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Table of contents

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

FMS_I02E/25.02.1999

Side	Contens	Additional field	Date	Reviewer	X
1	Deckblatt cover sheet	0	01.12.09	Cas/3306	
2	Inhaltsverzeichnis table of contents	1	01.12.09	PHI	
2a	Inhaltsverzeichnis table of contents	2	01.12.09	PHI	
2b	Inhaltsverzeichnis table of contents	3	01.12.09	PHI	
2c	Inhaltsverzeichnis table of contents	4	01.12.09	PHI	
2d	Inhaltsverzeichnis table of contents	5	01.12.09	PHI	
2e	Inhaltsverzeichnis table of contents	6	01.12.09	PHI	
2f	Inhaltsverzeichnis table of contents	7	01.12.09	PHI	
2g	Inhaltsverzeichnis table of contents	8	01.12.09	PHI	
2h	Inhaltsverzeichnis table of contents	9	01.12.09	PHI	
2i	Inhaltsverzeichnis table of contents	10	01.12.09	PHI	
3.1	Allgemeine Projektinformation general project information	11	01.12.09	CAS	
3.2	Allgemeine Projektinformation general project information	12	01.12.09	CAS	
3.3	Allgemeine Projektinformation general project information	13	01.12.09	CAS	
3.4	Allgemeine Projektinformation general project information	14	01.12.09	CAS	

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Inhaltsverzeichnis table of contents	= +	2
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							1	2a
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

0	1	2	3	4	5	6	7	8	9
Table of contents									
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet									
FMS_I02E/25.02.1999									
Side	Contens	Additional field				Date	Reviewer	X	
4	Klemmen-/Steckerleisten terminal strip / edge connector	15				01.12.09	Cas/3306		
4.1	Steckerleisten connexion plug boards	16				01.12.09	PHI		
5	Schaltschrankaufbau enclosure design	17				01.12.09	CAS		
6	Schaltschrank enclosure	18				01.12.09	CAS		
6.1	Schaltschrank enclosure	19				01.12.09	CAS		
7	Bedienelemente operating components	20				01.12.09	CAS		
7.1	Bedienelemente operating components	21				01.12.09	Cas		
8	Lageplan lay out	22				01.12.09	CAS		
8.1	Lageplan lay out	23				01.12.09	CAS		
8.2	Lageplan lay out	24				01.12.09	CAS		
9	Verbindungsleitungen connection wire	25				01.12.09	CAS		
9.1	Verbindungsboxen connection boxes	26				01.12.09	CAS		
10	Einspeisung power feed	27				01.12.09	CAS		
11	Erdung earthing	28				01.12.09	CAS		
12	Schaltschrankbeleuchtung enclosure lighting	29				01.12.09	CAS		

0	1	2	3	4	5	6	7	8	9
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Table of contents

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

FMS_I02E/25.02.1999

Side	Contens	Additional field	Date	Reviewer	X
63	System oben links, Achse Z system top left, axis Z	45	01.12.09	Cas/3306	
64	System oben rechts, Revolver system top right, turret	46	01.12.09	Cas/3306	
65	System oben links, Revolver system top left, turret	47	01.12.09	PHI	
66	Reitstock, Achse W	48	01.12.09	Cas/3306	
100	Spannungsversorgung 230VAC power supply 230VAC	49	01.12.09	CAS	
130	Spannungsversorgung 24VDC power supply 24VDC	50	01.12.09	Cas/3306	
131	24VDC Schrank 24VDC enclosure	51	01.12.09	Cas/3306	
132	24VDC Schrank 24VDC enclosure	52	01.12.09	Cas/3306	
133	24VDC Maschine 24VDC machine	53	01.12.09	Cas/3306	
134	24VDC Maschine 24VDC machine	54	01.12.09	Cas/3306	
135	24VDC Ausgabemodule 24VDC output-modules	55	01.12.09	Cas/3306	
142	Not-Aus emergency stop	56	01.12.09	CAS	
145	Wasserschutztüre geschlossen splash guard closed	57	01.12.09	CAS	
147	Zustimmung permission	58	01.12.09	Cas/3306	
149	Fussschalter Reitstock foot switch to tailstock	59	01.12.09	PHI	

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Inhaltsverzeichnis table of contents	=	+	2c
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049				
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E				
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					<-- SHEET 2b	SHEET --> 2d

0	1	2	3	4	5	6	7	8	9
Table of contents									
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet									
FMS_I02E/25.02.1999									
Side	Contens	Additional field				Date	Reviewer	X	
150	Antriebsfreigabe feed drives release	60				01.12.09	Cas/3306		
155	Lüfter fan	61				01.12.09	cas/3306		
400	NCU-Baugruppe NCU module	62				01.12.09	Cas/3306		
420	Bedientafel operator panel	63				01.12.09	Cas/3306		
421	Maschinensteuertafel machine control panel	64				01.12.09	Cas/3306		
430	Schnittstellen Bedienkasten interfaces operating panel	65				01.12.09	Cas/3306		
445	Hilfkontakte Überstromauslöser	66				01.12.09	Cas		
450	SPS-Übersicht PLC overview	67				01.12.09	CAS		
451	SPS-Übersicht PLC overview	68				01.12.09	CAS		
500	PLC Ausgänge PLC Outputs	69				01.12.09	Cas/3306		
501	PLC Ausgänge PLC Outputs	70				01.12.09	Cas/3306		
502	PLC Ausgänge PLC Outputs	71				01.12.09	Cas/3306		
503	PLC Ausgänge PLC Outputs	72				01.12.09	Cas/3306		
504	PLC Ausgänge PLC Outputs	73				01.12.09	CAS		
505	PLC Ausgänge PLC Outputs	74				01.12.09	CAS		

0	1	2	3	4	5	6	7	8	9
Table of contents									
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet									
FMS_I02E/25.02.1999									
Side	Contens	Additional field				Date	Reviewer	X	
508	PLC Ausgänge PLC Outputs	75				01.12.09	CAS		
510	PLC Ausgänge PLC Outputs	76				01.12.09	CAS		
511	PLC Ausgänge PLC Outputs	77				01.12.09	CAS		
512	PLC Ausgänge PLC Outputs	78				01.12.09	PHI		
700	PLC Eingänge PLC inputs	79				01.12.09	Cas/3306		
701	PLC Eingänge PLC inputs	80				01.12.09	Cas/3306		
702	PLC Eingänge PLC inputs	81				01.12.09	Cas/3306		
703	PLC Eingänge PLC inputs	82				01.12.09	Cas/3306		
704	PLC Eingänge PLC inputs	83				01.12.09	Cas/3306		
705	PLC Eingänge PLC inputs	84				01.12.09	Cas/3306		
706	PLC Eingänge PLC inputs	85				01.12.09	Cas/3306		
707	PLC Eingänge PLC inputs	86				01.12.09	Cas/3306		
712	PLC Eingänge PLC inputs	87				01.12.09	Cas/3306		
713	PLC Eingänge PLC inputs	88				01.12.09	PHI		
714	PLC Eingänge PLC inputs	89				01.12.09	PHI		

0	1	2	3	4	5	6	7	8	9
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Table of contents

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

FMS_I02E/25.02.1999

Side	Contens	Additional field	Date	Reviewer	X
715	PLC Eingänge PLC inputs	90	01.12.09	PHI	
800	PLC-Eingänge analog PLC inputs analog	91	01.12.09	CAS	
900	Reserveklemmen reserve terminals	92	01.12.09	HIT	
901	Reserveklemmen reserve terminals	93	01.12.09	HIT	
1000	X0 Erdschiene Schaltschrank X0 earth bar enclosure	94	01.12.09	PHI	
1000.1	X0 Erdschiene Schaltschrank X0 earth bar enclosure	95	01.12.09	PHI	
1001	X2 Externe Geräte 0V X2 external devices 0V	96	01.12.09	PHI	
1002	X3 Externe Geräte 24V+ X3 external devices 24V+	97	01.12.09	PHI	
1003	X6 Ein-/Ausgabebaugruppen X6 in/out moduls	98	01.12.09	PHI	
1004	X7 Analogbaugruppe X7 analog modul	99	01.12.09	PHI	
1005	X00 Erdschiene Bedienkasten X00: earth bar operator panel	100	01.12.09	PHI	
1006	X02	101	01.12.09	PHI	
1007	X16 230VAC-Verteilung X16 230VAC distribution	102	01.12.09	PHI	
1008	X20 Spannungsversorgung 0V X20 power supply 0V	103	01.12.09	PHI	
1009	X22 Spannungsverteilung 0V	104	01.12.09	PHI	

0	1	2	3	4	5	6	7	8	9
Table of contents					Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet			FMS_I02E/25.02.1999	
Side	Contens				Additional field	Date	Reviewer	X	
1010	X23 Spannungsverteilung 24V+ X23 power supply 24V+				105	01.12.09	PHI		
1011	X35 Steckdose 230VAC X35 socket 230VAC				106	01.12.09	PHI		
1012	X36 24VDC-Verteilung X36 24VDC distribution				107	01.12.09	PHI		
1013	X152 Hydraulikpumpe X152 hydraulic pump				108	01.12.09	PHI		
1014	X172 Kühlmittelpumpe X172 cooling pump				109	01.12.09	PHI		
1015	X202 Späneförderer Motor X202 chip conveyor motor				110	01.12.09	PHI		
1016	X204 Späneförderer Schaltelemente X204 chip conveyor control elements				111	01.12.09	PHI		
1017	X302 Schmierpumpe X302 lubrication pump				112	01.12.09	PHI		
1018	X1332 Lumbergverteiler X1332 connector box				113	01.12.09	PHI		
1019	X1333 Lumbergverteiler X1333 connector box				114	01.12.09	PHI		
1020	X1334 Lumbergverteiler X1334 connector box				115	01.12.09	PHI		
1021	X1338 Schlitten oben rechts				116	01.12.09	PHI		
1021.1	X1338 Schlitten oben rechts				117	01.12.09	PHI		
1022	X1339 Schlitten oben links				118	01.12.09	PHI		
1022.1	X1339 Schlitten oben links				119	01.12.09	PHI		

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Inhaltsverzeichnis table of contents	=	+	2g
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049				
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen						
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E		<-- SHEET 2f		SHEET --> 2h

0	1	2	3	4	5	6	7	8	9
Table of contents									
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet									
FMS_I02E/25.02.1999									
Side	Contens	Additional field				Date	Reviewer	X	
1023	X1342 Kühlmittel X1342 coolant	120				01.12.09	PHI		
1023.1	X1342 Kühlmittel X1342 coolant	121				01.12.09	PHI		
1100	Stückliste parts list	122				01.12.09	Cas		
1101	Stückliste parts list	123				01.12.09	Cas		
1102	Stückliste parts list	124				01.12.09	Cas		
1103	Stückliste parts list	125				01.12.09	Cas		
1104	Stückliste parts list	126				01.12.09	Cas		
1105	Stückliste parts list	127				01.12.09	Cas		
1106	Stückliste parts list	128				01.12.09	Cas		
1107	Stückliste parts list	129				01.12.09	Cas		
1108	Stückliste parts list	130				01.12.09	Cas		
1109	Stückliste parts list	131				01.12.09	Cas		
1110	Stückliste parts list	132				01.12.09	Cas		
1111	Stückliste parts list	133				01.12.09	Cas		
1112	Stückliste parts list	134				01.12.09	Cas		

Verdrahtung

wiring

Draht-/Klemmen-Numerierungart im Schaltschrank:
wire/terminal marking inside enclosure:

- gleiches Potential --> gleiche Nummer
- same potential --> same number
- an den einzelnen Geräten: mit Anschluss-PIN-Nummer
- on components: like terminal pin-number
- an Klemmen: nach Klemmen-Nummern
- on terminals acc. to terminal numbers

Drahtnumerierung ausserhalb des Schaltschranks:
wire marking outside enclosure:

- nach Klemmen-Nummern
- like terminal number

Beschriftung der einzelnen Geräte im Schaltschrank:
marking of components in enclosure:

- Bezeichnungsschild auf und neben dem Gerät
- marking on components and mounting plate

Beschriftung ausserhalb des Schaltschranks:
marking outsides enclosure:

- Bezeichnungsschild neben dem Gerät
- marking on mounting plate
- Bezeichnungsschild am Gerätekabel
- marking on components

Leiterfarben (EN 60204-1)

wire coulors (EN 60204-1)

	FARBE COLOUR	MIN. QUERSCHNITT SMALLEST AREA
Hauptstromkreis AC main circuit AC	schwarz black	1,5 mm2
Hauptstromkreis DC main circuit DC	schwarz black	1,5 mm2
Neutralleiter neutral conductor	hellblau light blue	1,0 mm2
Potentialerde potential equalisation	gelb/grün yellow/green	6,0 mm2
Schutzerde protection earth	gelb/grün yellow/green	1,5 mm2
Wechselspannung 230VAC voltage 230VAC	schwarz black	1,0 mm2
Steuerstromkreis DC control circuit DC	dunkelblau dark blue	1,0 mm2
Fremdspannung foreign voltage	orange	1,5 mm2
Vor Hauptschalter bevor main switch	schwarz black	1,5 mm2
PLC-Eingang PLC input	dunkelblau dark blue	0,5 mm2
PLC-Ausgang PLC output	dunkelblau dark blue	0,5 mm2

Bei mehradrigen Kabeln: Ader schwarz mit weissen Ziffern
multiplex wires cable: wire black with white numeral

Farben von Anzeigeleuchten (EN 60204-1)
colours of signal lights (EN 60204-1)

ROT	Notfall	Gefährlicher Zustand
RED	emergency	dangerous status
GELB	Anormal	Anormaler Zustand, bevorstehender
YELLOW	abnormal	kritischer zustand
		abnormal status, imminent critical
		status
GRÜN	Normal	Normaler Zustand
GREEN	normal	normal status
BLAU	Zwingend	Anzeige eines Zustandes der die Handlung
BLUE	imperative	des Bedieners erfordert
		display of status requiring operator
		action
WEISS	Neutral	Andere Zustände; wird verwendet wenn
WHITE	neutral	Zweifel über die Anwendung von Rot, Gelb,
		Grün oder Blau bestehen
		other status; used in case of doubt
		regarding application of red, yellow, green
		or blue

Klemmen
terminals

2,5	mm2	Wago
4	mm2	Wago
6	mm2	Wago
10	mm2	Wago
70	mm2	Weidmüller

Gerätebezeichnungen
designation of devices

A.. Baugruppe, Gerät
A.. module, device

B.. Umsetzer nicht elektrisch --> elektrisch
B.. converter not electrical to electrical

C.. Kondensatoren
C.. condensers

D.. Binäre Elemente
D.. binary elements

E.. Hilfsgeräte
E.. auxiliary device

F.. Sicherungseinrichtungen
F.. safety devices

G.. Generatoren
G.. generators

H.. Signalgeräte (Lampen, Hupen..)
H.. signal devices (lamps, horns..)

J.. Sonstige Einrichtungen
J.. other devices

K.. Schütz
K.. contactor

L.. Drosseln
L.. throttles

M.. Motoren
M.. motors

Gerätebezeichnungen
designation of devices

N.. Regler, Verstärker
N.. controller, amplifyer

P.. Meßgeräte, Prüfeinrichtungen, Zähler
P.. instruments, check devices, counters

Q.. Starkstromschaltgeräte
Q.. power current switches

R.. Widerstände
R.. resistors

S.. Schalter, Taster
S.. switches, touch button

T.. Transformatoren
T.. transformers

U.. Funktionseinheiten
U.. Function units

V.. Halbleiter
V.. semi conductor

W.. Kabel
W.. cable

X.. Stecker, Klemmen
X.. plugs, terminals

Y.. elektrisch betätigte Mechanik (Ventile)
Y.. el. actuated mechanism (valves)

Z.. Filter, Entzerrer
Z.. filter, equalizer

Farbkürzel

colour mnemonic

bl blau

blu blue

br braun

brn brown

ge gelb

yel yellow

gn grün

grn green

gr grau

gry grey

or orange

ora

rs rosa

pnk pink

rt rot

red red

sw schwarz

blk black

vi violett

vio violet

ws weiss

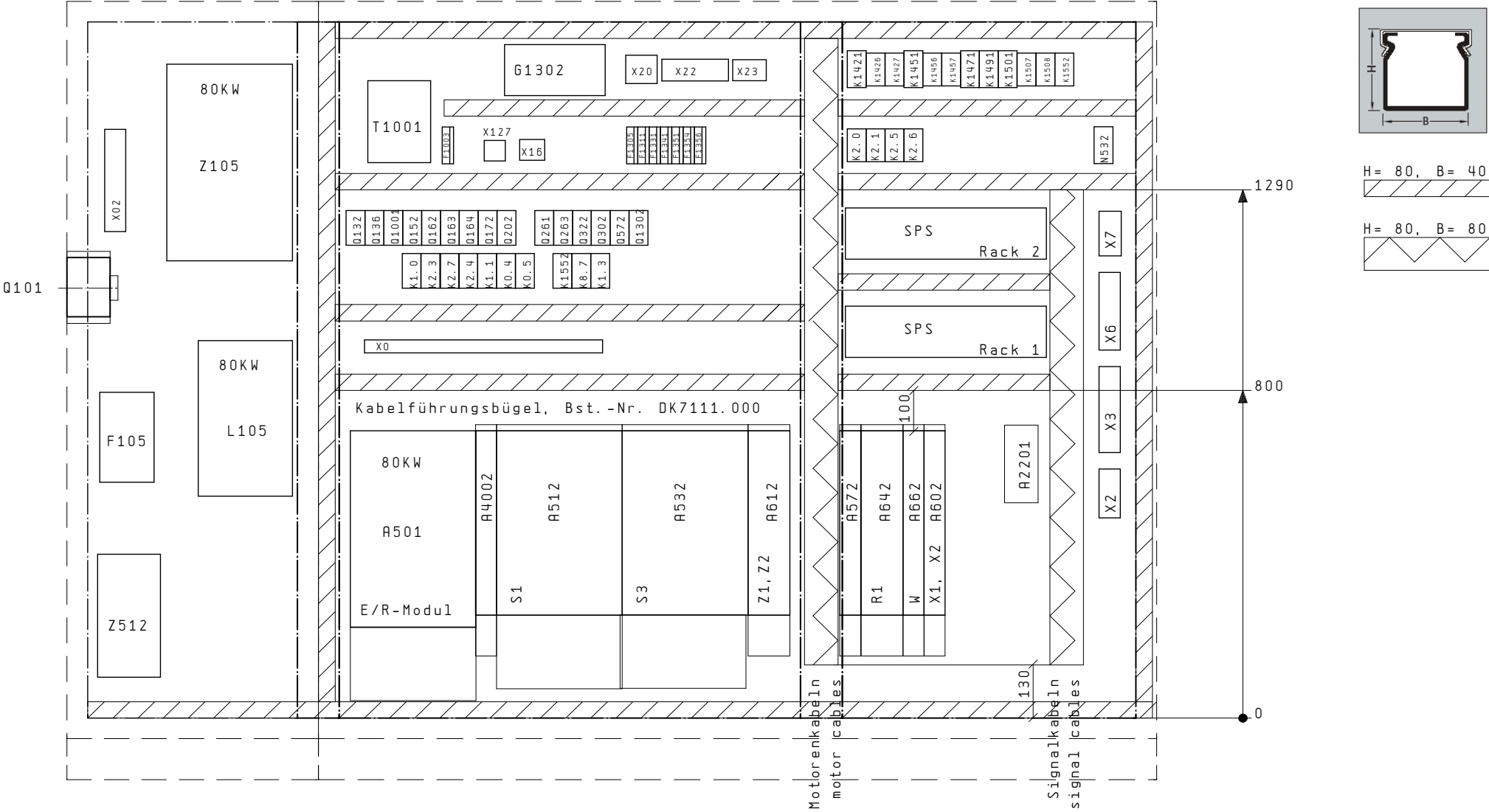
wht white

KLEMMLEISTENÜBERSICHT SCHALTSCHRANK TERMINAL OVERVIEW EL.CONTROL ENCLOSUR	KLEMMLEISTENÜBERSICHT BEDIENKASTEN TERMINAL OVERVIEW CONTROL CONSOLE	KLEMMLEISTENÜBERSICHT SUMMARY OF TERMINAL BARS
<p>X0=X0 Erdschiene Schaltschrank X0 earth bar enclosure</p> <p>X2=X2 Externe Geräte 0V X2 external devices 0V</p> <p>X3=X3 Externe Geräte 24V+ X3 external devices 24V+</p> <p>X6=X6 Ein-/Ausgabebaugruppen X6 in/out moduls</p> <p>X7=X7 Analogbaugruppe X7 analog modul</p> <p>X16=X16 230VAC-Verteilung X16 230VAC distribution</p> <p>X20=X20 Spannngsversorgung 0V X20 power supply 0V</p> <p>X22=X22 Spannngsverteilung 0V</p> <p>X23=X23 Spannungsverteilung 24V+ X23 power supply 24V+</p>	<p>X00=X00 Erdschiene Bedienkasten X00: earth bar operator panel</p> <p>X35=X35 Steckdose 230VAC X35 socket 230VAC</p> <p>X36=X36 24VDC-Verteilung X36 24VDC distribution</p>	

STECKERÜBERSICHT MASCHINE PLUGS SUMMARY OF MACHINE	ANSCHLUSSVERTEILER MASCHINE MULTIPLE SOCKED MACHINE	STECKERÜBERSICHT SCHALTSCHRANK PLUGS SUMMARY OF ENCLOSURE
	X1338=X1338 Schlitten oben rechts X1339=X1339 Schlitten oben links X1342=X1342 Kühlmittel X1342 coolant	X152=X152 Hydraulikpumpe X152 hydraulic pump X172=X172 Kühlmittelpumpe X172 cooling pump X202=X202 Späneförderer Motor X202 chip conveyor motor X204=X204 Späneförderer Schaltelemente X204 chip conveyor control elements X302=X302 Schmierpumpe X302 lubrication pump X1332=X1332 Lumbergverteiler X1332 connector box X1333=X1333 Lumbergverteiler X1333 connector box X1334=X1334 Lumbergverteiler X1334 connector box

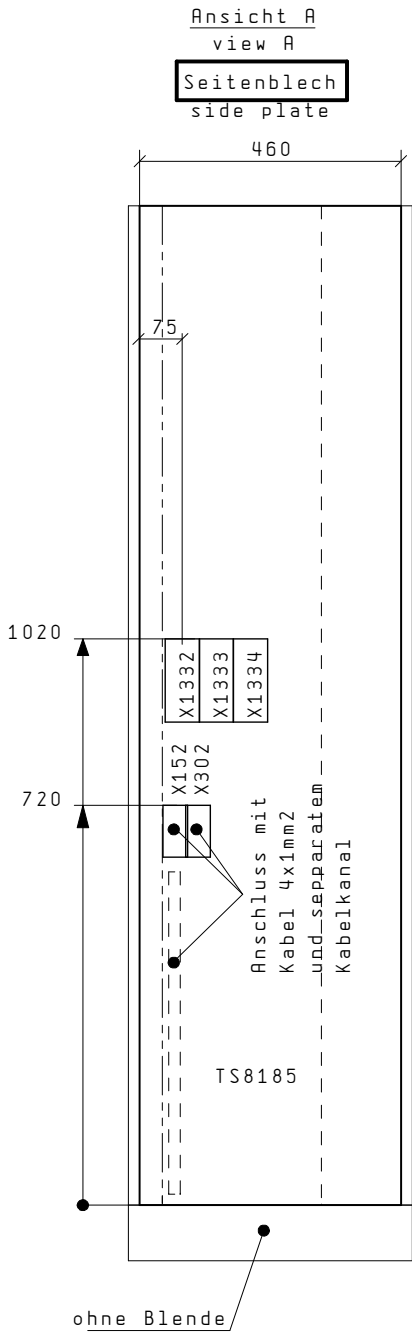
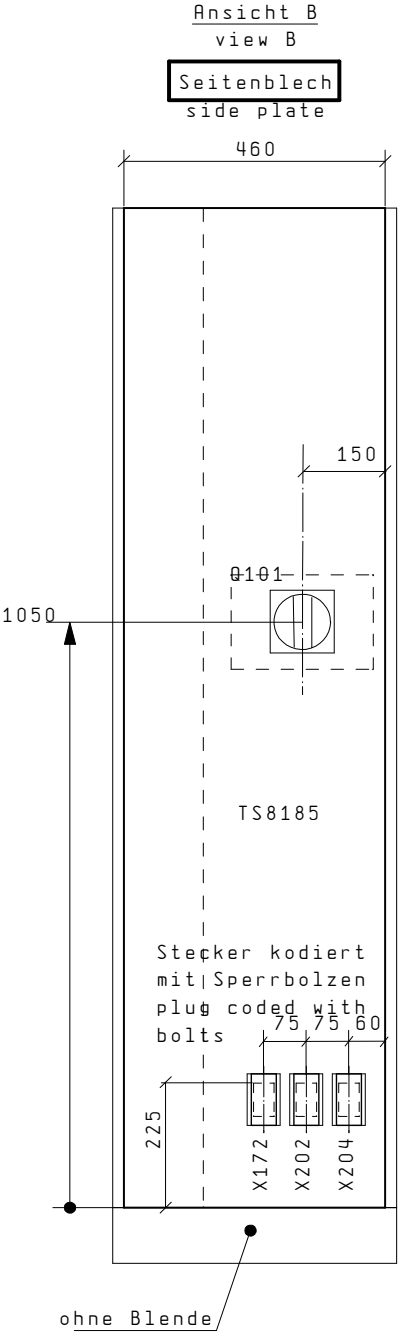
B1.7

auf Schrankgerüst
montiert
on enclosure frame
mounted

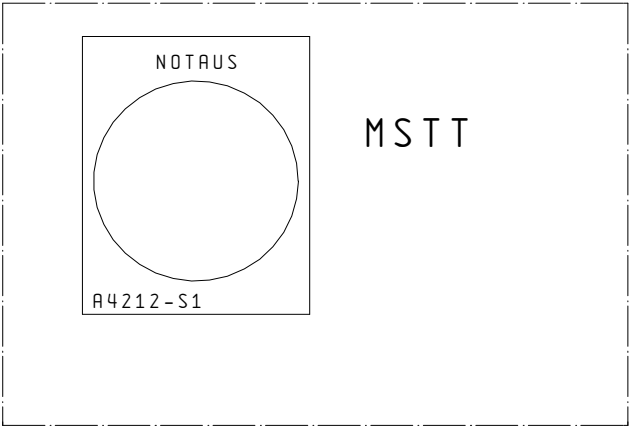
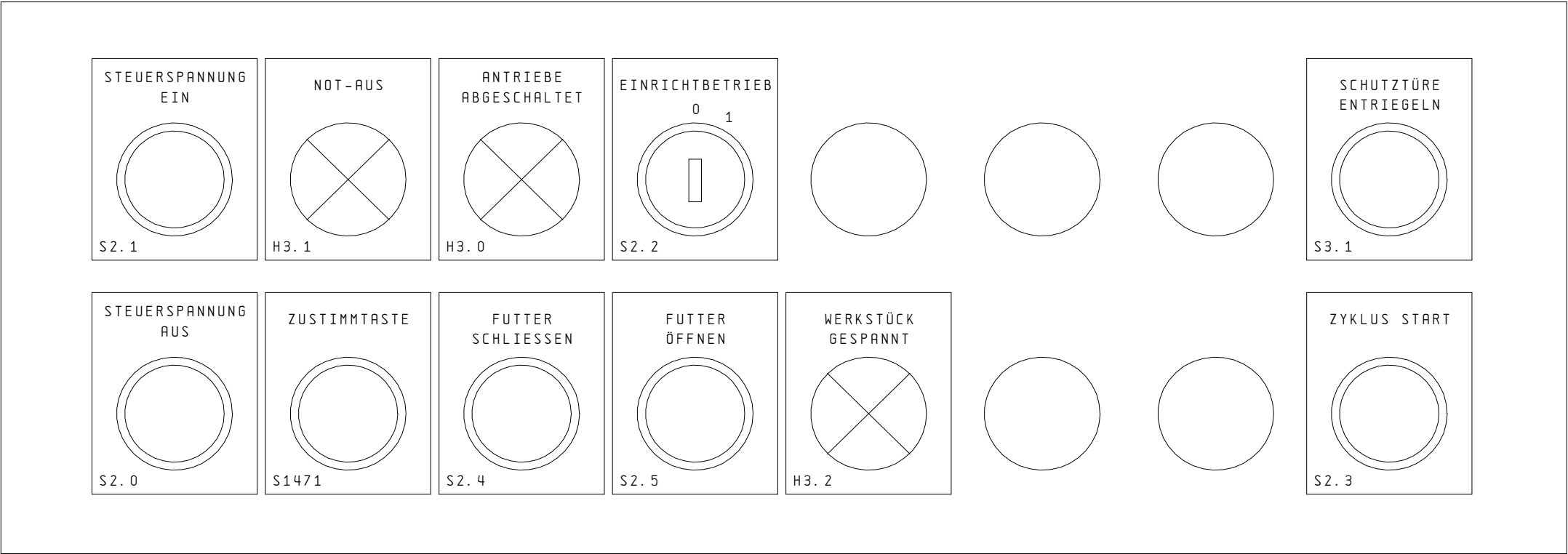


DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Schaltschrank enclosure	= +	6
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

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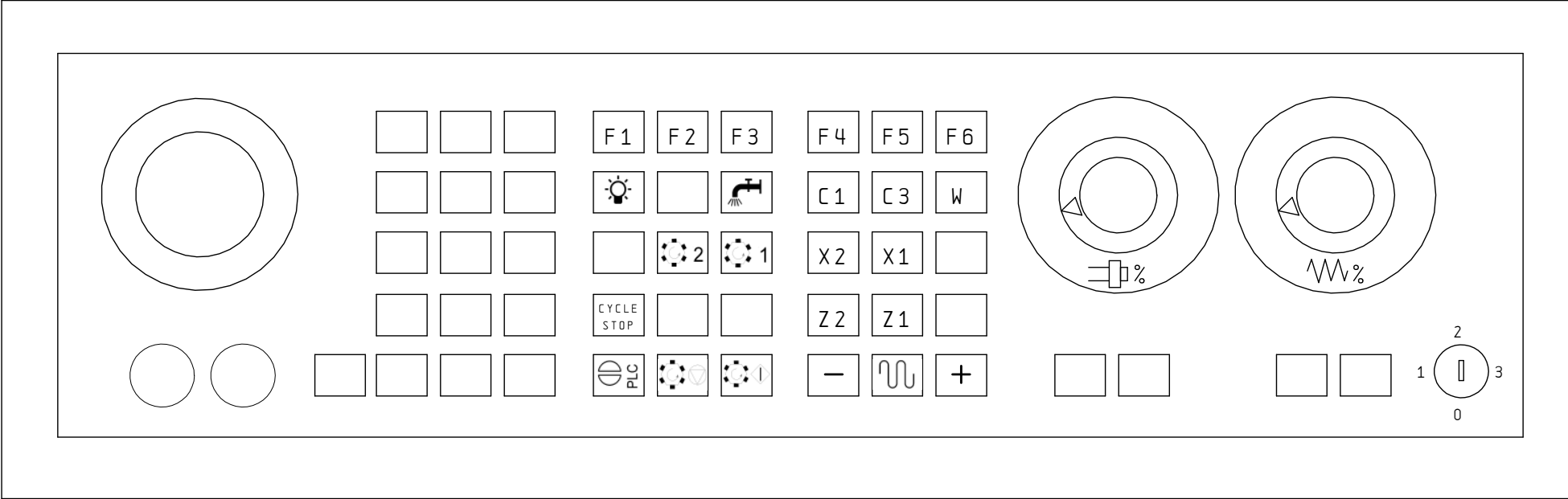


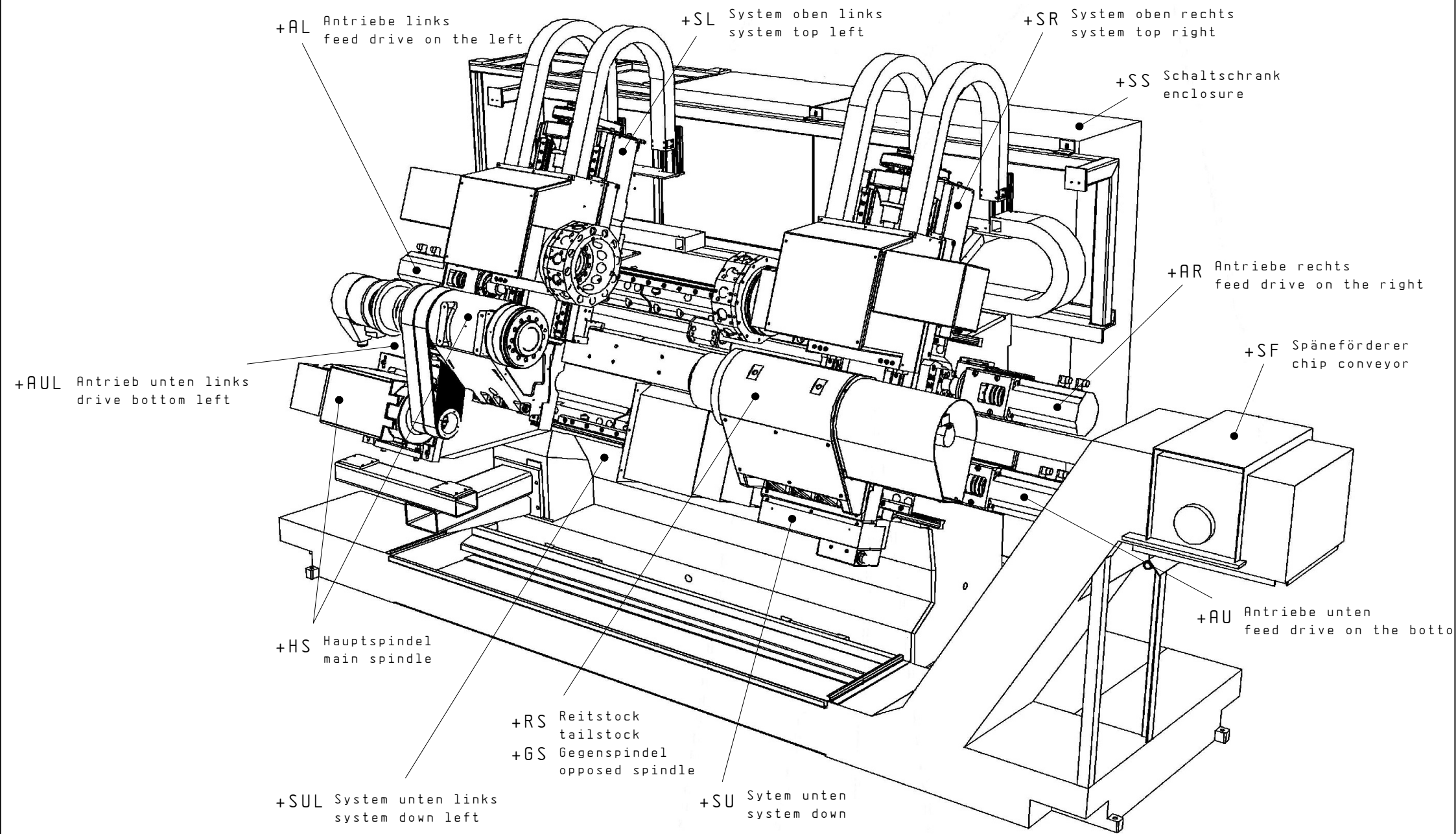
DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Schaltschrank enclosure	= +	6.1
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							6	7
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

