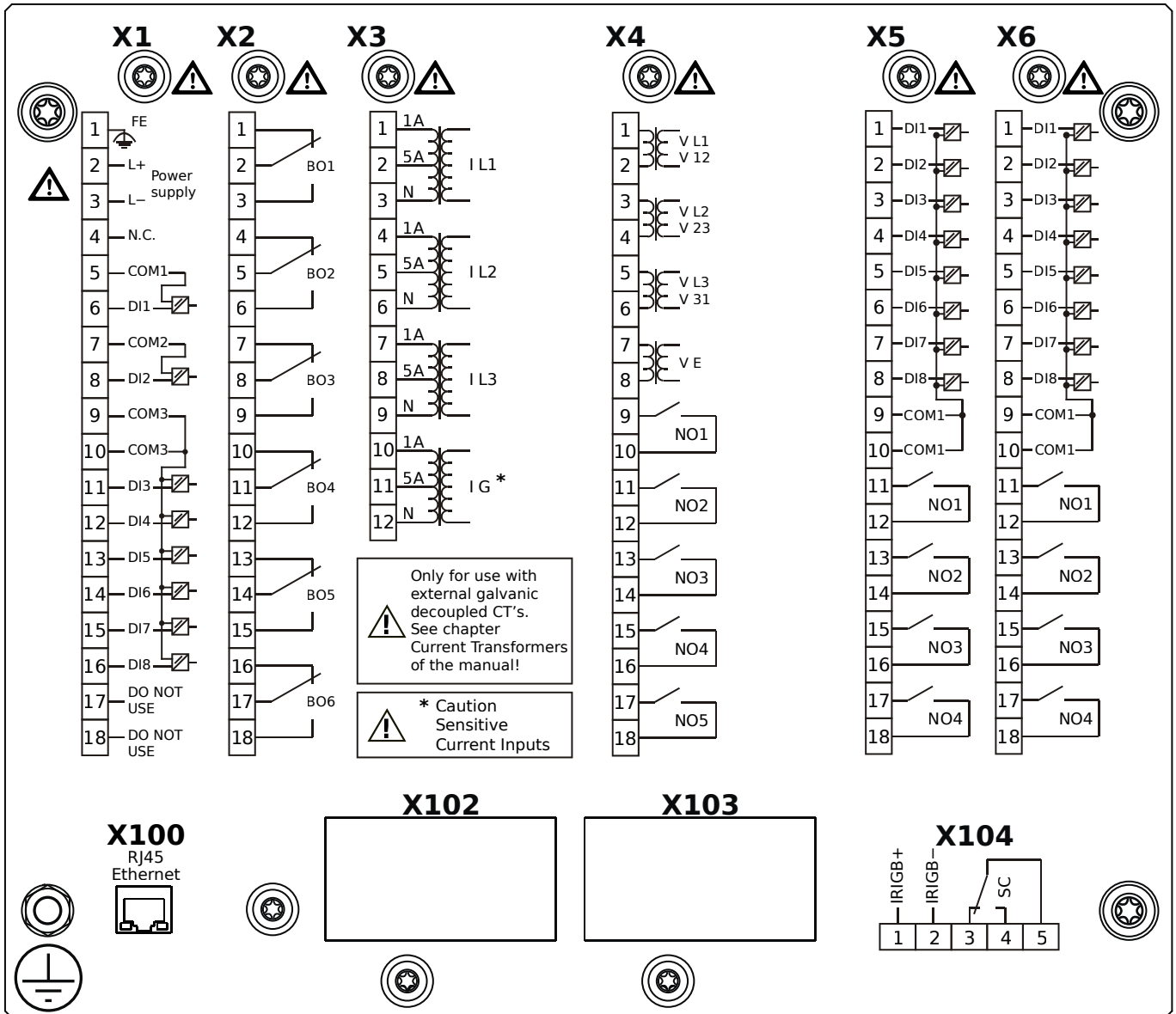**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AHA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AHB

Housing B2, small display, door mounting

+   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2   – OR6: Assembly Group with 6 Output Relays

X3   – TIs: Standard phase current measuring card and sensitive ground current measuring

X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)

X5   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AIA
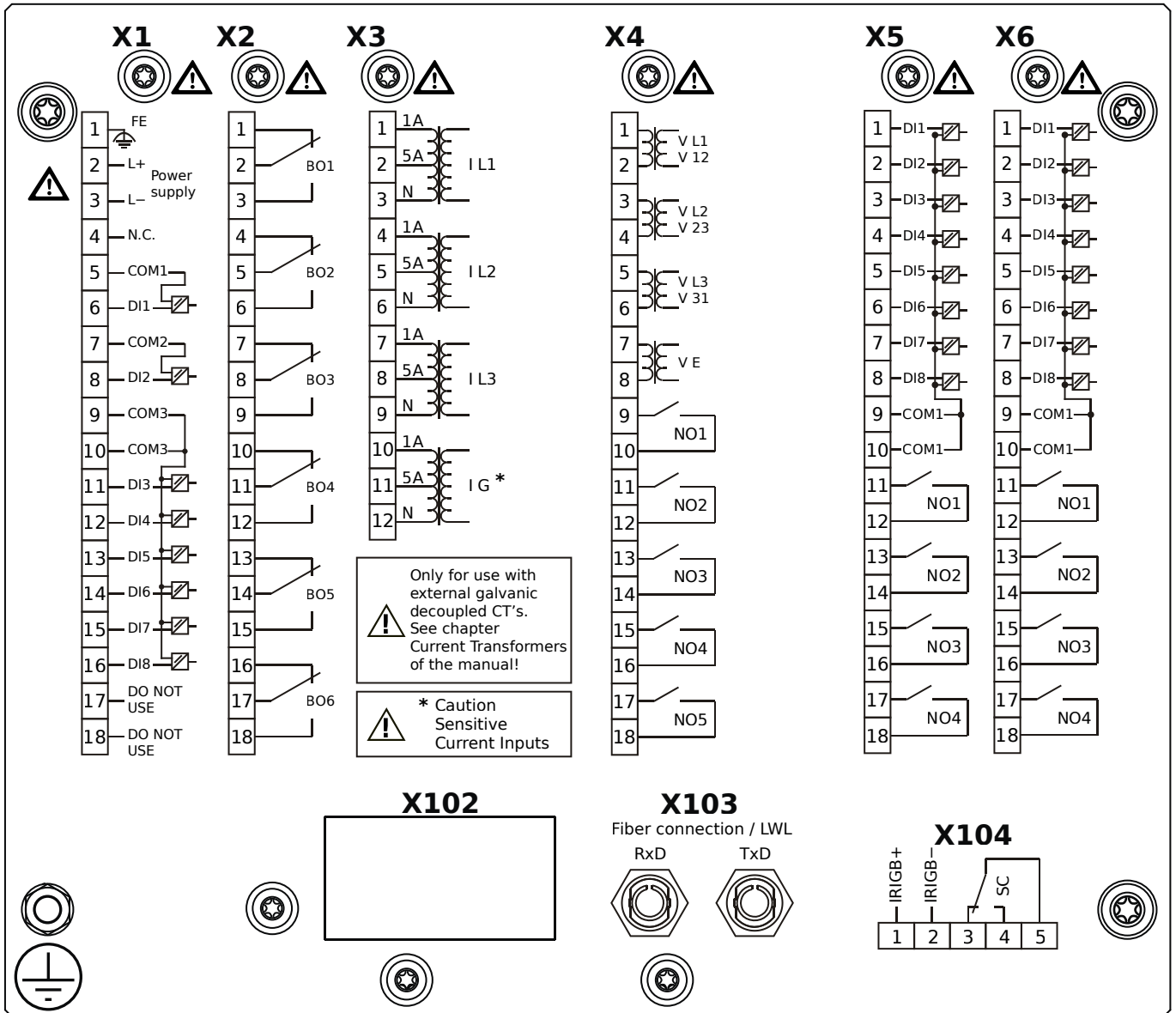

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AIB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)

X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AKA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1AKB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
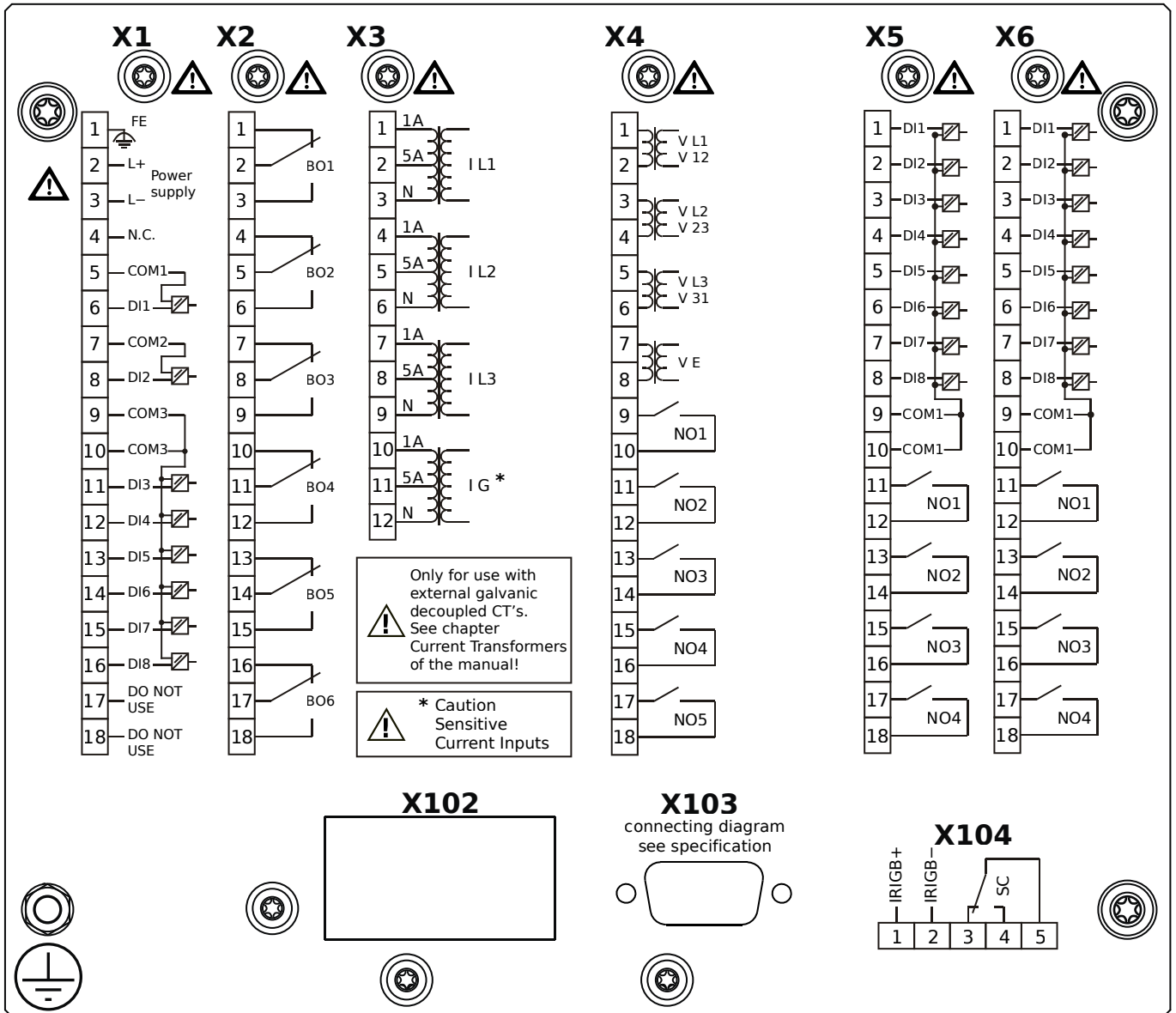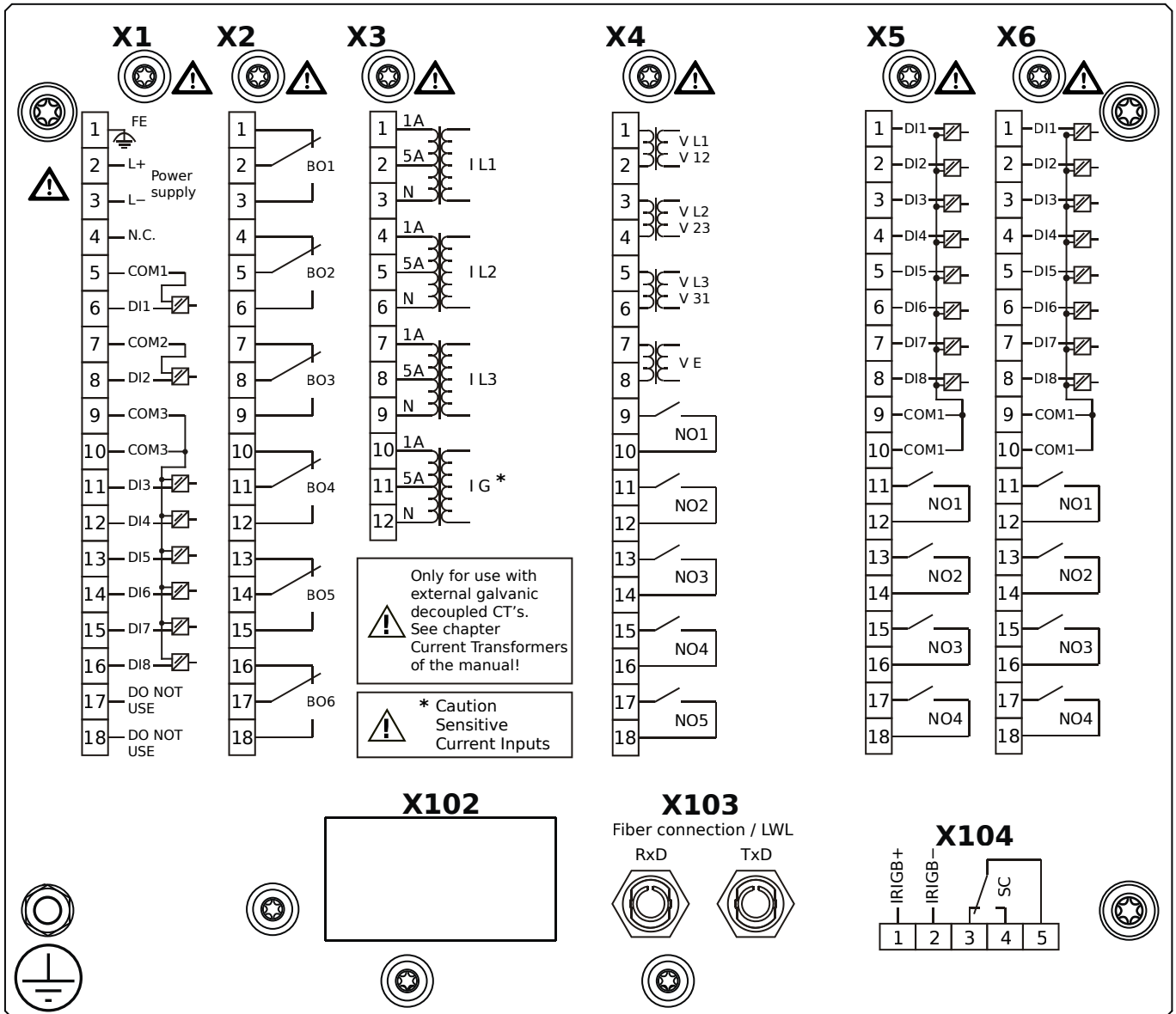
MRA4-2E1ALA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ALB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1 connector:
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2 connector:
2 BO1
5 BO2
8 BO3
11 BO4
14 BO5
17 BO6

X3 connector:
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 connector:
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5 connector:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6 connector:
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
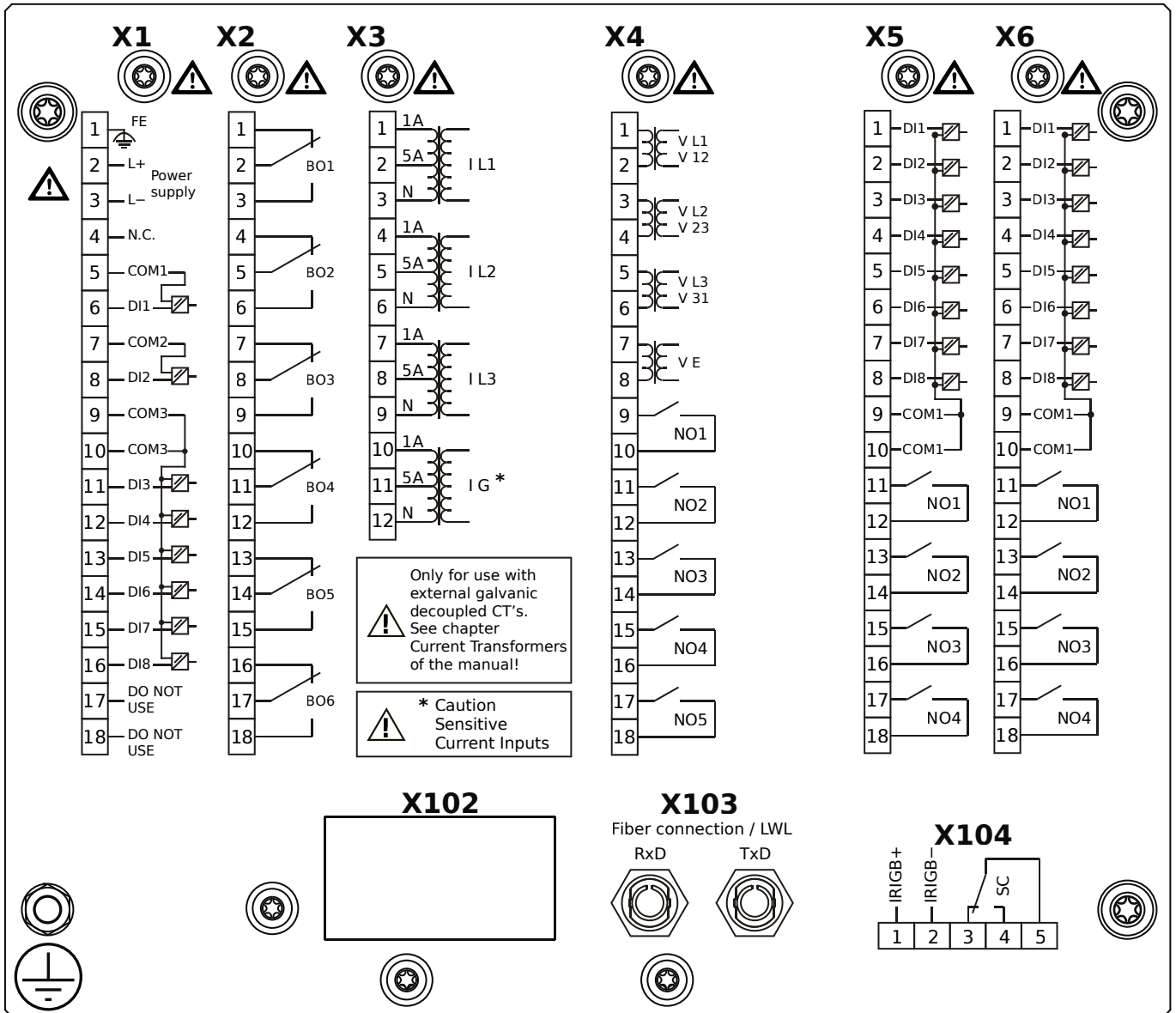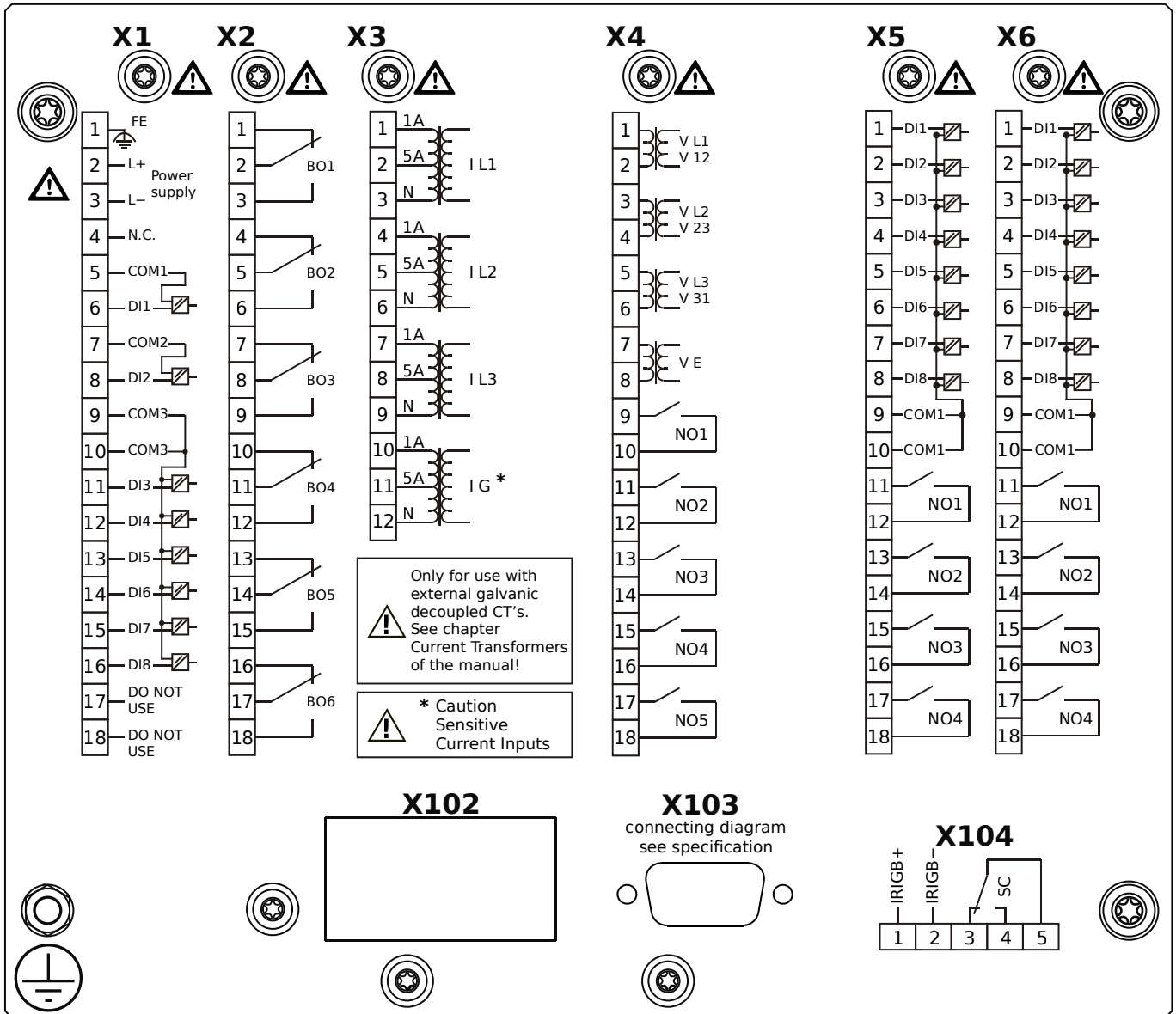**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ATA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1ATB

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

Housing B2, small display, door mounting
  +   Conformal Coating (for installations in harsh environment)

MRA4-2E1BAA

X1

1 — FE ⏚
2 — L+ Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2

1
2 — BO1
3
4
5 — BO2
6
7
8 — BO3
9
10
11 — BO4
12
13
14 — BO5
15
16
17 — BO6
18

X3

1 — 1A
2 — 5A — I L1
3 — N
4 — 1A
5 — 5A — I L2
6 — N
7 — 1A
8 — 5A — I L3
9 — N
10 — 1A
11 — 5A — I G *
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V E
8
9 — NO1
10
11 — NO2
12
13 — NO3
14
15 — NO4
16
17 — NO5
18

X5

1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 — NO1
12
13 — NO2
14
15 — NO3
16
17 — NO4
18

X6

1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 — NO1
12
13 — NO2
14
15 — NO3
16
17 — NO4
18

X102

X103

X104

IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BAB

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
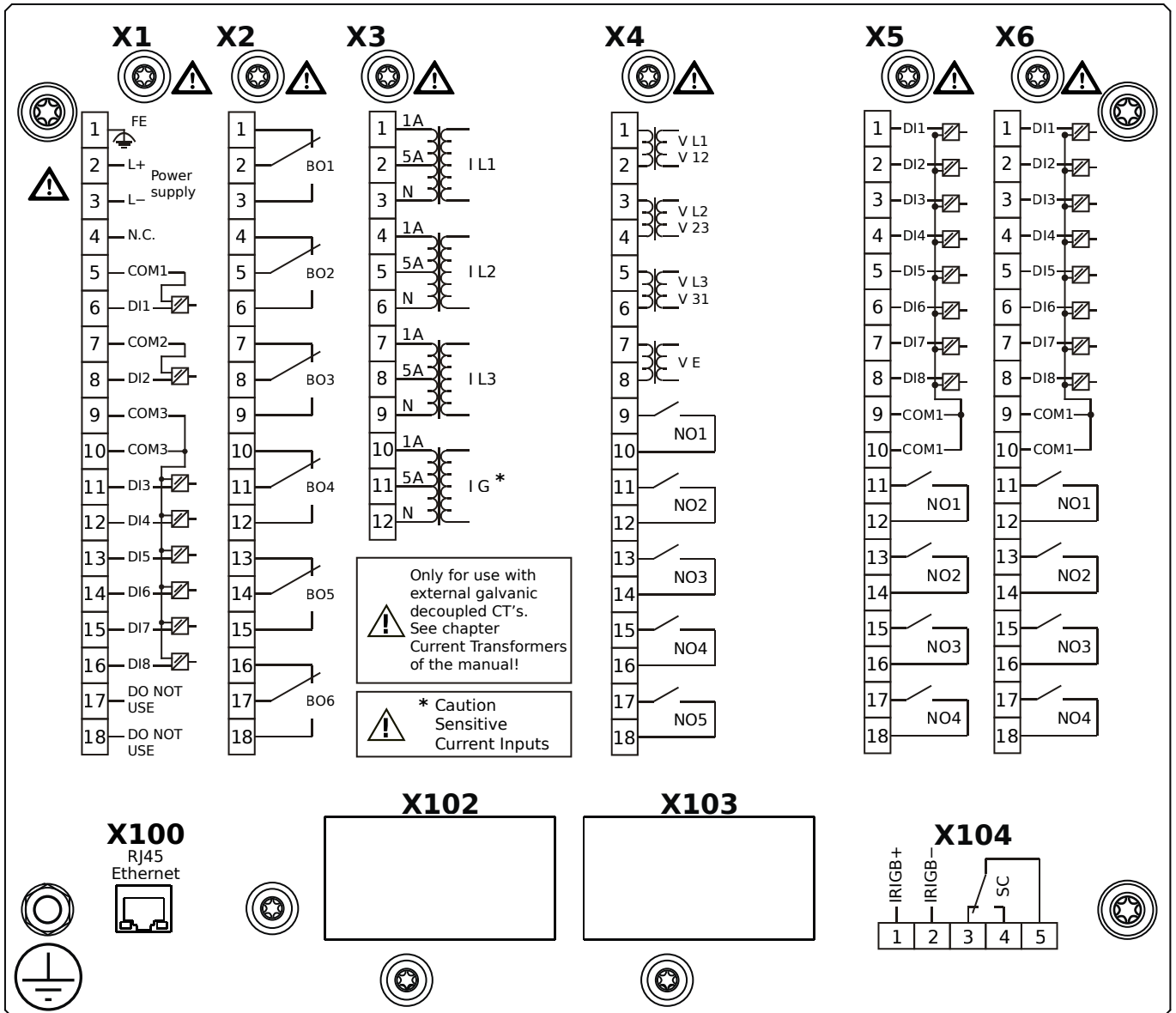
Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
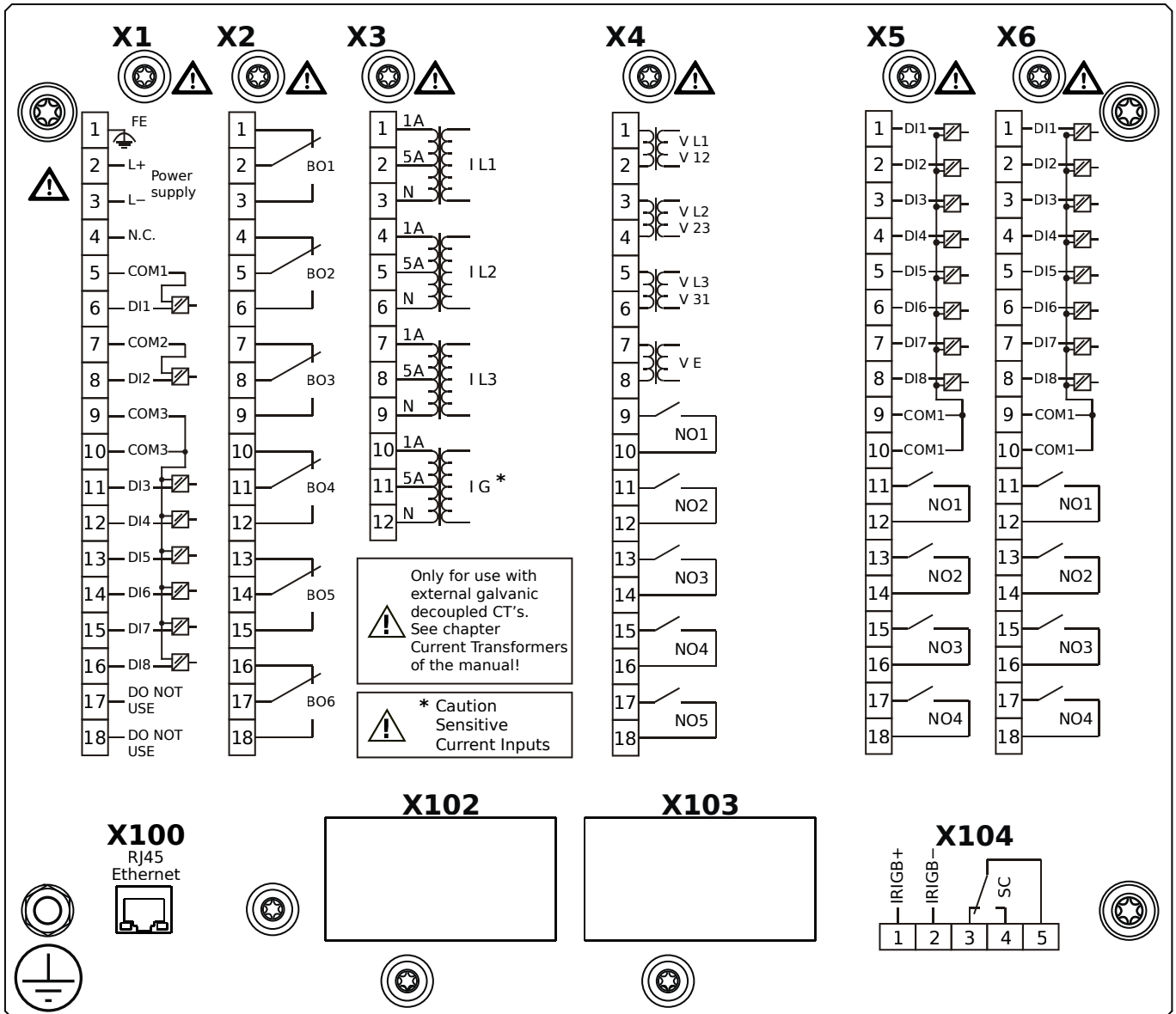**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BBA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BBB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BCA

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104
1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
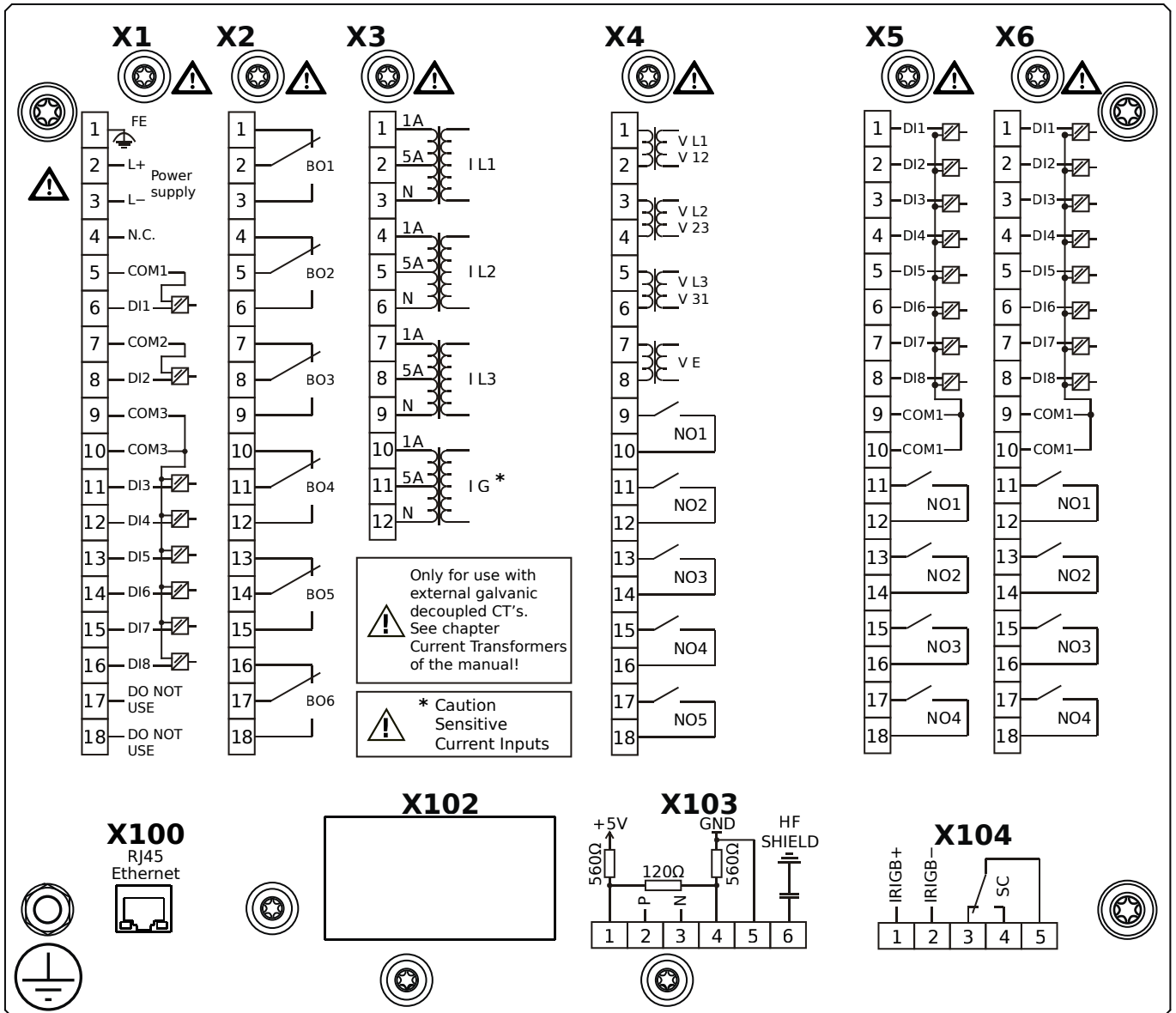**X4** – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
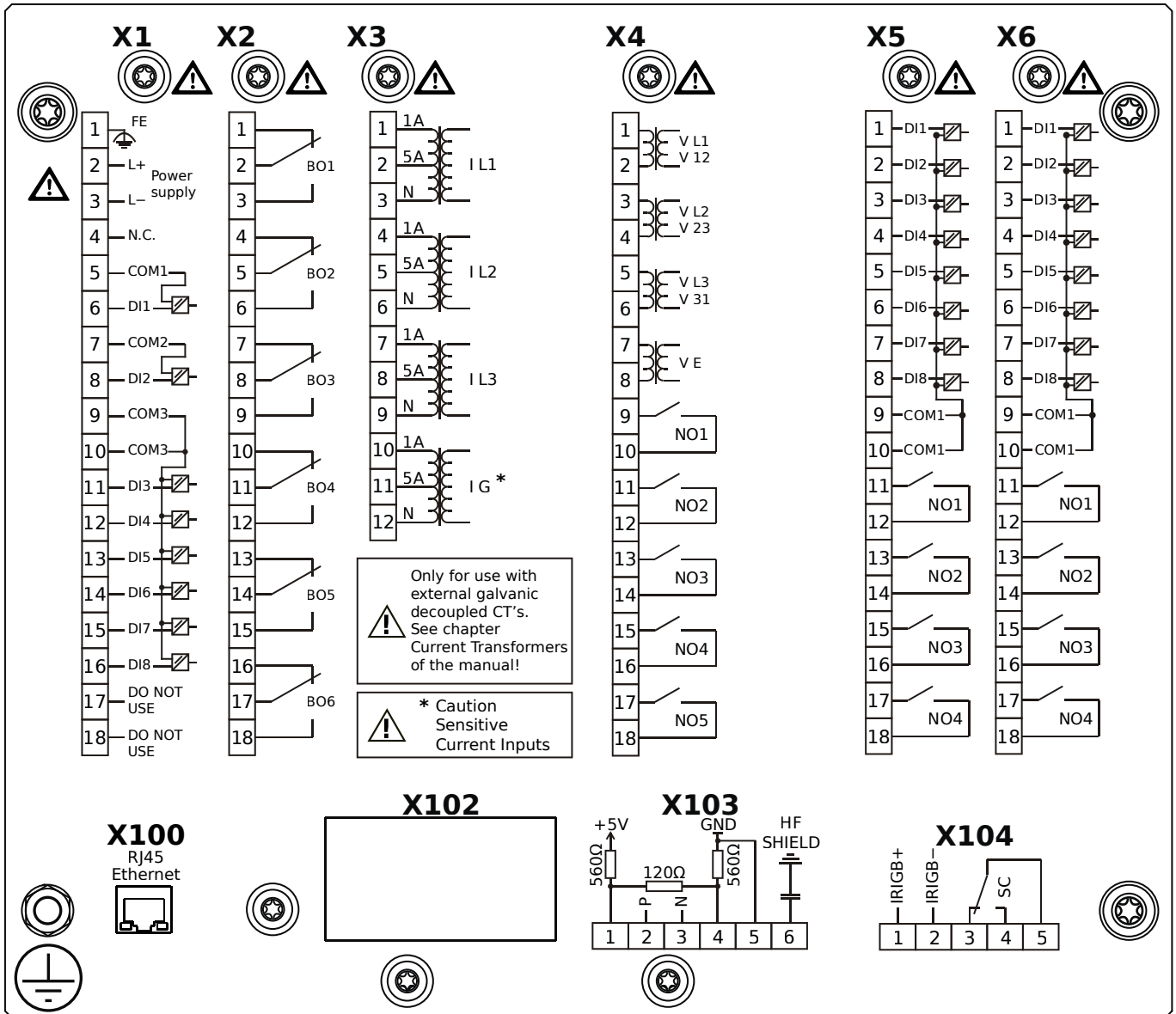**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BCB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104

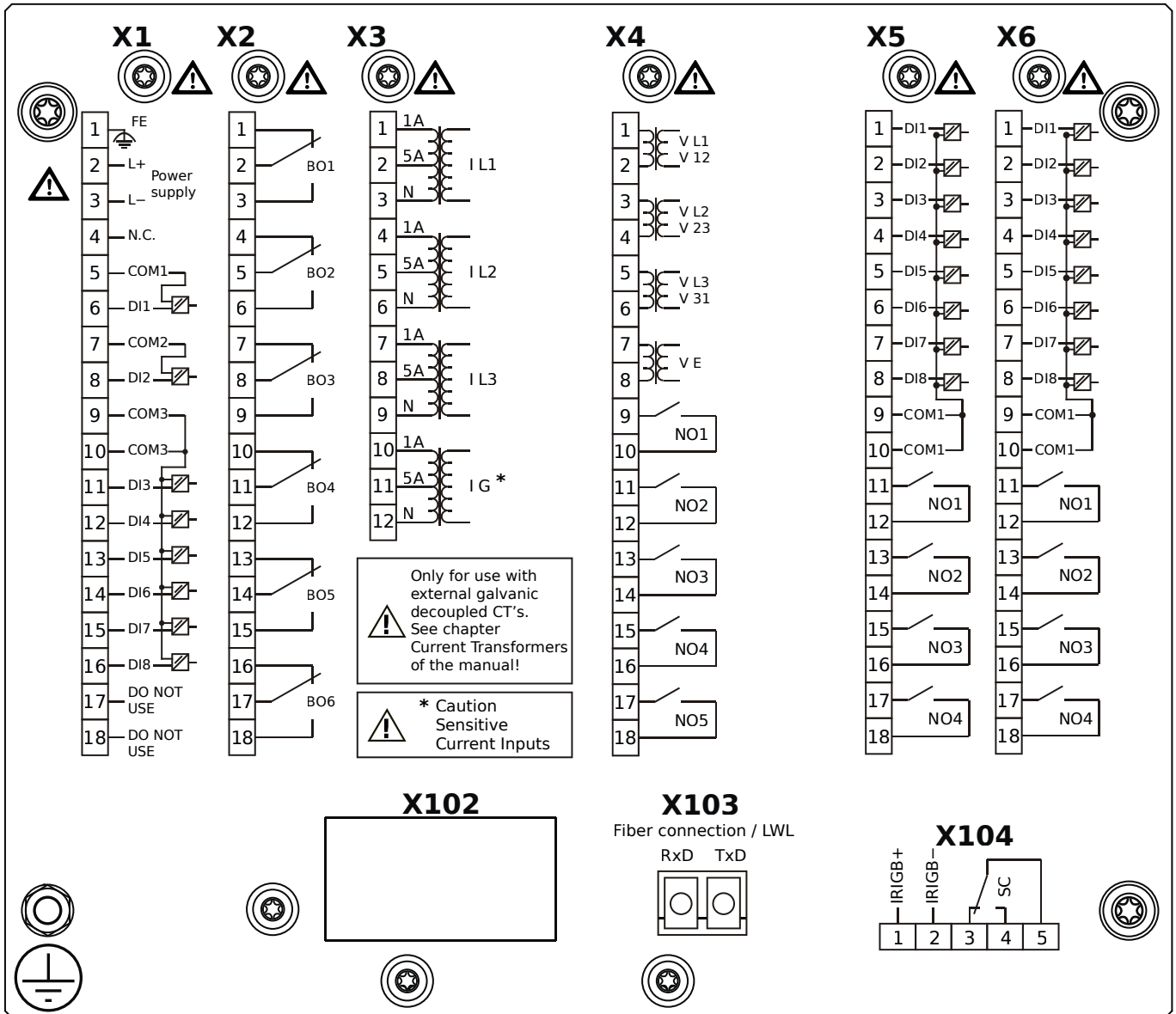| IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BDA

X1 **X2** **X3** **X4** **X5** **X6**

X1	
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2	
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3	
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4	
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5	
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6	
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

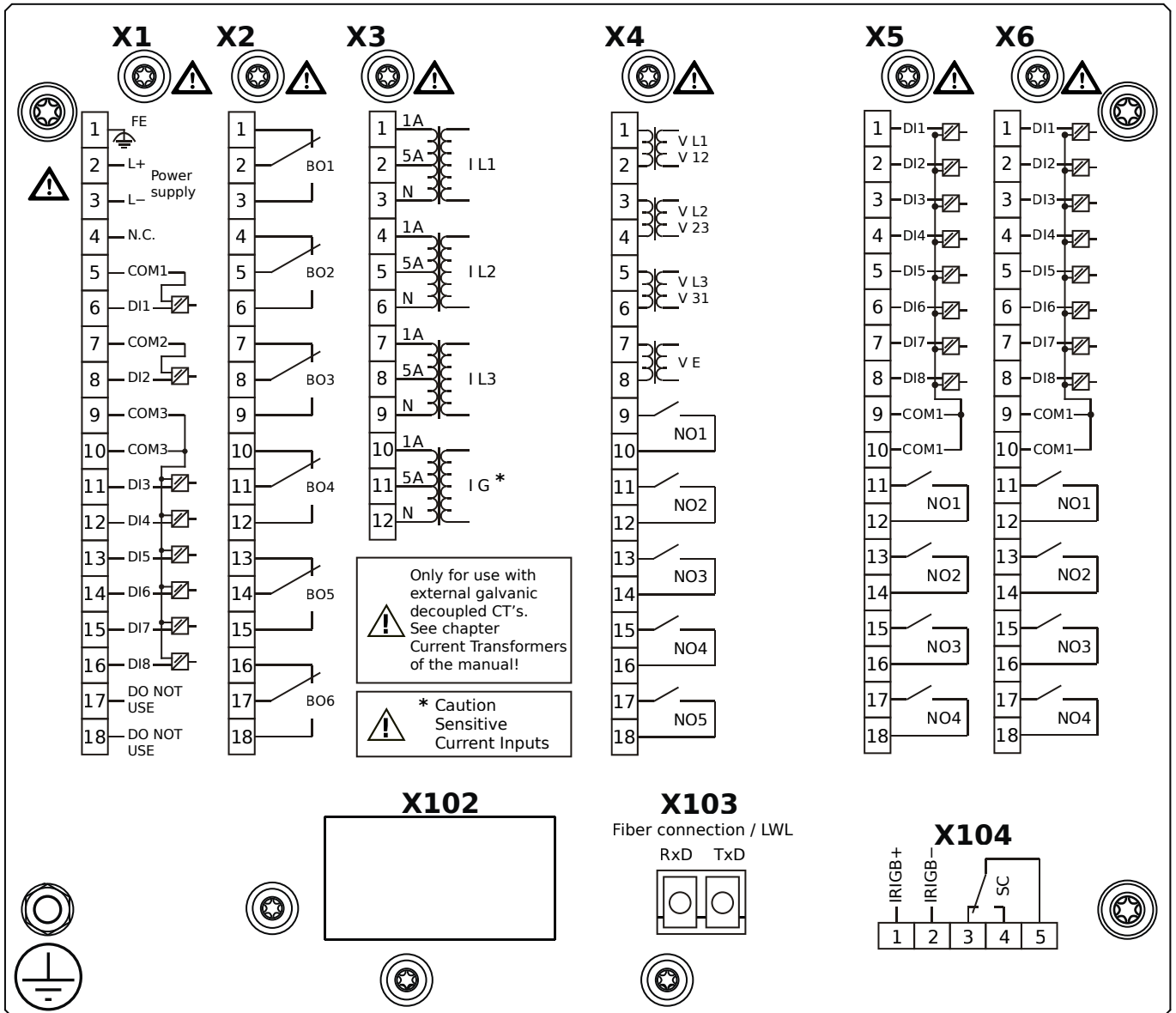**Housing B2, small display, 19" rack mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
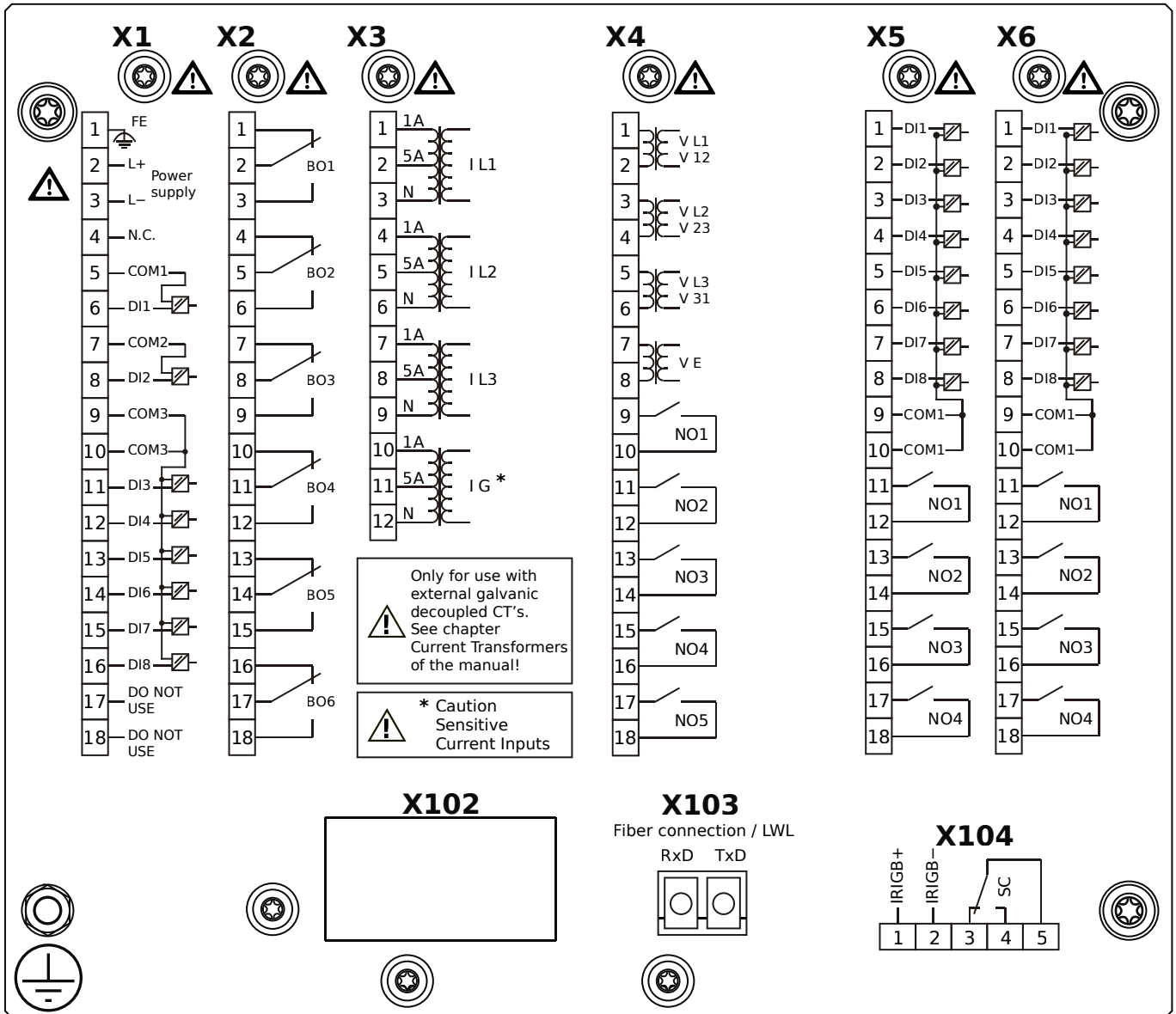
MRA4-2E1BDB

