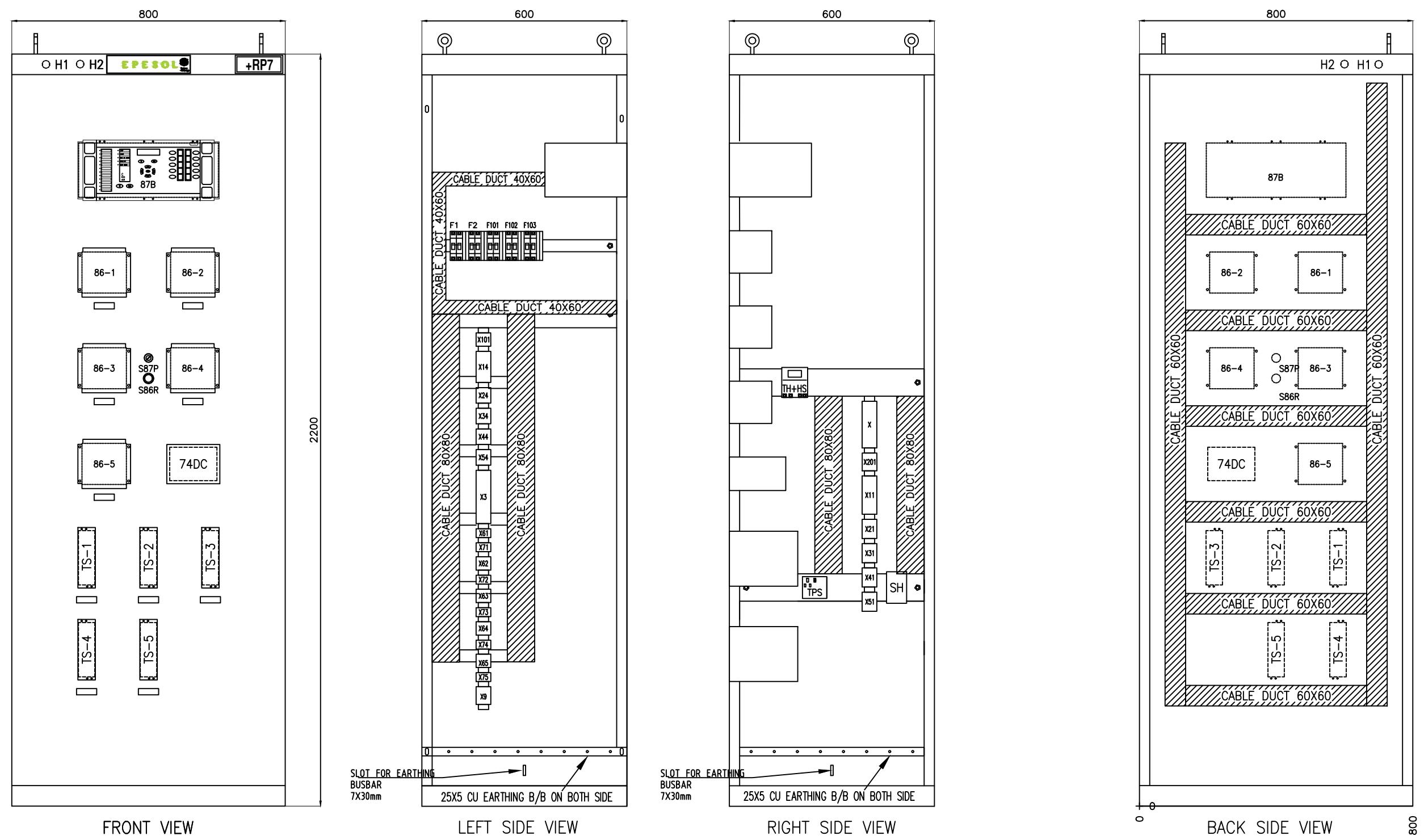
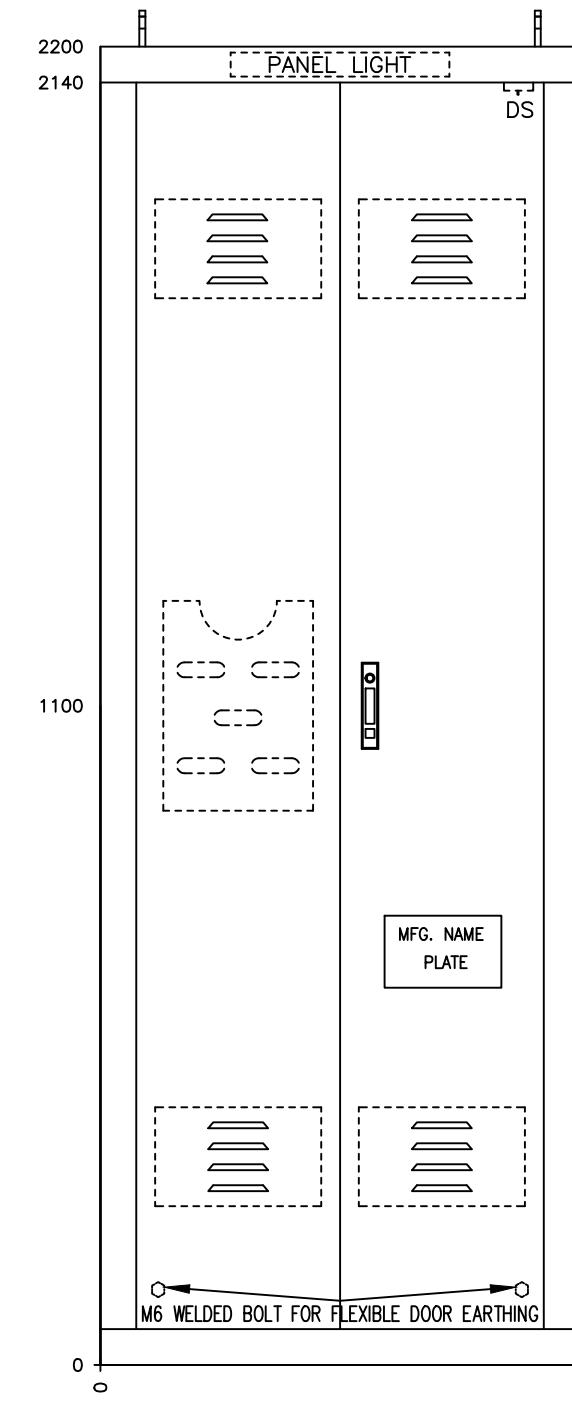


LAYOUT DRAWING OF 132kV BUSBAR & BREAKER FAILURE PROTECTION PANEL TYPE =E00+RP7

APPROVED	CHECKED	DRAWN	PROJECT:  DESCN P0#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: COVER SHEET 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1435	SHT: 01 OF 03
NAH	AMR	MUR				DATE: 15.02.2019 AS BUILT	REV: 0



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7 LAYOUT DIAGRAM	EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1435	SHT: 02 OF 03
NAH	AMR	MUR				DATE: 15.02.2019 AS BUILT	REV: 0



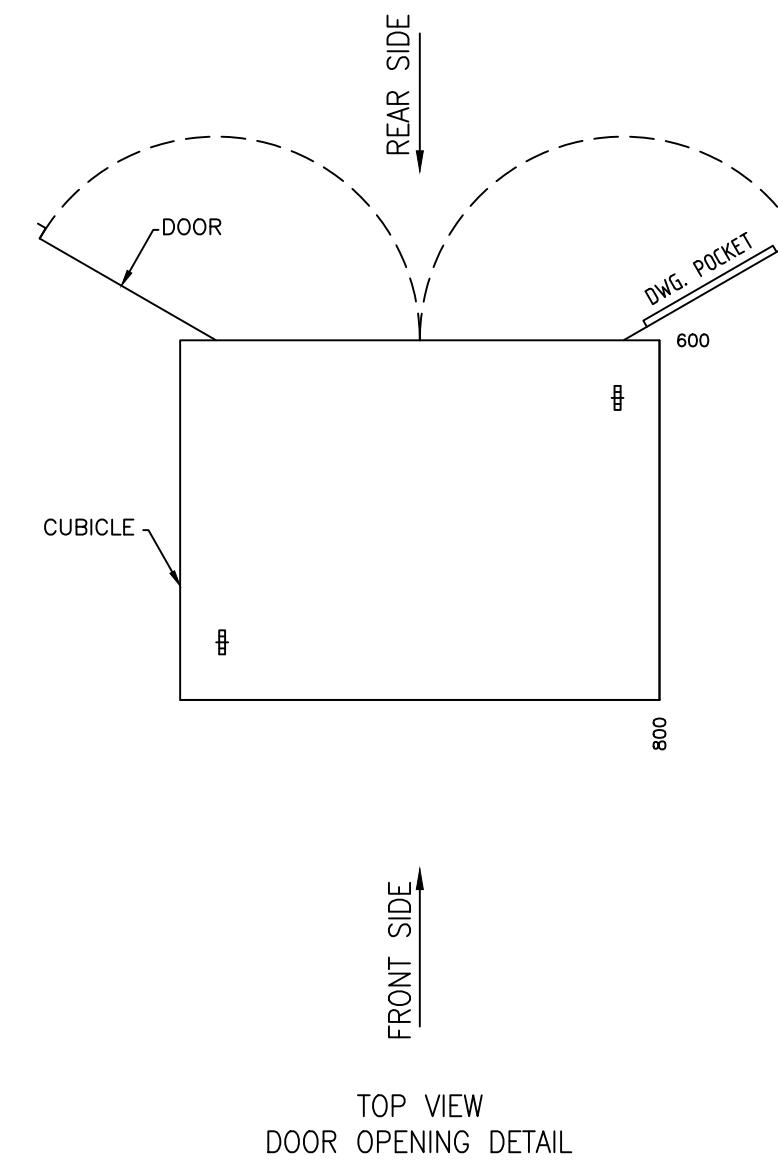
PANEL LIGHT

40

DS

MFG. NAME
PLATE

M6 WELDED BOLT FOR FLEXIBLE DOOR EARTHING



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: LAYOUT DIAGRAM 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1435	SHT: 03 OF 03
NAH	AMR	MUR				DATE: 15.02.2019 AS BUILT	REV: 0

LIST OF APPARATUS

132kV BUSBAR & BREAKER FAILURE

PROTECTION PANEL

TYPE =E00+RP7

APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: COVER SHEET 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1436	SHT: 01 OF 03
NAH	AMR	MUR				DATE: 15.02.2019 AS BUILT	REV: 0

		1	2	3	4	5	6	7	8	
SR. #	ITEM DESIGNATION	DESCRIPTION			QTY	TYPE	MAKE	COUNTRY OF ORIGIN	ORDERING INFORMATION	SHEET NO
A	1	87B	LOW IMPENDENCE BUSBAR DIFFERENTIAL & BREAKER FAILURE PROTECTION RELAY	1	P746	GE	UK	P74681KK6M0120M	27	
	2	86-1 TO 86-5	TRIP RELAY HAND AND ELECTRICAL RESET, 16 C/O CONTACTS, HIGH BURDEN 110VDC	5	BI-16RP	ARTECHE	SPAIN	BI-16RPHB 110VDC	16	
B	3	TS-1 TO TS-5	TEST BLOCK (14 FINGERS)	5	saTECH TSB 14	ARTECHE	SPAIN	1111111111AAAB-V	29	
	4	F1, F2	DC MCB, 2 POLE, 10A, WITH TWO C/O CONTACTS, 10kA	2	EP100	GE	HUNGARY	EP102UCC10+CAH(2)	08, 09	
C	5	F101, F102	AC MCB, 2 POLE, 10A, WITH TWO C/O CONTACTS, 10kA	2	G60	GE	HUNGARY	G62C10+CAH(2)	25	
	6	F103	AC MCB, 2 POLE, 10A, WITH TWO C/O CONTACTS, 10kA	1	DM100	GE	HUNGARY	DM100C16/030+CAH(2)	25	
D	7	74DC	DC SUPPLY SUPERVISION RELAY	1	TS-101	ELABS	PAKISTAN	TS101, 110VDC	16	
	8	TH+HS	THERMOSTAT AND HUMIDSTAT	1	ELH-220	E-LABS	PAKISTAN	ELH-220	26	
E	9	SH	SPACE HEATER	1	ELH-220	E-LABS	PAKISTAN	ELH-220	26	
	10	DS	DOOR SWITCH AND COVER	1	YSP+YSMS	YONGSUNG	SOUTH KOREA	YSP3315 GWB + YSMS-C	26	
F	11	IL	CUBICLE LIGHTING , 5W, 260 VAC	1	YST8-35	YONGSUNG	SOUTH KOREA	YS T8-35-5W	26	
	12	TPS	240 VAC, 16A, THREE PIN SOCKET OUTLET	1		LEAR	CHINA		26	
G	13	H1, H2	INDICATION LAMP RED	1	YSPL	YONGSUNG	SOUTH KOREA	YSPL2-DL12 RW	09	
	14	S87P	KEY OPERATED SWITCH FOR BUSBAR PROTECTION IN/OUT CONTROL	1	YSAK	YONGSUNG	SOUTH KOREA	YSAK2210D	15	
H	15	S86R	RESET PUSHBUTTON FOR TRIP RESET	1	YSAP1	YONGSUNG	SOUTH KOREA	YSAP12-40YDW	16	
	16	X11	DISCONNECTING TERMINAL BLOCK (SCREW TYPE) FOR CT CIRCUIT	14	SCB-6	CABUR	ITALY		26	
I	17	X21	DISCONNECTING TERMINAL BLOCK (SCREW TYPE) FOR CT CIRCUIT	7	SCB-6	CABUR	ITALY		26	
	18	X31	DISCONNECTING TERMINAL BLOCK (SCREW TYPE) FOR CT CIRCUIT	7	SCB-6	CABUR	ITALY		26	
J	19	X41	DISCONNECTING TERMINAL BLOCK (SCREW TYPE) FOR CT CIRCUIT	7	SCB-6	CABUR	ITALY		26	
	20	X51	DISCONNECTING TERMINAL BLOCK (SCREW TYPE) FOR CT CIRCUIT	7	SCB-6	CABUR	ITALY		26	
K	21	X101	TERMINAL BLOCKS FOR DC SUPPLY	6	CBD-4	CABUR	ITALY		26	
APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: LIST OF APPARATUS 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7		EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1436	SHT: 02 OF 03		
NAH	AMR	MUR					DATE: 15.02.2019	AS BUILT	REV: 0	

			1	2	3	4	5	6	7	8
SR. #	ITEM DESIGNATION	DESCRIPTION		QTY	TYPE	MAKE	COUNTRY OF ORIGIN	ORDERING INFORMATION		SHEET NO
A 22	X201	TERMINAL BLOCKS FOR AC SUPPLY		8	CBD-4	CABUR	ITALY			
A 23	X14	TERMINAL BLOCKS FOR =E01 BINARY INPUTS		14	CBD-4	CABUR	ITALY			
B 24	X24	TERMINAL BLOCKS FOR =E02 BINARY INPUTS		7	CBD-4	CABUR	ITALY			
B 25	X34	TERMINAL BLOCKS FOR =E03 BINARY INPUTS		7	CBD-4	CABUR	ITALY			
B 26	X44	TERMINAL BLOCKS FOR =E04 BINARY INPUTS		7	CBD-4	CABUR	ITALY			
B 27	X54	TERMINAL BLOCKS FOR =E05 BINARY INPUTS		7	CBD-4	CABUR	ITALY			
c 28	X3	TERMINAL BLOCK FOR BFI INITIALIZATION & CB CLOSE BLOCK		24	CBD-4	CABUR	ITALY			
c 29	X61	TERMINAL BLOCK FOR =E01 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
c 30	X71	TERMINAL BLOCK FOR =E01 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
c 31	X62	TERMINAL BLOCK FOR =E02 TRIP CIRCUITS		6	CBD-4	CABUR	ITALY			
c 32	X72	TERMINAL BLOCK FOR =E02 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
d 33	X63	TERMINAL BLOCK FOR =E03 TRIP CIRCUITS		6	CBD-4	CABUR	ITALY			
d 34	X73	TERMINAL BLOCK FOR =E03 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
d 35	X64	TERMINAL BLOCK FOR =E04 TRIP CIRCUITS		6	CBD-4	CABUR	ITALY			
d 36	X74	TERMINAL BLOCK FOR =E04 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
e 37	X65	TERMINAL BLOCK FOR =E05 TRIP CIRCUITS		6	CBD-4	CABUR	ITALY			
e 38	X75	TERMINAL BLOCK FOR =E05 TRIP CIRCUITS		4	CBD-4	CABUR	ITALY			
e 39	X9	TERMINAL BLOCK FOR ANNUNCIATION SIGNALS		9	CBD-4	CABUR	ITALY			
f 40	X	TERMINAL BLOCK SPARE		21	CBD-4	CABUR	ITALY			
APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: LIST OF APPARATUS 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	E P E S O L P v t . L t d. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1436	SHT: 03 OF 03			
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT	REV: 0		