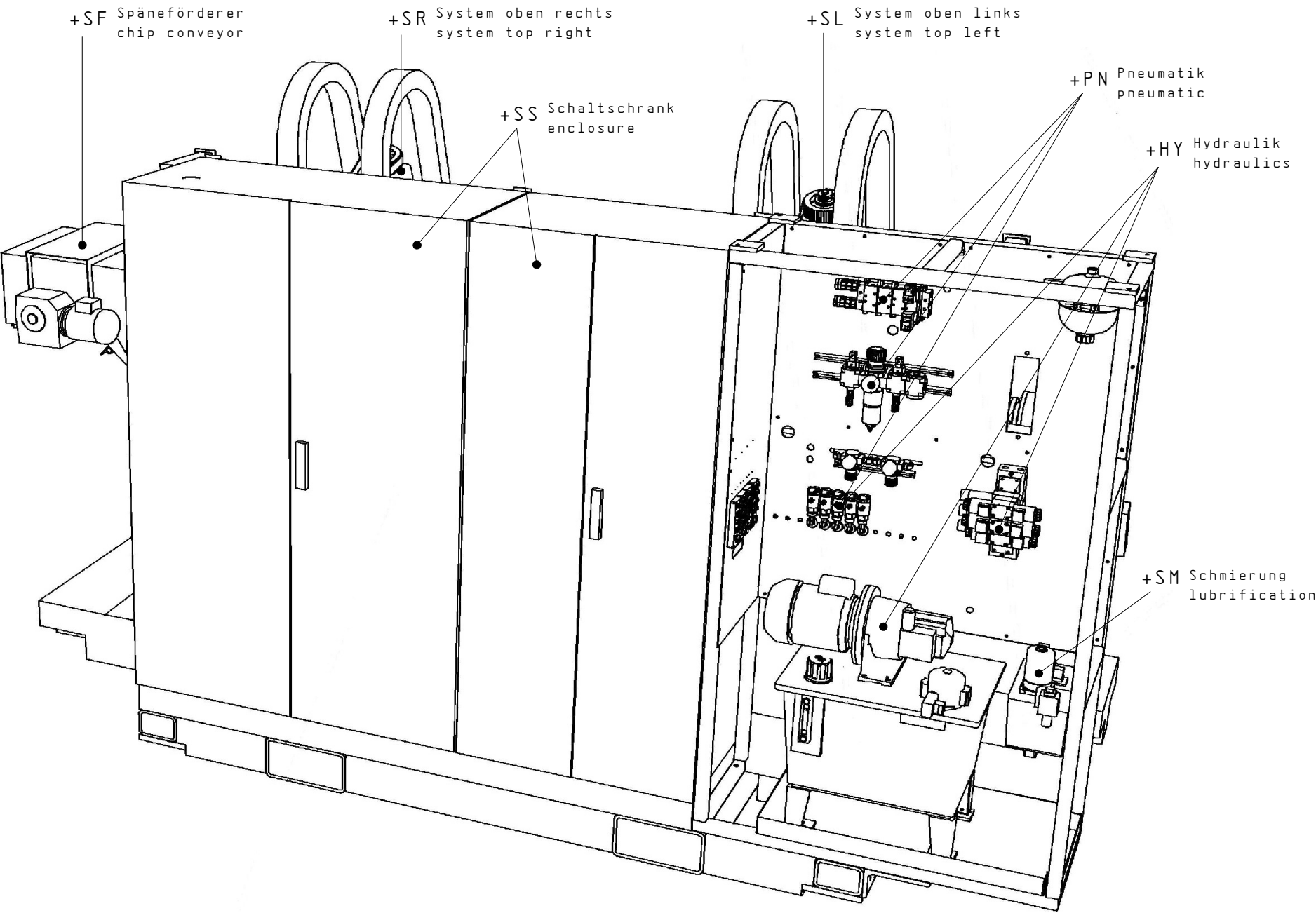


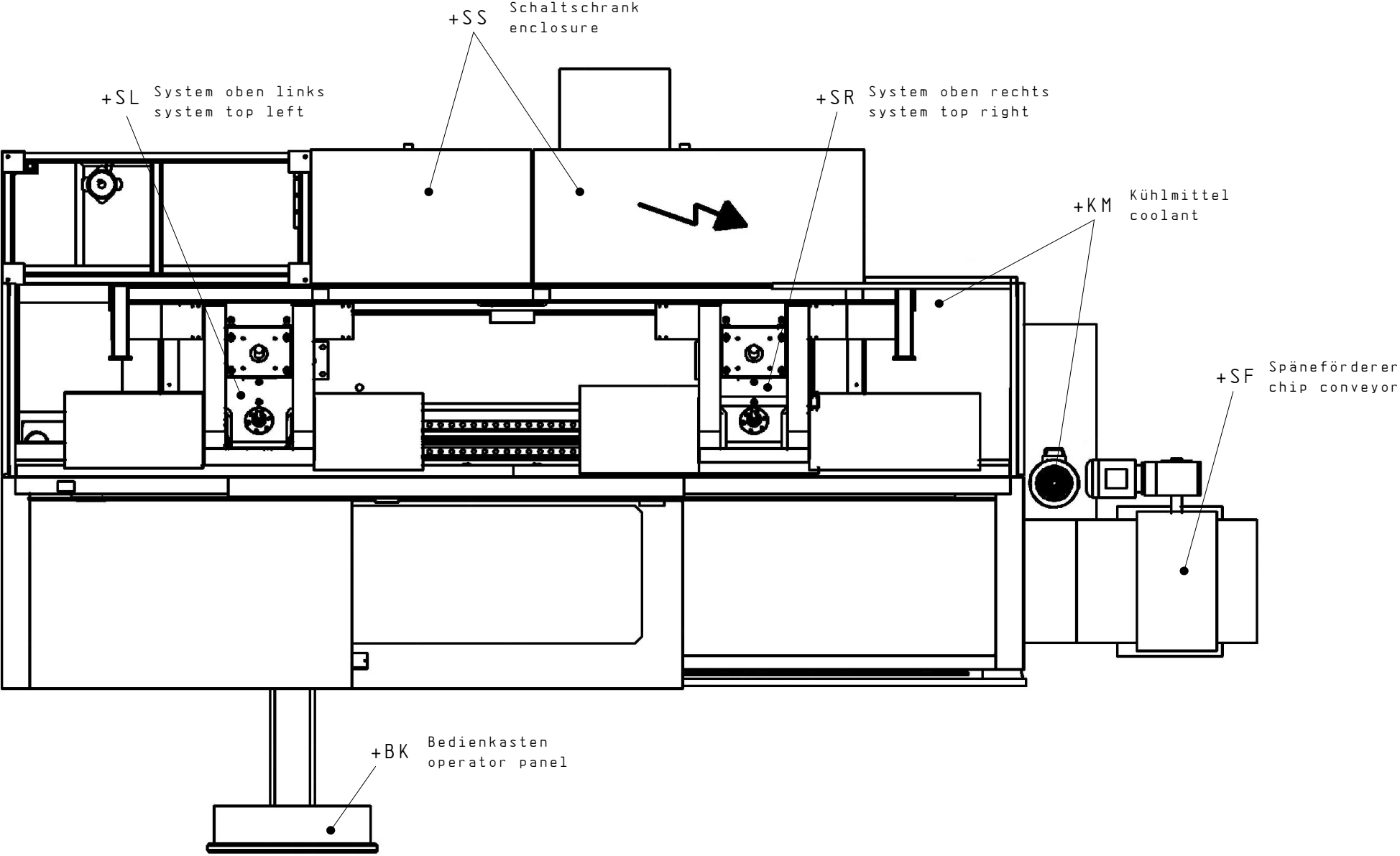
Bedientableau
operating panel

H3.0	568-043-060
H3.1	568-043-057
H3.2	568-043-061
S2.0	568-016-040
S2.1	568-016-042
S2.2	568-008-107 + 568-016-045
S2.3	568-016-042
S2.4	568-016-039
S2.5	568-016-039
S3.1	568-016-039
S1471	568-016-041 + 568-016-045

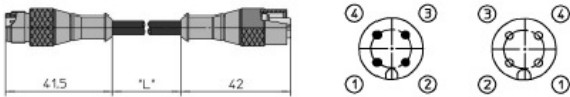






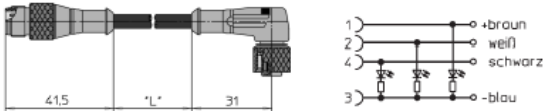


RST 4-RKT 4



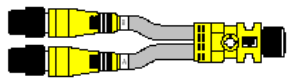
568-081-055 L = 2,0 m

RST -RKWT/LED

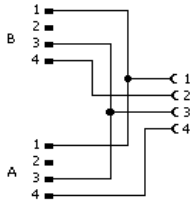


568-081-040 L = 0,6 m
568-081-041 L = 1,0 m
568-081-043 L = 2,0 m

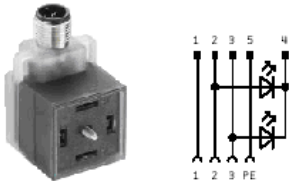
BG15794/C150



568-081-061

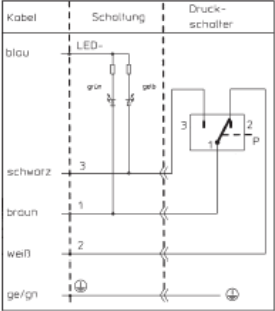
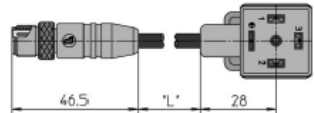


TASD41-4. 048-FS5K/S330



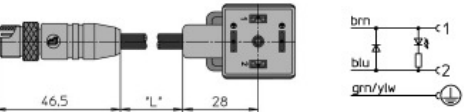
568-081-060

RST 5-VAD 3C-4-1



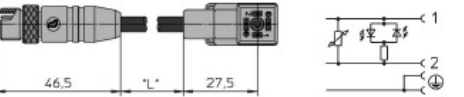
568-081-051 L = 0,6 m
568-081-052 L = 1,0 m
568-081-054 L = 2,0 m

RST 5-3-VAD 1A-1-3 DIN 43650/A

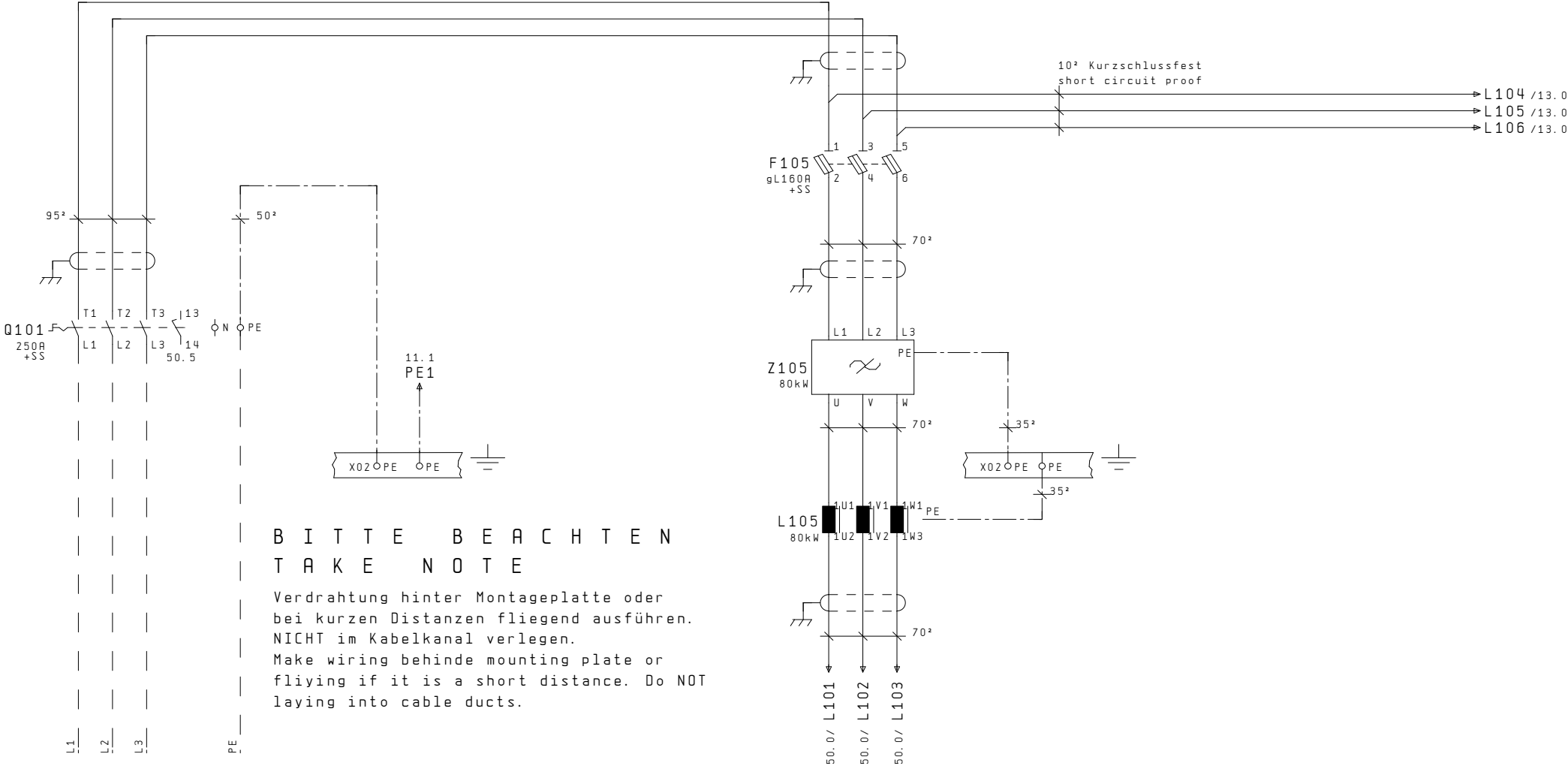


568-081-044 L = 0,6 m
568-081-045 L = 1,0 m
568-081-046 L = 2,0 m

RST 5-3-VCD 1A-1-3 DIN 43650/C



568-081-042 L = 1,5 m



Einspeisung
power feed
3x400V/183A
Pn= 103 kW

Erdung
earthing

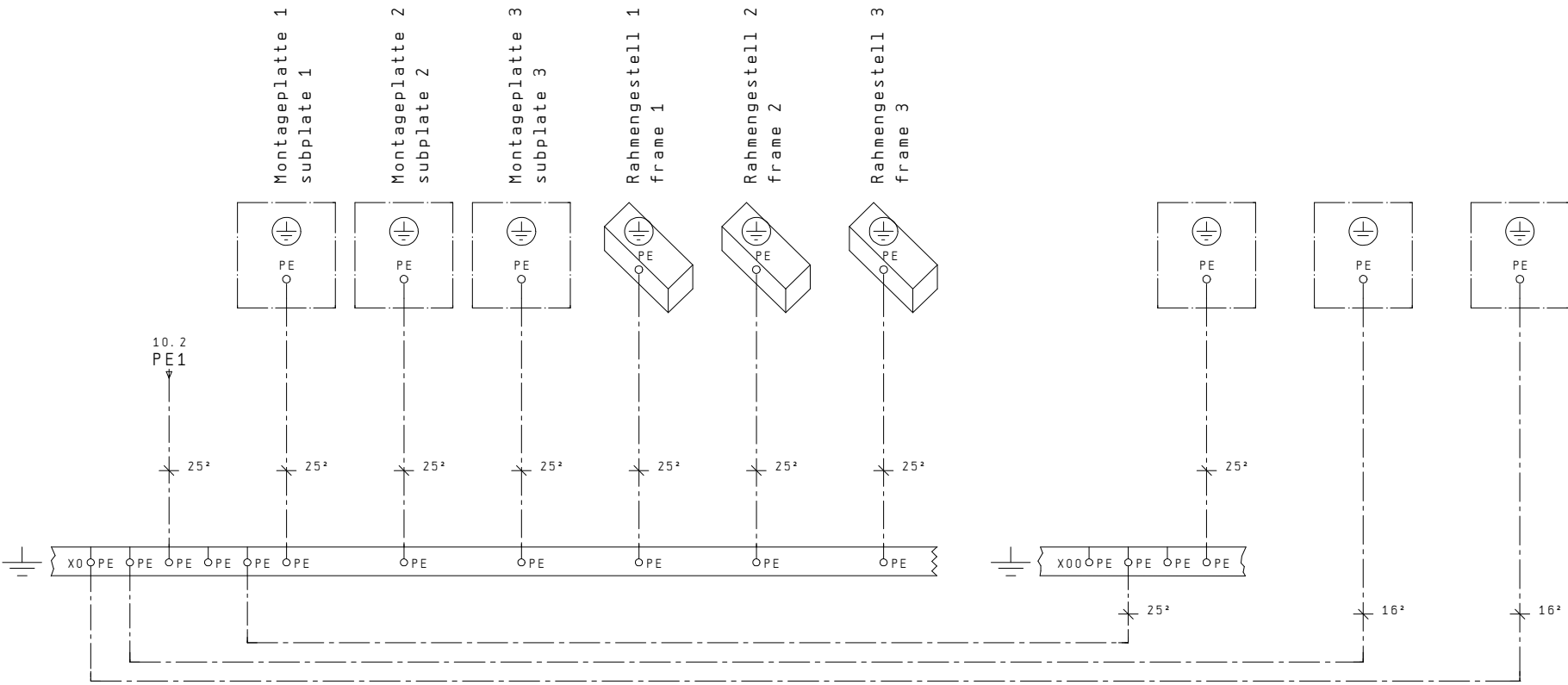
Erdschiene 15x6 mm
Schaltschrank
earth bar 15x6 mm
enclosure

SIMODRIVE 6110

In= 149 A
Pn= 89 kW

Hilfsantriebe
auxiliary drives
In = 35 A
Pn = 14 kW

DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Einspeisung power feed	= +	10
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		9.1	11
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

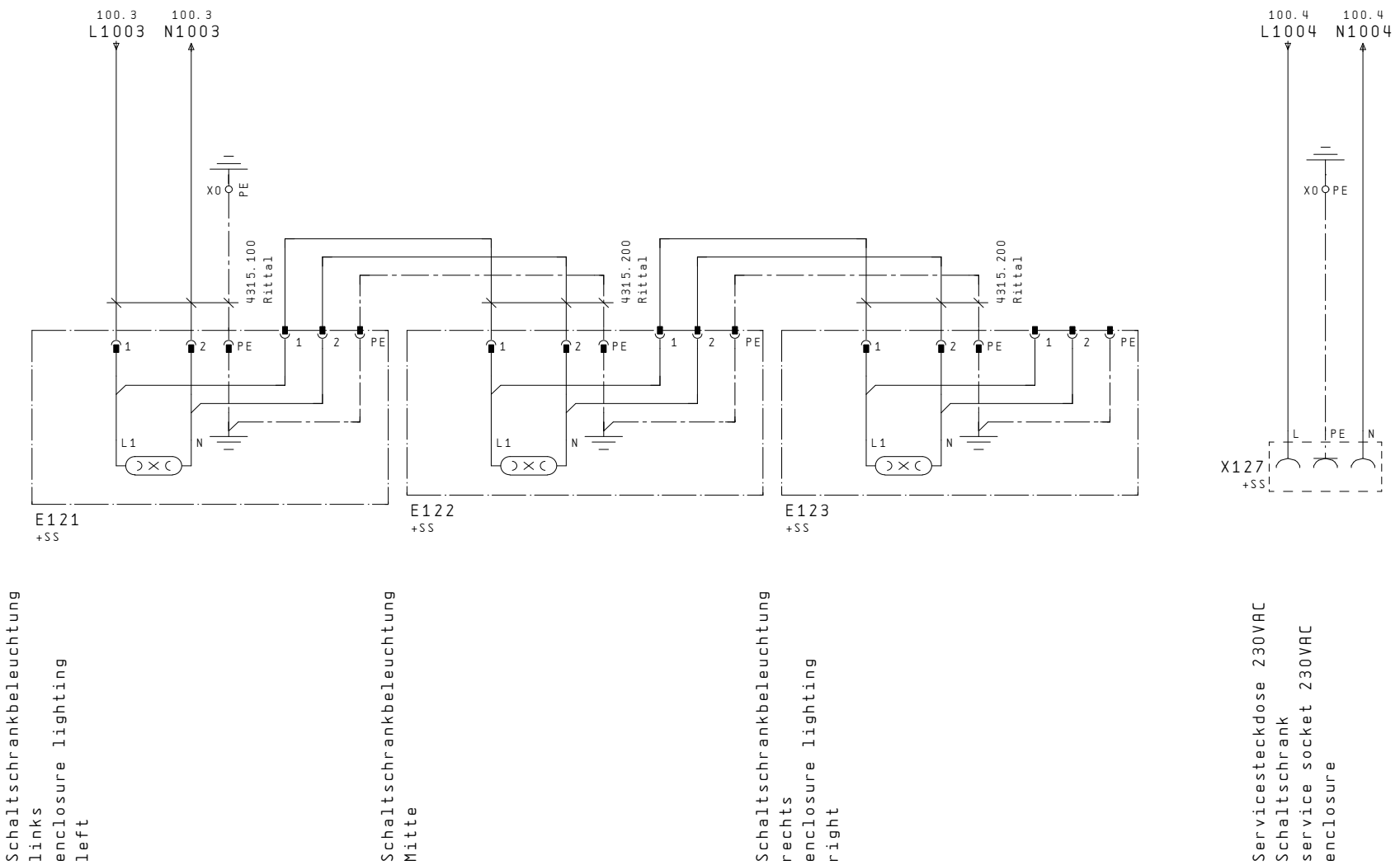


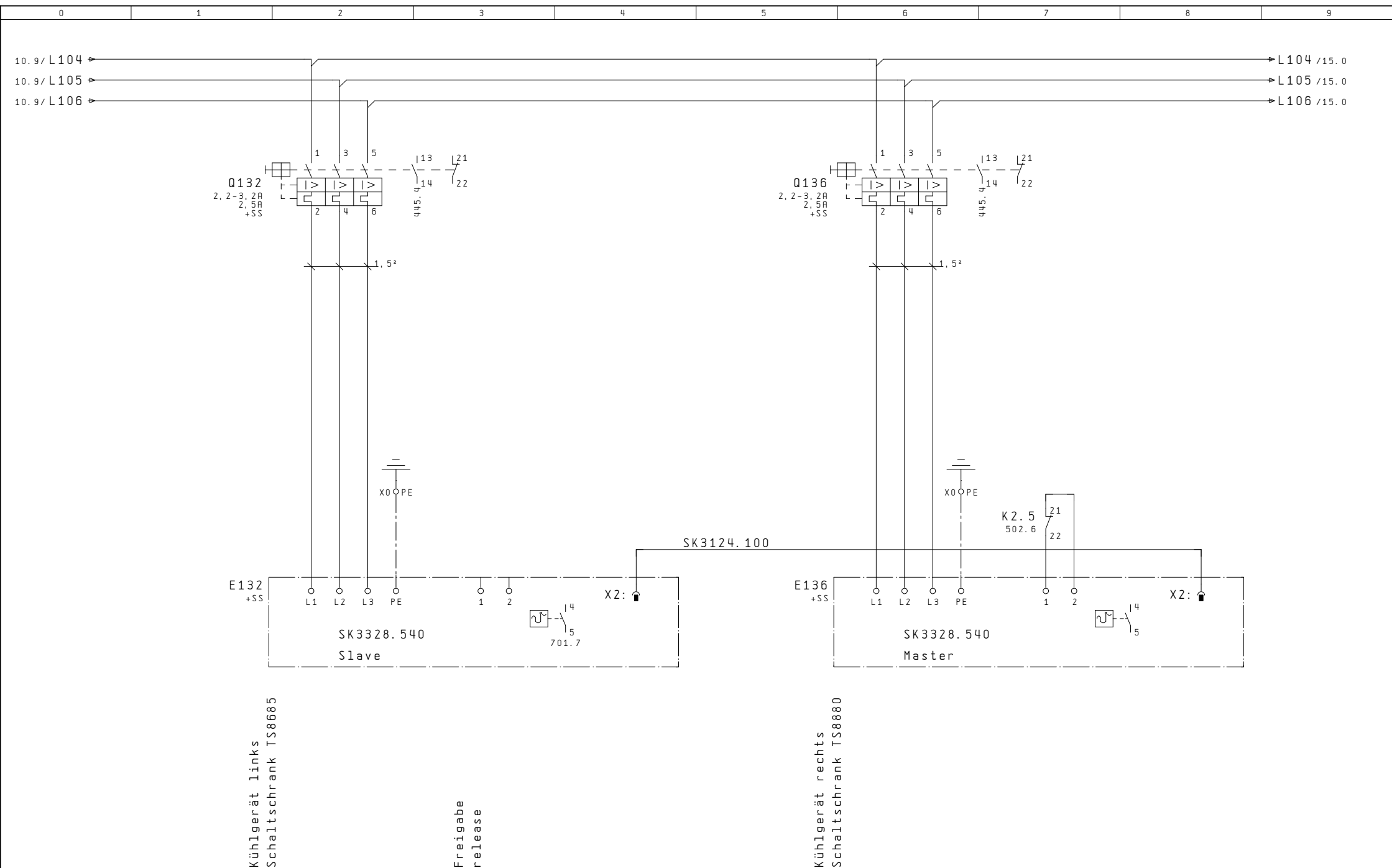
Erdschiene Schaltschrank
earth bar enclosure

Erdschiene Bedienkasten
earth bar operating panel

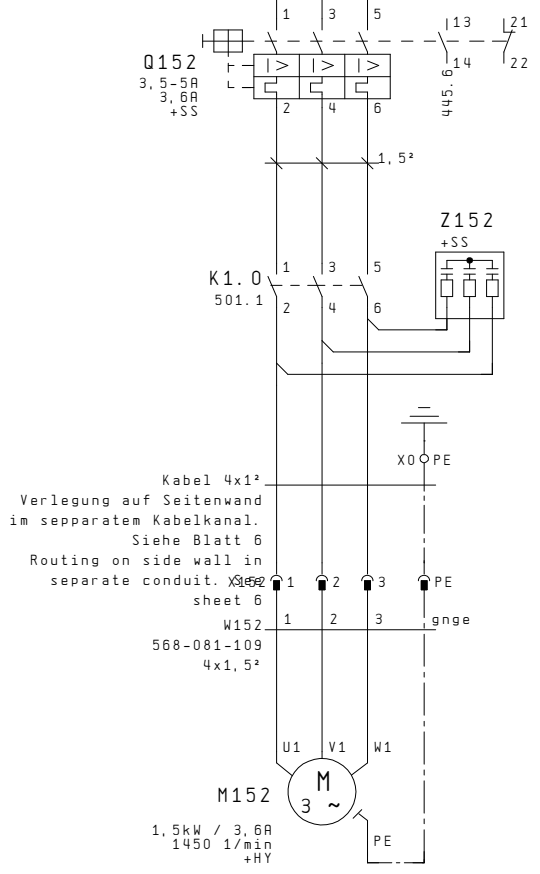
Erdung Hydraulikbasain
earthing hydraulic tank

Erdung Späneförderer
earthing chip conveyor





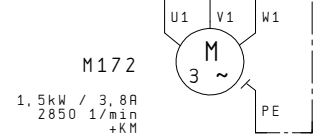
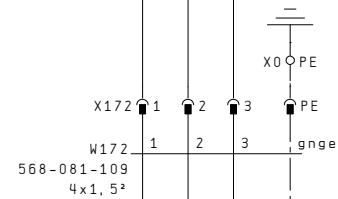
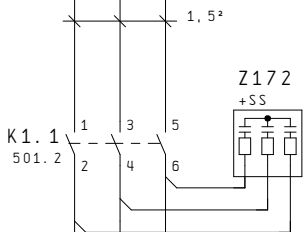
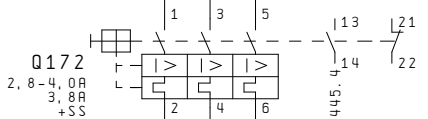
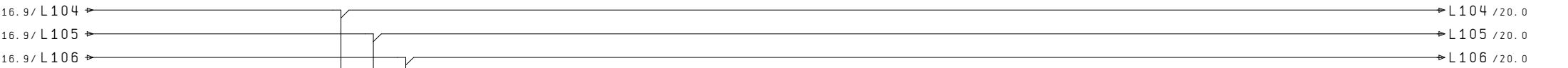
0	1	2	3	4	5	6	7	8	9
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Hydraulikpumpe
hydraulic pump

DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Hydraulikpumpe hydraulic pump	= +	15
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		13	16
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

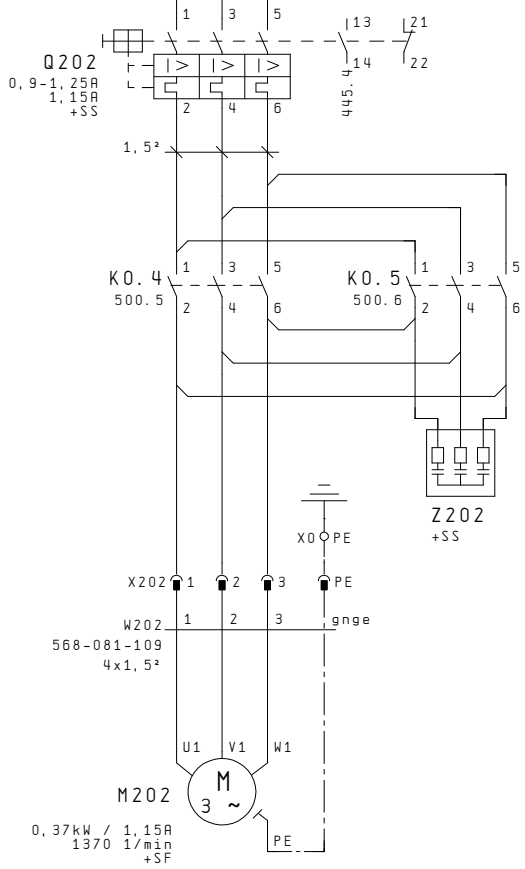
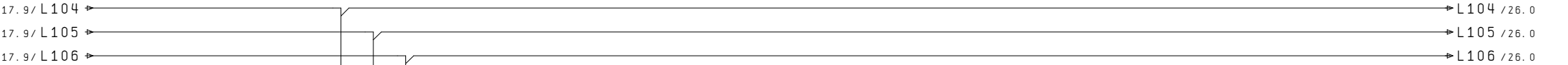
0	1	2	3	4	5	6	7	8	9
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Kühlmittelpumpe
coolant pump

DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Kühlmittelpumpe coolant pump	= +	17
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		16	20
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

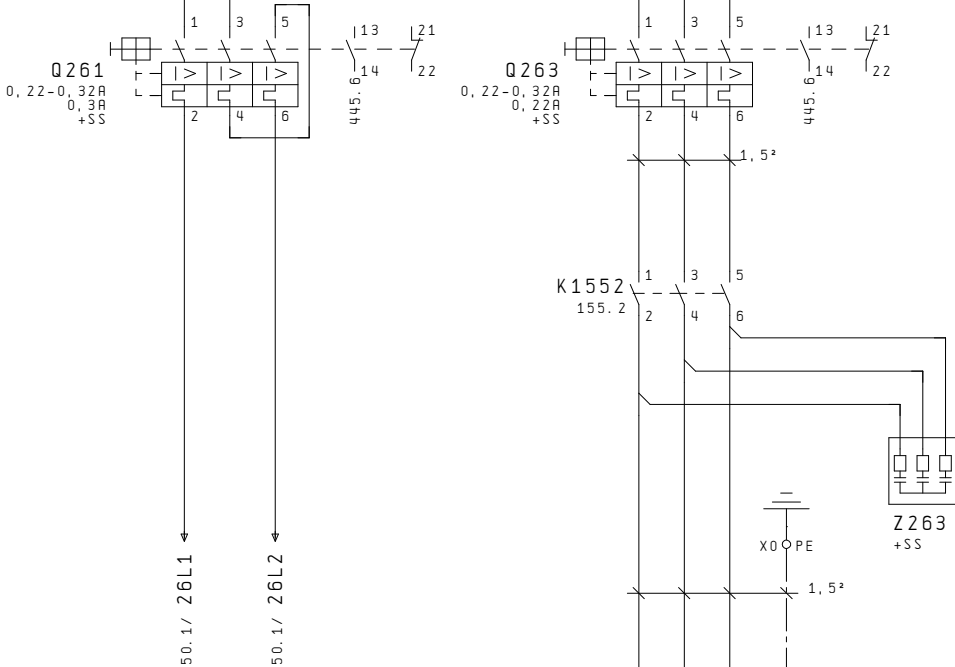
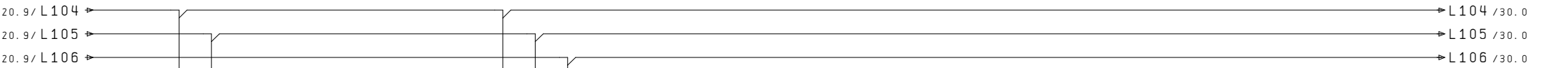
0	1	2	3	4	5	6	7	8	9
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Späneförderer
chip conveyor

DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Späneförderer chip conveyor	= +	20
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		17	26
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

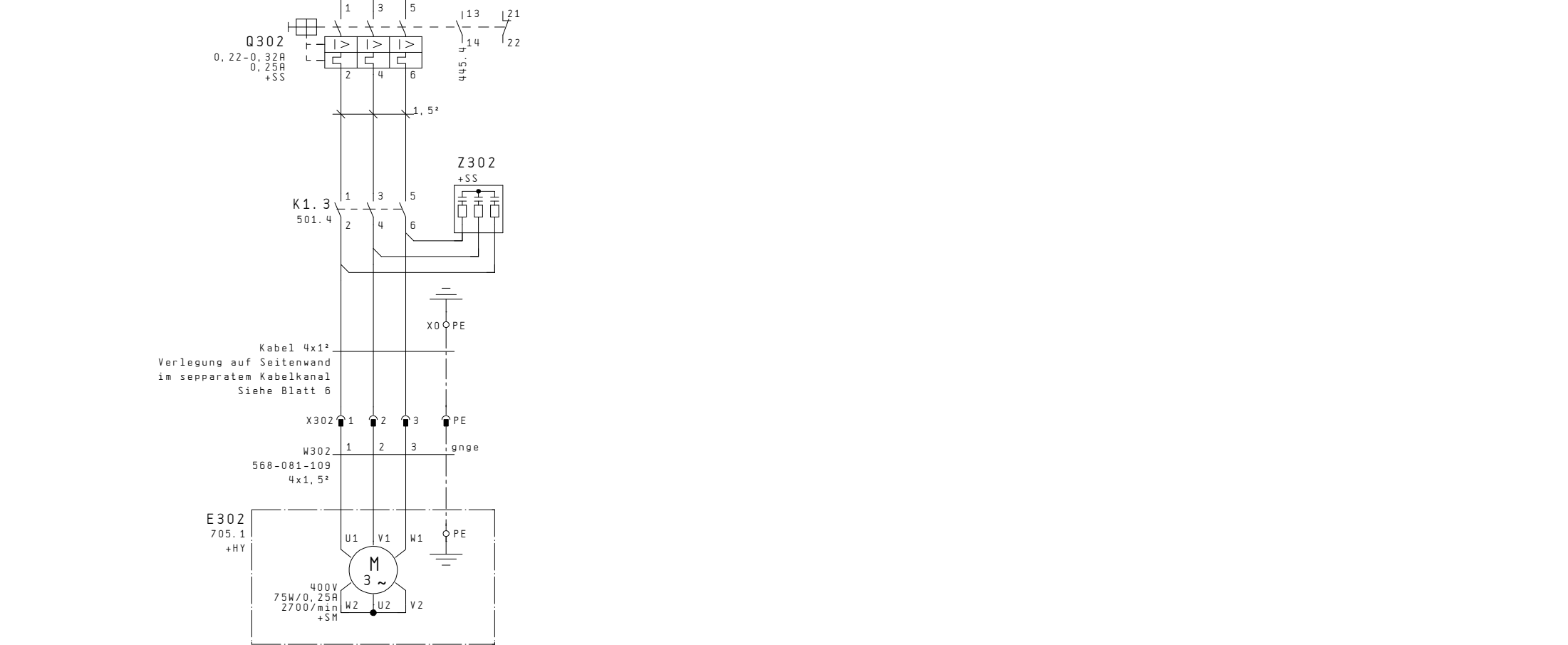
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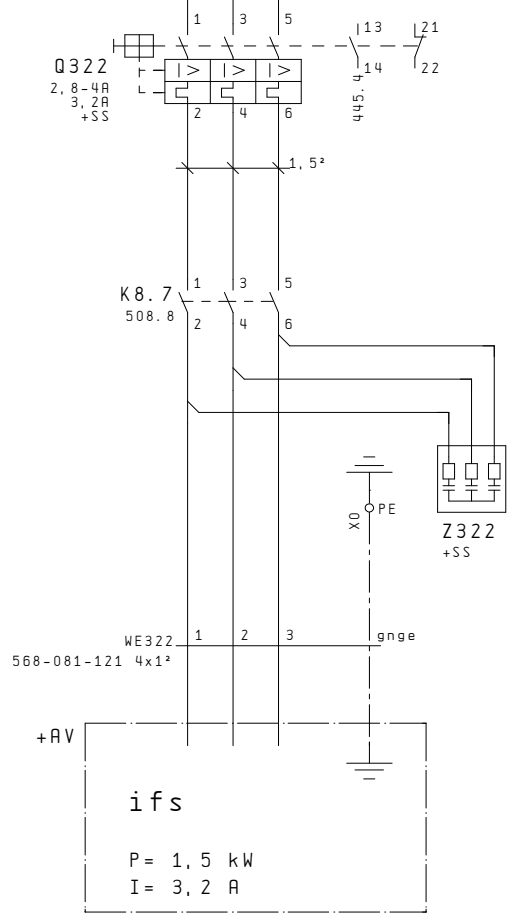
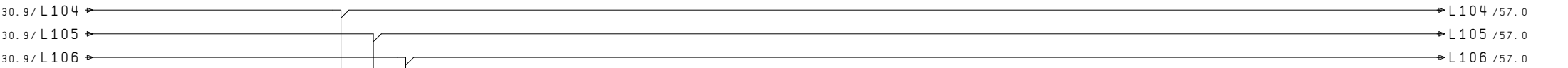
Speisung Ein-/Rückspeisemodul
power feed feed/recovery module

Lüfter zu E/R Modul
(A501)
fan to I/R module
(A501)

DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Lüfter zu SIMODRIVE-Module fan to SIMODRIVE modules	= +	26
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		20	30
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