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BEA

X1

1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

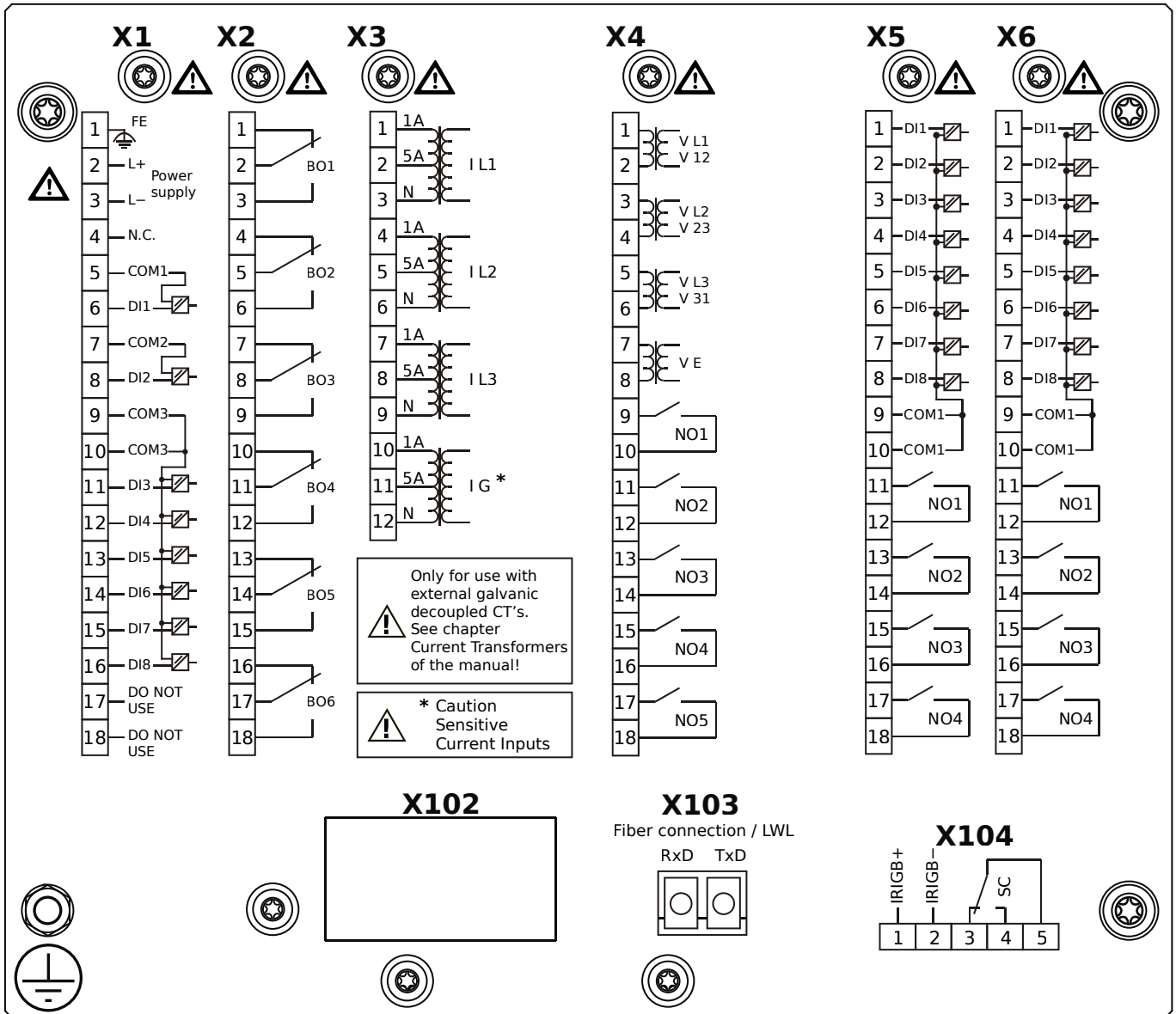**Housing B2, small display, 19" rack mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
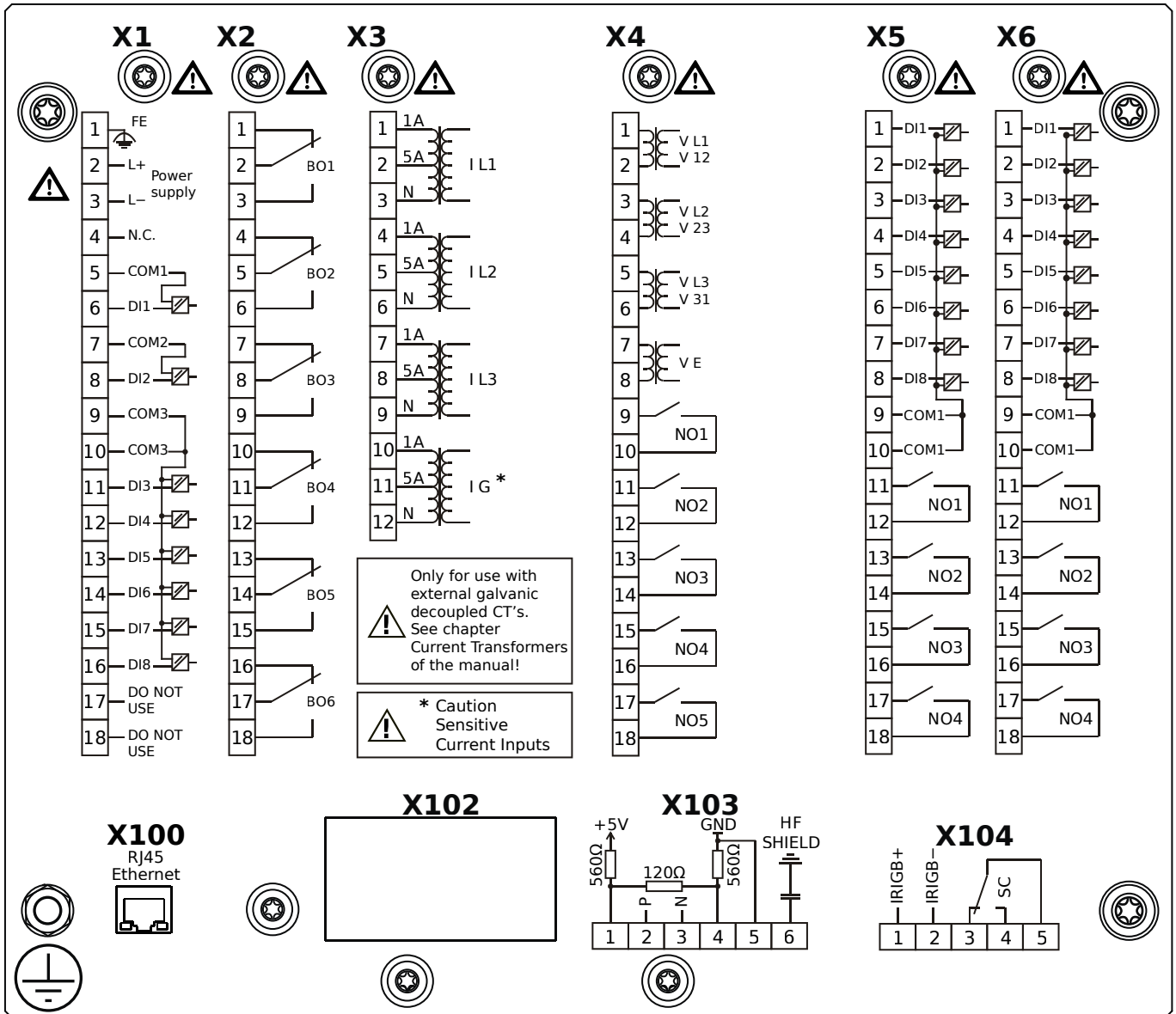**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BEB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
- **X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
- **X2** – OR6: Assembly Group with 6 Output Relays
- **X3** – TIs: Standard phase current measuring card and sensitive ground current measuring
- **X4** – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
- **X5** – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
- **X6** – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
- **X103** – Profibus-DP, RS485, D-SUB
- **X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BFA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104

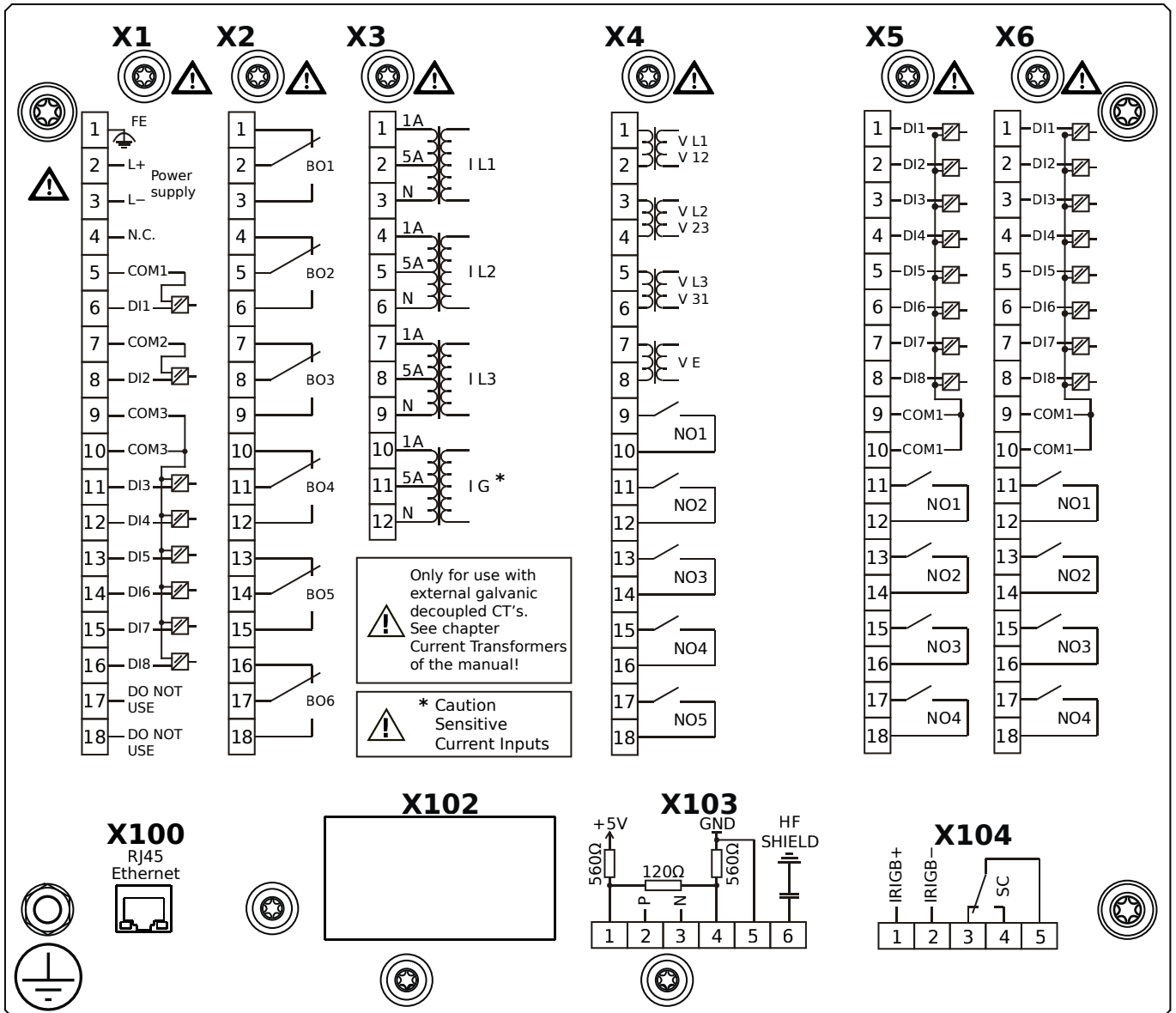| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BFB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
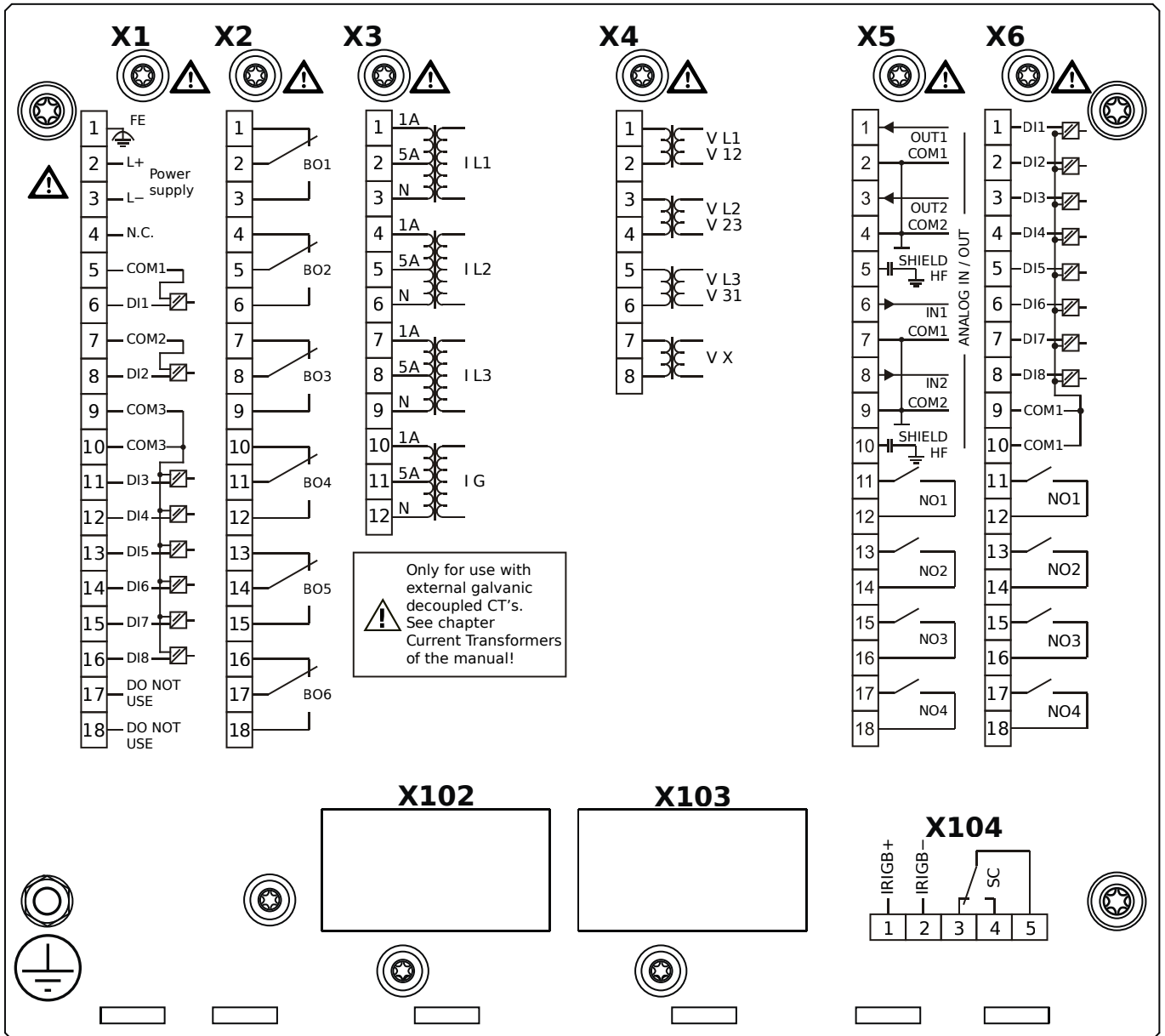IRIGB+ IRIGB− SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BGA

X1
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V E
8
9 NO1
10
11 NO2
12
13 NO3
14
15 NO4
16
17 NO5
18

X5
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
connecting diagram see specification

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BGB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
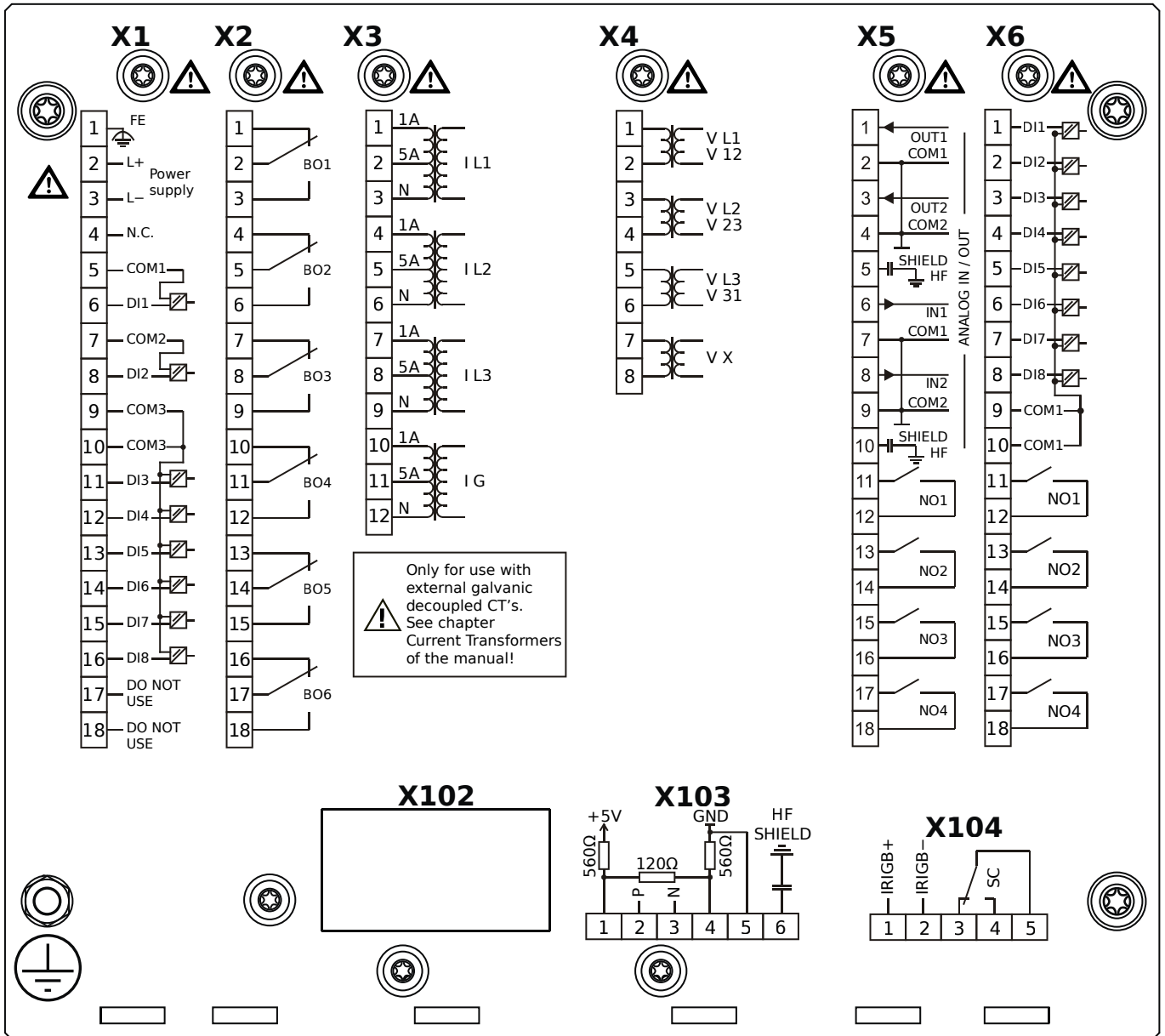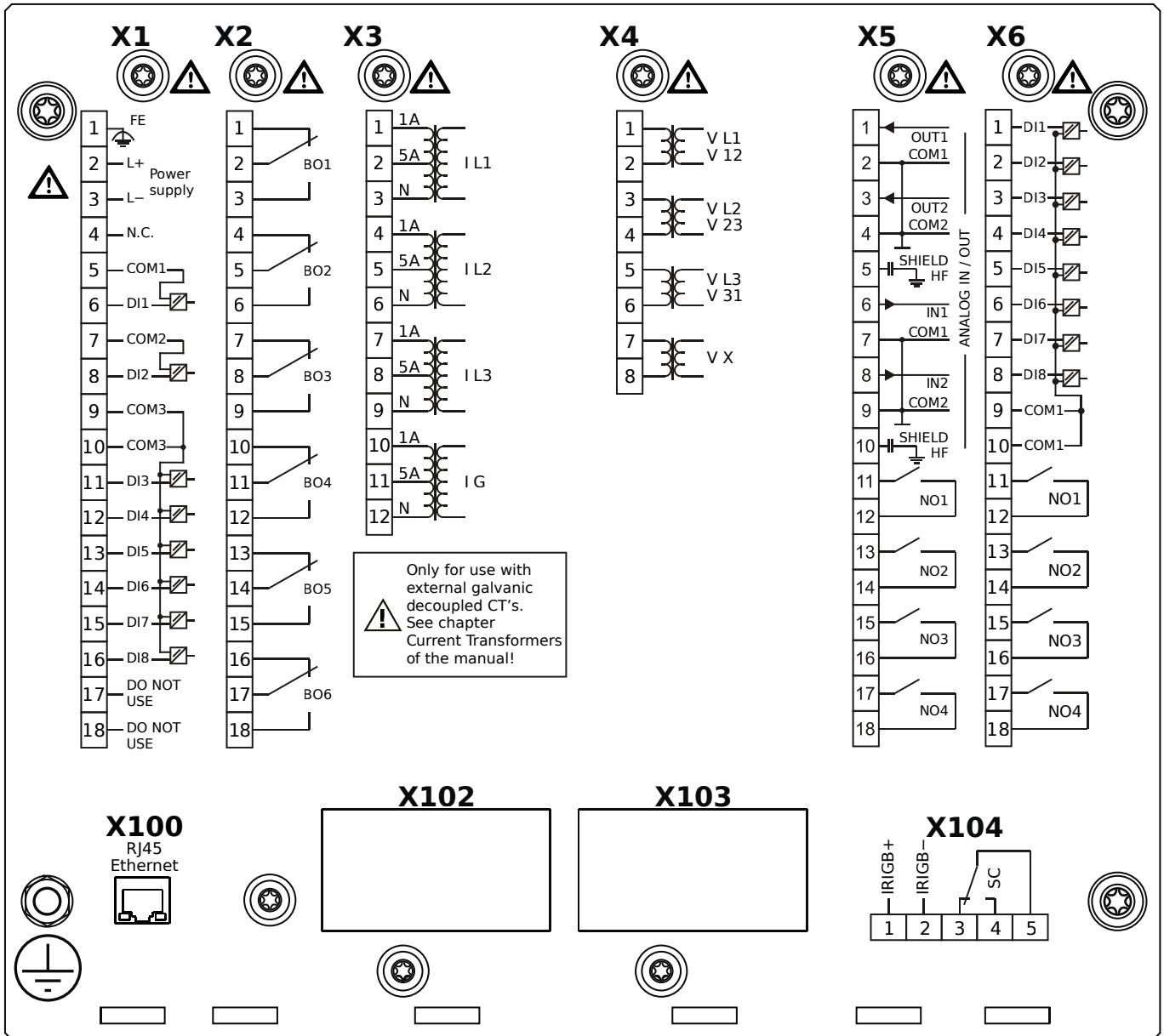
MRA4-2E1BHA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BHB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
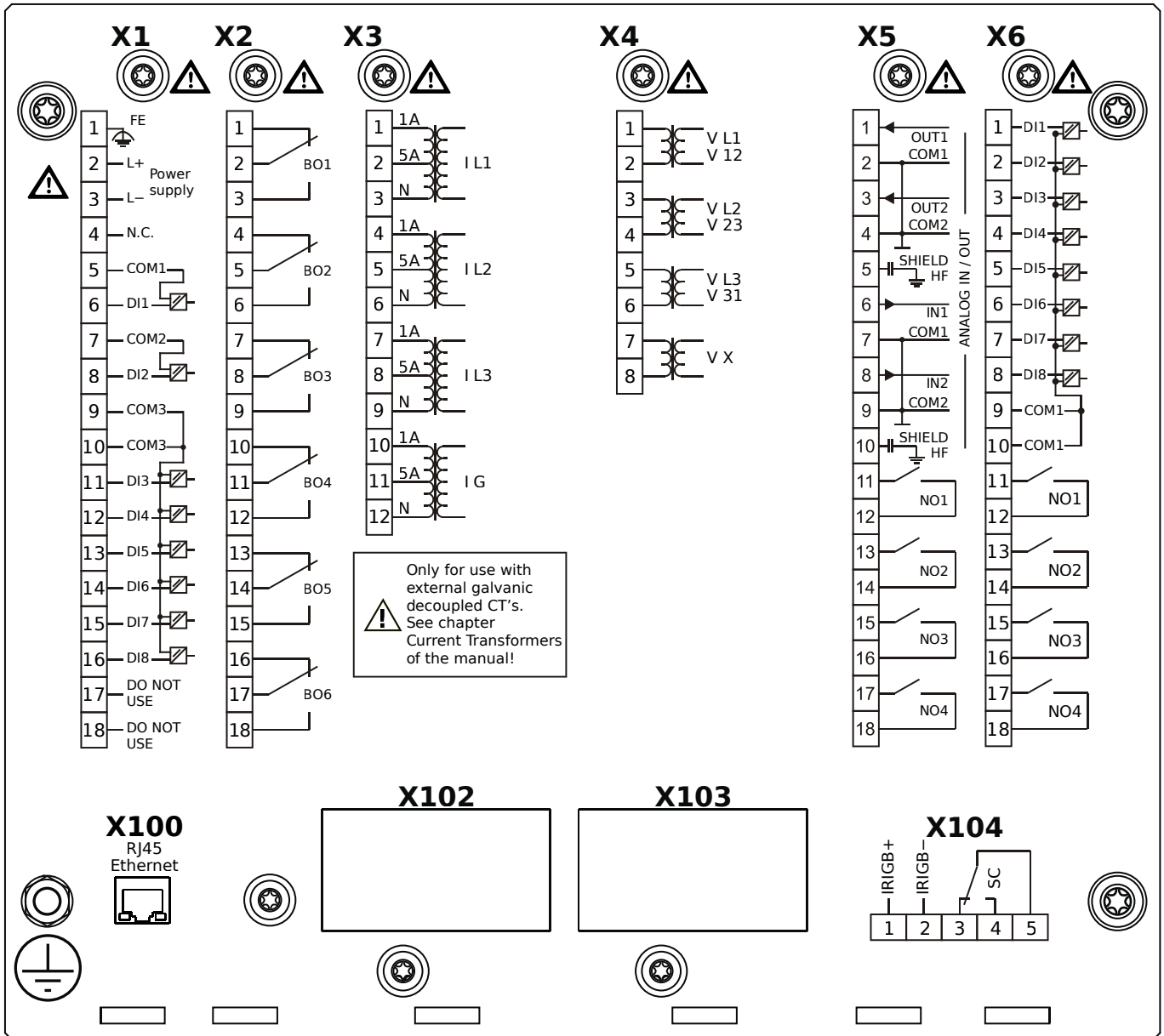**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BIA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BIB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V   GND   HF SHIELD
560Ω 120Ω 560Ω
P N

| 1 | 2 | 3 | 4 | 5 | 6 |

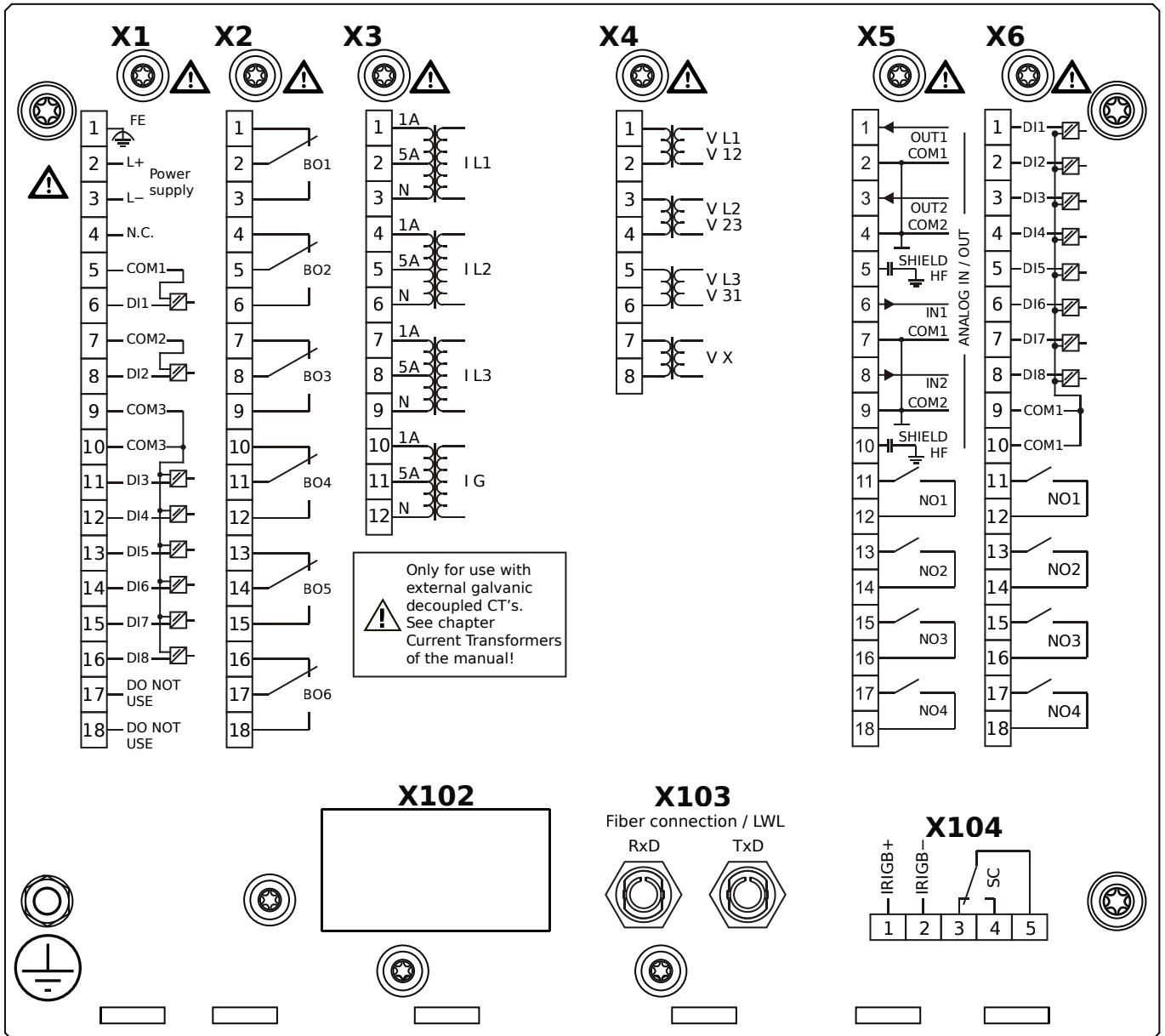**X104**

IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BKA

X1

1 — FE ⏚
2 — L+ } Power
3 — L− } supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2

1
2 } BO1
3
4
5 } BO2
6
7
8 } BO3
9
10
11 } BO4
12
13
14 } BO5
15
16
17 } BO6
18

X3

1 — 1A
2 — 5A } I L1
3 — N
4 — 1A
5 — 5A } I L2
6 — N
7 — 1A
8 — 5A } I L3
9 — N
10 — 1A
11 — 5A } I G *
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1
2 } V L1 / V 12
3
4 } V L2 / V 23
5
6 } V L3 / V 31
7
8 } V E
9
10 } NO1
11
12 } NO2
13
14 } NO3
15
16 } NO4
17
18 } NO5

X5

1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11
12 } NO1
13
14 } NO2
15
16 } NO3
17
18 } NO4

X6

1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11
12 } NO1
13
14 } NO2
15
16 } NO3
17
18 } NO4

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
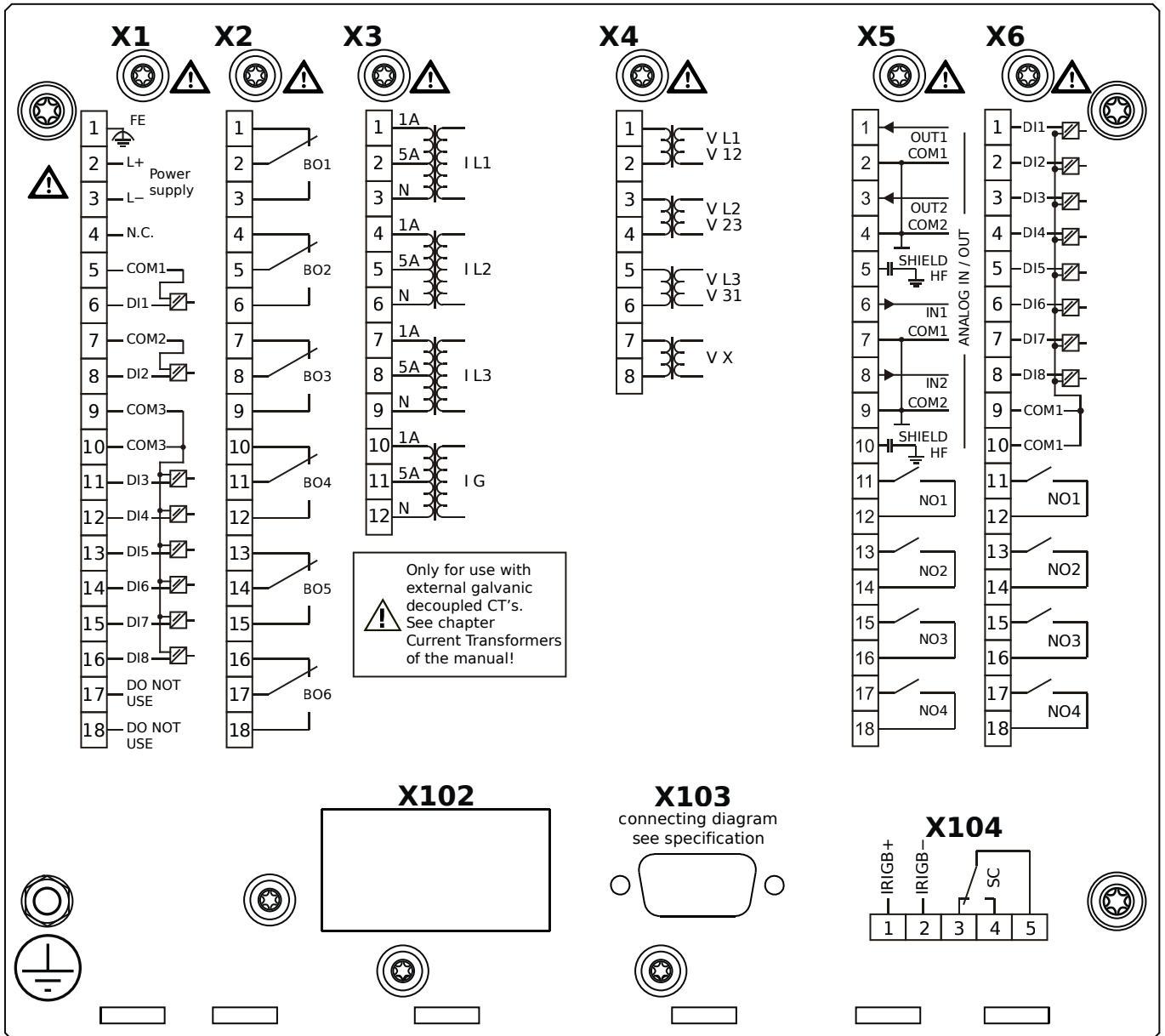**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BKB

Housing B2, small display, 19" rack mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BLA

X1 **X2** **X3** **X4** **X5** **X6**

X1 connections:
- 1 — FE ⏚
- 2 — L+ ⎫ Power supply
- 3 — L− ⎭
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2 connections: BO1, BO2, BO3, BO4, BO5, BO6

X3 connections:
- 1A / 5A / N — I L1
- 1A / 5A / N — I L2
- 1A / 5A / N — I L3
- 1A / 5A / N — I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 connections:
- V L1 / V 12
- V L2 / V 23
- V L3 / V 31
- V E
- NO1, NO2, NO3, NO4, NO5

X5 connections:
- DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, COM1, COM1
- NO1, NO2, NO3, NO4

X6 connections:
- DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, COM1, COM1
- NO1, NO2, NO3, NO4

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
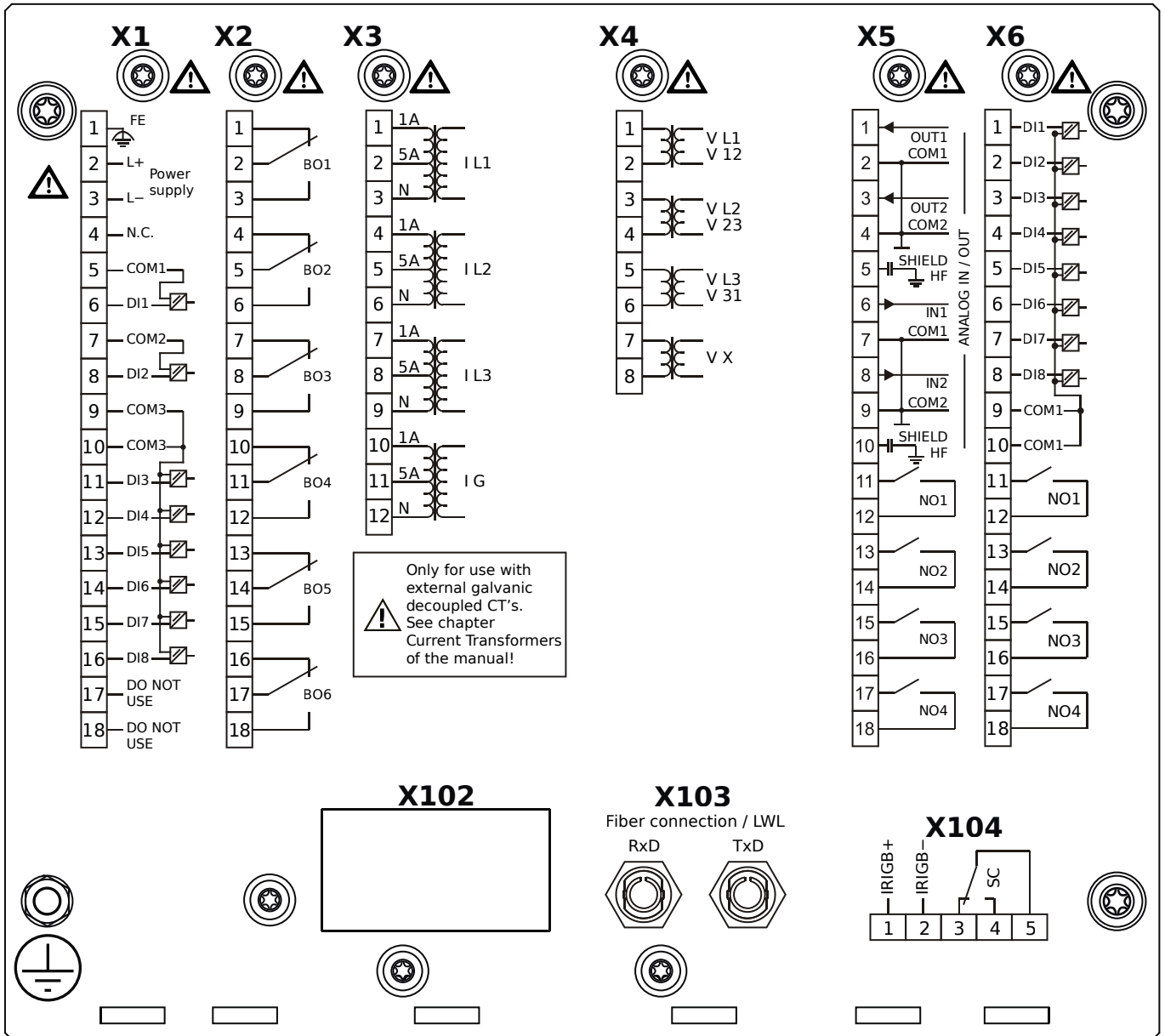**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BLB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
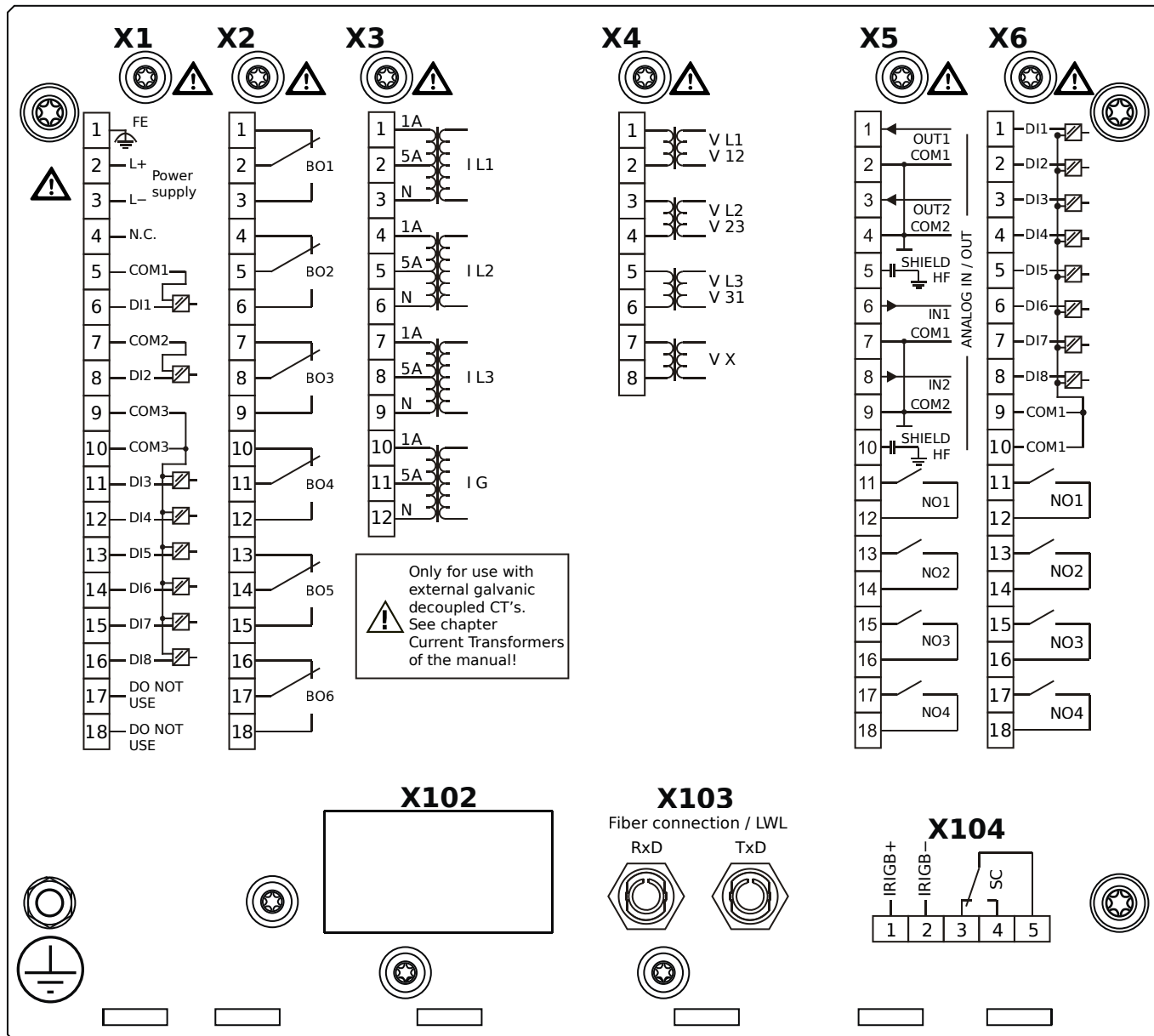**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BTA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2E1BTB

X1

1	FE ⏚
2	L+
3	L−	Power supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A	I L1
3	N
4	1A
5	5A	I L2
6	N
7	1A
8	5A	I L3
9	N
10	1A
11	5A	I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V E
8	
9	NO1
10	
11	NO2
12	
13	NO3
14	
15	NO4
16	
17	NO5
18	

X5

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
	P	N			
1	2	3	4	5	6

X104

IRIGB+	IRIGB−	SC		
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU-OR5: Voltage measuring assembly group with 5 additional Output Relays (normally open)
X5 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AAA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
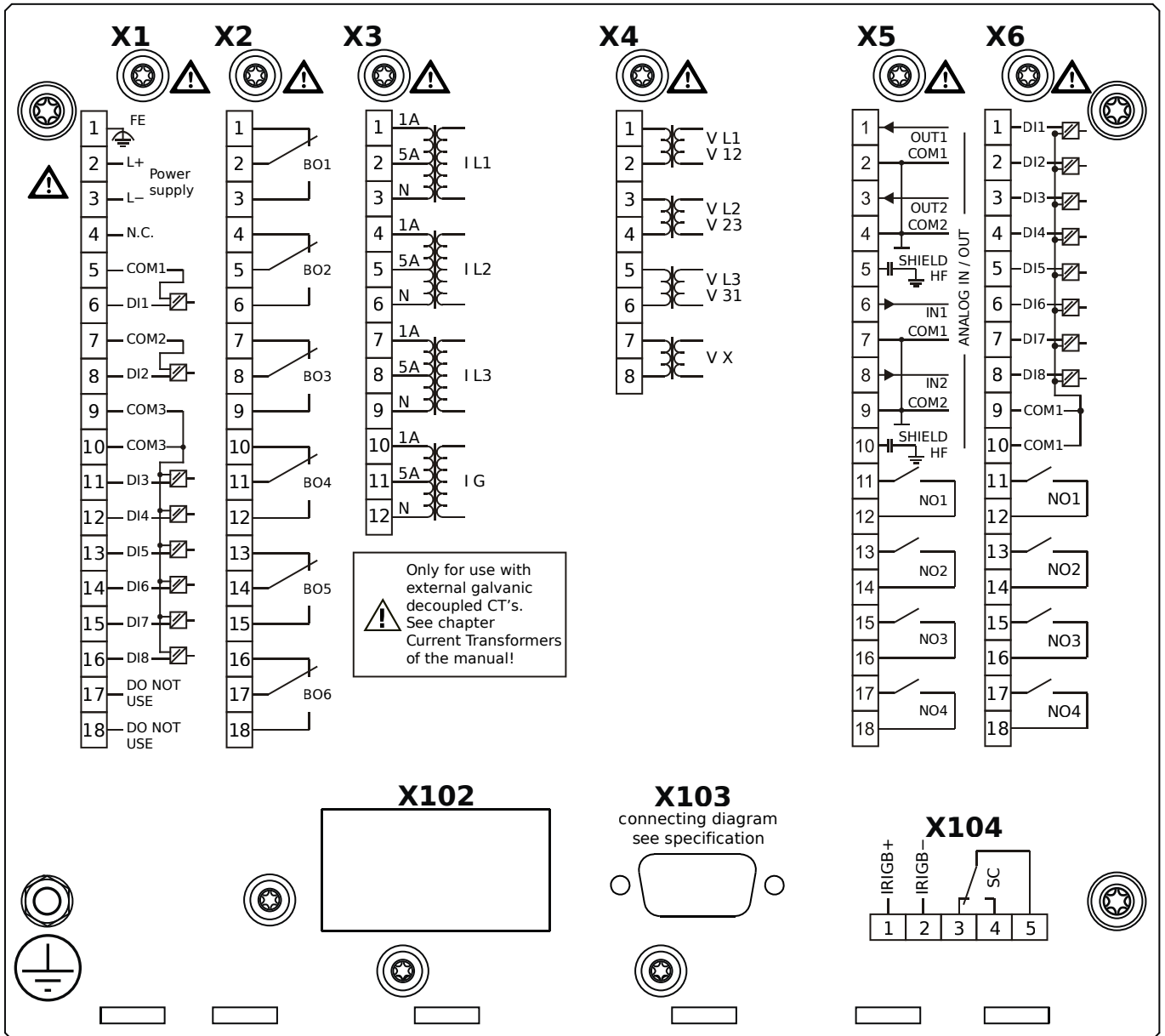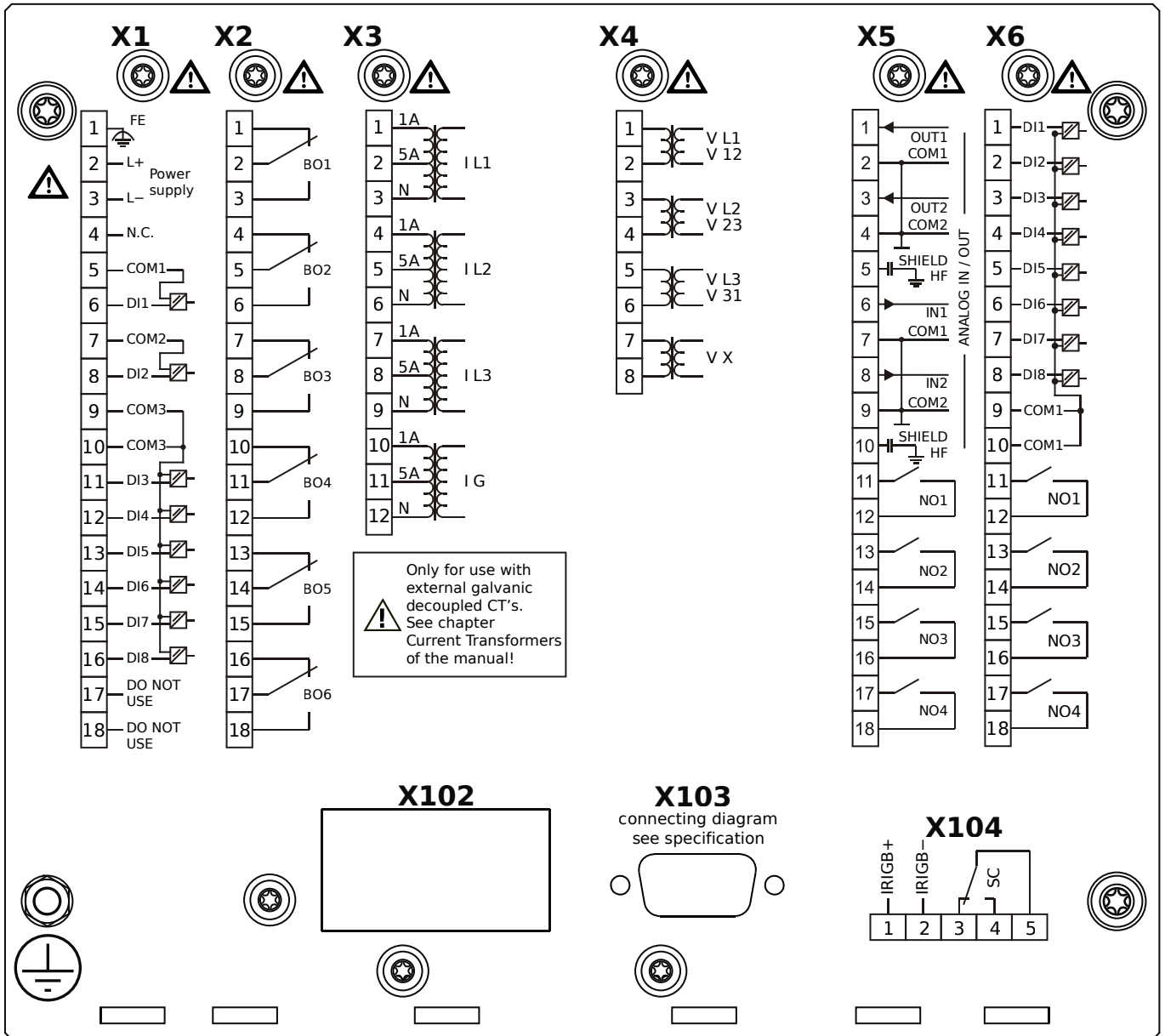**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AAB
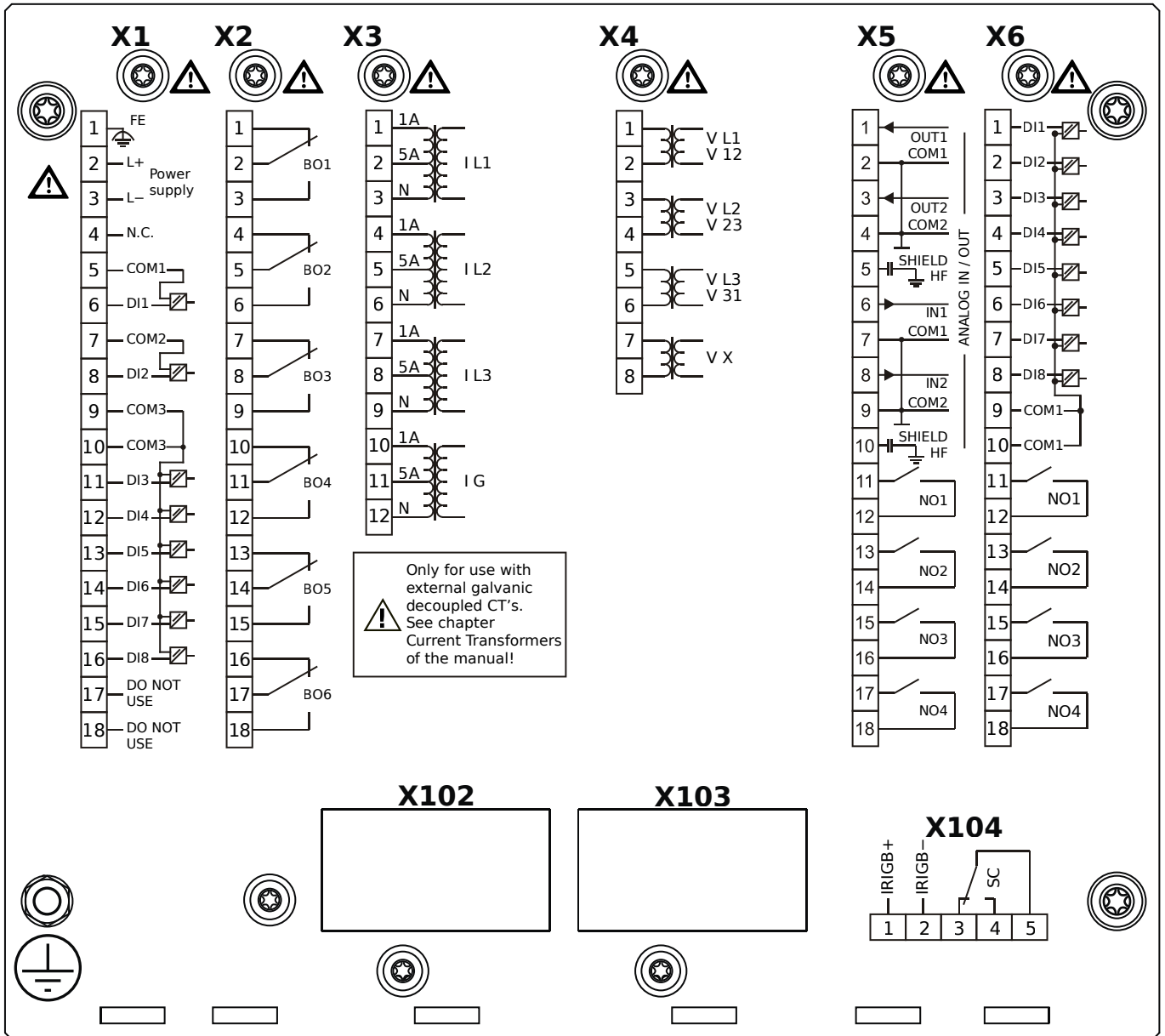
X1 **X2** **X3** **X4** **X5** **X6**