SCHEMATIC DIAGRAMS

132kV BUSBAR & BREAKER FAILURE

PROTECTION PANEL

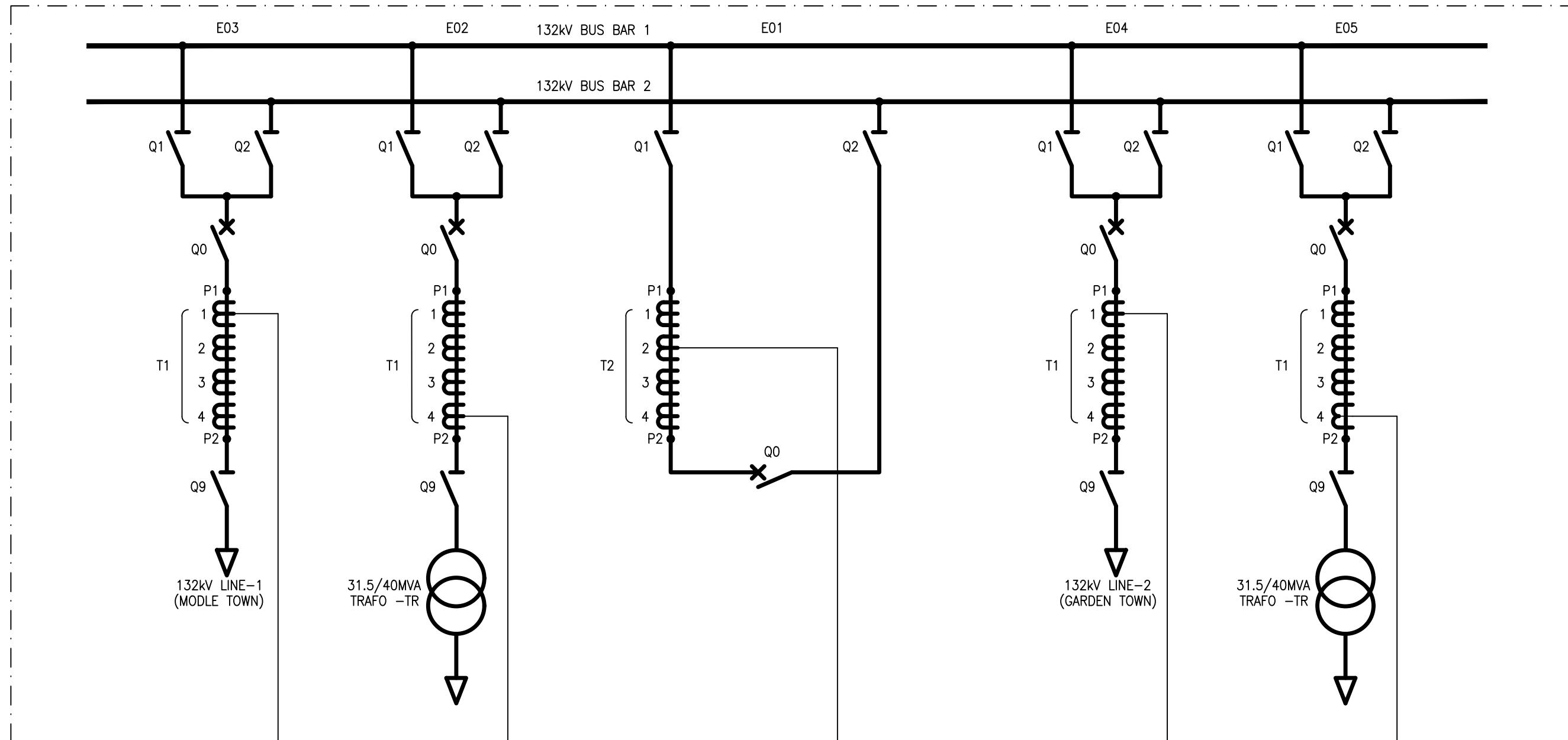
TYPE =E00+RP7

APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	COVER SHEET	DWG# EPE/ENU-18/P1437	SHT: 01 OF 28
NAH	AMR	MUR			 EPESOL Pvt Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 20.10.2018 AS BUILT	REV: 0

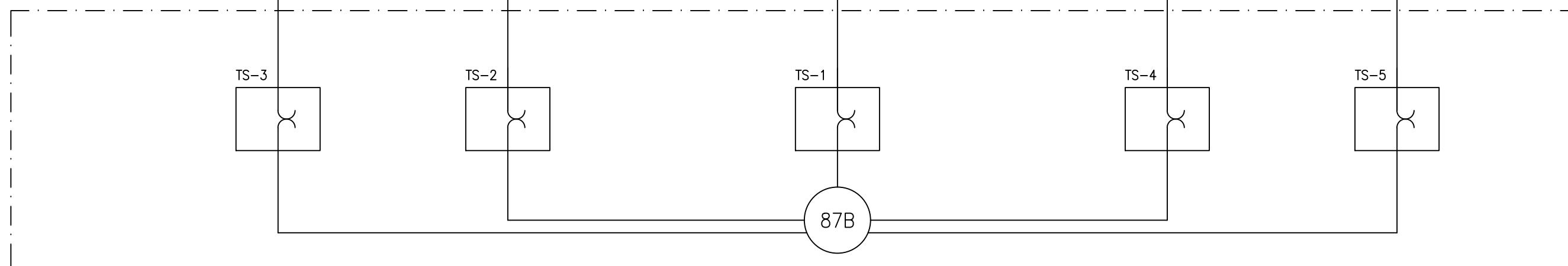
DESCRIPTION	SHEET NO	DESCRIPTION	SHEET NO
COVER SHEET	01	PROTECTION TRIP CIRCUITS	16
LIST OF CONTENTS	02	=E01 TRIP CIRCUITS	17
LIST OF SYMBOLS	03	=E02 TRIP CIRCUITS	18
SINGLE LINE DIAGRAM	04	=E03 TRIP CIRCUITS	19
CT INPUT FOR =E01	05	=E04 TRIP CIRCUITS	20
CT INPUT FOR =E02 & =E03	06	=E05 TRIP CIRCUITS	21
CT INPUT FOR =E04 & =E05	07	DTT TRIP CIRCUITS	22
PROTECTION RELAY DC SUPPLY	08	CB CLOSE BLOCK CIRCUITS	23
AC/DC SUPPLY FAILURE CIRCUIT	09	ANNUNCIATION SIGNALS	24
=E01 BINARY INPUTS	10	AC SUPPLY DISTRIBUTION	25
=E02 BINARY INPUTS	11	DEVICE DETAILS FOR 87B	26
=E03 BINARY INPUTS	12	DEVICE DETAILS FOR 74DC	27
=E04 BINARY INPUTS	13	DEVICE DETAILS FOR TS-X	28
=E05 BINARY INPUTS	14		
BREAKER FAILURE INITIALIZATION CIRCUIT	15		

LIST OF SYMBOLS			
	HV DISCONNECTOR		COIL
	HV CIRCUIT BREAKER		EQUIPMENT WITHIN PANEL
	CURRENT TRANSFORMER		INDEPENDENT PANEL
	VOLTAGE TRANSFORMER		INDEPENDENT PANEL
	132/22 kV POWER TRANSFORMER	87B	BUSBAR DIFFERENTIAL RELAY
	RELAY PANEL TERMINAL BLOCK	TS-X	TEST BLOCK
	CONTROL PANEL TERMINAL BLOCK	86-X	TRIP RELAY SELF RESET
	EARTH CONNECTION	74DC	DC SUPERVISION RELAY
	TEST BLOCK TERMINAL	X	TERMINAL BLOCK FOR ALARMS
	NORMALLY CLOSED CONTACT		DISCONNECTING TERMINAL BLOCK (SCREW TYPE) WITH SLIDING LINK
	NORMALLY OPEN CONTACT		MOTORIZED CIRCUIT BREAKER
	CHANGE OVER CONTACT		
	MINIATURE CIRCUIT BREAKER		
	INDICATING BULB/LED/CUBICLE LIGHT		
	220V SOCKET		
	SPACE HEATER		
	DIODE		

132KV GIS



+RP7

NOTE:

THIS GIS PART OF THE DRAWING HAS BEEN INCLUDED
FOR CONCEPTUAL UNDERSTANDING OF THE AC SCHEME.

APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: SINGLE LINE DIAGRAM 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPESOL Pvt Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 04 OF 28
NAH	AMR	MUR				DATE: 20.10.2018 AS BUILT	REV: 0

1 2 3 4 5 6 7 8

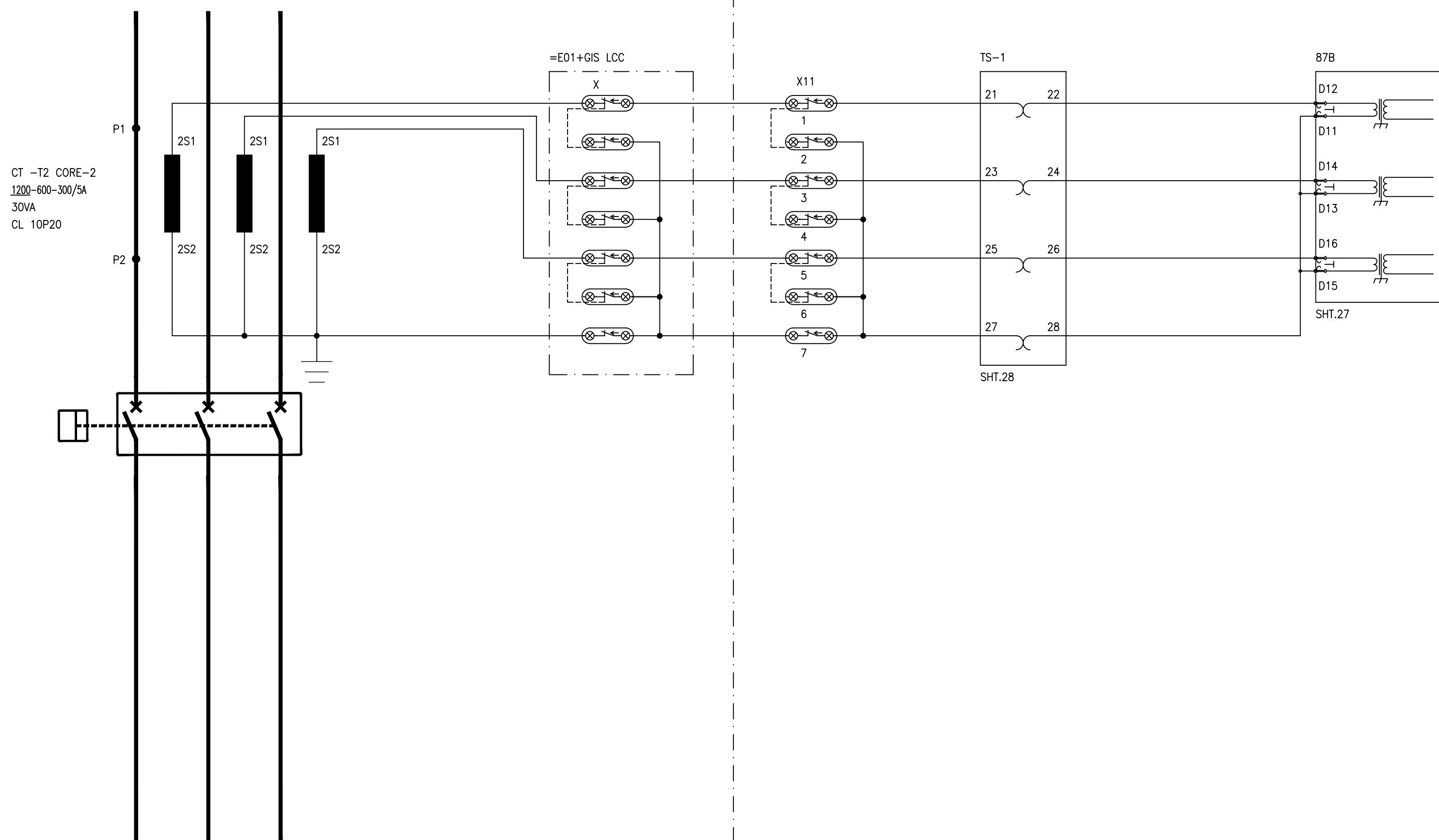
132KV GIS HALL

=E01

R

Y

B



R

Y

B

PROJECT:

DESCON PO#45000100989
DATED 06.03.2018

PROCUREMENT OF 132KV RELAY, CONTROL PANELS

TITLE:

CT INPUT FOR =E01
132KV BB & BF PROTECTION PANEL TYPE =E00+RP7E P E S O L P v t . L t d .
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/P1437 SHT: 05 OF 28