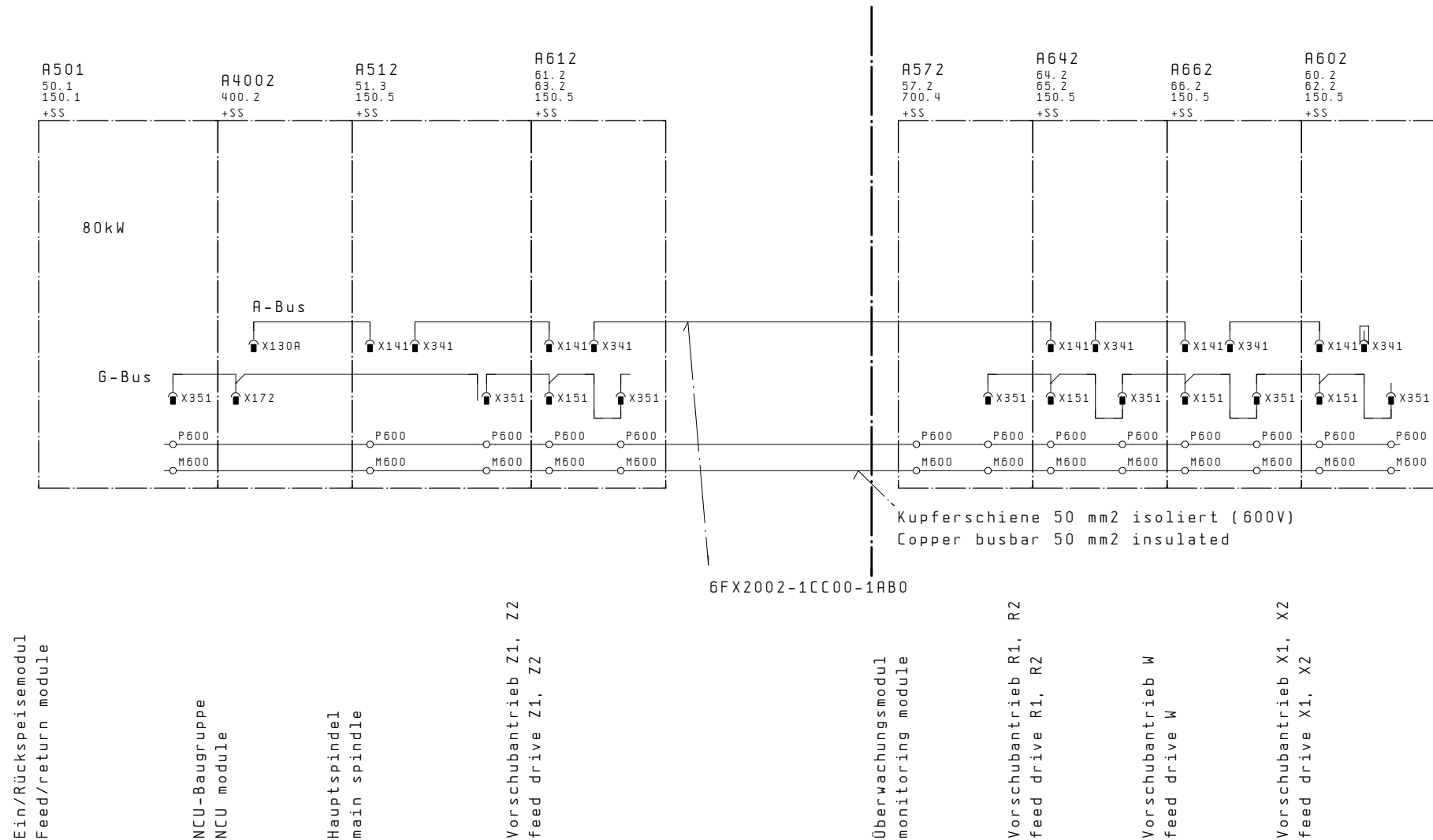


Impulsschmierung
Maschine
pulse lubrication
machine



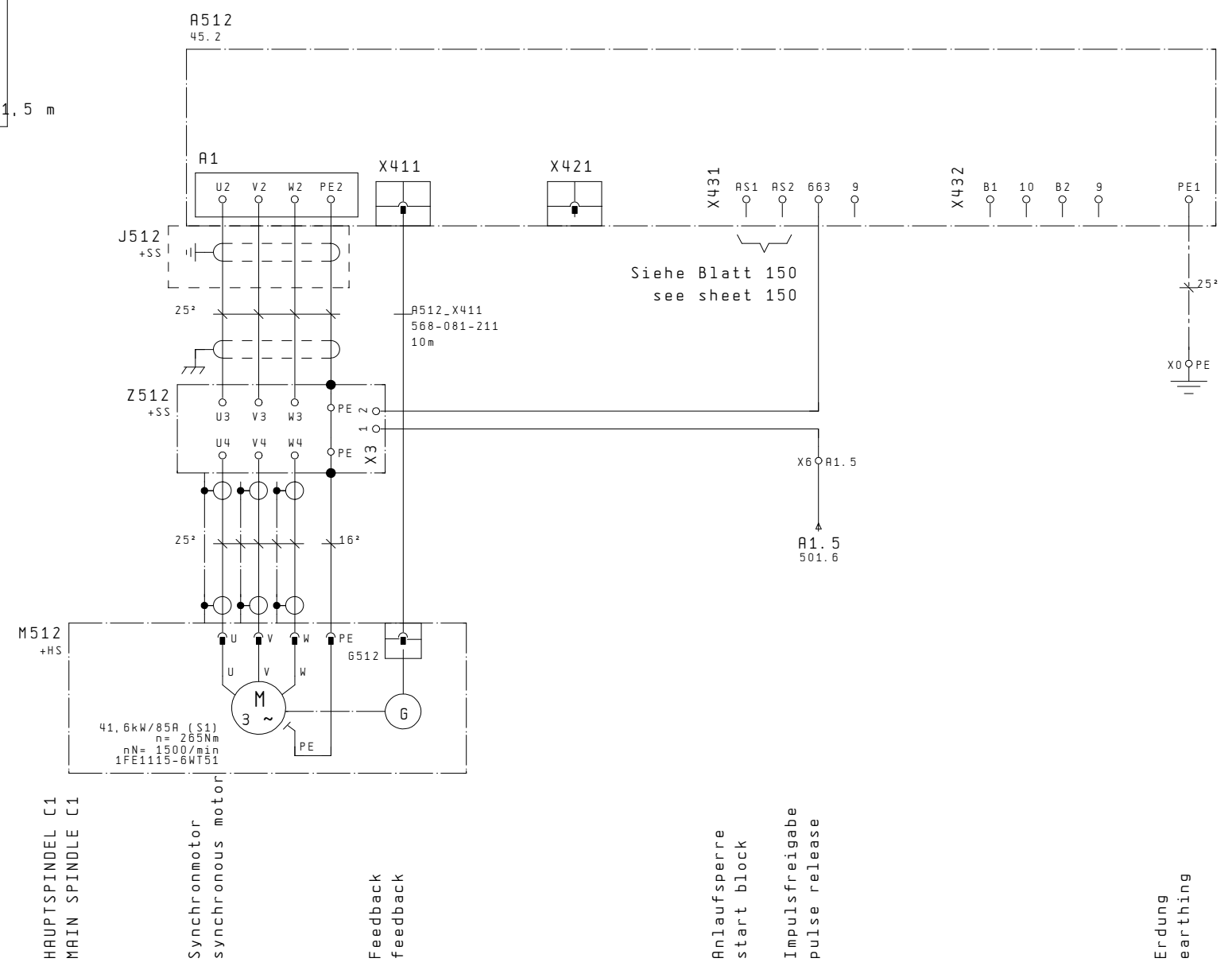
Absaugvorrichtung
exhauster

0	1	2	3	4	5	6	7	8	9
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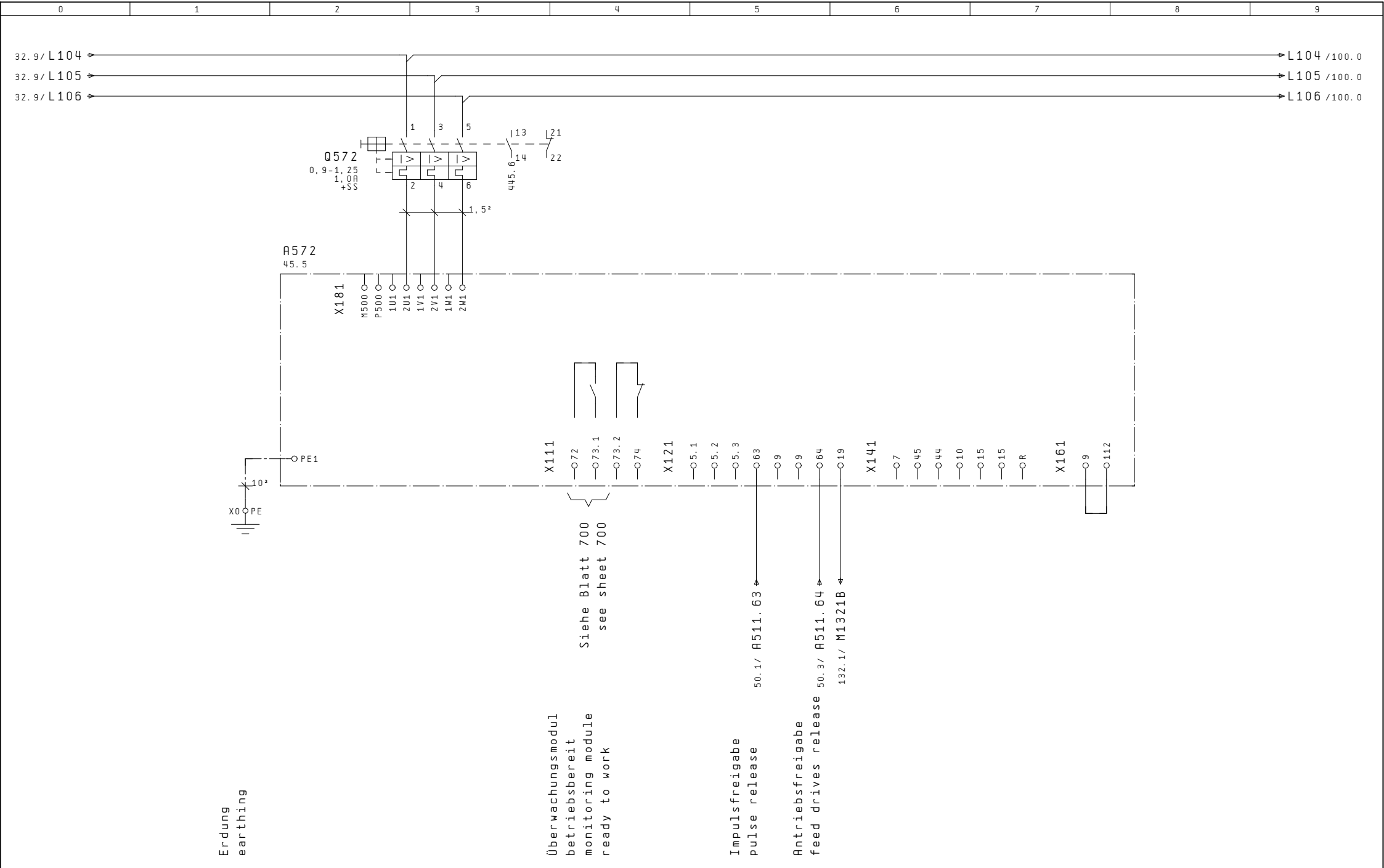


DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	SIMODRIVE 611D Anordnung SIMODRIVE 611D LAYOUT	= +	45
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							32	50
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

A C H T U N G:
Verbindungs­länge zwischen
A512 und Z512 max. 1,5 m
A T T E N T I
O N connection length
between A512 and Z512 max. 1,5 m

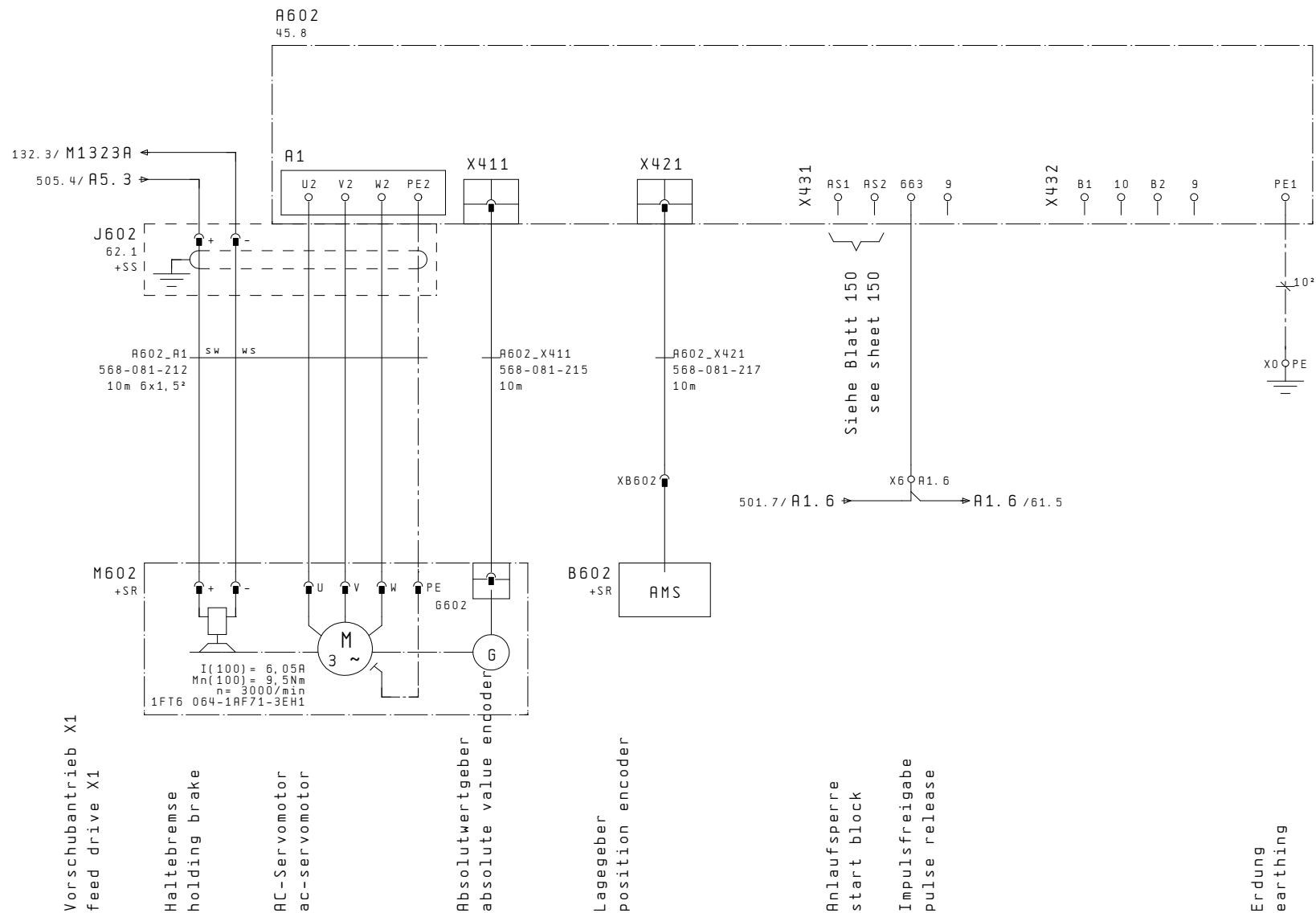


DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	HAUPTSPINDEL C1 MAIN SPINDLE C1	= +	51
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME		MANUF. REF.	370490	DRAWING NO.	27049_E		50	57
PLOT FRAME	FMS_E10A									

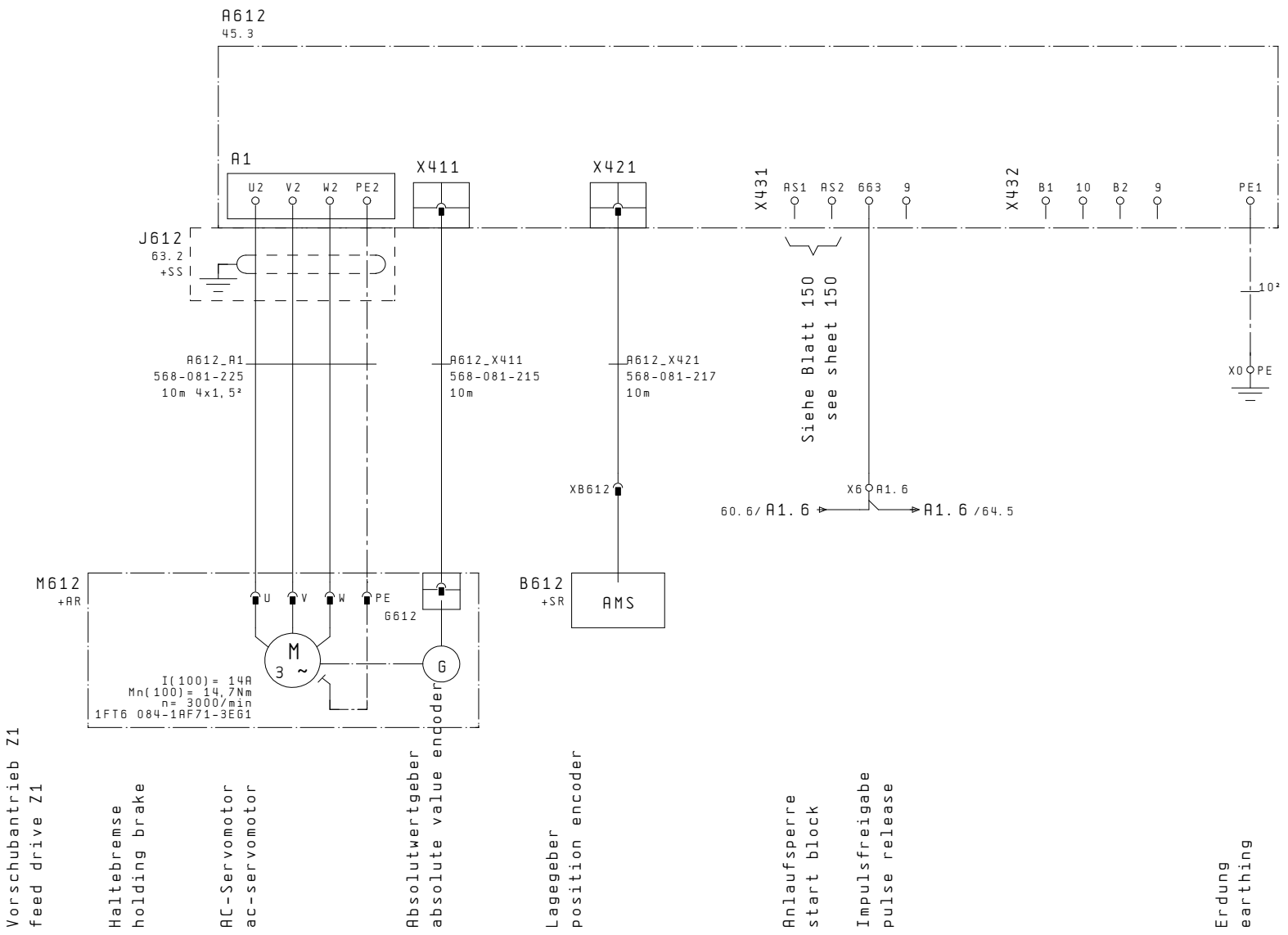


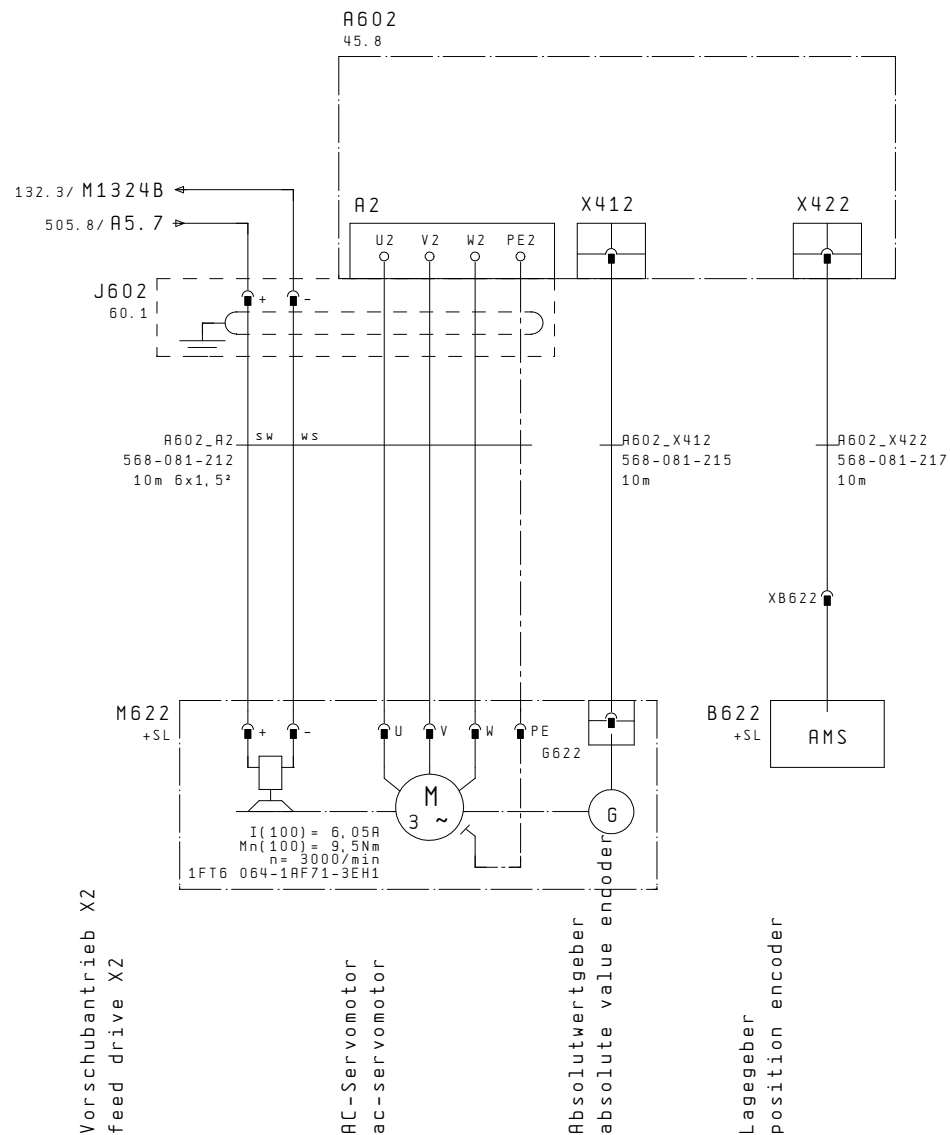
DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Überwachungsmodul monitoring module	= +	57
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							51	60
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

0	1	2	3	4	5	6	7	8	9
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DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	System oben rechts, Achse X system top right, axis X	= +	60
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME		MANUF. REF.	370490	DRAWING NO.	27049_E		57	61
PLOT FRAME	FMS_E10A									





Revolverantrieb REV1
turret drive REV1

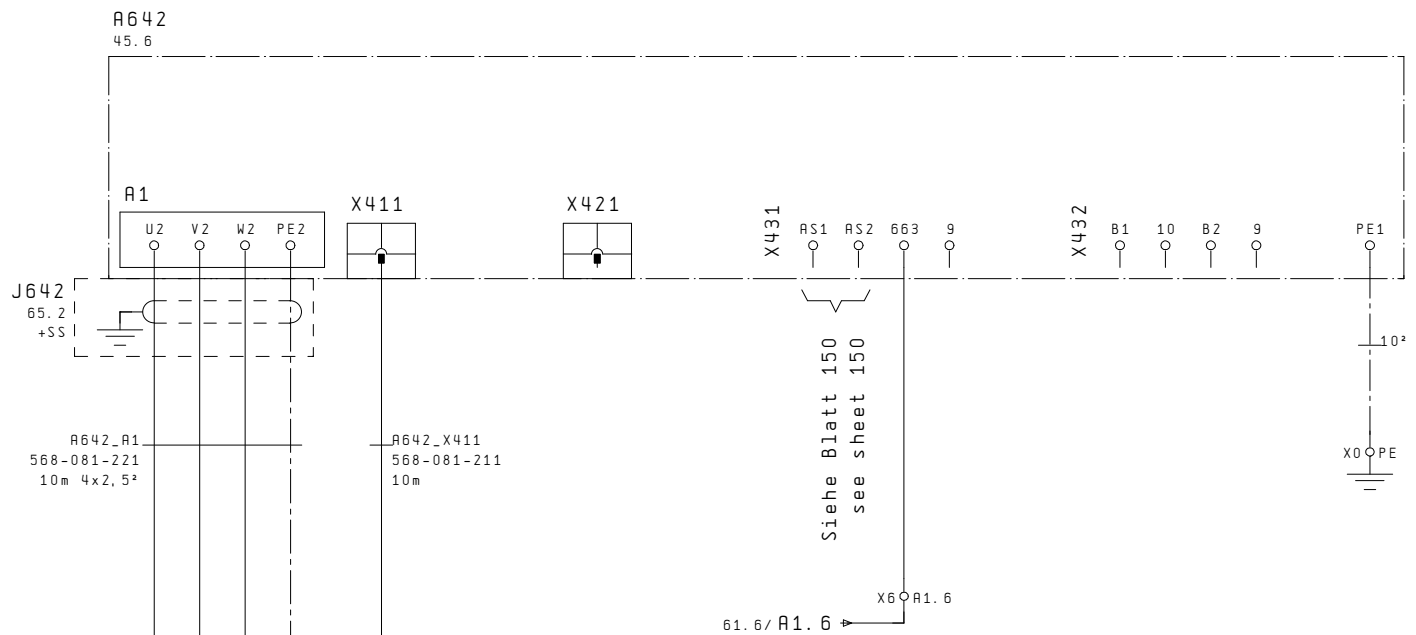
AC-Servomotor
ac-servomotor

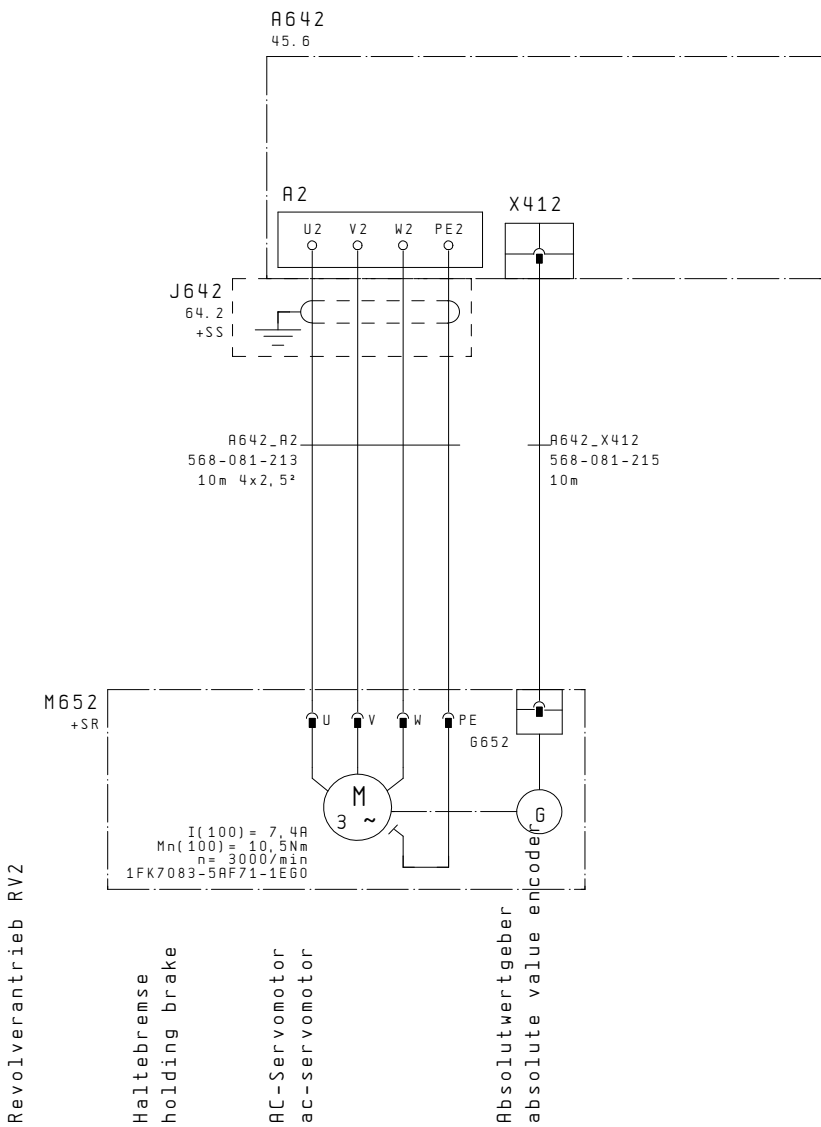
Feedback
feedback

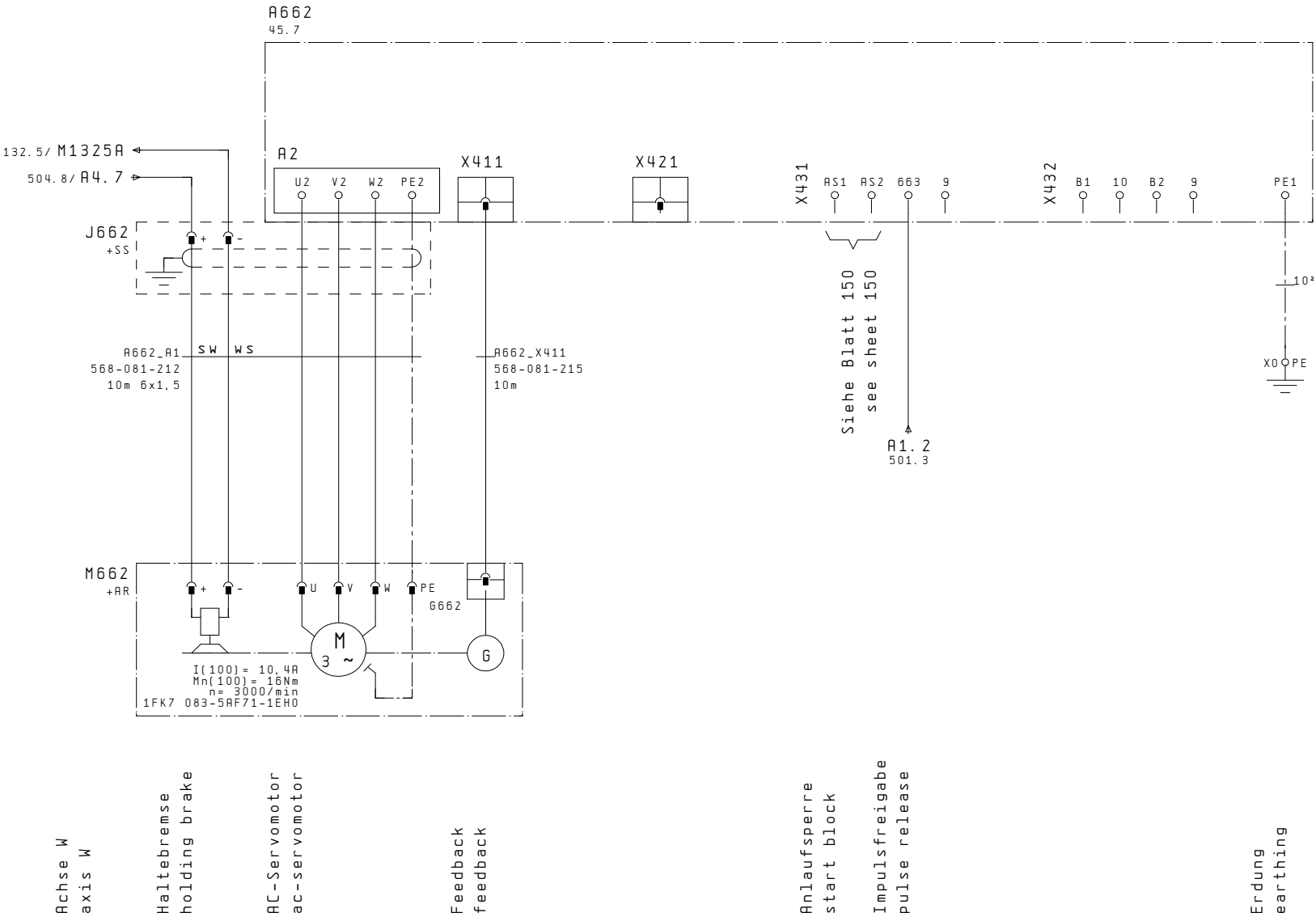
Anlaufsperr
start block

Impulsfreigabe
pulse release

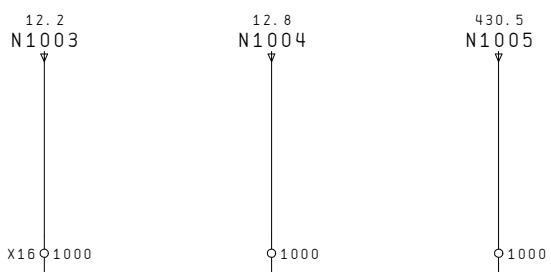
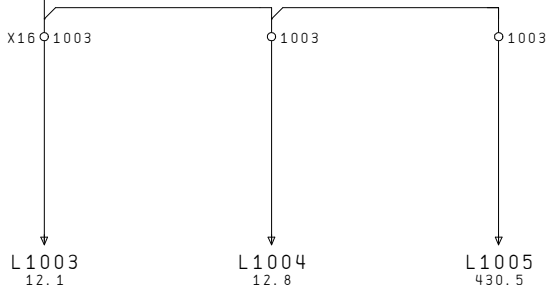
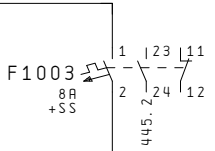
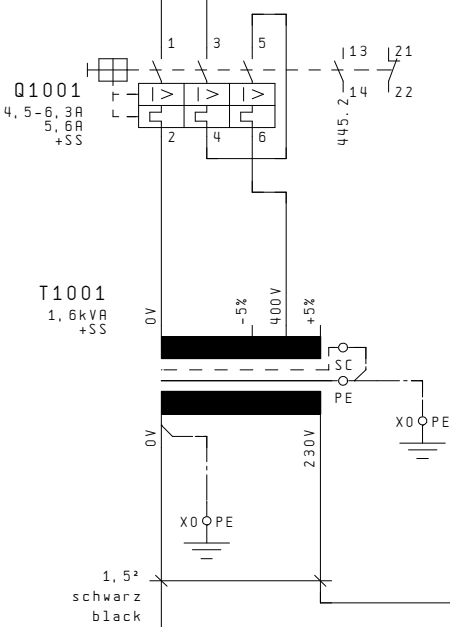
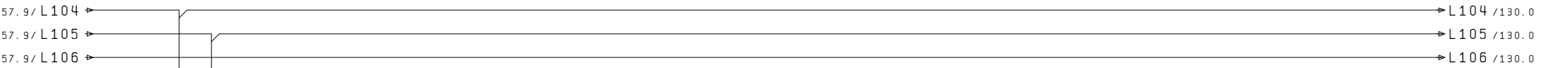
Erdung
earthing







0	1	2	3	4	5	6	7	8	9
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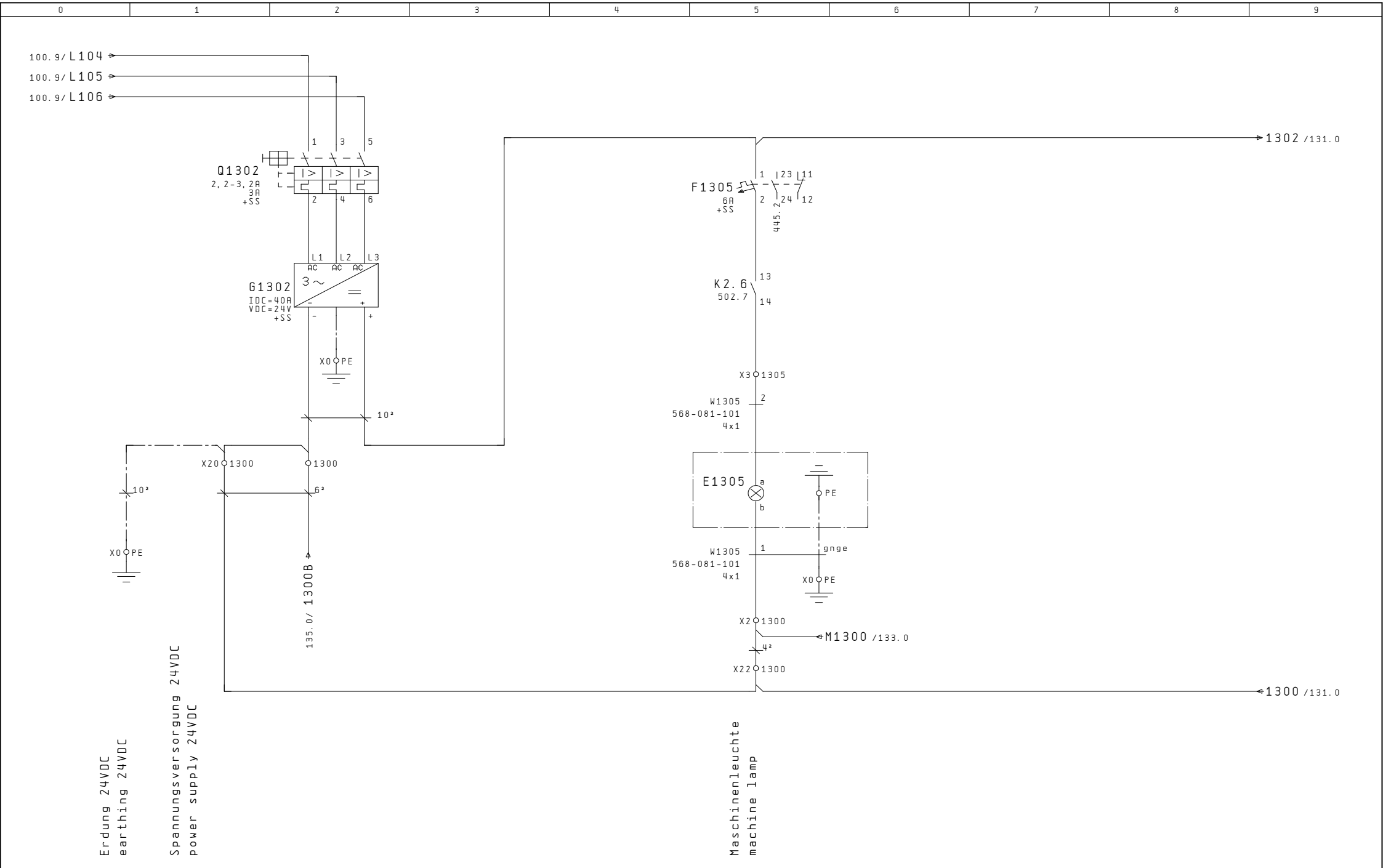
Spannungsversorgung 230VAC
power supply 230VAC