X1			X2		X3			X4		X5		X6	

X1:
- 1 — FE ⏚
- 2 — L+ ⎤ Power
- 3 — L− ⎦ supply
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2:
- 1
- 2 — BO1
- 3
- 4
- 5 — BO2
- 6
- 7
- 8 — BO3
- 9
- 10
- 11 — BO4
- 12
- 13
- 14 — BO5
- 15
- 16
- 17 — BO6
- 18

X3:
- 1 — 1A
- 2 — 5A — I L1
- 3 — N
- 4 — 1A
- 5 — 5A — I L2
- 6 — N
- 7 — 1A
- 8 — 5A — I L3
- 9 — N
- 10 — 1A
- 11 — 5A — I G
- 12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4:
- 1 — V L1
- 2 — V 12
- 3 — V L2
- 4 — V 23
- 5 — V L3
- 6 — V 31
- 7 — V X
- 8

X5:
- 1 — OUT1 COM1
- 2
- 3 — OUT2 COM2
- 4
- 5 — SHIELD HF
- 6 — IN1 COM1
- 7
- 8 — IN2 COM2
- 9
- 10 — SHIELD HF
- 11 — NO1
- 12
- 13 — NO2
- 14
- 15 — NO3
- 16
- 17 — NO4
- 18

ANALOG IN / OUT

X6:
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — COM1
- 11 — NO1
- 12
- 13 — NO2
- 14
- 15 — NO3
- 16
- 17 — NO4
- 18

X102 **X103**

X104
- 1 IRIGB+
- 2 IRIGB−
- 3 SC
- 4
- 5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
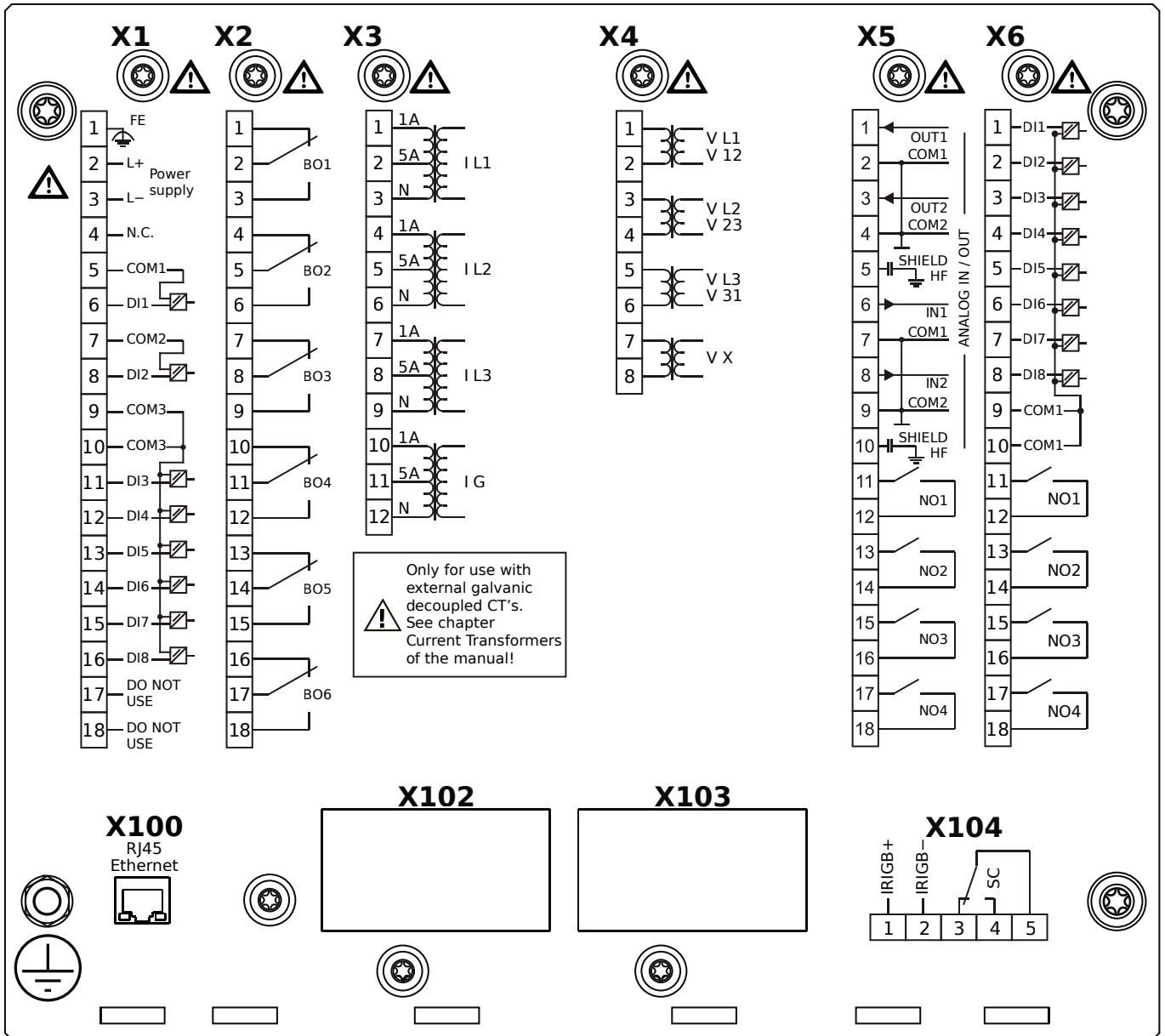**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ABA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ABB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
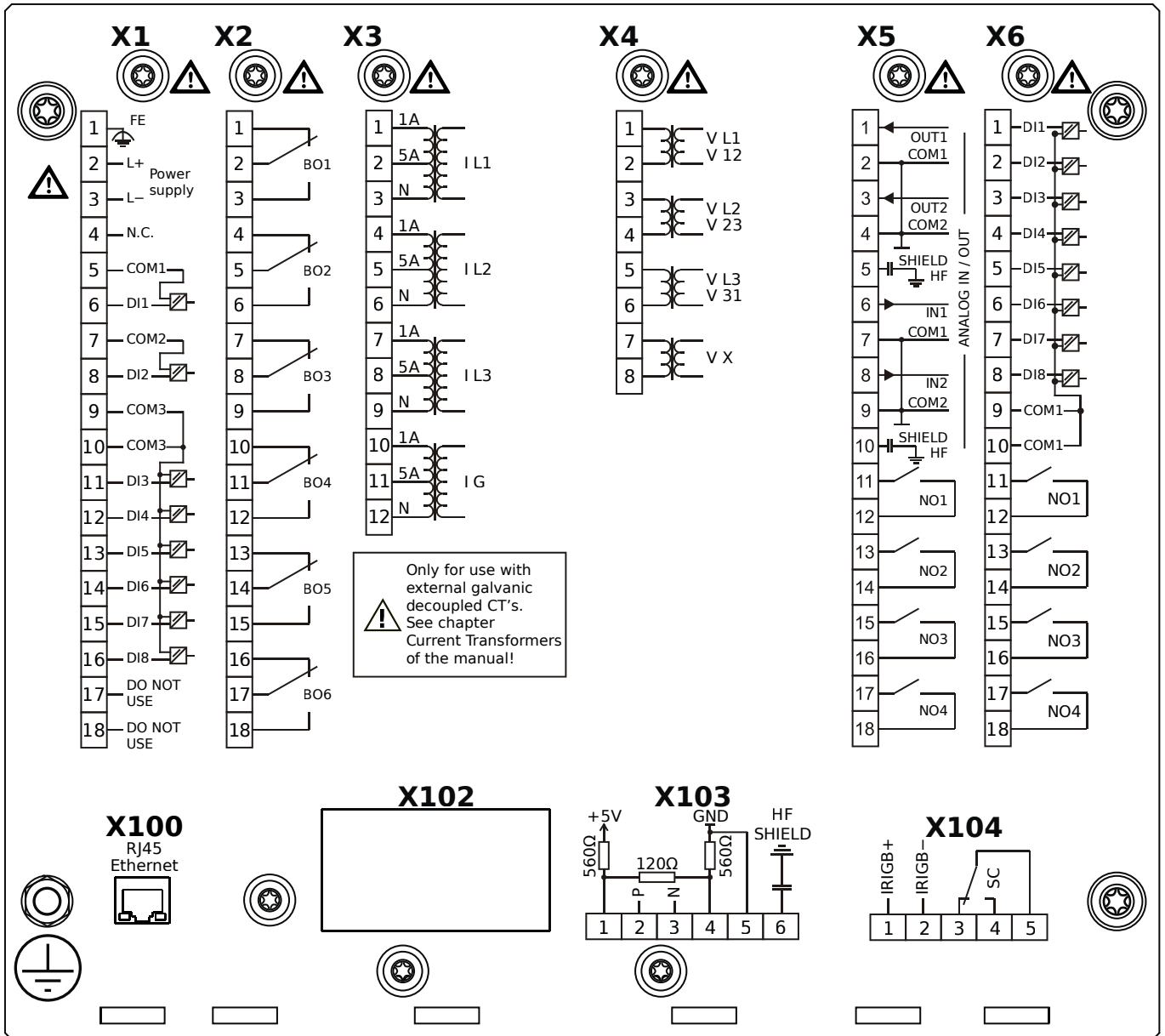**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ACA

X1 FE
- 1 — FE
- 2 — L+ } Power supply
- 3 — L−
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X3
- 1 1A
- 2 5A } I L1
- 3 N
- 4 1A
- 5 5A } I L2
- 6 N
- 7 1A
- 8 5A } I L3
- 9 N
- 10 1A
- 11 5A } I G
- 12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
- 1 } V L1
- 2 } V 12
- 3 } V L2
- 4 } V 23
- 5 } V L3
- 6 } V 31
- 7 } V X
- 8

X5
- 1 OUT1
- 2 COM1
- 3 OUT2
- 4 COM2
- 5 SHIELD HF
- 6 IN1
- 7 COM1
- 8 IN2
- 9 COM2
- 10 SHIELD HF
- 11 NO1
- 12
- 13 NO2
- 14
- 15 NO3
- 16
- 17 NO4
- 18

ANALOG IN / OUT

X6
- 1 DI1
- 2 DI2
- 3 DI3
- 4 DI4
- 5 DI5
- 6 DI6
- 7 DI7
- 8 DI8
- 9 COM1
- 10 COM1
- 11 NO1
- 12
- 13 NO2
- 14
- 15 NO3
- 16
- 17 NO4
- 18

X100
RJ45 Ethernet

X102

X103

X104
- IRIGB+
- IRIGB−
- SC
- 1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
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X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

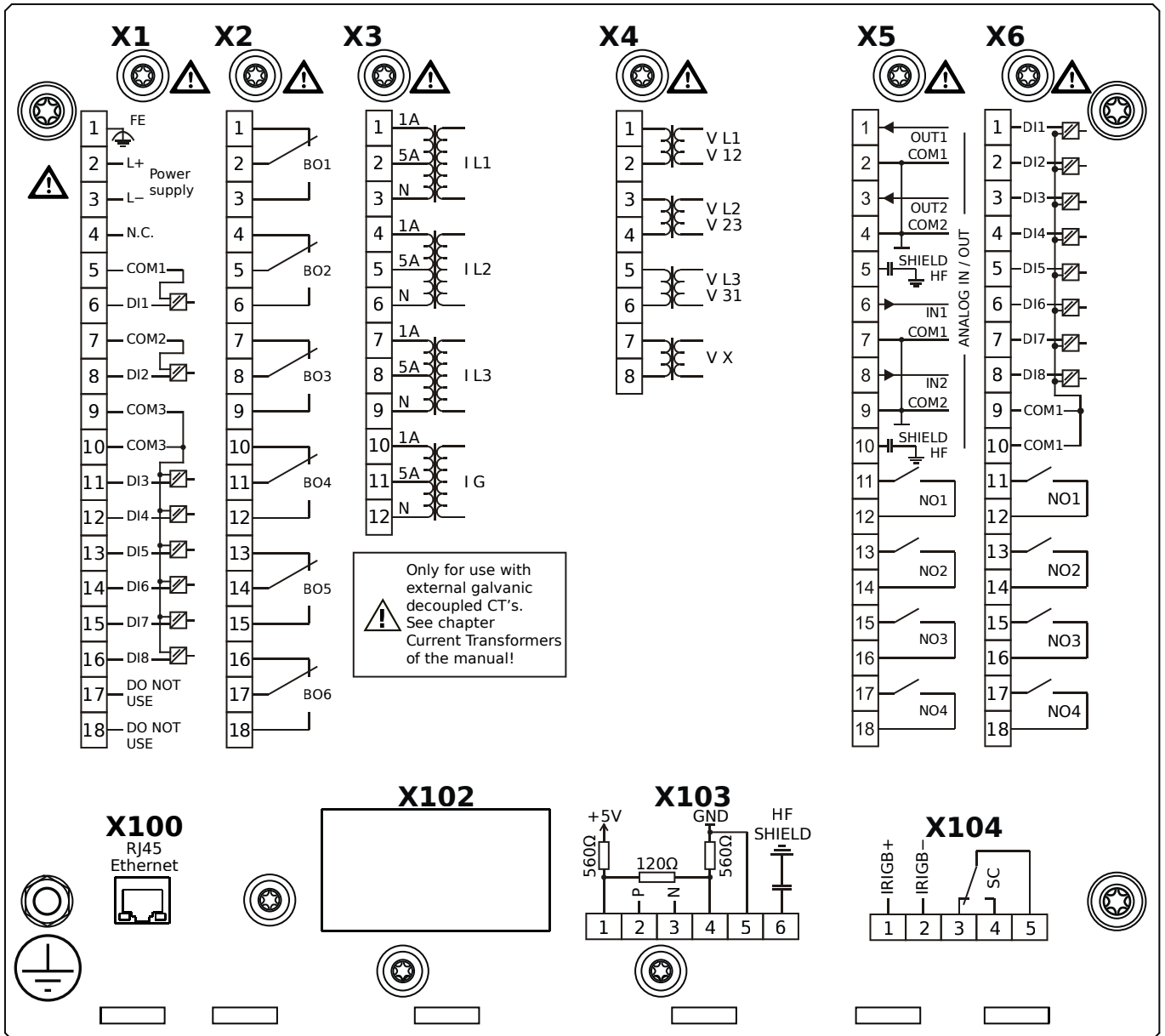# MRA4-2F0ACB

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5 ANALOG IN / OUT
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104
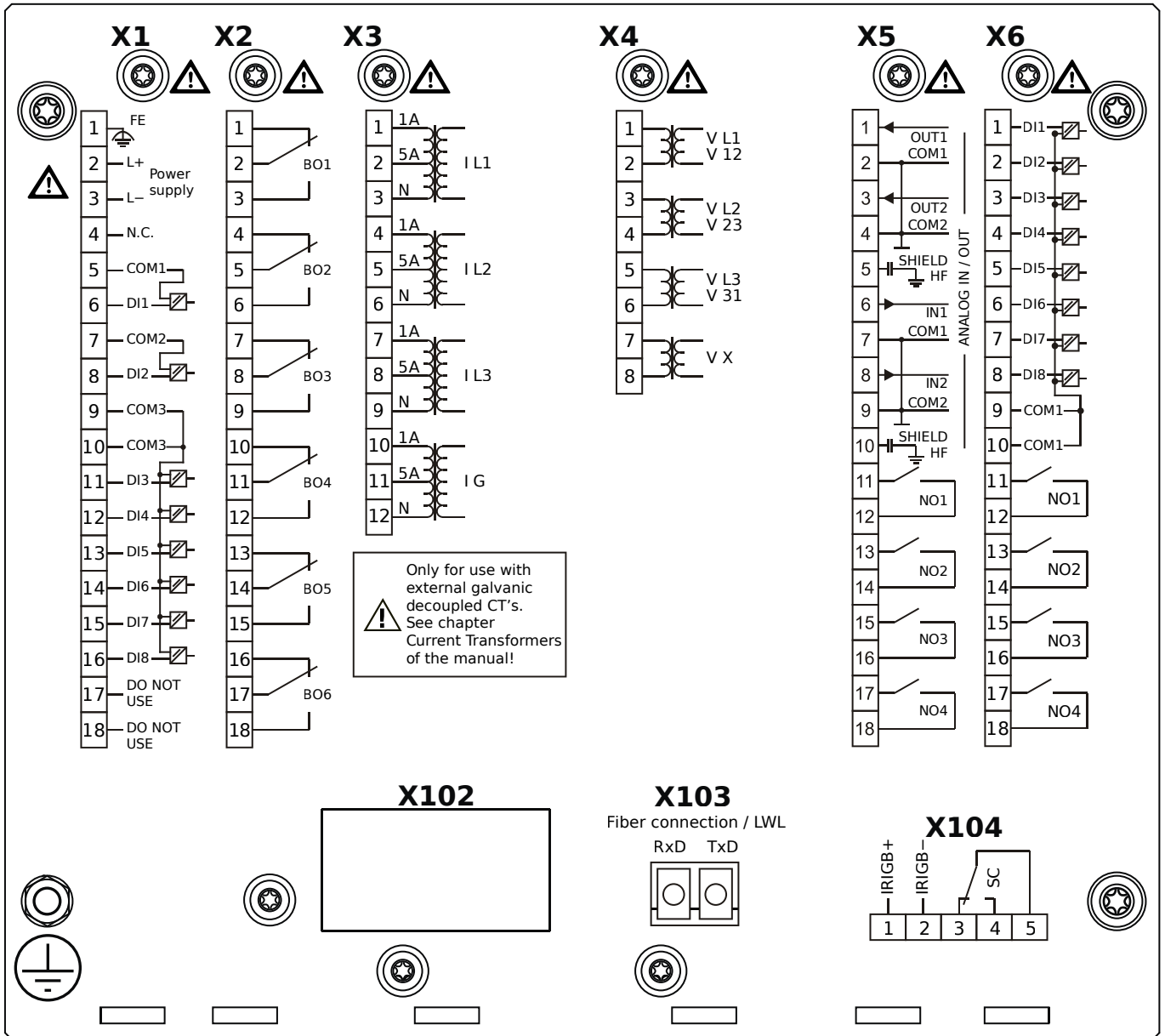| 1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ADA

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

Fiber connection / LWL

RxD   TxD

X104

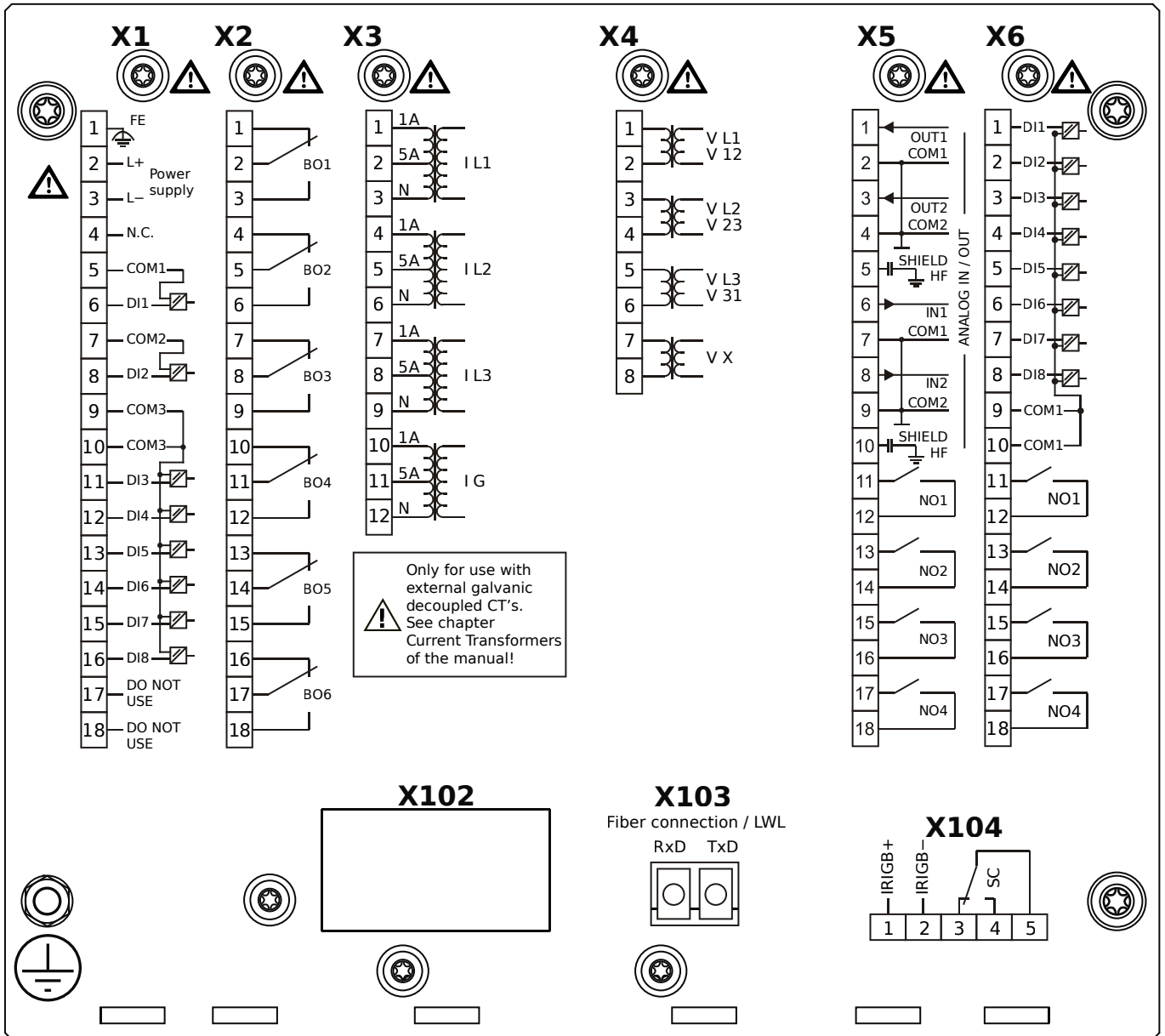IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ADB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A — I L1
3 N
4 1A
5 5A — I L2
6 N
7 1A
8 5A — I L3
9 N
10 1A
11 5A — I G
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
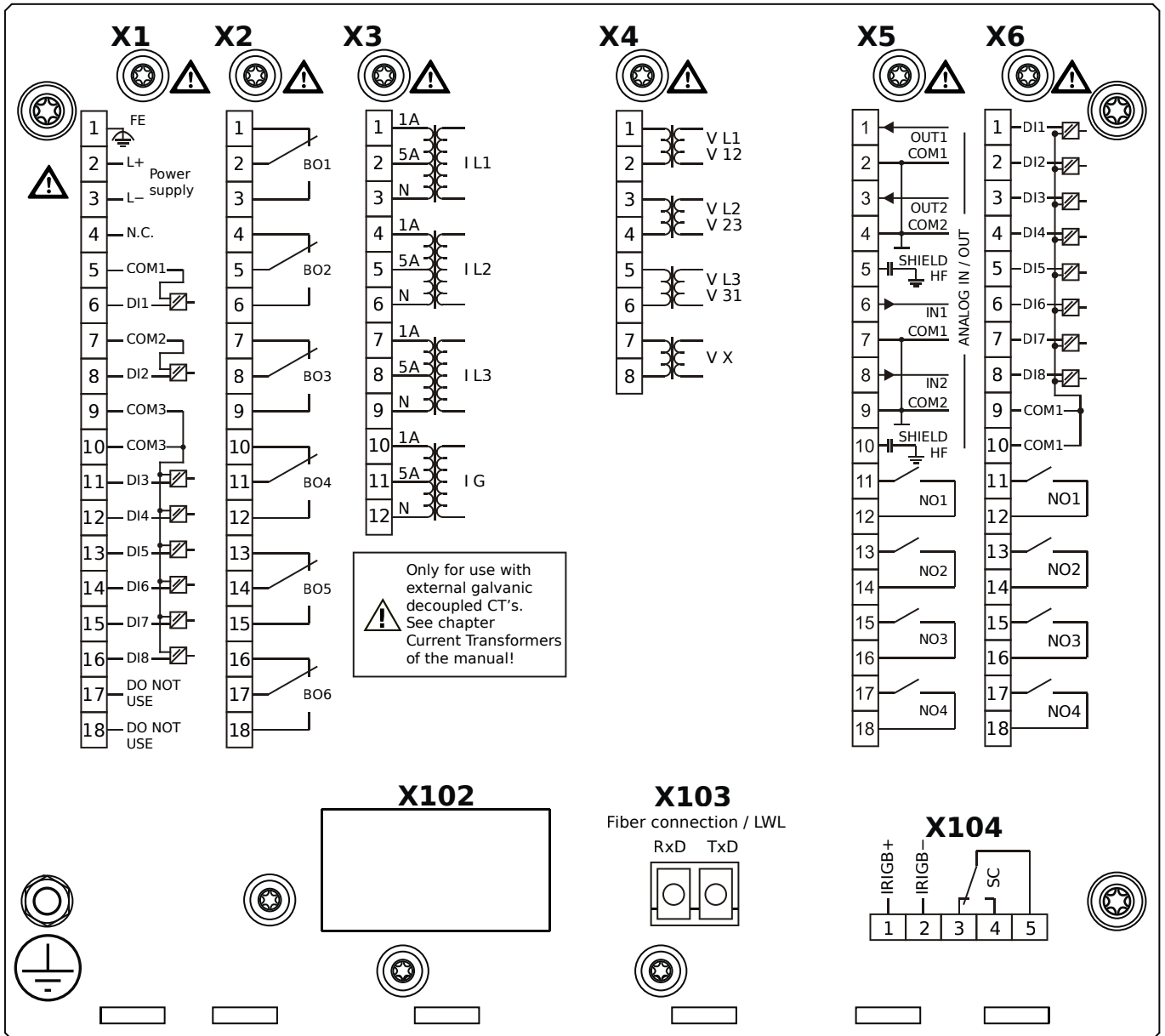**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AEA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AEB
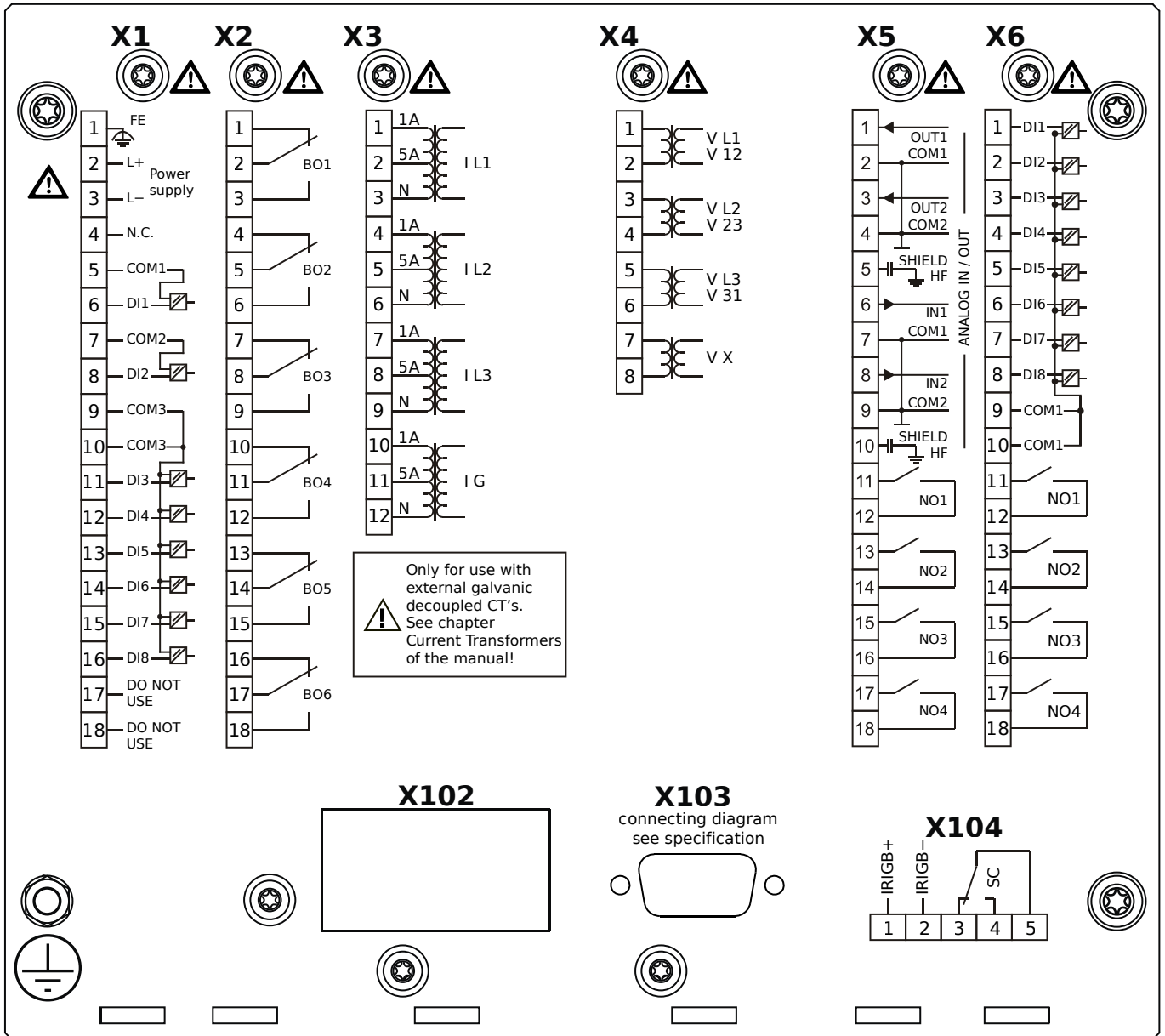
X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104

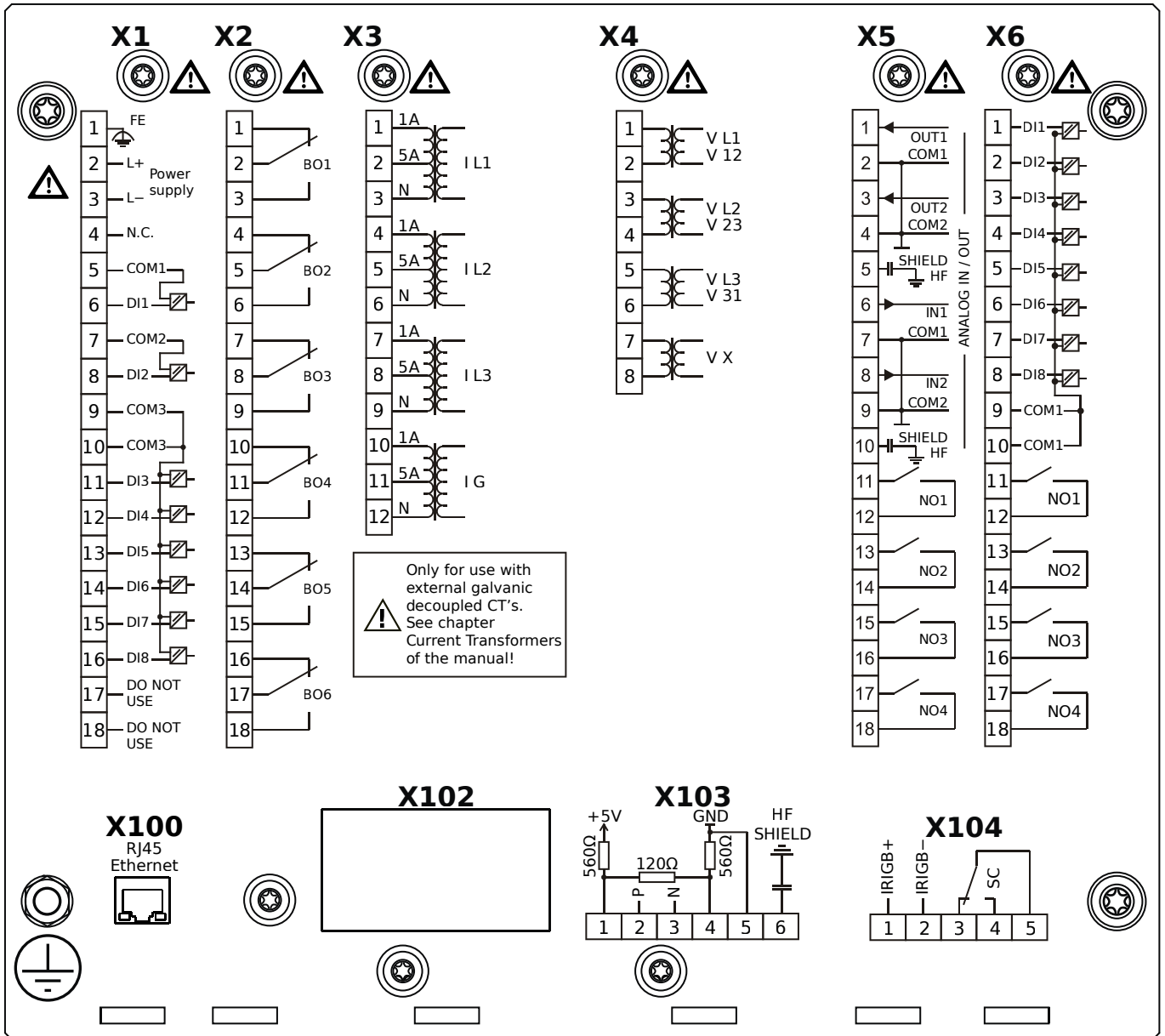| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
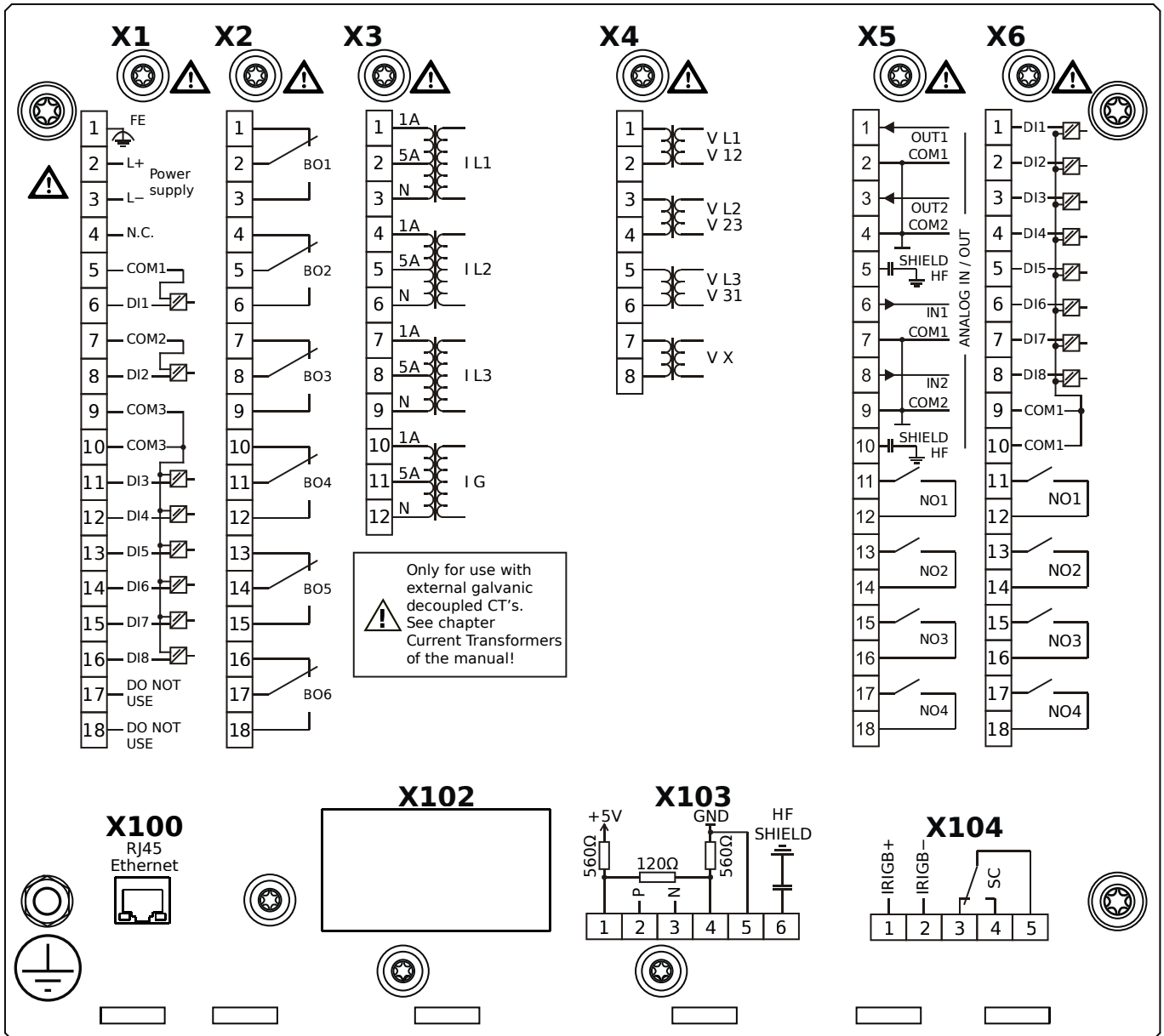**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AFA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
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X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AFB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AGA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
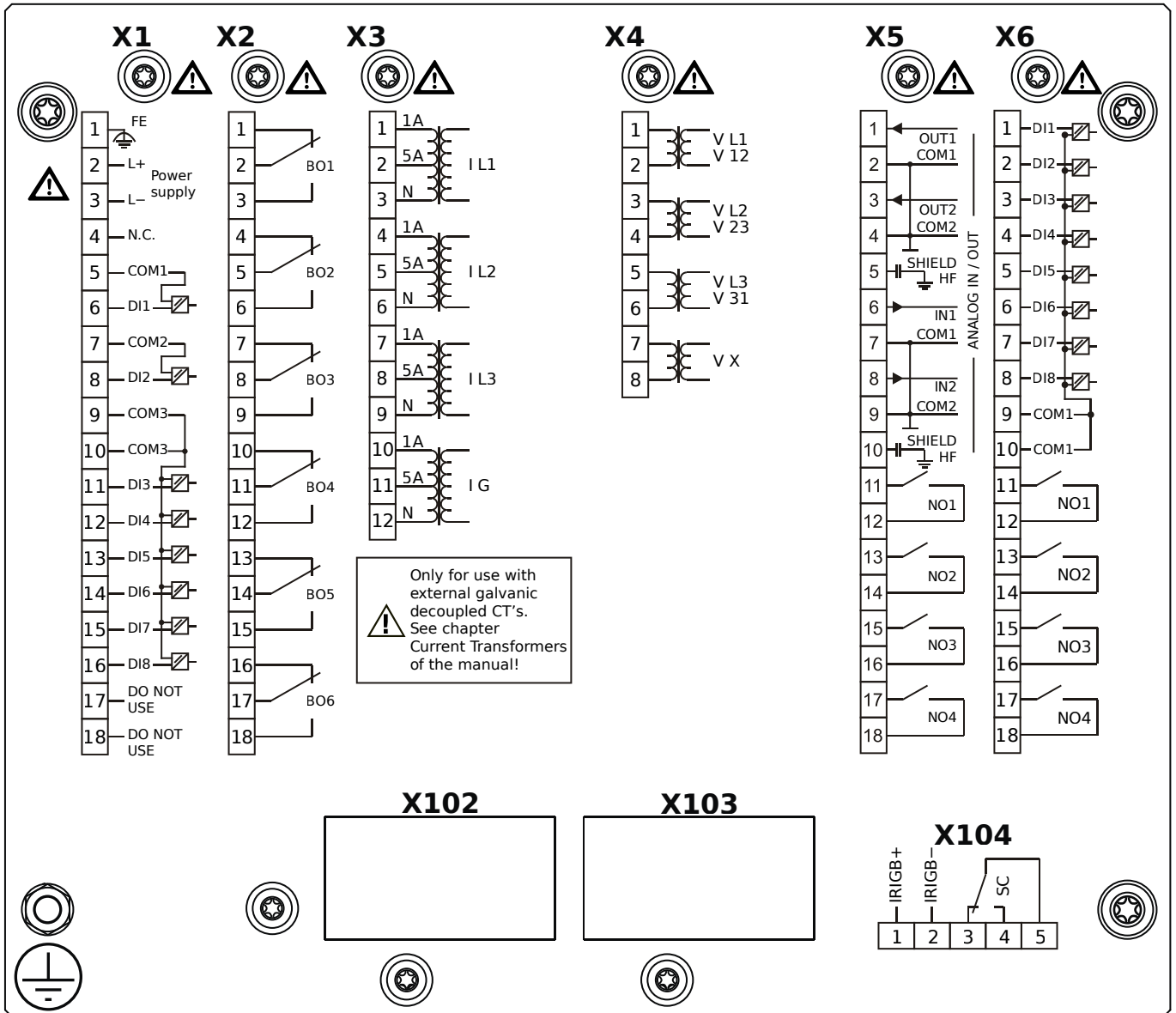**X5** – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AGB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X3 – TI: Standard current measuring card
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X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
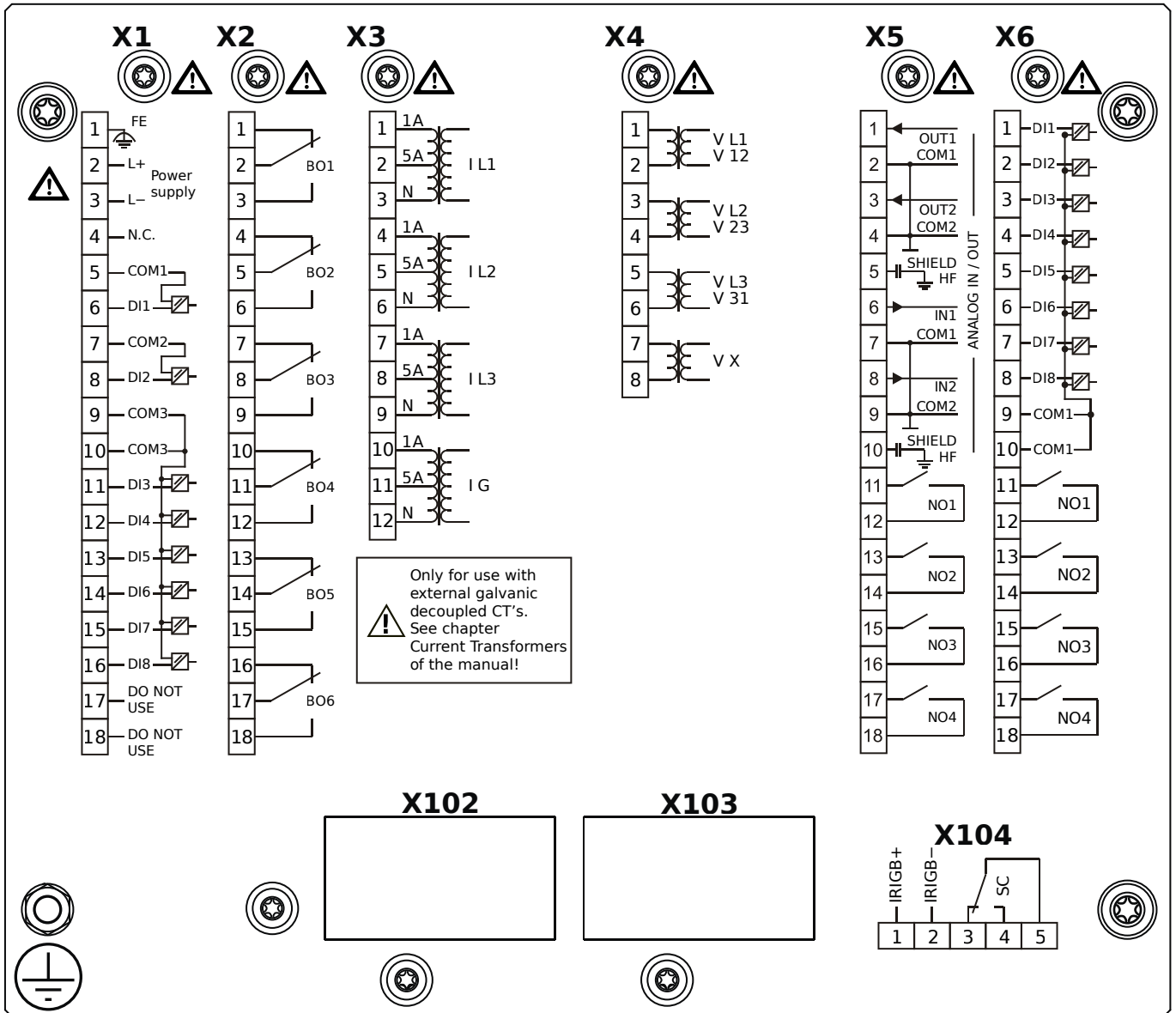**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AHA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AHB

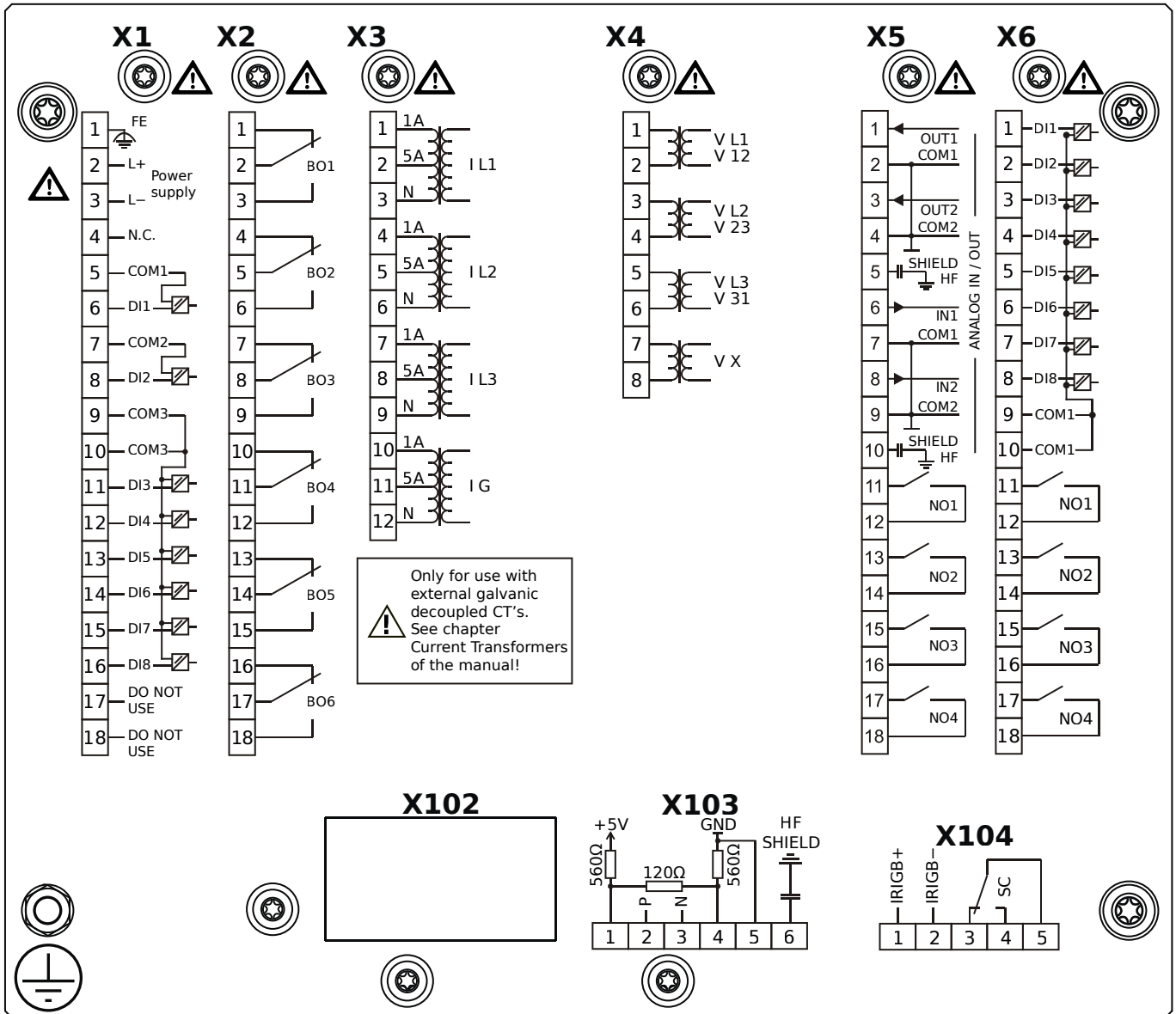**Housing B2, small display, door mounting**