DATE: 20.10.2018 AS BUILT REV: 0

APPROVED	CHECKED	DRAWN
NAH	AMR	MUR

1

1

2

3

4

5

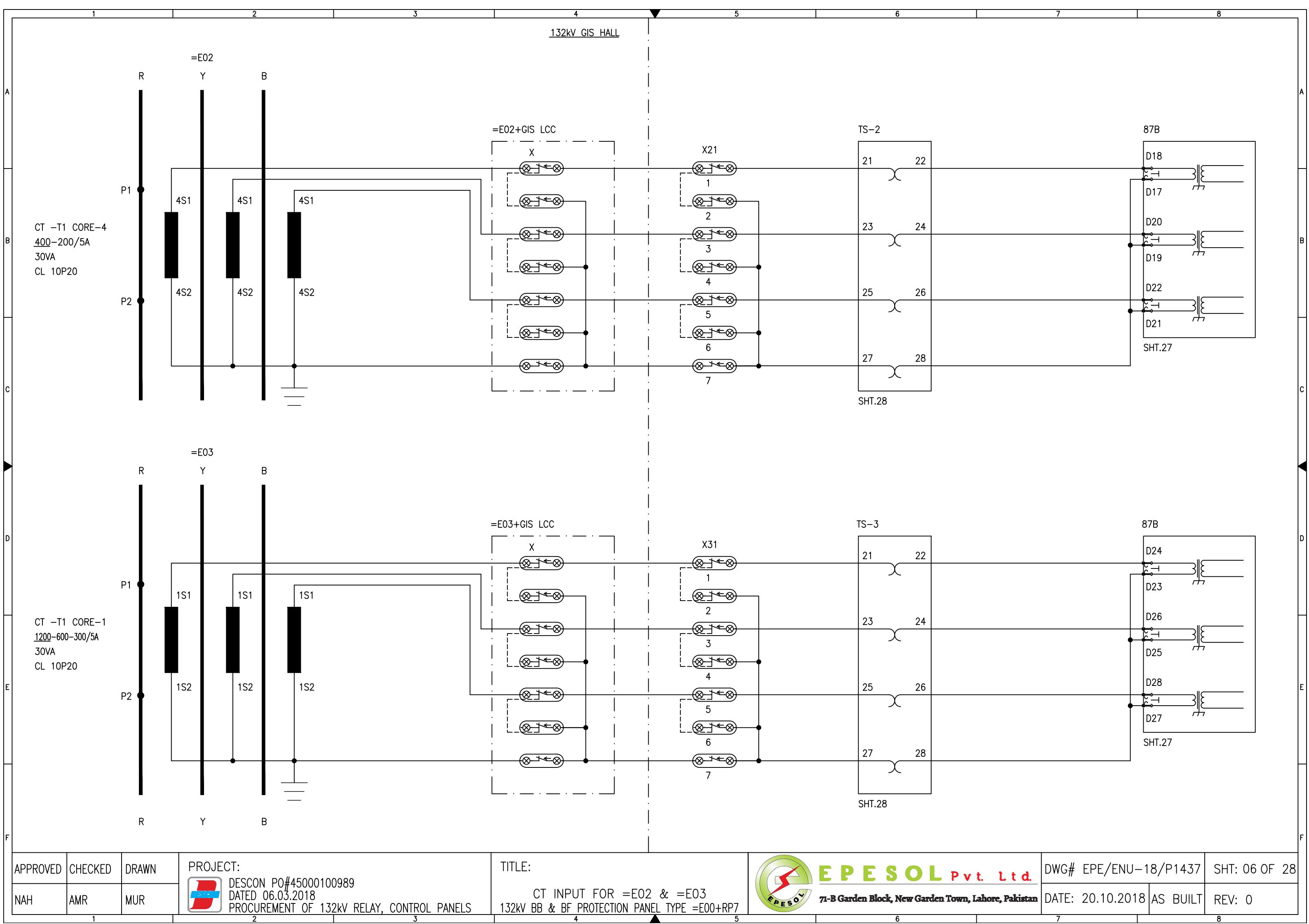
6

7

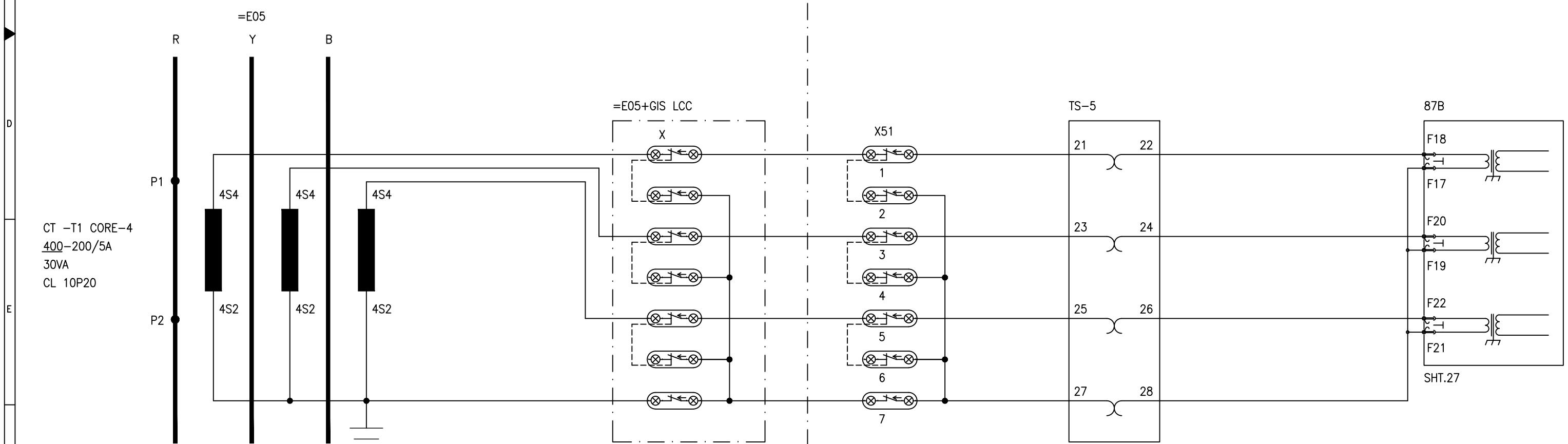
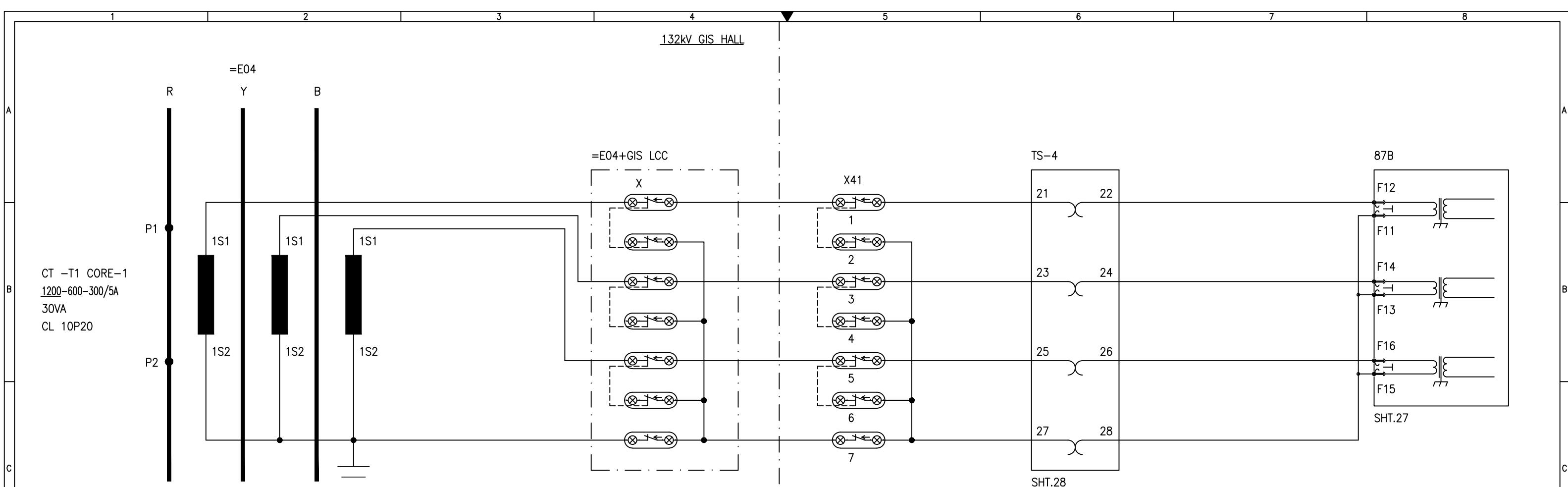
8

9

10



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: CT INPUT FOR =E02 & =E03 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	DWG# EPE/ENU-18/P1437	SHT: 06 OF 28
NAH	AMR	MUR			EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 20.10.2018 AS BUILT REV: 0

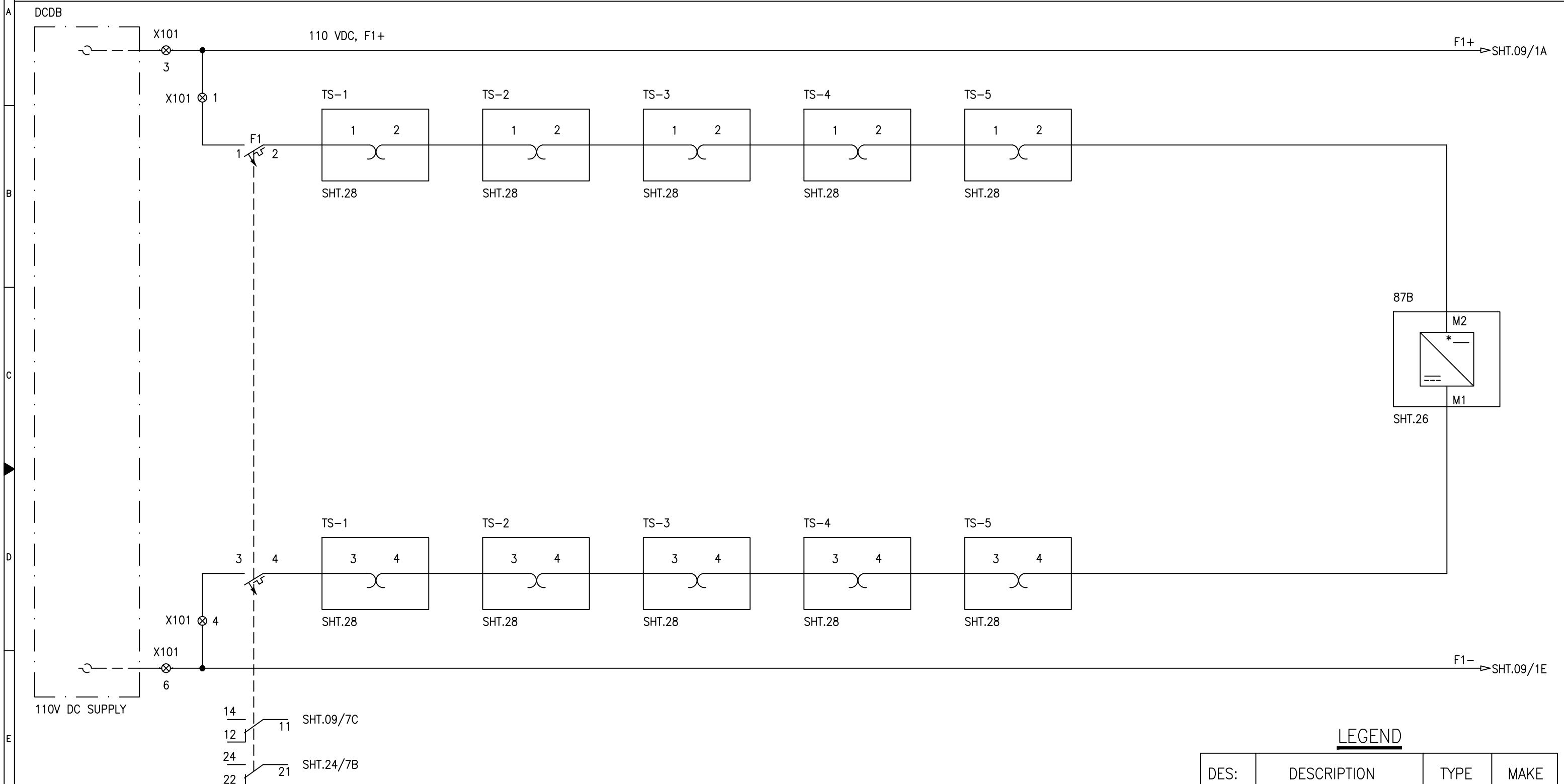


APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: CT INPUT FOR =E04 & =E05 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	 EPESOL Pvt. Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 07 OF 28
NAH	AMR	MUR				DATE: 20.10.2018 AS BUILT	REV: 0

110VDC SUPPLY FOR

PROTECTION RELAY

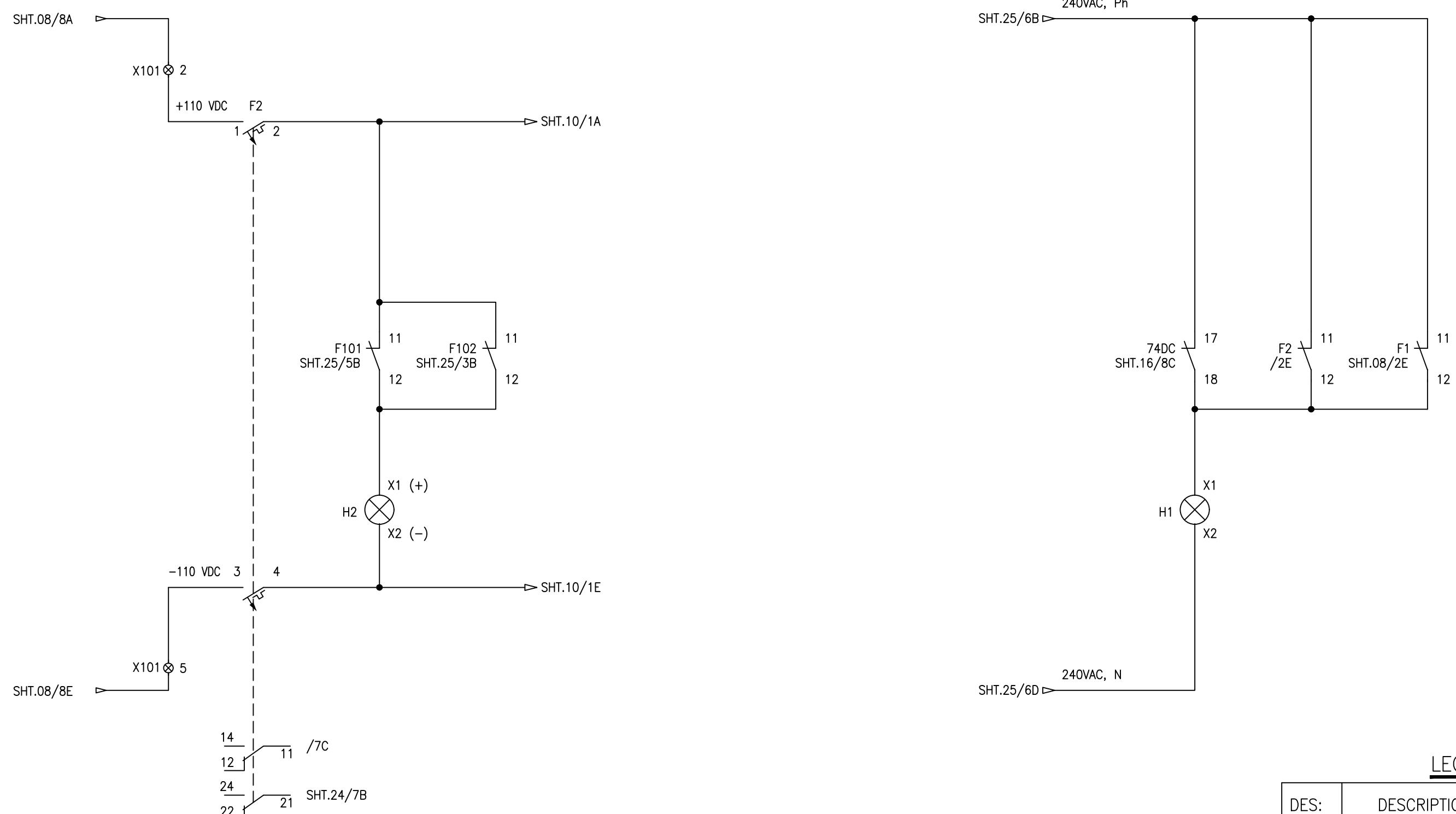
87B



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: PROTECTION RELAY DC SUPPLY 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 08 OF 28
NAH	AMR	MUR				DATE: 20.10.2018	AS BUILT

**INDICATION LAMP FOR
AC SUPPLY FAIL**

**INDICATION LAMP FOR
DC SUPPLY FAIL**



LEGEND

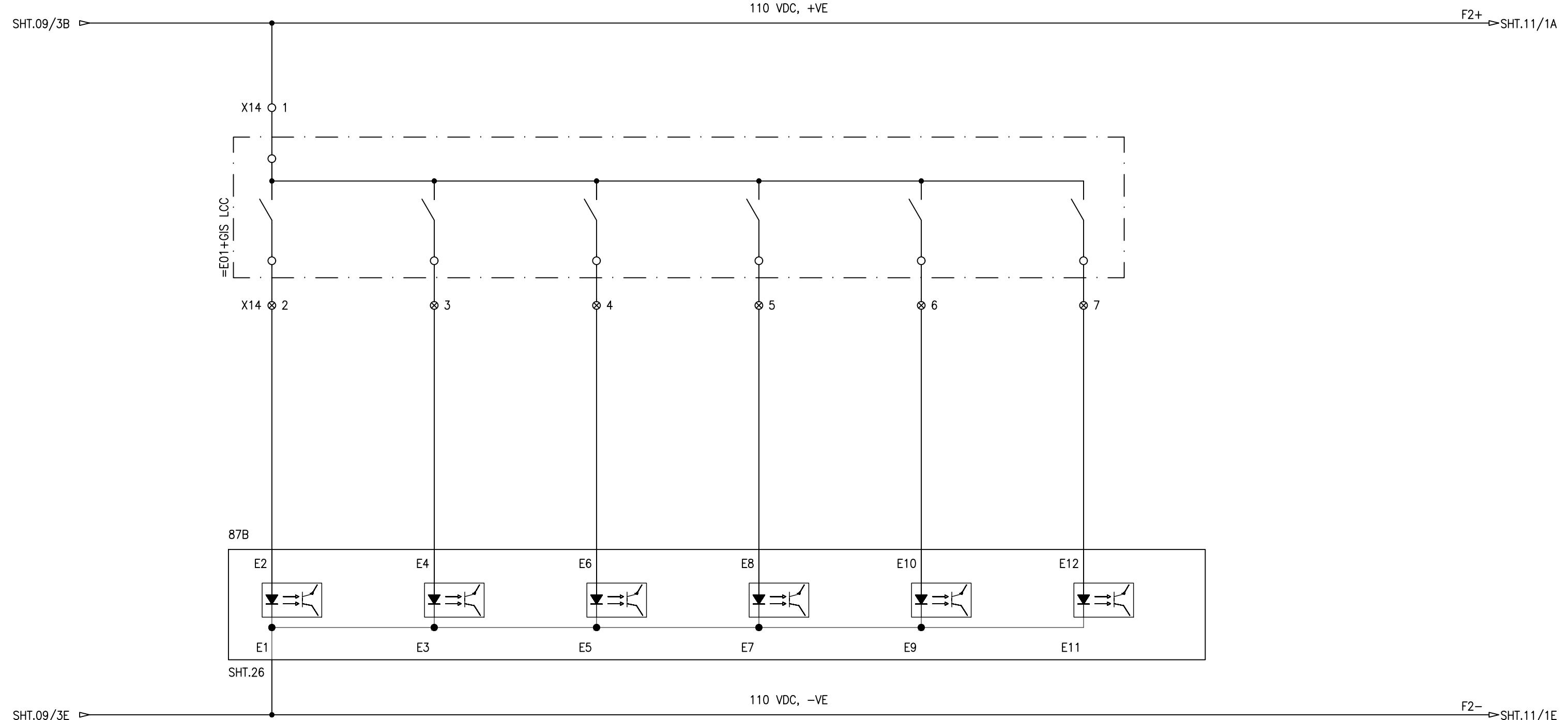
DES:	DESCRIPTION	TYPE	MAKE
FXX	AC MCB 2P, 10A	G60	GE
FX	DC MCB 2P, 10A	EP100	GE
HX	INDICATION LAMP	YS-PL	YONGSUNG

APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: AC/DC SUPPLY FAILURE CIRCUIT 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	 EPESOL Pvt. Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 09 OF 28
NAH	AMR	MUR				DATE: 20.10.2018 AS BUILT	REV: 0