Schaltschrank-
beleuchtung
enclosure
lighting

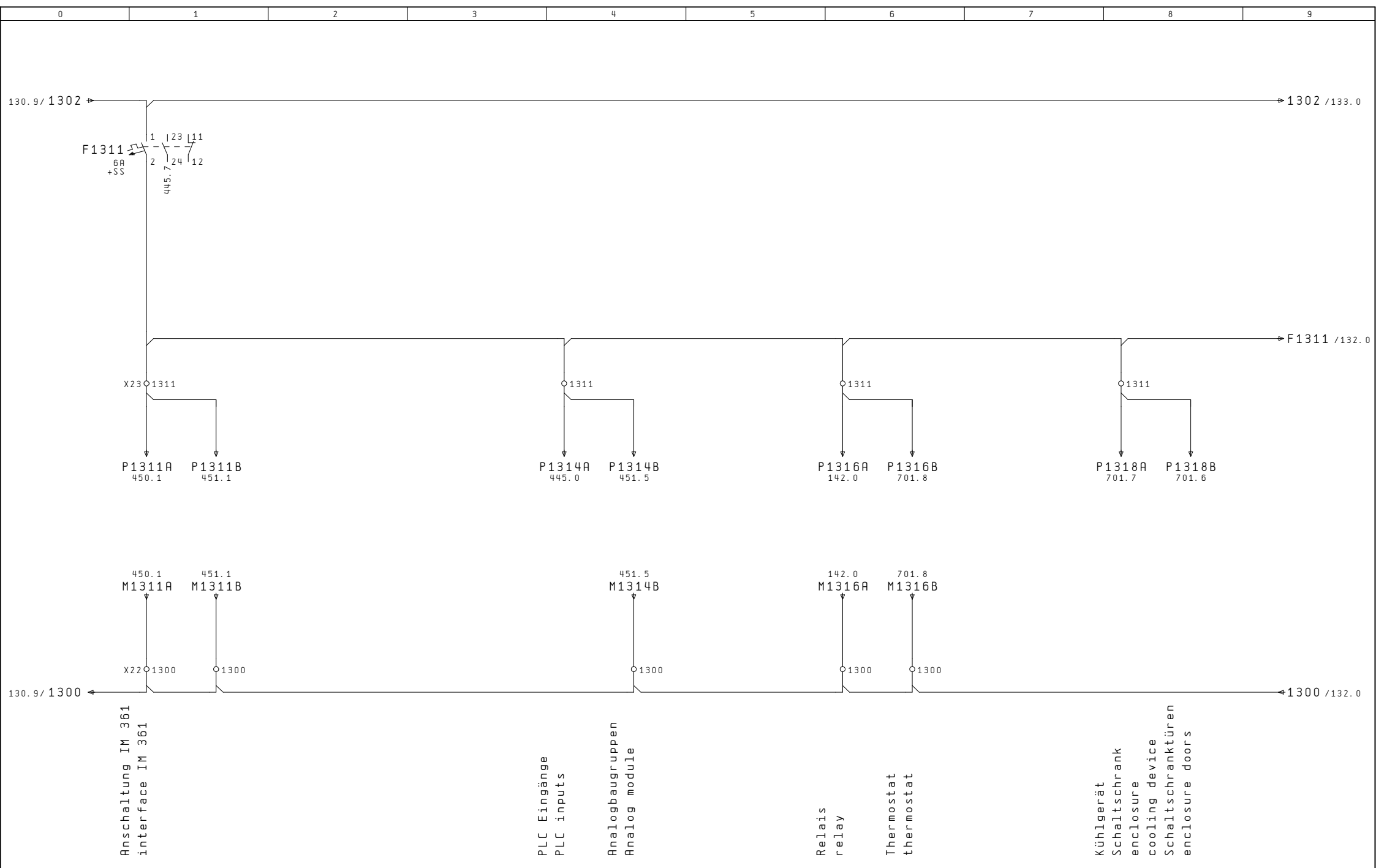
Steckdose
Schaltschrank
socket
enclosure

Steckdose
Bedienpult
socket
operator panel

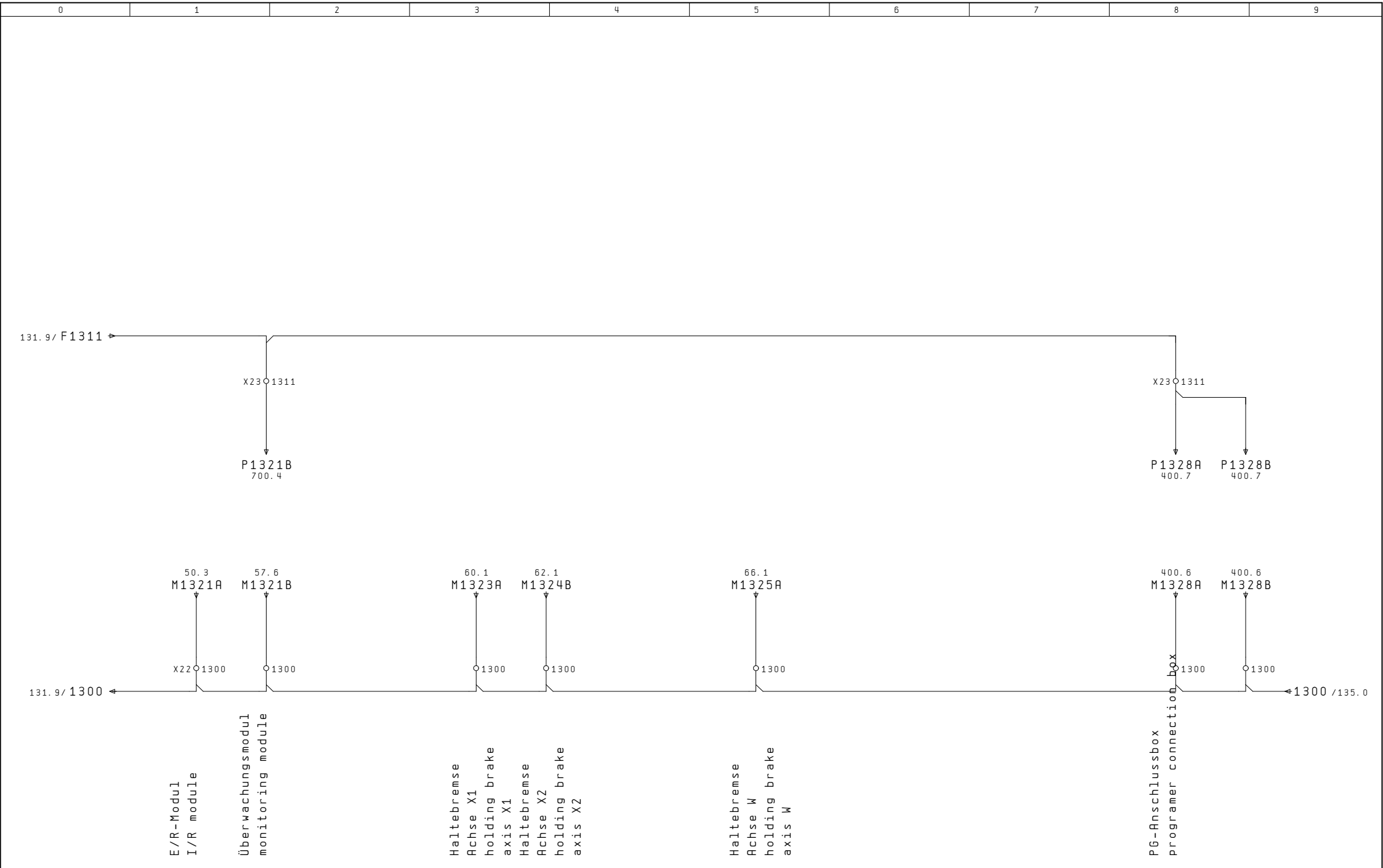
DESIGNED	08.07.03	CAS	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Spannungsversorgung 230VAC power supply 230VAC	= +	100
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		66	130
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					



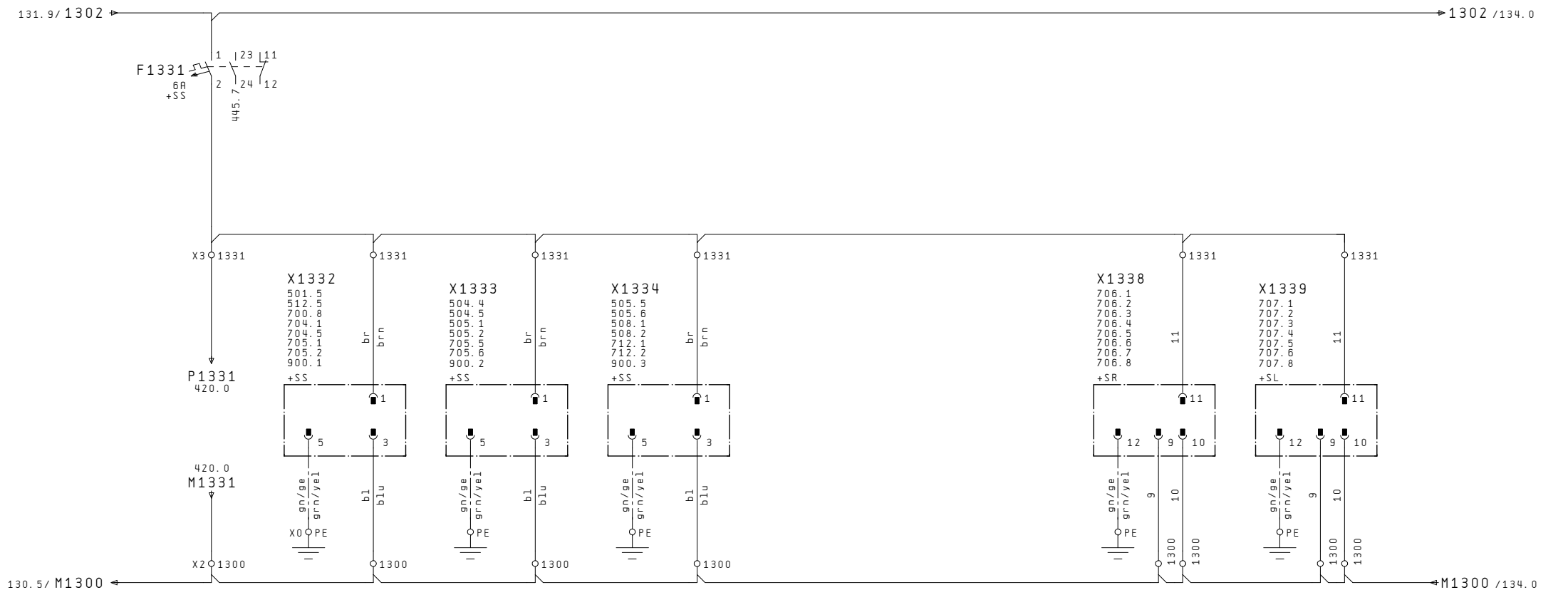
DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Spannungsversorgung 24VDC power supply 24VDC	= +	130
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME		MANUF. REF.	370490	DRAWING NO.	27049_E		100	131
PLOT FRAME	FMS_E10A									



DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	24VDC Schrank 24VDC enclosure	= +	131
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							130	132
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			



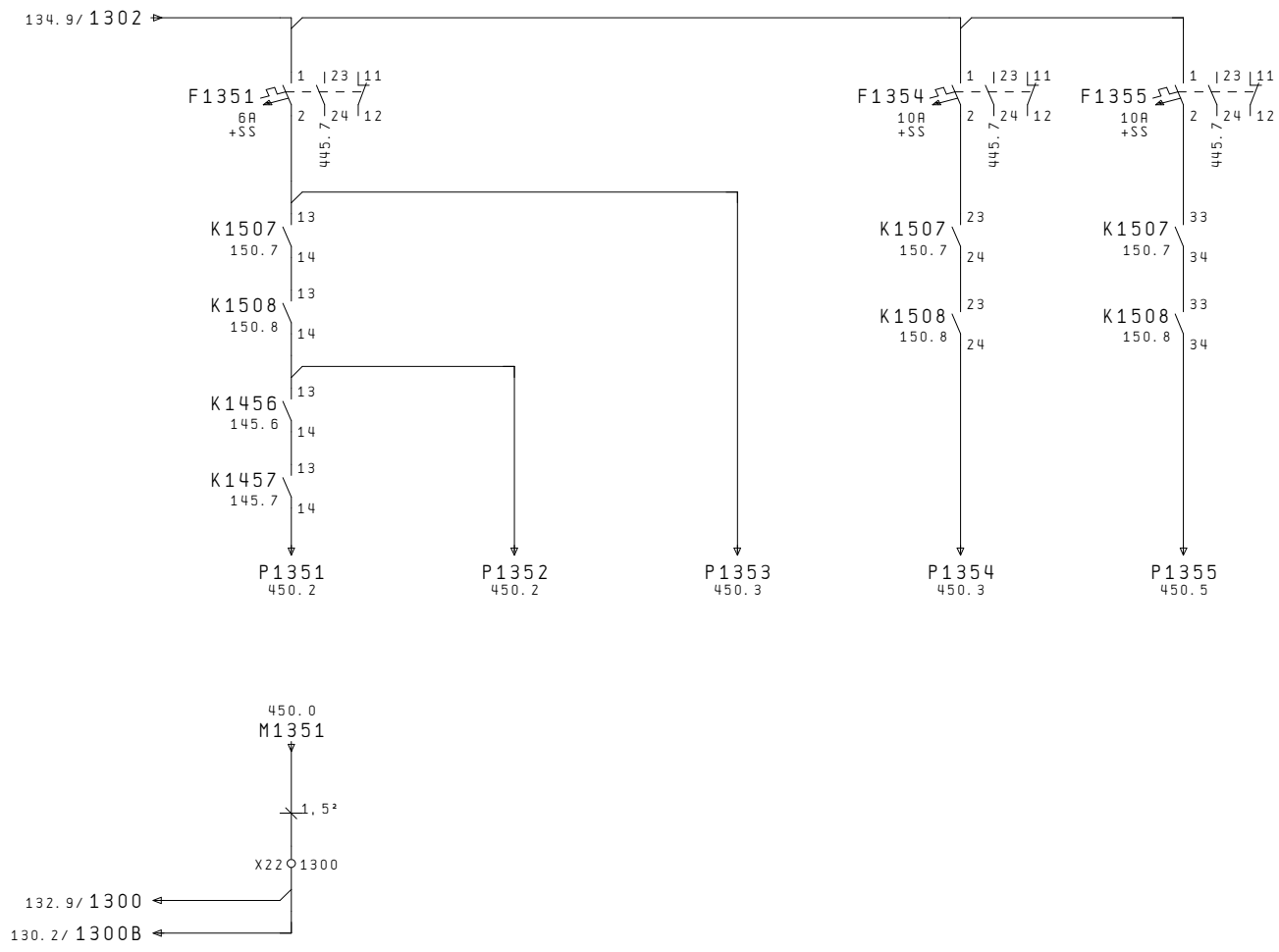
DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	24VDC Schrank 24VDC enclosure	= +	132
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				131	133
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			



Bedientafel operator panel	Lumbergverteiler Stromversorgung Schaltschrank connector box power supply switch cabinet	Lumbergverteiler Stromversorgung Schaltschrank connector box power supply switch cabinet	Lumbergverteiler Stromversorgung Schaltschrank connector box power supply switch cabinet	Lumbergverteiler Stromversorgung Revolver OR connector box power supply turret TR	Lumbergverteiler Stromversorgung Revolver OL connector box power supply turret TL
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Lumbergverteiler
Stromversorgung
Kühlmittel
connector box
power supply
coolant



PLC Ausgänge
PLC Outputs

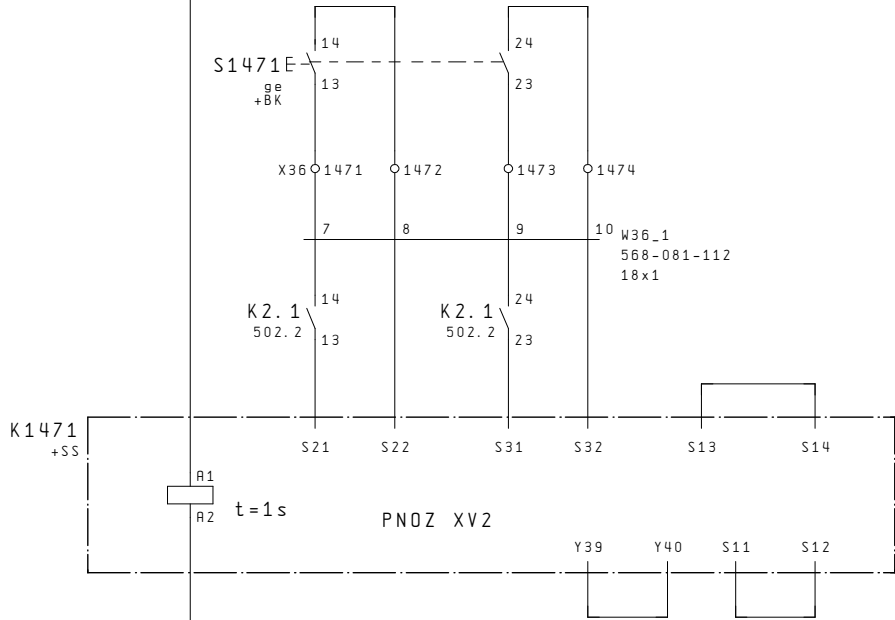
A0.0 - A0.7

A1.0 - A1.7

A2.0 - A3.7

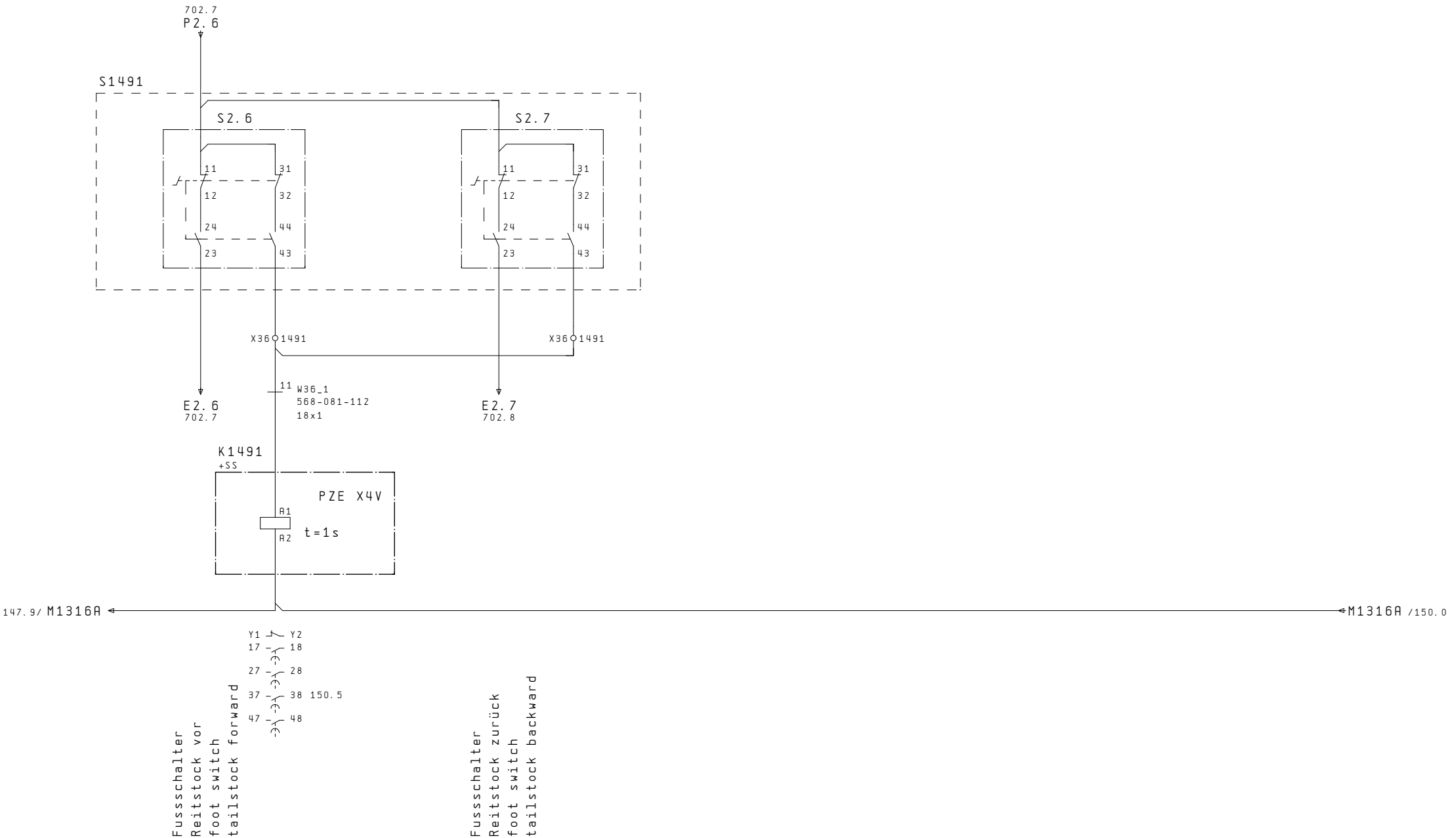
A4.0 - A4.7
A5.0 - A5.7

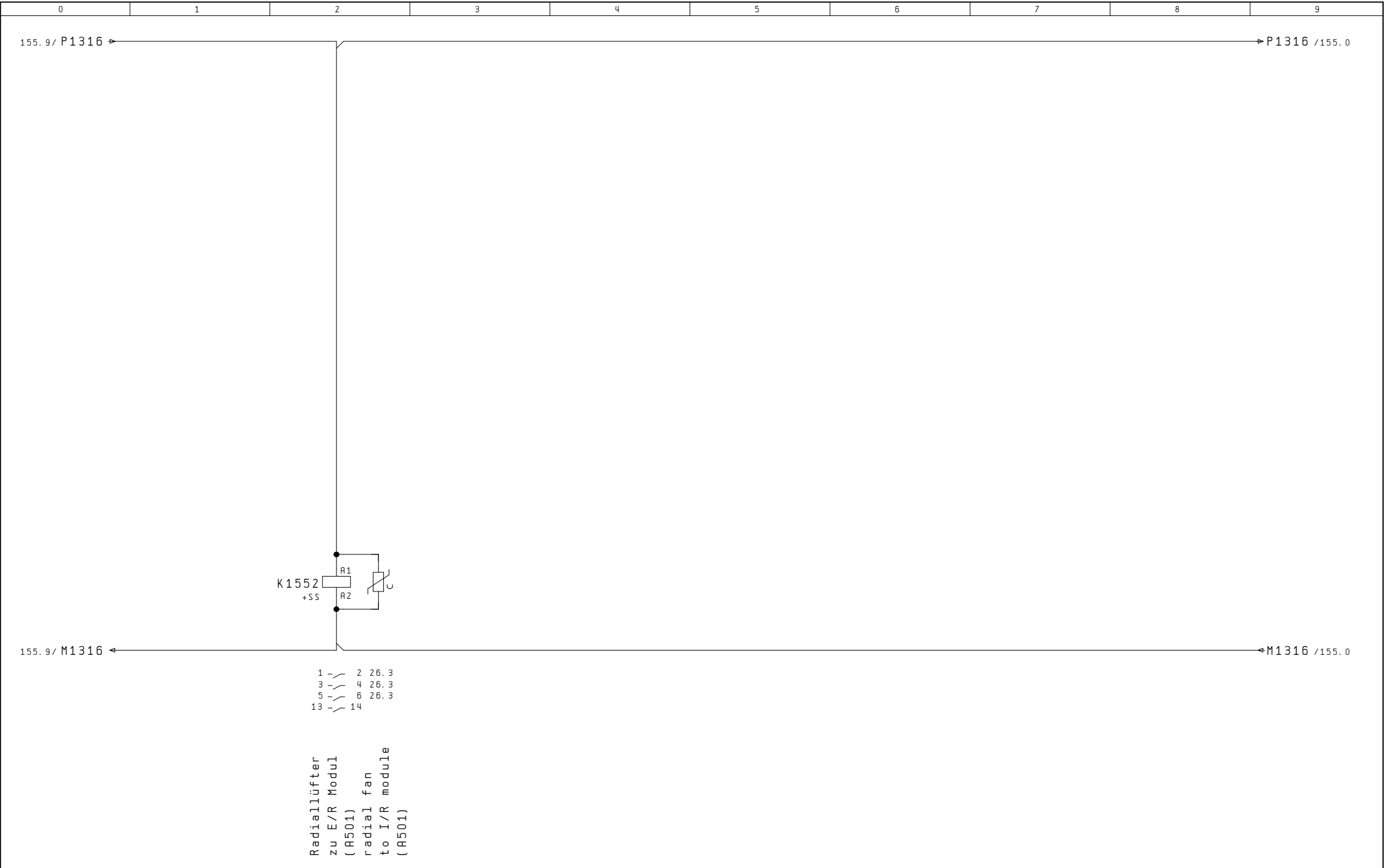
A8.0 - A8.7
A10.0 - A10.7
A11.0 - A11.7
A12.0 - A12.7



13 - 14
23 - 24 701.4
37 - 38 150.4
47 - 48

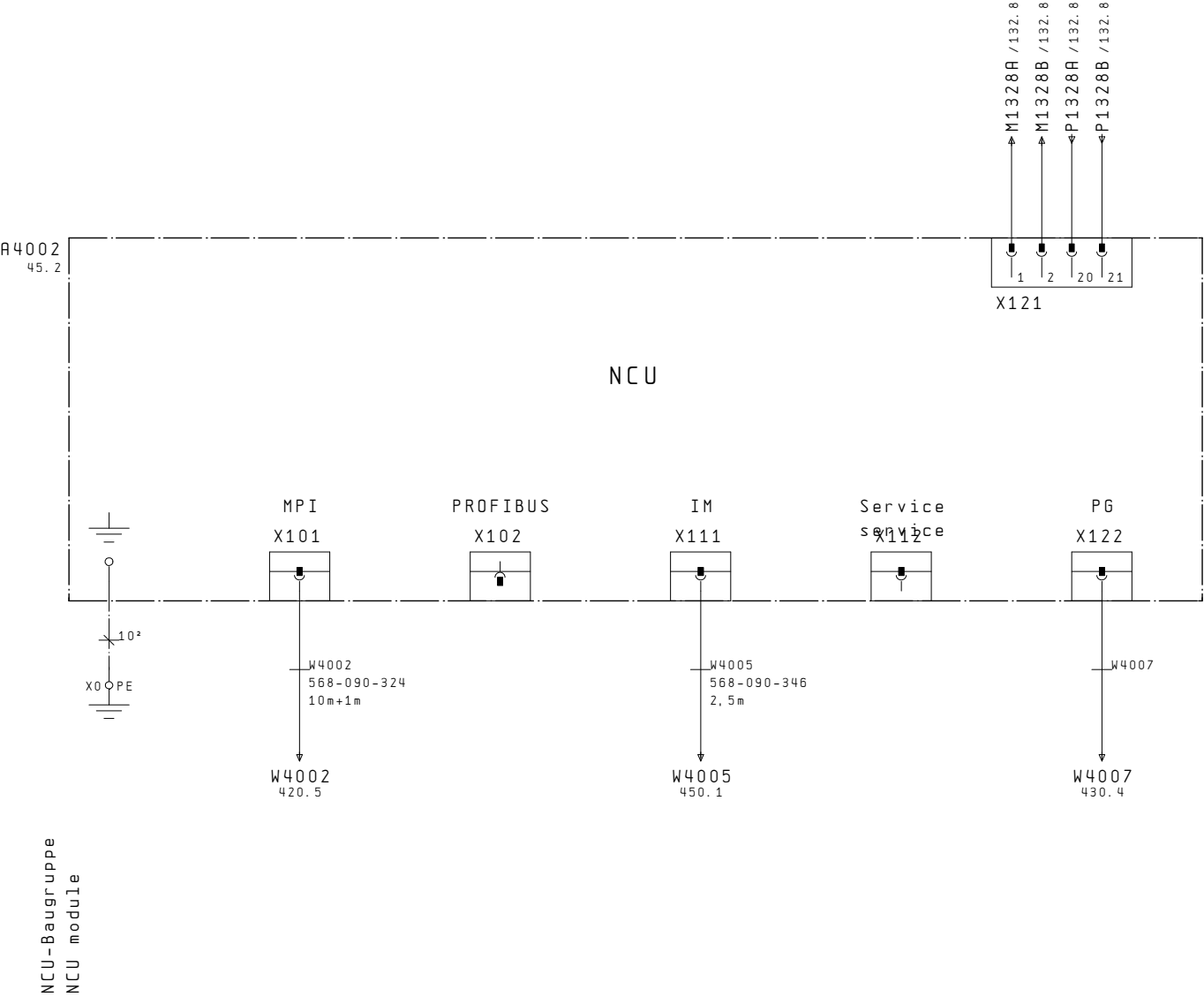
Zustimmung
permission





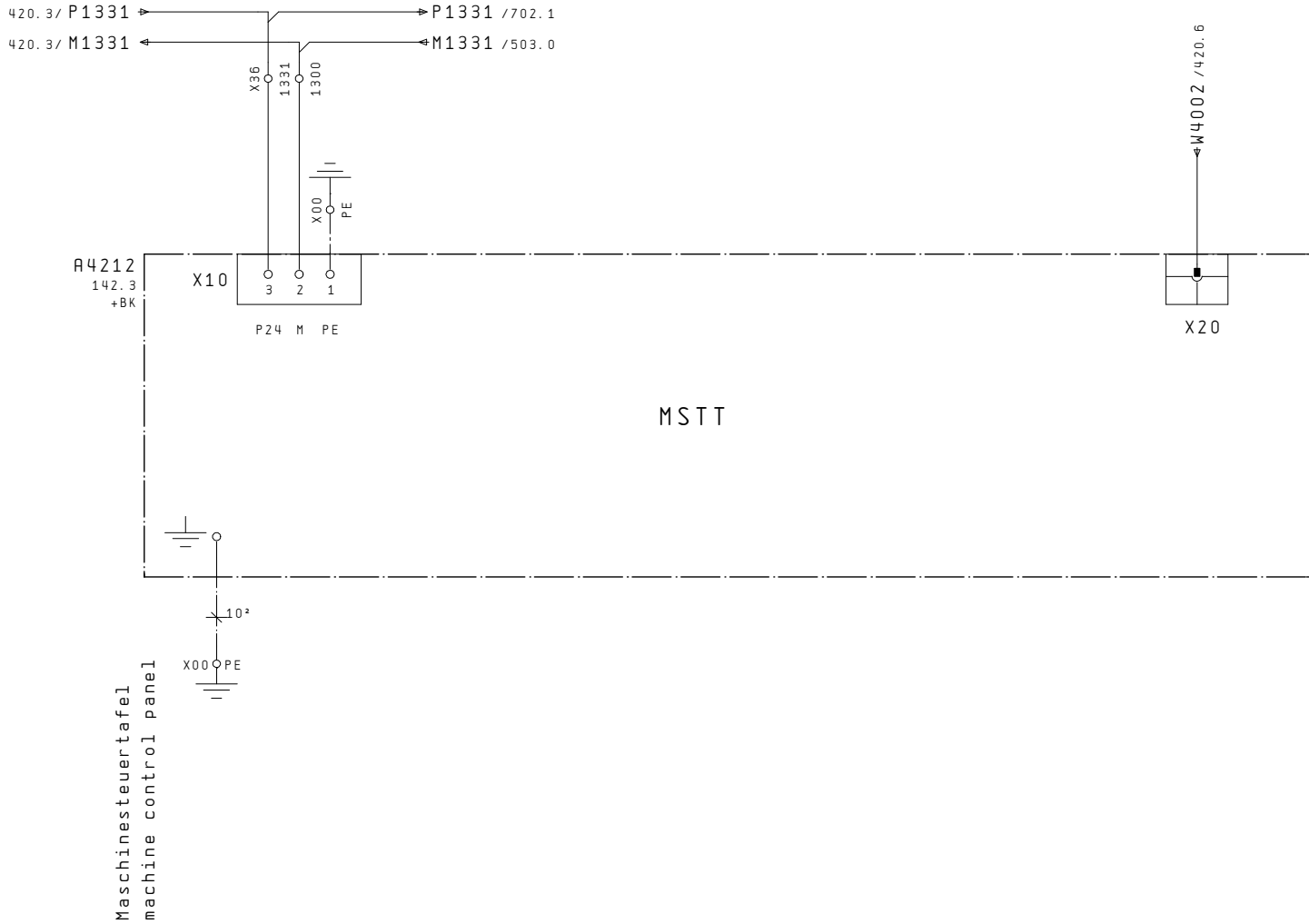
DESIGNED	08.07.03	cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Lüfter fan	= +	155
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME				DRAWING NO.	27049_E		150	400
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					

0	1	2	3	4	5	6	7	8	9
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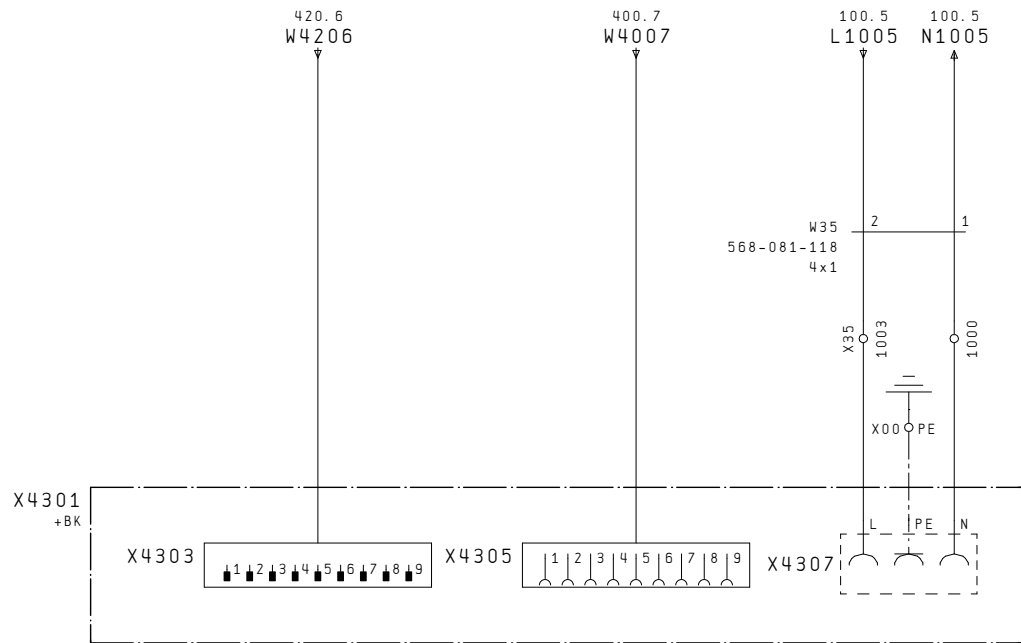


DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	NCU-Baugruppe NCU module	= +	400
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							155	420
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

0	1	2	3	4	5	6	7	8	9
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DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Maschinensteuertafel machine control panel	= +	421
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							420	430
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