   +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AIA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AIB

Housing B2, small display, door mounting

  + Conformal Coating (for installations in harsh environment)
- **X1** – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
- **X2** – OR6: Assembly Group with 6 Output Relays
- **X3** – TI: Standard current measuring card
- **X4** – TU: Card with 4 voltage transformer measuring inputs
- **X5** – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
- **X6** – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
- **X100** – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
- **X103** – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
- **X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AKA

X1

1	FE ⏚
2	L+ Power
3	L– supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

> Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

Fiber connection / LWL

RxD   TxD

X104

IRIGB+	IRIGB–		SC	
1	2	3	4	5

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0AKB

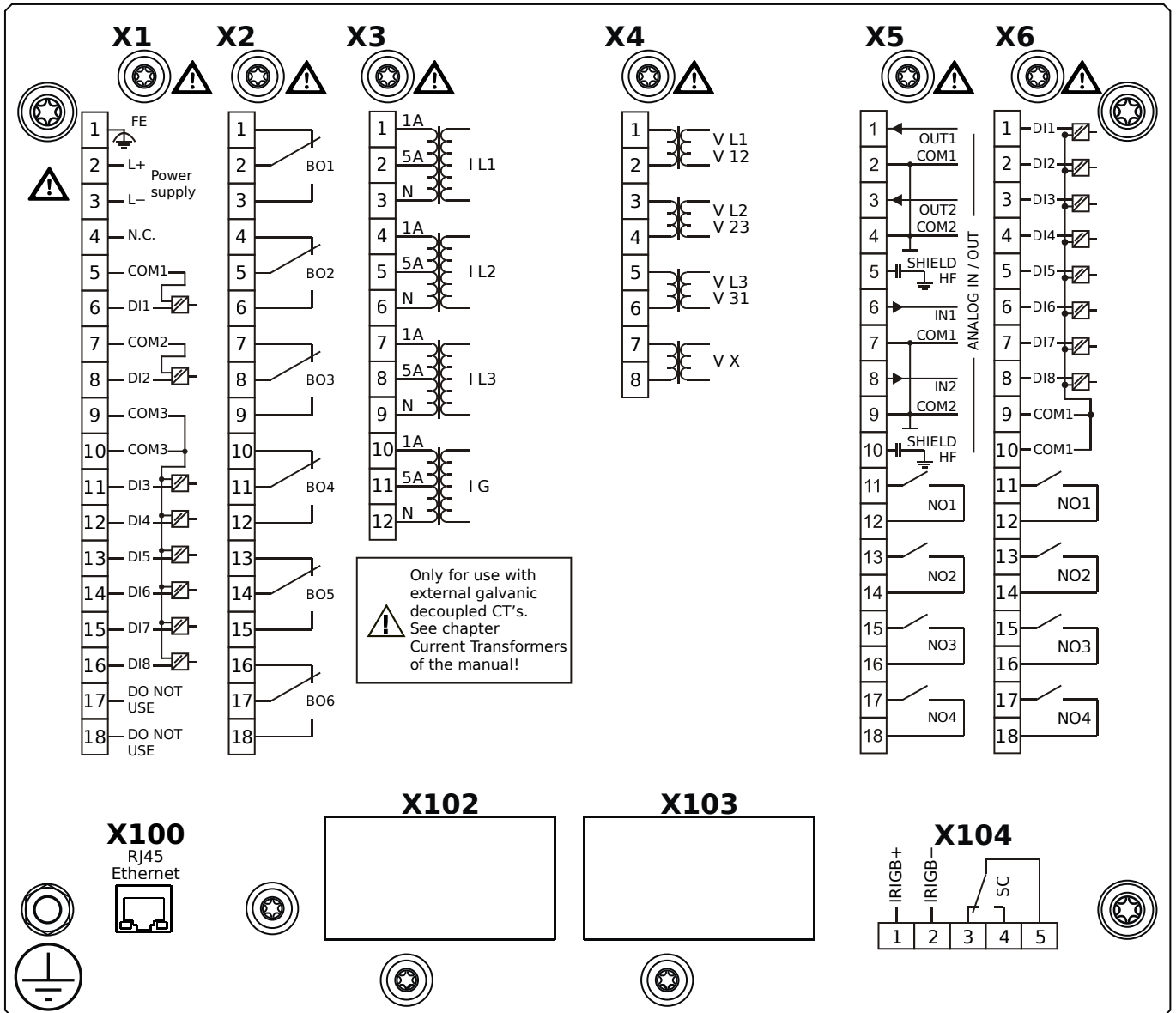**Housing B2, small display, door mounting**

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ALA

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1:
1 — FE
2 — L+ / Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2:
1, 2 — BO1
3
4, 5 — BO2
6
7, 8 — BO3
9
10, 11 — BO4
12
13, 14 — BO5
15
16, 17 — BO6
18

X3:
1 — 1A
2 — 5A / I L1
3 — N
4 — 1A
5 — 5A / I L2
6 — N
7 — 1A
8 — 5A / I L3
9 — N
10 — 1A
11 — 5A / I G
12 — N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4:
1 — V L1
2 — V 12
3 — V L2
4 — V 23
5 — V L3
6 — V 31
7 — V X
8

X5:
1 — OUT1
2 — COM1
3 — OUT2
4 — COM2
5 — SHIELD HF
6 — IN1
7 — COM1
8 — IN2
9 — COM2
10 — SHIELD HF
11, 12 — NO1
13, 14 — NO2
15, 16 — NO3
17, 18 — NO4

ANALOG IN / OUT

X6:
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11, 12 — NO1
13, 14 — NO2
15, 16 — NO3
17, 18 — NO4

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
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X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ALB

X1
1 — FE ⏚
2 — L+ ⎫ Power
3 — L− ⎭ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎱ I L1
3 N
4 1A
5 5A ⎱ I L2
6 N
7 1A
8 5A ⎱ I L3
9 N
10 1A
11 5A ⎱ I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎱ V L1
2 ⎰ V 12
3 ⎱ V L2
4 ⎰ V 23
5 ⎱ V L3
6 ⎰ V 31
7 ⎱ V X
8 ⎰

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ATA

X1

1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V			GND		HF SHIELD
560Ω	120Ω		560Ω		
1	2 (P)	3 (N)	4	5	6

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

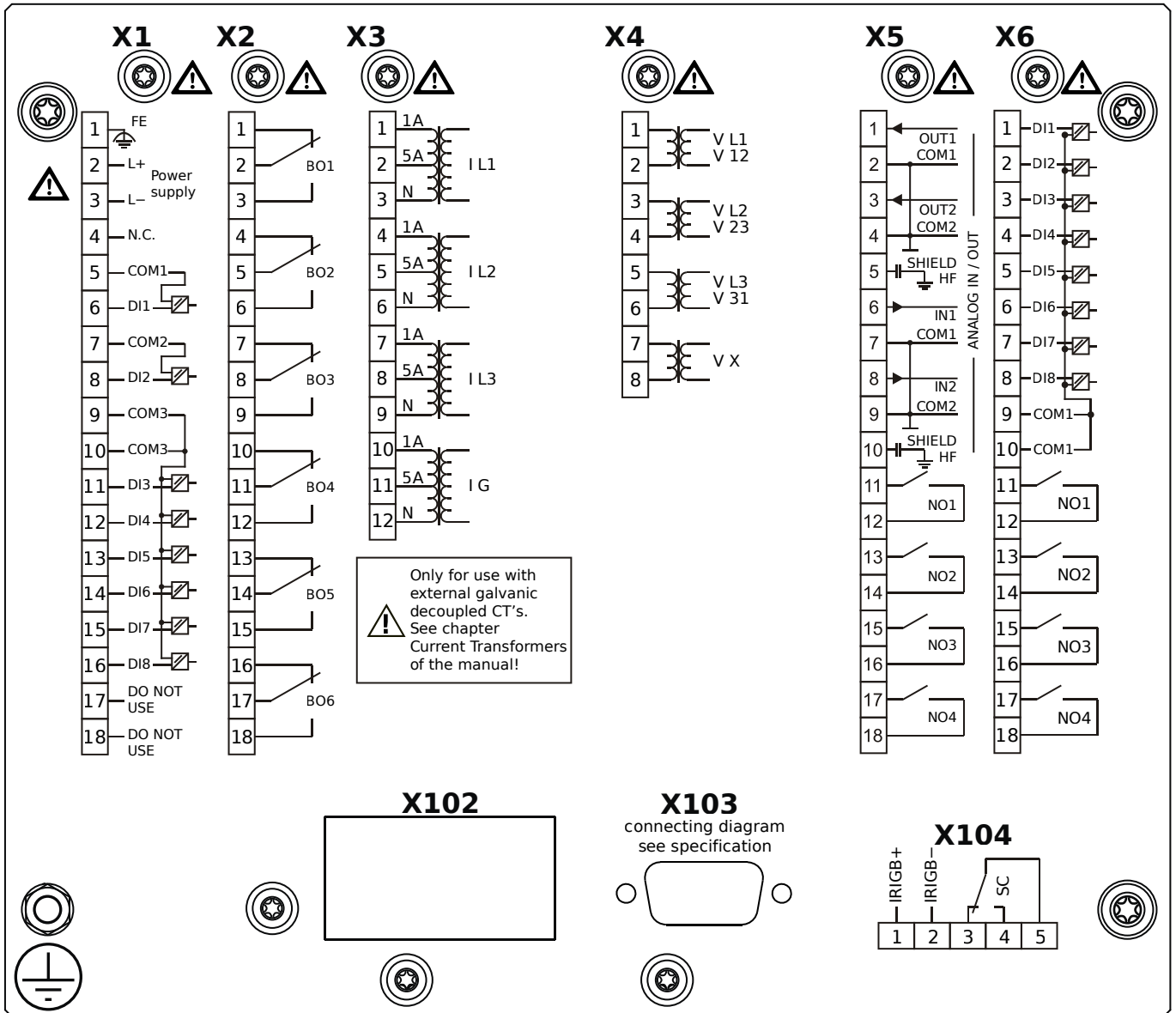**Housing B2, small display, door mounting**

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0ATB

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N

1	2	3	4	5	6

X104

IRIGB+ IRIGB− SC

1	2	3	4	5

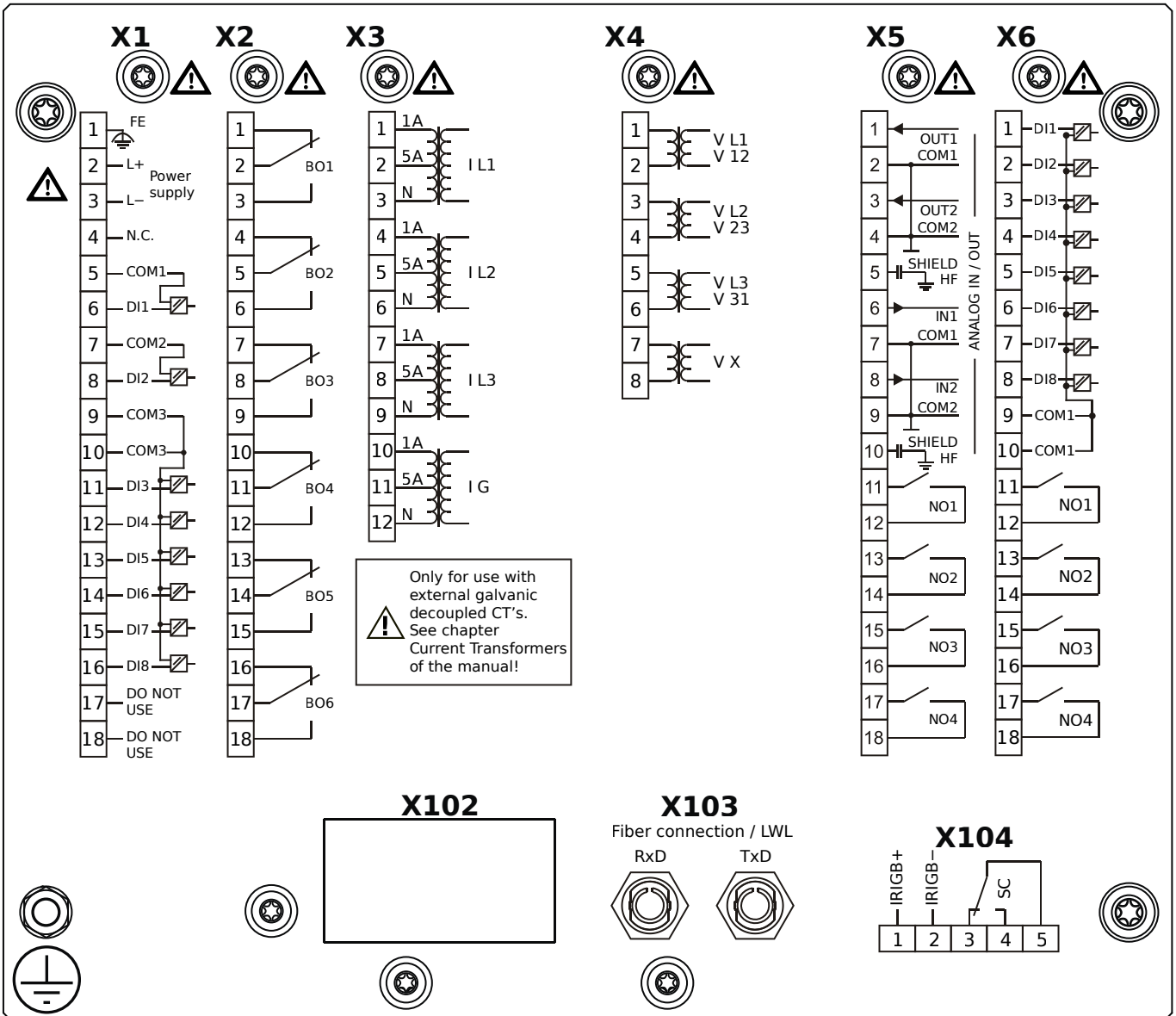**Housing B2, small display, door mounting**

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
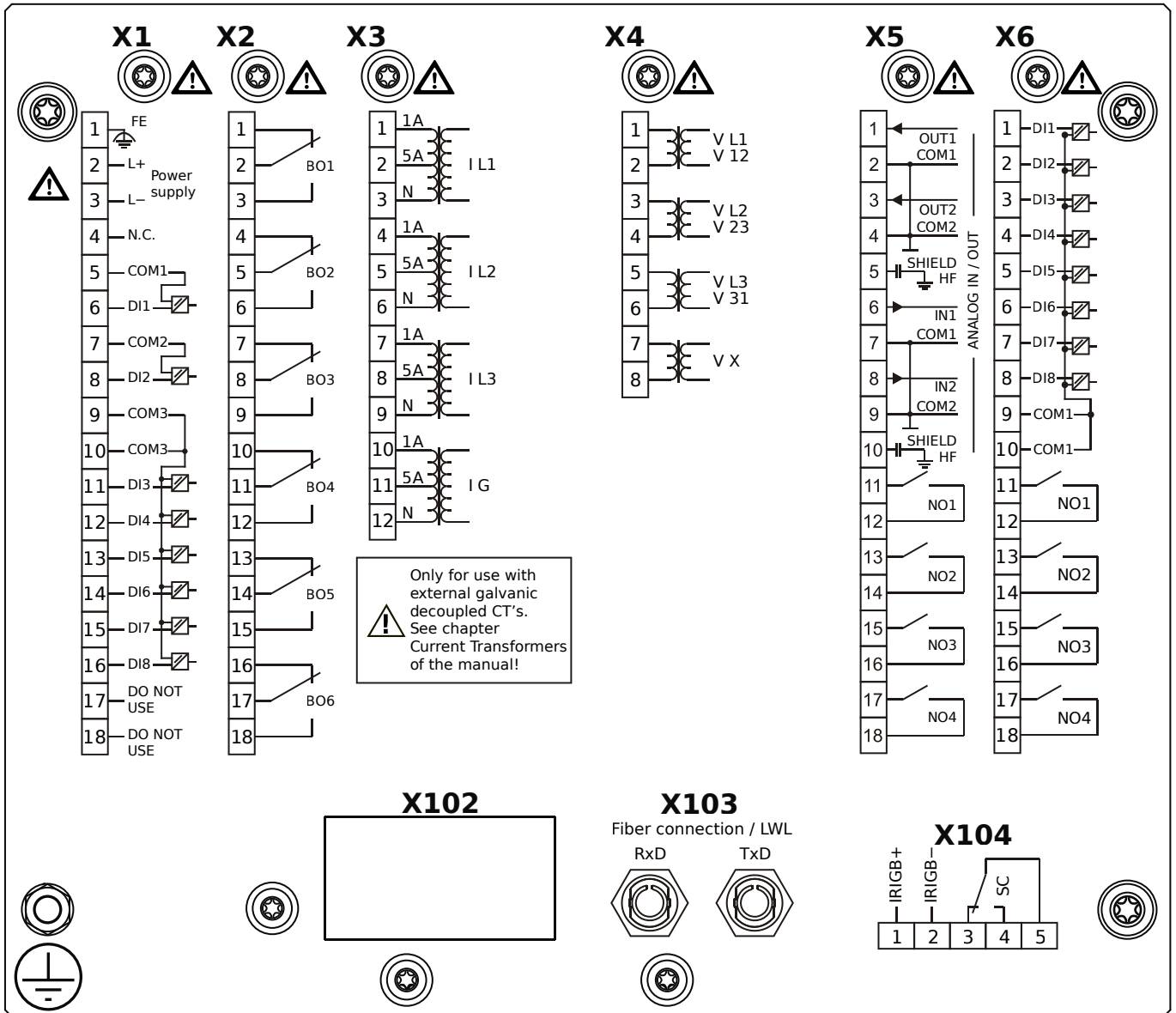**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BAA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BAB

X1 **X2** **X3** **X4** **X5** **X6**

X1	
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1, 2 BO1, 3; 4, 5 BO2, 6; 7, 8 BO3, 9; 10, 11 BO4, 12; 13, 14 BO5, 15; 16, 17 BO6, 18

X3
1 1A, 2 5A, 3 N — I L1; 4 1A, 5 5A, 6 N — I L2; 7 1A, 8 5A, 9 N — I L3; 10 1A, 11 5A, 12 N — I G

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1, 2 V L1 / V 12; 3, 4 V L2 / V 23; 5, 6 V L3 / V 31; 7, 8 V X

X5
1 OUT1 / 2 COM1; 3 OUT2 / 4 COM2; 5 SHIELD HF; 6 IN1 / 7 COM1; 8 IN2 / 9 COM2; 10 SHIELD HF; ANALOG IN / OUT; 11, 12 NO1; 13, 14 NO2; 15, 16 NO3; 17, 18 NO4

X6
1 DI1; 2 DI2; 3 DI3; 4 DI4; 5 DI5; 6 DI6; 7 DI7; 8 DI8; 9 COM1; 10 COM1; 11, 12 NO1; 13, 14 NO2; 15, 16 NO3; 17, 18 NO4

X102 **X103** **X104**

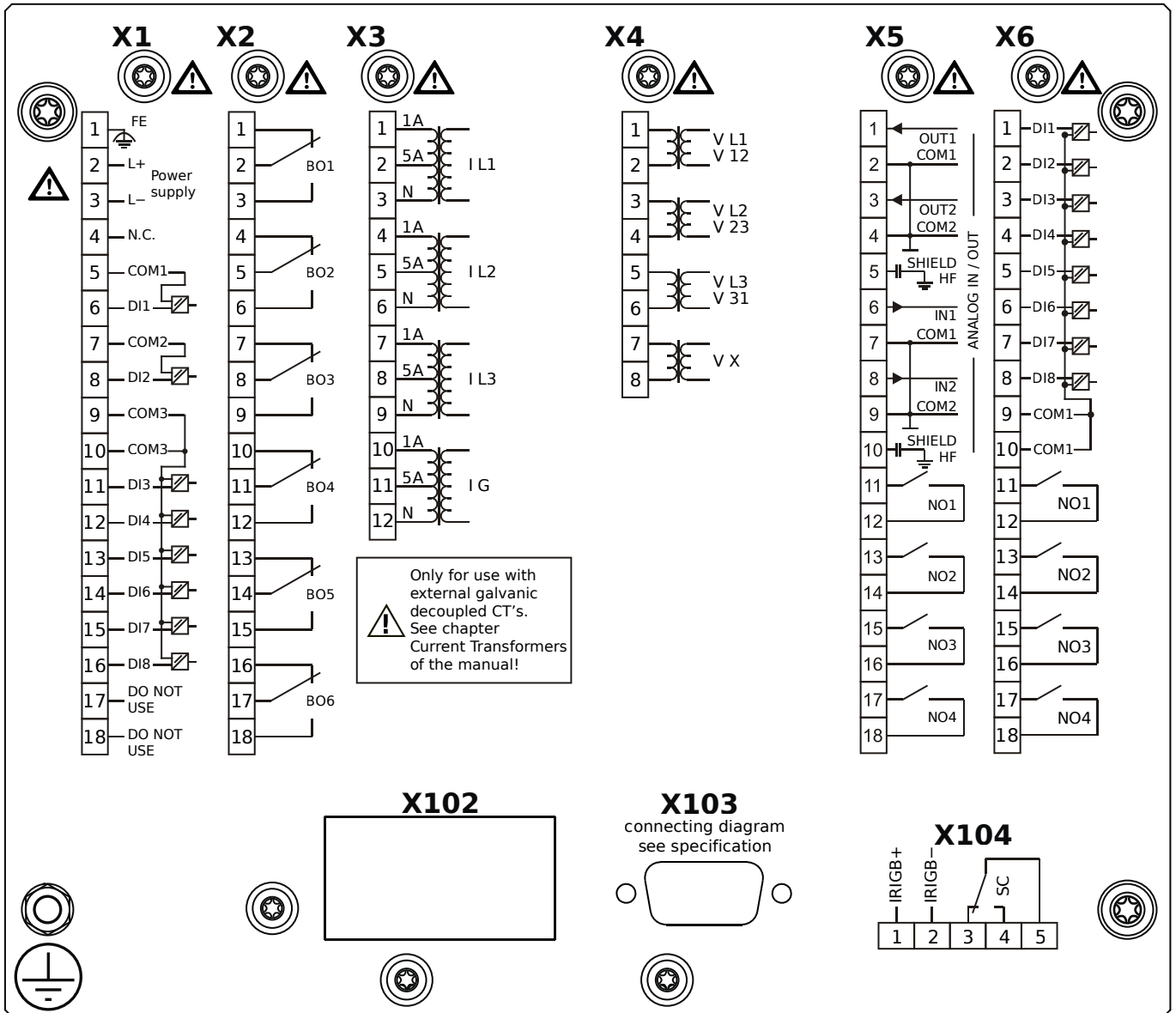X104: 1 IRIGB+, 2 IRIGB−, 3 / 4 SC, 5

Housing B2, small display, 19" rack mounting
+   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BBA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BBB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
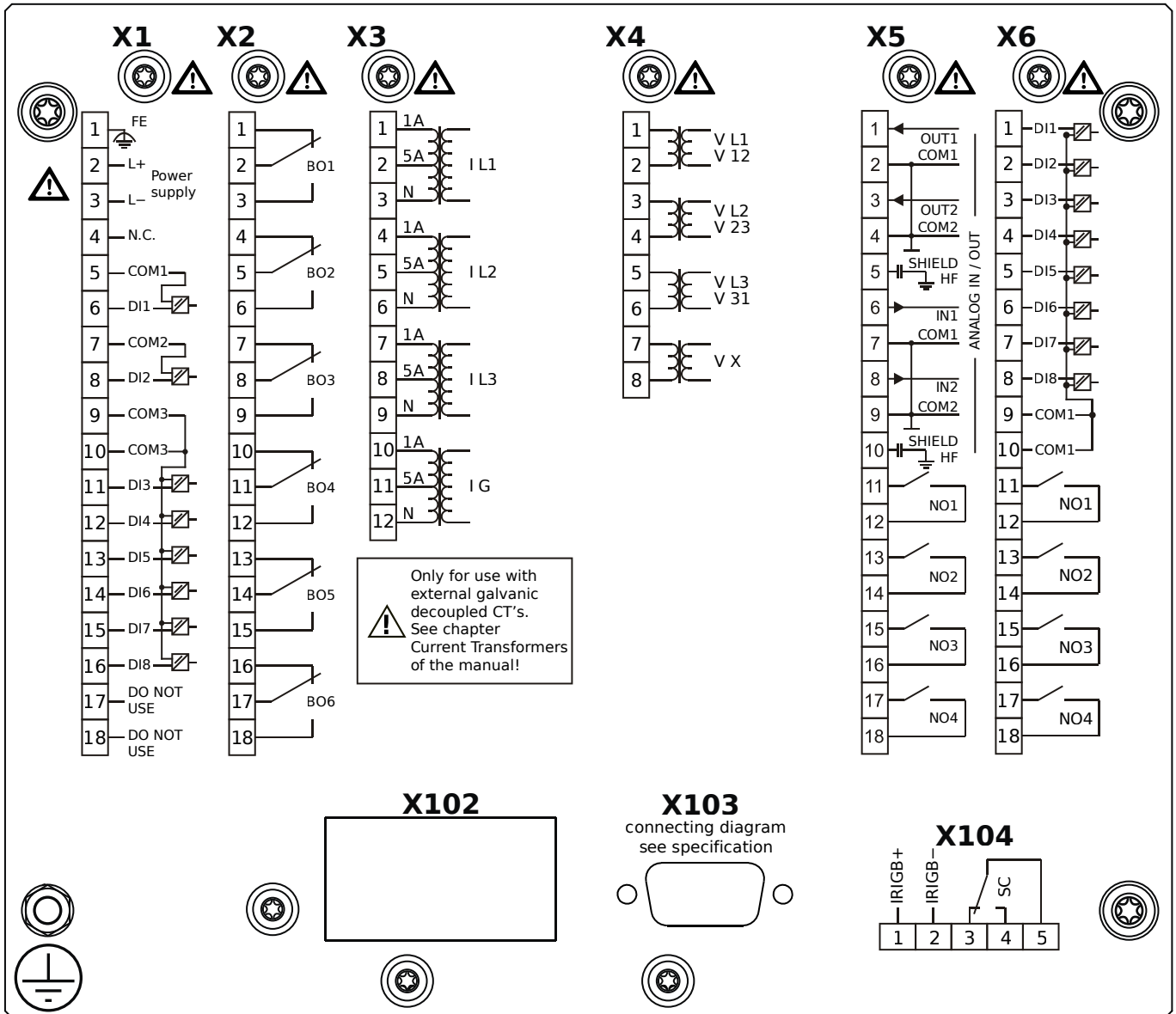**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BCA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BCB

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104
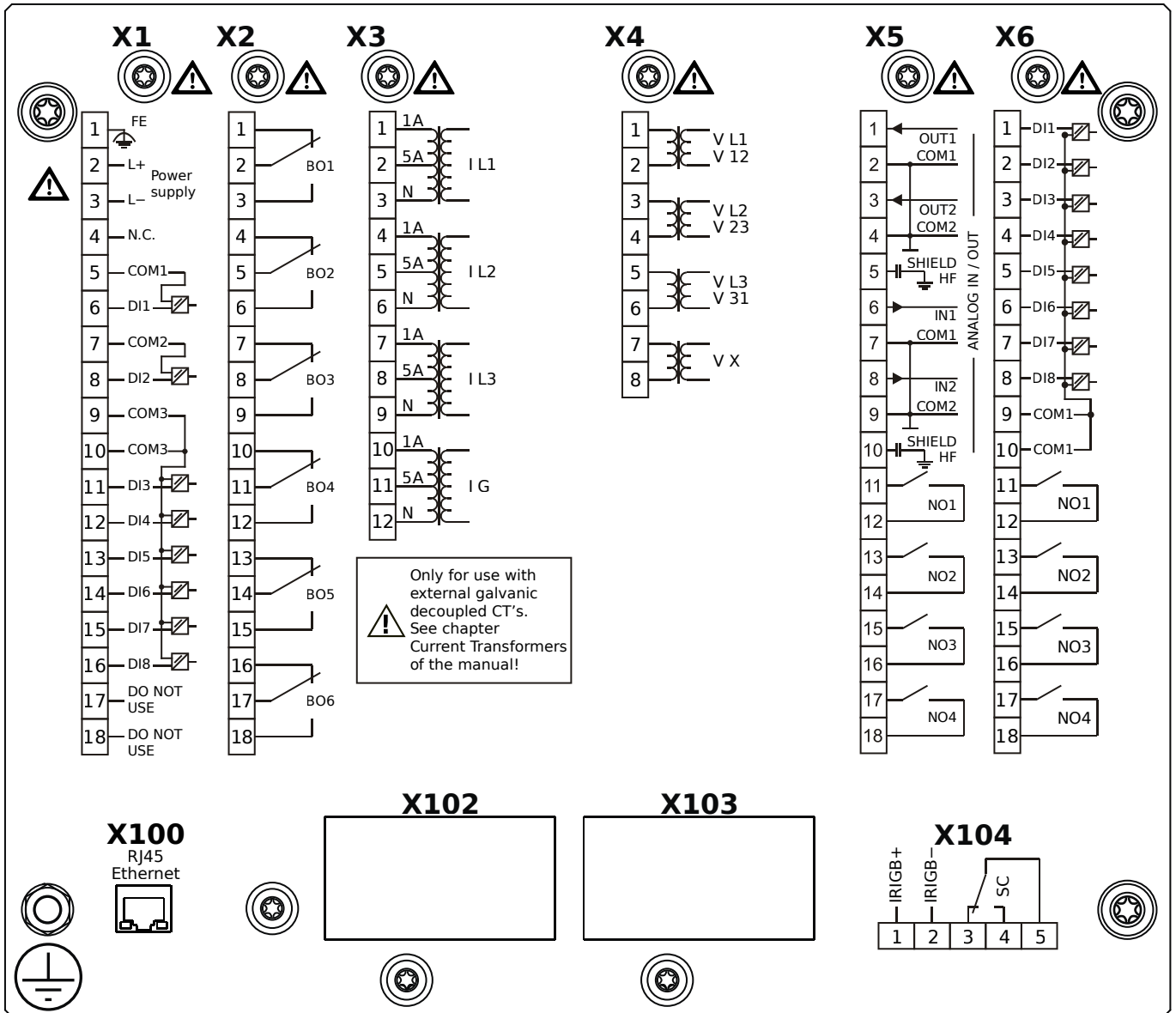| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
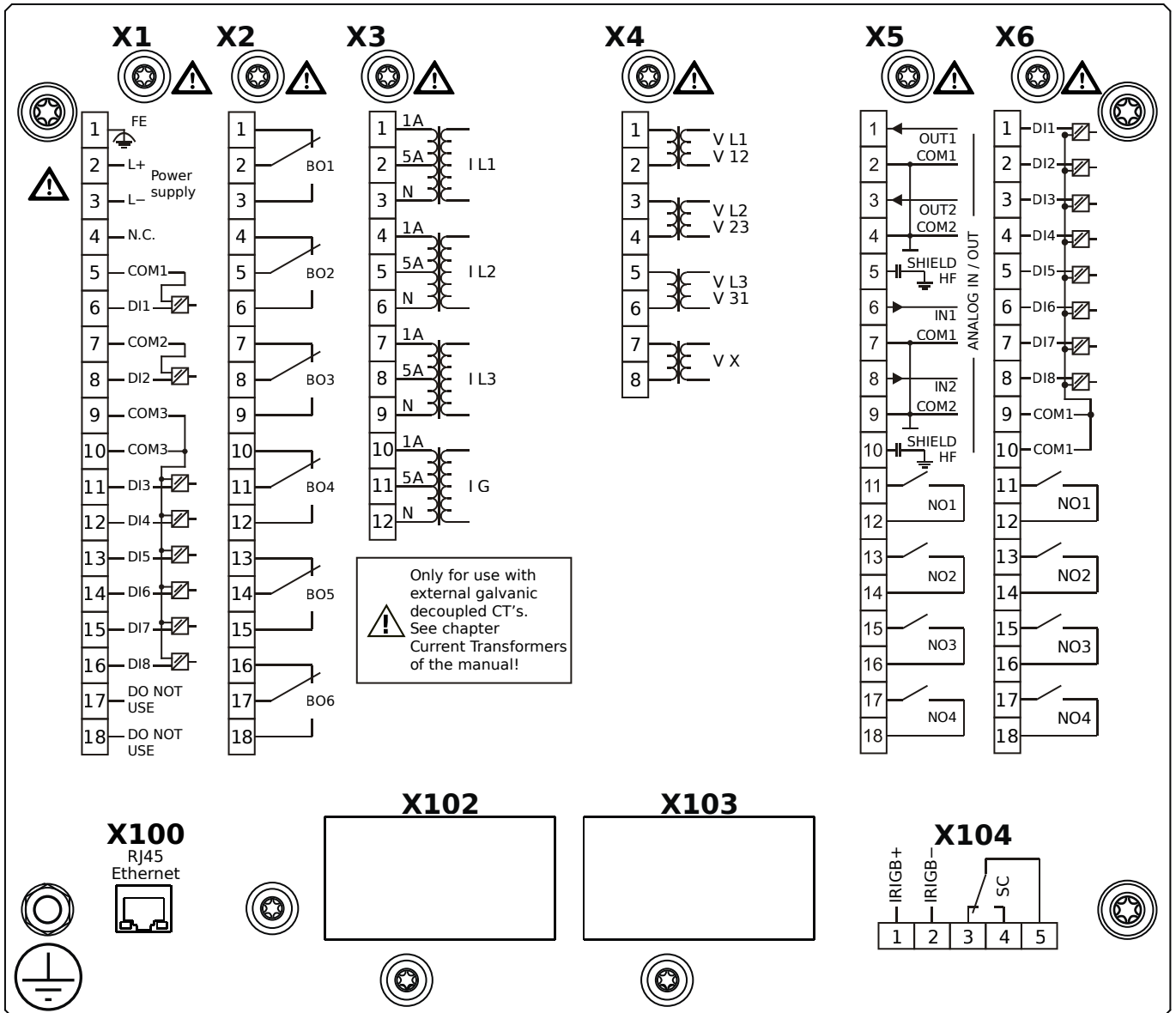
MRA4-2F0BDA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BDB

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
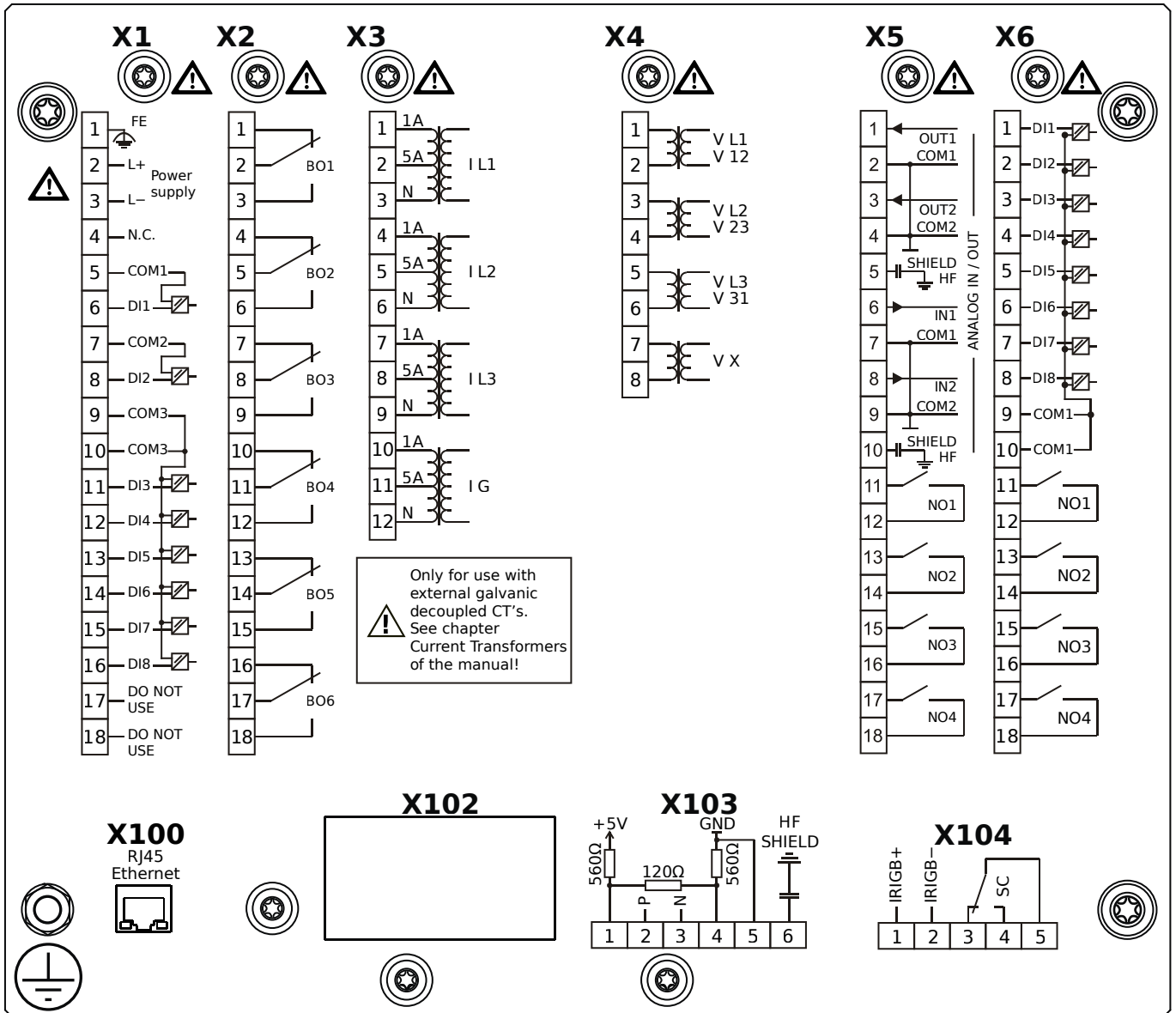RxD   TxD

X104
IRIGB+   IRIGB−   SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
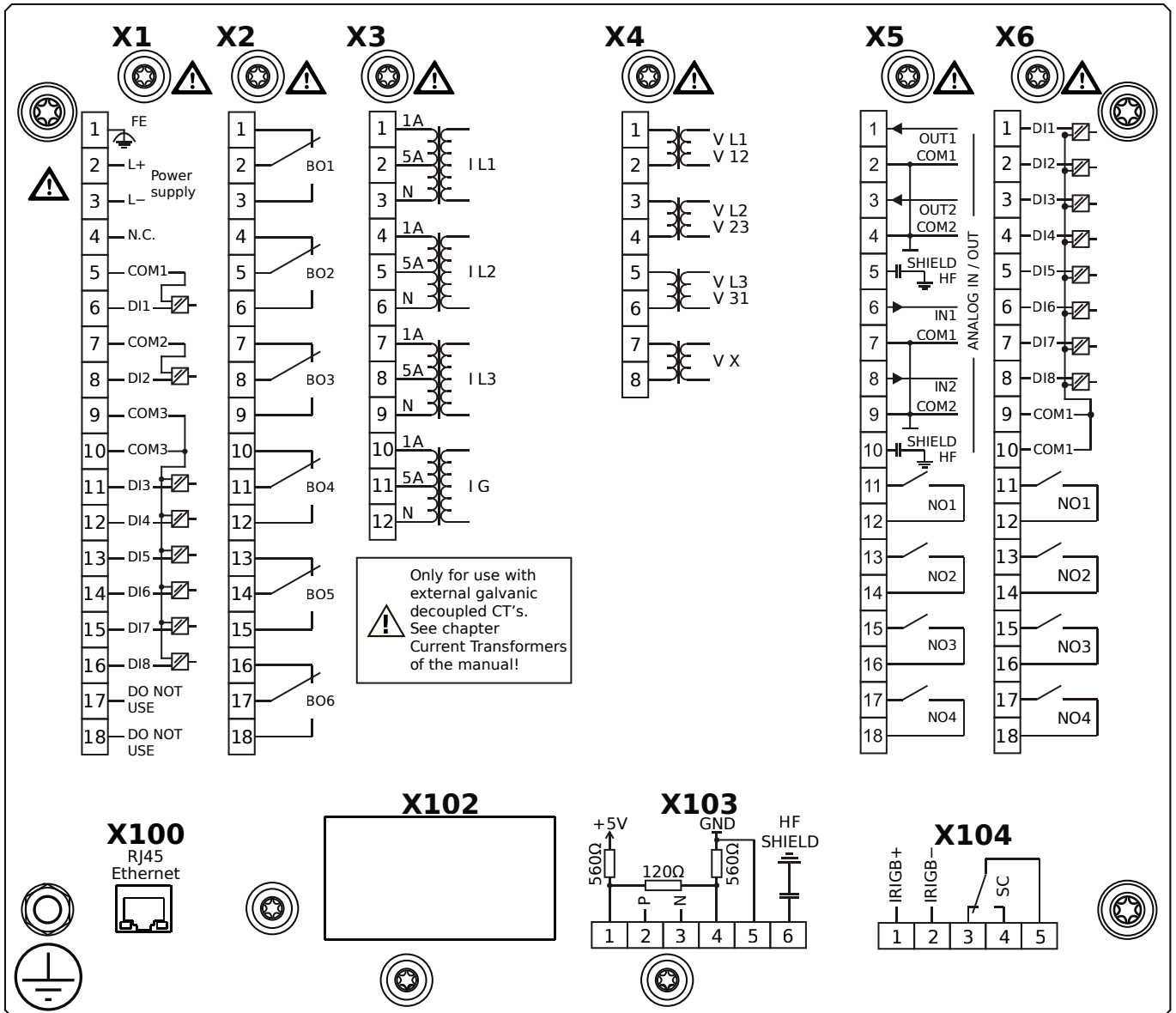
MRA4-2F0BEA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TI: Standard current measuring card

X4 – TU: Card with 4 voltage transformer measuring inputs

X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays

X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X103 – Profibus-DP, RS485, D-SUB

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
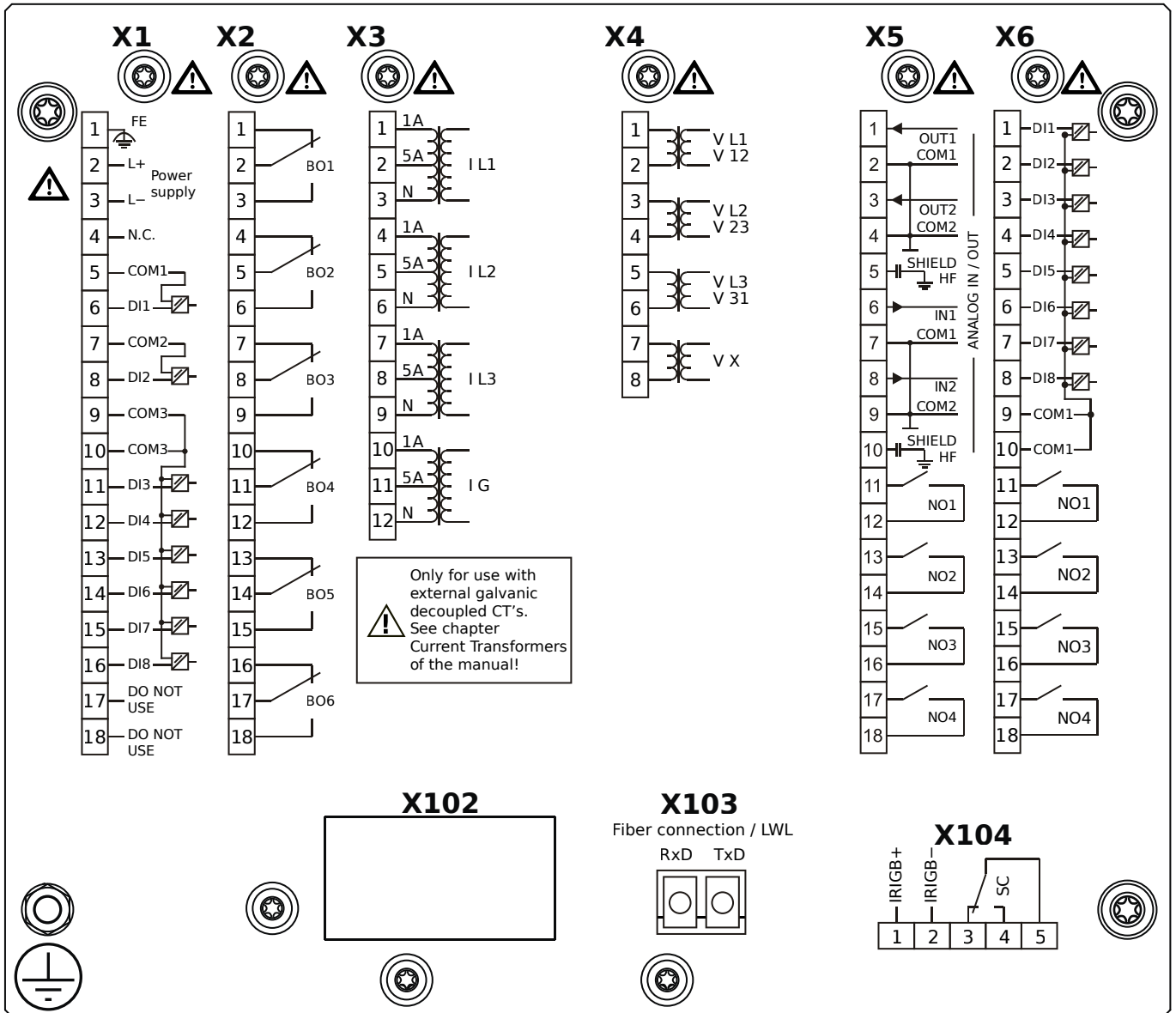
MRA4-2F0BEB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BFA

X1
1 — FE ⏚
2 — L+ ⎫ Power supply
3 — L− ⎬
4 — N.C.
5 — COM1 ⎫
6 — DI1
7 — COM2 ⎫
8 — DI2
9 — COM3 ⎫
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A ⎫ I L1
3 N
4 1A
5 5A ⎫ I L2
6 N
7 1A
8 5A ⎫ I L3
9 N
10 1A
11 5A ⎫ I G
12 N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1 ⎫ V L1
2 ⎬ V 12
3 ⎫ V L2
4 ⎬ V 23
5 ⎫ V L3
6 ⎬ V 31
7 ⎫ V X
8

X5
1 ← OUT1
2 COM1
3 ← OUT2
4 COM2
5 SHIELD HF
6 → IN1
7 COM1
8 → IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

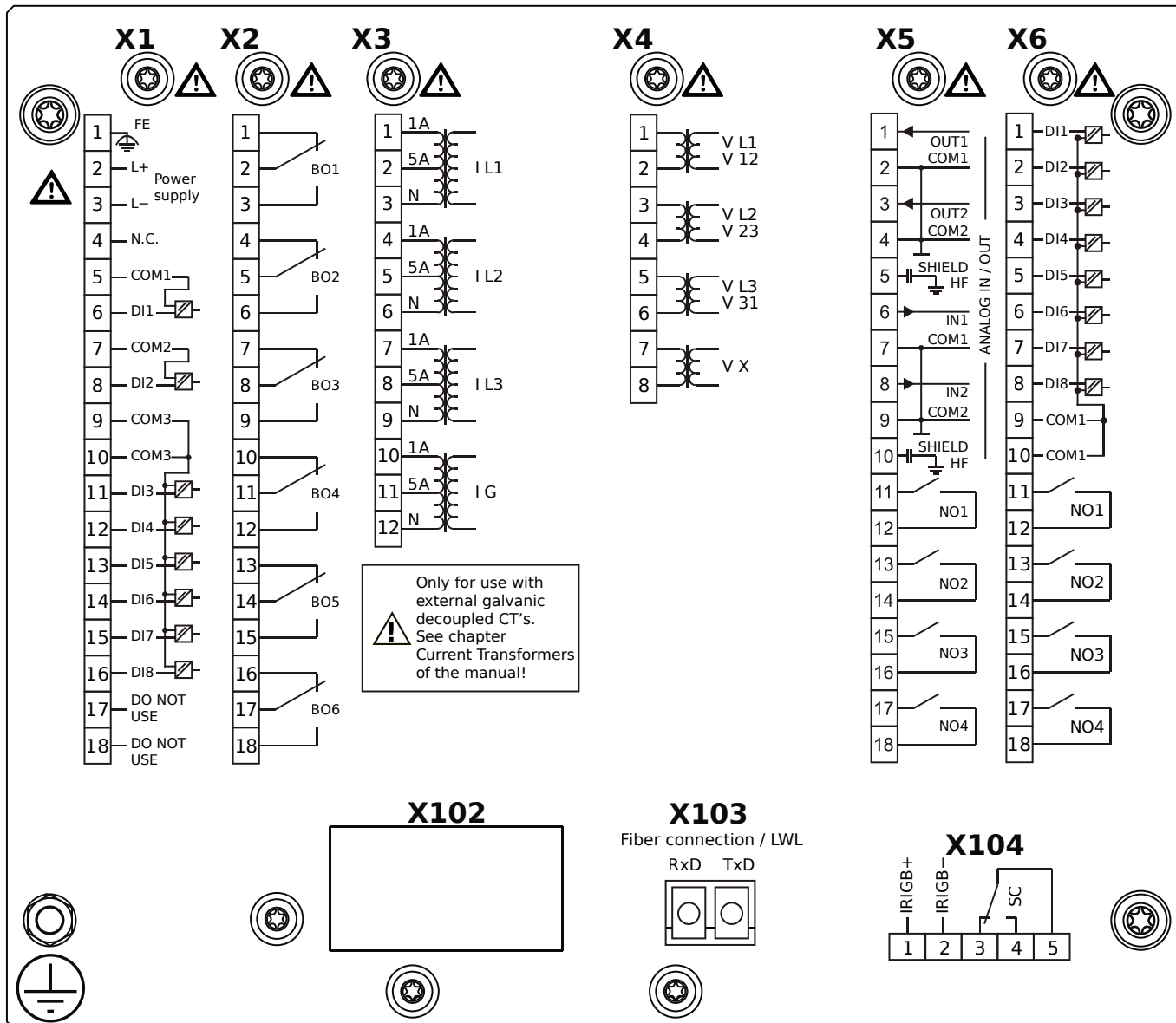
Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BFB