1 2 3 4 ▼ 5 6 7 8

Q0 OPEN	Q0 NOT READY	Q1 OPEN	Q1 CLOSE	Q2 OPEN	Q2 CLOSE
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=E01

LEGEND

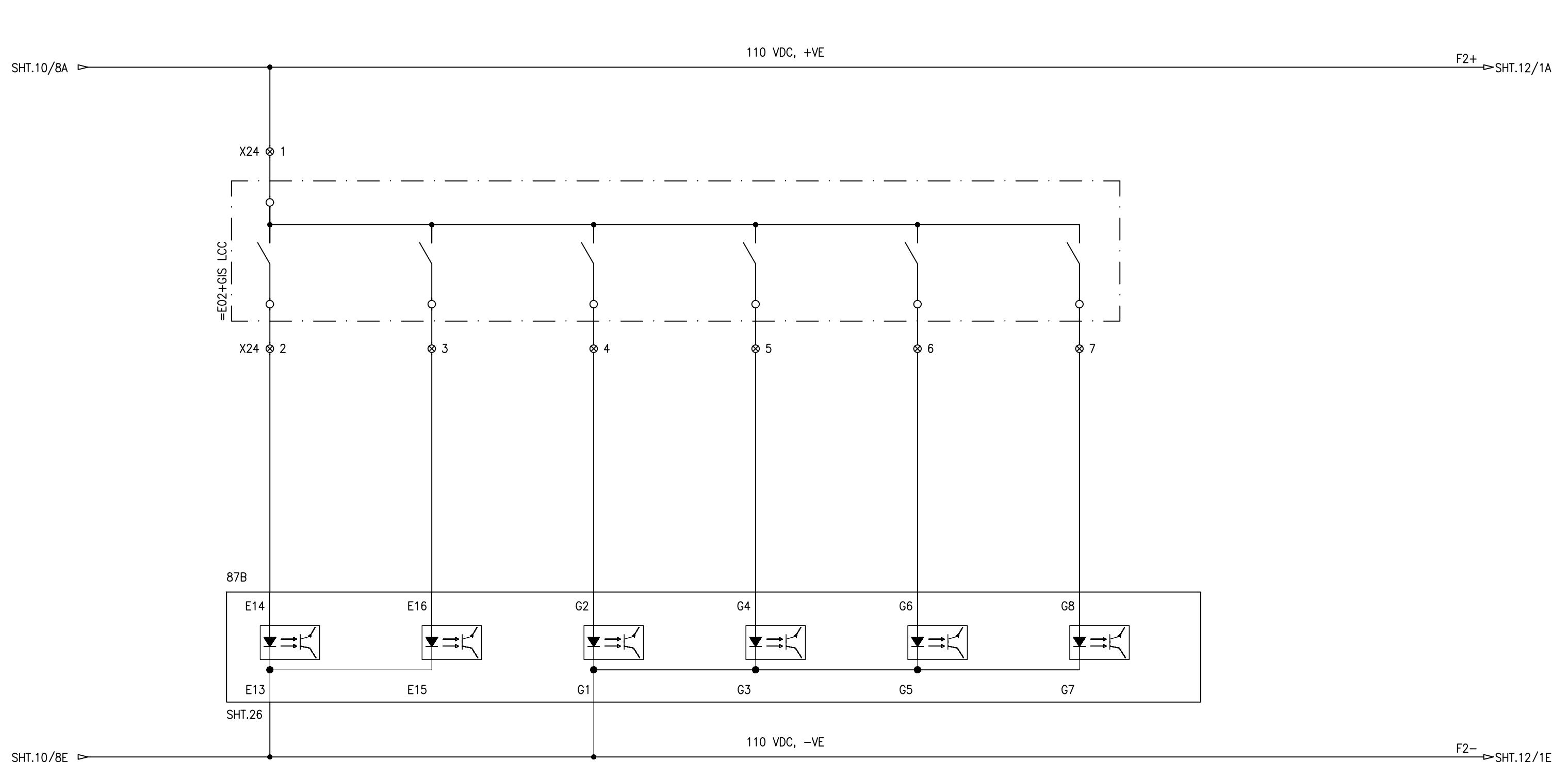
DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE



E P E S O L Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

1 2 3 4 ▼ 5 6 7 8

Q0 OPEN	Q0 NOT READY	Q1 OPEN	=E02	Q2 CLOSE	OPEN	CLOSE	
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LEGEND

DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE

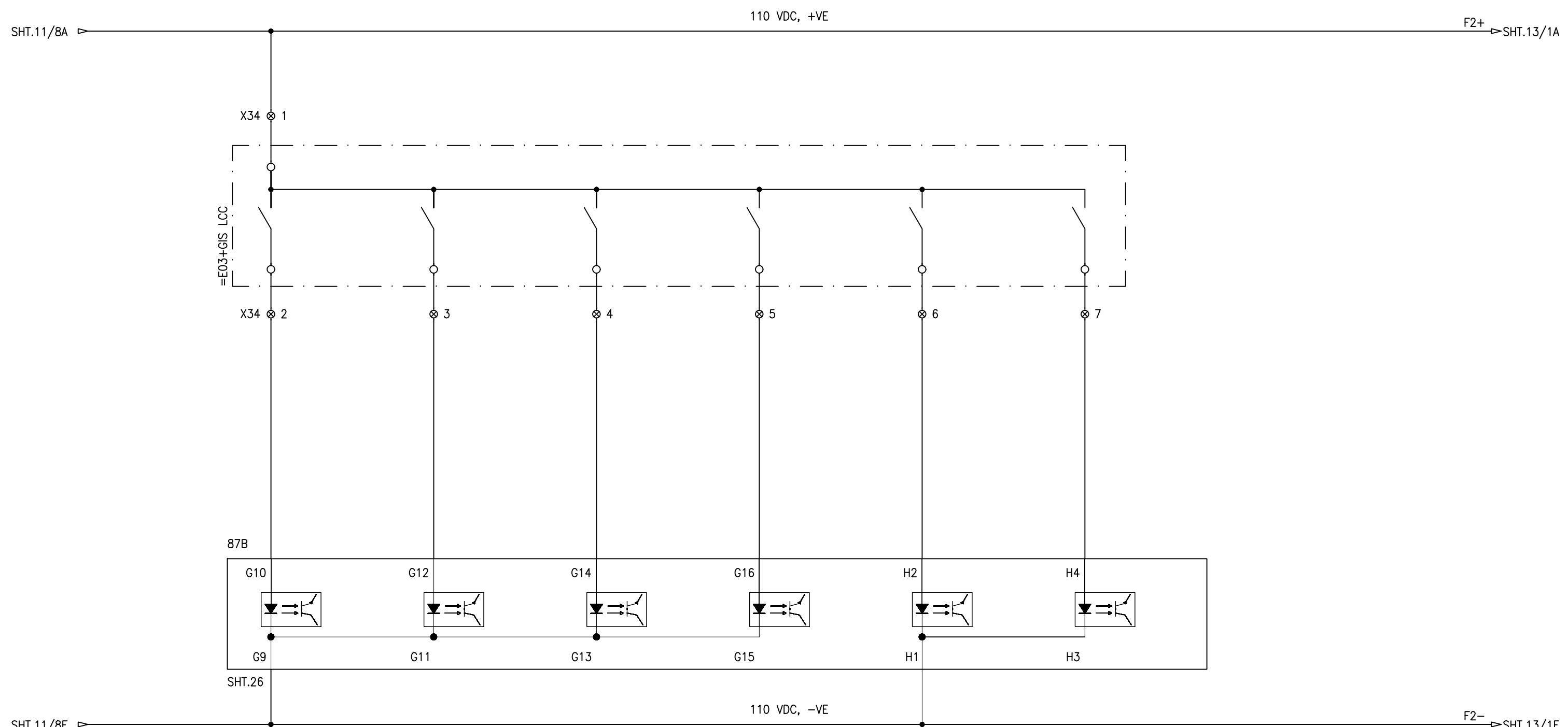


E P E S O L *Pvt. Ltd.*
71-B Garden Block, New Garden Town, Lahore, Pakistan

1 2 3 4 ▼ 5 6 7 8

Q0 OPEN	Q0 NOT READY	Q1 OPEN	▼ CLOSE	Q2 OPEN	CLOSE
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=E03

LEGEND

DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE

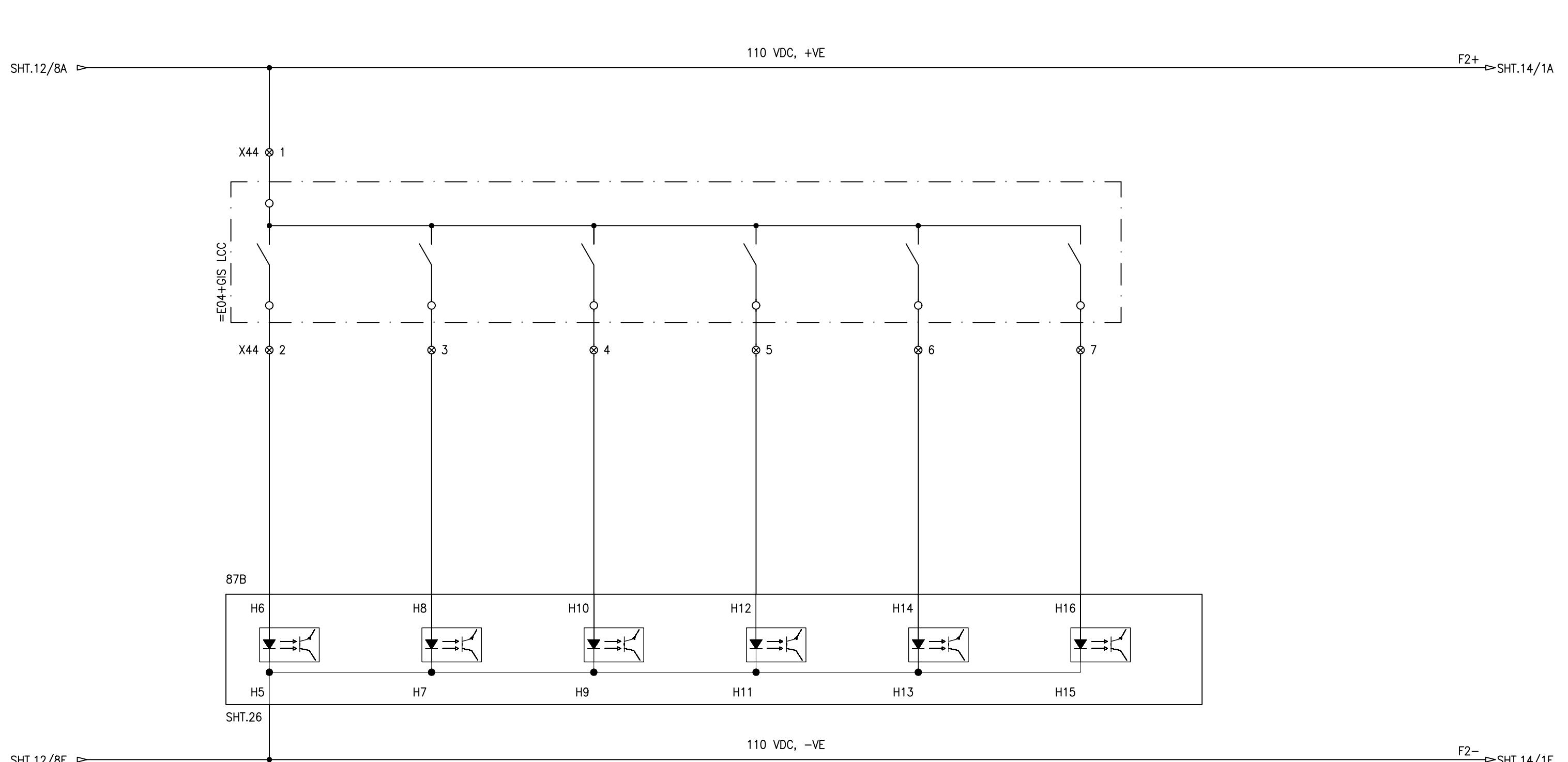


E P E S O L Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

1 2 3 4 ▼ 5 6 7 8

Q0	OPEN	Q0	NOT READY	Q1	CLOSE	Q2	
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=E04

LEGEND

DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE

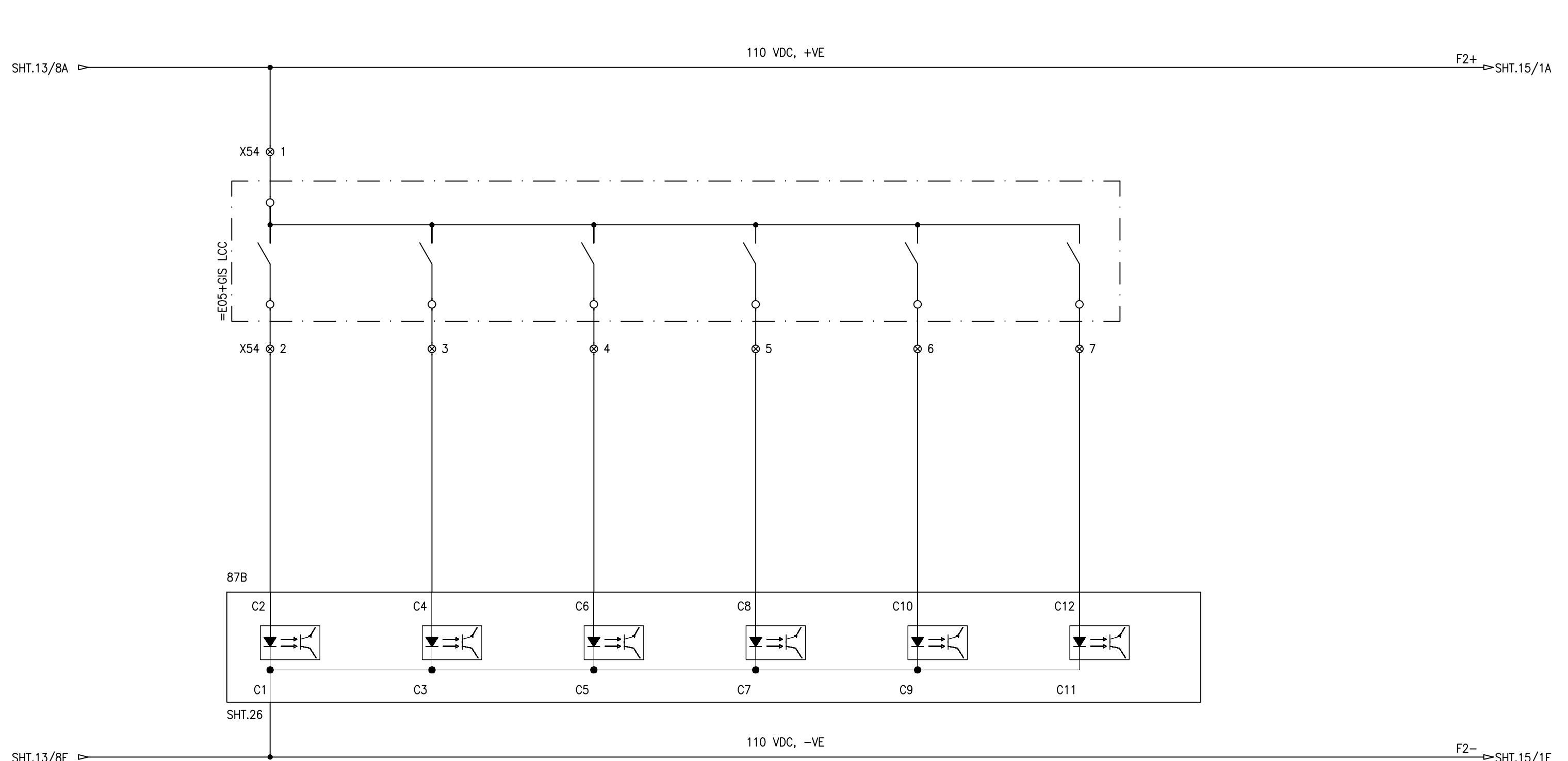


E P E S O L Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

1 2 3 4 ▼ 5 6 7 8

Q0	OPEN	Q0	NOT READY	Q1	CLOSE	Q2	CLOSE
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=E05