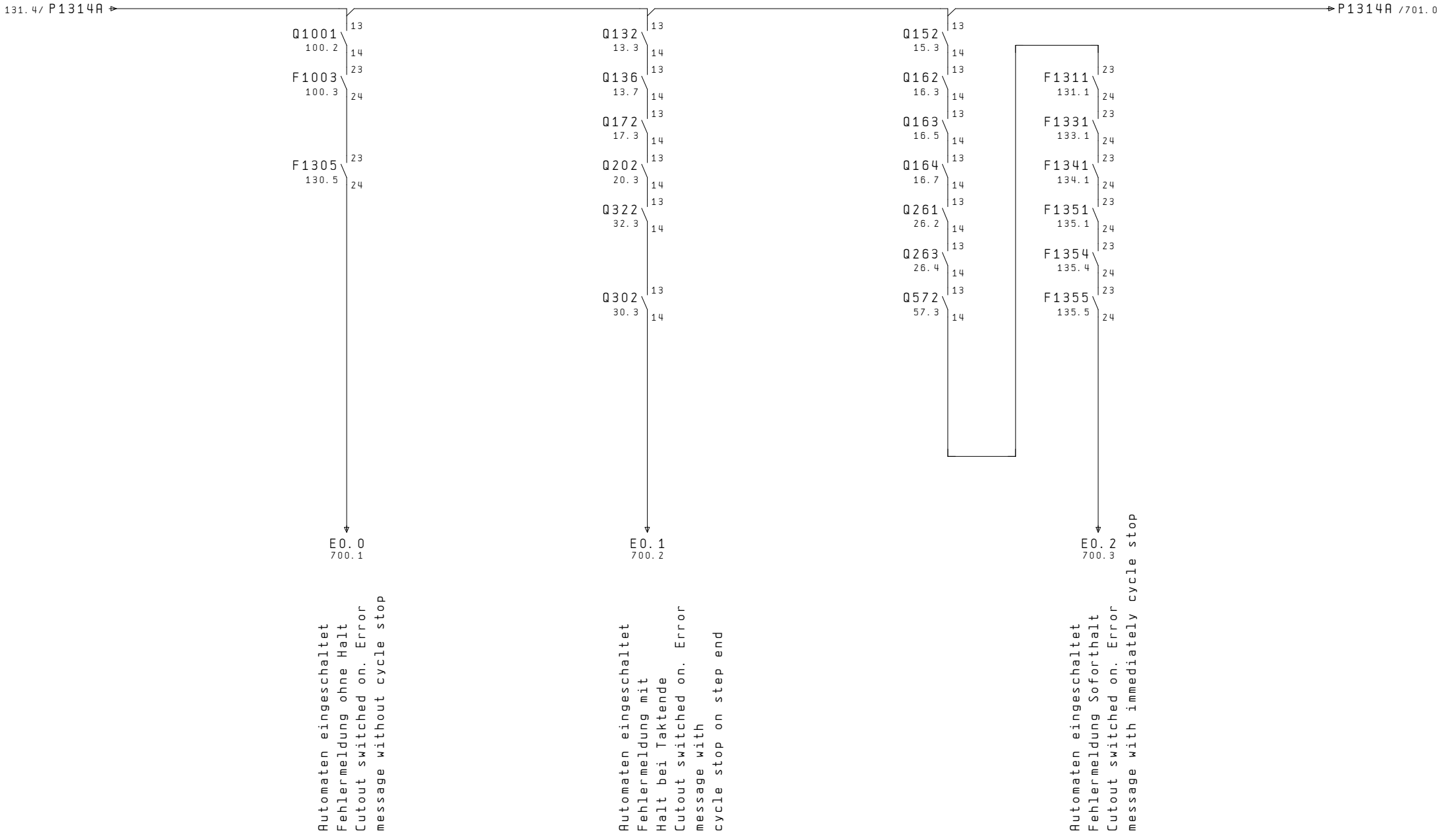


Schnittstelle
Leser/Stanzer
interface
reader/puncher

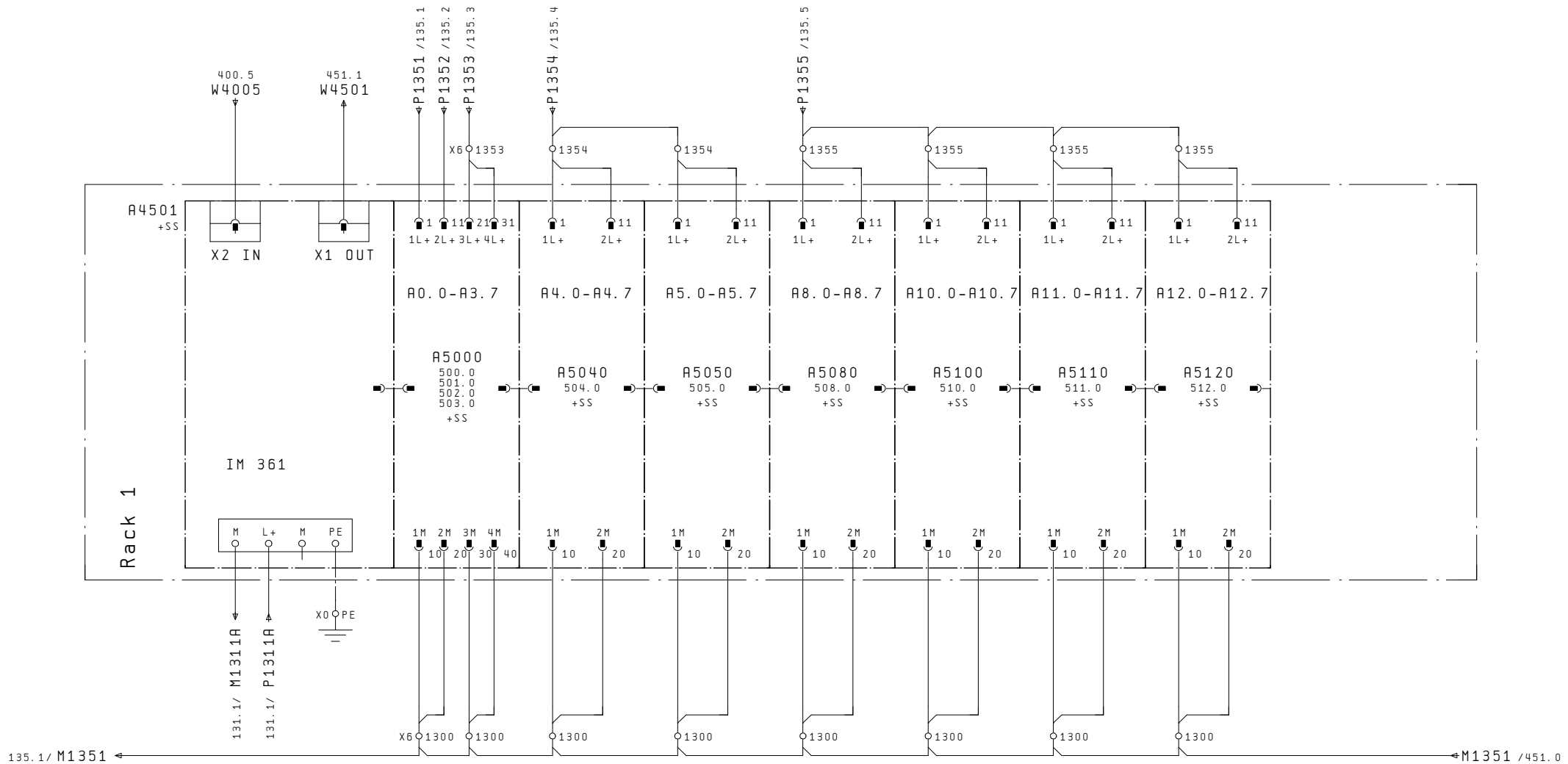
Schnittstelle PLC
interface PLC

Steckdosen 230VAC
sockets 230VAC

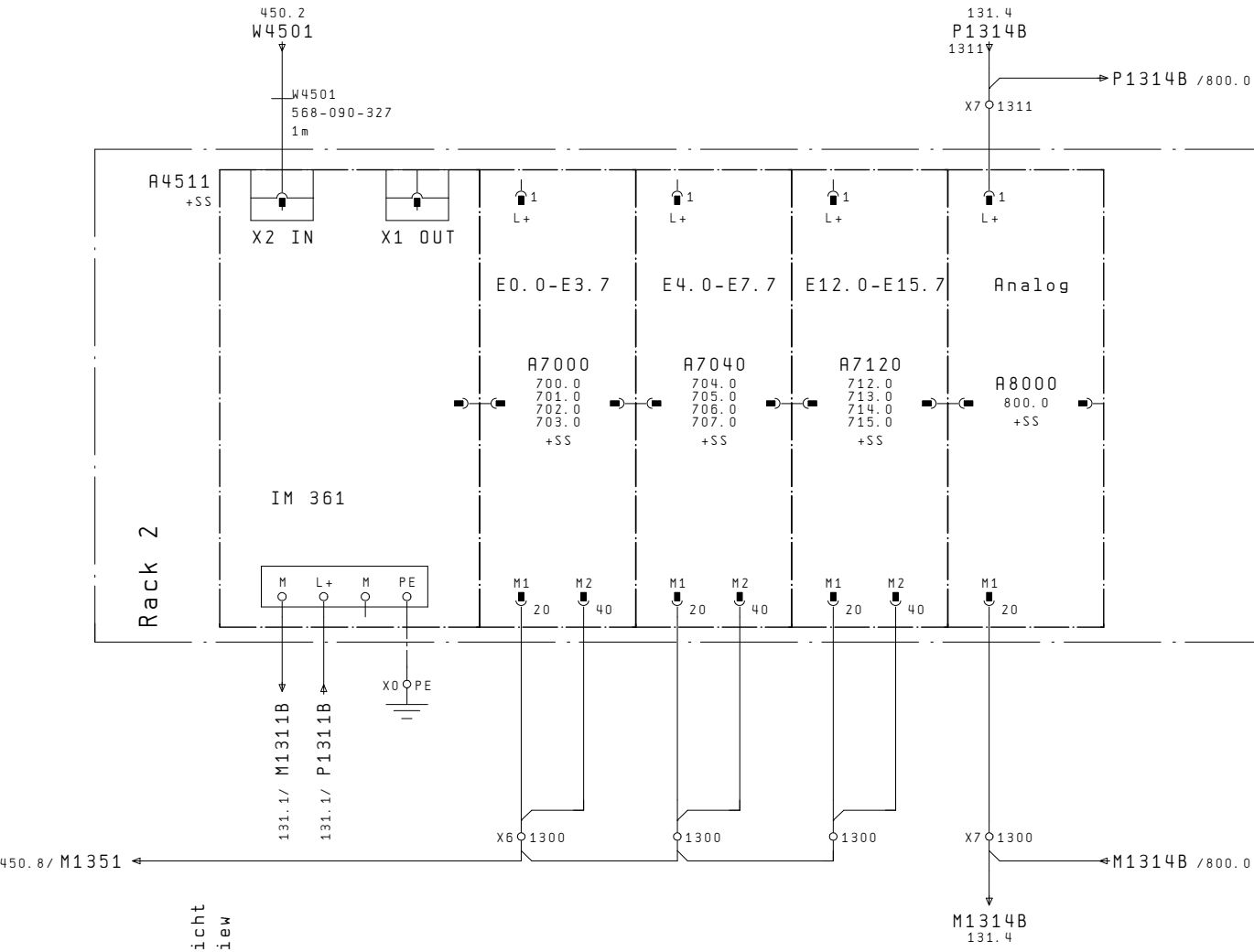
0	1	2	3	4	5	6	7	8	9
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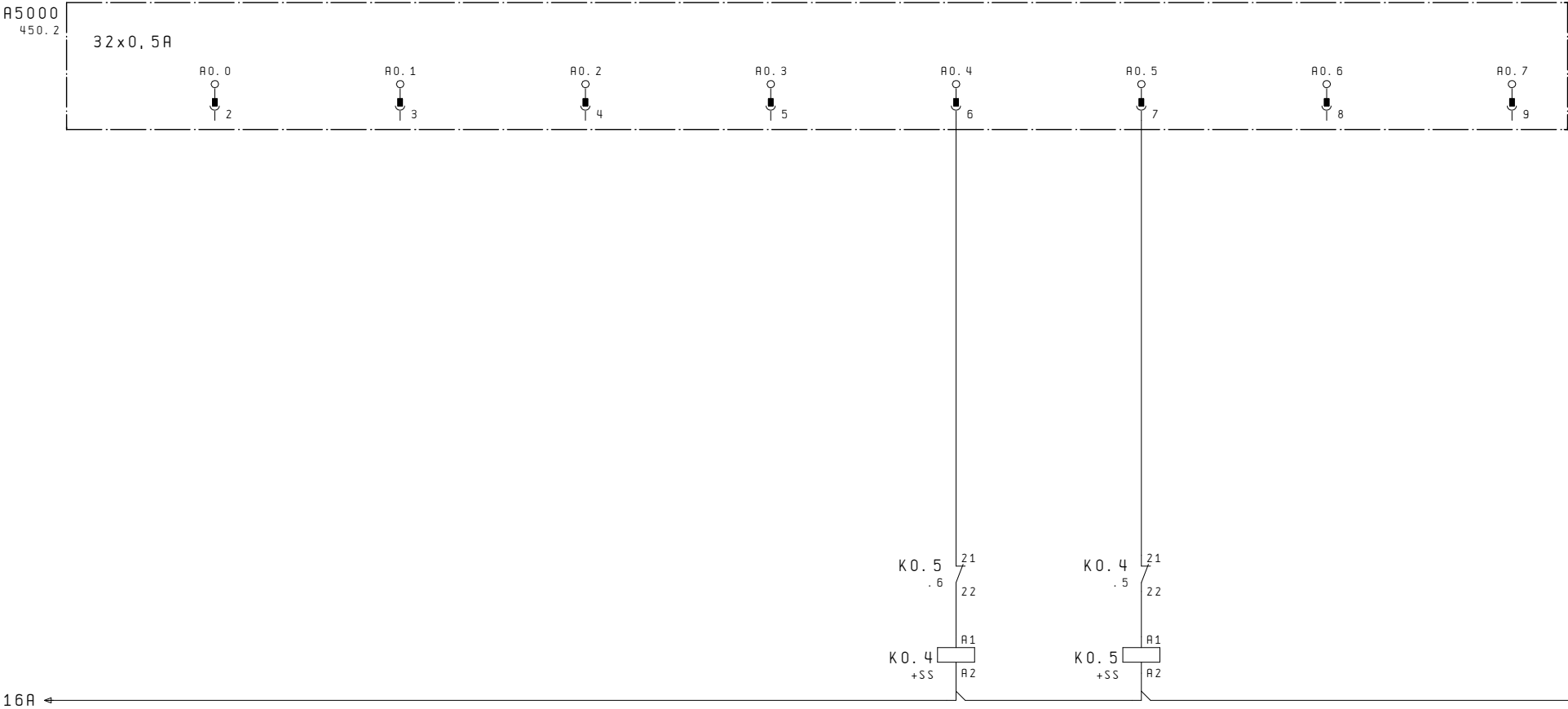
DESIGNED	08. 07. 03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Hilfkontakte Überstromauslöser	=	+	445
LAST REVISED	01. 12. 09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT DATE	01. 12. 09	FILE NAME			CH-8201 Schaffhausen				430		450
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				



SPS-Übersicht
PLC overview



SPS-Übersicht
PLC overview

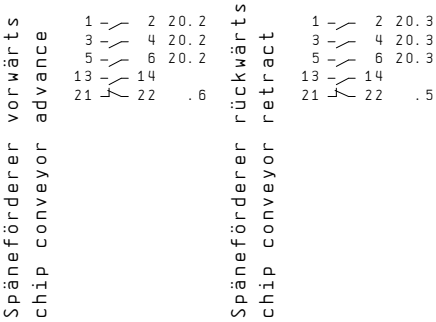


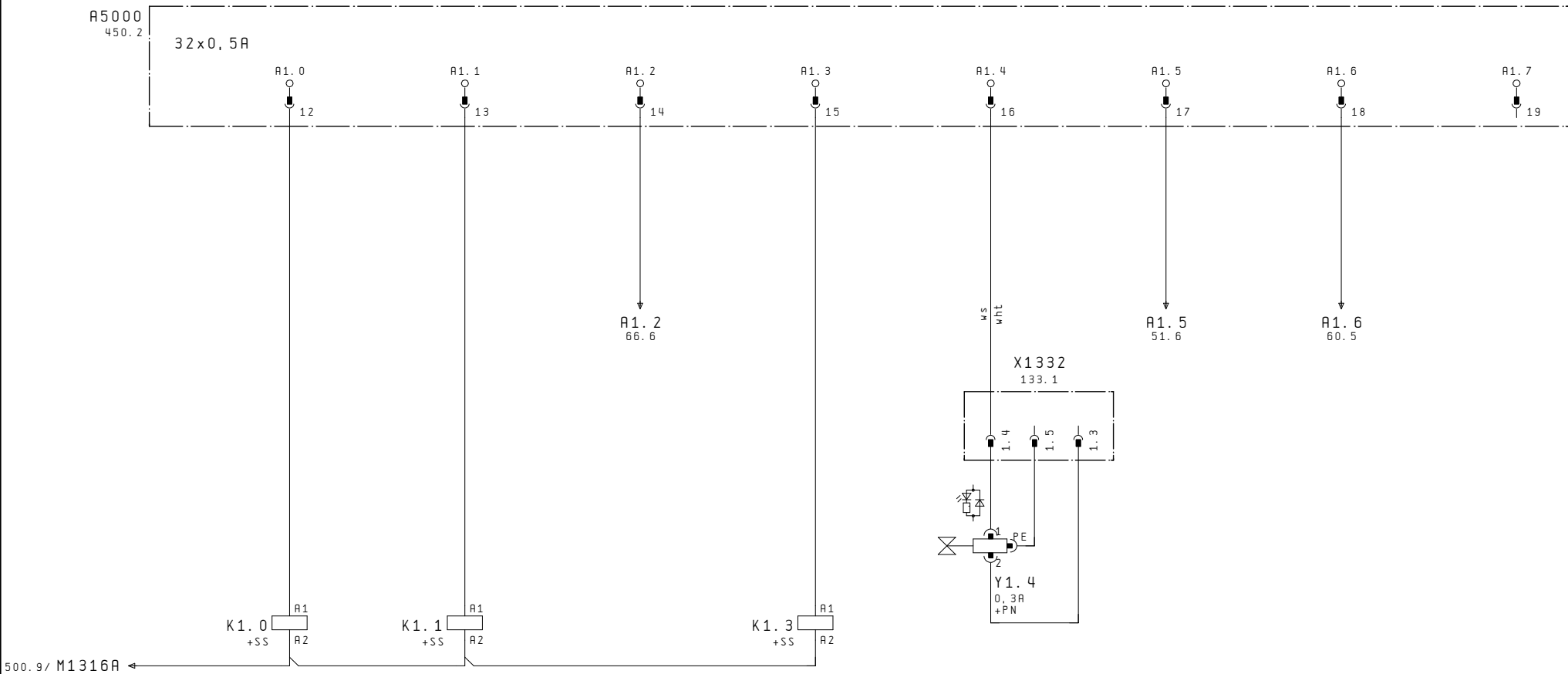
150.9/ M1316A

←

←

M1316A /501.0





Hydraulikpumpe Ein
hydraulic pump ON

1 - 2 15.2
3 - 4 15.2
5 - 6 15.2
13 - 14

Kühlmittelpumpe Ein
coolant pump ON

1 - 2 17.2
3 - 4 17.2
5 - 6 17.2
13 - 14

Impulsfreigabe
W-Achse
pulse release
axis W

1 - 2 30.2
3 - 4 30.2
5 - 6 30.2
13 - 14

Impulsschmierung Ein
pulse lubrication ON

1 - 2 30.2
3 - 4 30.2
5 - 6 30.2
13 - 14

Pneumatik Maschine
Netzdruck Ein
pneumatic machine
pressure on

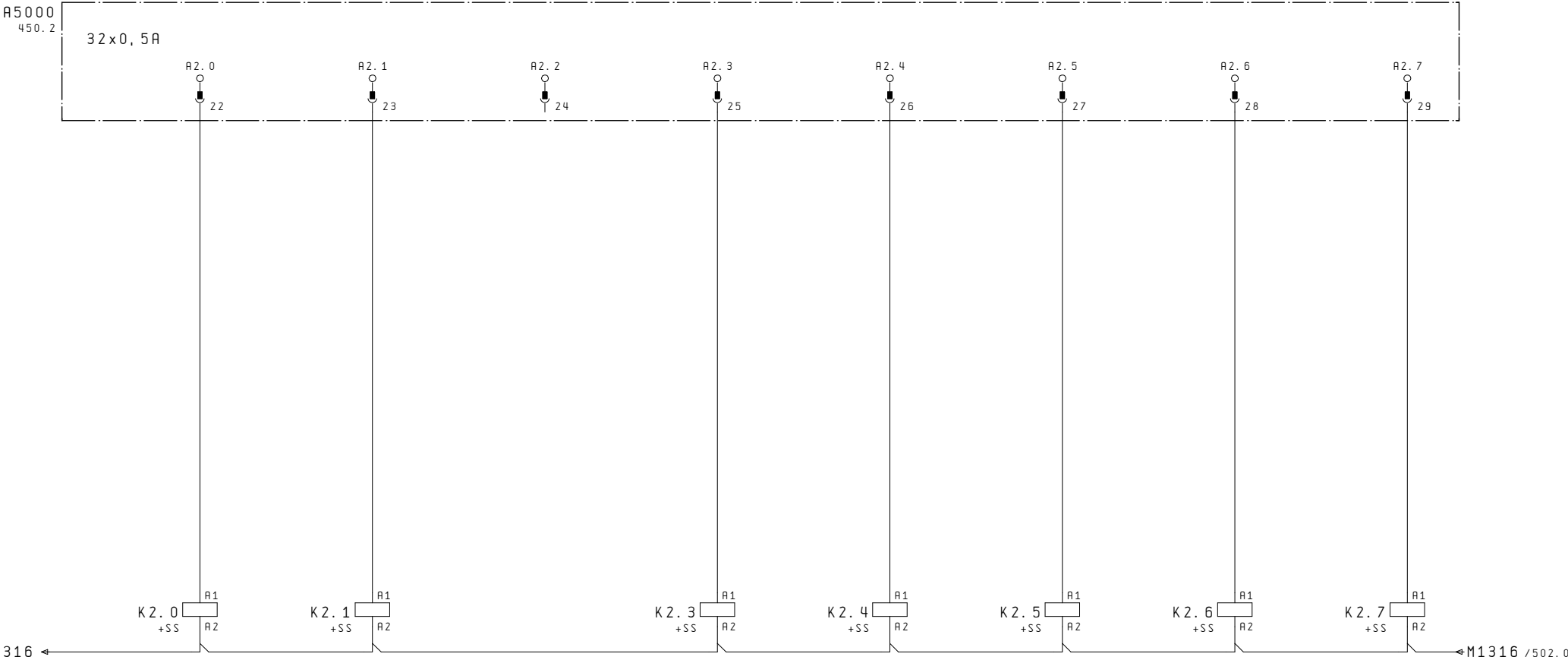
1 - 2 30.2
3 - 4 30.2
5 - 6 30.2
13 - 14

Impulsfreigabe
Hauptspindel
pulse release
spindle

1 - 2 30.2
3 - 4 30.2
5 - 6 30.2
13 - 14

Impulsfreigabe
Maschine-Achsen
pulse release
machine axis

1 - 2 30.2
3 - 4 30.2
5 - 6 30.2
13 - 14



Leistung Ein
power on

13 - 14 150.3
23 - 24
33 - 34
43 - 44
53 - 54
61 - 62 150.1
71 - 72
83 - 84

Freigabe Zustimmungtaste
consent key release

13 - 14 147.2
23 - 24 147.3
33 - 34
43 - 44

Rückkühlanlage
Ventilator Ein
n= 950 1/min
recooling
equipment fan ON
950 1/min

1 - 2 16.2
3 - 4 16.2
5 - 6 16.2
13 - 14
21 - 22

Rückkühlanlage
Pumpe Ein
recooling
equipment pump ON

1 - 2 16.6
3 - 4 16.6
5 - 6 16.6
13 - 14

Freigabe Kühlgerät
release cooling device

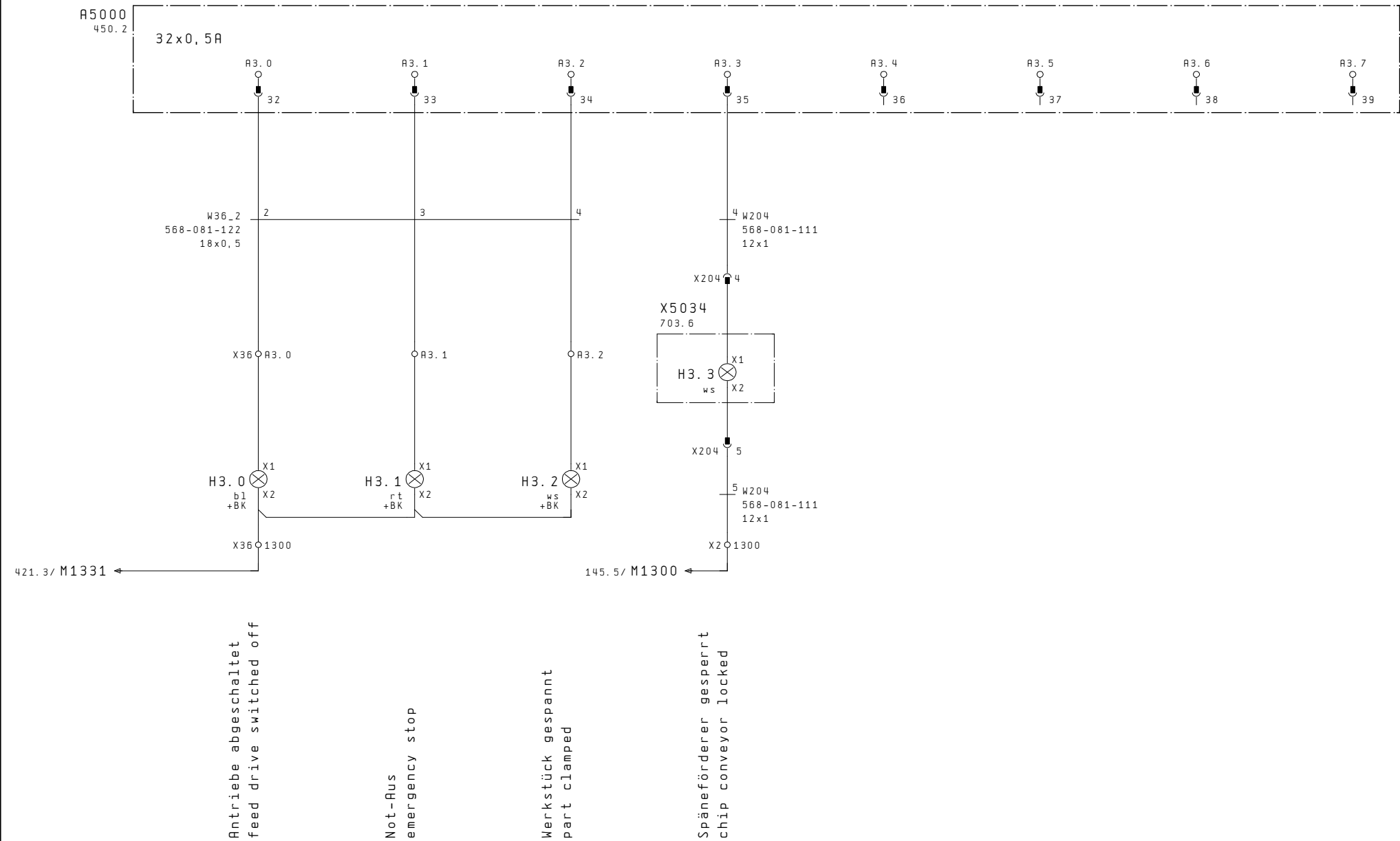
1 - 2
3 - 4
5 - 6
13 - 14
21 - 22 13.7

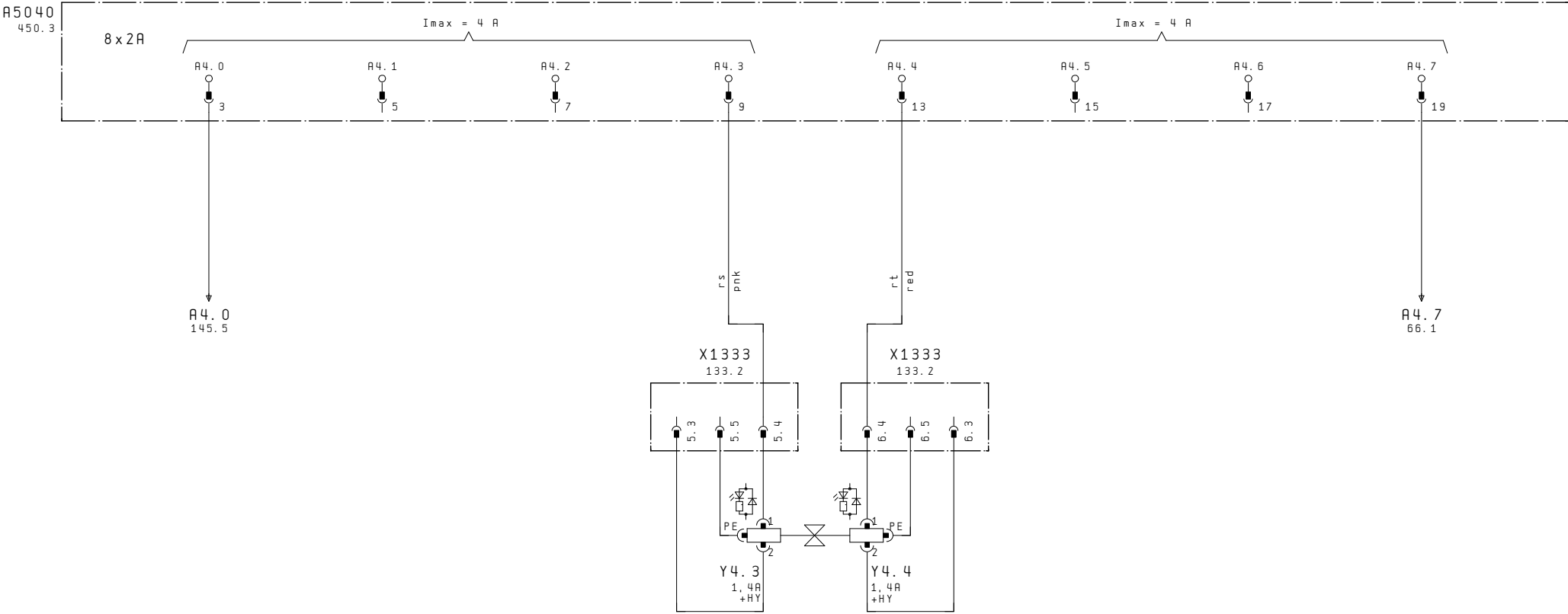
Maschinenleuchte Ein
machine lamp ON

13 - 14 130.5
23 - 24
33 - 34
43 - 44

Rückkühlanlage
Ventilator Ein
n= 1430 1/min
recooling
equipment fan ON
1430 1/min

1 - 2 16.4
3 - 4 16.4
5 - 6 16.4
13 - 14
21 - 22



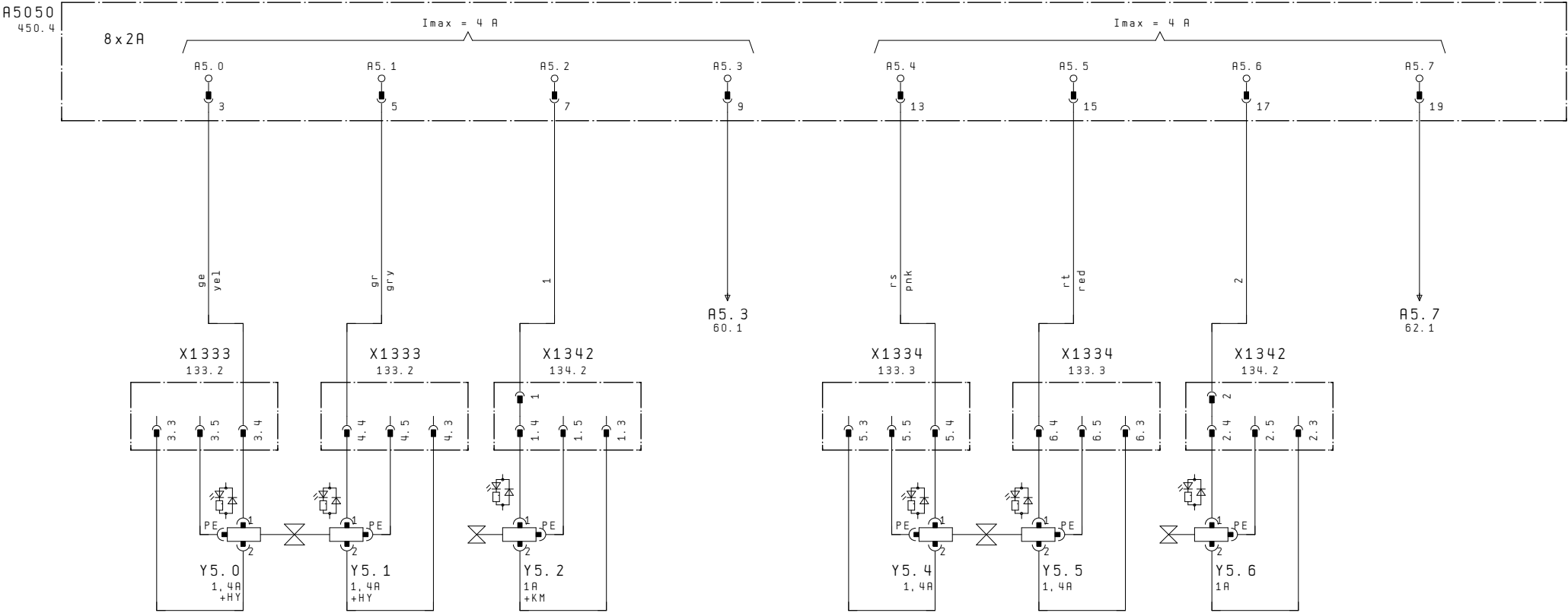


Wasserschutztüre
entriegeln
splash guard
release

Spannzylinder
Zugstange vor
chucking
cylinder draw bar advance

Spannzylinder
Zugstange zurück
chucking
cylinder draw bar retract

Reitstock
Achse W Bremse lösen
tailstock
axis W holding brake release



Revolver OR verriegeln
turret TR lock

Revolver OR entriegeln
turret TR unlock

Revolver OR Kühlmittel Ein
turret TR coolant on

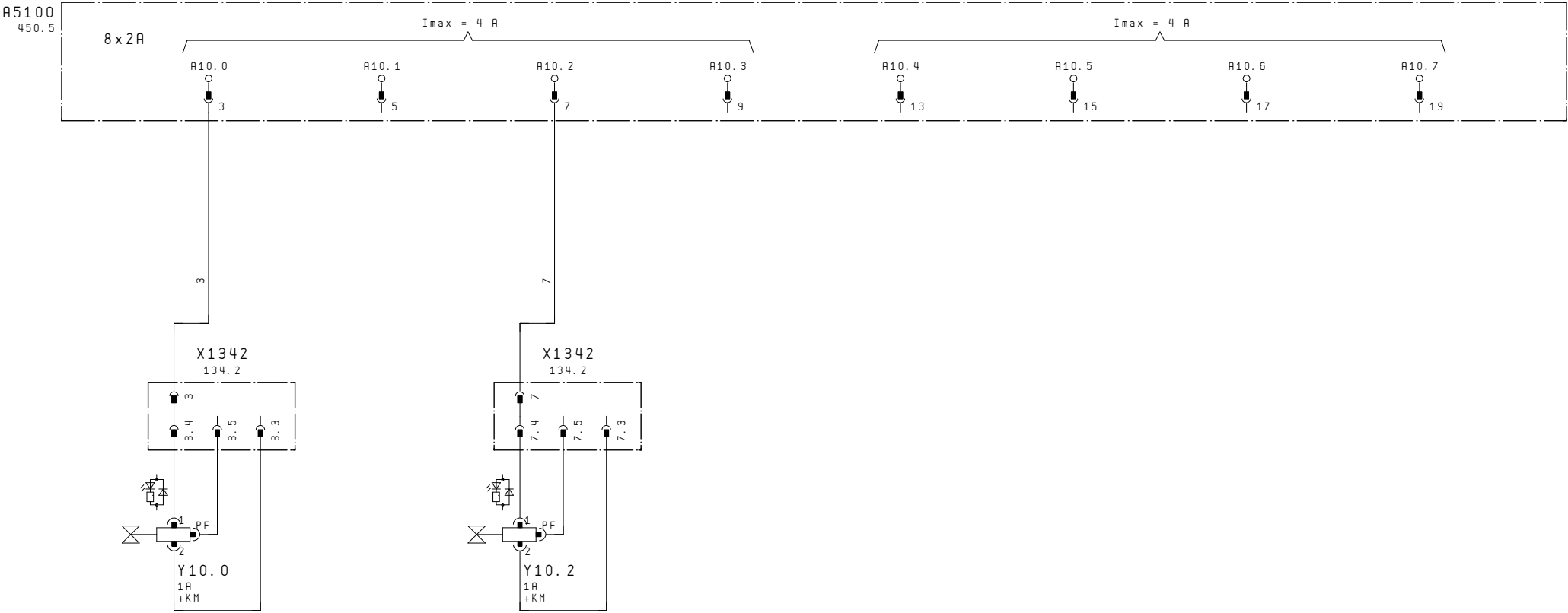
Schlitten OR
Achse X1 Haltebremse lösen
slide TR axis
X1 holding brake release