X1
DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

1	FE
2	L+
3	L− Power supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	
8	V X

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

  +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
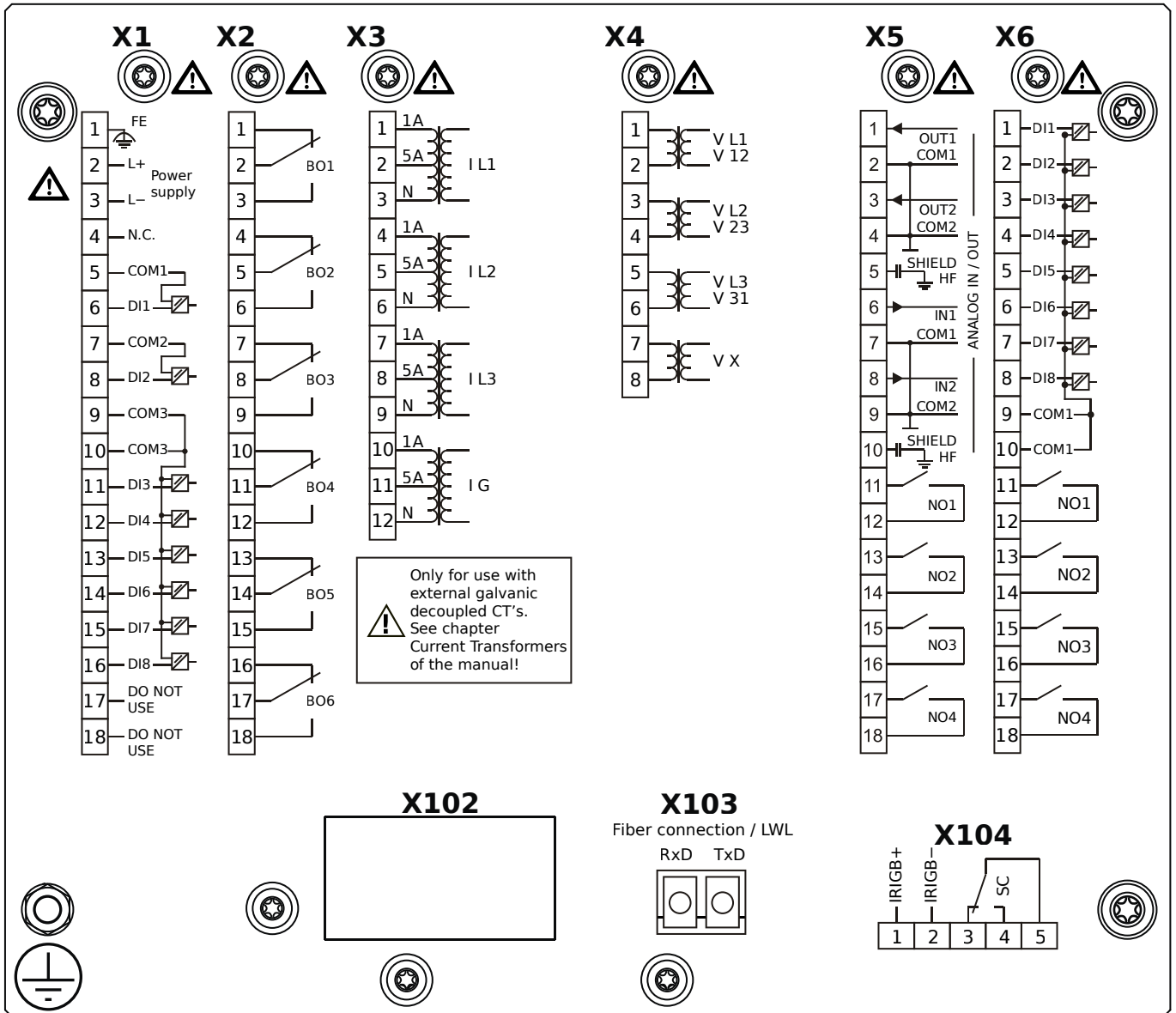**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BGA

X1

1	FE ⏚	
2	L+	Power
3	L−	supply
4	N.C.	
5	COM1	
6	DI1	
7	COM2	
8	DI2	
9	COM3	
10	COM3	
11	DI3	
12	DI4	
13	DI5	
14	DI6	
15	DI7	
16	DI8	
17	DO NOT USE	
18	DO NOT USE	

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104

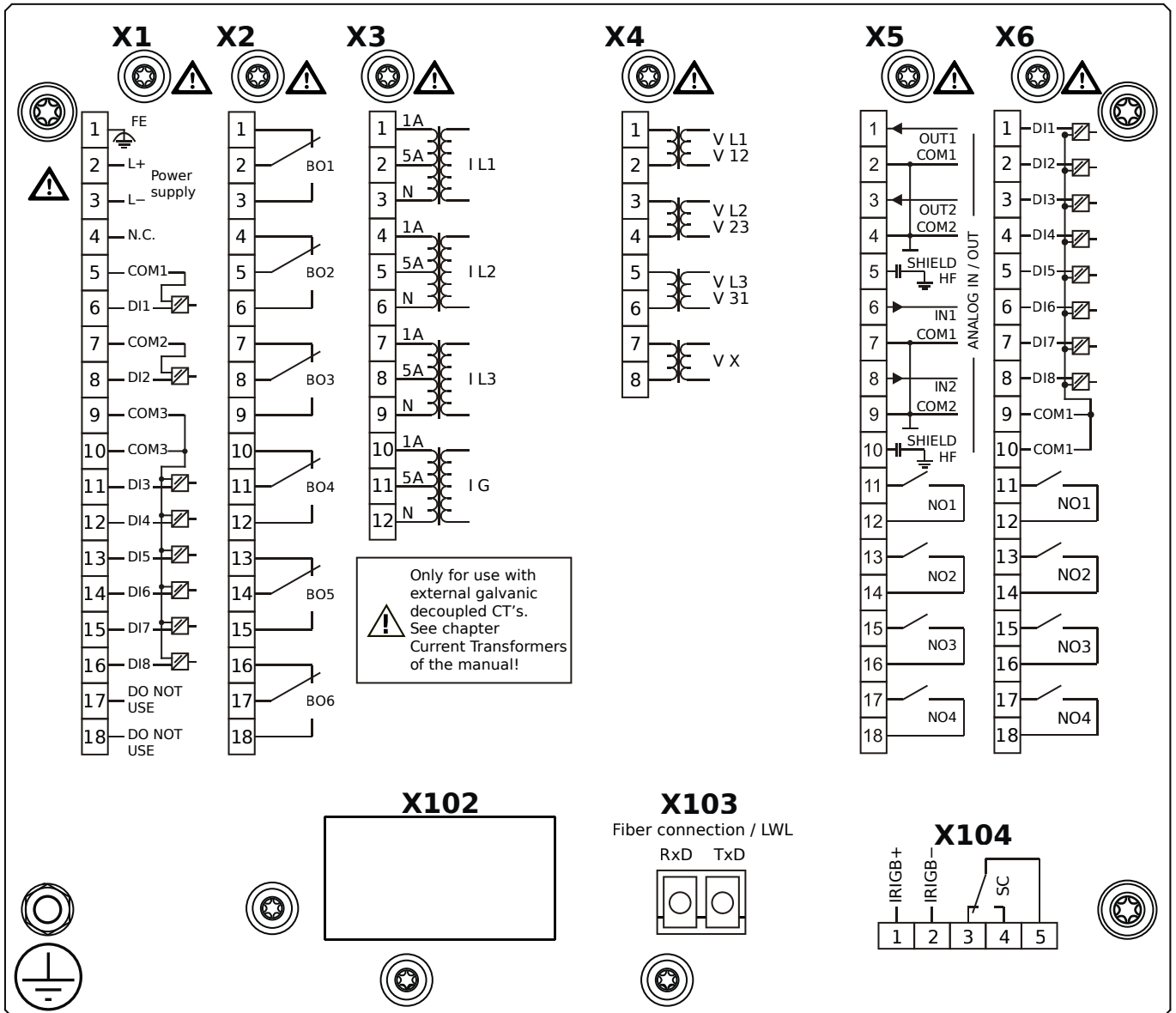| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
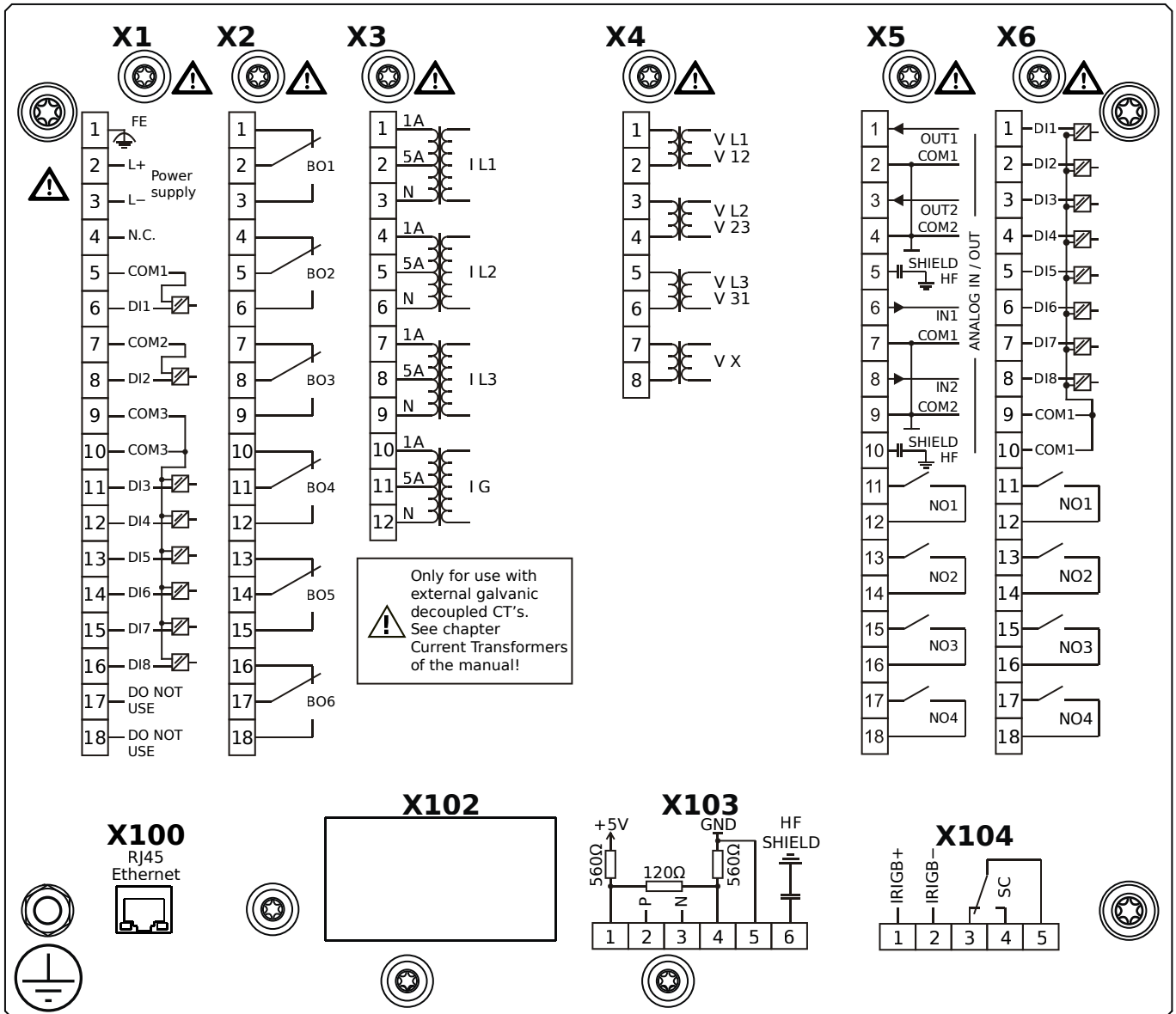
MRA4-2F0BGB

Housing B2, small display, 19" rack mounting

    +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BHA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45
Ethernet

X102

X103

X104

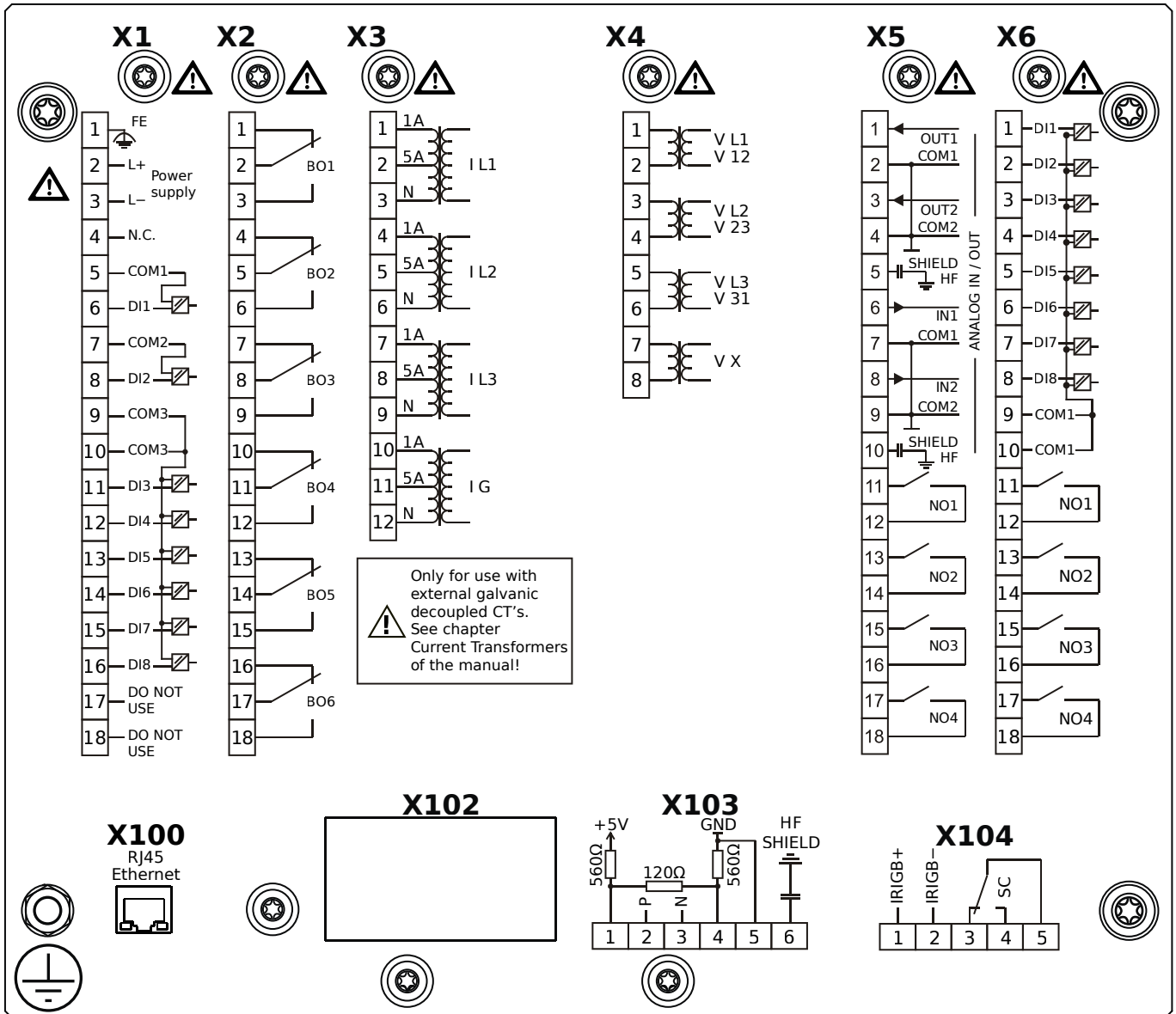| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
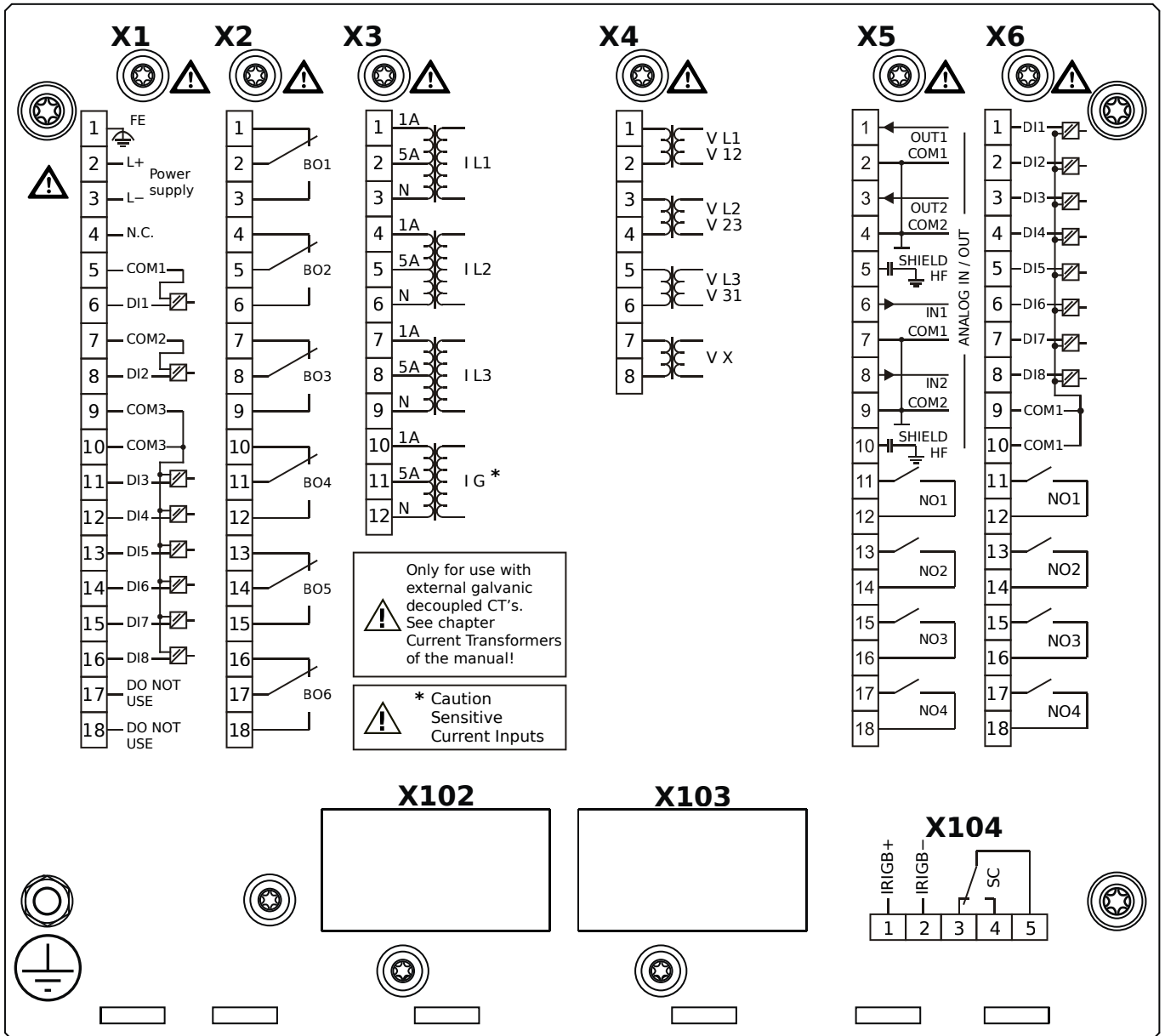
MRA4-2F0BHB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BIA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
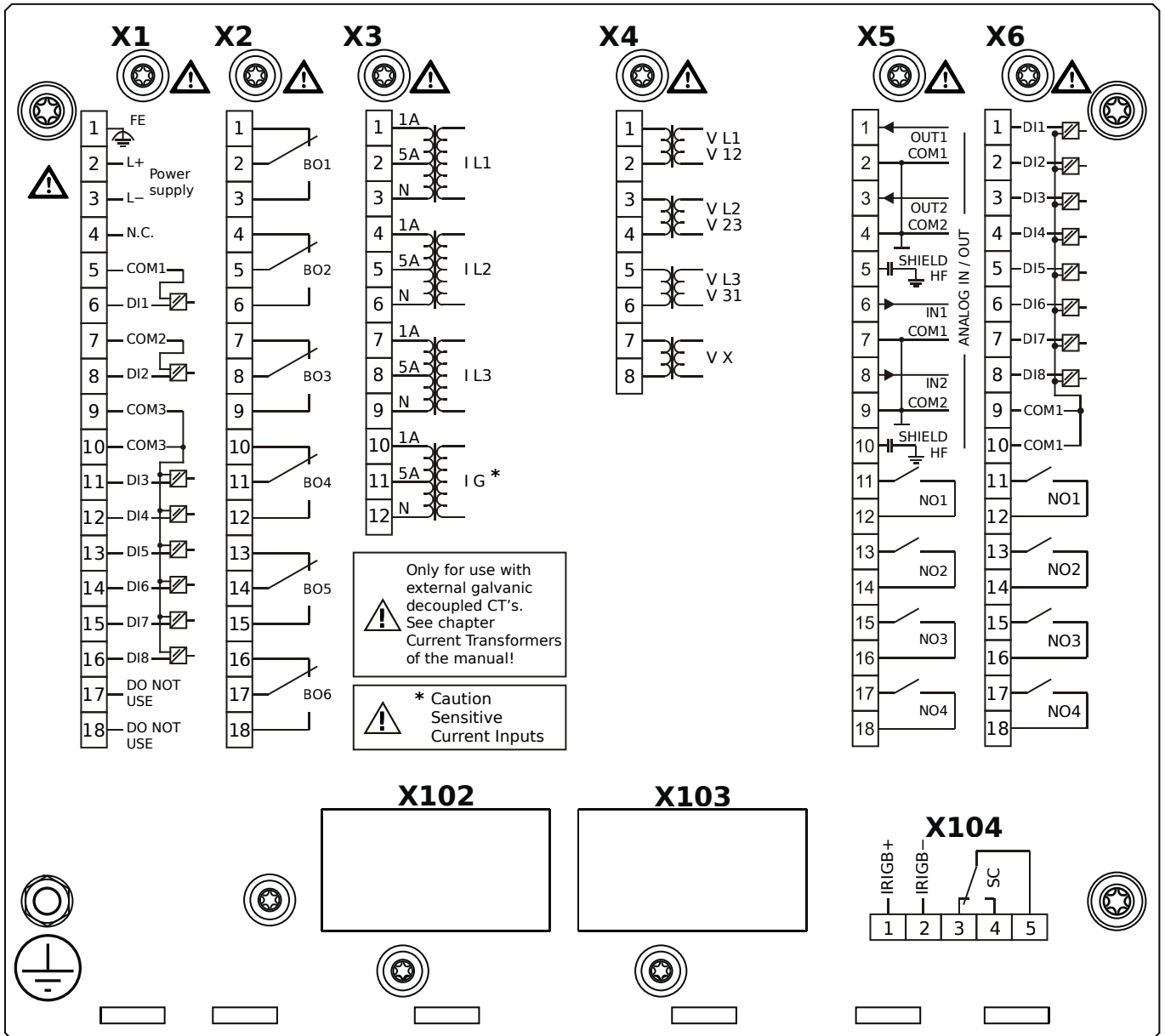**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BIB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BKA

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A	
2	5A	I L1
3	N	
4	1A	
5	5A	I L2
6	N	
7	1A	
8	5A	I L3
9	N	
10	1A	
11	5A	I G
12	N	

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1		V L1
2		V 12
3		V L2
4		V 23
5		V L3
6		V 31
7		V X
8		

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104
IRIGB+   IRIGB−   SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
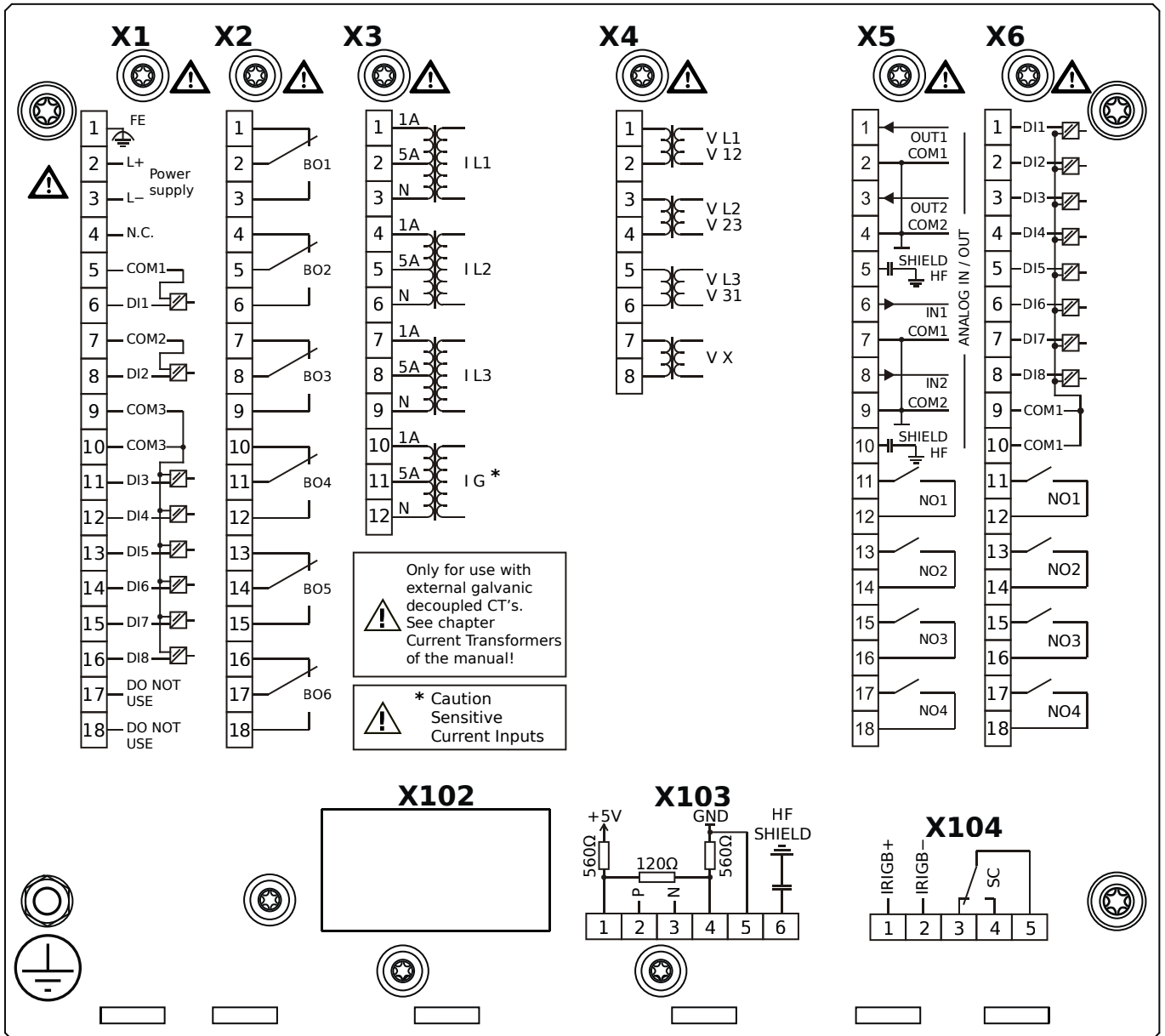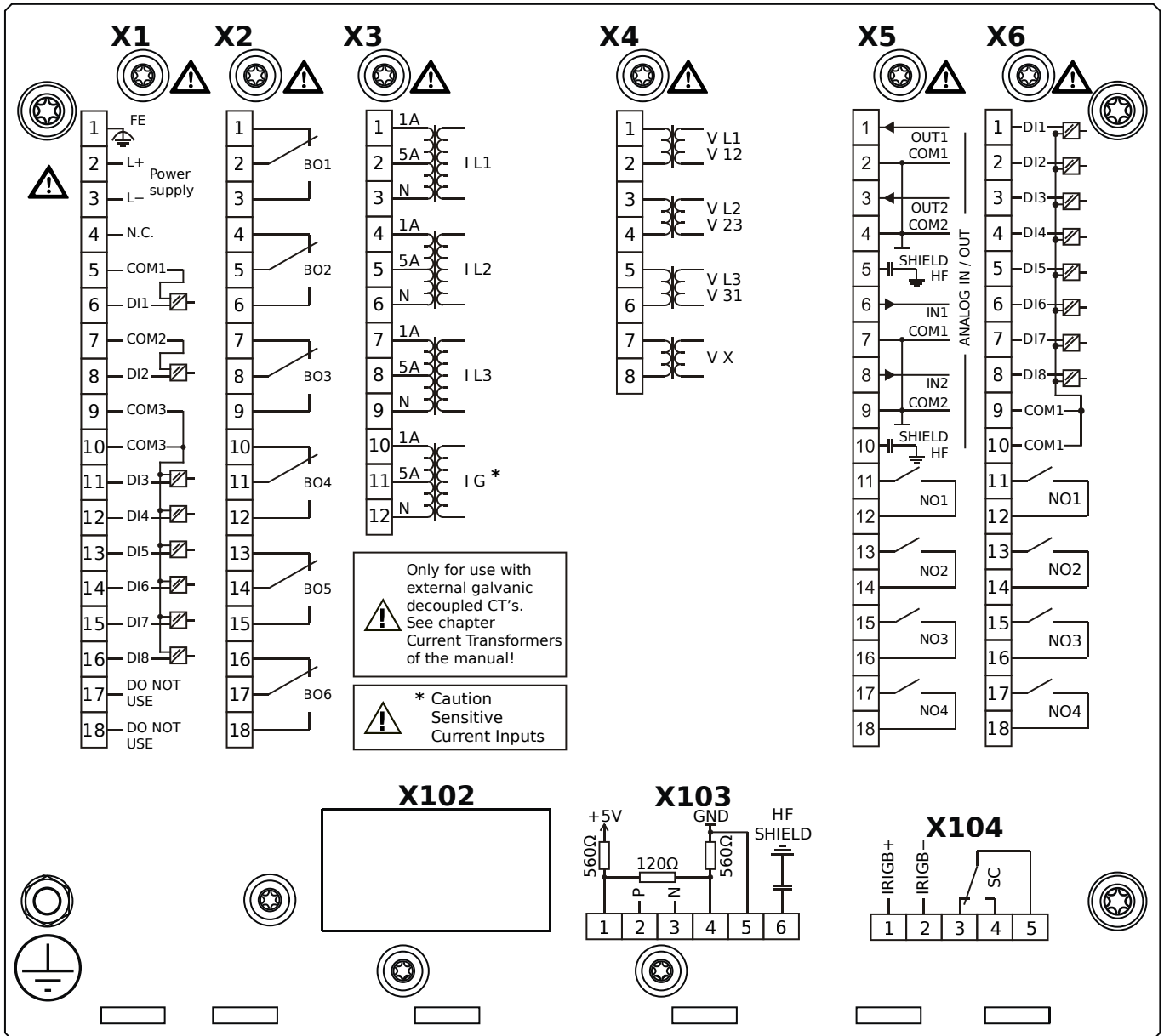
MRA4-2F0BKB

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)

X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TI: Standard current measuring card
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BLA

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104
IRIGB+ IRIGB− SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
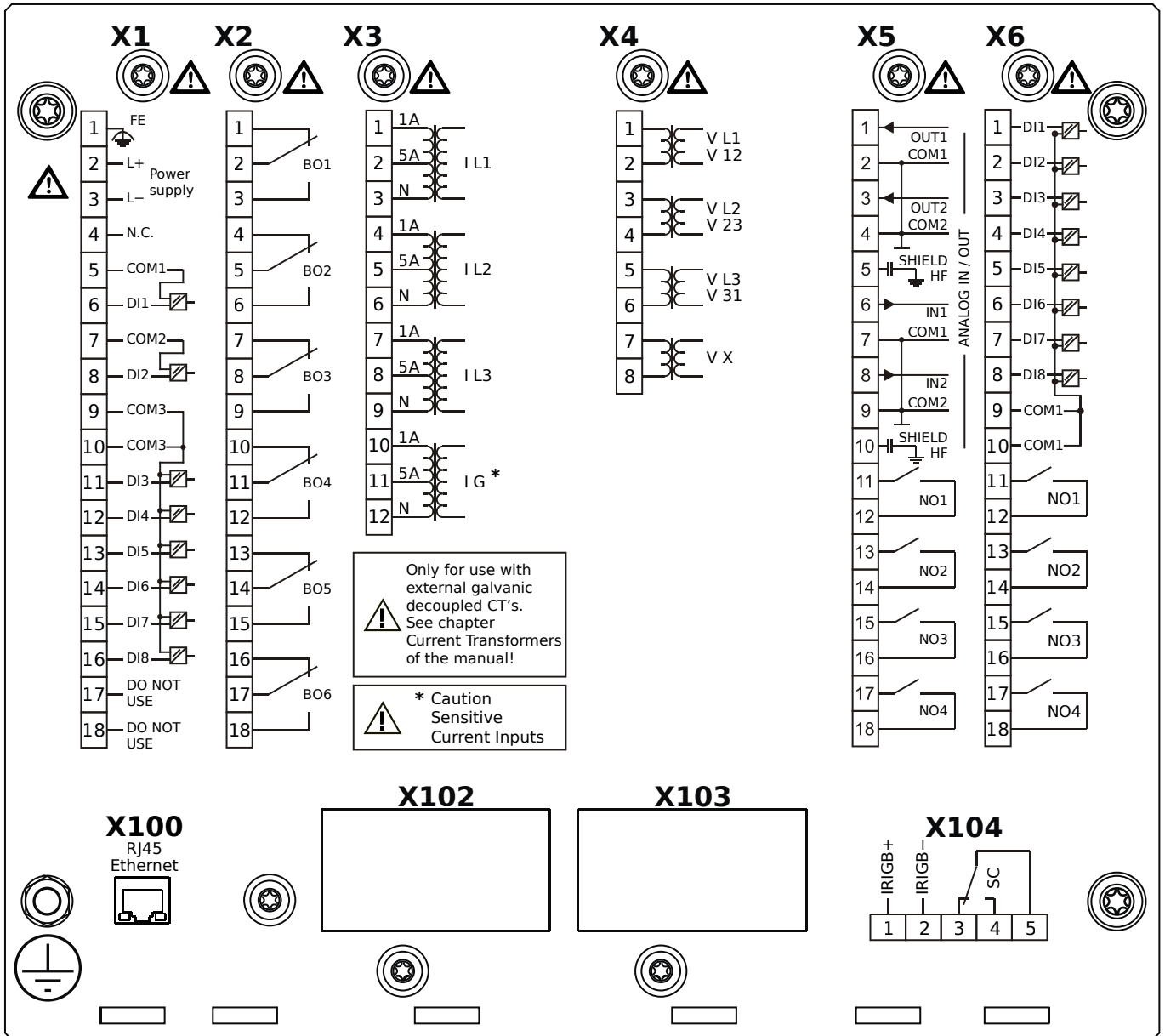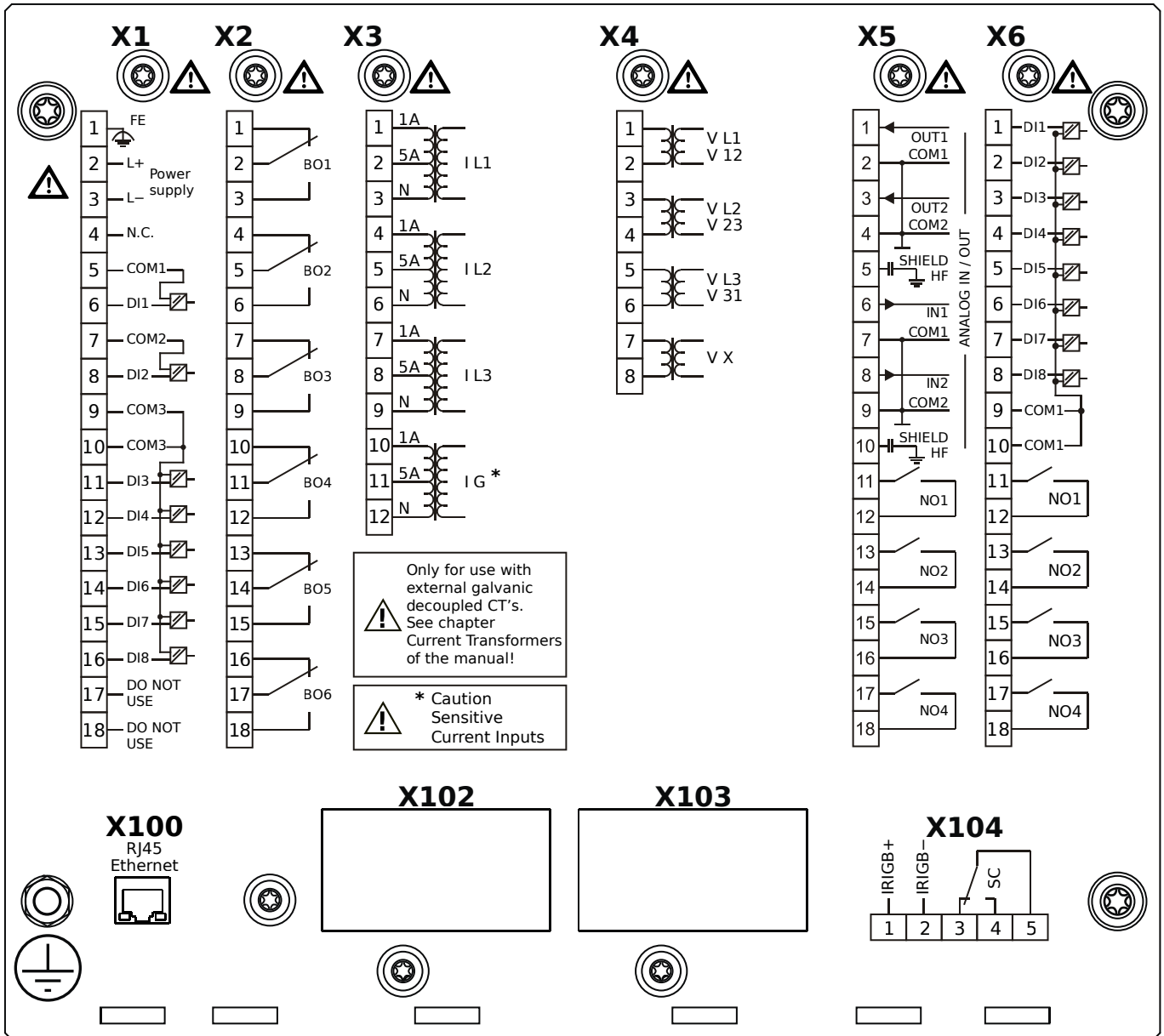**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BLB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F0BTA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
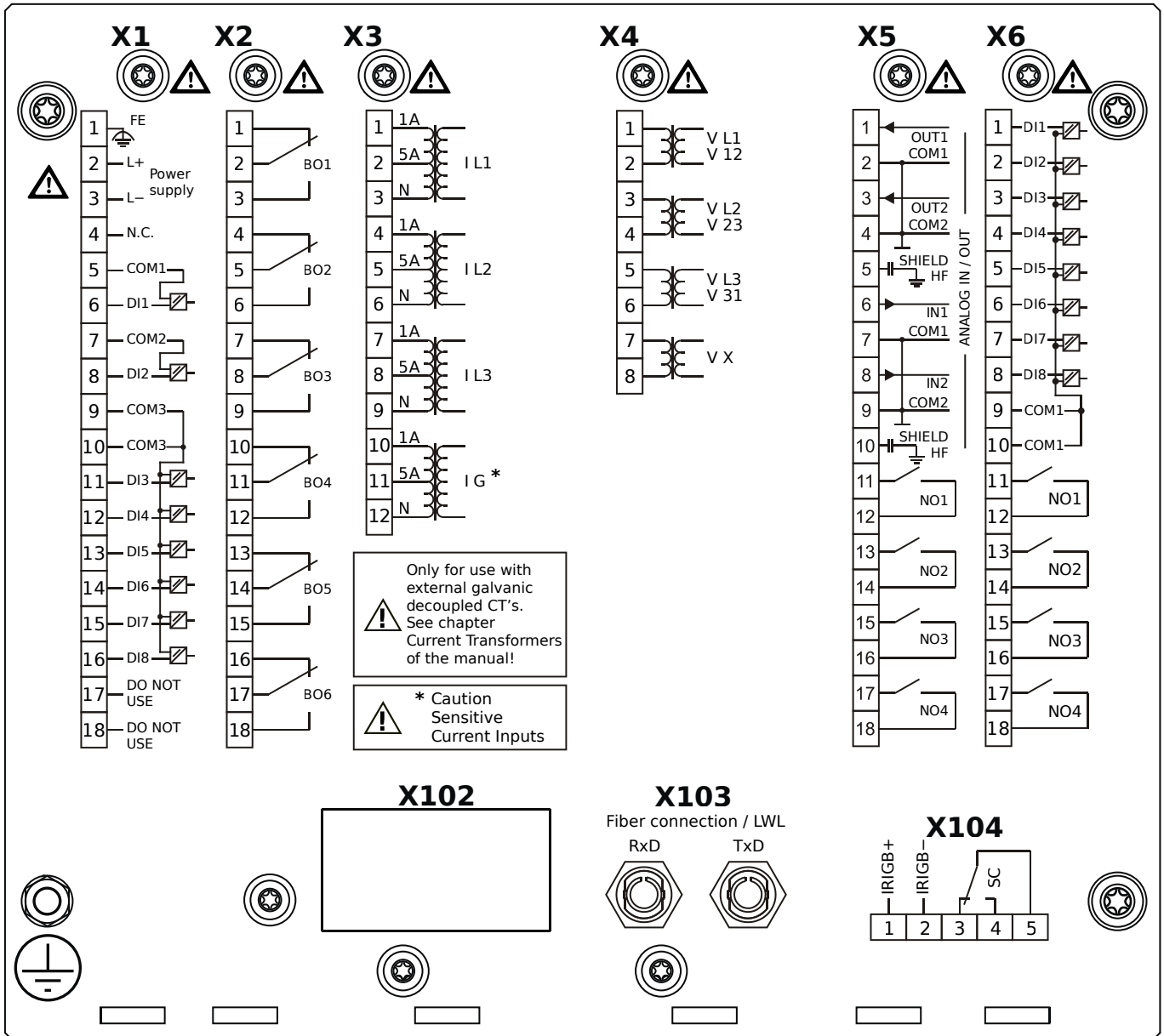
MRA4-2F0BTB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TI: Standard current measuring card
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
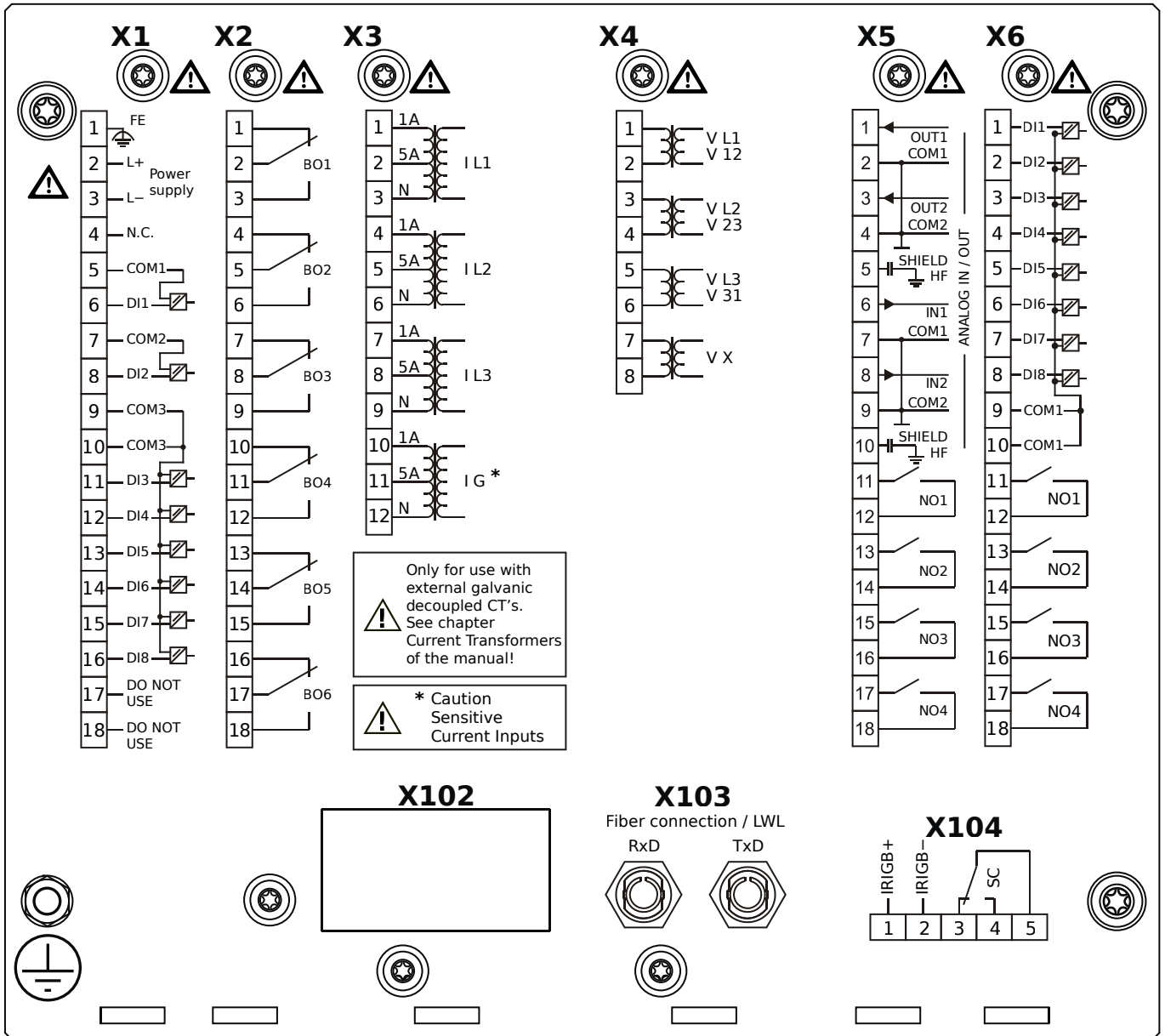**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AAA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AAB

X1
1 — FE ⏚
2 — L+ ⎤ Power
3 — L− ⎦ supply
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 — 1A
2 — 5A ⎱ I L1
3 — N
4 — 1A
5 — 5A ⎱ I L2
6 — N
7 — 1A
8 — 5A ⎱ I L3
9 — N
10 — 1A
11 — 5A ⎱ I G *
12 — N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1 ⎱ V L1
2 ⎰ V 12
3 ⎱ V L2
4 ⎰ V 23
5 ⎱ V L3
6 ⎰ V 31
7 ⎱ V X
8 ⎰

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 — DI1
2 — DI2
3 — DI3
4 — DI4
5 — DI5
6 — DI6
7 — DI7
8 — DI8
9 — COM1
10 — COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103

X104
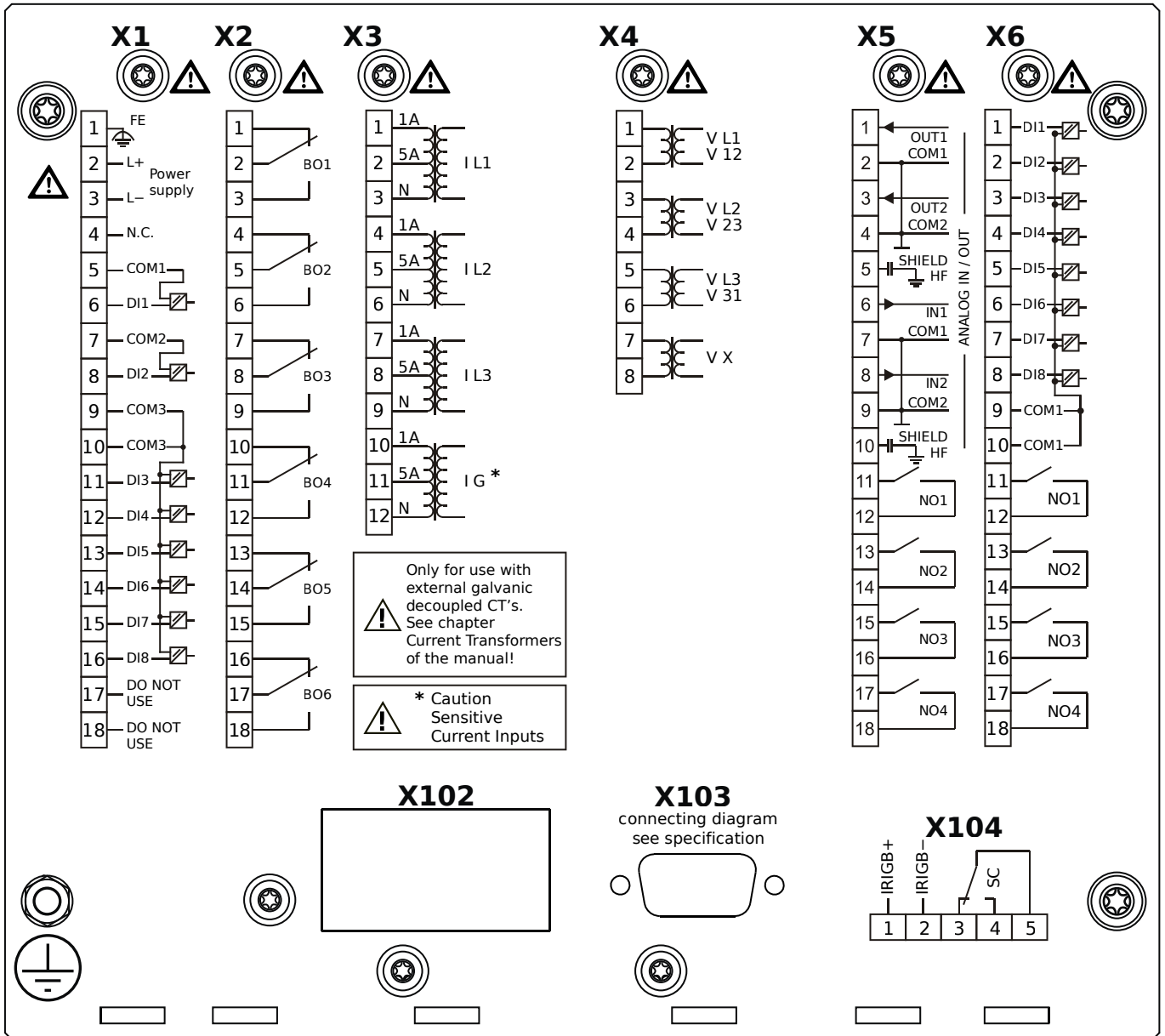IRIGB+ | IRIGB− | SC
1 | 2 | 3 | 4 | 5

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ABA

X1 **X2** **X3** **X4** **X5** **X6**

X1		X2		X3		X4		X5		X6	
1	FE	1		1	1A	1	V L1	1	OUT1	1	DI1
2	L+	2	BO1	2	5A I L1	2	V 12	2	COM1	2	DI2
3	L−	3		3	N	3	V L2	3	OUT2	3	DI3
4	N.C.	4		4	1A	4	V 23	4	COM2	4	DI4
5	COM1	5	BO2	5	5A I L2	5	V L3	5	SHIELD HF	5	DI5
6	DI1	6		6	N	6	V 31	6	IN1	6	DI6
7	COM2	7		7	1A	7	V X	7	COM1	7	DI7
8	DI2	8	BO3	8	5A I L3	8		8	IN2	8	DI8
9	COM3	9		9	N			9	COM2	9	COM1
10	COM3	10		10	1A			10	SHIELD HF	10	COM1
11	DI3	11	BO4	11	5A I G *			11	NO1	11	NO1
12	DI4	12		12	N			12		12	
13	DI5	13						13	NO2	13	NO2
14	DI6	14	BO5					14		14	
15	DI7	15						15	NO3	15	NO3
16	DI8	16						16		16	
17	DO NOT USE	17	BO6					17	NO4	17	NO4
18	DO NOT USE	18						18		18	