LEGEND

DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE

1 2 3 4 5 6 7 8

BREAKER FAILURE INITIALIZATION

=E01

=E02

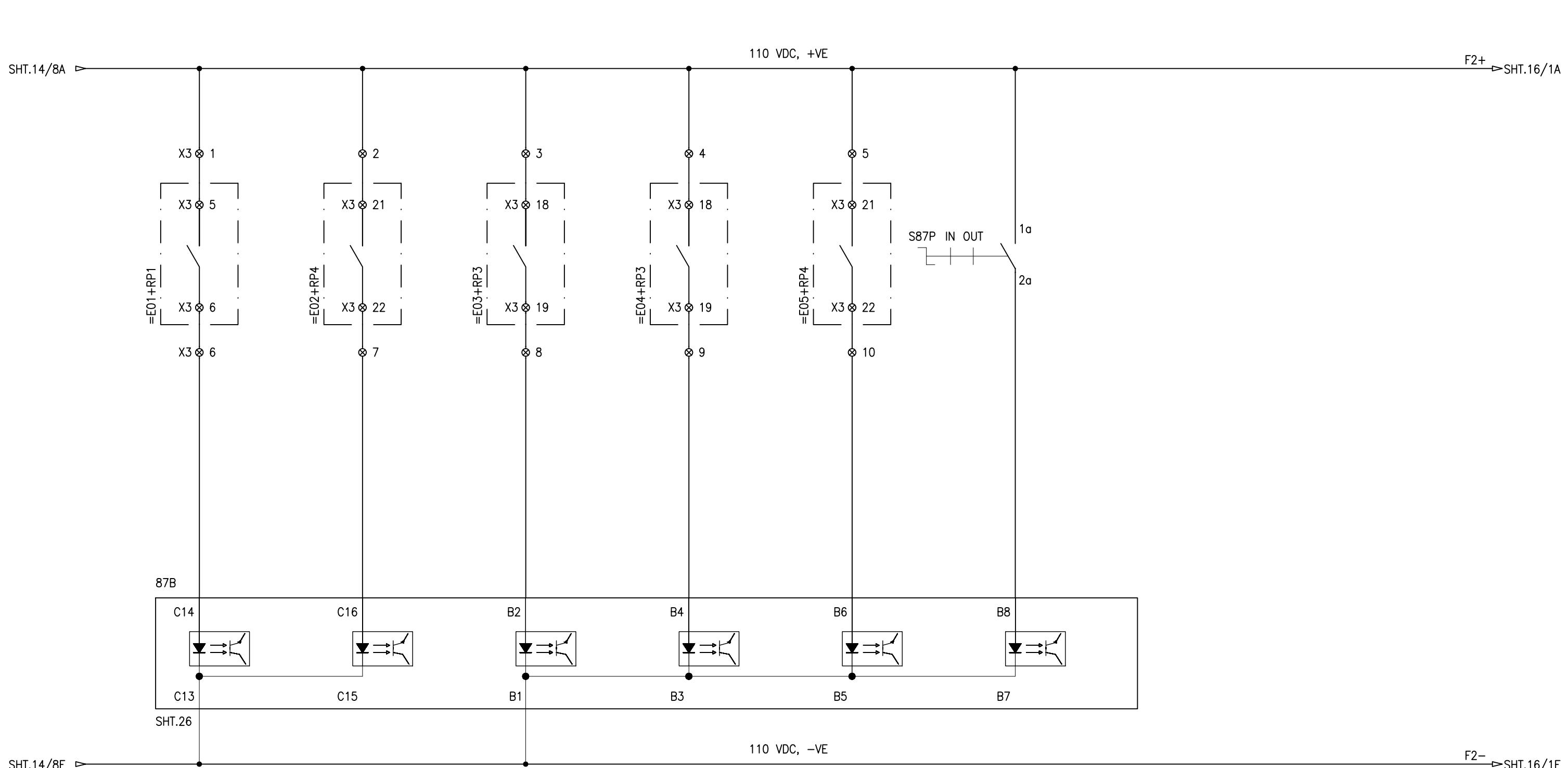
=E03

=E04

BUSBAR PROTECTION

=E05

IN/OUT

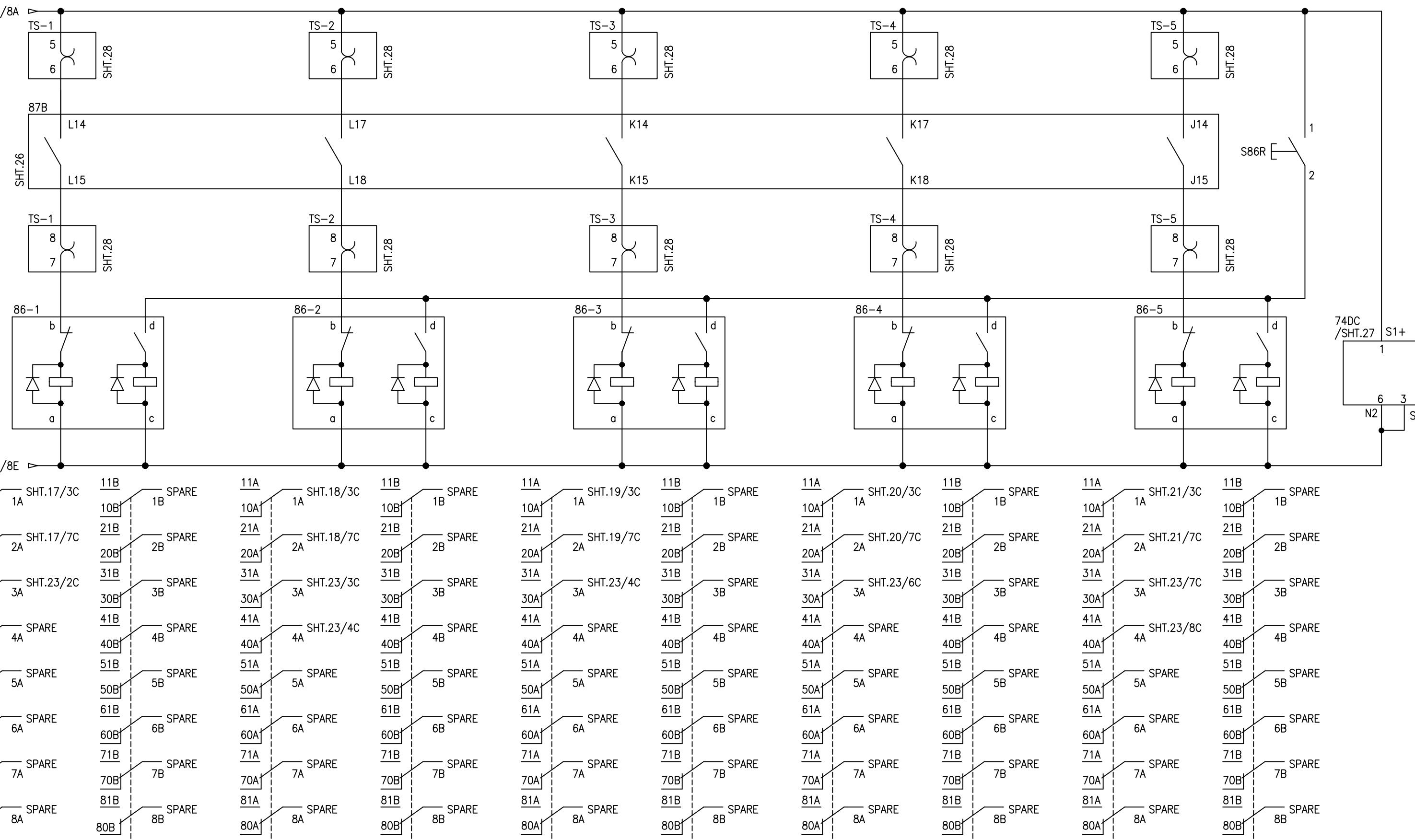
LEGEND

DES:	DESCRIPTION	TYPE	MAKE
87B	BUSBAR PROT. RELAY	P746	GE
S87P	KEY SELECTOR SWITCH	YS-AK	YONGSUNG



E P E S O L *Pvt. Ltd.*
71-B Garden Block, New Garden Town, Lahore, Pakistan

1	2	3	4	5	6	7	8
=E01 BB + BF STG-II INITIATION	=E02 BB + BF STG-II INITIATION	=E03 BB + BF STG-II INITIATION	=E04 BB + BF STG-II INITIATION	=E05 BB + BF STG-II INITIATION	PB FOR TRIP RESET	DC SUPPLY SUPERVISION	
A	A	A	A	A	A	A	A



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: PROTECTION TRIP CIRCUITS 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 16 OF 28
NAH	AMR	MUR				DATE: 20.10.2018	AS BUILT

1 2 3 4 ▼ 5 6 7 8

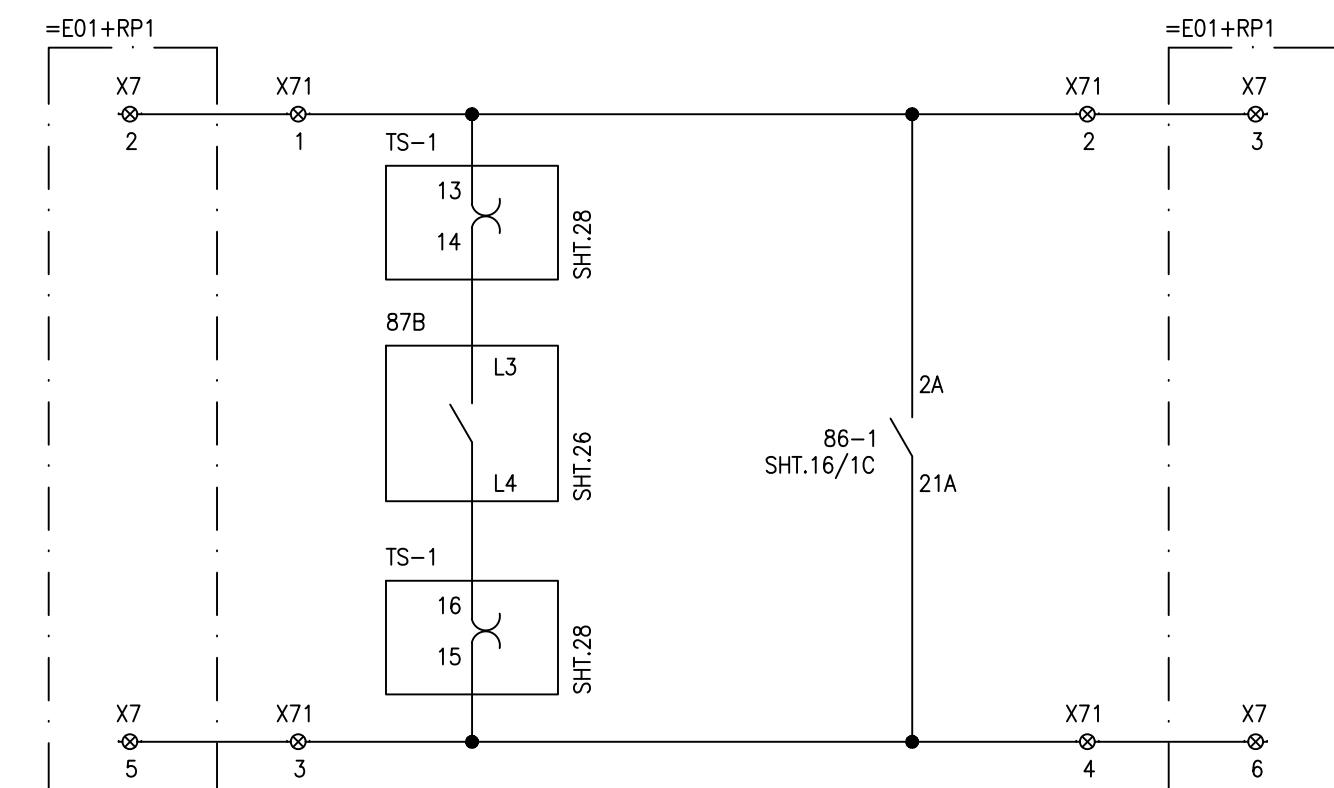
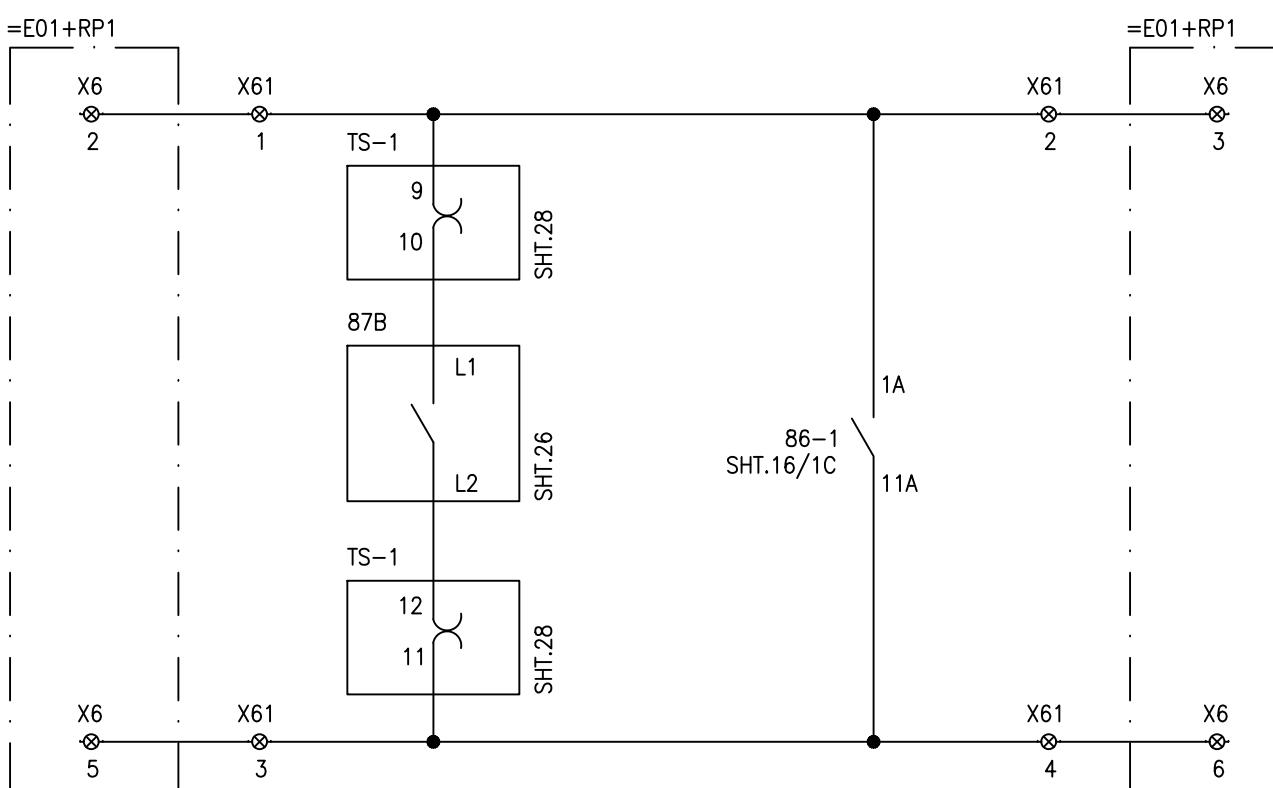
Q0
TRIP CIRCUIT-1

BF STG-I TRIP BB + BF STG-II TRIP

=E01

Q0
TRIP CIRCUIT-2

BF STG-I TRIP BB + BF STG-II TRIP



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: =E01 TRIP CIRCUITS 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437 DATE: 20.10.2018 AS BUILT	SHT: 17 OF 28 REV: 0
NAH	AMR	MUR					

1 2 3 4 ▼ 5 6 7 8

Q0

TRIP CIRCUIT-1

BF STG-I TRIP

BB + BF STG-II TRIP

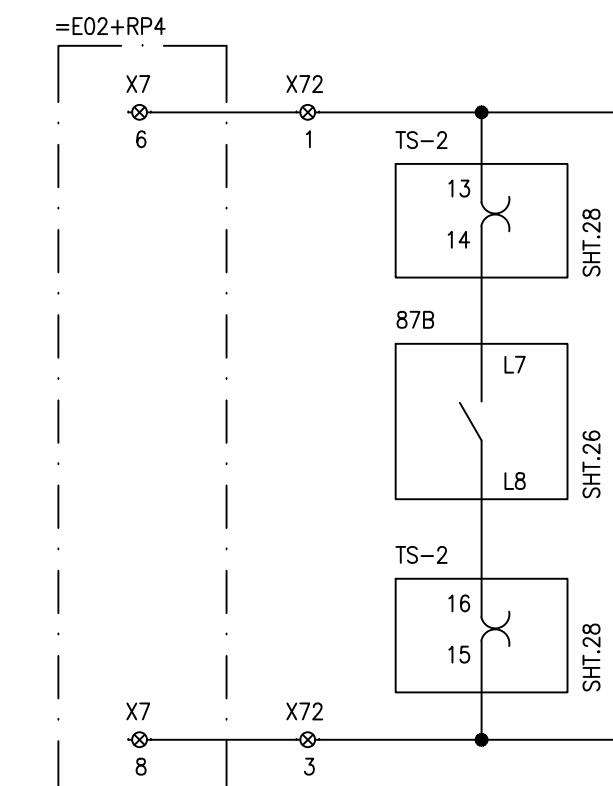
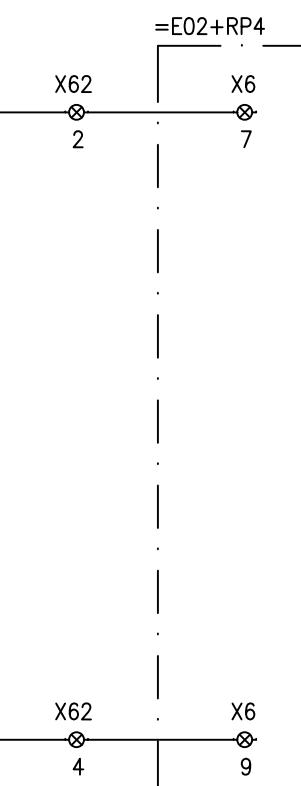
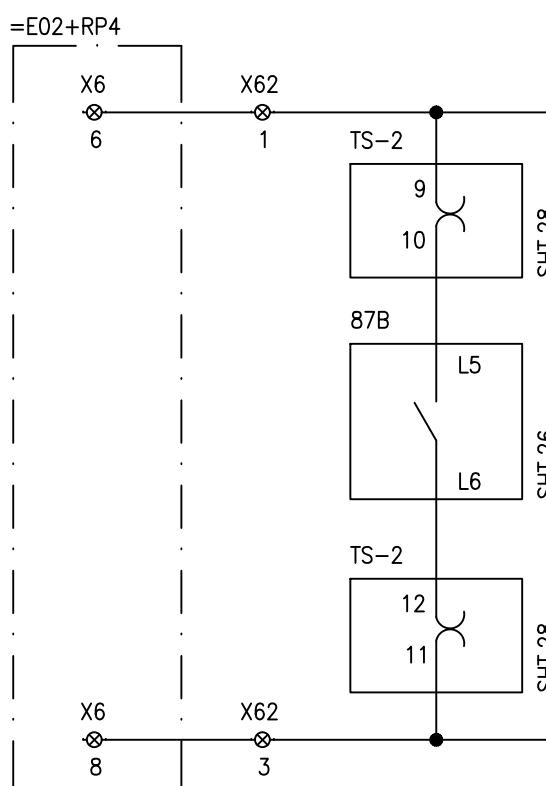
=E02