Revolver OL verriegeln
turret TL lock

Revolver OL entriegeln
turret TL unlock

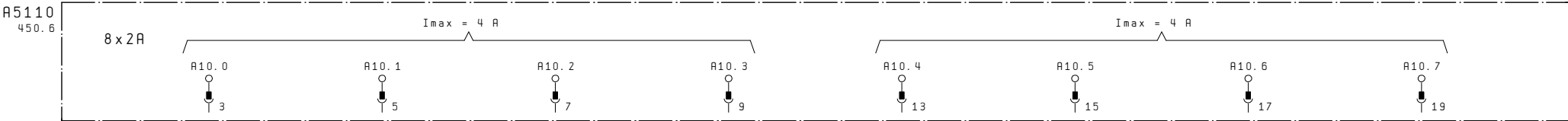
Revolver OL Kühlmittel Ein
turret TL coolant ON

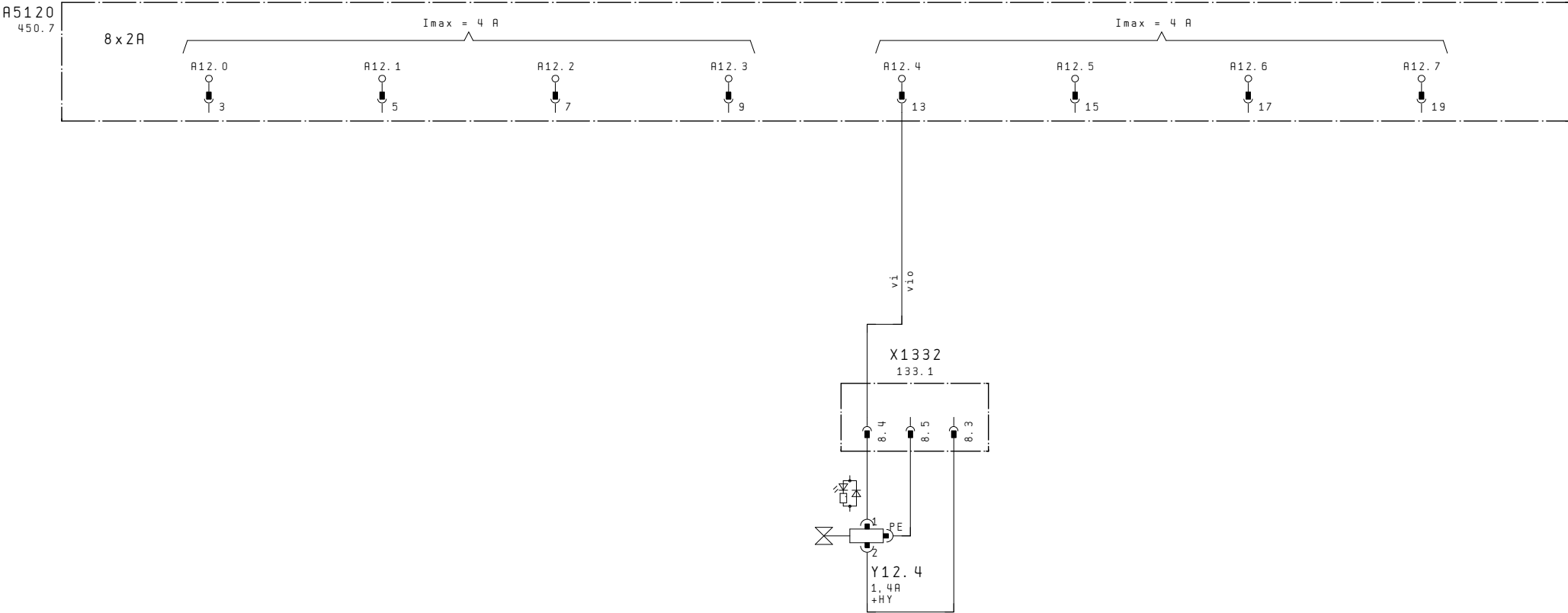
Schlitten OL
Achse X2 Haltebremse lösen
slide TL axis
X2 holding brake release



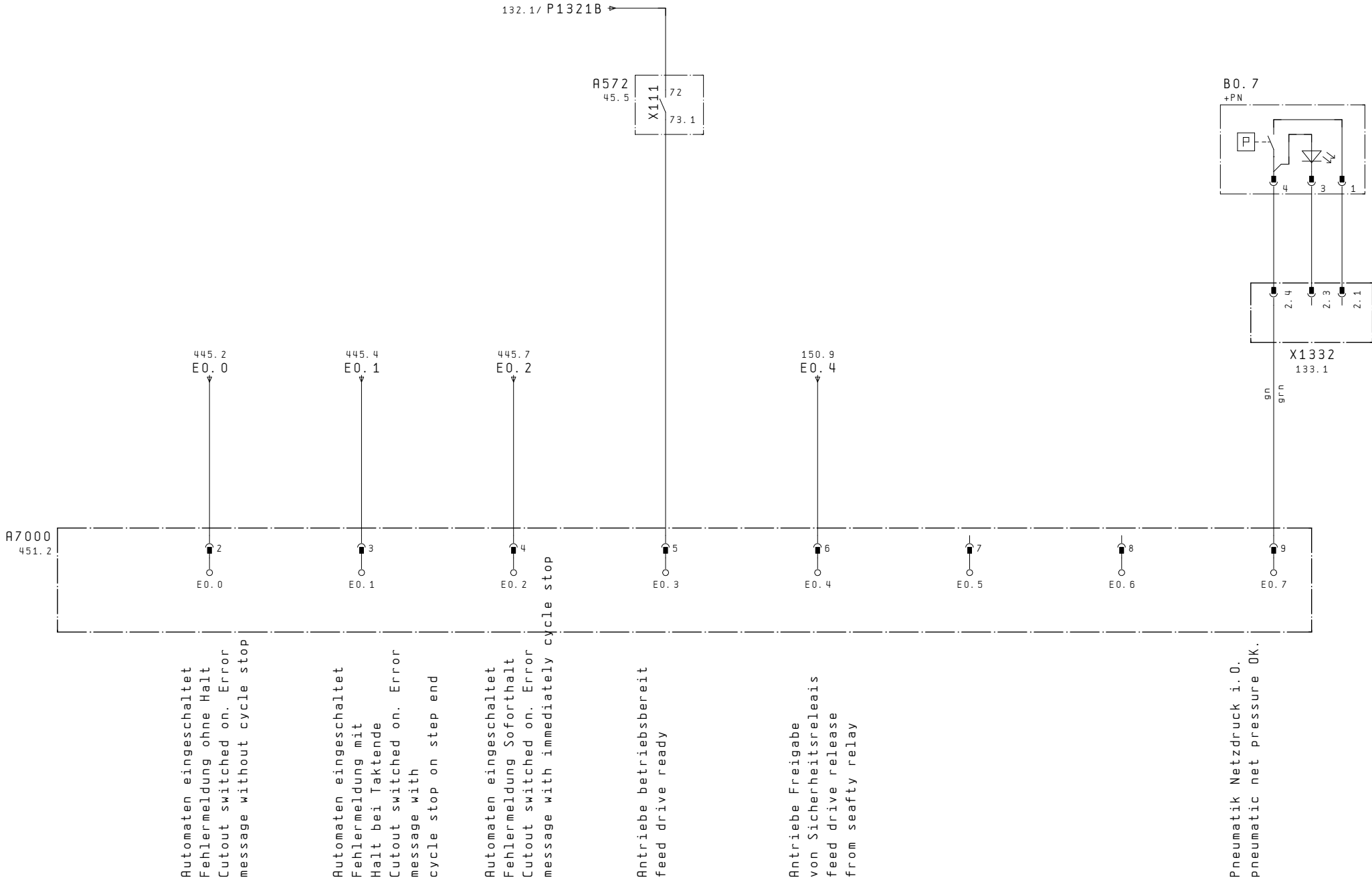
Futter abspritzen
chuck wash out

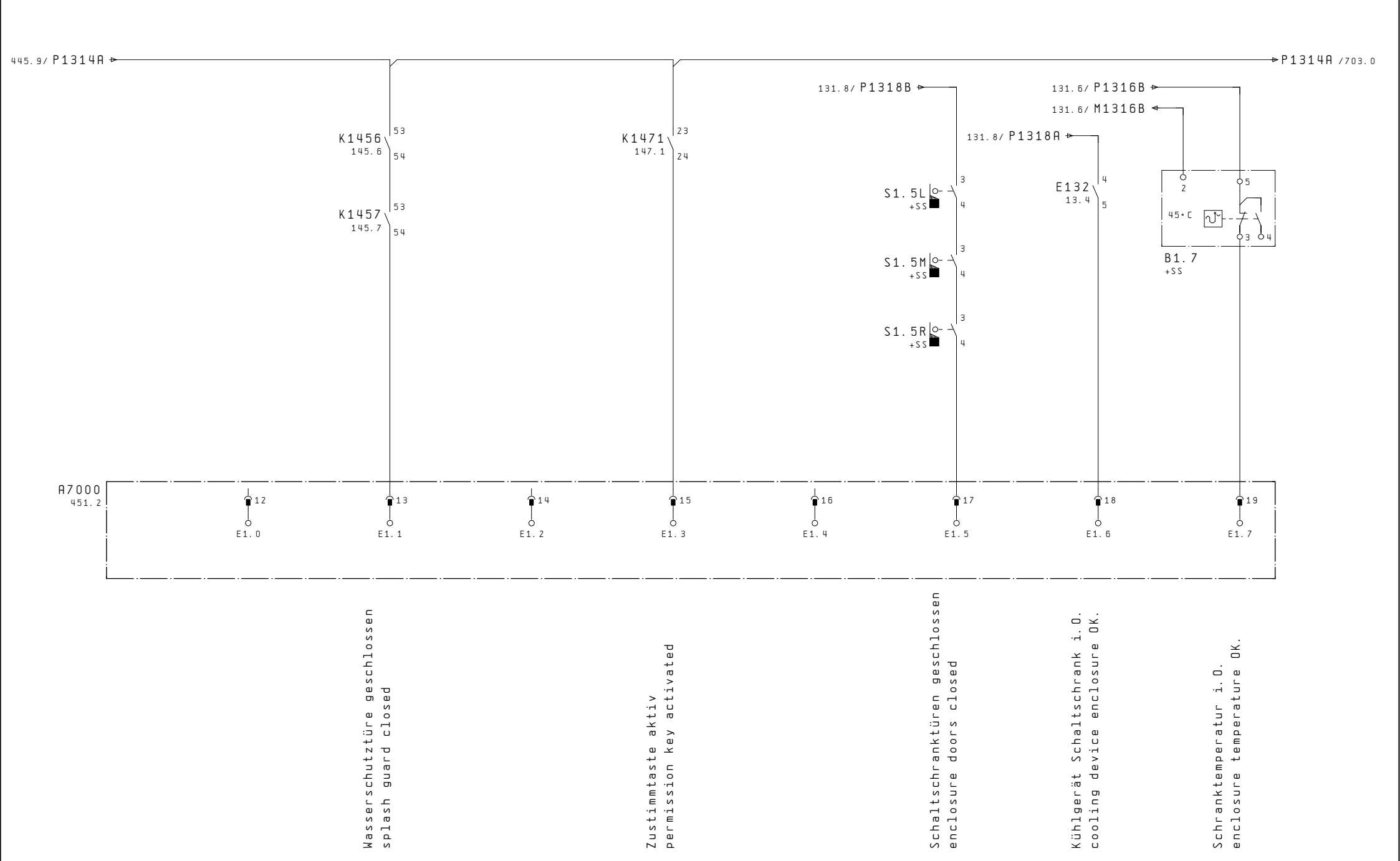
Schlitten unten abspritzen

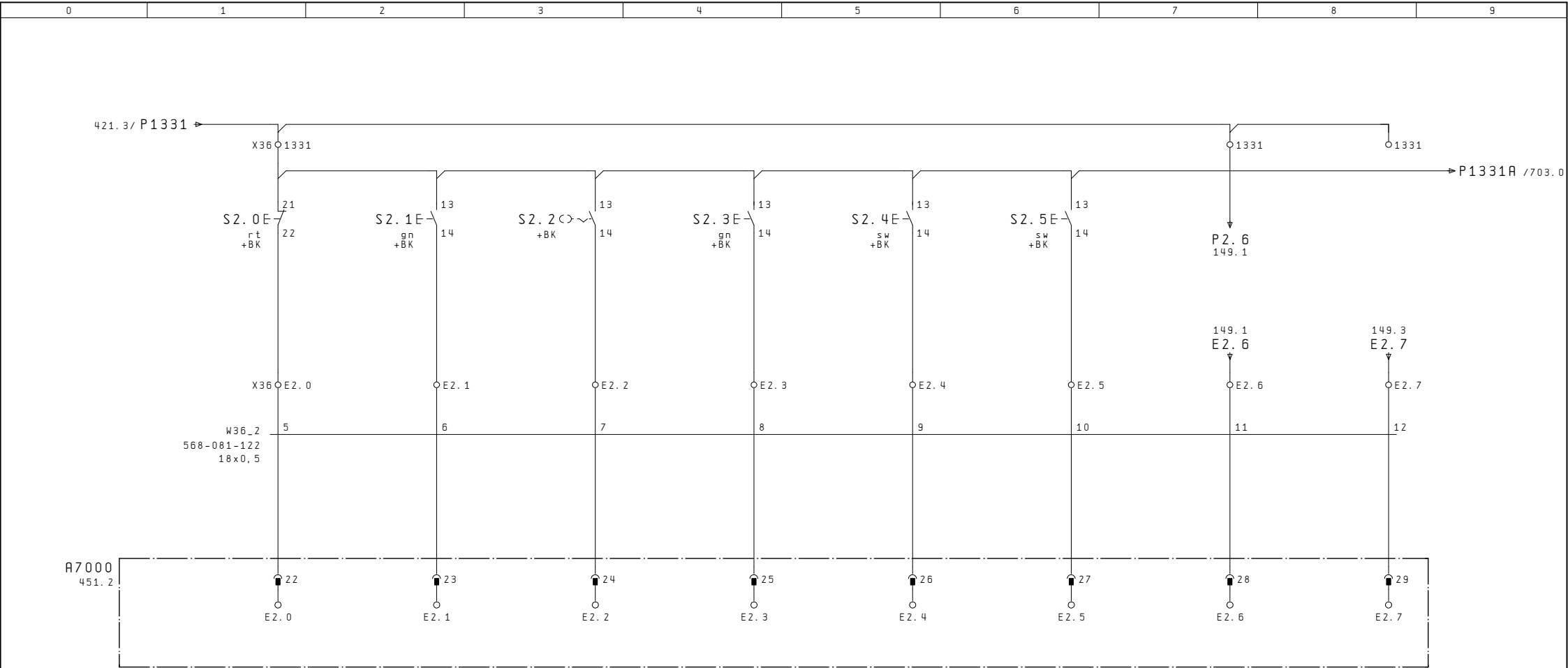




Abblasluft ein

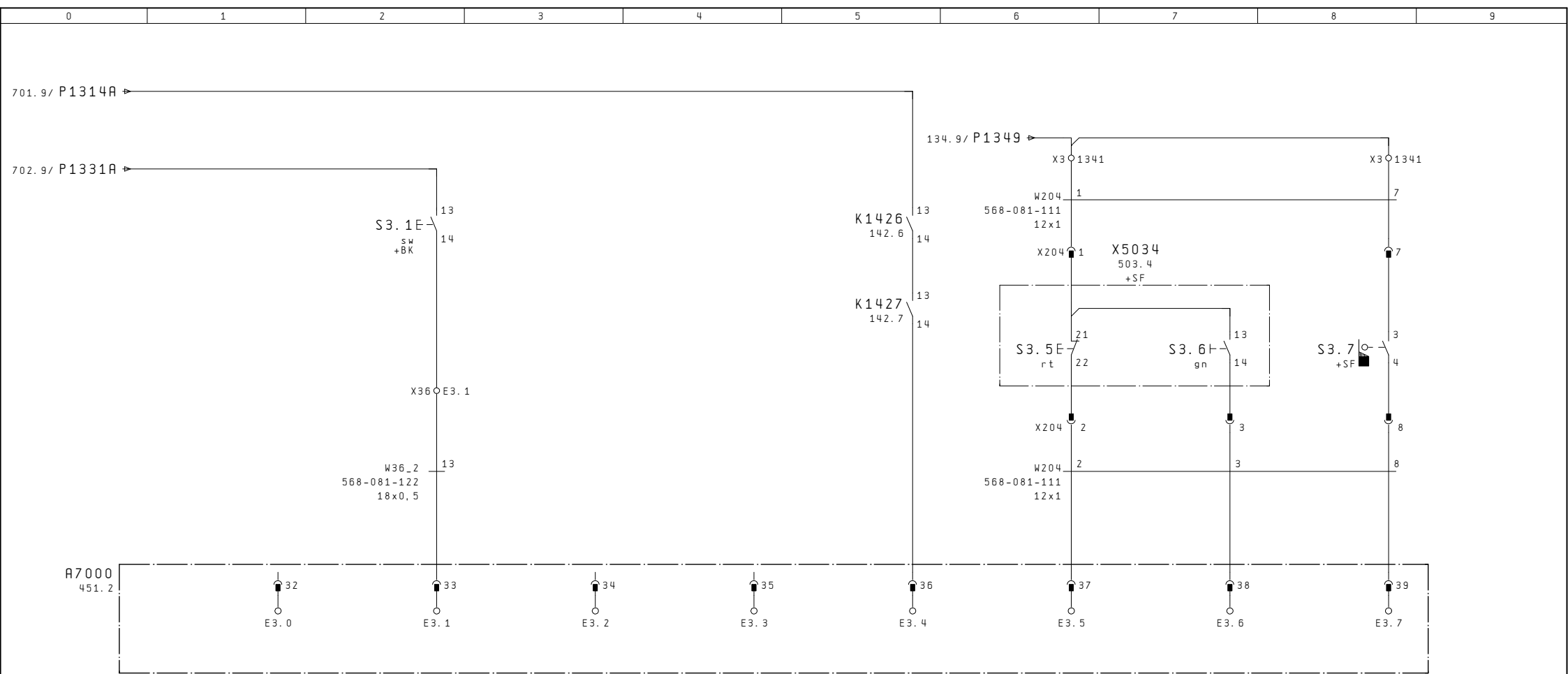






Freigabe Steuerspannung release control voltage			Steuerspannung Ein control voltage ON			Einrichtbetrieb set up operating			Zyklus Start cycle start			Futter schliessen chuck close			Futter öffnen chuck open			Reitstock vor tailstock advance			Reitstock zurück tailstock retract		
--	--	--	--	--	--	-------------------------------------	--	--	-----------------------------	--	--	----------------------------------	--	--	-----------------------------	--	--	------------------------------------	--	--	---------------------------------------	--	--

DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	PLC Eingänge PLC inputs	=	+	702
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	DRAWING NO.	27049_E		701		703
PLOT FRAME	FMS_E10A			MANUF. REF.	370490						



Wasserschutztüre entriegeln
splash guard release

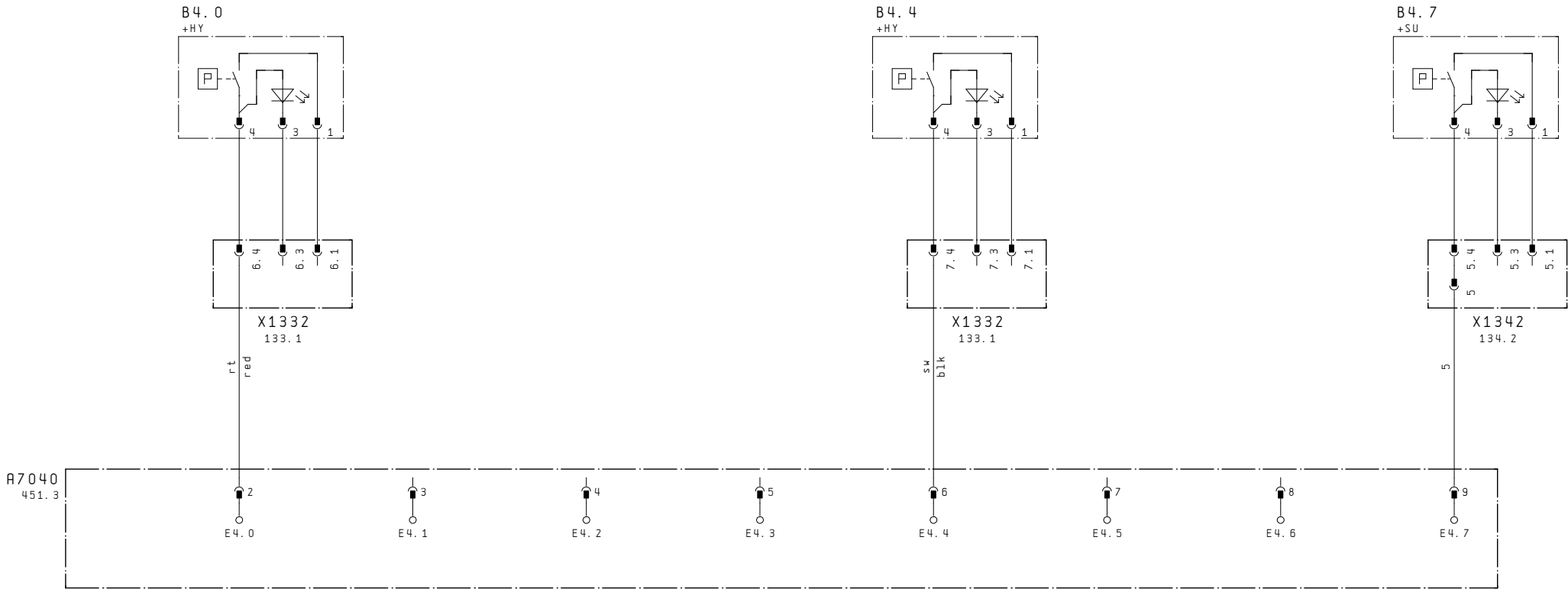
Notaus-Taste i. O.
emergency button OK.

Späneförderer sperren
chip conveyor lock

Späneförderer freigeben
chip conveyor release

Späneförderer Laufkontrolle
chip conveyor monitoring

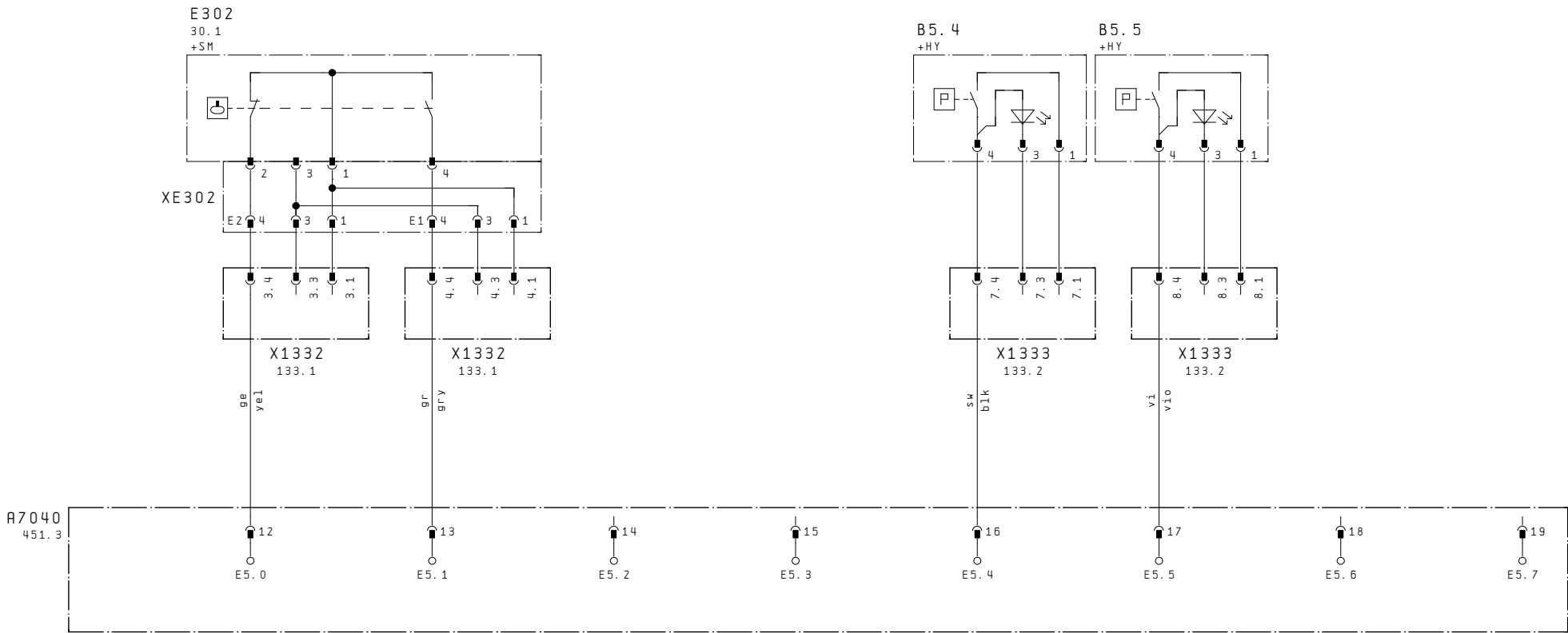
DESIGNED	08.07.03	Cas/3306	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	PLC Eingänge PLC inputs	= +	703
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							702	704
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			



Hydraulik Druck i.O.
hydraulic pressure OK.

Hydraulik Filter i.O.
hydraulic filter OK.

Impulsschmierung Achse W
Druck erreicht

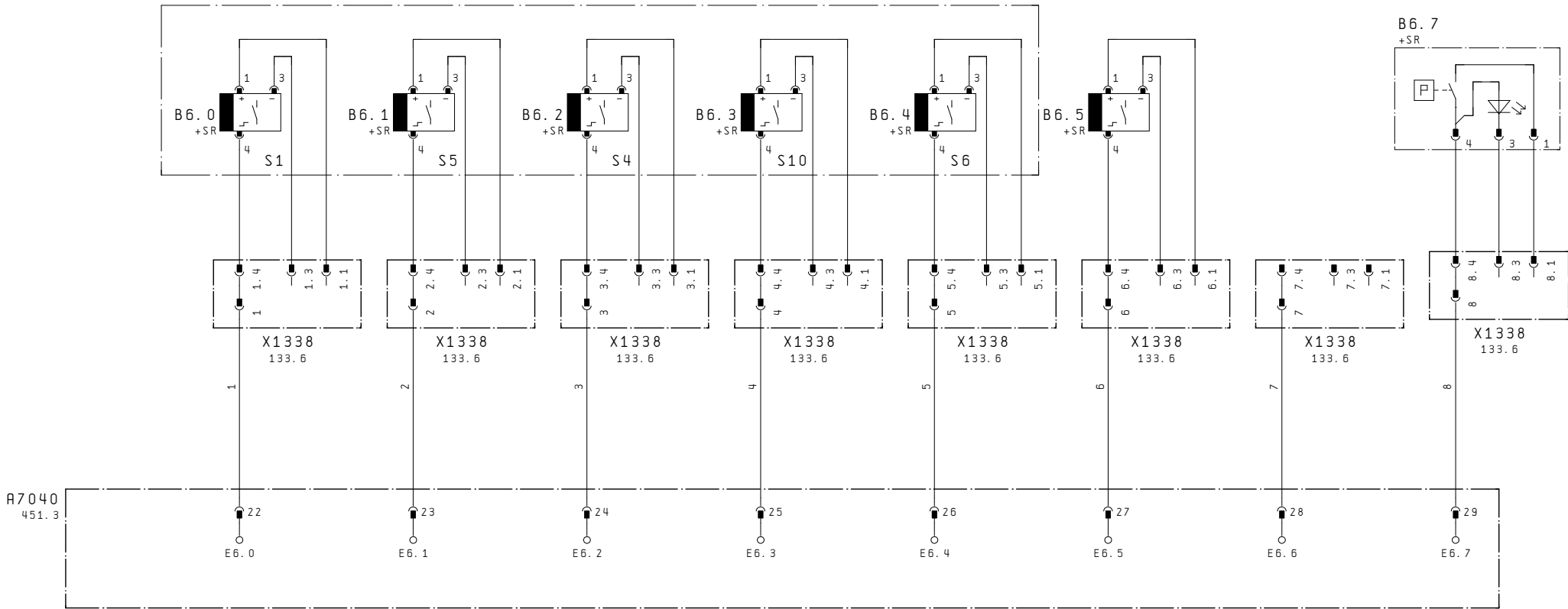


Impulsschmierung
Niveau i.O.
pulse lubrication
level OK.

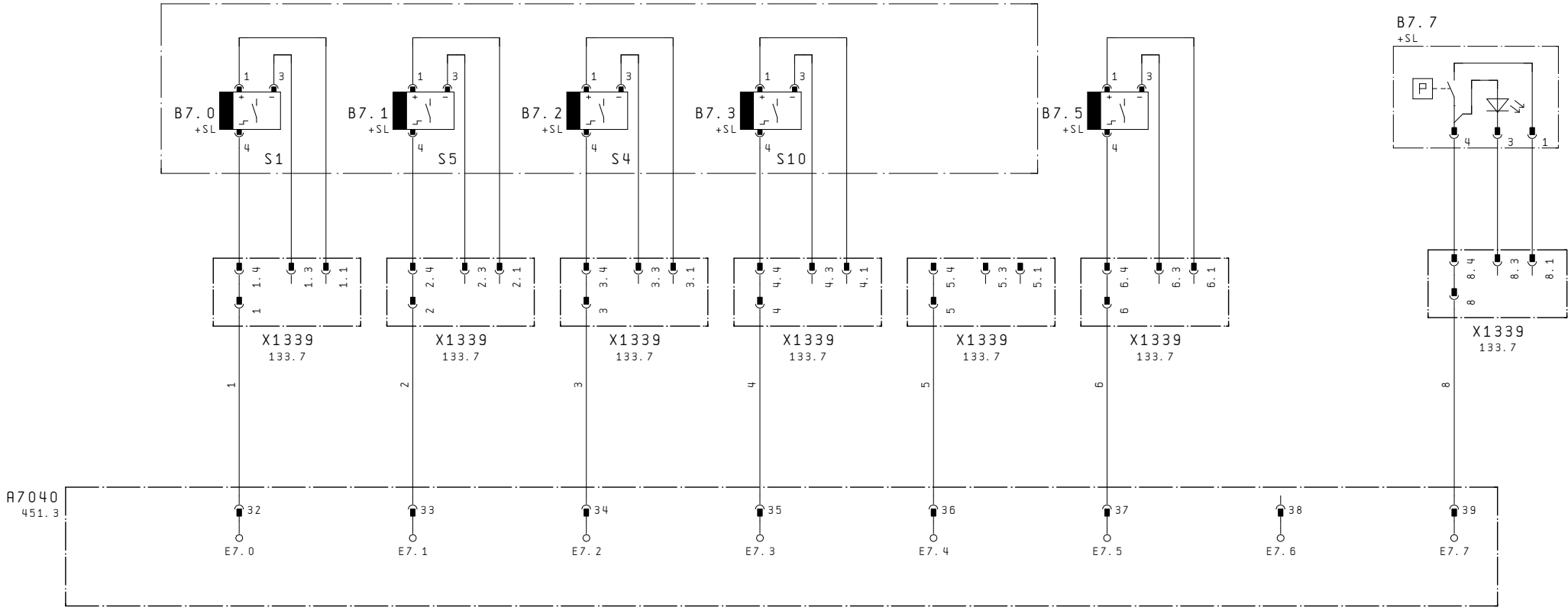
Impulsschmierung
Niveau Vorwarnung
pulse lubrication
level pre-warning

Spannfutter
Zugstange vorne Druck
chuck draw
bar advanced pressure

Spannfutter
Zugstange hinten Druck
chuck draw
bar retracted pressure



Revolver OR Referenzpunkt turret TR basing point	Revolver OR ausgekuppelt turret TR uncoupled	Revolver OR eingekuppelt turret TR coupled	Revolver OR Durchraskupplung i. O. turret TR ratchetting clutch engaged.	Revolver OR Werkzeugantrieb angekuppelt turret TR tool drive cluched	Schlitten OR Kollisionsüberwachung i. O. slide TR collision monitoring OK.	Reserve reserve	Schlitten OR Impulsschmierung Druck erreicht slide TR pulse lubrication pressure done
---	---	---	---	---	---	--------------------	--



Revolver OL
Referenzpunkt
turret TL
basing point

Revolver OL
ausgekuppelt
turret TL
uncoupled

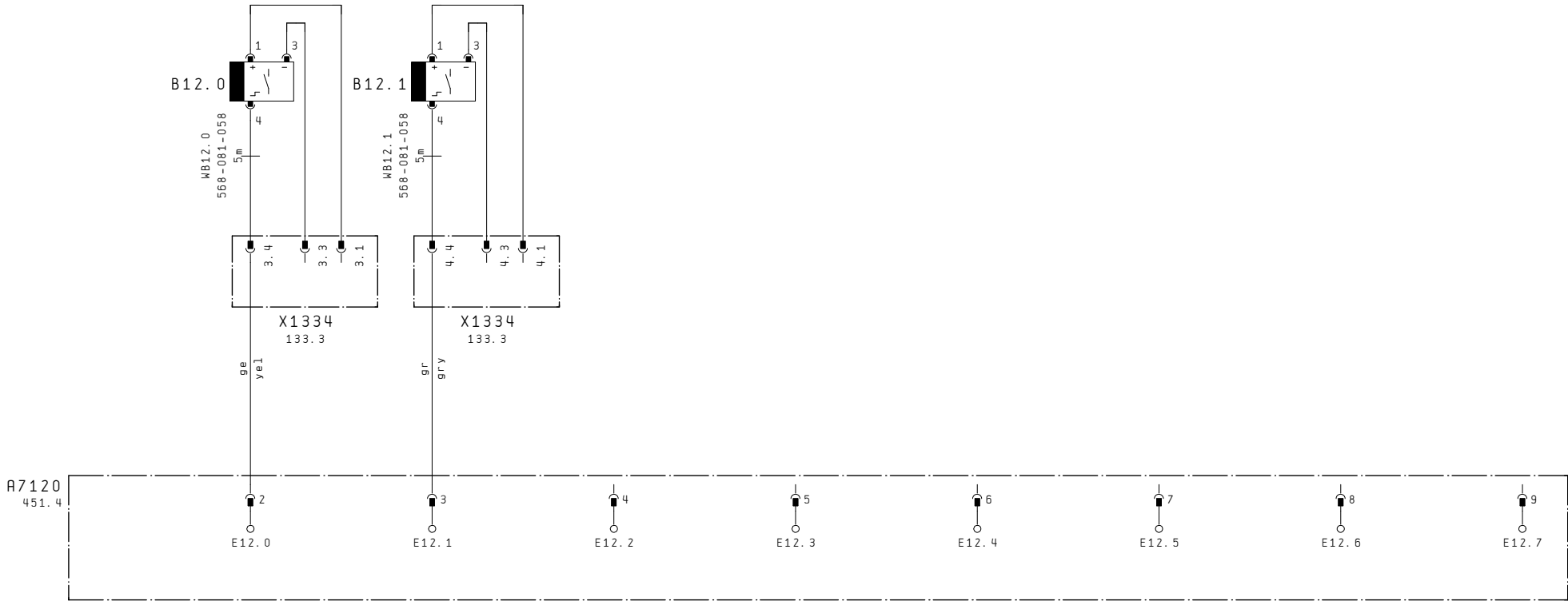
Revolver OL
eingekuppelt
turret TL
coupled

Revolver OL
Durchrastkupplung i. O.
turret TL
catch coupling OK.

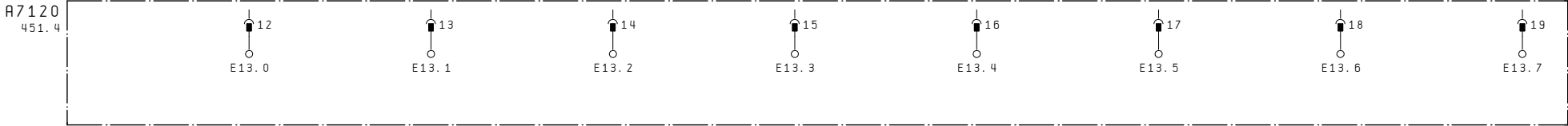
Reserve
reserve

Schlitten OL
Kollisionsüberwachung i. O.
slide TL
collision monitoring OK.