Power supply

ANALOG IN / OUT

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X102

X103
+5V GND HF SHIELD

560Ω 120Ω 560Ω

1	2	3	4	5	6
	P	N			

X104
IRIGB+ IRIGB− SC

1	2	3	4	5

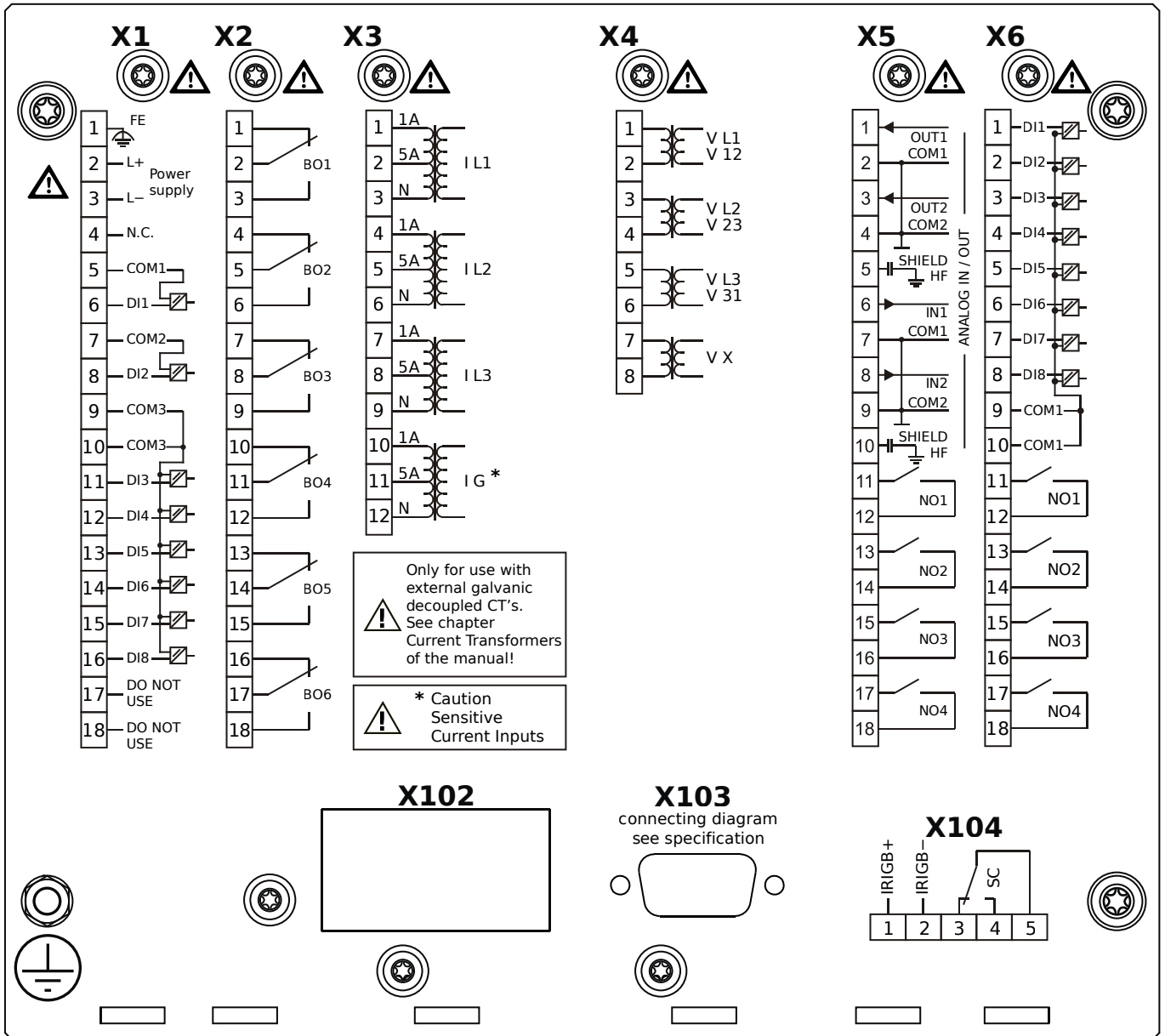**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
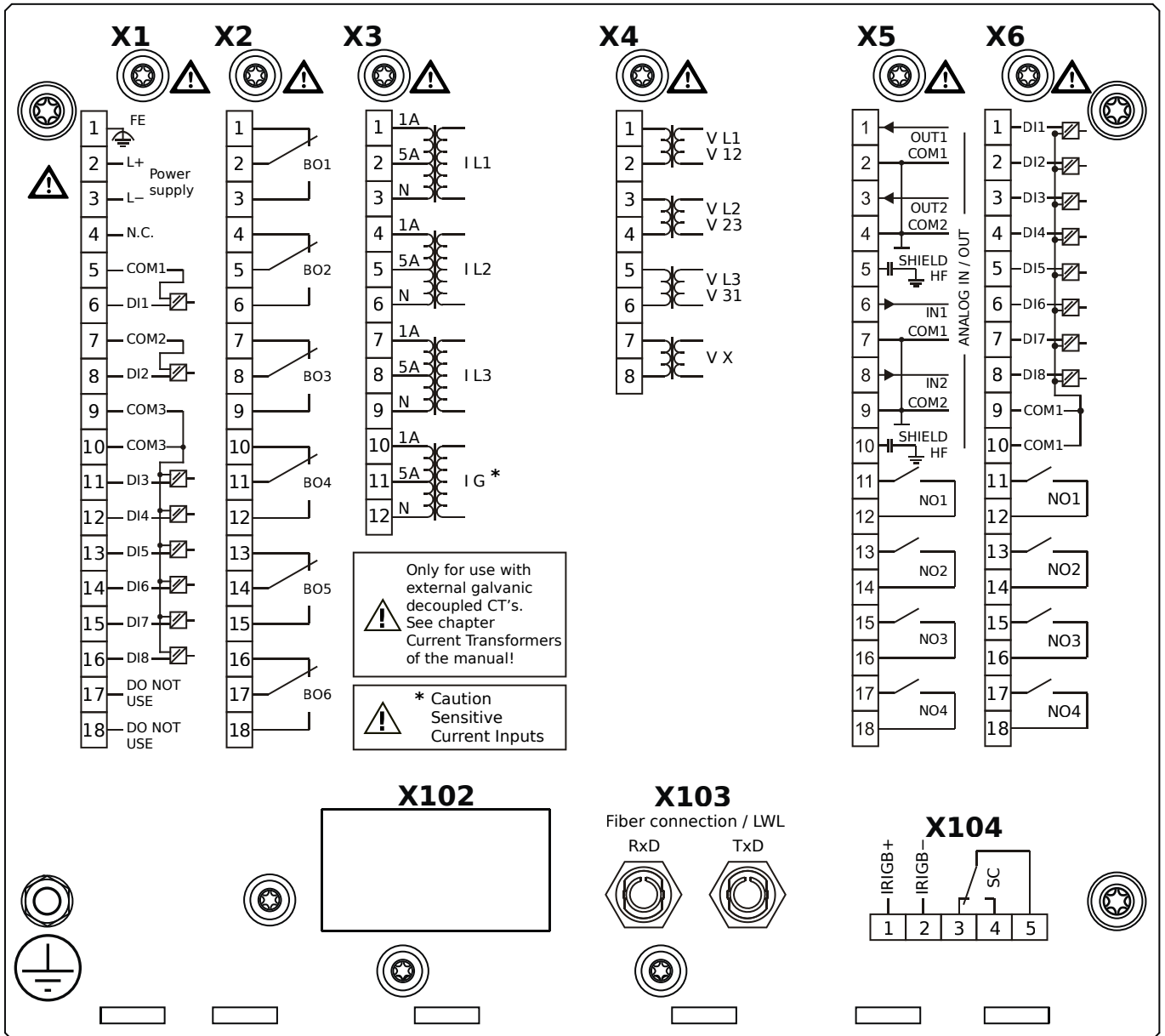**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ABB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ACA

X1 FE / L+ / L− Power supply / N.C. / COM1 / DI1 / COM2 / DI2 / COM3 / COM3 / DI3 / DI4 / DI5 / DI6 / DI7 / DI8 / DO NOT USE / DO NOT USE

X2 BO1 / BO2 / BO3 / BO4 / BO5 / BO6

X3 1A 5A N I L1 / 1A 5A N I L2 / 1A 5A N I L3 / 1A 5A N I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4 V L1 V 12 / V L2 V 23 / V L3 V 31 / V X

X5 OUT1 COM1 / OUT2 COM2 / SHIELD HF / IN1 COM1 / IN2 COM2 / SHIELD HF / NO1 / NO2 / NO3 / NO4 — ANALOG IN / OUT

X6 DI1 / DI2 / DI3 / DI4 / DI5 / DI6 / DI7 / DI8 / COM1 / COM1 / NO1 / NO2 / NO3 / NO4

X100 RJ45 Ethernet
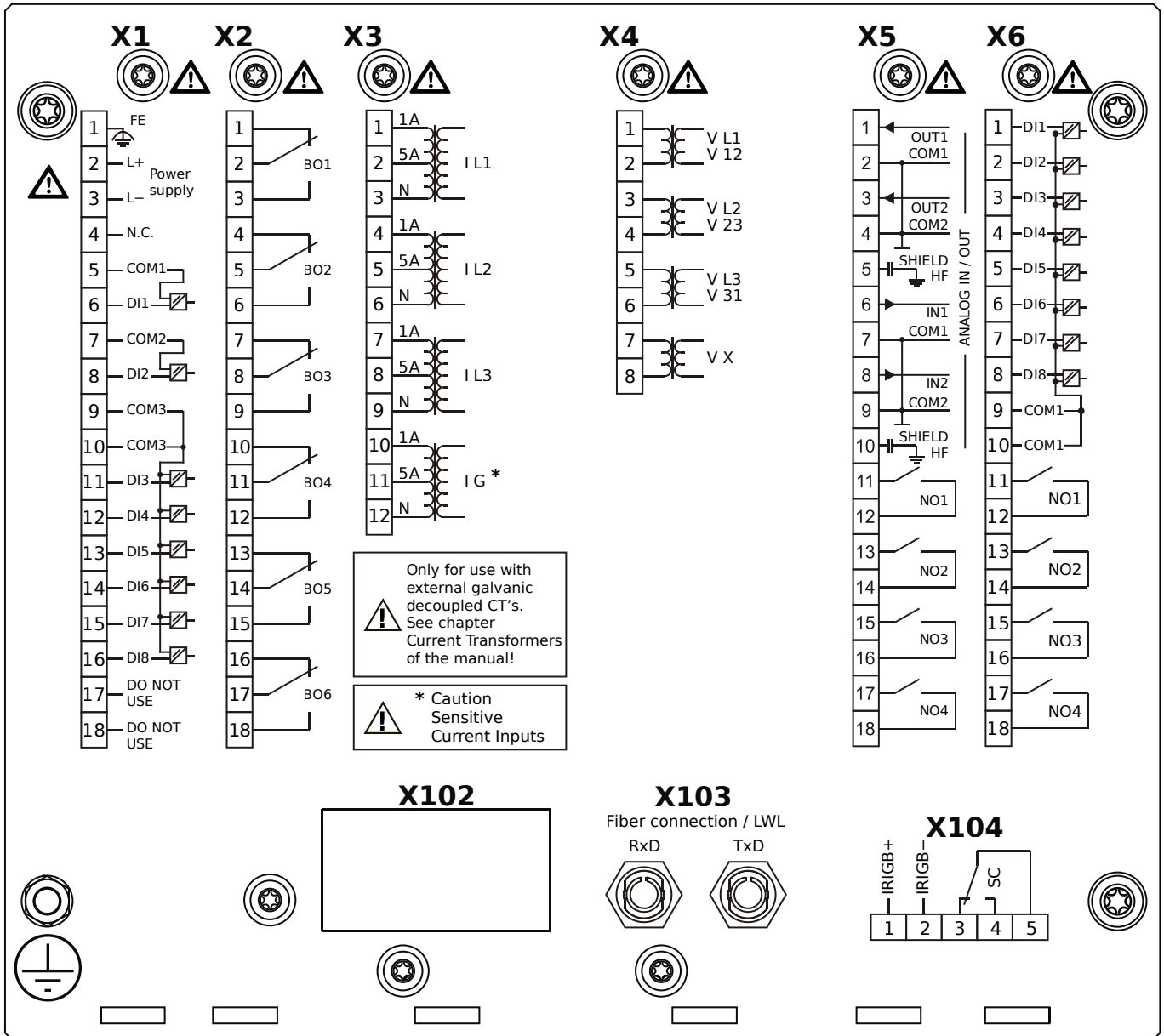
X102

X103

X104 IRIGB+ / IRIGB− / SC — 1 2 3 4 5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ACB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ADA

X1

1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	NO1
13	NO2
14	NO2
15	NO3
16	NO3
17	NO4
18	NO4

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	NO1
13	NO2
14	NO2
15	NO3
16	NO3
17	NO4
18	NO4

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ADB

X1
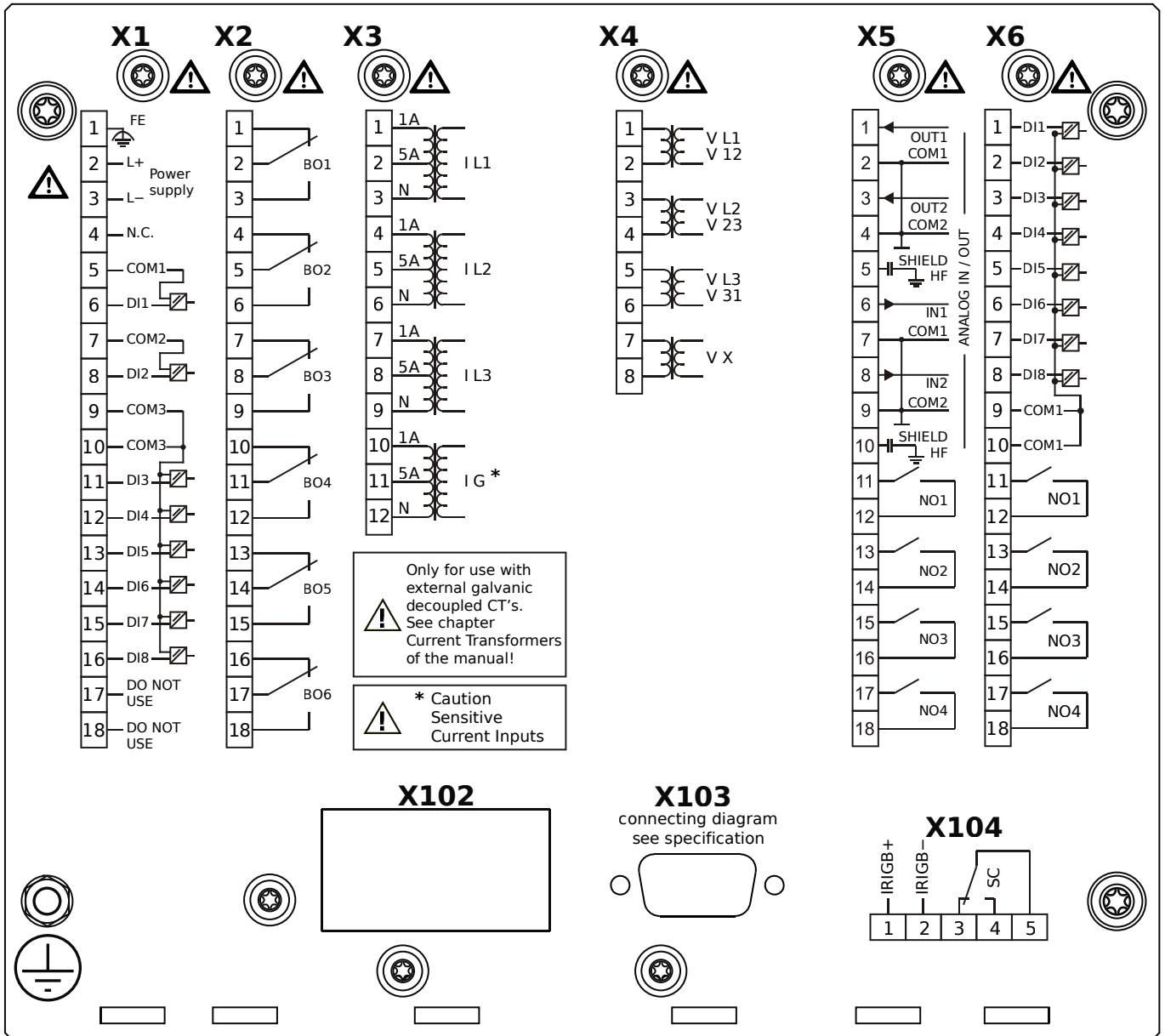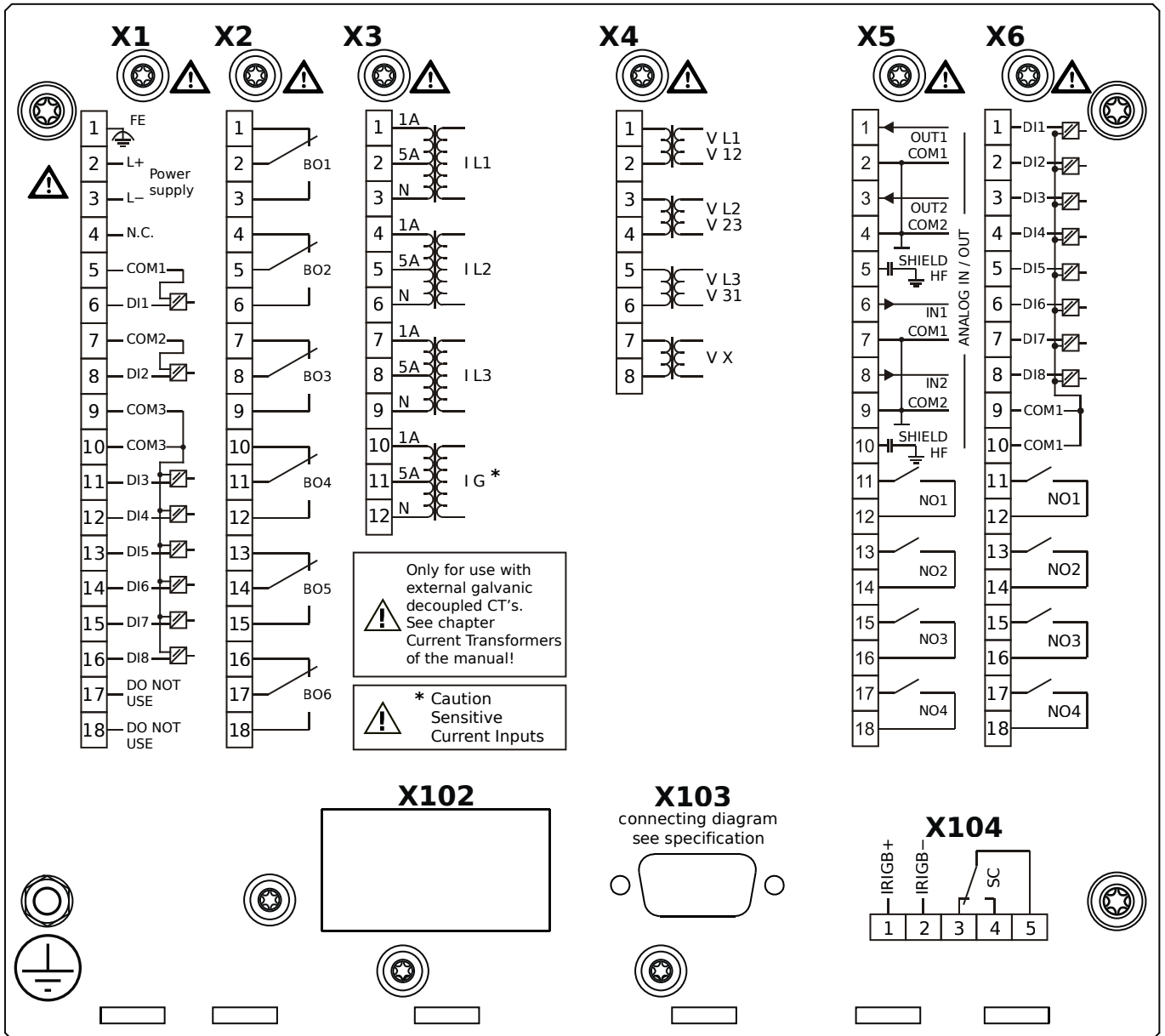|	
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
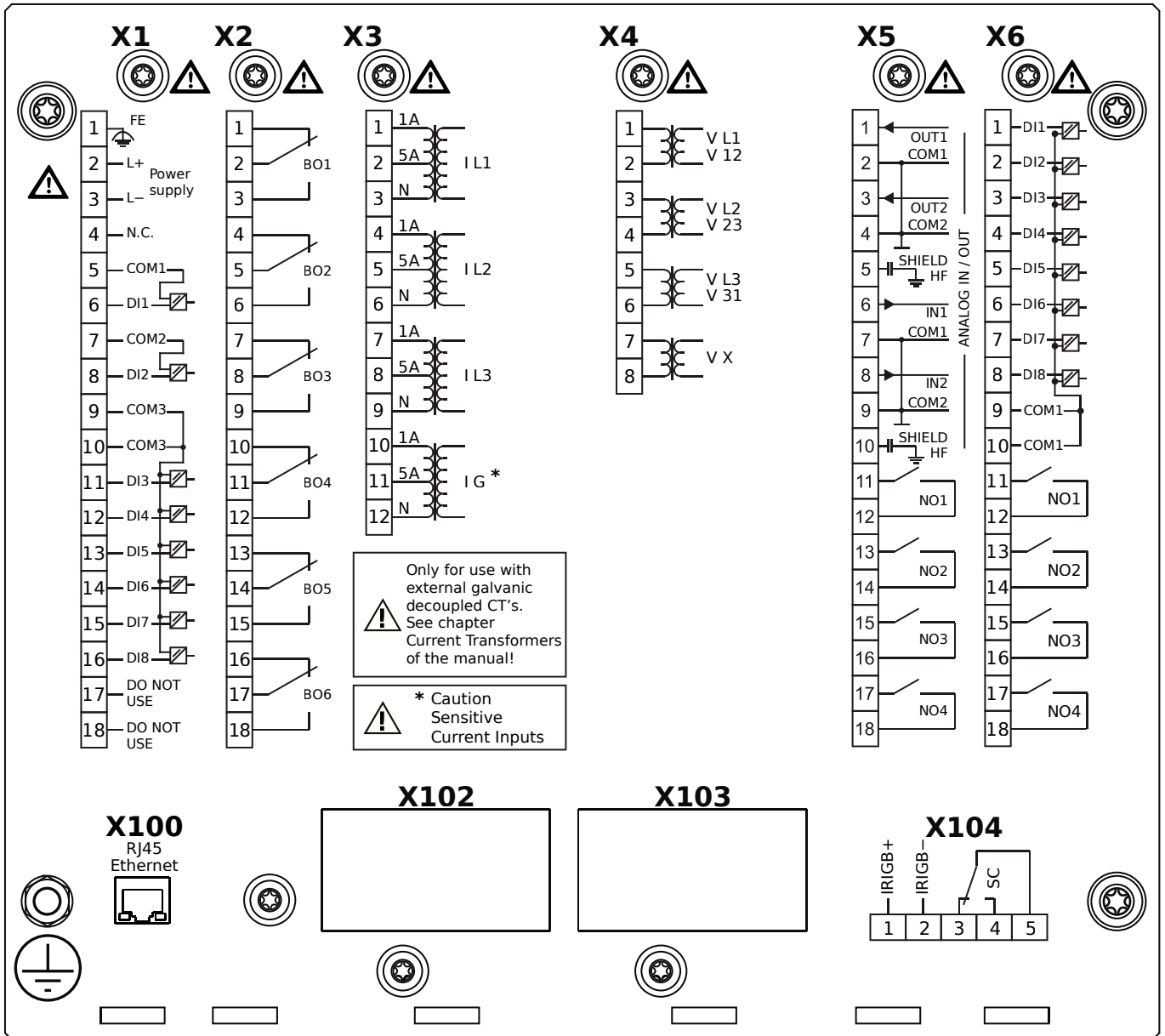IRIGB+ IRIGB− SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AEA

X1

1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
connecting diagram
see specification

X104

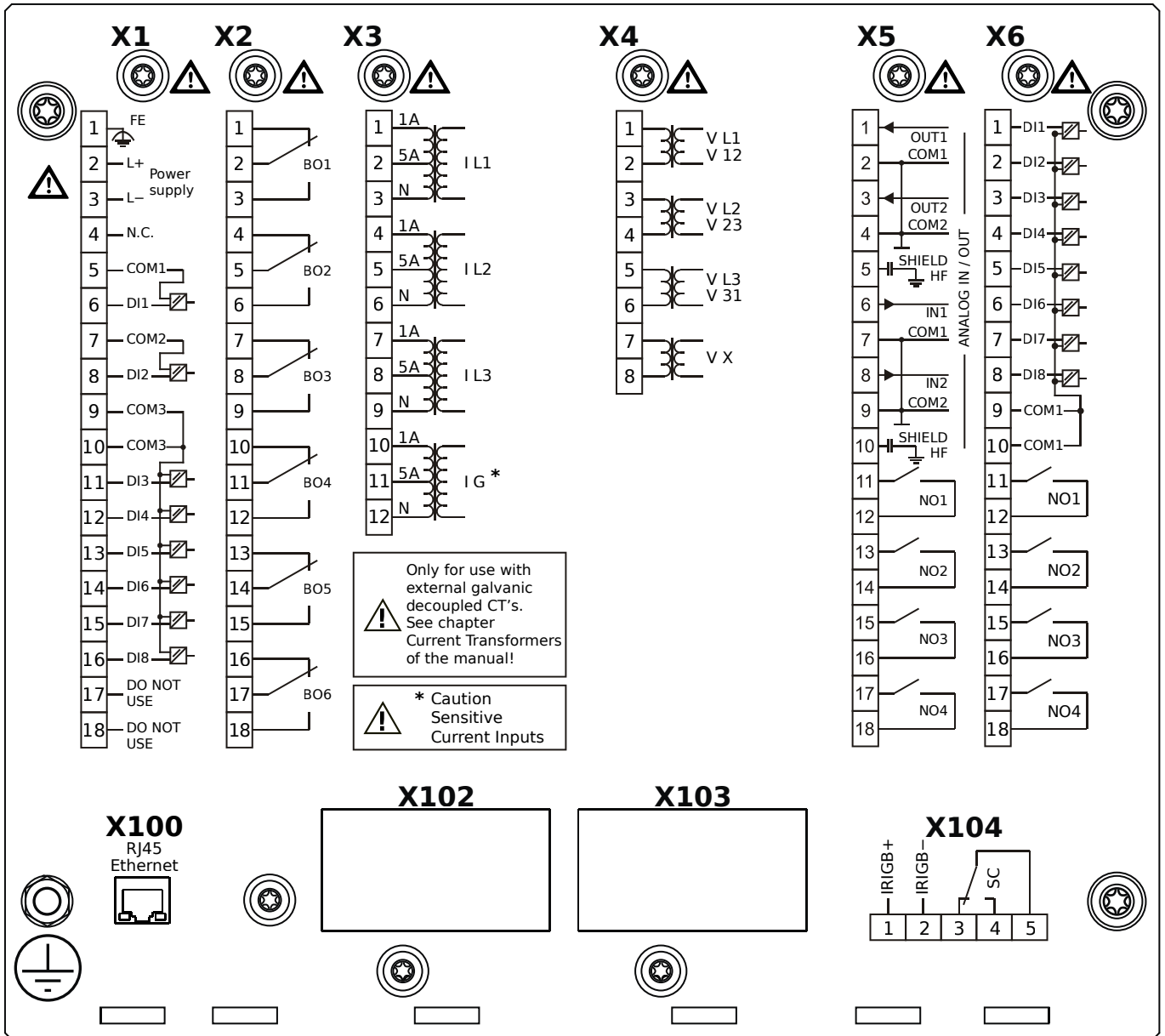| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
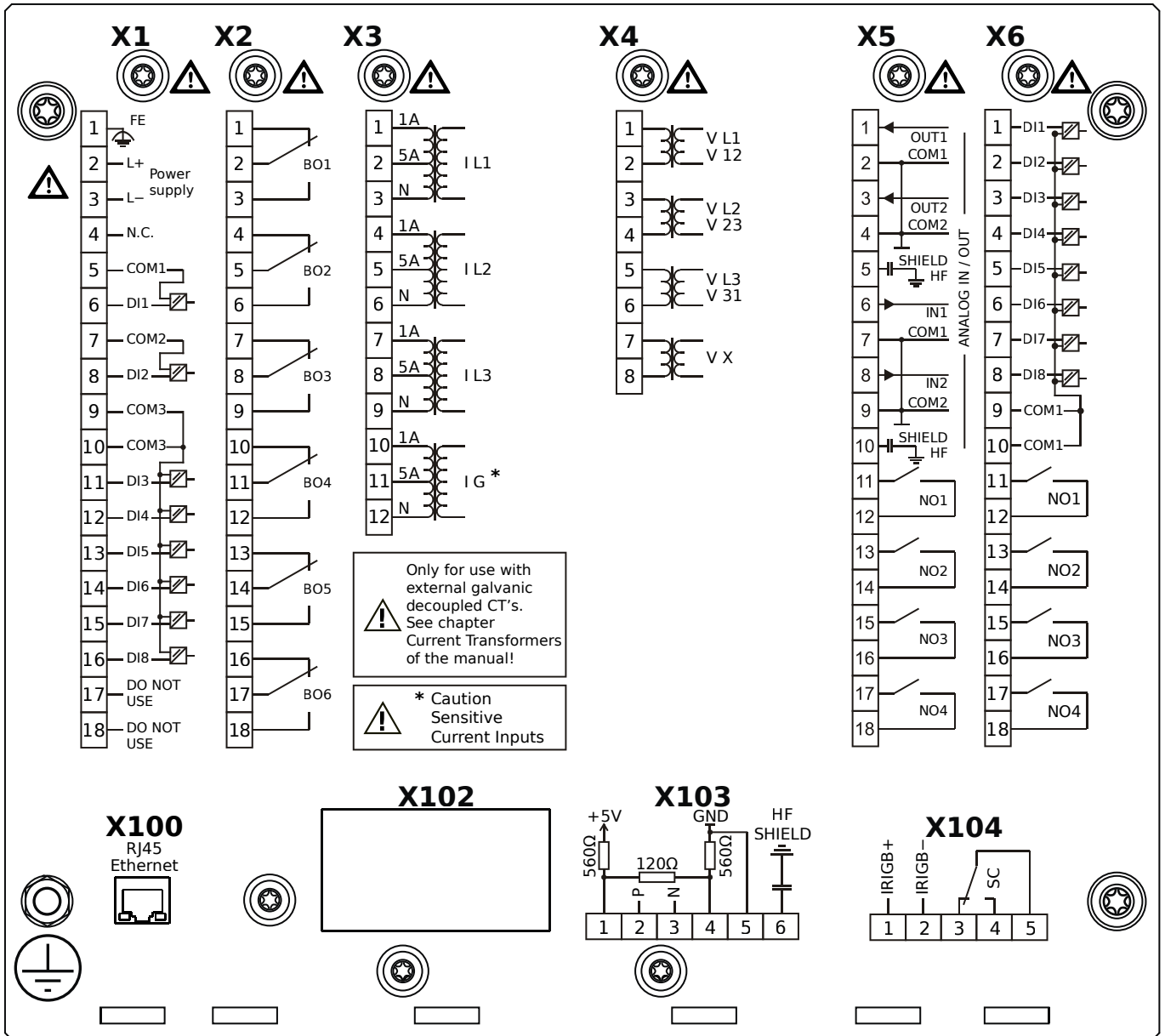**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AEB

Housing B2, small display, door mounting

   + Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AFA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AFB

Housing B2, small display, door mounting

   +   Conformal Coating (for installations in harsh environment)
X1   – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2   – OR6: Assembly Group with 6 Output Relays
X3   – TIs: Standard phase current measuring card and sensitive ground current measuring
X4   – TU: Card with 4 voltage transformer measuring inputs
X5   – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6   – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
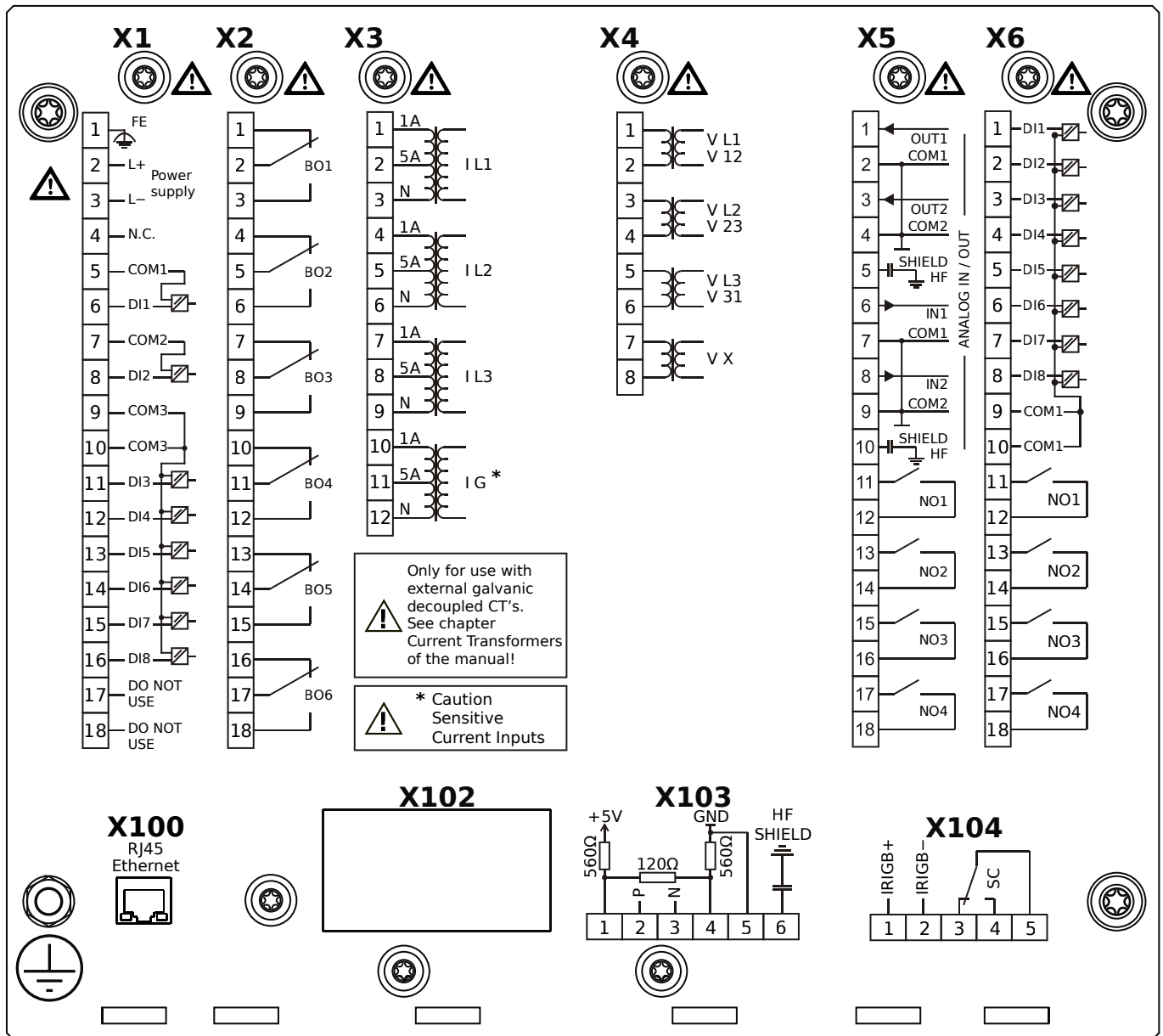**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AGA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AGB

X1 **X2** **X3** **X4** **X5** **X6**

X1		X2		X3			X4		X5		X6	
1	FE	1		1	1A		1	V L1	1	OUT1	1	DI1
2	L+	2	BO1	2	5A / I L1		2	V 12	2	COM1	2	DI2
3	L− Power supply	3		3	N		3	V L2	3	OUT2	3	DI3
4	N.C.	4		4	1A		4	V 23	4	COM2	4	DI4
5	COM1	5	BO2	5	5A / I L2		5	V L3	5	SHIELD HF	5	DI5
6	DI1	6		6	N		6	V 31	6	IN1	6	DI6
7	COM2	7		7	1A		7	V X	7	COM1	7	DI7
8	DI2	8	BO3	8	5A / I L3		8		8	IN2	8	DI8
9	COM3	9		9	N				9	COM2	9	COM1
10	COM3	10	BO4	10	1A				10	SHIELD HF	10	COM1
11	DI3	11		11	5A / I G *				11	NO1	11	NO1
12	DI4	12		12	N				12		12	
13	DI5	13							13	NO2	13	NO2
14	DI6	14	BO5						14		14	
15	DI7	15							15	NO3	15	NO3
16	DI8	16							16		16	
17	DO NOT USE	17	BO6						17	NO4	17	NO4
18	DO NOT USE	18							18		18	

ANALOG IN / OUT

> Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> * Caution Sensitive Current Inputs

X102

X103
connecting diagram
see specification

X104

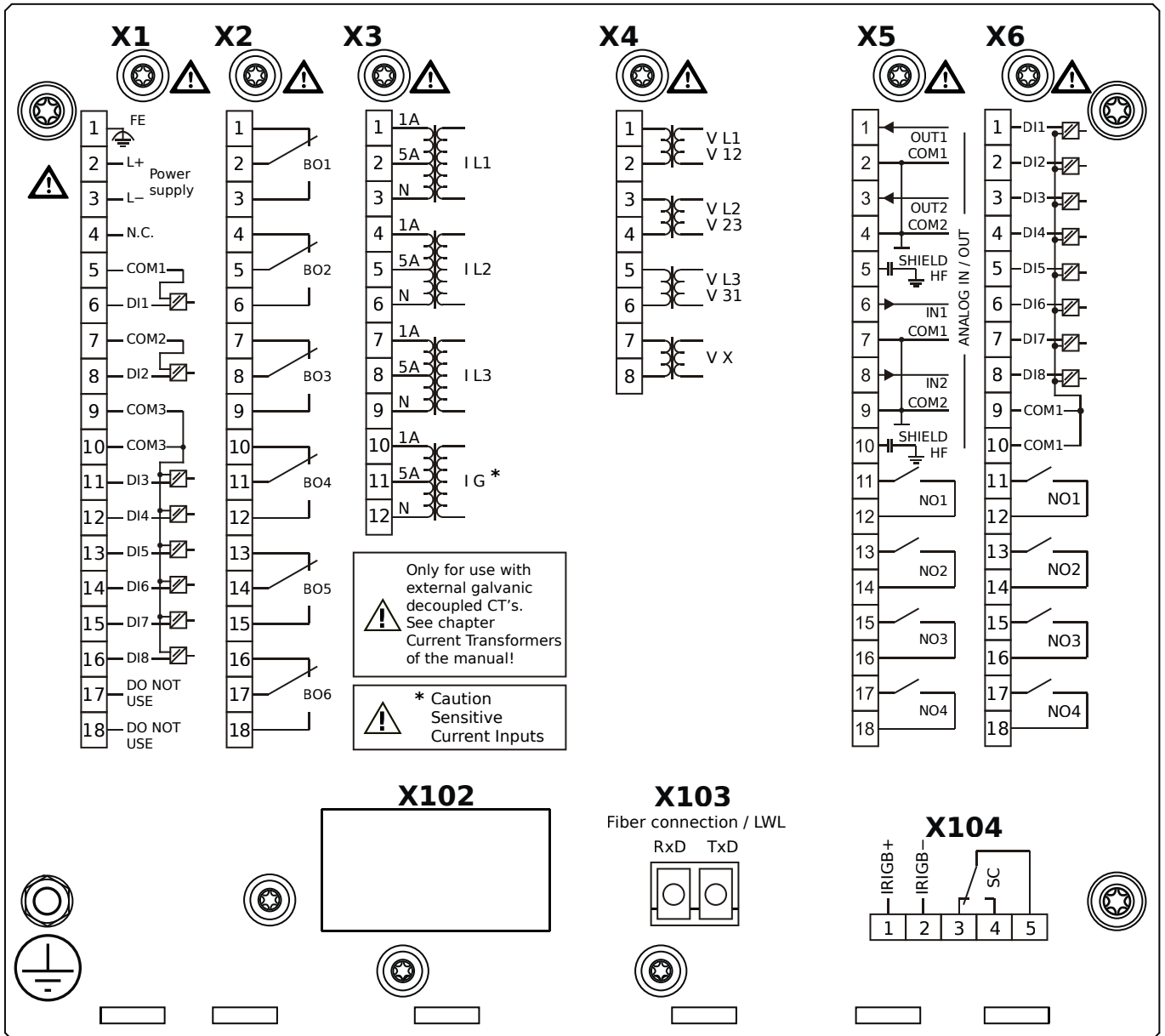| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
+   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
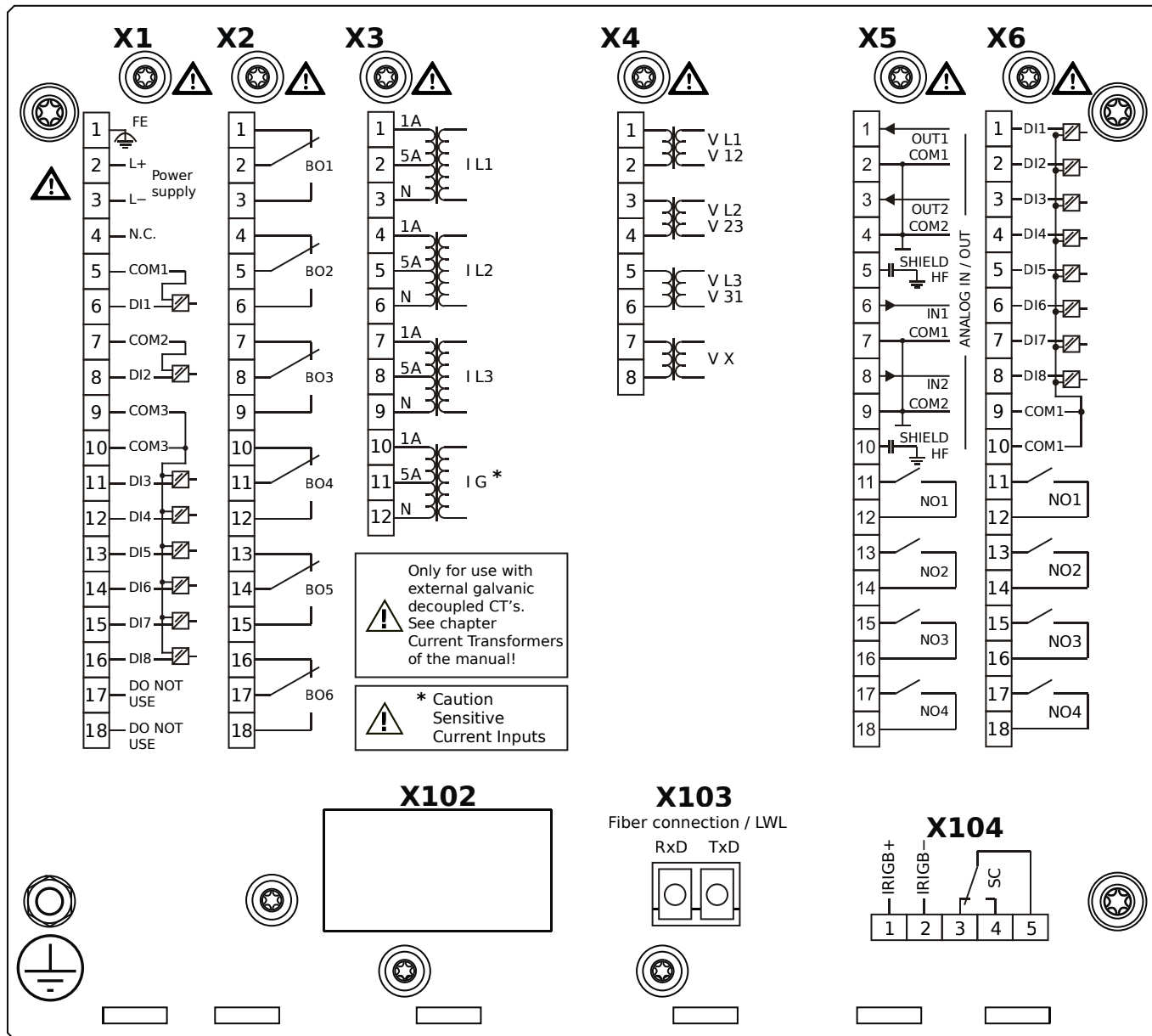**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AHA

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
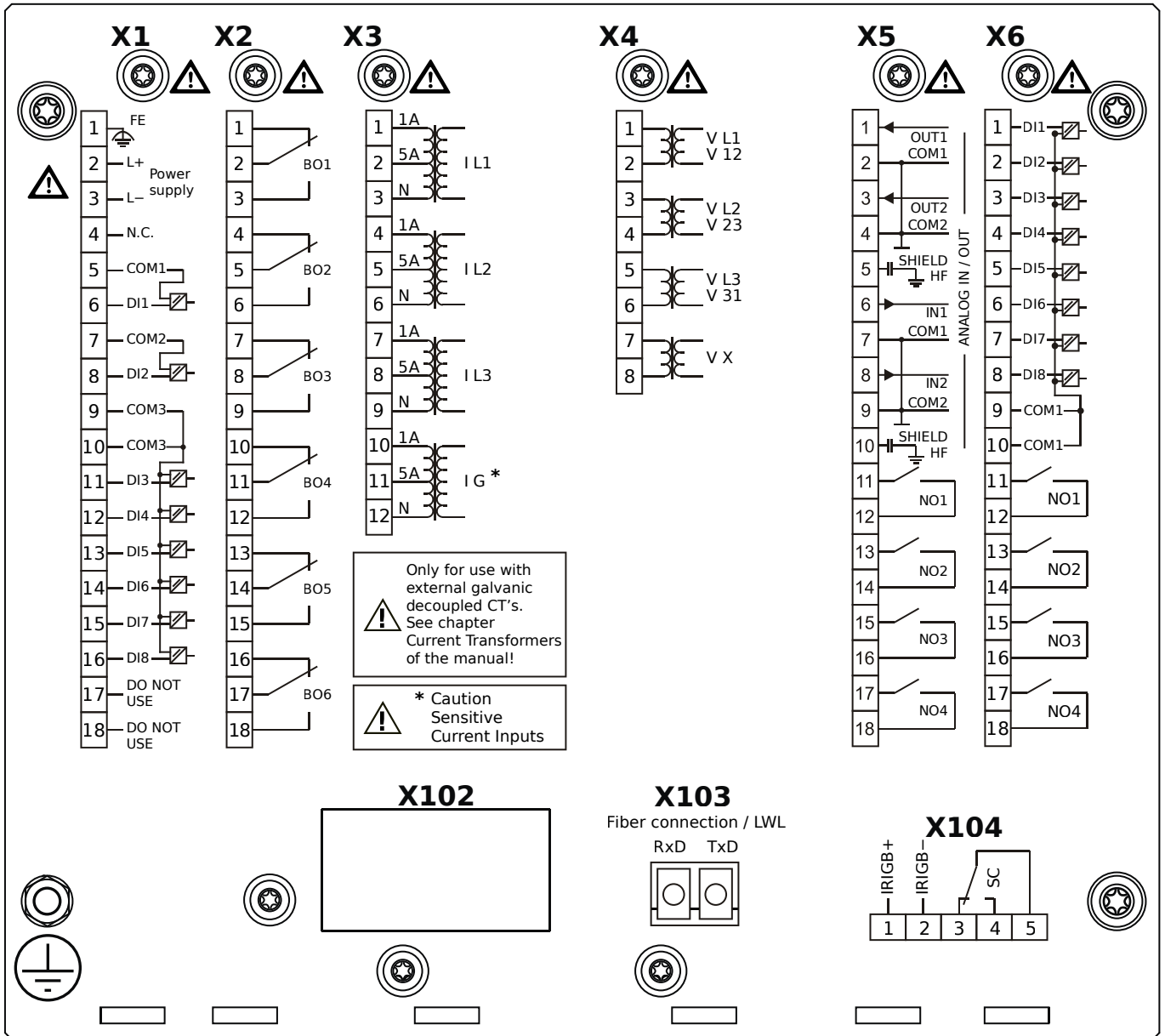
MRA4-2F1AHB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AIA

X1
- 1 FE ⏚
- 2 L+ Power supply
- 3 L−
- 4 N.C.
- 5 COM1
- 6 DI1
- 7 COM2
- 8 DI2
- 9 COM3
- 10 COM3
- 11 DI3
- 12 DI4
- 13 DI5
- 14 DI6
- 15 DI7
- 16 DI8
- 17 DO NOT USE
- 18 DO NOT USE

X2
- 1
- 2 BO1
- 3
- 4
- 5 BO2
- 6
- 7
- 8 BO3
- 9
- 10
- 11 BO4
- 12
- 13
- 14 BO5
- 15
- 16
- 17 BO6
- 18

X3
- 1 1A
- 2 5A | I L1
- 3 N
- 4 1A
- 5 5A | I L2
- 6 N
- 7 1A
- 8 5A | I L3
- 9 N
- 10 1A
- 11 5A | I G *
- 12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
- 1 V L1
- 2 V 12
- 3 V L2
- 4 V 23
- 5 V L3
- 6 V 31
- 7 V X
- 8

X5
- 1 OUT1 COM1
- 2
- 3 OUT2 COM2
- 4
- 5 SHIELD HF
- 6 IN1 COM1
- 7
- 8 IN2 COM2
- 9
- 10 SHIELD HF
- 11 NO1
- 12
- 13 NO2
- 14
- 15 NO3
- 16
- 17 NO4
- 18

ANALOG IN / OUT

X6
- 1 DI1
- 2 DI2
- 3 DI3
- 4 DI4
- 5 DI5
- 6 DI6
- 7 DI7
- 8 DI8
- 9 COM1
- 10 COM1
- 11 NO1
- 12
- 13 NO2
- 14
- 15 NO3
- 16
- 17 NO4
- 18