Q0

TRIP CIRCUIT-2

BF STG-I TRIP

BB + BF STG-II TRIP



APPROVED	CHECKED	DRAWN
NAH	AMR	MUR

PROJECT:
DESCON PO#45000100989
DATED 06.03.2018
PROCUREMENT OF 132KV RELAY, CONTROL PANELS

TITLE:
=E02 TRIP CIRCUITS
132KV BB & BF PROTECTION PANEL TYPE =E00+RP7



DWG# EPE/ENU-18/P1437 SHT: 18 OF 28
DATE: 20.10.2018 AS BUILT REV: 0

1 2 3 4 5 6 7 8

Q0

TRIP CIRCUIT-1

BF STG-I TRIP

BB + BF STG-II TRIP

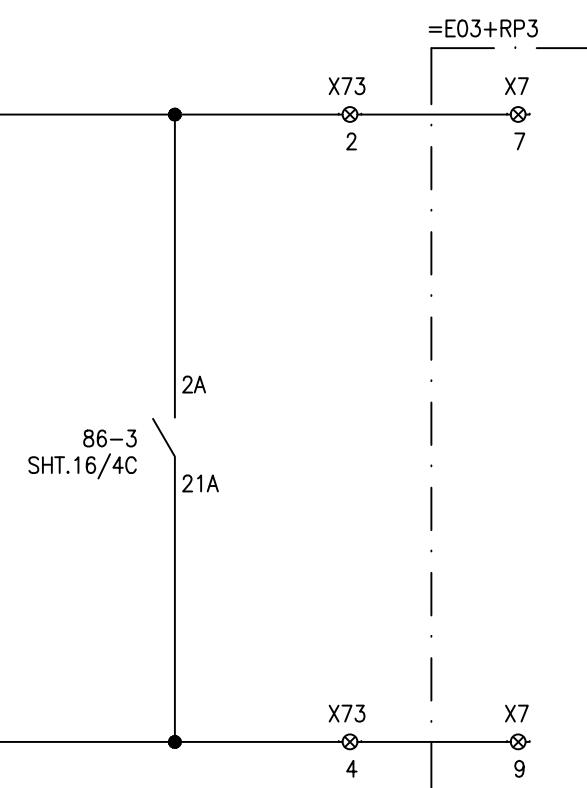
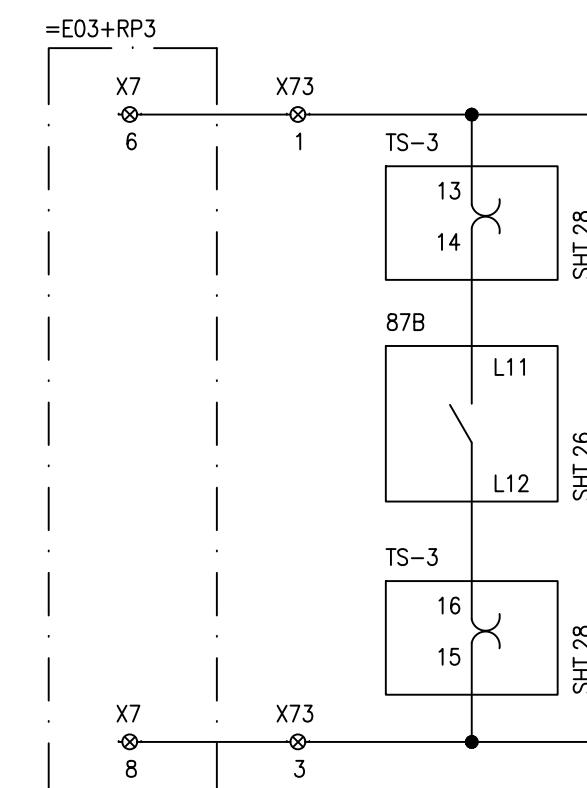
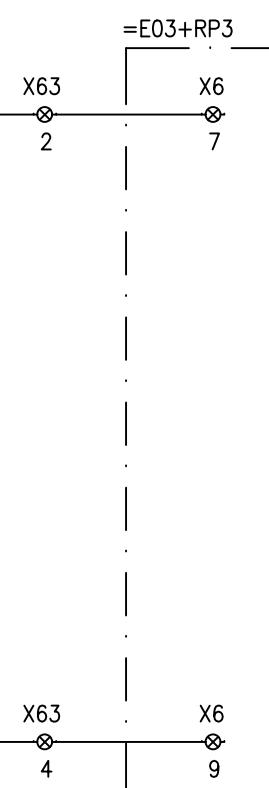
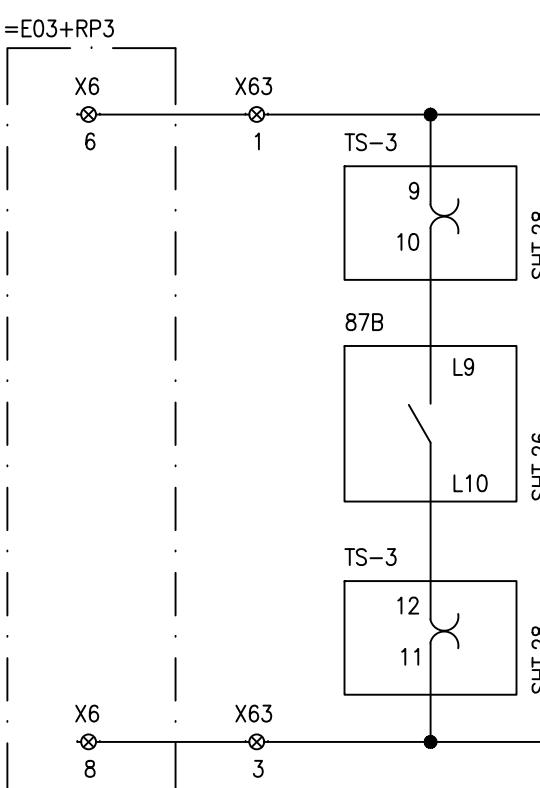
=E03

Q0

TRIP CIRCUIT-2

BF STG-I TRIP

BB + BF STG-II TRIP



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: =E03 TRIP CIRCUITS 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437 DATE: 20.10.2018 AS BUILT	SHT: 19 OF 28 REV: 0
NAH	AMR	MUR					

1 2 3 4 ▼ 5 6 7 8

Q0

TRIP CIRCUIT-1

BF STG-I TRIP

BB + BF STG-II TRIP

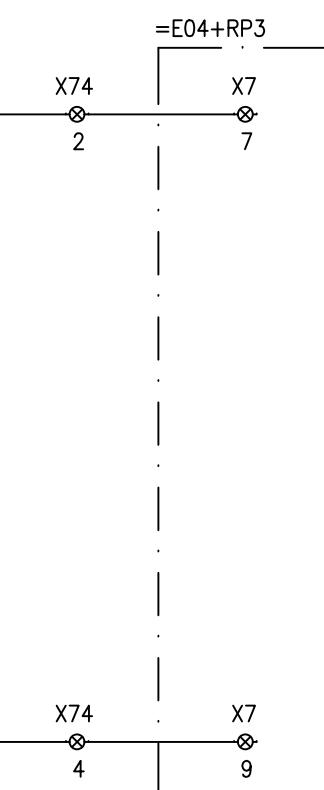
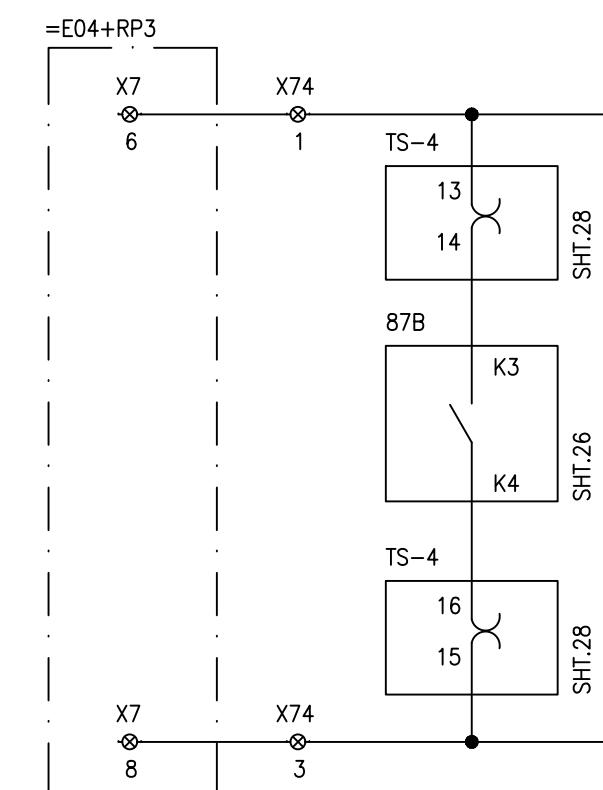
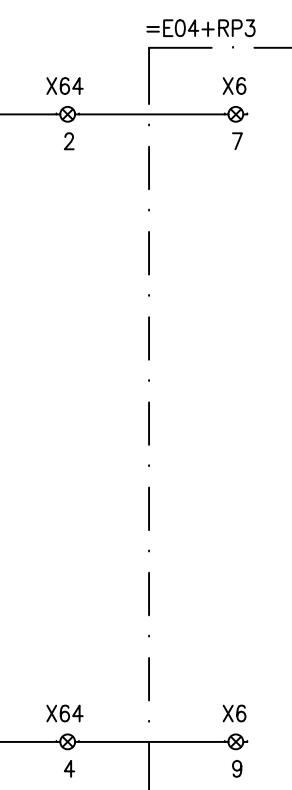
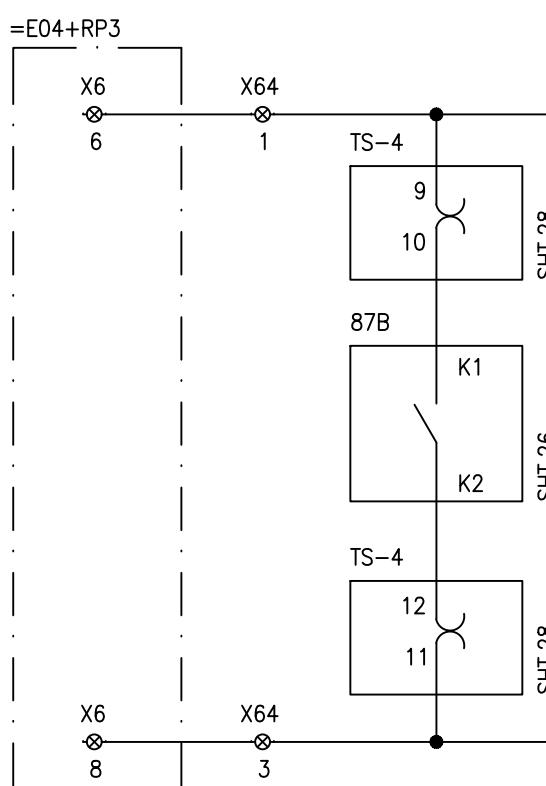
=E04

Q0

TRIP CIRCUIT-2

BF STG-I TRIP

BB + BF STG-II TRIP



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: =E04 TRIP CIRCUITS 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437 DATE: 20.10.2018 AS BUILT	SHT: 20 OF 28 REV: 0
NAH	AMR	MUR					

1 2 3 4 5 6 7 8

Q0

TRIP CIRCUIT-1

BF STG-I TRIP

BB + BF STG-II TRIP

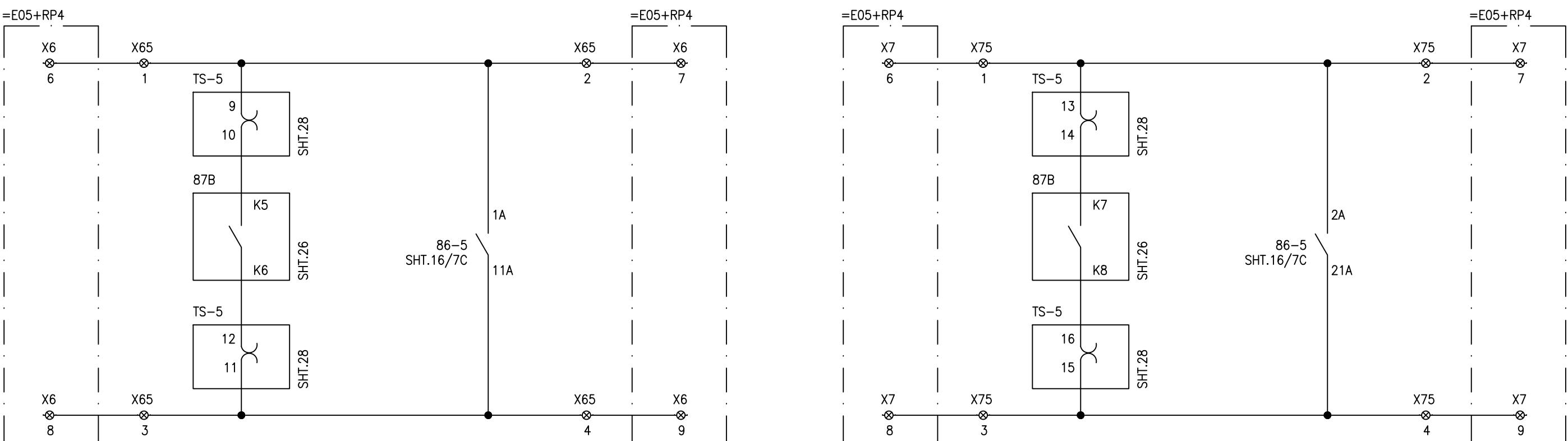
=E05

Q0

TRIP CIRCUIT-2

BF STG-I TRIP

BB + BF STG-II TRIP



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: =E05 TRIP CIRCUITS 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437 DATE: 20.10.2018 AS BUILT	SHT: 21 OF 28 REV: 0
NAH	AMR	MUR					

1 2 3 4 5 6 7 8

DTT FOR 11kV SIDE (=K10)

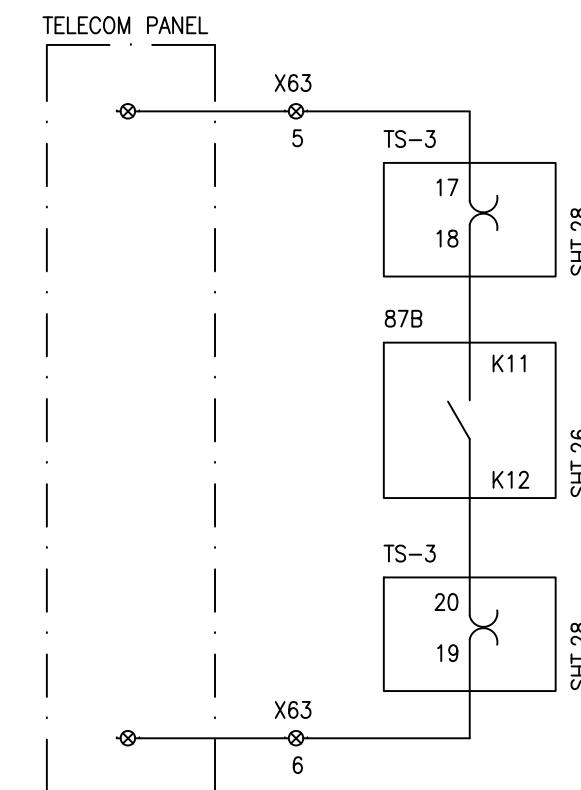
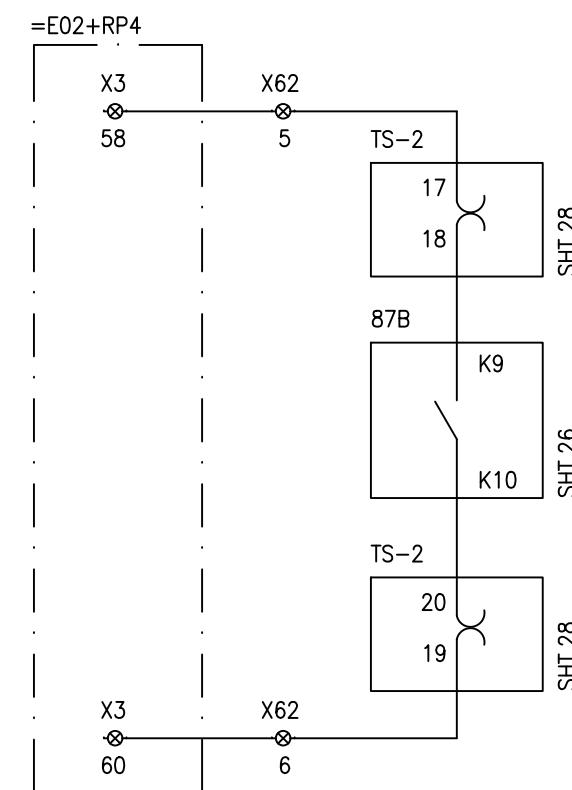
=E02

BF STG-II TRIP

DTT FOR REMOTE END

=E03

BF STG-II TRIP



DTT FOR REMOTE END

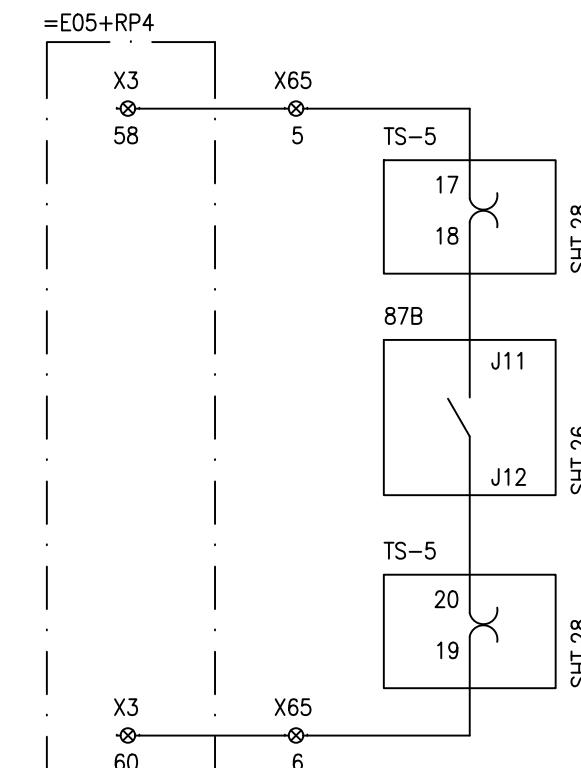
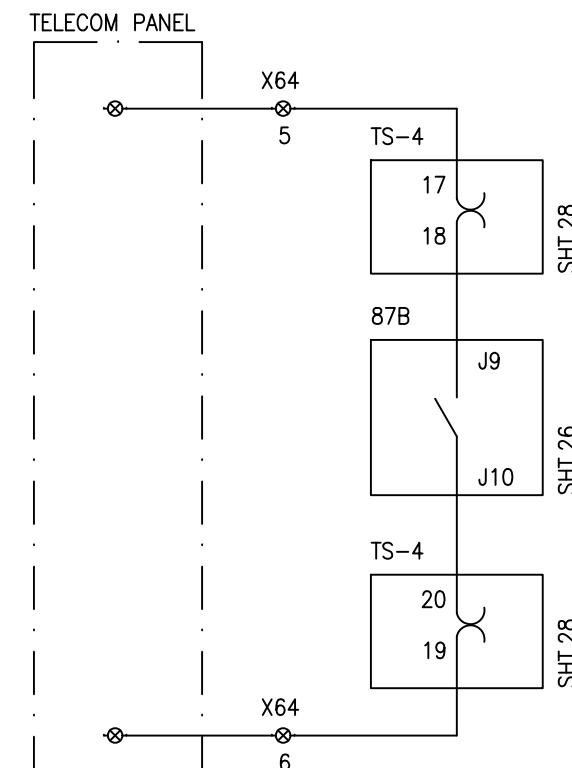
=E04