Schlitten OL
Impulsschmierung
Druck erreicht
slide TL pulse
lubrication
pressure done

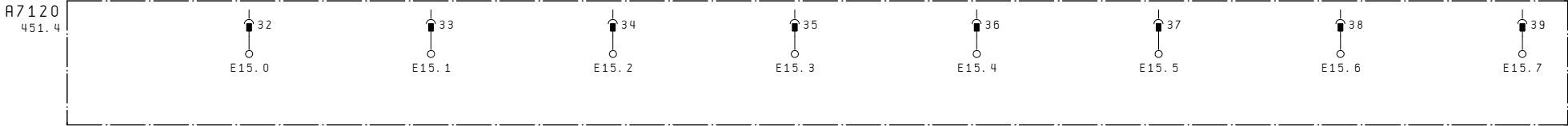


0	1	2	3	4	5	6	7	8	9
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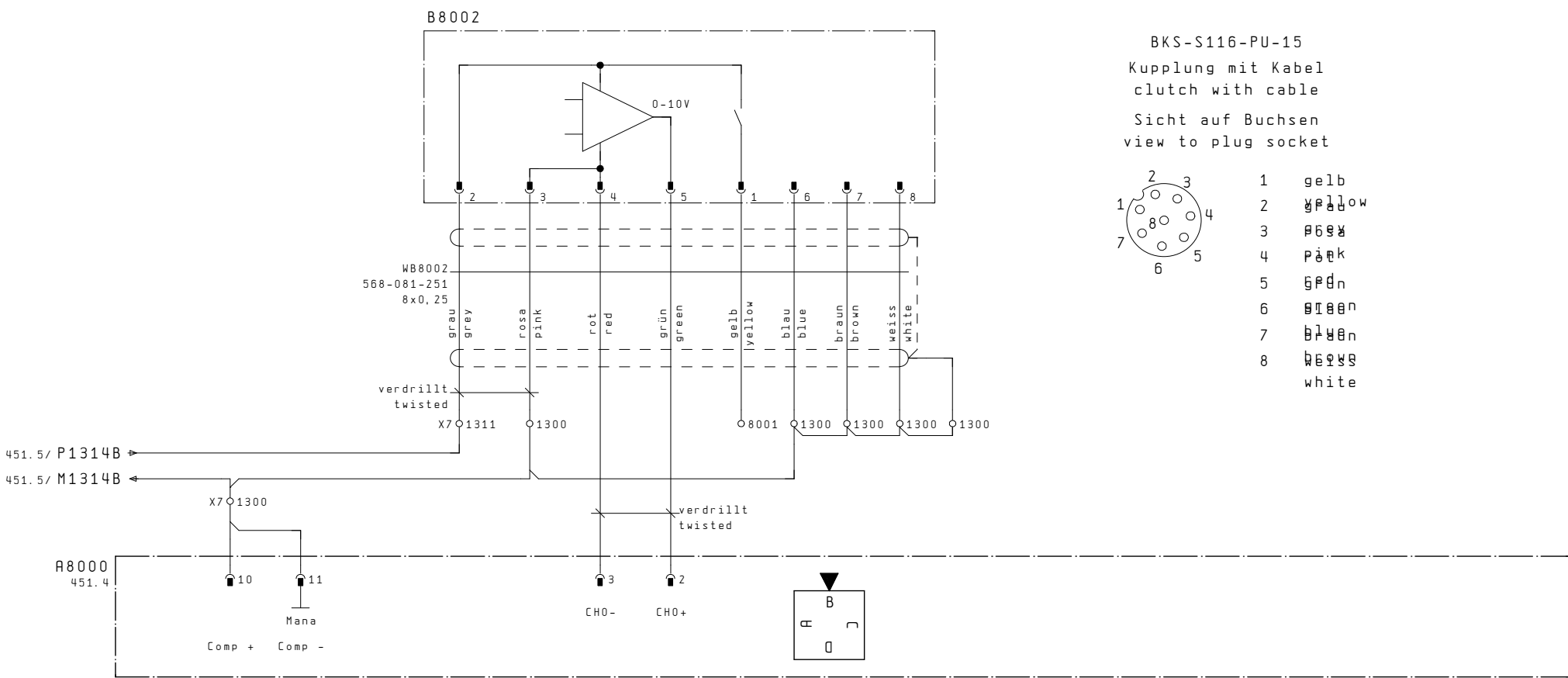


DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	PLC Eingänge PLC inputs	= +	713
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							712	714
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

0	1	2	3	4	5	6	7	8	9
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DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	PLC Eingänge PLC inputs	= +	715
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							714	800
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			



BKS-S116-PU-15

Kupplung mit Kabel
clutch with cable

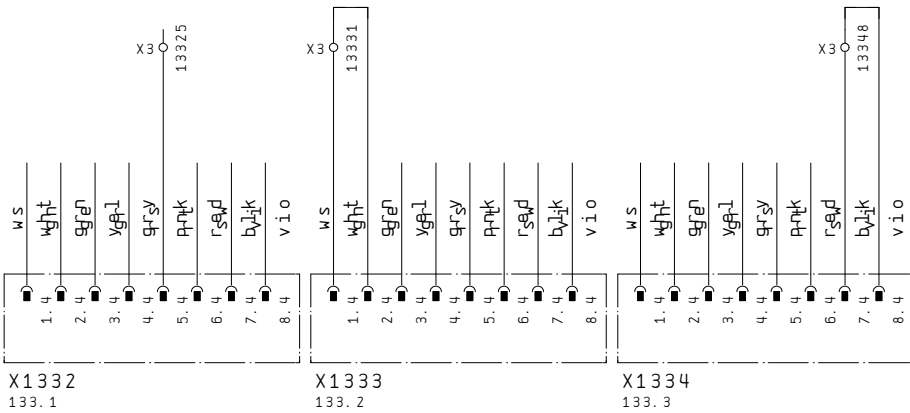
Sicht auf Buchsen
view to plug socket

1	gelb
2	yellow
3	grey
4	pink
5	green
6	yellow
7	blue
8	white

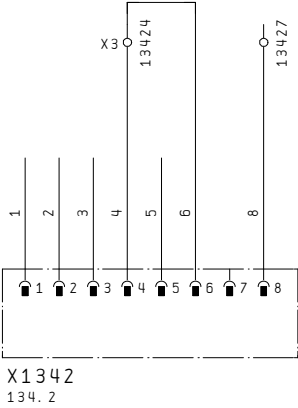
Externe Kompensation
external compensation

Wegmessung
Spannzylinder
path
measurement clamping cylinder

Reserveklemmen
reserve terminals



Reserveklemmen
reserve terminals



0	1	2	3	4	5	6	7	8	9
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terminals/plugs				X0					
		con-nexion	target A	terminal No	joint	target B	con-nexion		page
Erdschiene Schaltschrank				PE		PE			11.1
earth bar enclosure				PE		PE			11.1
=				PE		X02	PE		11.1
=				PE					11.1
=				PE		X00	PE		11.2
=				PE		PE			11.2
=				PE		PE			11.2
=				PE		PE			11.3
=				PE		PE			11.4
=				PE		PE			11.4
=				PE		PE			11.5
Schaltschrankbeleuchtung links				PE		E121	PE		12.2
Schaltschrankbeleuchtung rechts				PE		X127	PE		12.8
Kühlgerät links Schaltschrank TS8685				PE		E132	PE		13.2
Kühlgerät rechts Schaltschrank TS8880				PE		E136	PE		13.6
Hydraulikpumpe				PE					15.2
Hydraulikpumpe 200l/min				PE		X160	PE		16.6
Kühlpumpe 200l/min				PE		X172	PE		17.2
Speicherdrumpe				PE		X202	PE		20.2
Extraktor Modul (A501)				PE		M263	PE		26.3
Extraktor Modul (A501)				PE		X302	PE		30.2
Extraktor Modul (A501)				PE		+AV			32.3
Extraktor Modul (A501)				PE		A501	PE1		50.1
earthing				PE		A512	PE1		51.8
=				PE		A572	PE1		57.1
=				PE		A602	PE1		60.8
=				PE		A612	PE1		61.8
=				PE		A642	PE1		64.8
=				PE		A662	PE1		66.8
Spannungsversorgung 230VAC				PE		T1001	OV		100.1
power supply 230VAC				PE		T1001	PE		100.2
Erdung 24VDC				PE		X20	1300		130.0
Erdung 24VDC				PE		G1302			130.2
Erdung 24VDC				PE		PE			130.5
Extraktor Stromversorgung Schaltschrank				PE		X1332	5		133.2
connector box power supply switch cabinet				PE		X1333	5		133.3
=				PE		X1334	5		133.4
Lumbergverteiler Stromversorgung Revolver OR				PE		X1338	12		133.7
Lumbergverteiler Stromversorgung Revolver OL				PE		X1339	12		133.8
Lumbergverteiler Stromversorgung Küblmittel				PE		X1342	12		134.2
Wasserschubkühlpumpe 100l/min				PE		S1451	PE		145.1
Wasserschubkühlpumpe 100l/min				PE		A4002			400.2

FMS 03/04/2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X0 Erdschiene Schaltschrank X0 earth bar enclosure	= +	1000
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049			
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	DRAWING NO.	27049_E			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					
									<-- SHEET 901	SHEET --> 1000.1

[illegible]

X 0

page

SPS-Übersicht

PLC overview

con-
nexion

target
A

terminal No

joint

target
B

con-
nexion

450.2

451. 2

FMS_K03E/11.07.2000

DESIGNED	08.
LAST REVISED	01.
PLOT DATE	01.
PLOT FRAME	FMS

0	1	2	3	4	5	6	7	8	9				
terminals/plugs				X3									
				con- nexion	target A	termi- nal No	joint	target B	con- nexion	page			
Maschinenleuchte				a	E1305	1305		K2.6	14	130.5			
Bedbänkelemp				1331	X36	1331	•	F1331	2	133.1			
bpebatgweräaler Stromversorgung Schaltschrank				1	X1332	1331	•			133.2			
econnector box power supply switch cabinet				1	X1333	1331	•			133.3			
=				1	X1334	1331	•			133.4			
Lumbergverteiler Stromversorgung Revolver OR				11	X1338	1331	•			133.7			
Lumbergverteiler Stromversorgung Revolver OL				11	X1339	1331	•			133.8			
connector box power supply turret TL						1341	•	F1341	2	134.1			
Lumbergverteiler Stromversorgung Kühlmittel				11	X1342	1341	•			134.2			
Späneförderer power supply coolant				1	X204	1341	•			703.6			
Späreförderer Lackkontrolle				7	X204	1341	•			703.8			
Beispielventilenmonitoring						13325		X1332	5.4	900.1			
reserve terminals				2.4	X1333	13331		X1333	1.4	900.2			
=				8.4	X1334	13348		X1334	7.4	900.4			
=				6	X1342	13424		X1342	4	901.5			
=						13427		X1342	8	901.6			
				</									

terminals/plugs				X6									
		con-nexion	target A	terminal No	joint	target B	con-nexion					page	
Impulsfreigabe		1	Z512	A1.5		A5000	17					51.6	
pulse release		663	A602	A1.6	•	A5000	18					60.6	
=		663	A612	A1.6	•							61.6	
=		663	A642	A1.6	•							64.6	
SPS-Übersicht		1300	X22	1300	•	A5000	10					450.2	
PLC overview				1300	•	A5000	30					450.3	
=				1300	•	A5040	10					450.3	
=				1300	•	A5050	10					450.4	
=				1300	•	A5080	10					450.5	
=				1300	•	A5100	10					450.5	
=				1300	•	A5110	10					450.6	
=				1300	•	A5120	10					450.7	
=				1300	•	A7000	20					451.2	
=				1300	•	A7040	20					451.3	
=				1300	•	A7120	20					451.4	
=		13	K1507	1353		A5000	21					450.3	
=		24	K1508	1354	•	A5040	1					450.3	
=				1354	•	A5050	1					450.4	
=		34	K1508	1355	•	A5080	1					450.5	
=				1355	•	A5100	1					450.5	
=				1355	•	A5110	1					450.6	
=				1355	•	A5120	1					450.7	
		</											

0	1	2	3	4	5	6	7	8	9						
terminals/plugs						X7									
				con- nexion	target A	termi- nal No	joint	target B	con- nexion						page
SPS-Übersicht				1300	X22	1300	•	A8000	20						451.5
Elektronenkomensation						1300	•	A8000	10						800.1
Wegmessungsspannzylinder				3	B8002	1300	•								800.3
path measurement clamping cylinder				6	B8002	1300	•								800.4
=				7	B8002	1300	•								800.4
=				8	B8002	1300	•								800.5
=					S	1300	•								800.5
SPS-Übersicht				1311	X23	1311	•	A8000	1						451.5
Wegmessungsspannzylinder				2	B8002	1311	•								800.2
path measurement clamping cylinder				1	B8002	8001									800.4
					</										

0	1	2	3	4	5	6	7	8	9
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[illegible]

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X02	= +	1006
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X22 Spannungsverteilung OV	= +	1009
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

[illegible]
$$\begin{array}{r} \times 23 \\ \hline \end{array}$$

con-
nexion

target
A

terminal No

joint

target
B

con-
nexion

page

Anschaltung IM 361

RbCeEfağänğM 361

Re[ainputs

Kühlaggregat Schaltschrank

Überwachungs- und Abhörgesetz device

R6A100c11g5abdxle

programer connection box

$$\underline{L +}$$

A 4501

1311

F 1311

2

131.1

13

Q 1 0 0 1

1311

131.4

B 1

K 1 4 2 1

1311

131.6

4

E 132

1311

131.8

72

1311

132.1

5

1311

132.8

0	1	2	3	4	5	6	7	8	9
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[illegible]

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X35 Steckdose 230VAC X35 socket 230VAC	= +	1011
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

[illegible]

X 1 5 2

con-
nexion

target
A

terminal No

joint

target
B

con-
nexion

page

Hydraulikpumpe

hydraulic pump

U 1

M 152

1

K 1. 0

2

15.2

V 1

M 152

K 1. 0

4

15.2

W 1

M 152

3

K 1. 0

6

15.2

4

5

6

PE

M 152

PE

15. 2

[illegible]

X 1 7 2

con-
nexion

target
A

terminal No

joint

target
B

con-
nexion

17.2

Kühlmittelpumpe

coolant pump

U1

M 172

1

K 1. 1

2

V 1

M172

K 1. 1

4

W1

M 172

3

K 1. 1

6

4

5

6

/

8

9

PE

M172

PE

X0

PE

17.2

FMS_K03E/11.07.2000

DESIGNED	08.
LAST REVISED	01.
PLOT DATE	01.
PLOT FRAME	FMS

FMS_K03E/11.07.2000

DESIGNED	08.
LAST REVISED	01.
PLOT DATE	01.
PLOT FRAME	FMS

[illegible]

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1	EQUIPMENT	ELECTRIC	X302 Schmierpumpe X302 lubrication pump	= +	1017
LAST REVISED	01.12.09	PHI			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT DATE	01.12.09	FILE NAME		MANUF. REF.	370490	DRAWING NO.	27049_E	<-- SHEET 1016	SHEET --> 1018	
PLOT FRAME	FMS_E10A									

0	1	2	3	4	5	6	7	8	9							
terminals/plugs						X1332										
				con- nexion	target A	termi- nal No	joint	target B	con- nexion							page
Lumbergverteiler Stromversorgung Schaltschrank						1		X3	1331							133.2
connector box power supply switch cabinet						3		X2	1300							133.2
=						5		X0	PE							133.2
						1.1										
Pneumatik Maschine Netzdruck Ein				2	Y1.4	1.3										501.6
pneumatic machine pressure on				1	Y1.4	1.4		A5000	16							501.5
=				PE	Y1.4	1.5										501.5
Pneumatik Netzdruck i.O.				1	B0.7	2.1										700.9
pneumatic net pressure OK.				3	B0.7	2.3										700.9
=				4	B0.7	2.4		A7000	9							700.8
						2.5										
Impulsschmierung Niveau i.O.				1	XE302-E2	3.1										705.2
pulse lubrication level OK.				3	XE302-E2	3.3										705.2
=				4	XE302-E2	3.4		A7040	12							705.1
						3.5										
Impulsschmierung Niveau Vorwarnung				1	XE302-E1	4.1										705.3
pulse lubrication level pre-warning				3	XE302-E1	4.3										705.3
=				4	XE302-E1	4.4		A7040	13							705.2
						4.5										
						5.1										
						5.3										
Reserveklemmen				13325	X3	5.4										900.1
reserve terminals						5.5										
Hydraulik Druck i.O.				1	B4.0	6.1										704.2
hydraulic pressure OK.				3	B4.0	6.3										704.2
=				4	B4.0	6.4		A7040	2							704.1
						6.5										
Hydraulik Filter i.O.				1	B4.4	7.1										704.6
hydraulic filter OK.				3	B4.4	7.3										704.6
=				4	B4.4	7.4		A7040	6							704.5
						7.5										
						8.1										
Abblasluft ein				2	Y12.4	8.3										512.5
=				1	Y12.4	8.4		A5120	13							512.5
=				PE	Y12.4	8.5										512.5

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1332 Lumbergverteiler X1332 connector box	= +	1018
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049			
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	DRAWING NO.	27049_E			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490					
									<-- SHEET 1017	SHEET --> 1019

0	1	2	3	4	5	6	7	8	9							
terminals/plugs					X1333											
				con- nexion	target A	termi- nal No	joint	target B	con- nexion							page
Lumbergverteiler Stromversorgung Schaltschrank						1		X3	1331							133.3
connector box power supply switch cabinet						3		X2	1300							133.3
=						5		X0	PE							133.3
						1.1										
						1.3										
Reserveklemmen				13331	X3	1.4										900.2
reserve terminals						1.5										
						2.1										
						2.3										
=				13331	X3	2.4										900.2
						2.5										
						3.1										
Revolver OR verriegeln				2	Y5.0	3.3										505.1
turret TR lock				1	Y5.0	3.4		A5050	3							505.1
=				PE	Y5.0	3.5										505.1
						4.1										
Revolver OR entriegeln				2	Y5.1	4.3										505.2
turret TR unlock				1	Y5.1	4.4		A5050	5							505.2
=				PE	Y5.1	4.5										505.2
						5.1										
Spannzylinder Zugstange vor				2	Y4.3	5.3										504.4
chucking cylinder draw bar advance				1	Y4.3	5.4		A5040	9							504.4
=				PE	Y4.3	5.5										504.4
						6.1										
Spannzylinder Zugstange zurück				2	Y4.4	6.3										504.5
chucking cylinder draw bar retract				1	Y4.4	6.4		A5040	13							504.5
=				PE	Y4.4	6.5										504.5
Spannfutter Zugstange vorne Druck				1	B5.4	7.1										705.6
chuck draw bar advanced pressure				3	B5.4	7.3										705.6
=				4	B5.4	7.4		A7040	16							705.5
						7.5										
Spannfutter Zugstange hinten Druck				1	B5.5	8.1										705.7
chuck draw bar retracted pressure				3	B5.5	8.3										705.7
=				4	B5.5	8.4		A7040	17							705.6
						8.5										

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1333 Lumbergverteiler X1333 connector box	= +	1019
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049			
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen					
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			
									<-- SHEET 1018	SHEET --> 1020

0	1	2	3	4	5	6	7	8	9							
terminals/plugs					X1334											
				con- nexion	target A	termi- nal No	joint	target B	con- nexion							page
Lumbergverteiler Stromversorgung Schaltschrank						1		X3	1331							133.4
connector box power supply switch cabinet						3		X2	1300							133.4
=						5		X0	PE							133.4
						1.1										
Ladeluke schlisessen						1.3										508.1
load-hatch close				1	Y8.0	1.4		A5080	3							508.1
=				PE	Y8.0	1.5										508.1
						2.1										
Ladeluke öffnen				2	Y8.1	2.3										508.2
load-hatch open				1	Y8.1	2.4		A5080	5							508.2
=				PE	Y8.1	2.5										508.2
Ladeluke geschlossen				1	B12.0	3.1										712.2
load-hatch closed				3	B12.0	3.3										712.2
=				4	B12.0	3.4		A7120	2							712.1
						3.5										
Ladeluke offen				1	B12.1	4.1										712.3
load-hatch opened				3	B12.1	4.3										712.3
=				4	B12.1	4.4		A7120	3							712.2
						4.5										
						5.1										
Revolver OL verriegeln						5.3		Y5.4	2							505.5
turret TL lock				13	A5050	5.4		Y5.4	1							505.5
=						5.5		Y5.4	PE							505.5
						6.1										
Revolver OL entriegeln						6.3		Y5.5	2							505.6
turret TL unlock				15	A5050	6.4		Y5.5	1							505.6
=						6.5		Y5.5	PE							505.6
						7.1										
						7.3										
Reserveklemmen				13348	X3	7.4										900.4
reserve terminals						7.5										
						8.1										
						8.3										
=				13348	X3	8.4										900.4
						8.5										

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1334 Lumbergverteiler X1334 connector box	= +	1020
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049			
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen					
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			
									<-- SHEET 1019	SHEET --> 1021

			X1338							
terminals/plugs		con-nexion	target A	terminal No	joint	target B	con-nexion			page
Revolver OR Referenzpunkt RevoättefROBasüsgēkōppelt		22	A7040	1		X1338	1. 4			706. 1
RevoättefROBneäggēkdppelt		23	A7040	2		X1338	2. 4			706. 2
RevoättefROBoDpteDrastkupplung i.O.		24	A7040	3		X1338	3. 4			706. 3
RevoättefRORaWehkztéuggnttūebhaeggegdelt		25	A7040	4		X1338	4. 4			706. 4
Schtättēr OBoködtisæoozübbedachung i.O.		26	A7040	5		X1338	5. 4			706. 5
Bäsdevær collision monitoring OK.		27	A7040	6		X1338	6. 4			706. 6
Bebättéen OR Impulsschmierung Druck erreicht		28	A7040	7		X1338	7. 4			706. 7
kümHerqRepbtääetusttæotæsoppessguRevdåmer OR econnector box power supply turret TR =		29	A7040	8		X1338	8. 4			706. 8
=		1300	X2	9						133. 7
=		1300	X2	10						133. 7
Revolver OR Referenzpunkt		1331	X3	11						133. 7
turret TR basing point		PE	X0	12						133. 7
=		1	B6. 0	1. 1						706. 2
		3	B6. 0	1. 3						706. 2
		4	B6. 0	1. 4		X1338	1			706. 1
				1. 5						
Revolver OR ausgekuppelt		1	B6. 1	2. 1						706. 3
turret TR uncoupled		3	B6. 1	2. 3						706. 3
=		4	B6. 1	2. 4		X1338	2			706. 2
				2. 5						
Revolver OR eingekuppelt		1	B6. 2	3. 1						706. 4
turret TR coupled		3	B6. 2	3. 3						706. 4
=		4	B6. 2	3. 4		X1338	3			706. 3
				3. 5						
Revolver OR Durchrastkupplung i.O.		1	B6. 3	4. 1						706. 5
turret TR ratchetting clutch engaged.		3	B6. 3	4. 3						706. 5
=		4	B6. 3	4. 4		X1338	4			706. 4
				4. 5						
Revolver OR Werkzeugantrieb angekuppelt		1	B6. 4	5. 1						706. 6
turret TR tool drive cluched		3	B6. 4	5. 3						706. 6
=		4	B6. 4	5. 4		X1338	5			706. 5
				5. 5						
Schlitten OR Kollisionsüberwachung i.O.		1	B6. 5	6. 1						706. 7
sllide TR collision monitoring OK.		3	B6. 5	6. 3						706. 7
=		4	B6. 5	6. 4		X1338	6			706. 6
				6. 5						
Reserve				7. 1						706. 8
eserve				7. 3						706. 8
=				7. 4		X1338	7			706. 7
				7. 5						
Schlitten OR Impulsschmierung Druck erreicht		1	B6. 7	8. 1						706. 9
sllide TR pulse lubrication pressure done		3	B6. 7	8. 3						706. 9

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1338 Schlitten oben rechts	= +	1021
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

[illegible]

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1338 Schlitten oben rechts	= +	1021.1
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1339 Schlitten oben links	= +	1022		
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049				<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	DRAWING NO.	27049_E				1021.1	1022.1
PLOT FRAME	FMS_E10A			MANUF. REF.	370490							

FMS_K03E/11.07.2000

DESIGNED	08.
LAST REVISED	01.
PLOT DATE	01.
PLOT FRAME	FMS

0	1	2	3	4	5	6	7	8	9
terminals/plugs				X1342					
		con-nexion	target A	terminal No	joint	target B	con-nexion		page
Reserveklemmen				7					901.6
RevovertORmKühlmittel Ein		7	A5050	1		X1342	1.4		505.3
RevovertROtoWühlmittel Ein		17	A5050	2		X1342	2.4		505.7
Futter abspritzen ON		3	A5100	3		X1342	3.4		510.1
Reserveklemmen		13424	X3	4					901.5
RevovertORmKühlmittel Ein		9	A7040	5		X1342	5.4		704.8
Reserveklemmen		13424	X3	6					901.5
Schlitten unten abspritzen		7	A5100	7		X1342	7.4		510.3
Reserveklemmen		13427	X3	8					901.6
Connector box power supply coolant		1300	X2	9					134.2
=		1300	X2	10					134.2
=		1341	X3	11					134.2
		PE	X0	12					134.2
				1.1					
Revolver OR Kühlmittel Ein		2	Y5.2	1.3					505.3
Murret TR coolant on		1	Y5.2	1.4		X1342	1		505.3
=		PE	Y5.2	1.5					505.3
				2.1					
Revolver OL Kühlmittel Ein		2	Y5.6	2.3					505.7
Murret TL coolant ON		1	Y5.6	2.4		X1342	2		505.7
=		PE	Y5.6	2.5					505.7
				3.1					
Futter abspritzen		2	Y10.0	3.3					510.1
ehuck wash out		1	Y10.0	3.4		X1342	3		510.1
=		PE	Y10.0	3.5					510.1
				4.1					
				4.3					
				4.4					
				4.5					
Impulsschmierung Achse W Druck erreicht		1	B4.7	5.1					704.9
=		3	B4.7	5.3					704.9
=		4	B4.7	5.4		X1342	5		704.8
				5.5					
				6.1					
				6.3					
				6.4					
				6.5					
				7.1					
Schlitten unten abspritzen		2	Y10.2	7.3					510.3
=		1	Y10.2	7.4		X1342	7		510.3
=		PE	Y10.2	7.5					510.3
				8.1					

FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1342 Kühlmittel X1342 coolant	= +	1023
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			
									<-- SHEET 1022.1	SHEET --> 1023.1

0	1	2	3	4	5	6	7	8	9
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FMS_K03E/11.07.2000

DESIGNED	08.07.03	PHI	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	X1342 Kühlmittel X1342 coolant	=	+	1023.1
LAST REVISED	01.12.09	PHI			Ansler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049				
PLOT FRAME	FMS_E10A				MANUF. REF.	370490	DRAWING NO.		27049_E		<-- SHEET 1023

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
A501	1	Ein-/Rückspeisemodul 80 kW feed/recovery module 80kW	6SN11 45-1BB00-0EA1	Siemens	6SN11 45-1BB00-0EA1	Siemens	568-069-622	45.	1
A501	1	Anbaulüfter mounted ventilator	6SN11 62-0BA02-0AA2	Siemens	6SN11 62-0BA02-0AA2	Siemens	568-069-644	45.	1
A512	1	Leistungsmodul 1-Achs power module 1-axis	6SN11 23-1AA01-0FA1	Siemens	6SN11 23-1AA01-0FA1	Siemens	568-069-604	45.	2
A512	1	Regelungseinschub controller drawer	6SN11 18-0DJ21-0AA1	Siemens	6SN11 18-0DJ21-0AA1	Siemens	568-069-650	45.	2
A512	1	Antriebsbus B=350 rund drive bus b=350 round	6SN11 61-1CA00-0EA1	Siemens	6SN11 61-1CA00-0EA1	Siemens	568-081-065	45.	2
A512_X411	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2CA31-1BA0	Siemens	6FX8 002-2CA31-1BA0	Siemens	568-081-211	51.	4
A572	1	Überwachungsmodul monitoring module	6SN11 12-1AC01-0AA1	Siemens	6SN11 12-1AC01-0AA1	Siemens	568-069-597	45.	5
A602	1	Leistungsmodul 2-Achs power module 2-axis	6SN11 23-1AB00-0BA1	Siemens	6SN11 23-1AB00-0BA1	Siemens	568-069-588	45.	8
A602	1	Regelungsmodul controller	6SN11 18-0DK23-0AA1	Siemens	6SN11 18-0DK23-0AA1	Siemens	568-069-651	45.	8
A602_A1	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5DA01-1BA0	Siemens	6FX8 002-5DA01-1BA0	Siemens	568-081-212	60.	2
A602_A2	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5DA01-1BA0	Siemens	6FX8 002-5DA01-1BA0	Siemens	568-081-212	62.	2
A602_X411	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	60.	3
A602_X412	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	62.	3
A602_X421	1	Geberkabel, 10 m transmitter cable 10 m	6FX2 002-2CA11-1BA0	Siemens	6FX2 002-2CA11-1BA0	Siemens	568-081-217	60.	4
A602_X422	1	Geberkabel, 10 m transmitter cable 10 m	6FX8 002-2CA11-1BA0	Siemens	6FX8 002-2CA11-1BA0	Siemens	568-081-217	62.	4
A612	1	Leistungsmodul 2-Achs power module 2-axis	6SN11 23-1AB00-0CA2	Siemens	6SN11 23-1AB00-0CA2	Siemens	568-069-659	45.	4
A612	1	Regelungsmodul controller	6SN11 18-0DK23-0AA1	Siemens	6SN11 18-0DK23-0AA1	Siemens	568-069-651	45.	4
A612	1	Antriebsbus B=350 rund drive bus b=350 round	6SN11 61-1CA00-0EA1	Siemens	6SN11 61-1CA00-0EA1	Siemens	568-081-065	45.	4
A612_A1	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5CA21-1BA0	Siemens	6FX8 002-5CA21-1BA0	Siemens	568-081-225	61.	2
A612_A2	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5CA21-1BA0	Siemens	6FX8 002-5CA21-1BA0	Siemens	568-081-225	63.	2
A612_X411	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	61.	3

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1100
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				1023.1		1101
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				

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<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
A612_X412	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	63.	3
A612_X421	1	Geberkabel, 10 m transmitter cable 10 m	6FX2 002-2CA11-1BA0	Siemens	6FX2 002-2CA11-1BA0	Siemens	568-081-217	61.	4
A632_X421	1	Geberkabel, 10 m transmitter cable 10 m	6FX8 002-2CA11-1BA0	Siemens	6FX8 002-2CA11-1BA0	Siemens	568-081-217	63.	4
A642	1	Leistungsmodul 2-Achs power module 2-axis	6SN11 23-1AB00-0CA2	Siemens	6SN11 23-1AB00-0CA2	Siemens	568-069-659	45.	6
A642	1	Regelungsmodul controller	6SN11 18-0DM31-0AA1	Siemens	6SN11 18-0DM31-0AA1	Siemens	568-069-652	45.	6
A642	1	Antriebsbus B=100 rund drive bus b=100 round	6SN11 61-1CA00-0BA1	Siemens	6SN11 61-1CA00-0BA1	Siemens	568-081-063	45.	6
A642_A1	1	Motorenkabel, 10 m motor cable, 10 m	6FX2 002-5CA31-1BA0	Siemens	6FX2 002-5CA31-1BA0	Siemens	568-081-221	64.	2
A642_A2	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5CA01-1BA0	Siemens	6FX8 002-5CA01-1BA0	Siemens	568-081-213	65.	2
A642_X411	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2CA31-1BA0	Siemens	6FX8 002-2CA31-1BA0	Siemens	568-081-211	64.	3
A642_X412	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	65.	3
A662	1	Leistungsmodul 1-Achs power module 1-axis	6SN11 23-1AA00-0CA1	Siemens	6SN11 23-1AA00-0CA1	Siemens	568-069-548	45.	7
A662	1	Regelungsmodul controller	6SN11 18-0DM31-0AA1	Siemens	6SN11 18-0DM31-0AA1	Siemens	568-069-652	45.	7
A662	1	Antriebsbus B=50 rund drive bus b=50 round	6SN11 61-1CA00-0AA1	Siemens	6SN11 61-1CA00-0AA1	Siemens	568-081-062	45.	7
A662_A1	1	Motorenkabel, 10 m motor cable, 10 m	6FX8 002-5DA01-1BA0	Siemens	6FX8 002-5DA01-1BA0	Siemens	568-081-212	66.	2
A662_X411	1	Feedbackkabel, 10 m feedback cable, 10 m	6FX8 002-2EQ10-1BA0	Siemens	6FX8 002-2EQ10-1BA0	Siemens	568-081-215	66.	3
A4002	1	NCU-Box	6FC5 247-0AA00-0AA3	Siemens	6FC5 247-0AA00-0AA3	Siemens	568-090-314	45.	2
A4002	1	840D NCU-572.5	6FC5 357-0BB25-0AA0	Siemens	6FC5 357-0BB25-0AA0	Siemens	568-090-396	45.	2
A4002	1	Software für NCU software for NCU	6FC5 250-0AY30-0AH0	Siemens	6FC5 250-0AY30-0AH0	Siemens	568-090-388	45.	2
A4002	1	Stecker plug	6FC9 341-1FH	Siemens	6FC9 341-1FH	Siemens	568-006-161	45.	2
A4002	1	Antriebsbus B=50 rund drive bus b=50 round	6SN11 61-1CA00-0AA1	Siemens	6SN11 61-1CA00-0AA1	Siemens	568-081-062	45.	2
A4002	1	PLC-Toolbox	6FC5 252-0AX21-0AB0	Siemens	6FC5 252-0AX21-0AB0	Siemens	568-090-322	45.	2

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1101
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET	SHEET -->	
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				1100	1102	
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				

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<div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
A4002	3	Software software	6FC5 251-0AA04-0AA0	Siemens	6FC5 251-0AA04-0AA0	Siemens	568-090-323	45.	2
A4002	1	Software software	6FC5 251-0AA07-0AA0	Siemens	6FC5 251-0AA07-0AA0	Siemens	568-090-331	45.	2
A4202	1	Bedientafel OP 010C, TFT 10.4" operator panel OP 010C, TFT 10.4"	6FC5 203-0AF01-0AA0	Siemens	6FC5 203-0AF01-0AA0	Siemens	568-090-362	420.	
A4204	1	PCU 50-Modul 1,2 GHz, 512 MB, XP	6FC5 210-0DF25-2AA0	Siemens	6FC5 210-0DF25-2AA0	Siemens	568-090-408	420.	
A4204	1	Software HMI-PCU50	6FC5 253-0BX10-0AG0	Siemens	6FC5 253-0BX10-0AG0	Siemens	568-090-364	420.	
A4204	1	Software software	6FC5 263-6AY00-0AB0	Siemens	6FC5 263-6AY00-0AB0	Siemens	568-090-211	420.	
A4204	1	Montagewinkel mounting angle	6FC5 248-0AF20-2AA0	Siemens	6FC5 248-0AF20-2AA0	Siemens	568-090-368	420.	
A4212	1	Maschinensteuertafel machine control panel	6FC5 203-0AF22-0AA2	Siemens	6FC5 203-0AF22-0AA2	Siemens	568-090-377	421.	
A4501	1	Anschaltungsbaugruppe interface module	6ES7 361-3CA01-0AA0	Siemens	6ES7 361-3CA01-0AA0	Siemens	568-090-315	450.	
A4501	1	Profilschiene 482 mm profile iron 482 mm	6ES7 390-1AE80-0AA0	Siemens	6ES7 390-1AE80-0AA0	Siemens	568-090-321	450.	
A4511	1	Anschaltungsbaugruppe interface module	6ES7 361-3CA01-0AA0	Siemens	6ES7 361-3CA01-0AA0	Siemens	568-090-315	451.	
A4511	1	Profilschiene 482 mm profile iron 482 mm	6ES7 390-1AE80-0AA0	Siemens	6ES7 390-1AE80-0AA0	Siemens	568-090-321	451.	
A5000	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BL00-0AA0	Siemens	6ES7 322-1BL00-0AA0	Siemens	568-090-317	450.	
A5000	1	Frontstecker 32 E/A front plug 32 I/O	6ES7 392-1BM01-0AA0	Siemens	6ES7 392-1BM01-0AA0	Siemens	568-090-367	450.	
A5040	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	
A5040	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A5050	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	
A5050	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A5080	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	
A5080	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A5100	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1102
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049				
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				
									<-- SHEET 1101		SHEET --> 1103