X100
RJ45 Ethernet

X102

X103
- +5V
- GND
- HF SHIELD
- 560Ω 120Ω 560Ω
- P N
- 1 2 3 4 5 6

X104
- IRIGB+
- IRIGB−
- SC
- 1 2 3 4 5

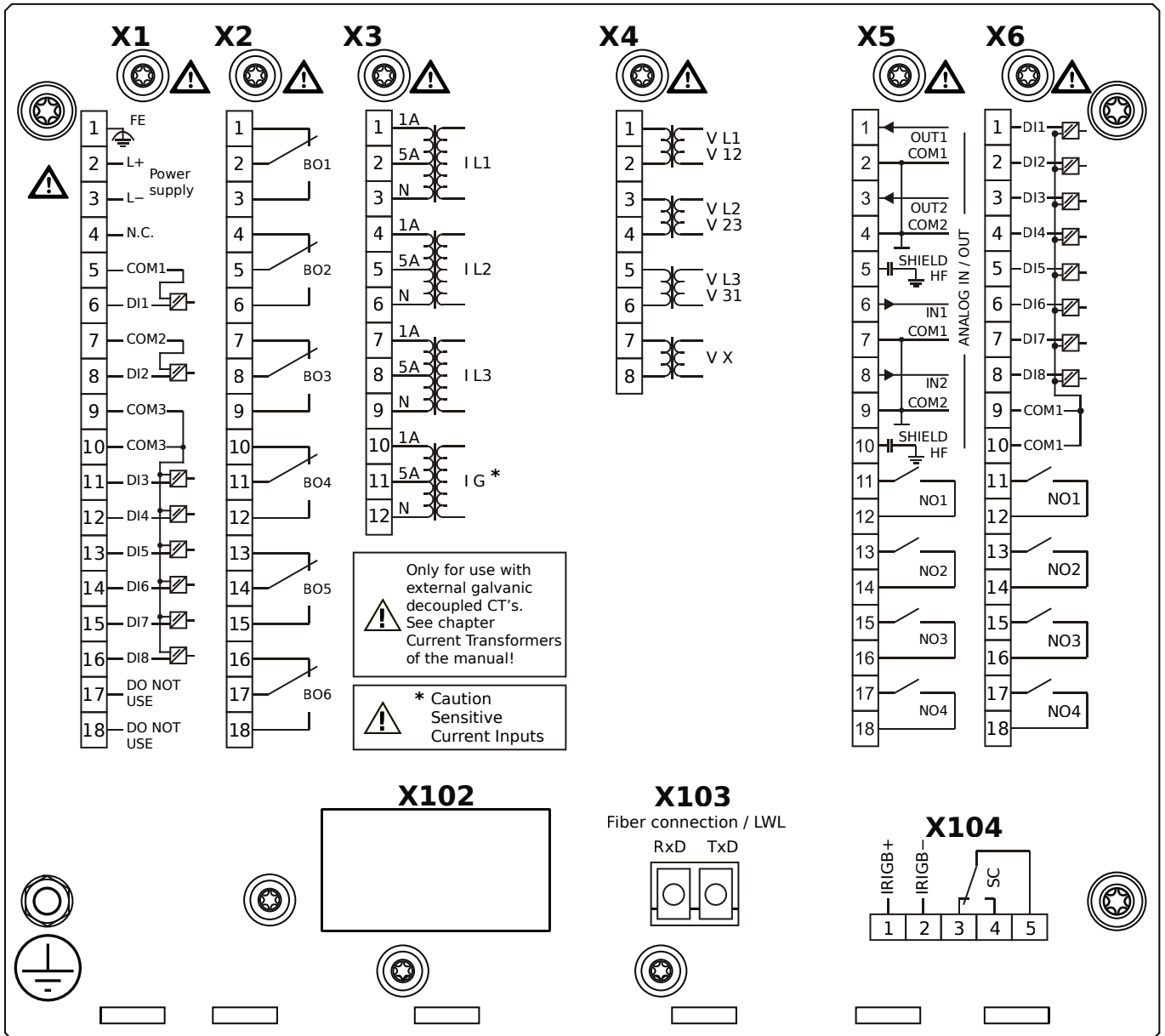**Housing B2, small display, door mounting**
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AIB

X1   **X2**   **X3**   **X4**   **X5**   **X6**

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103
+5V   GND   HF SHIELD
560Ω 120Ω 560Ω
P   N
| 1 | 2 | 3 | 4 | 5 | 6 |

X104
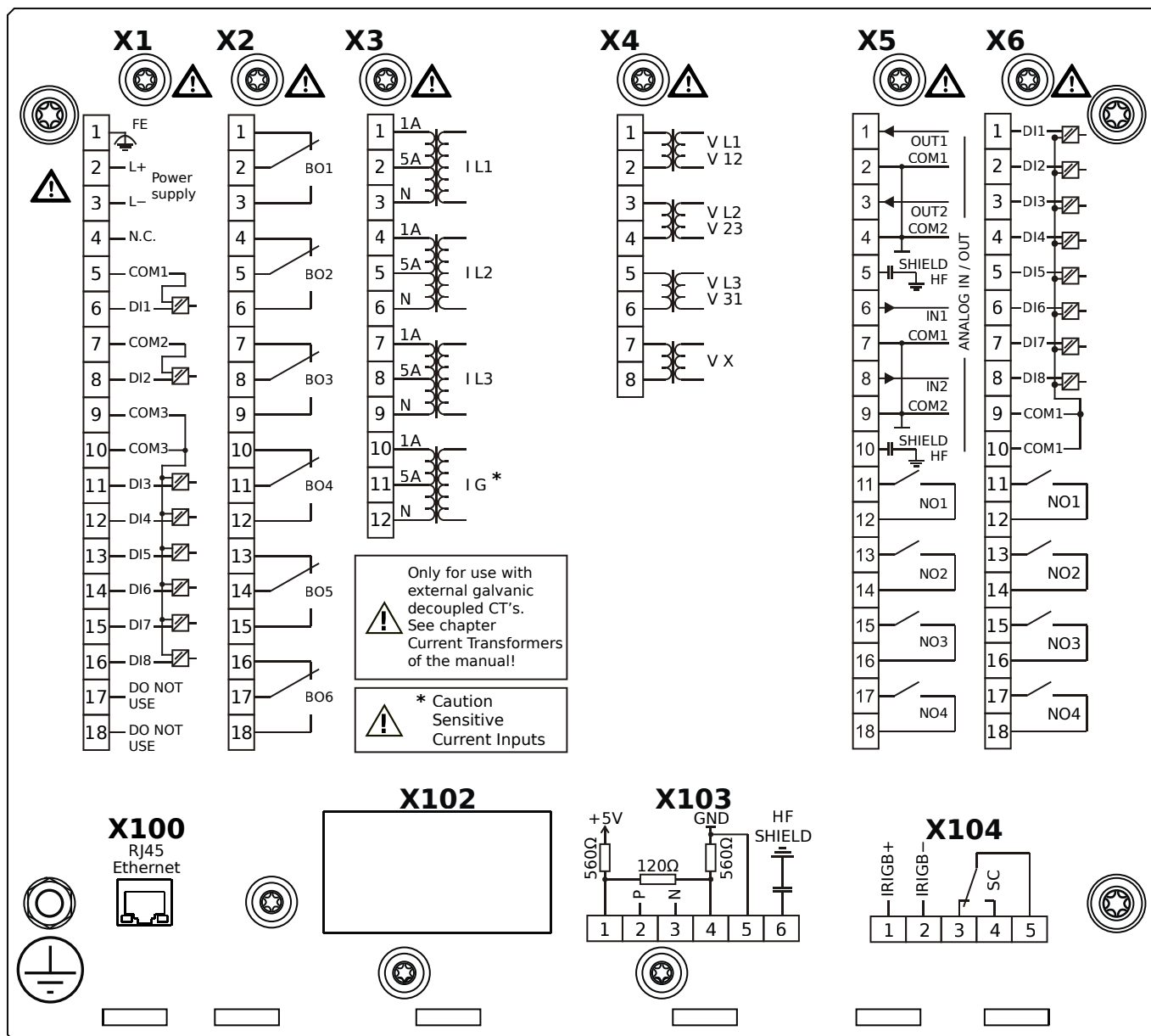IRIGB+   IRIGB−   SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting
+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
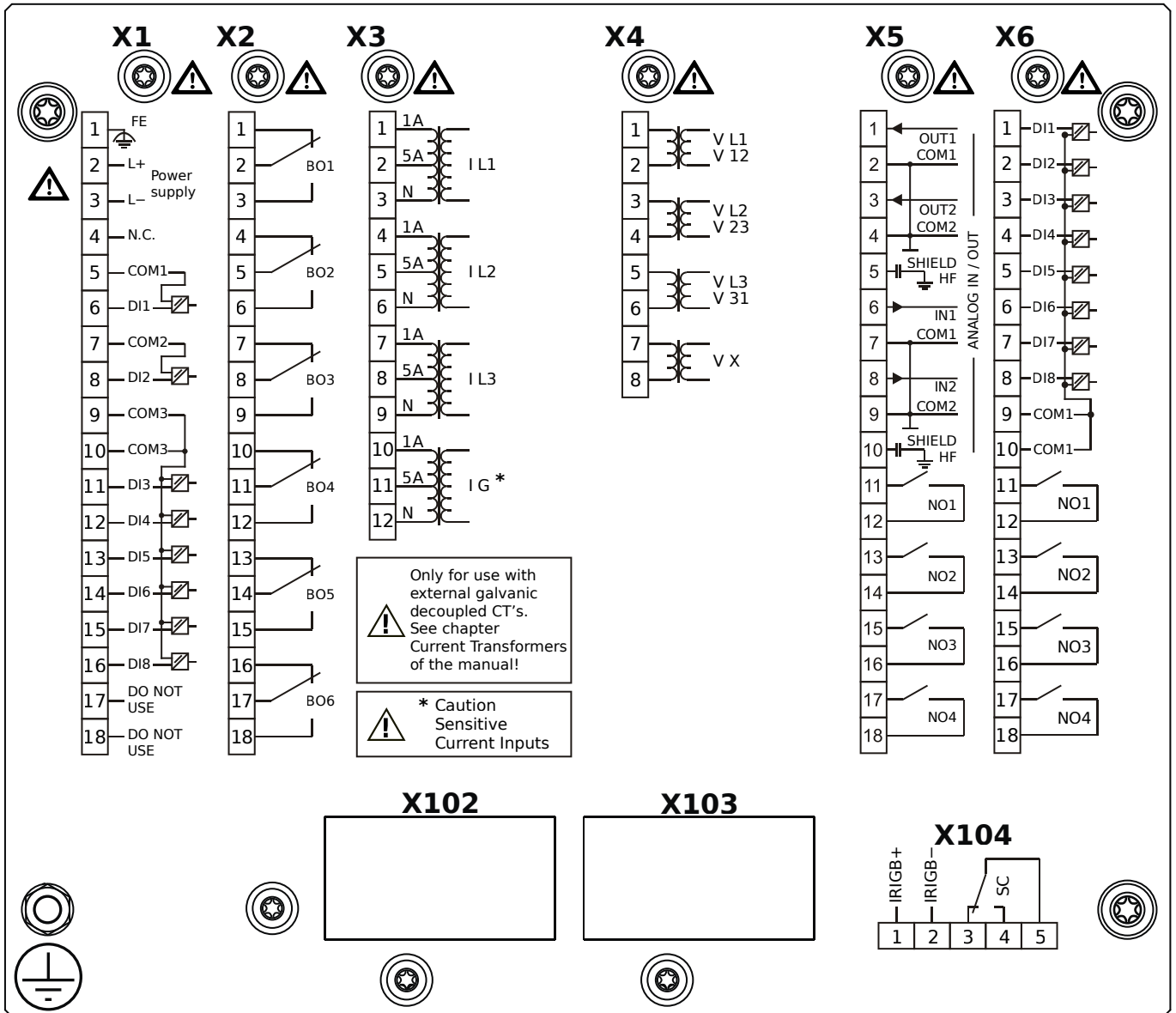**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AKA

X1

1	FE
2	L+ (Power supply)
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1 / V 12
2	
3	V L2 / V 23
4	
5	V L3 / V 31
6	
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104

IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, door mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1AKB

X1
1	FE
2	L+ Power supply
3	L−
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1 / V 12
2	
3	V L2 / V 23
4	
5	V L3 / V 31
6	
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL

RxD   TxD

X104
IRIGB+   IRIGB−   SC

| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
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X4 – TU: Card with 4 voltage transformer measuring inputs
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X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
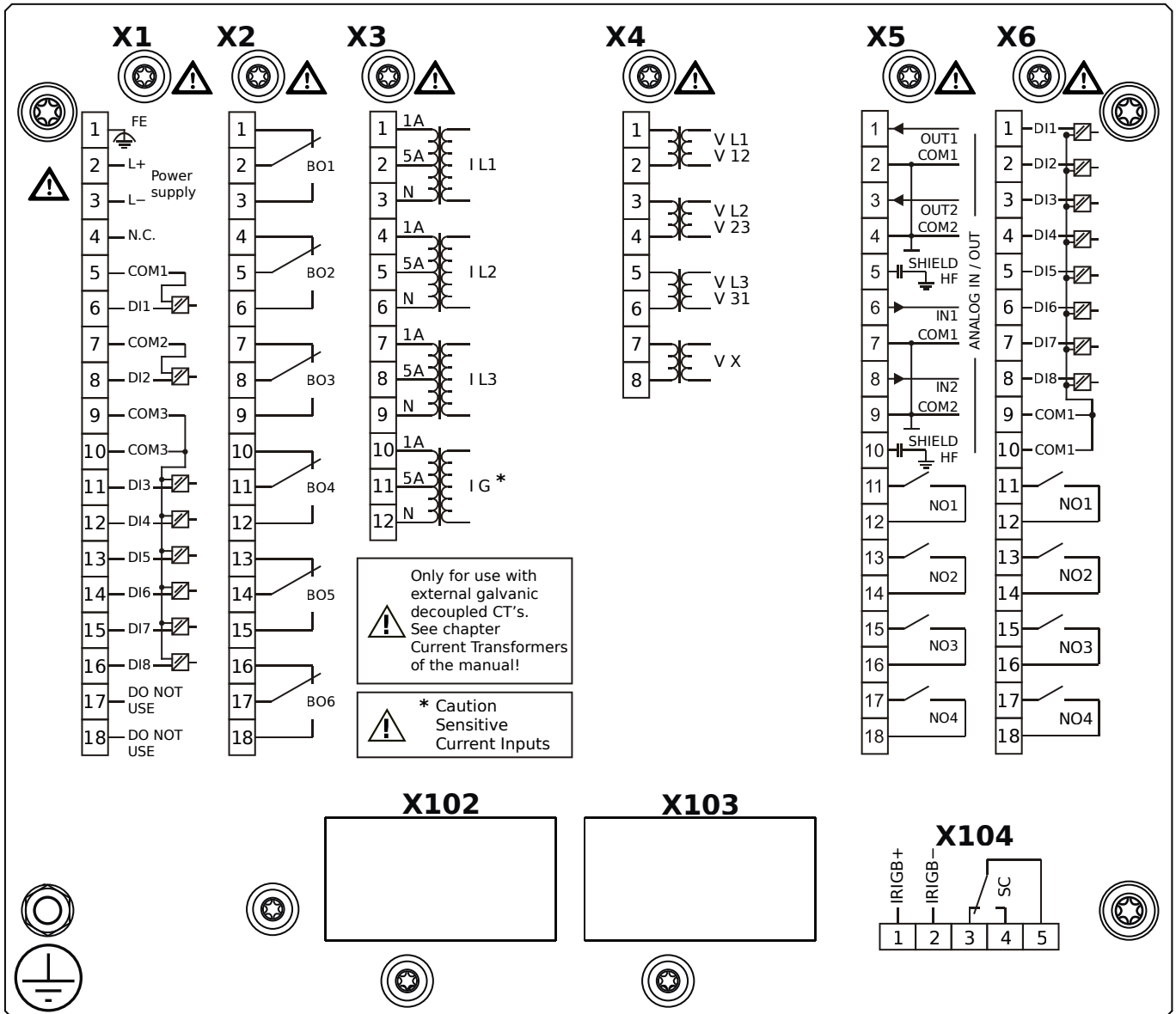**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ALA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
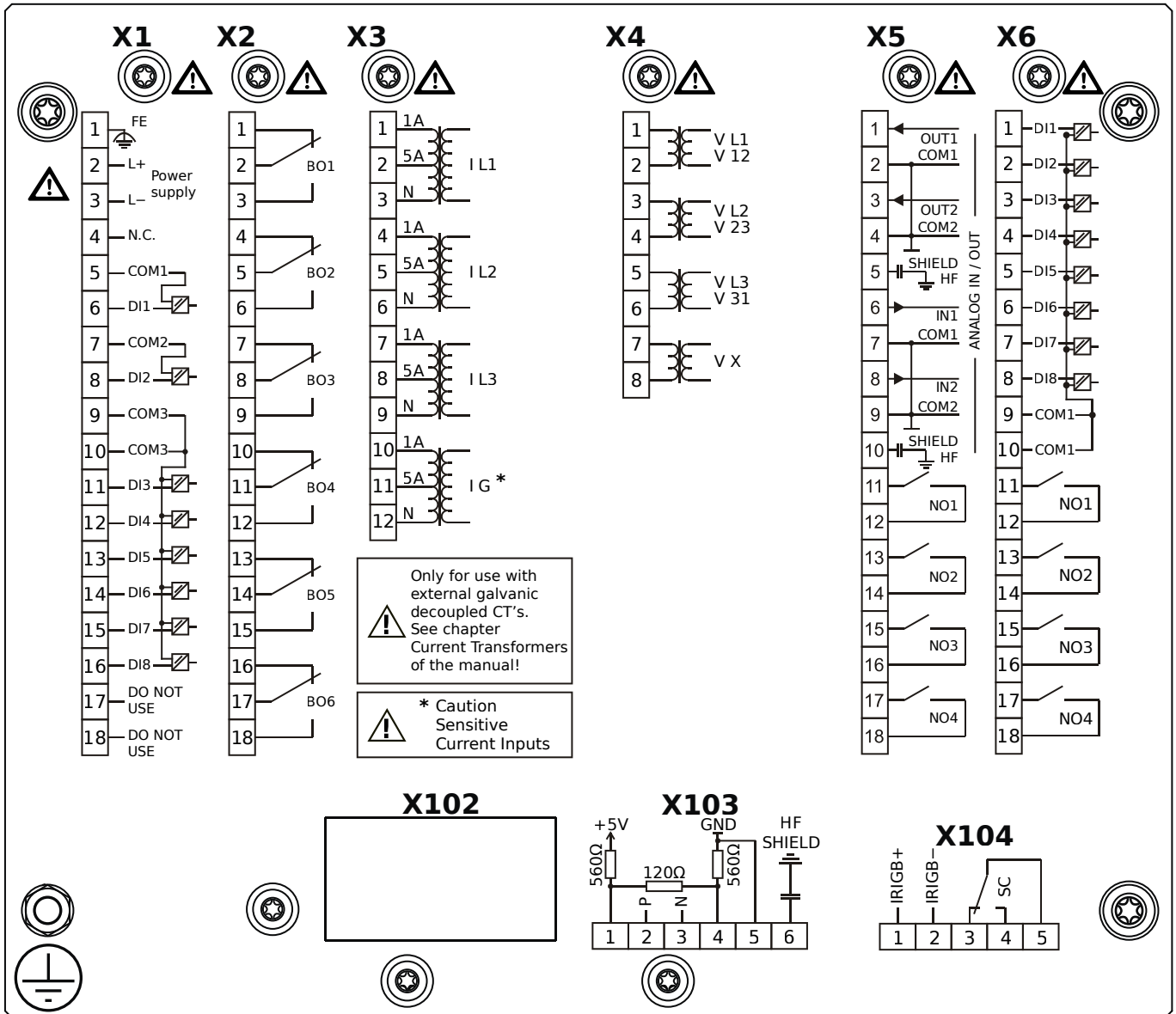**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ALB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
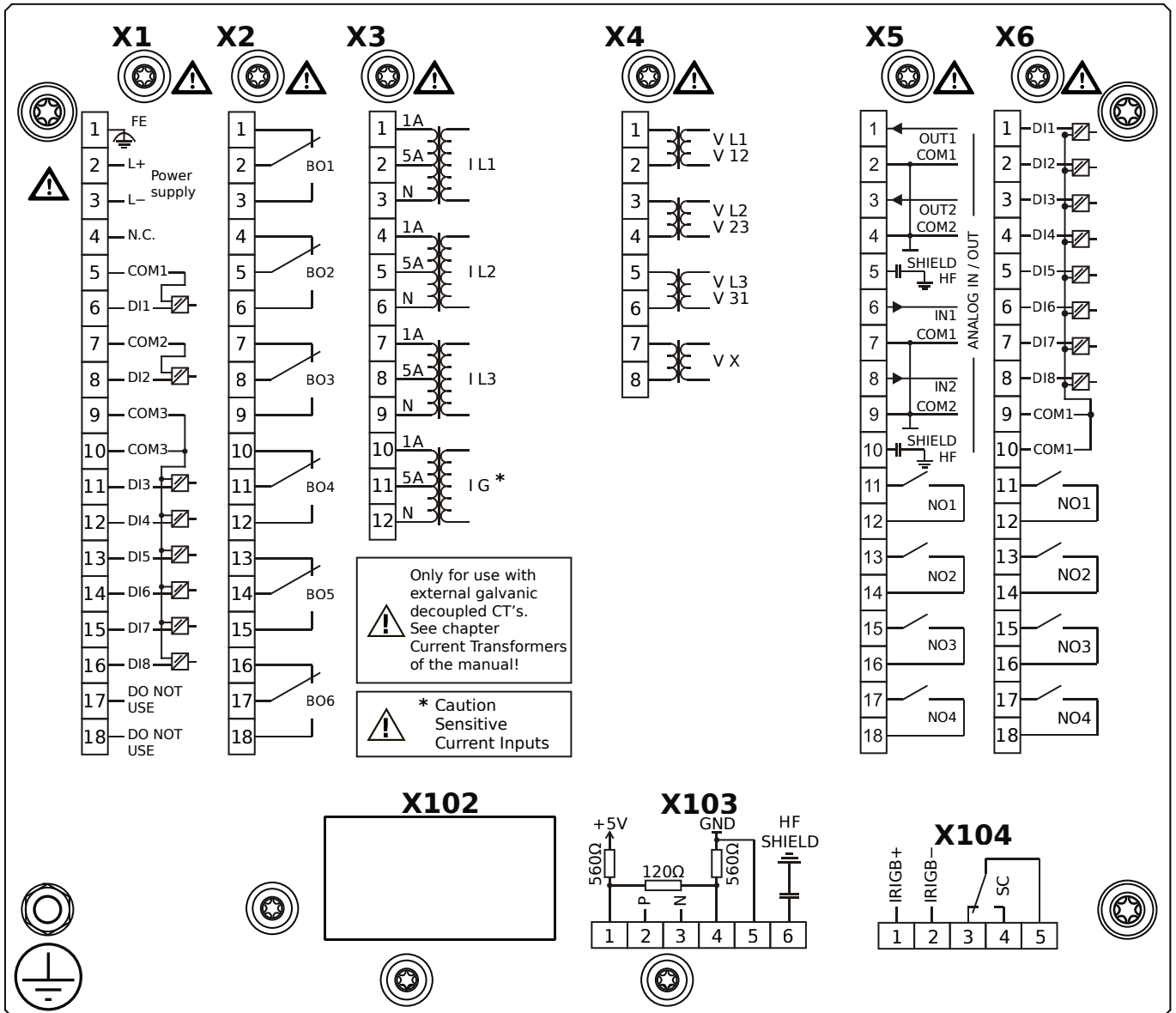**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ATA

Housing B2, small display, door mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
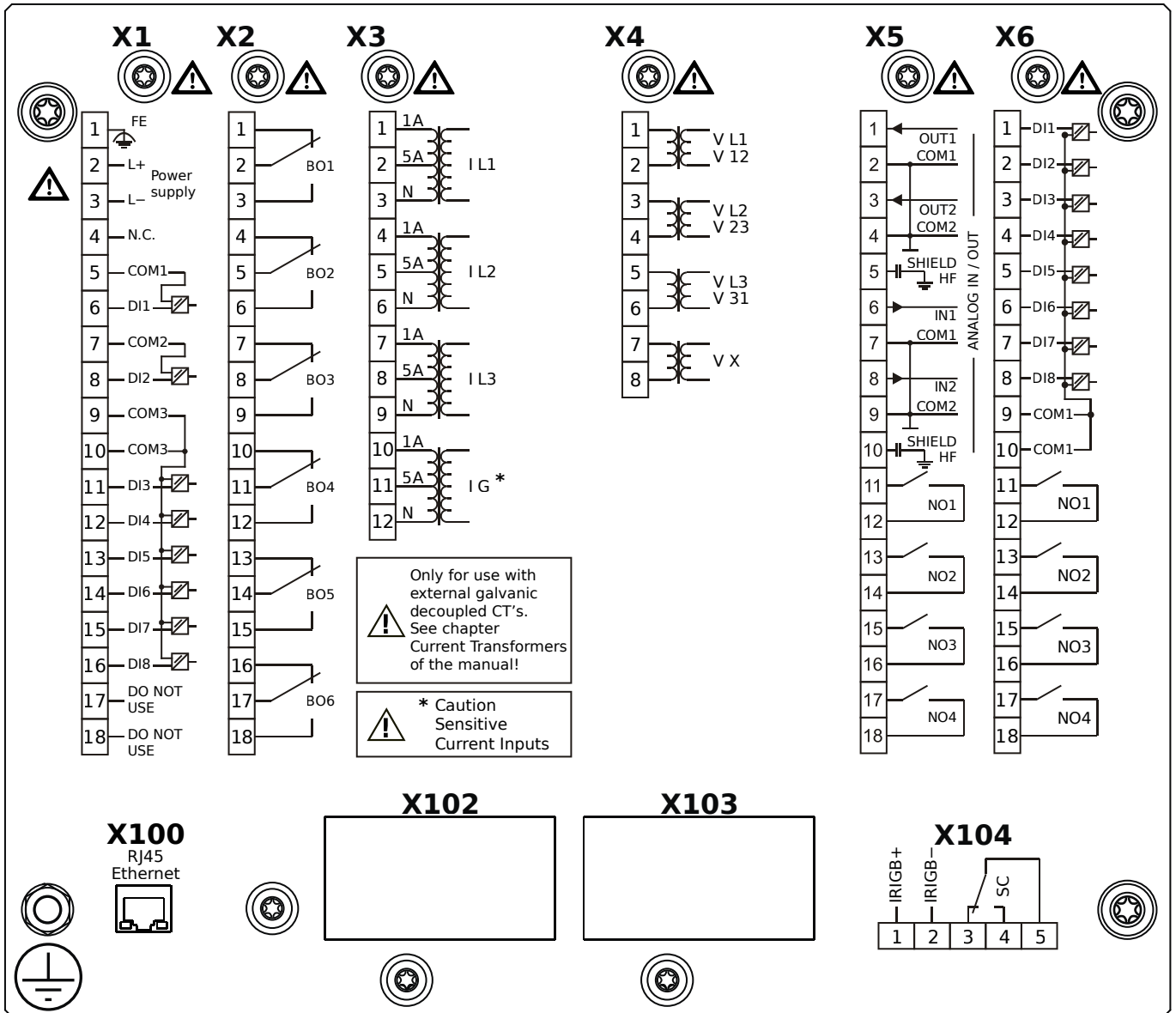**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1ATB

Housing B2, small display, door mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BAA

X1
1	FE ⏚
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A I L1
3	N
4	1A
5	5A I L2
6	N
7	1A
8	5A I L3
9	N
10	1A
11	5A I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103

X104
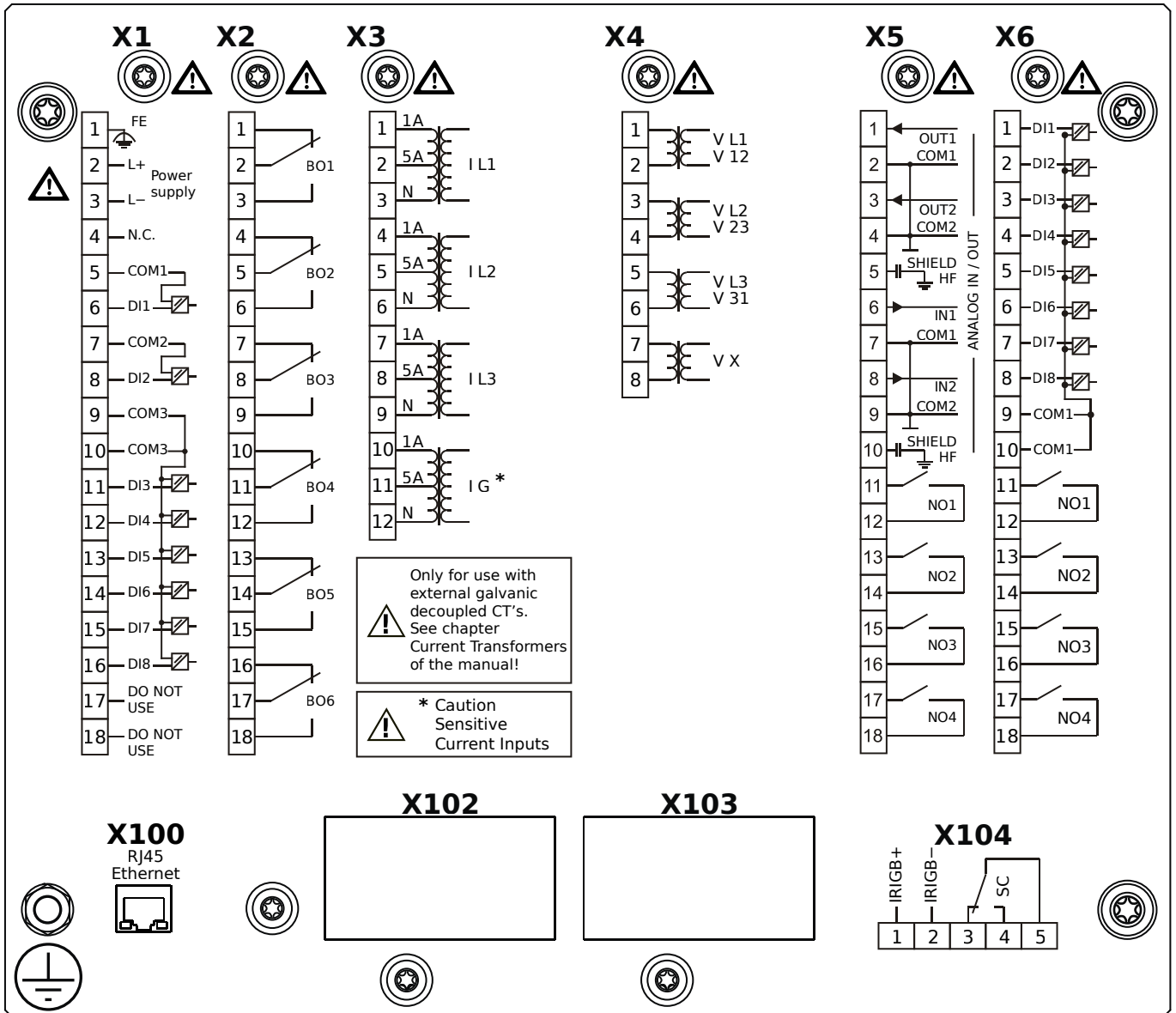| 1	2	3	4	5
IRIGB+	IRIGB−		SC	

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BAB

X1
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1 COM1
2
3 OUT2 COM2
4
5 SHIELD HF
6 IN1 COM1
7
8 IN2 COM2
9
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
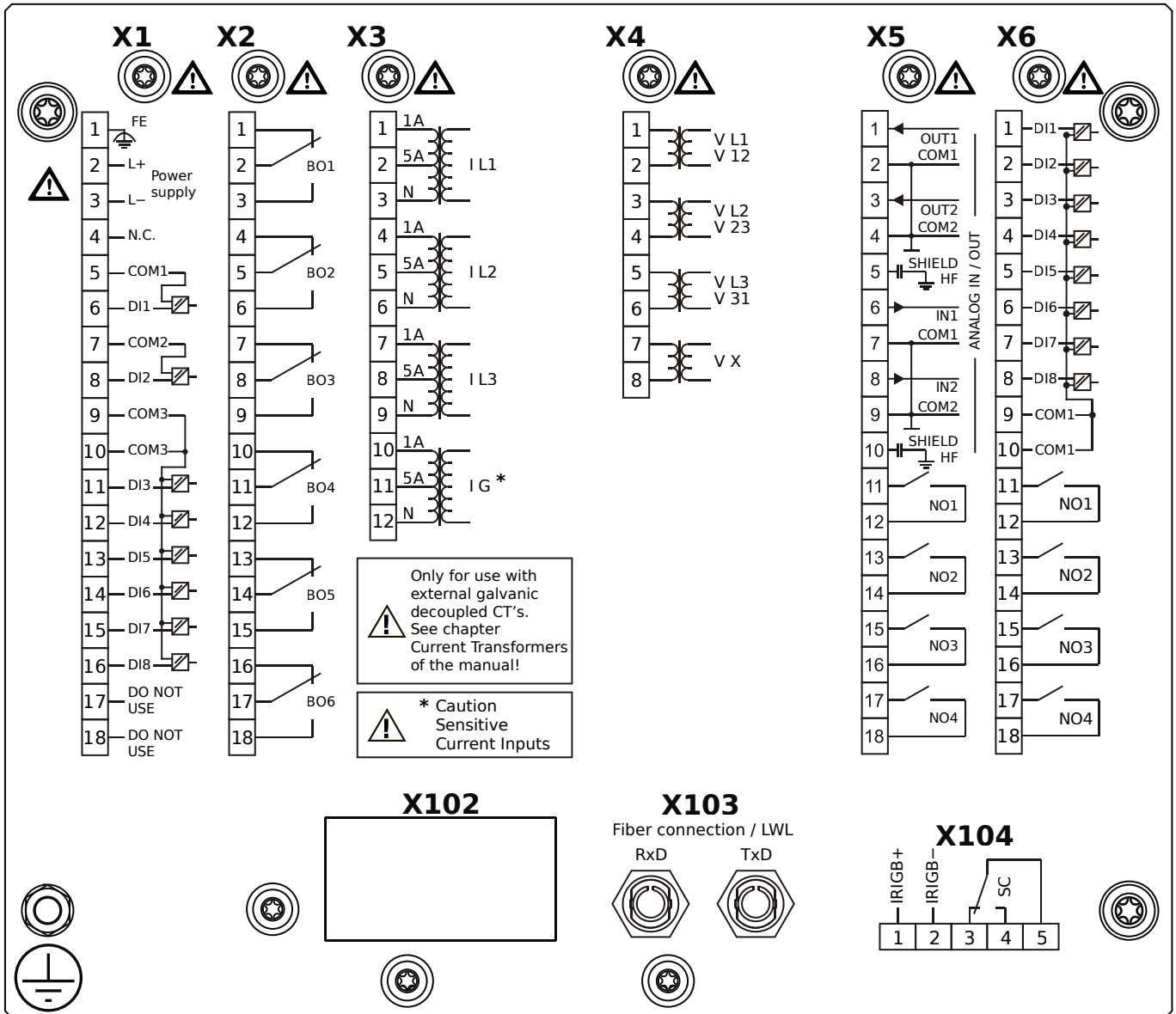
X104
1 IRIGB+
2 IRIGB−
3 SC
4
5

Housing B2, small display, 19" rack mounting

  +   Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BBA

X1

1 FE
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2

1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3

1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5

1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6

1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103

+5V GND HF SHIELD
560Ω 120Ω 560Ω
P N
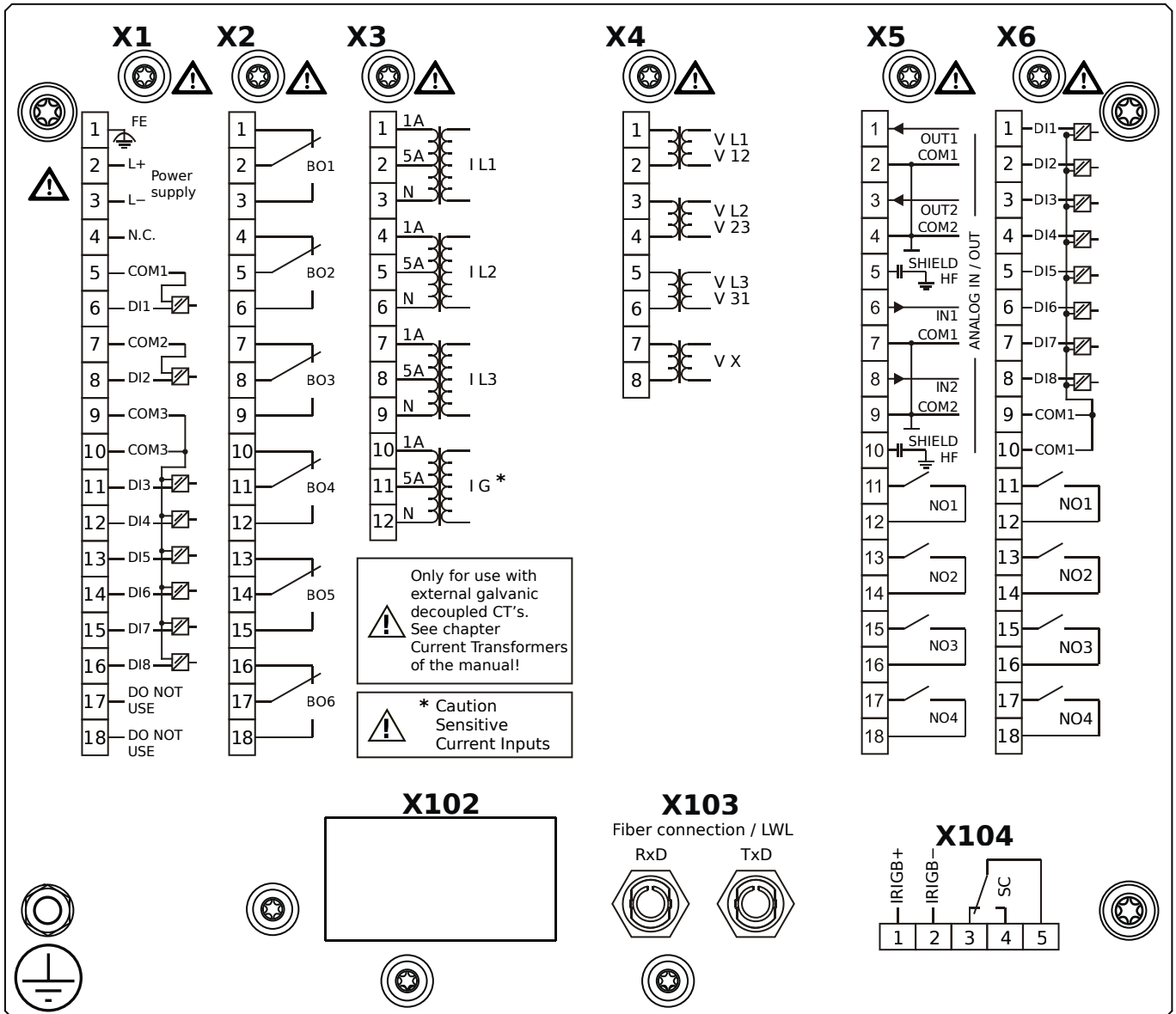1 2 3 4 5 6

X104

IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BBB

Terminal blocks X1–X6

X1 — Power supply
- 1 — FE
- 2 — L+ (Power supply)
- 3 — L−
- 4 — N.C.
- 5 — COM1
- 6 — DI1
- 7 — COM2
- 8 — DI2
- 9 — COM3
- 10 — COM3
- 11 — DI3
- 12 — DI4
- 13 — DI5
- 14 — DI6
- 15 — DI7
- 16 — DI8
- 17 — DO NOT USE
- 18 — DO NOT USE

X2
- 2 — BO1
- 5 — BO2
- 8 — BO3
- 11 — BO4
- 14 — BO5
- 17 — BO6

X3
- 1 — 1A / 2 — 5A / 3 — N : I L1
- 4 — 1A / 5 — 5A / 6 — N : I L2
- 7 — 1A / 8 — 5A / 9 — N : I L3
- 10 — 1A / 11 — 5A / 12 — N : I G *

> Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ***** Caution Sensitive Current Inputs

X4
- 1 / 2 — V L1 / V 12
- 3 / 4 — V L2 / V 23
- 5 / 6 — V L3 / V 31
- 7 / 8 — V X

X5 — ANALOG IN / OUT
- 1 — OUT1 / 2 — COM1
- 3 — OUT2 / 4 — COM2
- 5 — SHIELD HF
- 6 — IN1 / 7 — COM1
- 8 — IN2 / 9 — COM2
- 10 — SHIELD HF
- 11/12 — NO1
- 13/14 — NO2
- 15/16 — NO3
- 17/18 — NO4

X6
- 1 — DI1
- 2 — DI2
- 3 — DI3
- 4 — DI4
- 5 — DI5
- 6 — DI6
- 7 — DI7
- 8 — DI8
- 9 — COM1
- 10 — COM1
- 11/12 — NO1
- 13/14 — NO2
- 15/16 — NO3
- 17/18 — NO4

X102

X103
- +5V
- 560Ω
- 120Ω
- P — N
- GND
- 560Ω
- HF SHIELD
- 1 2 3 4 5 6

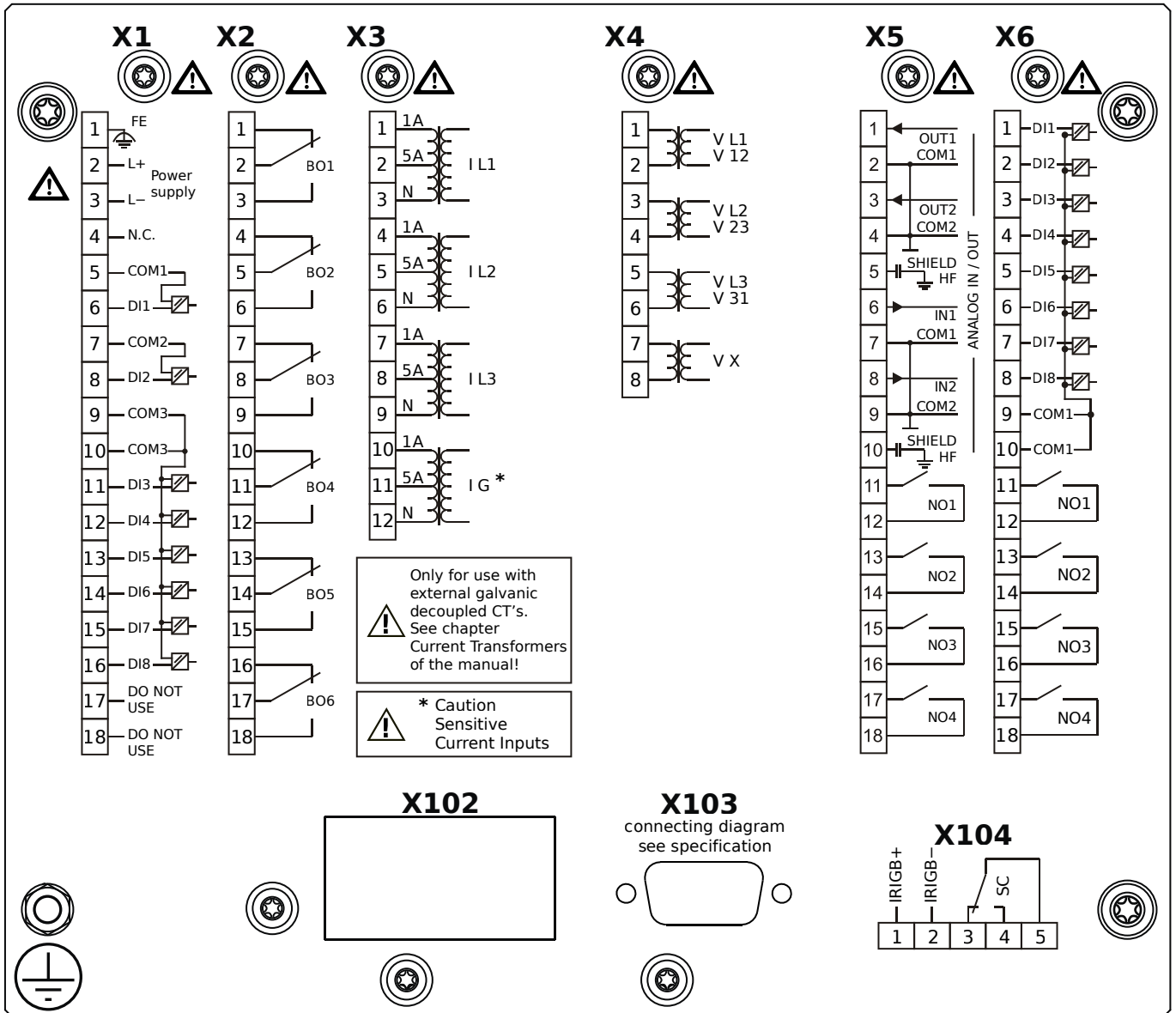## X104
- IRIGB+
- IRIGB−
- SC
- 1 2 3 4 5

Housing B2, small display, 19" rack mounting

   +   Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BCA

X1 — Power supply, FE, L+, L−, N.C., COM1, DI1, COM2, DI2, COM3, COM3, DI3, DI4, DI5, DI6, DI7, DI8, DO NOT USE, DO NOT USE

X2 — BO1, BO2, BO3, BO4, BO5, BO6

X3 — 1A, 5A, N, I L1; 1A, 5A, N, I L2; 1A, 5A, N, I L3; 1A, 5A, N, I G *

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4 — V L1, V 12; V L2, V 23; V L3, V 31; V X

X5 — OUT1 COM1, OUT2 COM2, SHIELD HF, IN1 COM1, IN2 COM2, SHIELD HF, ANALOG IN / OUT, NO1, NO2, NO3, NO4

X6 — DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, COM1, COM1, NO1, NO2, NO3, NO4

X100 RJ45 Ethernet
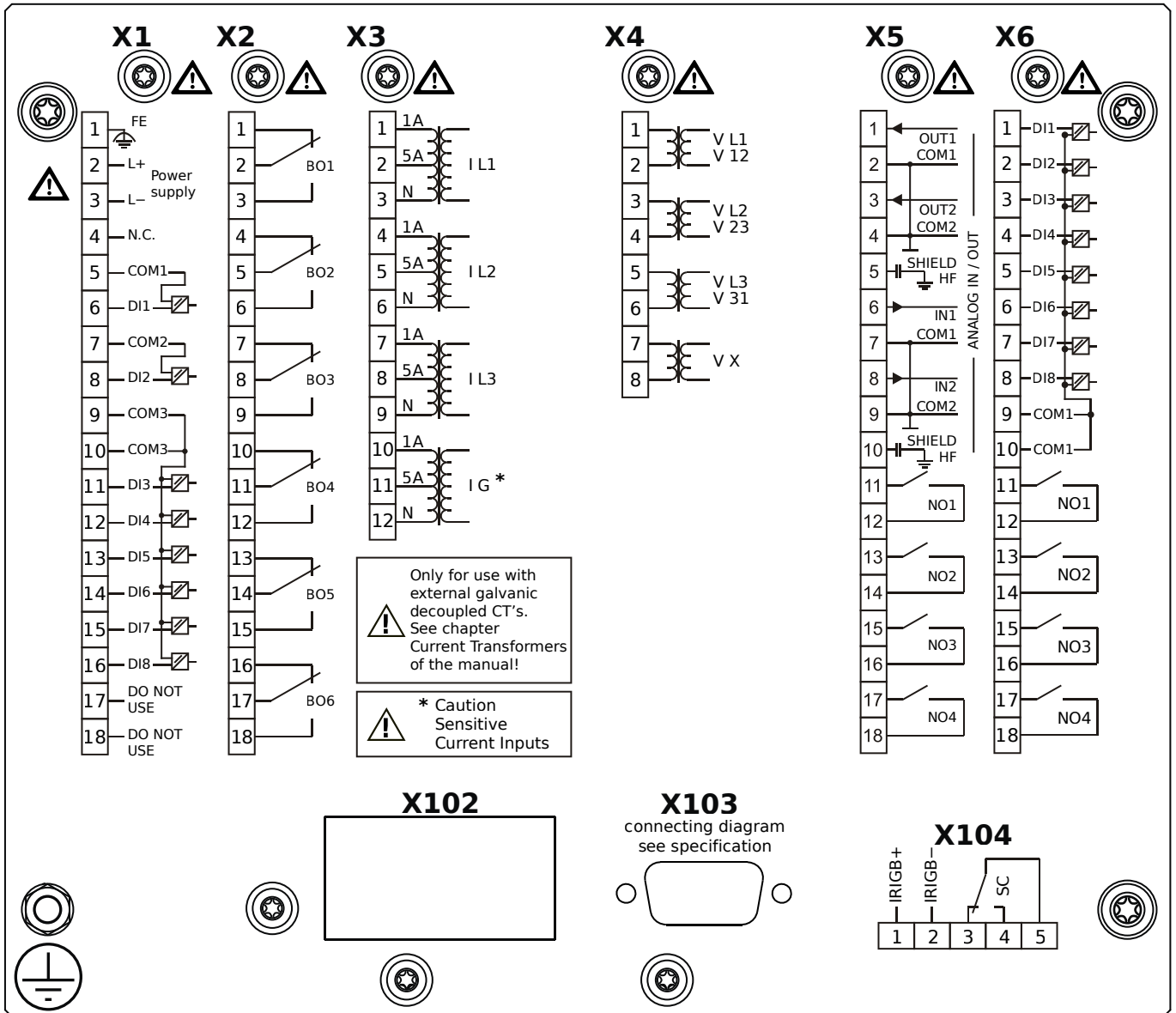
X102

X103

X104 — IRIGB+, IRIGB−, SC

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 – OR6: Assembly Group with 6 Output Relays

X3 – TIs: Standard phase current measuring card and sensitive ground current measuring

X4 – TU: Card with 4 voltage transformer measuring inputs

X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays

X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)

X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BCB

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

X104
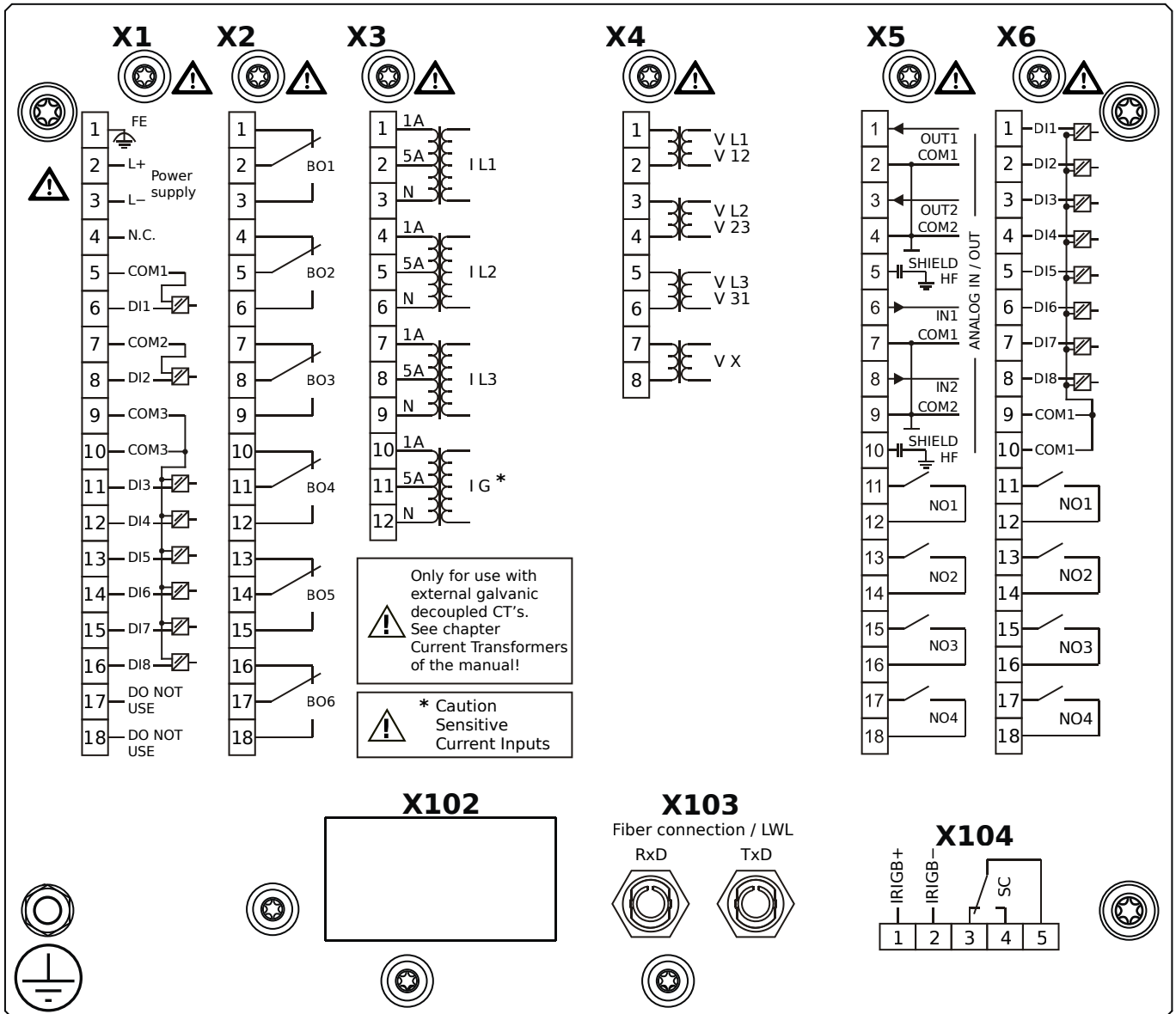| IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BDA