BF STG-II TRIP

DTT FOR 11kV SIDE (=K12)

=E05

BF STG-II TRIP



APPROVED	CHECKED	DRAWN
NAH	AMR	MUR

PROJECT:
 DESCON PO#45000100989
DATED 06.03.2018
PROCUREMENT OF 132kV RELAY, CONTROL PANELS

TITLE:
DTT CIRCUITS
132kV BB & BF PROTECTION PANEL TYPE =E00+RP7

 EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/P1437 SHT: 22 OF 28
DATE: 20.10.2018 AS BUILT REV: 0

1 2 3 4 5 6 7 8

1 2 3 4 ▼ 5 6 7 8

=E01

Q0

CLOSE BLOCK

=E02

Q0

CLOSE BLOCK CLOSE BLOCK

=K10

Q0

=E03

Q0

CLOSE BLOCK

=E04

Q0

CLOSE BLOCK

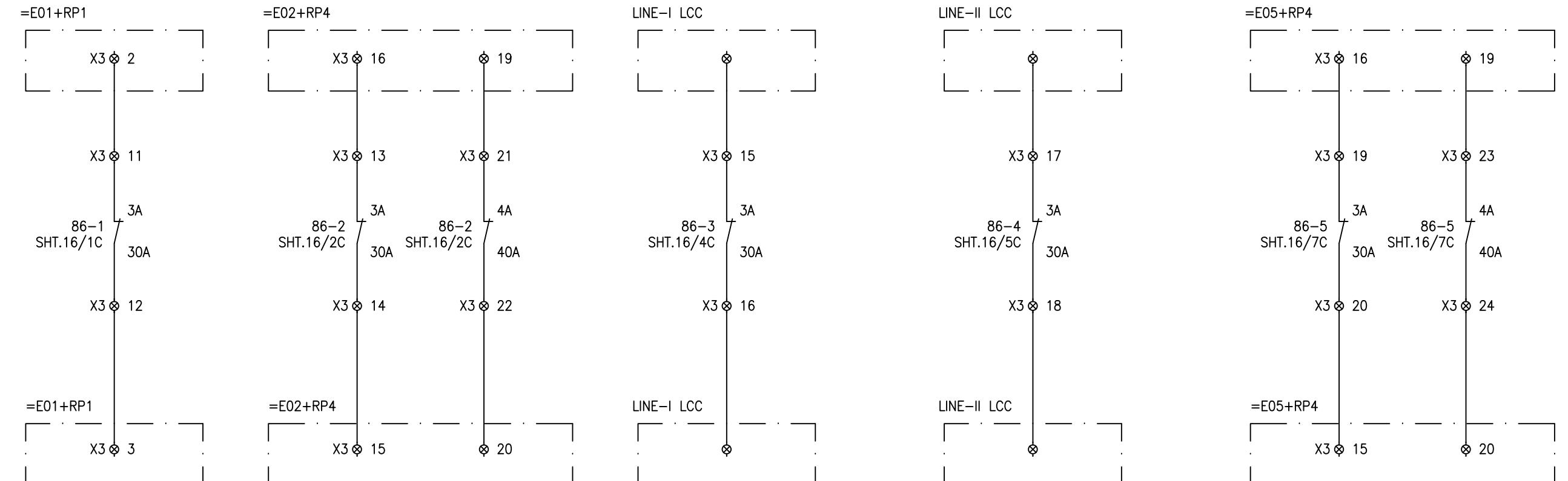
=E05

Q0

CLOSE BLOCK CLOSE BLOCK

=K12

Q0

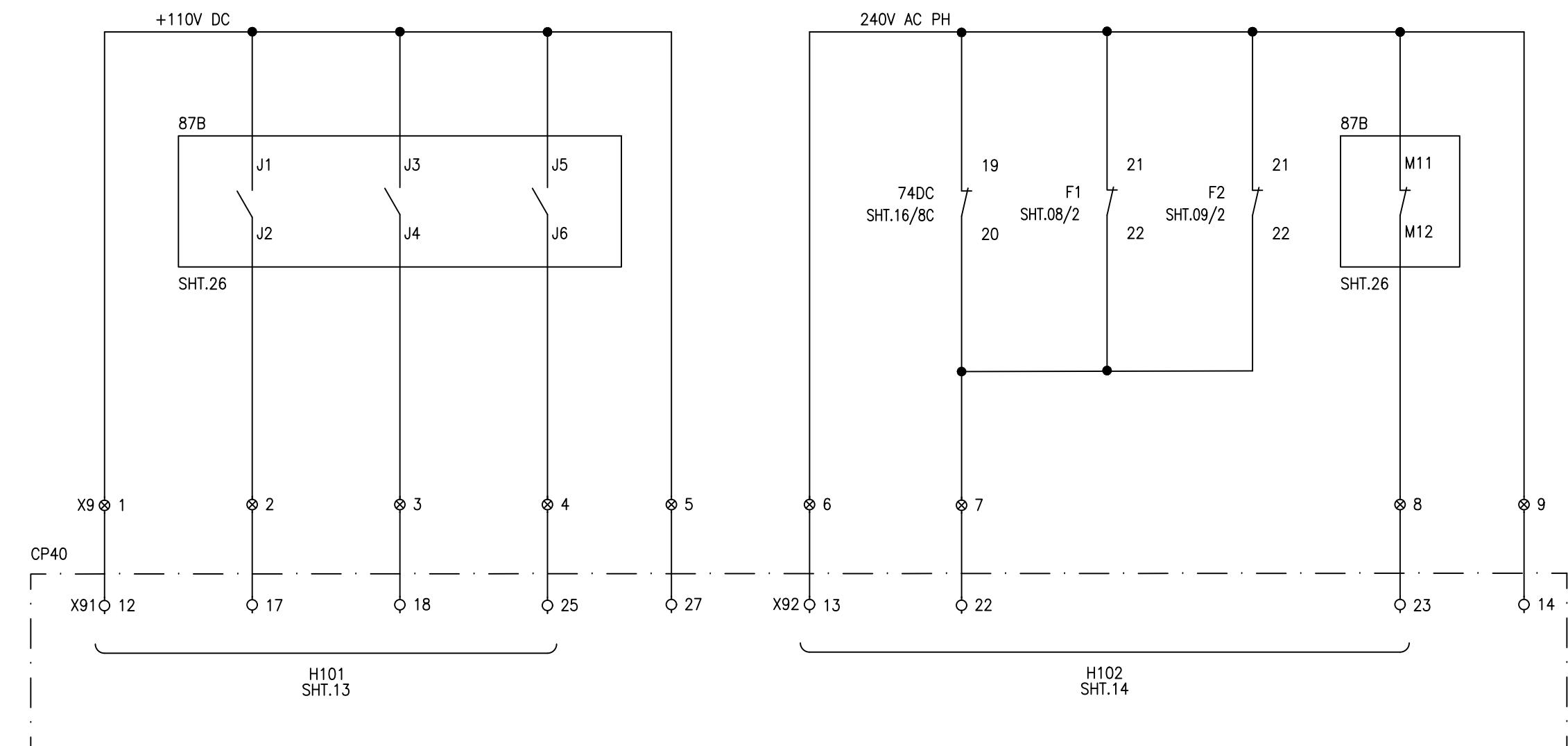


87B RELAY

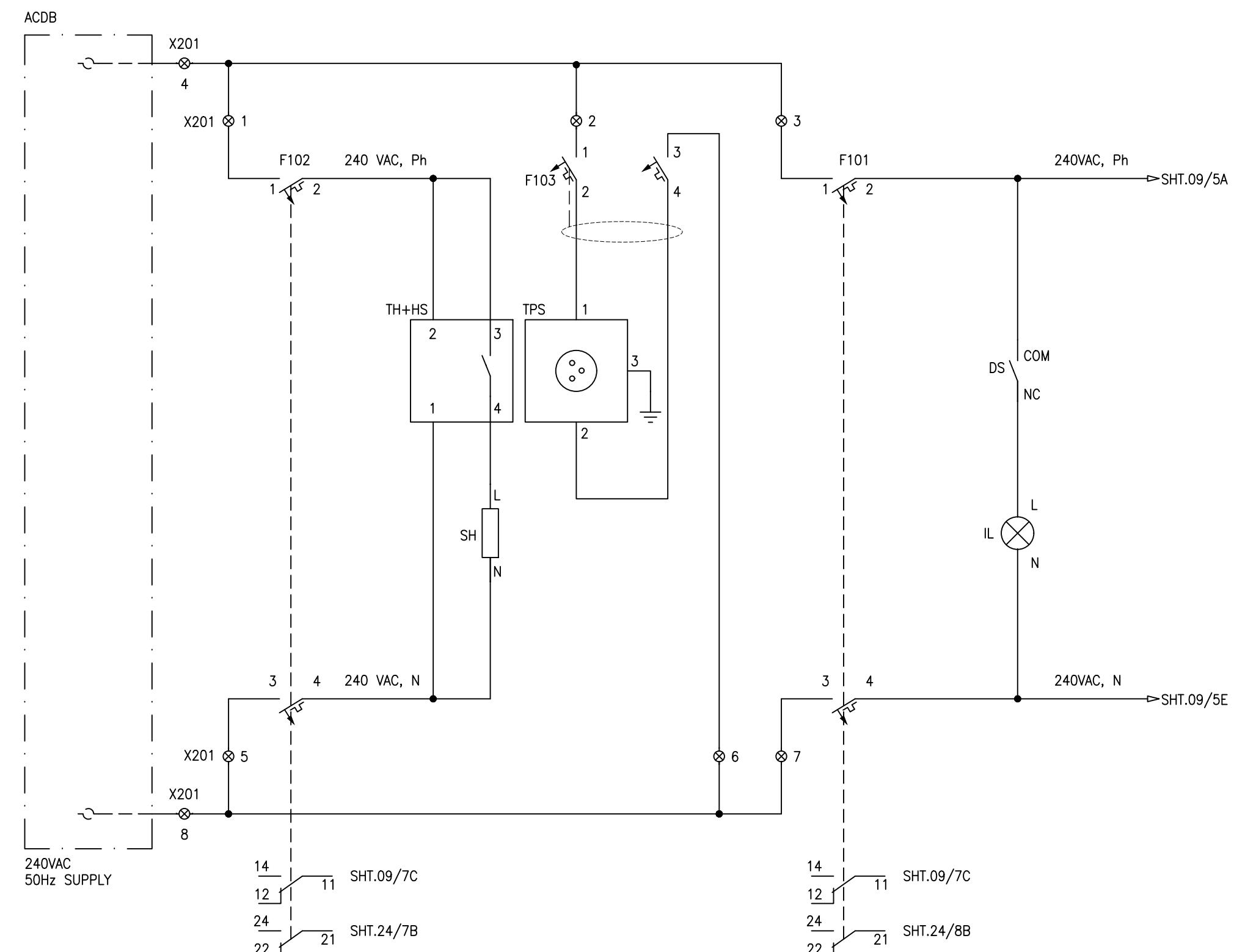
BB ZONE-I BB ZONE-II BF STG-I/STG-II
TRIP TRIP TRIP

DC SUPPLY
FAIL

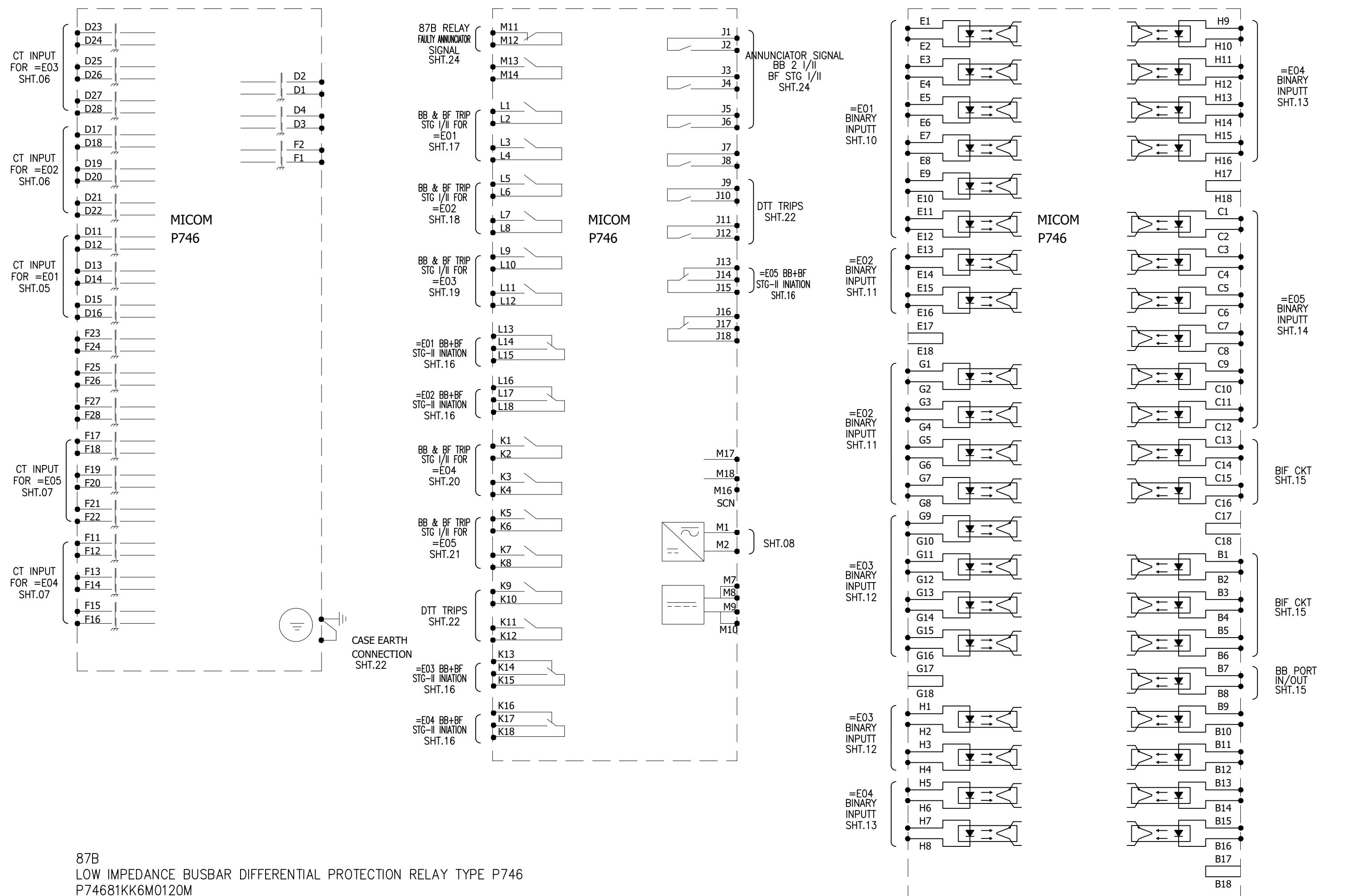
87B RELAY
FAULTY



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: ANNUNCIATION SIGNALS 132kV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437 DATE: 20.10.2018 AS BUILT	SHT: 24 OF 28 REV: 0
NAH	AMR	MUR					

SPACE HEATER
THERMOSTATTHREE PIN
SOCKETDOOR SWITCH &
CUBICLE LIGHTLEGEND

DES:	DESCRIPTION	TYPE	MAKE
TPS	THREE PIN SOCKET	-	LEAR
SH	SPACE HEATER	ELH220	ELABS
TH+HS	THERMOSTAT & HUMIDSTAT	ELH220	ELABS
IL	CUBICLE LIGHT	YST8	YONGSUNG
DS	DOOR SWITCH	YSP	YONGSUNG
F10X	AC MCB, 2P, 10A	G60	GE
F103	AC RCBO(ELCB), 2P, 10A	DM100	GE