0	1	2	3	4	5	6	7	8	9
<div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
A5100	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A5110	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	
A5110	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A5120	1	Digitalausgabebaugruppe digital output module	6ES7 322-1BF01-0AA0	Siemens	6ES7 322-1BF01-0AA0	Siemens	568-090-318	450.	
A5120	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	450.	
A7000	1	Digitaleingabebaugruppe digital input module	6ES7 321-1BL00-0AA0	Siemens	6ES7 321-1BL00-0AA0	Siemens	568-090-316	451.	
A7000	1	Frontstecker 32 E/A front plug 32 I/O	6ES7 392-1BM01-0AA0	Siemens	6ES7 392-1BM01-0AA0	Siemens	568-090-367	451.	
A7040	1	Digitaleingabebaugruppe digital input module	6ES7 321-1BL00-0AA0	Siemens	6ES7 321-1BL00-0AA0	Siemens	568-090-316	451.	
A7040	1	Frontstecker 32 E/A front plug 32 I/O	6ES7 392-1BM01-0AA0	Siemens	6ES7 392-1BM01-0AA0	Siemens	568-090-367	451.	
A7120	1	Digitaleingabebaugruppe digital input module	6ES7 321-1BL00-0AA0	Siemens	6ES7 321-1BL00-0AA0	Siemens	568-090-316	451.	
A7120	1	Frontstecker 32 E/A front plug 32 I/O	6ES7 392-1BM01-0AA0	Siemens	6ES7 392-1BM01-0AA0	Siemens	568-090-367	451.	
A8000	1	Analogeingabebaugruppe analog input module	6ES7 331-7KB02-0AB0	Siemens	6ES7 331-7KB02-0AB0	Siemens	568-090-365	451.	
A8000	1	Frontstecker 8 A front plug 8 0	6ES7 392-1BJ00-0AA0	Siemens	6ES7 392-1BJ00-0AA0	Siemens	568-090-366	451.	
A8000	1	Schirmauflage-Element screen support plate	6ES7390-5AA00-0AA0	Siemens	6ES7390-5AA00-0AA0	Siemens		451.	
A8000	1	Schirmanschlussklemme screen connection terminal	6ES7390-5CA00-0AA0	Siemens	6ES7390-5CA00-0AA0	Siemens		451.	
B0.7	1	siehe Pneumatikschema see pneumatic diagram						700.	
B1.7	1	Thermostat thermostat	SK3110000	Rittal	SK3110000	Rittal	568-034-013	701.	
B4.0	1	siehe Hydraulikschema see hydraulic diagram						704.	
B4.4	1	siehe Hydraulikschema see hydraulic diagram						704.	
B4.7	1	siehe Schmierungsschema see lubrication diagram						704.	
B5.4	1	siehe Hydraulikschema see hydraulic diagram						705.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1103
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049				
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				<-- SHEET		SHEET -->
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E		1102		1104

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<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
B5.5	1	siehe Hydraulikschema see hydraulic diagram						705.	
B6.0	1	Annäherungsschalter proximity switch	BES 516-324-E0-C-01	Balluff	BES 516-324-E0-C-01	Balluff		706.	
B6.1	1	Annäherungsschalter proximity switch	BES 516-324-E4-C-01	Balluff	BES 516-324-E4-C-01	Balluff		706.	
B6.2	1	Annäherungsschalter proximity switch	BES 516-324-E4-C-01	Balluff	BES 516-324-E4-C-01	Balluff		706.	
B6.3	1	Annäherungsschalter proximity switch	BES 516-324-E0-C-01	Balluff	BES 516-324-E0-C-01	Balluff		706.	
B6.4	1	Annäherungsschalter proximity switch	BES 516-324-E0-C-01	Balluff	BES 516-324-E0-C-01	Balluff		706.	
B6.5	1	Annäherungsschalter proximity switch	BES 516-324-SA44-C-03	Balluff	BES 516-324-SA44-C-03	Balluff	568-012-053	706.	
B6.7	1	siehe Schmierungsschema see lubrication diagram						706.	
B7.0	1	Annäherungsschalter proximity switch	BES 516-324-E0-C-01	Balluff	BES 516-324-E0-C-01	Balluff		707.	
B7.1	1	Annäherungsschalter proximity switch	BES 516-324-E4-C-01	Balluff	BES 516-324-E4-C-01	Balluff		707.	
B7.2	1	Annäherungsschalter proximity switch	BES 516-324-E4-C-01	Balluff	BES 516-324-E4-C-01	Balluff		707.	
B7.3	1	Annäherungsschalter proximity switch	BES 516-324-E0-C-01	Balluff	BES 516-324-E0-C-01	Balluff		707.	
B7.7	1	siehe Schmierungsschema see lubrication diagram						707.	
B12.0	1	Zylinderschalter cylinder switch	SME-8-S-LED-24	Festo	150 857	Festo	568-441-173	712.	
B12.1	1	Zylinderschalter cylinder switch	SME-8-S-LED-24	Festo	150 857	Festo	568-441-173	712.	
B602	1	Messkopf gauging head	AMS3A-RUC	Schneeberger AG	AMS3A-RUC	Schneeberger AG	568-249-141	60.	4
B612	1	Messkopf gauging head	AMS3A-RUC	Schneeberger AG	AMS3A-RUC	Schneeberger AG	568-249-141	61.	4
B622	1	Messkopf gauging head	AMS3A-RUC	Schneeberger AG	AMS3A-RUC	Schneeberger AG	568-249-141	62.	4
B632	1	Lesekopf read head	AMSA-3A	Schneeberger AG	AMSA-3A-35-K-MU	Schneeberger AG	568-037-006	63.	4
B8002	1	Laser-Reflex-taster laser reflex sensor	YP11MGVL 80	Wenglor	YP11MGVL 80	Wenglor	568-040-103	800.	
B8002	1	Kabel mit Stecker 15m cable with plug 15m	BKS-S116-PU-15	Balluff	BKS-S33M-15	Balluff	568-081-251	800.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1104
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049				
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				<-- SHEET		SHEET -->
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E		1103		1105

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Parts list									
FMS_S04E/10. 01. 2002									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
E121	1	Langfeldleuchte lamp	PS 4155.000	Rittal	4155.000	Rittal		12.	1
E121	1	Anschlussleitung Einspeisung feed connection line	4315.100	Rittal	4315.100	Rittal		12.	1
E122	1	Langfeldleuchte lamp	PS 4155.000	Rittal	4155.000	Rittal		12.	3
E122	1	Anschlussleitung Durchgang feed-through for connection line	4315.200	Rittal	4315.200	Rittal		12.	3
E123	1	Langfeldleuchte lamp	PS 4155.000	Rittal	4155.000	Rittal		12.	5
E123	1	Anschlussleitung Durchgang feed-through for connection line	4315.200	Rittal	4315.200	Rittal		12.	5
E132	1	Wandanbau-Kühlgerät cooling device	SK3328.540	Rittal	SK3328.540	Rittal	568-190-500	13.	2
E136	1	Wandanbau-Kühlgerät cooling device	SK3328.540	Rittal	SK3328.540	Rittal	568-190-500	13.	6
E136	1	Interfacekabel	SK 3124.100	Rittal	SK 3124.100	Rittal		13.	6
E160	1	Kühlsystem cooling system	FLKS-340SL/2.0/W/TP/400-50	FLUTEC	FLKS-340SL/2.0/W/TP/400-50	FLUTEC	568-190-340	16.	1
E302	1	Impuls-Schmieraggregat pulse lubrication aggregate	MFE5-KW6-S64	Vogel	MFE5-KW6-S64+XXX-0	Vogel	568-190-560	30.	1
E1305	1	Maschinenleuchte machine lamp	EBLCE136/24VDC	Waldmann	112300000	Waldmann		130.	
F105	1	Lasttrennschalter circuit breaker	3NP4070-0CA01	Siemens	3NP4070-0CA01	Siemens		10.	5
F105	1	Isolierstoffblende insulator faceplate	3NY7 200	Siemens	3NY7 200	Siemens		10.	5
F105	3	NH-Sicherungseinsatz HRC fuse link	3NA3 836	Siemens	3NA3 836	Siemens		10.	5
F1003	1	Sicherungsautomat circuit breaker	5SX2 108-7	Siemens	5SX2 108-7	Siemens		100.	
F1003	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	100.	
F1305	1	Sicherungsautomat circuit breaker	5SX2 106-7	Siemens	5SX2 106-7	Siemens	568-028-044	130.	
F1305	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	130.	
F1311	1	Sicherungsautomat circuit breaker	5SX2 106-7	Siemens	5SX2 106-7	Siemens	568-028-044	131.	
F1311	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	131.	
DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	Stückliste parts list	=	1105
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	ELECTRIC		+	
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER		<-- SHEET	SHEET -->
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.		1104	1106

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
F1331	1	Sicherungsautomat circuit breaker	5SX2 106-7	Siemens	5SX2 106-7	Siemens	568-028-044	133.	
F1331	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	133.	
F1341	1	Sicherungsautomat circuit breaker	5SX2 106-7	Siemens	5SX2 106-7	Siemens	568-028-044	134.	
F1341	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	134.	
F1351	1	Sicherungsautomat circuit breaker	5SX2 106-7	Siemens	5SX2 106-7	Siemens	568-028-044	135.	
F1351	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	135.	
F1354	1	Sicherungsautomat circuit breaker	5SX2 110-7	Siemens	5SX2 110-7	Siemens	568-028-045	135.	
F1354	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	135.	
F1355	1	Sicherungsautomat circuit breaker	5SX2 110-7	Siemens	5SX2 110-7	Siemens	568-028-045	135.	
F1355	1	Hilfsstromschalter (HS) independent circuit switch	5SX9 100	Siemens	5SX9 100	Siemens	568-032-012	135.	
G1302	1	Netzgerät 24VDC/40A power supply unit 24VDC/40A	6EP14 37-3BA00	Siemens	6EP14 37-3BA00	Siemens		130.	
H3.0	1	Meldeleuchte blau signal lamp blue	3SB32 17-6AA50	Siemens	3SB32 17-6AA50	Siemens	568-043-060	503.	
H3.0	1	Glühlampe electric light bulb	3SB19 02-2AF	Siemens	3SB19 02-2AF	Siemens	012-1163-002	503.	
H3.1	1	Meldeleuchte rot signal lamp red	3SB32 17-6AA20	Siemens	3SB32 17-6AA20	Siemens	568-043-057	503.	
H3.1	1	Glühlampe electric light bulb	3SB19 02-2AF	Siemens	3SB19 02-2AF	Siemens	012-1163-002	503.	
H3.2	1	Meldeleuchte weiss signal lamp white	3SB32 17-6AA60	Siemens	3SB32 17-6AA60	Siemens	568-043-061	503.	
H3.2	1	Glühlampe electric light bulb	3SB19 02-2AF	Siemens	3SB19 02-2AF	Siemens	012-1163-002	503.	
J501	1	Schirmanschlussblech 300mm screen connection sheet 300mm	6SN11 62-0EA00-0KA0	Siemens	6SN11 62-0EA00-0KA0	Siemens	568-069-626	50.	1
J512	1	Schirmanschlussblech screen connection sheet	6SN11 62-0EA00-0DA0	Siemens	6SN11 62-0EA00-0DA0	Siemens	568-069-601	51.	3
J602	1	Schirmanschlussblech screen connection sheet	6SN11 62-0EA00-0AA0	Siemens	6SN11 62-0EA00-0AA0	Siemens	568-069-590	60.	1
J612	1	Schirmanschlussblech screen connection sheet	6SN11 62-0EA00-0AA0	Siemens	6SN11 62-0EA00-0AA0	Siemens	568-069-590	61.	2

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1106
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				1105		1107
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				

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<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
J642	1	Schirmanschlussblech screen connection sheet	6SN11 62-0EA00-0AA0	Siemens	6SN11 62-0EA00-0AA0	Siemens	568-069-590	64.	2
J662	1	Schirmanschlussblech screen connection sheet	6SN11 62-0EA00-0AA0	Siemens	6SN11 62-0EA00-0AA0	Siemens	568-069-590	66.	1
K0.4	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	500.	
K0.4	1	Hilfsschalteblock 10 aux. switch block 1nc	3RH19 11-1HA01	Siemens	3RH19 11-1HA01	Siemens	568-028-083	500.	
K0.5	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	500.	
K0.5	1	Hilfsschalteblock 10 aux. switch block 1nc	3RH19 11-1HA01	Siemens	3RH19 11-1HA01	Siemens	568-028-083	500.	
K1.0	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	501.	
K1.1	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	501.	
K1.3	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	501.	
K2.0	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	502.	
K2.0	1	Hilfsschalterblock 2S+20 aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	502.	
K2.1	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	502.	
K2.3	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	502.	
K2.4	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	502.	
K2.5	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	502.	
K2.5	1	Hilfsschalteblock 10 aux. switch block 1nc	3RH19 11-1HA01	Siemens	3RH19 11-1HA01	Siemens	568-028-083	502.	
K2.6	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	502.	
K2.7	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	502.	
K8.7	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	508.	
K1421	1	Not-Aus Schaltgerät emergency stop device	PN0Z X3 24VDC	Pilz GmbH & Co.	774 310	Spälti	568-075-003	142.	
K1426	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	142.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1107
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET	SHEET -->	
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				1106	1108	
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				

0	1	2	3	4	5	6	7	8	9	
Parts list										
FMS_S04E/10. 01. 2002										
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page		
K1426	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	142.		
K1427	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	142.		
K1427	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	142.		
K1451	1	Not-Aus Schaltgerät emergency stop device	PN0Z X3 24VDC	Pilz GmbH & Co.	774 310	Spälti	568-075-003	145.		
K1456	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	145.		
K1456	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	145.		
K1457	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	145.		
K1457	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	145.		
K1471	1	Not-Aus Schaltgerät emergency stop device	PN0Z XV2/30 24VDC	Pilz GmbH & Co.	774500	Spälti		147.		
K1471	1	Abdeckhaube P-93-Gehäuse cover P-93 box		Pilz GmbH & Co.	774090	Spälti	3379-2532/003	147.		
K1491	1	Kontakterweiterungsblock contact extension block	PZE X4V	Pilz GmbH & Co.	774 581	Pilz GmbH & Co.		149.		
K1491	1	Abdeckhaube P-93-Gehäuse cover P-93 box		Pilz GmbH & Co.	774090	Spälti	3379-2532/003	149.		
K1501	1	Not-Aus Schaltgerät emergency stop device	PN0Z XV2/30 24VDC	Pilz GmbH & Co.	774500	Spälti		150.		
K1501	1	Abdeckhaube P-93-Gehäuse cover P-93 box		Pilz GmbH & Co.	774090	Spälti	3379-2532/003	150.		
K1507	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	150.		
K1507	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	150.		
K1507	1	Überspannungsbegrenzer overvoltage limiting device	3RT19 16-1BB00	Siemens	3RT19 16-1BB00	Siemens	568-073-006	150.		
K1508	1	Hilfsschütz 4S contactor relay	3RH11 40-1BB40	Siemens	3RH11 40-1BB40	Siemens	568-028-079	150.		
K1508	1	Hilfsschalterblock 2S+2Ü aux. switch block 2no+2nc	3RH19 11-1GA22	Siemens	3RH19 11-1GA22	Siemens	568-028-081	150.		
K1508	1	Überspannungsbegrenzer overvoltage limiting device	3RT19 16-1BB00	Siemens	3RT19 16-1BB00	Siemens	568-073-006	150.		
K1552	1	Schütz 4kW/400V contactor 4kW/400V	3RT10 16-1BB41	Siemens	3RT10 16-1BB41	Siemens	568-028-072	155.		
DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Stückliste parts list	= +	1108
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							1107	1109
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

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Parts list									
FMS_S04E/10.01.2002									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
K1552	1	Überspannungsbegrenzer overvoltage limiting device	3RT19 16-1BB00	Siemens	3RT19 16-1BB00	Siemens	568-073-006	155.	
L105	1	Drossel 80kW throttle 80kW	6SN1111.0AA00-1EA0	Siemens	6SN1111.0AA00-1EA0	Siemens	568-069-624	10.	5
M152	1	siehe Hydraulikschema see hydraulic diagram						15.	2
M172	1	Siehe Leistungsschild see motor shield						17.	2
M202	1	Siehe Leistungsschild see motor shield						20.	2
M512	1	Hauptspindelmotor main spindle motor	1FE1 115-6WT51	Siemens	1FE1 115-6WT51	Siemens	568-110-510	51.	2
M602	1	Servomotor mit Bremse servo motor with brake	1FT6 064-1AF71-3EH1	Siemens	1FT6 064-1AF71-3EH1	Siemens	568-110-430	60.	1
M612	1	Servomotor ohne Bremse servo motor without brake	1FT6 084-1AF71-3EG1	Siemens	1FT6 084-1AF71-3EG1	Siemens	568-110-350	61.	1
M622	1	Servomotor mit Bremse servo motor with brake	1FT6 064-1AF71-3EH1	Siemens	1FT6 064-1AF71-3EH1	Siemens	568-110-430	62.	1
M632	1	Servomotor ohne Bremse servo motor without brake	1FT6 084-1AF71-3EG1	Siemens	1FT6 084-1AF71-3EG1	Siemens	568-110-350	63.	1
M642	1	Servomotor servo motor	1FT6 086-1AF71-3AG1	Siemens	1FT6 086-1AF71-3AG1	Siemens	568-110-170	64.	1
M652	1	Servomotor ohne Bremse servo motor without brake	1FK7 083-5AF71-1EG0	Siemens	1FK7 083-5AF71-1EG0	Siemens	568-110-360	65.	1
M662	1	Servomotor mit Bremse servo motor with brake	1FK7 083-5AF71-1EH0	Siemens	1FK7 083-5AF71-1EH0	Siemens	568-110-370	66.	1
Q101	1	Ausschalter 3-polig 250A main switch 3 x 250A	KG250 T105/D-A014E	Kraus & Naimer	KG250 T105/D-A014E	Kraus & Naimer		10.	0
Q132	1	Leistungsschalter f. Trafo power switch for transformer	3RV14 21-1DA10	Siemens	3RV14 21-1DA10	Siemens	568-028-115	13.	2
Q132	1	Hilfsschalter obenauf 1S+10 auxiliary switch on top 1no+1nc	3RV19.01-1E	Siemens	3RV19.01-1E	Siemens	568-028-108	13.	2
Q136	1	Leistungsschalter f. Trafo power switch for transformer	3RV14 21-1DA10	Siemens	3RV14 21-1DA10	Siemens	568-028-115	13.	6
Q136	1	Hilfsschalter obenauf 1S+10 auxiliary switch on top 1no+1nc	3RV19.01-1E	Siemens	3RV19.01-1E	Siemens	568-028-108	13.	6
Q152	1	Motorschutzschalter motor circuit breaker	3RV10 11-1FA10	Siemens	3RV10 11-1FA10	Siemens	568-028-102	15.	2
Q152	1	Hilfsschalter obenauf 1S+10 auxiliary switch on top 1no+1nc	3RV19.01-1E	Siemens	3RV19.01-1E	Siemens	568-028-108	15.	2
Q152	1	Verbindungsbaustein	3RA19 11-1AA00	Siemens	3RA19 11-1AA00	Siemens	568-082-211	15.	2

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1109
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049				
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				
									<-- SHEET 1108		SHEET --> 1110

0	1	2	3	4	5	6	7	8	9
Parts list									FMS_S04E/10. 01. 2002
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
Q162	1	Motorschuttschalter motor circuit breaker	3RV10 11-1AA10	Siemens	3RV10 11-1AA10	Siemens	568-028-097	16.	
Q162	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	16.	
Q163	1	Motorschuttschalter motor circuit breaker	3RV10 11-1DA10	Siemens	3RV10 11-1DA10	Siemens	568-028-100	16.	
Q163	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	16.	
Q164	1	Motorschuttschalter motor circuit breaker	3RV10 11-1AA10	Siemens	3RV10 11-1AA10	Siemens	568-028-097	16.	
Q164	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	16.	
Q172	1	Motorschuttschalter motor circuit breaker	3RV10 21-1EA10	Siemens	3RV10 21-1EA10	Siemens		17.	
Q172	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	17.	
Q202	1	Motorschuttschalter motor circuit breaker	3RV10 11-0KA10	Siemens	3RV10 11-0KA10	Siemens	568-028-096	20.	
Q202	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	20.	
Q261	1	Motorschuttschalter motor circuit breaker	3RV10 11-0DA10	Siemens	3RV10 11-0DA10	Siemens	568-028-090	26.	
Q261	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	26.	
Q263	1	Motorschuttschalter motor circuit breaker	3RV10 11-0DA10	Siemens	3RV10 11-0DA10	Siemens	568-028-090	26.	
Q263	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	26.	
Q302	1	Motorschuttschalter motor circuit breaker	3RV10 11-0DA10	Siemens	3RV10 11-0DA10	Siemens	568-028-090	30.	
Q302	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	30.	
Q322	1	Motorschuttschalter motor circuit breaker	3RV10 11-1EA10	Siemens	3RV10 11-1EA10	Siemens	568-028-101	32.	
Q322	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	32.	
Q572	1	Motorschuttschalter motor circuit breaker	3RV10 11-0KA10	Siemens	3RV10 11-0KA10	Siemens	568-028-096	57.	
Q572	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19. 01-1E	Siemens	3RV19. 01-1E	Siemens	568-028-108	57.	
Q1001	1	Leistungsschalter f. Trafo power switch for transformer	3RV14 21-1GA10	Siemens	3RV14 21-1GA10	Siemens	568-028-118	100.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1110
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen				1109		1111
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
Q1001	1	Hilfsschalter obenauf 1S+1Ø auxiliary switch on top 1no+1nc	3RV19.01-1E	Siemens	3RV19.01-1E	Siemens	568-028-108	100.	
Q1302	1	Motorschutzschalter motor circuit breaker	3RV10 21-1DA10	Siemens	3RV10 21-1DA10	Siemens		130.	
S1.5L	1	Türpositionsschalter door position switch	PS 4127.000	Rittal	4127.000	Rittal		701.	
S1.5M	1	Türpositionsschalter door position switch	PS 4127.000	Rittal	4127.000	Rittal		701.	
S1.5R	1	Türpositionsschalter door position switch	PS 4127.000	Rittal	4127.000	Rittal		701.	
S2.0	1	Drucktaster rot, 22mm push button red, 22mm	3SB30 00-0AA24	Siemens	3SB30 00-0AA24	Siemens	568-016-062	702.	
S2.0	1	Schaltelement mit 1 Öffner circuit element with 1 n.c.	3SB34 00-0C	Siemens	3SB34 00-0C	Siemens	568-016-046	702.	
S2.1	1	Drucktaster grün, 22mm push button green, 22mm	3SB32 02-0AA41	Siemens	3SB32 02-0AA41	Siemens	568-016-042	702.	
S2.2	1	Schlüsselschalter key switch	3SB30 00-4LD01	Siemens	3SB30 00-4LD01	Siemens	568-008-107	702.	
S2.2	1	Schaltelement mit 1 Schliesser circuit element with 1 n.o.	3SB34 00-0B	Siemens	3SB34 00-0B	Siemens	568-016-045	702.	
S2.3	1	Drucktaster grün, 22mm push button green, 22mm	3SB32 02-0AA41	Siemens	3SB32 02-0AA41	Siemens	568-016-042	702.	
S2.4	1	Drucktaster schwarz, 22mm push button black, 22mm	3SB32 02-0AA11	Siemens	3SB32 02-0AA11	Siemens	568-016-039	702.	
S2.5	1	Drucktaster schwarz, 22mm push button black, 22mm	3SB32 02-0AA11	Siemens	3SB32 02-0AA11	Siemens	568-016-039	702.	
S3.1	1	Drucktaster schwarz, 22mm push button black, 22mm	3SB32 02-0AA11	Siemens	3SB32 02-0AA11	Siemens	568-016-039	703.	
S1451	1	Sicherheitsschalter safety switch	TZ1RE 024 M	Euchner	082051	Euchner	568-018-153	145.	
S1471	1	Drucktaster gelb komplett push button yellow complete	XB4-BA51	Telemecanique	XB4-BA51	Telemecanique	568-016-075	147.	
S1471	1	Schaltelement switch element	ZB4-BZ101	Telemecanique	ZB4-BZ101	Telemecanique	568-016-064	147.	
S1491	1	Fussschalter foot switch	FD K2R/K2R-GU	Elektra Tailfingen	3199 0860	Disa Elektro AG	568-010-046	149.	
T1001	1	Transformator 1,6 kVA transformer 1.6 kVA	4AM6142-5AT10-1FA0	Siemens	4AM6142-5AT10-1FA0	Siemens		100.	
W4002	1	Buskabel, 10 m bus cable, 10 m	6FX2 002-4EA04-1BA0	Siemens	6FX2 002-4EA04-1BA0	Siemens	568-090-324	400.	
W4005	1	Peripheriekabel, 2,5 m periphery cable, 2,5 m	6ES7 368-3BC51-0AA0	Siemens	6ES7 368-3BC51-0AA0	Siemens	568-090-346	400.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1111
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049				
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				
									<-- SHEET 1110		SHEET --> 1112

0	1	2	3	4	5	6	7	8	9	
Parts list										
FMS_S04E/10. 01. 2002										
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page		
W4501	1	Peripheriekabel, 1 m periphery cable, 1 m	6ES7 368-3BB01-0AA0	Siemens	6ES7 368-3BB01-0AA0	Siemens	568-090-327	451.		
WB12.0	1	Verbindungskabel connection cable	SIM-M8-3GD-5-PU	Festo	159 421	Festo	568-081-058	712.		
WB12.1	1	Verbindungskabel connection cable	SIM-M8-3GD-5-PU	Festo	159 421	Festo	568-081-058	712.		
WB8002	1	Kabel mit Stecker 15m cable with plug 15m	BKS-S116-PU-15	Balluff	BKS-S33M-15	Balluff	568-081-251	800.		
X0	9	Zugbügel pull bow	ZB 16K GN/GE	Weidmüller	0502860000	Weidmüller		11.	1	
X0	11	Zugbügel pull bow	ZB 35K GN/GE	Weidmüller	0502660000	Weidmüller		11.	1	
X0	24	Zugbügel pull bow	ZB 4K GN/GE	Weidmüller	0475360000	Weidmüller		11.	1	
X00	7	Zugbügel pull bow	ZB 4K GN/GE	Weidmüller	0475360000	Weidmüller		11.	6	
X00	2	Zugbügel pull bow	ZB 35K GN/GE	Weidmüller	0502660000	Weidmüller		11.	6	
X2	14	Durchgangsklemme 4,0/2-Leiter thruline terminal 4,0/2-conductor	281-601	Wago Contact SA	281-601	Wago Contact SA		130.		
X3	16	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	130.		
X6	22	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	51.	6	
X7	10	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	451.		
X16	6	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	100.		
X20	2	Durchgangsklemme 10,0/2-Leiter thruline terminal 10,0/2-conducto	284-601	Wago Contact SA	284-601	Wago Contact SA		130.		
X22	14	Durchgangsklemme 6,0/2-Leiter thruline terminal 6,0/2-conductor	282-601	Wago Contact SA	282-601	Wago Contact SA		130.		
X23	6	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	131.		
X35	2	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	430.		
X36	30	Durchgangsklemme 2,5/3-Leiter thruline terminal 2,5/3-conductor	280-641	Wago Contact SA	280-641	Wago Contact SA	011-2320-010	142.		
X127	1	Schukosteckdose service socket	MSVD	Murrelektronik	67901	Murrelektronik		12.	8	
X152	1	Stifteinsatz inset male	HAN 6 E	Harting	0933 006 2601	Harting	010-5503-000	4.1.		
DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	Stückliste parts list	= +	1112
LAST REVISED	01.12.09	PHI				PLANT NUMBER	27049		<-- SHEET	SHEET -->
PLOT DATE	01.12.09	FILE NAME							1111	1113
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E			

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
X152	1	Buchseneinsatz inset female	HAN 6 E	Harting	0933 006 2701	Harting	010-5502-000	4. 1.	
X152	1	Tüllengehäuse bush casing	HAN 6 B	Harting	0930 006 1540	Harting	010-5501-000	4. 1.	
X152	1	Anbaugehäuse ancillary casing	HAN 6 B	Harting	0930 006 0302	Harting	010-5500-015	4. 1.	
X172	1	Anbaugehäuse ancillary casing	HAN 10 B	Harting	0930 010 0301	Harting	010-5500-001	4. 1.	
X172	1	Tüllengehäuse bush casing	HAN 10 B	Harting	0930 010 1521	Harting	010-5501-001	4. 1.	
X172	1	Stifteinsatz inset male	HAN 10 E	Harting	0933 010 2601	Harting	010-5503-001	4. 1.	
X172	1	Buchseneinsatz inset female	HAN 10 E	Harting	0933 010 2701	Harting	010-5502-001	4. 1.	
X172	4	Sperrbolzen barring bolt	09 30 000 9901	Harting	09 30 000 9901	Harting		4. 1.	
X202	1	Anbaugehäuse ancillary casing	HAN 10 B	Harting	0930 010 0301	Harting	010-5500-001	4. 1.	
X202	1	Tüllengehäuse bush casing	HAN 10 B	Harting	0930 010 1521	Harting	010-5501-001	4. 1.	
X202	1	Stifteinsatz inset male	HAN 10 E	Harting	0933 010 2601	Harting	010-5503-001	4. 1.	
X202	1	Buchseneinsatz inset female	HAN 10 E	Harting	0933 010 2701	Harting	010-5502-001	4. 1.	
X202	4	Sperrbolzen barring bolt	09 30 000 9901	Harting	09 30 000 9901	Harting		4. 1.	
X204	1	Anbaugehäuse ancillary casing	HAN 10 B	Harting	0930 010 0301	Harting	010-5500-001	4. 1.	
X204	1	Tüllengehäuse bush casing	HAN 10 B	Harting	0930 010 1521	Harting	010-5501-001	4. 1.	
X204	1	Stifteinsatz inset male	HAN 10 E	Harting	0933 010 2601	Harting	010-5503-001	4. 1.	
X204	1	Buchseneinsatz inset female	HAN 10 E	Harting	0933 010 2701	Harting	010-5502-001	4. 1.	
X204	4	Sperrbolzen barring bolt	09 30 000 9901	Harting	09 30 000 9901	Harting		4. 1.	
X302	1	Anbaugehäuse ancillary casing	HAN 10 B	Harting	0930 010 0301	Harting	010-5500-001	4. 1.	
X302	1	Tüllengehäuse bush casing	HAN 10 B	Harting	0930 010 1521	Harting	010-5501-001	4. 1.	
X302	1	Stifteinsatz inset male	HAN 10 E	Harting	0933 010 2601	Harting	010-5503-001	4. 1.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1113
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049				
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E				
									<-- SHEET		SHEET -->
									1112		1114

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
X302	1	Buchseneinsatz inset female	HAN 10 E	Harting	0933 010 2701	Harting	010-5502-001	4. 1.	
X302	4	Sperrbolzen barring bolt	09 30 000 9901	Harting	09 30 000 9901	Harting		4. 1.	
X1332	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASB 8/LED - 5-4/XXM	Lumberg GmbH & Co.	ASB 8/LED - 5-4/xxM	Lumberg GmbH & Co.		133.	
X1333	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASB 8/LED - 5-4/XXM	Lumberg GmbH & Co.	ASB 8/LED - 5-4/xxM	Lumberg GmbH & Co.		133.	
X1334	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASB 8/LED - 5-4/XXM	Lumberg GmbH & Co.	ASB 8/LED - 5-4/xxM	Lumberg GmbH & Co.		133.	
X1338	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	568-006-250	133.	
X1338	1	Kabel mit Winkelkupplung (10m) cable with angular plug (10m)	RKCW 120-137/10M	Lumberg GmbH & Co.	RKCW 120-137/10M	Lumberg GmbH & Co.	568-081-059	133.	
X1339	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	568-006-250	133.	
X1339	1	Kabel mit Winkelkupplung (10m) cable with angular plug (10m)	RKCW 120-137/10M	Lumberg GmbH & Co.	RKCW 120-137/10M	Lumberg GmbH & Co.	568-081-059	133.	
X1342	1	Aktor-Sensor-Box 8-fach actuator-sensor-box, 8-fold	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	ASBS 8/LED - 5-4	Lumberg GmbH & Co.	568-006-250	134.	
X1342	1	Kabel mit Winkelkupplung (10m) cable with angular plug (10m)	RKCW 120-137/10M	Lumberg GmbH & Co.	RKCW 120-137/10M	Lumberg GmbH & Co.	568-081-059	134.	
X4301	1	Frontplattenschnittstelle front plate interface	MSDD	Murrelektronik	4000-68123-0000000	Murrelektronik	568-006-252	430.	
X4301	1	Frontplattenschnittstelle front plate interface	MSDD	Murrelektronik	4000-68000-0010000	Murrelektronik	568-006-253	430.	
X4301	1	Frontplattenschnittstelle front plate interface	MSDD	Murrelektronik	4000-68000-0200000	Murrelektronik	568-006-254	430.	
X4301	1	Sub-D Kabel sub-D cable	SUB-D KABEL	ARP Datacon	104172-6	ARP Datacon	568-081-066	430.	
X4301	1	Sub-D Kabel sub-D cable	SUB-D KABEL	ARP Datacon	104179-6	ARP Datacon	568-081-067	430.	
X5034-H3.3	1	Meldeleuchte weiss signal lamp white	3SB32 17-6AA60	Siemens	3SB32 17-6AA60	Siemens	568-043-061	503.	
X5034-H3.3	1	Glühlampe electric light bulb	3SB19 02-2AF	Siemens	3SB19 02-2AF	Siemens	012-1163-002	503.	
X5034-S3.5	1	Drucktaster rot, 22mm push button red, 22mm	3SB32 03-0AA21	Siemens	3SB32 03-0AA21	Siemens	568-016-040	703.	
X5034-S3.6	1	Drucktaster grün, 22mm push button green, 22mm	3SB32 02-0AA41	Siemens	3SB32 02-0AA41	Siemens	568-016-042	703.	
XE302	1	Y-Verteiler Y-junction	MB-FSM5-2FKM5.4	Escha Anschluss technik	334.000363	Dietrich & Blum AG	568-081-061	705.	

DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	=	+	1114
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1						
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049		<-- SHEET		SHEET -->
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E		1113		1115

0	1	2	3	4	5	6	7	8	9
<div> <div>Parts list</div> <div>FMS_S04E/10. 01. 2002</div> </div>									
CNo	Qty	Specifications	Model number	Producer	Requisition number	Supplier	FMS-Number	Page	
Y1.4	1	siehe Pneumatikschema see pneumatic diagram						501.	
Y4.3	1	siehe Hydraulikschema see hydraulic diagram						504.	
Y4.4	1	siehe Hydraulikschema see hydraulic diagram						504.	
Y5.0	1	siehe Hydraulikschema see hydraulic diagram						505.	
Y5.1	1	siehe Hydraulikschema see hydraulic diagram						505.	
Y5.2	1	siehe Kühlmittelschema see coolant diagram						505.	
Y5.4	1	siehe Hydraulikschema see hydraulic diagram						505.	
Y5.5	1	siehe Hydraulikschema see hydraulic diagram						505.	
Y5.6	1	siehe Kühlmittelschema see coolant diagram						505.	
Y8.0	1	siehe Pneumatikschema see pneumatic diagram						508.	
Y8.1	1	siehe Kühlmittelschema see coolant diagram						508.	
Y10.0	1	siehe Kühlmittelschema see coolant diagram						510.	
Y10.2	1	siehe Kühlmittelschema see coolant diagram						510.	
Y12.4	1	siehe Kühlmittelschema see coolant diagram						512.	
Z105	1	Netzfilter 80 kW mains filter 80kW	6SL3000-0BE28-0AA0	Siemens	6SL3000-0BE28-0AA0	Siemens		10.	5
Z152	1	Entstörmodul für Motor 5,5 kW interference module for motor 5,5 kW	RC 3 BUR	Murrelektronik	236082	Murrelektronik	568-054-003	15.	3
Z162	1	Entstörmodul für Motor 5,5 kW interference module for motor 5,5 kW	RC 3 BUR	Murrelektronik	236082	Murrelektronik	568-054-003	16.	3
Z163	1	Entstörmodul für Motor 5,5 kW interference module for motor 5,5 kW	RC 3 BUR	Murrelektronik	236082	Murrelektronik	568-054-003	16.	5
Z164	1	Entstörmodul für Motor 5,5 kW interference module for motor 5,5 kW	RC 3 BUR	Murrelektronik	236082	Murrelektronik	568-054-003	16.	7
Z172	1	Entstörmodul für Motor 4 kW interference module for motor 4 kW	RC 3 BU	Murrelektronik	23050	Murrelektronik	568-054-002	17.	3
Z172	1	Aufschnappadapter mounting plate	RC 3 BU	Murrelektronik	20900	Murrelektronik	568-095-029	17.	3
DESIGNED	08.07.03	Cas	EMO	MANUFACTURER	FMS Drehtechnik AG Amsler-Laffon-Str. 1 CH-8201 Schaffhausen	EQUIPMENT	ELECTRIC	<div> <div>Stückliste</div> <div>parts list</div> <div>= +</div> <div>1115</div> <div><-- SHEET 1114</div> <div>SHEET --> 1116</div> </div>	
LAST REVISED	01.12.09	PHI							
PLOT DATE	01.12.09	FILE NAME							
PLOT FRAME	FMS_E10A			MANUF. REF.	370490	DRAWING NO.	27049_E		

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DESIGNED	08.07.03	Cas	E M O	MANUFACTURER	FMS Drehtechnik AG	EQUIPMENT	ELECTRIC	Stückliste parts list	= +	1116
LAST REVISED	01.12.09	PHI			Amsler-Laffon-Str. 1					
PLOT DATE	01.12.09	FILE NAME			CH-8201 Schaffhausen	PLANT NUMBER	27049			
PLOT FRAME	FMS_E10A				MANUF. REF.	370490	DRAWING NO.		27049_E	<-- SHEET 1115