X1
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A / I L1
3 N
4 1A
5 5A / I L2
6 N
7 1A
8 5A / I L3
9 N
10 1A
11 5A / I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+   IRIGB−   SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
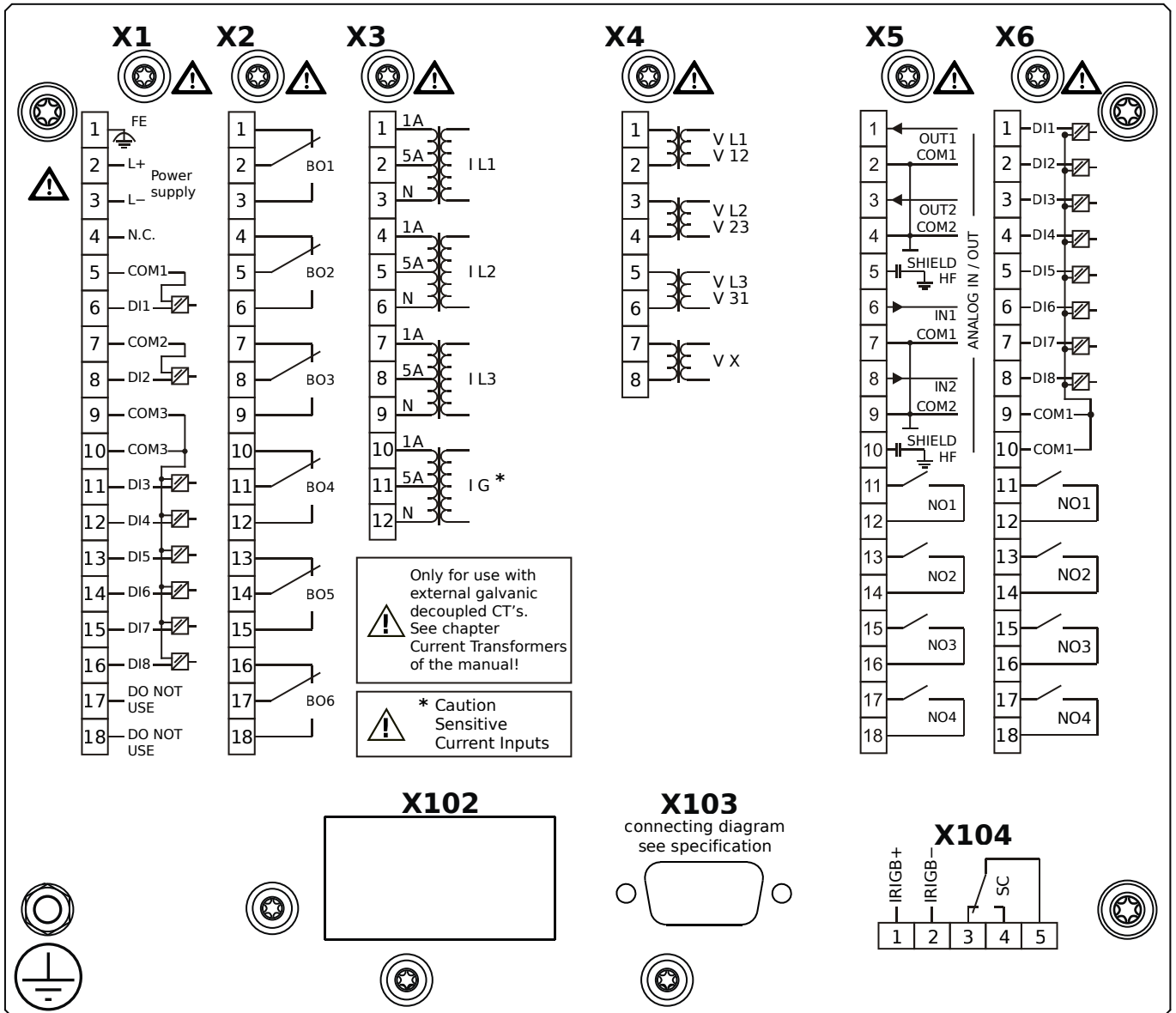**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BDB

X1
1	FE
2	L+ Power
3	L− supply
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2
1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3
1	1A
2	5A / I L1
3	N
4	1A
5	5A / I L2
6	N
7	1A
8	5A / I L3
9	N
10	1A
11	5A / I G *
12	N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5
1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6
1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+	IRIGB−		SC	
1	2	3	4	5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
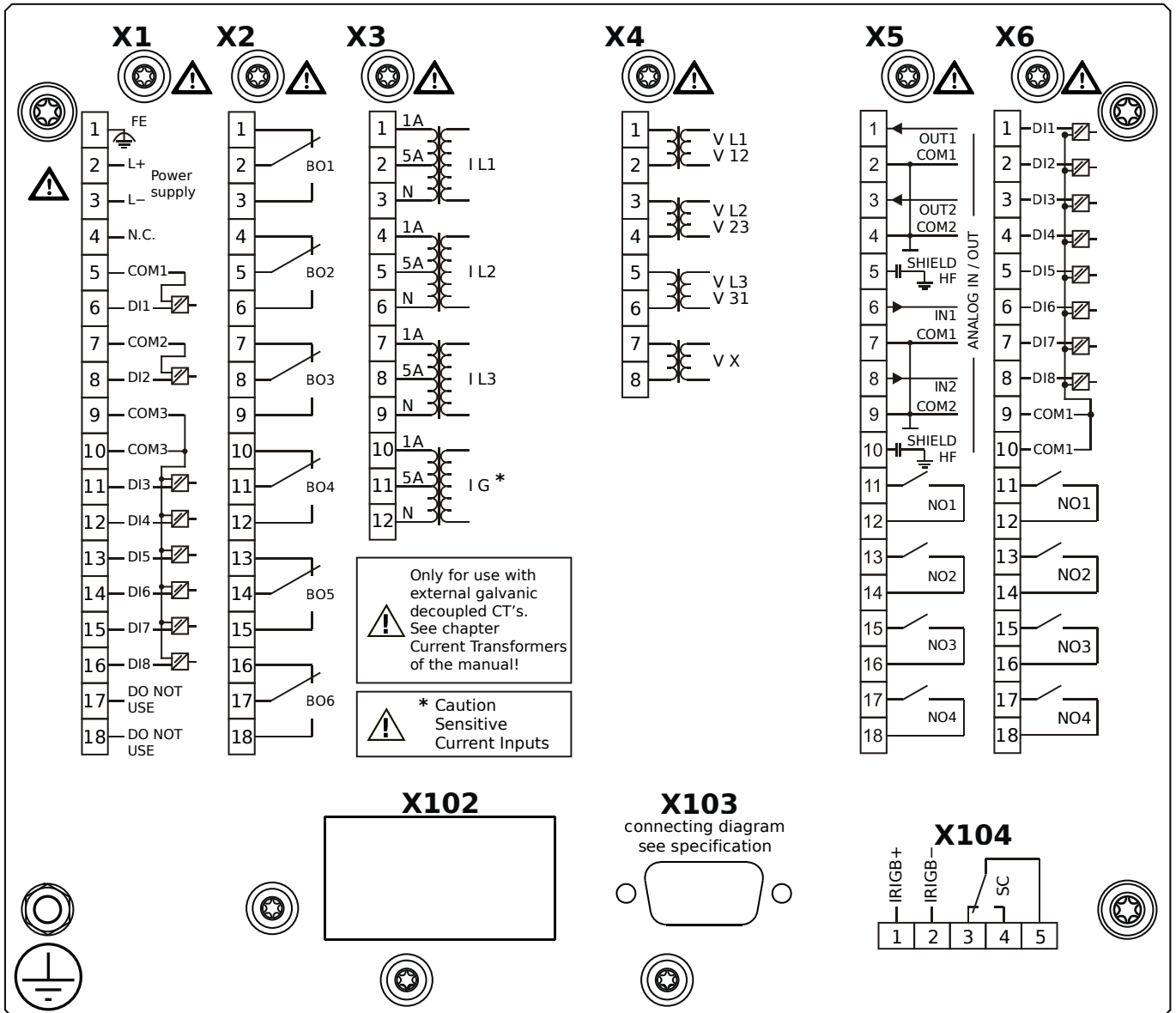
MRA4-2F1BEA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)
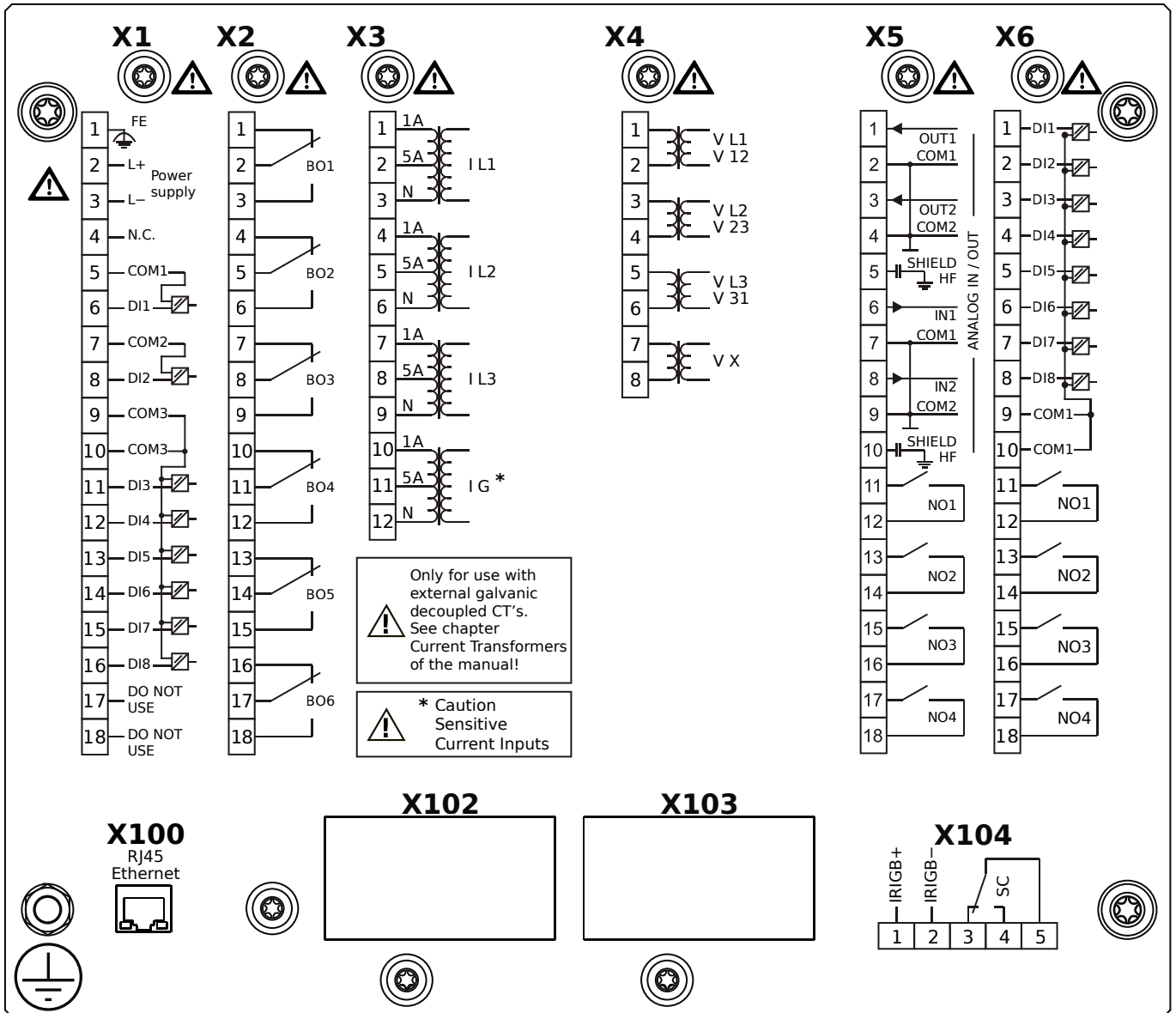
MRA4-2F1BEB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Profibus-DP, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BFA

X1
1 — FE
2 — L+ } Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A } I L1
3 N
4 1A
5 5A } I L2
6 N
7 1A
8 5A } I L3
9 N
10 1A
11 5A } I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1
2 } V L1 V 12
3
4 } V L2 V 23
5
6 } V L3 V 31
7
8 } V X

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
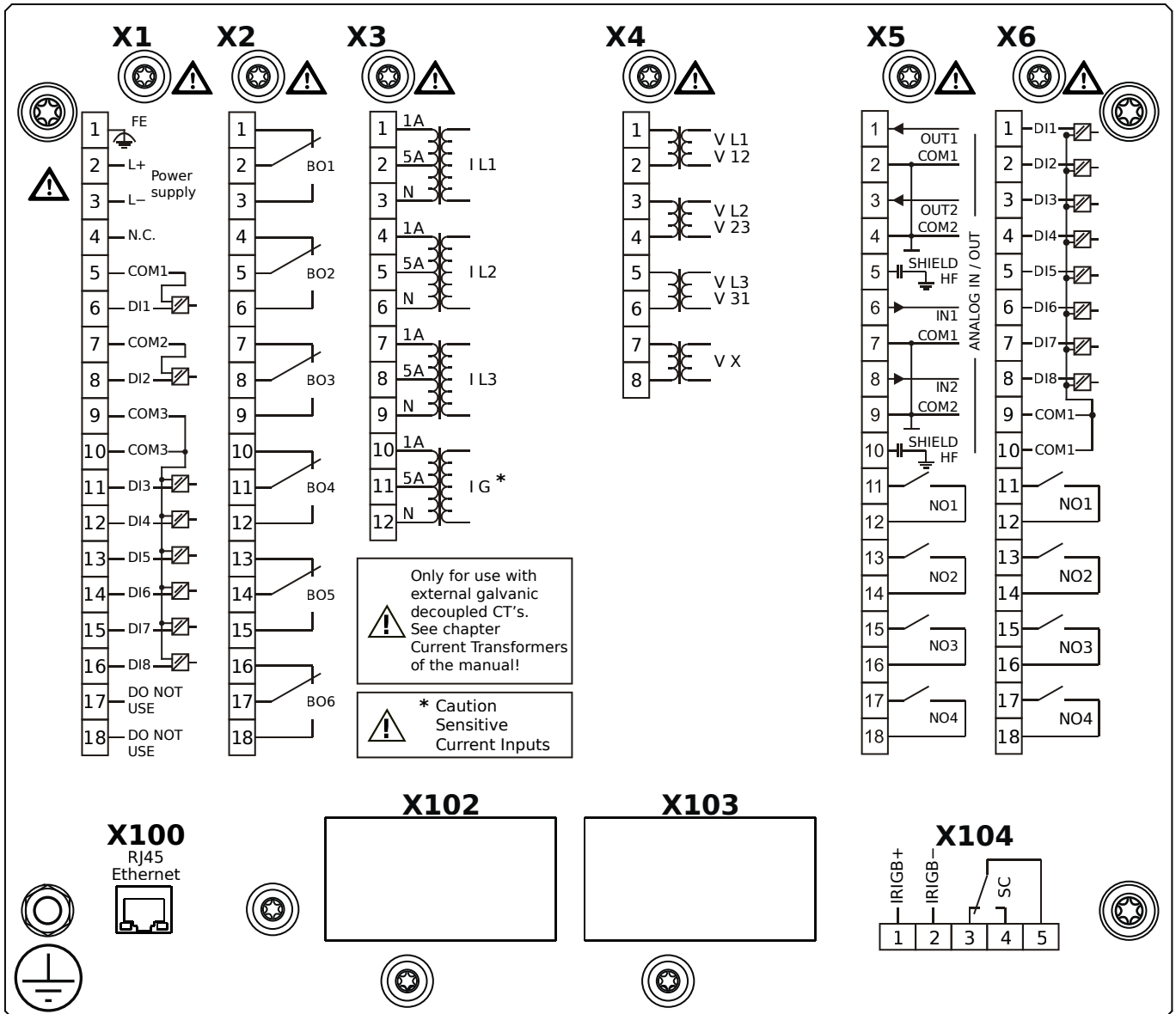RxD   TxD

X104
IRIGB+ IRIGB− SC
1   2   3   4   5

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BFB

X1
1 — FE
2 — L+ Power supply
3 — L−
4 — N.C.
5 — COM1
6 — DI1
7 — COM2
8 — DI2
9 — COM3
10 — COM3
11 — DI3
12 — DI4
13 — DI5
14 — DI6
15 — DI7
16 — DI8
17 — DO NOT USE
18 — DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
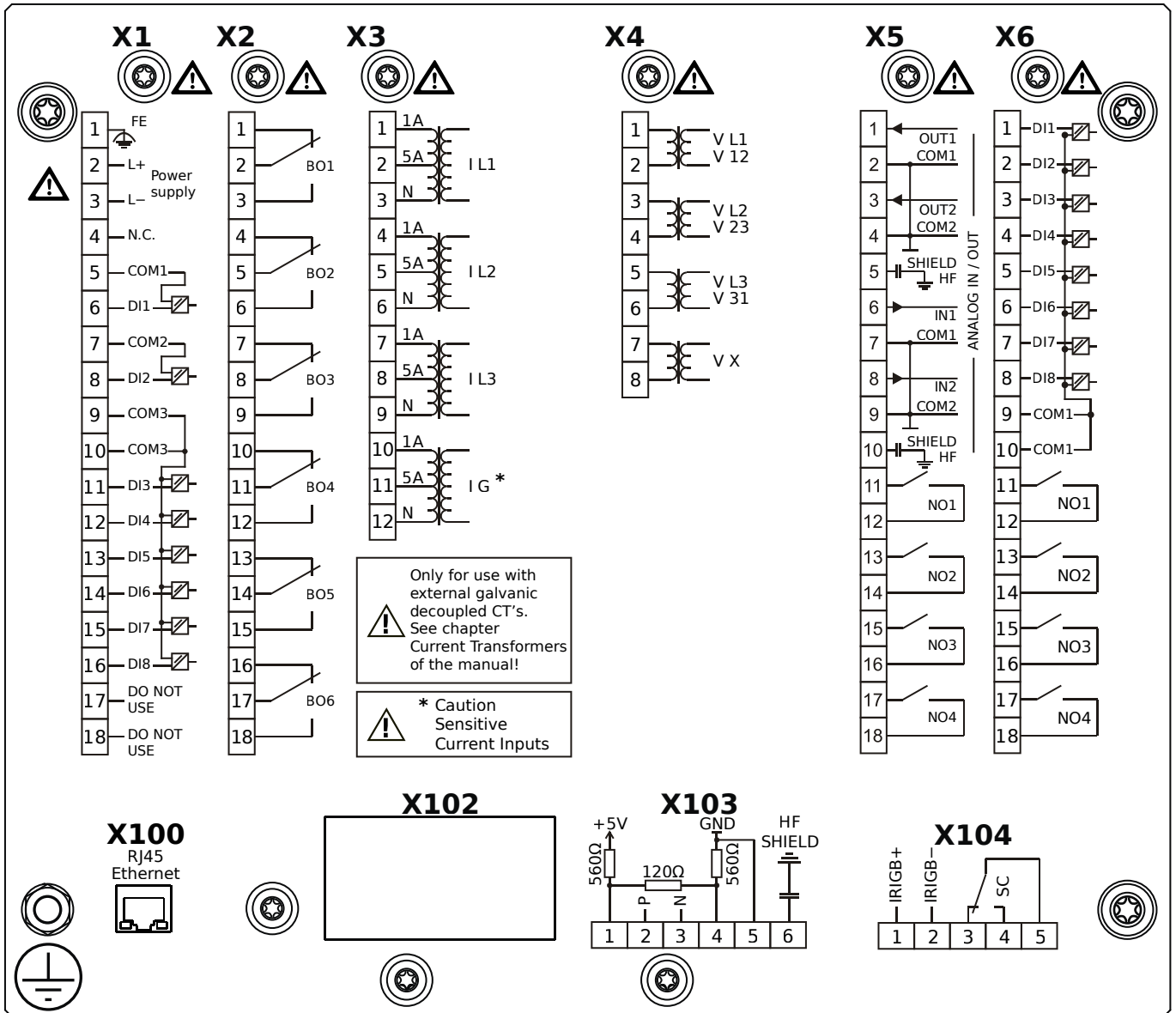**X4** – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, Fiber optics interface, ST Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BGA

X1 — DI8-X1
1 FE
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A I L1
3 N
4 1A
5 5A I L2
6 N
7 1A
8 5A I L3
9 N
10 1A
11 5A I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
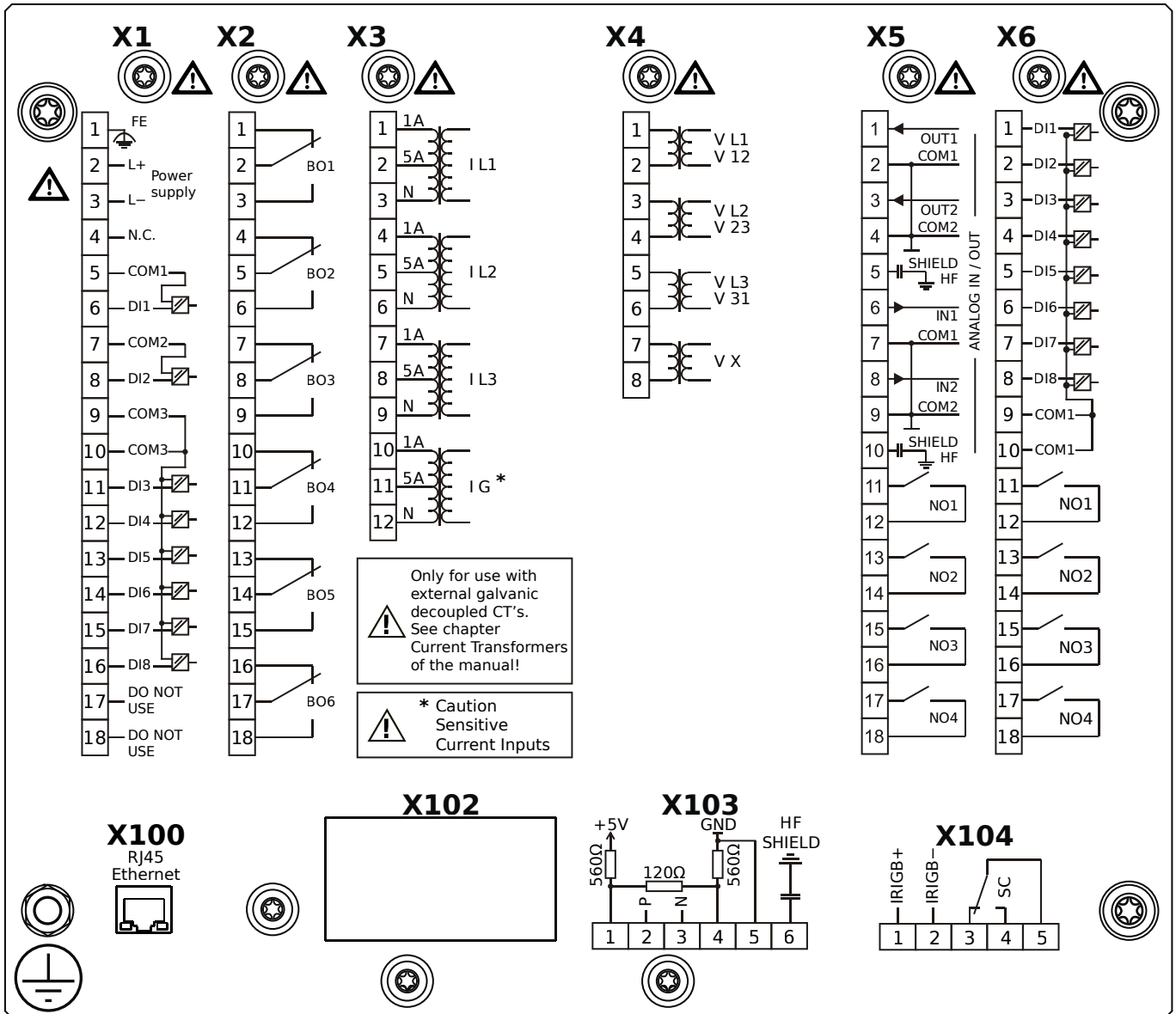connecting diagram see specification

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BGB

X1
1 FE
2 L+ Power supply
3 L−
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A — I L1
3 N
4 1A
5 5A — I L2
6 N
7 1A
8 5A — I L3
9 N
10 1A
11 5A — I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X102

X103
connecting diagram see specification

X104
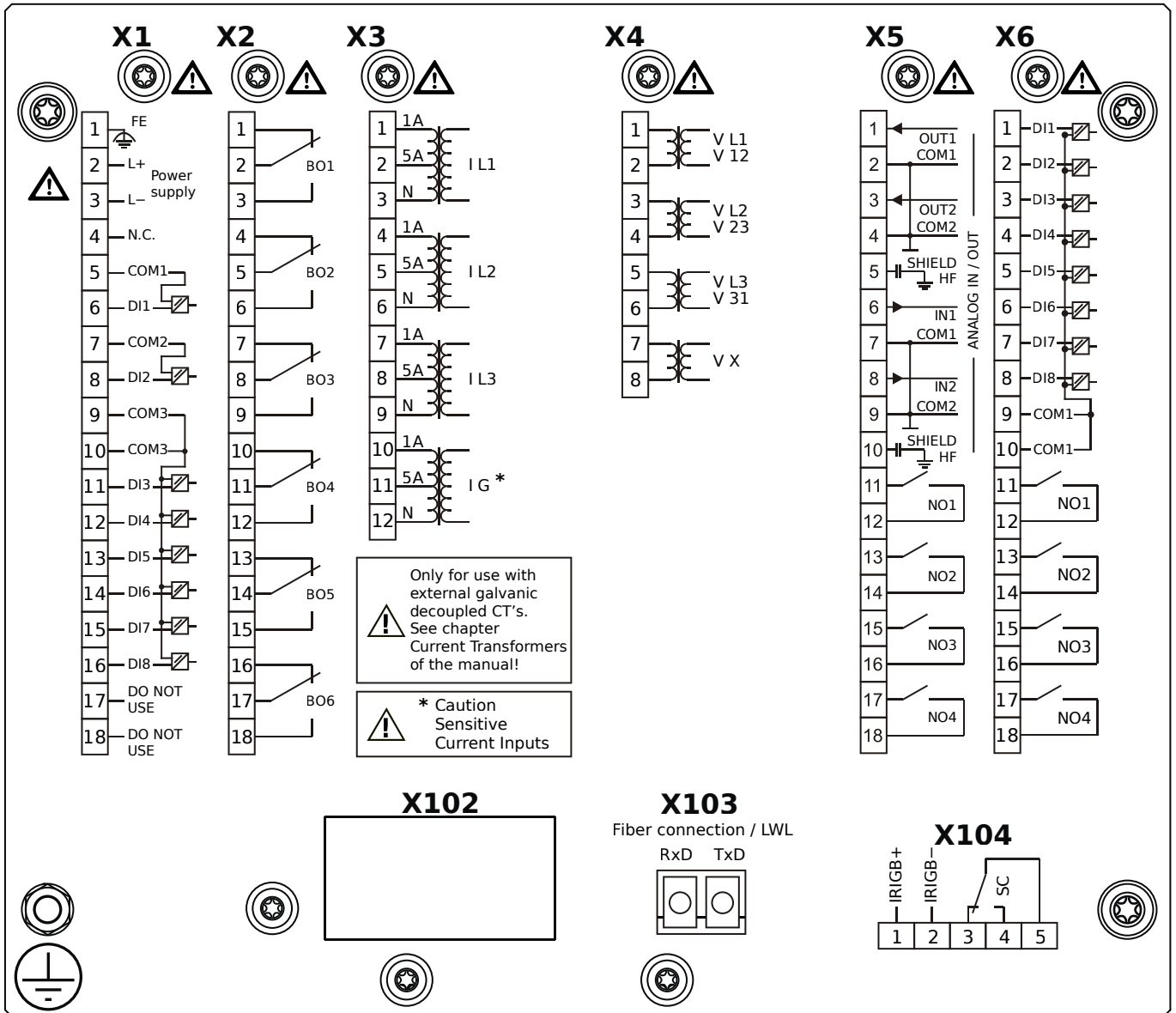IRIGB+ IRIGB− SC
1 2 3 4 5

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus RTU / IEC 60870-5-103 / DNP3.0 RTU, RS485, D-SUB
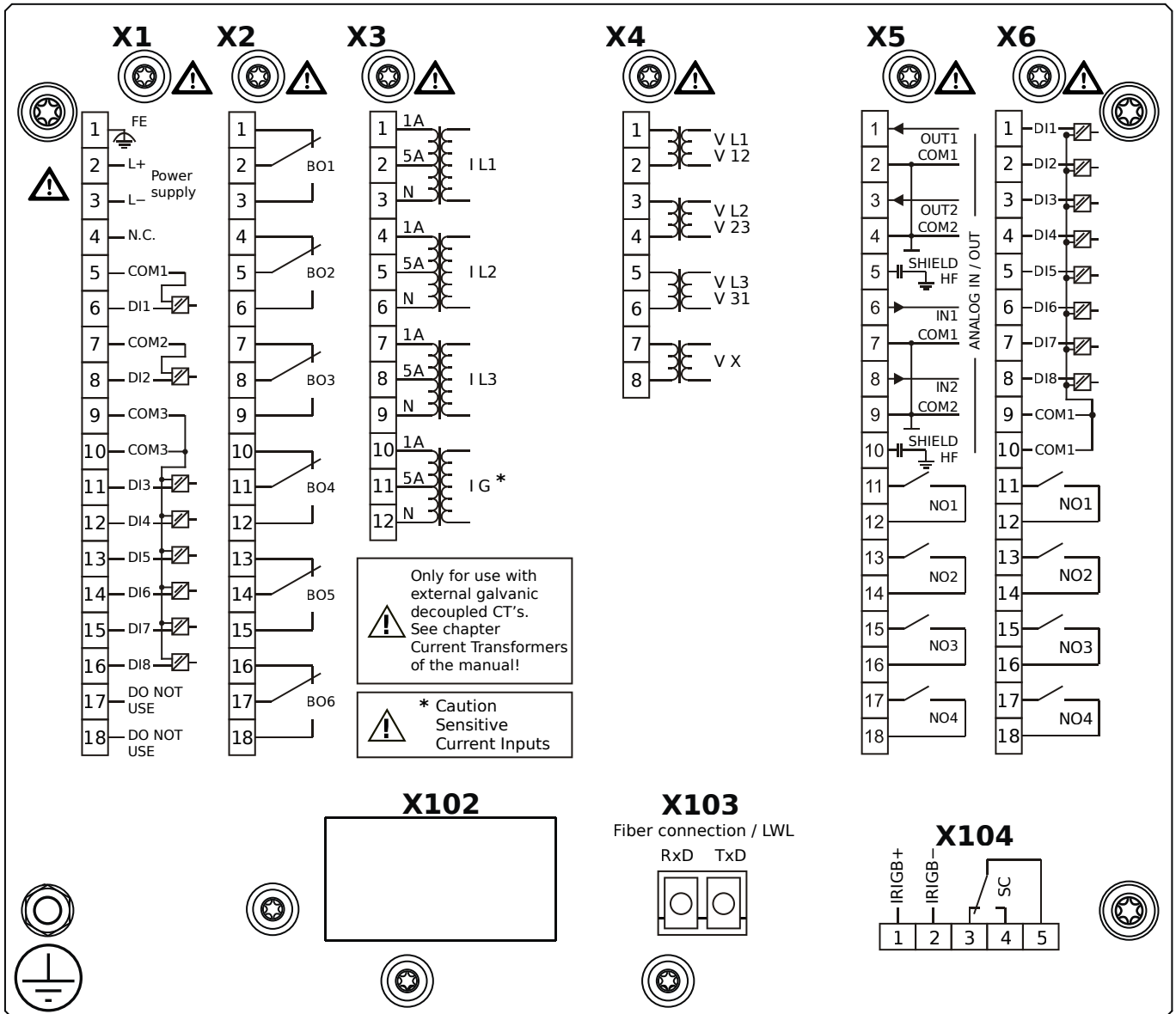**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BHA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BHB

X1
1 FE
2 L+ Power
3 L− supply
4 N.C.
5 COM1
6 DI1
7 COM2
8 DI2
9 COM3
10 COM3
11 DI3
12 DI4
13 DI5
14 DI6
15 DI7
16 DI8
17 DO NOT USE
18 DO NOT USE

X2
1
2 BO1
3
4
5 BO2
6
7
8 BO3
9
10
11 BO4
12
13
14 BO5
15
16
17 BO6
18

X3
1 1A
2 5A   I L1
3 N
4 1A
5 5A   I L2
6 N
7 1A
8 5A   I L3
9 N
10 1A
11 5A   I G *
12 N

Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

* Caution Sensitive Current Inputs

X4
1 V L1
2 V 12
3 V L2
4 V 23
5 V L3
6 V 31
7 V X
8

X5
1 OUT1
2 COM1
3 OUT2
4 COM2
5 SHIELD HF
6 IN1
7 COM1
8 IN2
9 COM2
10 SHIELD HF
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

ANALOG IN / OUT

X6
1 DI1
2 DI2
3 DI3
4 DI4
5 DI5
6 DI6
7 DI7
8 DI8
9 COM1
10 COM1
11 NO1
12
13 NO2
14
15 NO3
16
17 NO4
18

X100
RJ45
Ethernet

X102

X103

X104
IRIGB+ IRIGB− SC
1 2 3 4 5

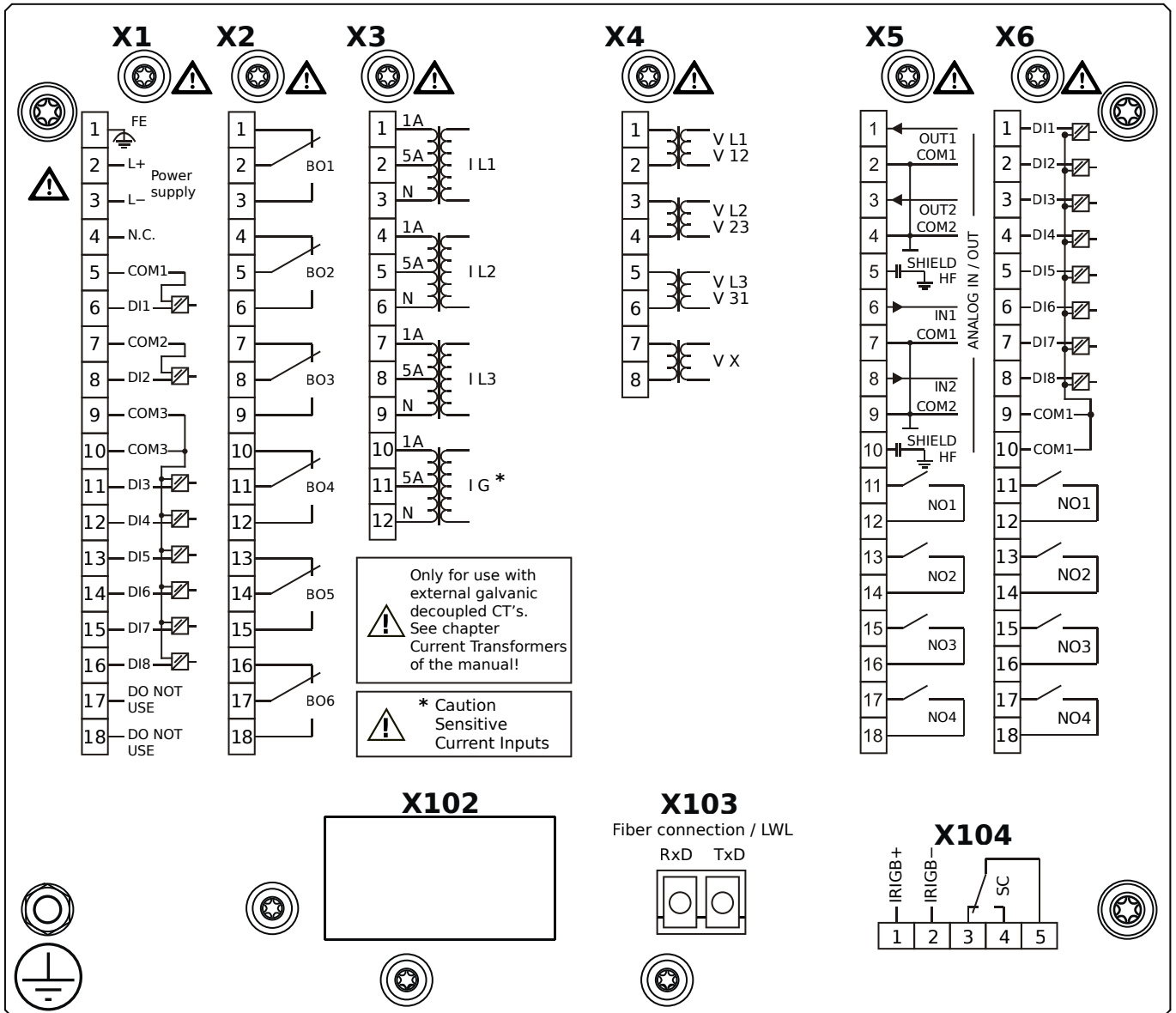**Housing B2, small display, 19" rack mounting**

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BIA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BIB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BKA

X1 — DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs

X2 — OR6: Assembly Group with 6 Output Relays

X3 — TIs: Standard phase current measuring card and sensitive ground current measuring

X4 — TU: Card with 4 voltage transformer measuring inputs

X5 — AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays

X6 — DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays

X103 — IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector

X104 — IRIG-B00X, incl. System Contact (Supervision Contact)

Housing B2, small display, 19" rack mounting
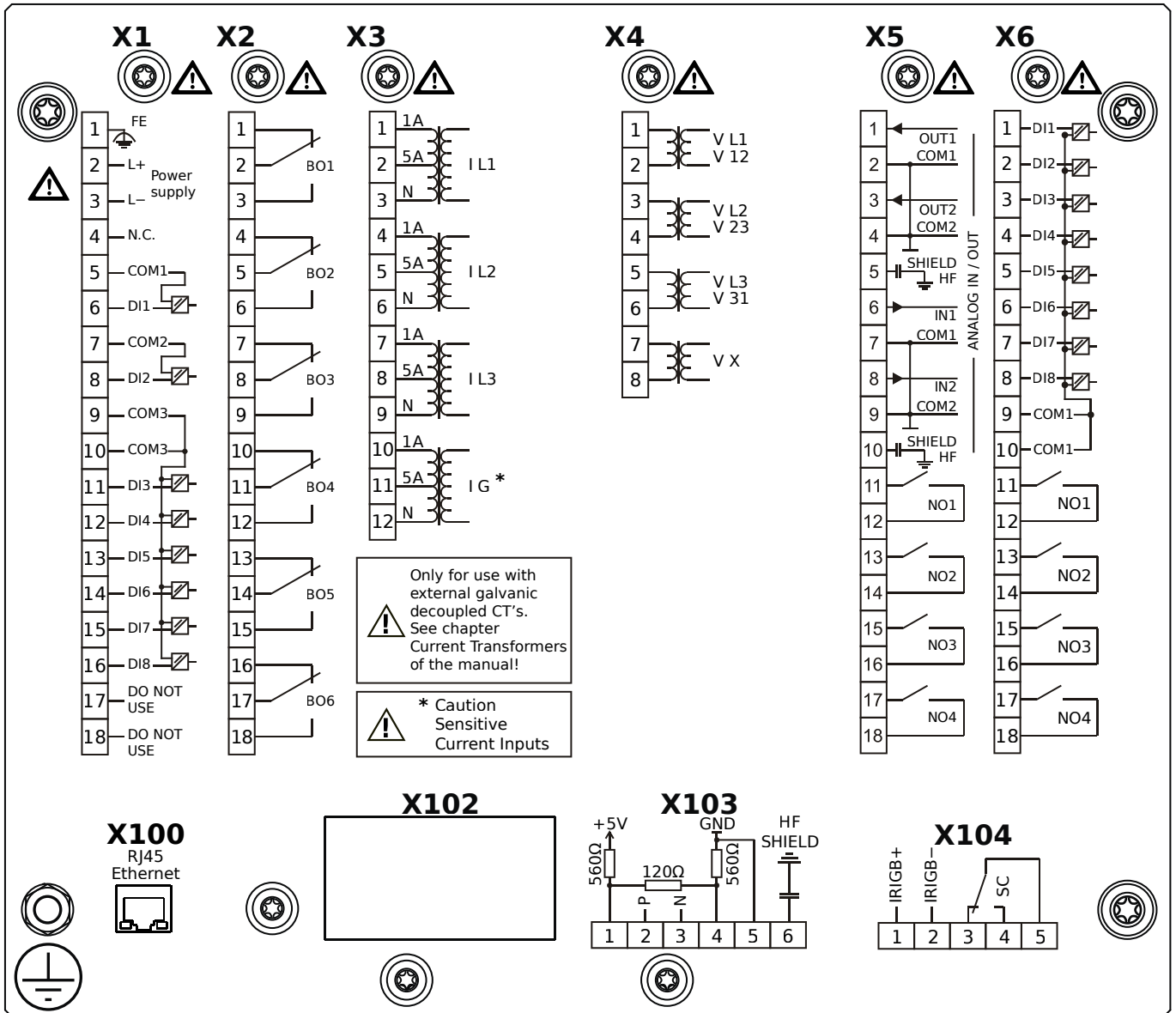
MRA4-2F1BKB

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BLA

Housing B2, small display, 19" rack mounting
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
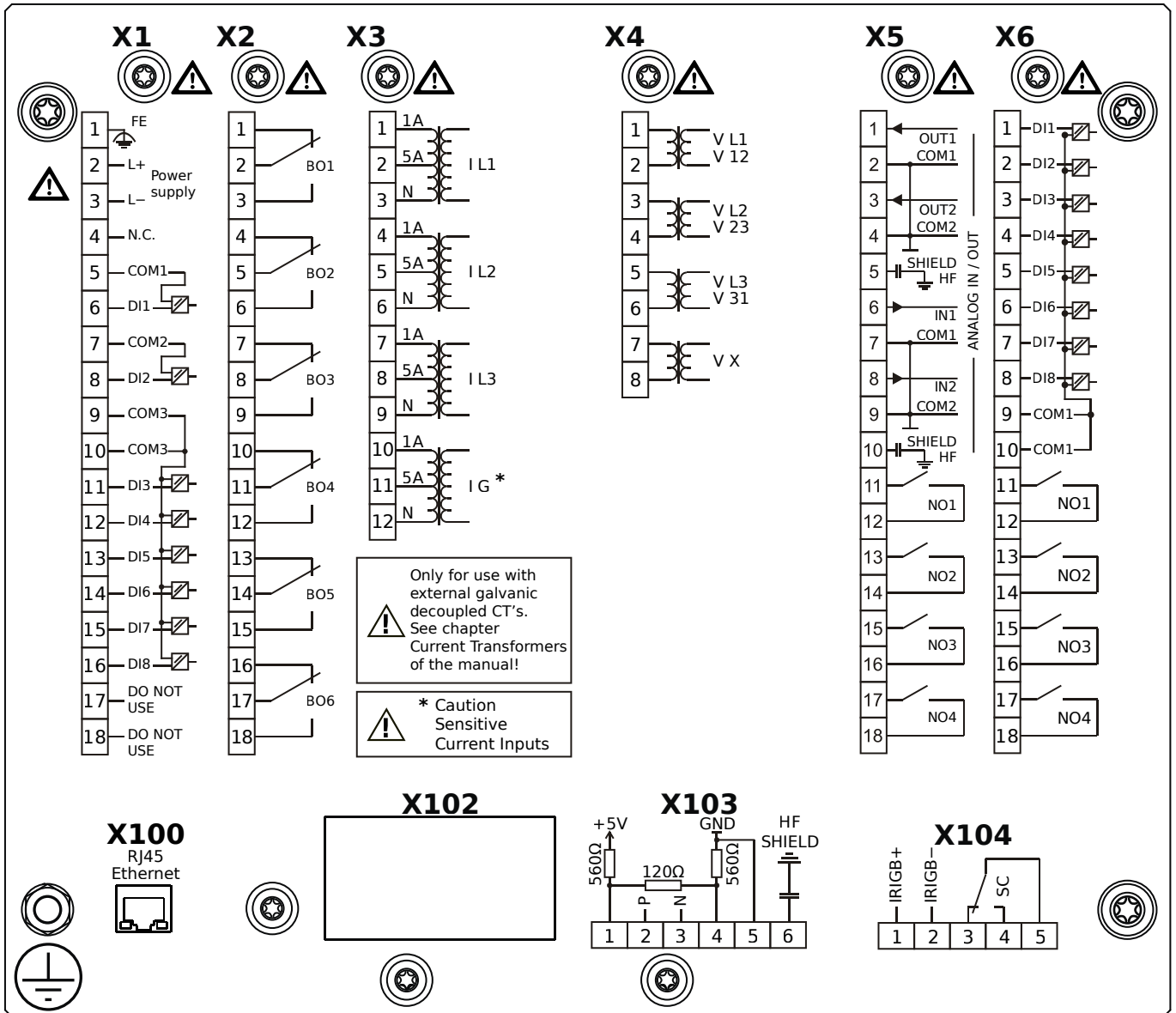**X104** – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BLB

X1

1	FE ⏚
2	L+ — Power supply
3	L–
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	BO1
2	
3	
4	BO2
5	
6	
7	BO3
8	
9	
10	BO4
11	
12	
13	BO5
14	
15	
16	BO6
17	
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

ANALOG IN / OUT

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X102

X103
Fiber connection / LWL
RxD   TxD

X104
IRIGB+ | IRIGB– | SC
| 1 | 2 | 3 | 4 | 5 |

Housing B2, small display, 19" rack mounting

+ Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X103 – Modbus TCP / DNP3.0 TCP/UDP, Fiber optics interface, LC Connector
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BTA

Housing B2, small display, 19" rack mounting

X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

MRA4-2F1BTB

X1

1	FE ⏚
2	L+
3	L− (Power supply)
4	N.C.
5	COM1
6	DI1
7	COM2
8	DI2
9	COM3
10	COM3
11	DI3
12	DI4
13	DI5
14	DI6
15	DI7
16	DI8
17	DO NOT USE
18	DO NOT USE

X2

1	
2	BO1
3	
4	
5	BO2
6	
7	
8	BO3
9	
10	
11	BO4
12	
13	
14	BO5
15	
16	
17	BO6
18	

X3

1	1A
2	5A — I L1
3	N
4	1A
5	5A — I L2
6	N
7	1A
8	5A — I L3
9	N
10	1A
11	5A — I G *
12	N

> ⚠ Only for use with external galvanic decoupled CT's. See chapter Current Transformers of the manual!

> ⚠ * Caution Sensitive Current Inputs

X4

1	V L1
2	V 12
3	V L2
4	V 23
5	V L3
6	V 31
7	V X
8	

X5

1	OUT1
2	COM1
3	OUT2
4	COM2
5	SHIELD HF
6	IN1
7	COM1
8	IN2
9	COM2
10	SHIELD HF
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

(ANALOG IN / OUT)

X6

1	DI1
2	DI2
3	DI3
4	DI4
5	DI5
6	DI6
7	DI7
8	DI8
9	COM1
10	COM1
11	NO1
12	
13	NO2
14	
15	NO3
16	
17	NO4
18	

X100
RJ45 Ethernet

X102

X103

+5V   GND   HF SHIELD
560Ω   120Ω   560Ω

1	2	3	4	5	6
	P	N			

X104

IRIGB+   IRIGB−   SC

1	2	3	4	5

Housing B2, small display, 19" rack mounting

  + Conformal Coating (for installations in harsh environment)
X1 – DI8-X1: Wide-range power supply unit, incl. 2 non-grouped digital inputs and 6 grouped digital inputs
X2 – OR6: Assembly Group with 6 Output Relays
X3 – TIs: Standard phase current measuring card and sensitive ground current measuring
X4 – TU: Card with 4 voltage transformer measuring inputs
X5 – AnIO2-OR4: Assembly Group with 2 Analog Inputs, 2 Analog Outputs and 4 Output Relays
X6 – DI8-OR4: Assembly Group with 8 Digital Inputs and 4 Output Relays
X100 – IEC 61850 / Modbus TCP / DNP3.0 TCP/UDP, Ethernet interface, 100 Mbit/s, RJ45 (BASE100-FX)
X103 – IEC 60870-5-103 / Modbus RTU / DNP3.0 RTU, RS485, Terminals
X104 – IRIG-B00X, incl. System Contact (Supervision Contact)

Appendix – Legend

In this legend designations of various device types are listed, e.g. transformer protection, motor protection, generator protection, etc. Therefore it can occur that not every designation actually appears on the wiring diagram of your device.

FE	– Connection of functional earth (see chapter Grounding in the Technical Manual).
Power Supply	– Connection for auxiliary power supply.
IL1	– Phase current input L1 (in some countries designated as IA).
IL2	– Phase current input L2 (in some countries designated as IB).
IL3	– Phase current input L3 (in some countries designated as IC).
IG	– Earth current input.
IL1 W1 ... IL3 W1	– Phase current input L1...L3, winding side 1.
IL1 W2 ... IL3 W2	– Phase current input L1...L3, winding side 2.
IG W1, IG W2	– Earth current input, winding side 1 / 2.
VL1	– Phase-to-neutral voltage L1 (in some countries designated as VA).
VL2	– Phase-to-neutral voltage L2 (in some countries designated as VB).
VL3	– Phase-to-neutral voltage L3 (in some countries designated as VC).
VL12	– Phase-to-phase voltage V12 (in some countries designated as VAB).
VL23	– Phase-to-phase voltage V23 (in some countries designated as VBC).
VL31	– Phase-to-phase voltage V31 (in some countries designated as VCA).
VX	– 4th voltage measuring input for measuring residual voltage or synchro-check.
BO	– Binary output relay.
NO / NC	– Contact output, normally open (Form A) / closed (Form B).
DI	– Digital input.
COM	– Common connection of digital inputs.
Out+, AnOut	– Analog output + (0/4...20 mA or 0...10 V).
In−, AnIn	– Analog input + (0/4...20 mA or 0...10 V).
n.c.	– Not connected.
DO NOT USE	– Do not use. (Caution: Non-usable internal wiring may exist.)
SC	– Self-supervision contact.
HF SHIELD	– Connection cable shield.
Fiber Optics / LWL	– Fiber optic connection.

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WIRING DIAGRAMS | MRA4