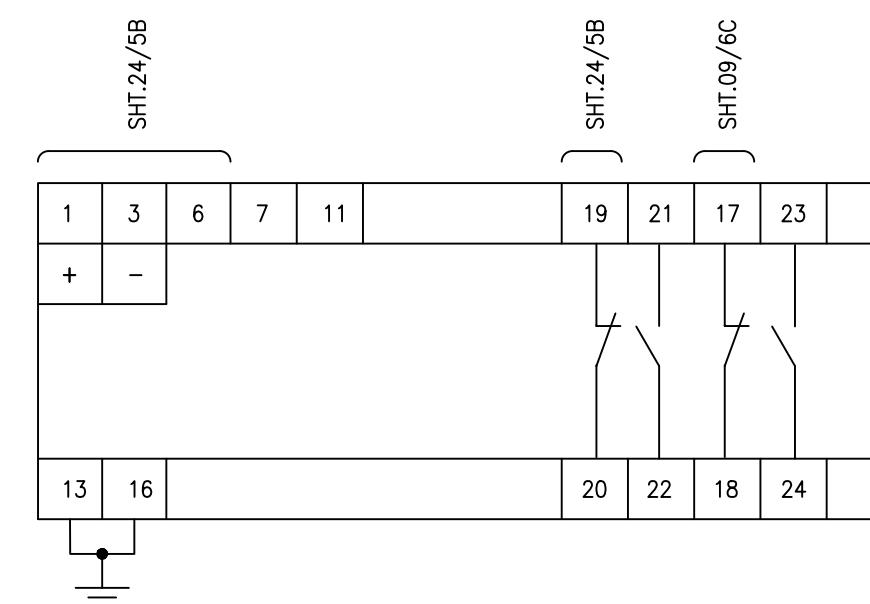


APPROVED	CHECKED	DRAWN	PROJECT:	TITLE:	DWG#	DATE:	SHT:
NAH	AMR	MUR	DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	DEVICE DETAILS FOR 87B 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE/ENU-18/P1437	20.10.2018	26 OF 28

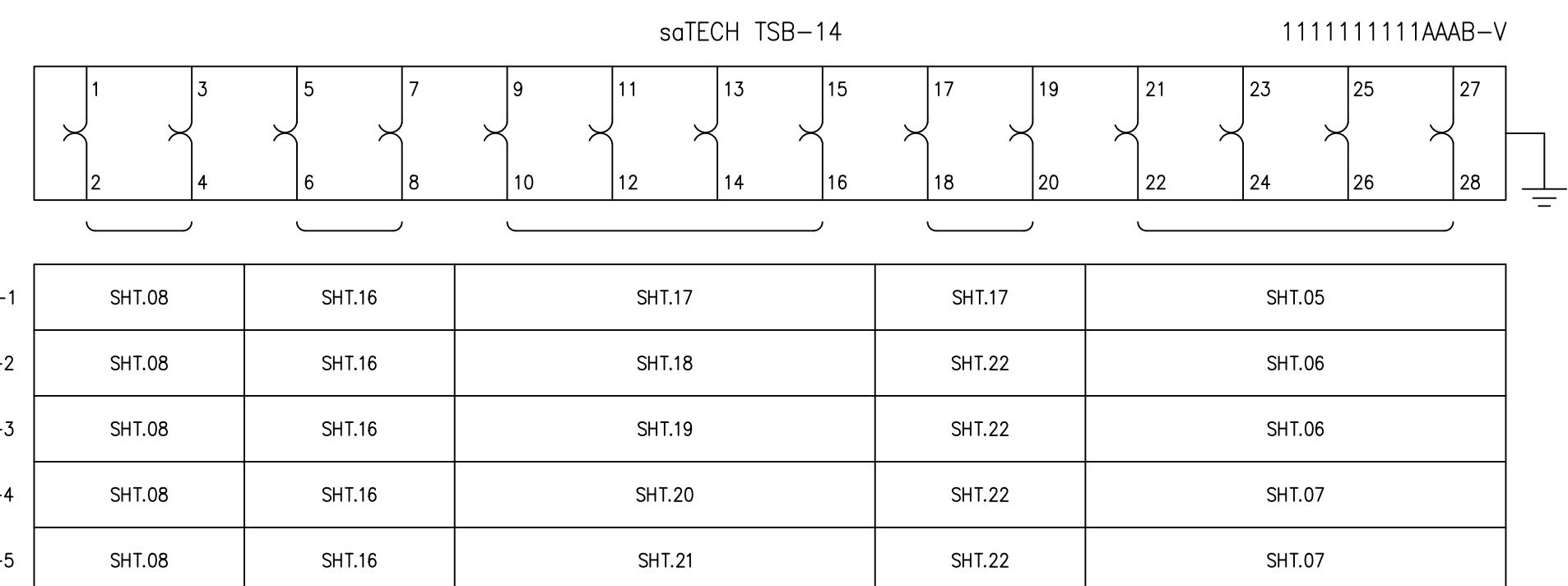


EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/P1437
DATE: 20.10.2018 AS BUILT
REV: 0



APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: DEVICE DETAILS FOR 74DC 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 27 OF 28
NAH	AMR	MUR				DATE: 20.10.2018	AS BUILT



APPROVED	CHECKED	DRAWN	PROJECT: DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: DEVICE DETAILS FOR TS-X 132KV BB & BF PROTECTION PANEL TYPE =E00+RP7	EPE SOL Pvt Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1437	SHT: 28 OF 28
NAH	AMR	MUR				DATE: 20.10.2018 AS BUILT	REV: 0



DRAFT EPE/ENU-18/P1438 SHT: 02 OF 25

DATE: 15.02.2019 AS BUILT REV: 0

APPROVED	CHECKED	DRAWN	PROJ
NAH	AMR	MUR	

ECT:
DESCON PO#45000100989
DATED 06.03.2018

TITLE: TERMINAL DETAIL

Sr.	CABLE DESIGNATION	CORE CROSS SECTION	DESTINATION			
1				A	REMOTE DESTINATION	TERMINAL BLOCK
2						
3						
4						
5						
6				B	D-	TERMINA NO
7						
8						
9						
10						
11				C		
12						
1	2	3	4			
D				E		
E				F		
F						

LEGEND:



E P E S O L Pvt. Ltd.
7-B Garden Block, New Garden Town, Lahore, Pakistan

DWC# EPE /ENL 18 /P1438 SHT: 03 OF 25

DWG# E1 E/ EN0-18/1 1458 SHT. 05 OF 25

DATE: 15.02.2019 AS BUILT REV: 0

APPROVED	CHECKED	DRAWN	PROJECT 
NAL	AMP	MUR	

PROJECT:
 DESCON PO#45000100989
DATED 06-03-2018

TITLE: TERMINAL DETAIL
170LV PP PROTECTION PANEL TYPE A/PDZ

LEGEND:



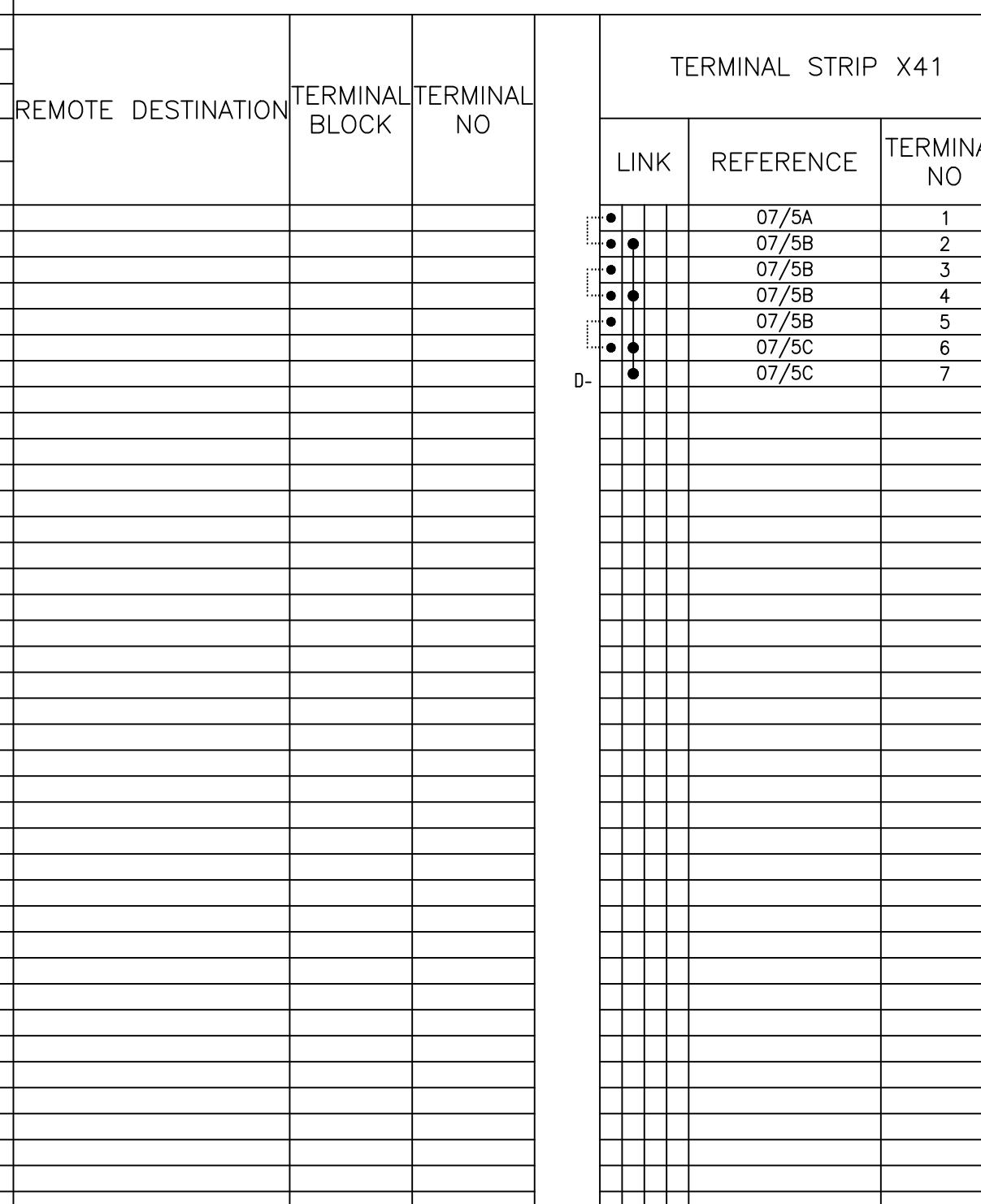
TEMPORARY SHORTENING LINK



PERMANENT LINK

D.

END COVER



APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: TERMINAL DETAIL 132kV BB PROTECTION PANEL TYPE +RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1438	SHT: 04 OF 25	
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT	REV: 0



Dwg# EPE/ENU-18/P1438 Sht: 05 Of 25

DATE: 15.02.2019 AS BUILT REV: 0

APPROVED	CHECKED	DRAWN	PROJ 
NAH	AMR	MUR	

PROJECT:
 DESCON P0#45000100989
DATED 06.03.2018

TITLE: TERMINAL DETAIL



LEGEND:



TEMPORARY SHORTENING LINK

PERMANENT LINK

D

END COVER

APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: TERMINAL DETAIL 132kV BB PROTECTION PANEL TYPE +RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1438	SHT: 16 OF 25
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT

	1	2	3	4
Sr.	CABLE DESIGNATION	CORE CROSS SECTION	DESTINATION	
A 1				
2				
3				
4				
5				
6				
7				
8				
B 9				
10				
11				
12				
	1	2	3	4
	5	6	7	8
	9	10	11	12
C				
D				
E				

LEGEND:



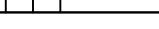
TEMPORARY SHORTENING LINK



PERMANENT LINK

D

END COVER

APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: TERMINAL DETAIL 132kV BB PROTECTION PANEL TYPE +RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1438	SHT: 18 OF 25
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT

Sr.	CABLE DESIGNATION	CORE CROSS SECTION	DESTINATION	TERMINAL STRIP X73												TERMINATION B		
A	1															TEMPORARY SHORTENING LINK		
	2															PERMANENT LINK		
	3															END COVER		
	4																	
	5																	
	6																	
	7																	
	8																	
	9																	
	10																	
B	11																	
	12																	
	1	2	3	4	5	6	7	8	9	10	11	12						
C																		
D																		
E																		

LEGEND:



E P E S O L Pvt. Ltd.

DWO II - FDF / ENH 1.0 / D1472 SUT 21.05.25

DWG# EPE/ENU-18/P1438 SH1: 21 OF 25

DATE: 15.02.2019 AS BUILT REV: 0

APPROVED	CHECKED	DRAWN	PROJ
NAH	AMR	MUR	

PROJECT:
 DESCN P0#45000100989
DATED 06.03.2018

TITLE:

SCHEME DWG. REF: EPE/ENU-18/P1437

LEGEND:



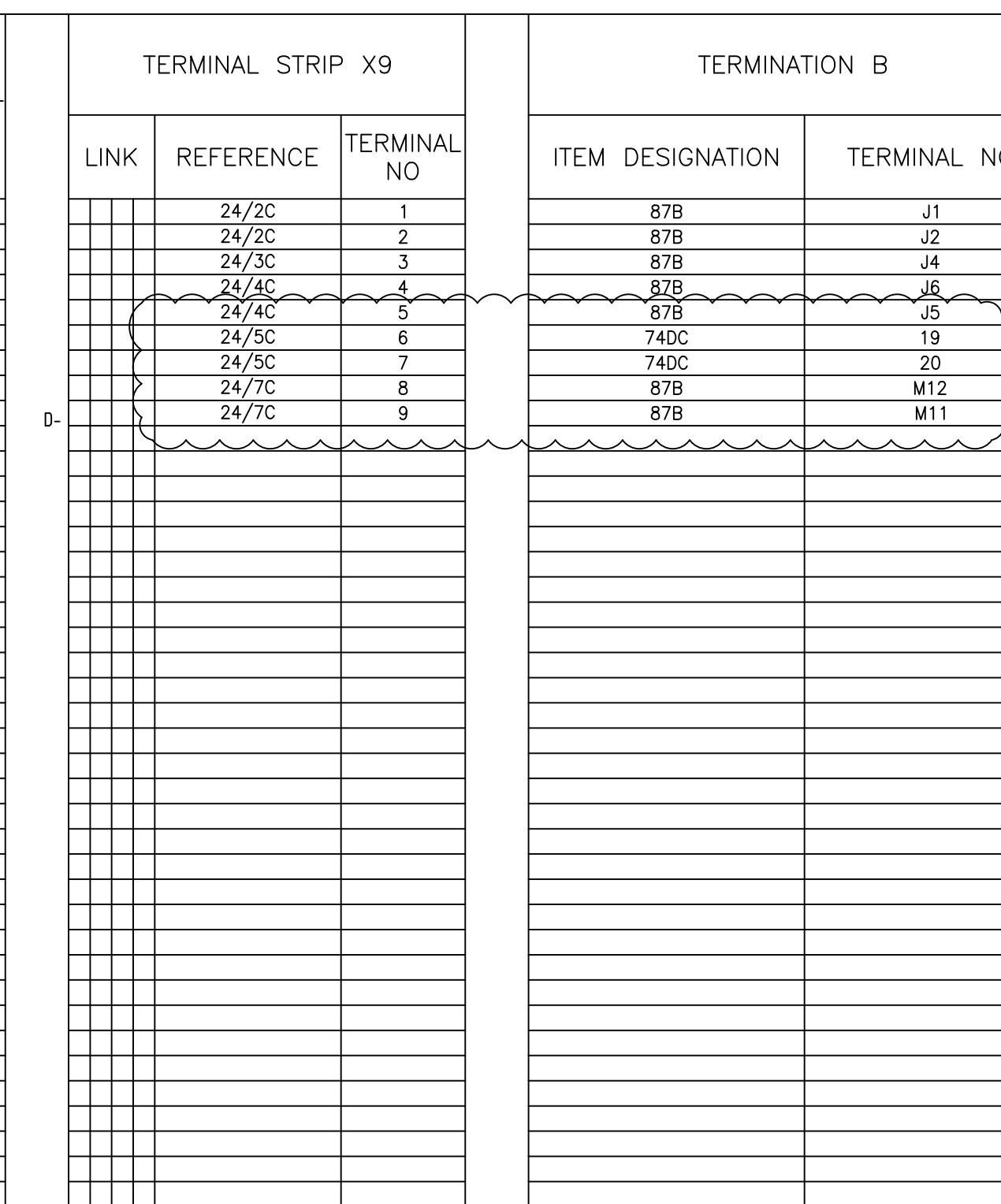
TEMPORARY SHORTENING LINK



PERMANENT LINK

D.

END COVER



APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132KV RELAY, CONTROL PANELS	TITLE: 132kV BB PROTECTION PANEL TYPE +RP7	 EPESOL PVT LTD 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1438	SHT: 24 OF 25
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT

LEGEND:



TEMPORARY SHORTENING LINK



PERMANENT LINK

D

END COVER

REMOTE DESTINATION	TERMINAL BLOCK	TERMINAL NO	TERMINAL STRIP X			ITEM DESIGNATION	TERMINAL NO
			LINK	REFERENCE	TERMINAL NO		
				SPARE	1		
				SPARE	2		
				SPARE	3		
				SPARE	4		
				SPARE	5		
				SPARE	6		
				SPARE	7		
				SPARE	8		
				SPARE	9		
				SPARE	10		
				SPARE	11		
				SPARE	12		
				SPARE	13		
				SPARE	14		
				SPARE	15		
				SPARE	16		
D-				SPARE	17		
				SPARE	18		
				SPARE	19		
				SPARE	20		
				SPARE	21		

APPROVED	CHECKED	DRAWN	PROJECT:  DESCON PO#45000100989 DATED 06.03.2018 PROCUREMENT OF 132kV RELAY, CONTROL PANELS	TITLE: TERMINAL DETAIL 132kV BB PROTECTION PANEL TYPE +RP7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/P1438	SHT: 25 OF 25
NAH	AMR	MUR				DATE: 15.02.2019	AS BUILT