Diamatic

The choice of professionals

Service manual

Diamatic 780PRO

Service manual
Version 1.3

Diamatic
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Table of contents

1. Tools 03

2. Spare parts 04

3. Electric schedules

E06867 / 3x 400V / 15kW / Frequency drive 24
E06867/UL230 / 3x 230V / 15kW / Frequency drive 33
E06867/UL480 / 3x 480V / 15kW / Frequency drive 42

4. **Fault diagnose frequency drive** 51

1. Tools

Diamag grinding wings

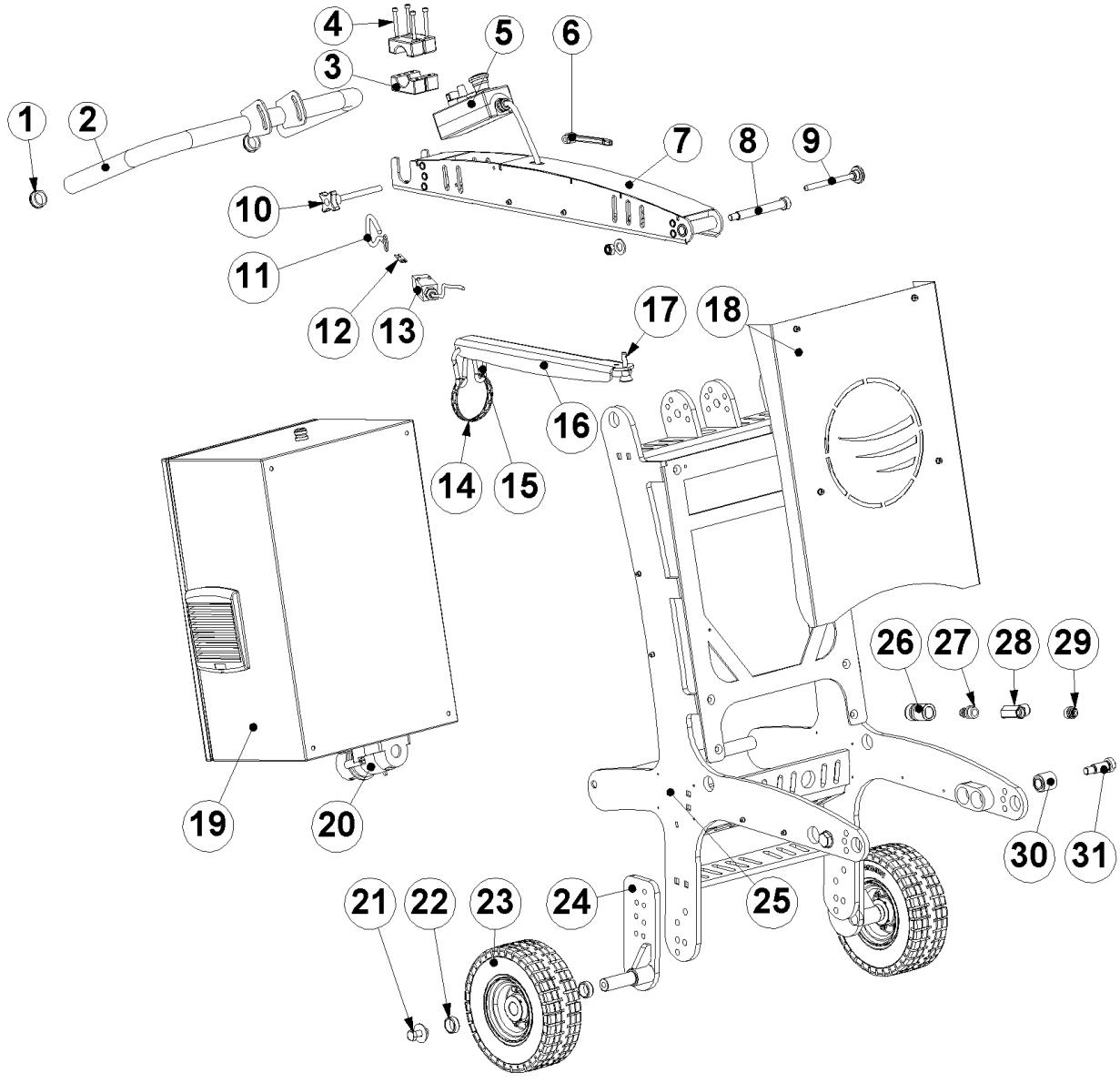
Item	Part number	Description	Remarks	Qty.
	BG707301	Diamag wing red box 9 pieces 18/20		1
	BG707302	Diamag wing red box 9 pieces 30/40		1
	BG707303	Diamag wing red box 9 pieces 60/80		1
	BG707304	Diamag wing red box 9 pieces 120/150		1
	BG707311	Diamag wing green box 9 pieces 18/20		1
	BG707312	Diamag wing green box 9 pieces 30/40		1
	BG707313	Diamag wing green box 9 pieces 60/80		1
	BG707314	Diamag wing green box 9 pieces 120/150		1
	BG707321	Diamag wing blue box 9 pieces 18/20		1
	BG707322	Diamag wing blue box 9 pieces 30/40		1
	BG200995/SET	Wing PCD 1 x 1	(set of 9)	1
	BG200997/SET	Wing PCD split	(set of 9)	1

Diamag polishing dots

Item	Part number	Description	Remarks	Qty.
	BG7100100	Diamag dry polishing dot black #100	(set of 9)	1
	BG7100200	Diamag dry polishing dot blue #200	(set of 9)	1
	BG7100400	Diamag dry polishing dot red #400	(set of 9)	1
	BG7100800	Diamag dry polishing dot white #800	(set of 9)	1
	BG7101800	Diamag dry polishing dot yellow #1800	(set of 9)	1
	BG7103000	Diamag dry polishing dot green #3000	(set of 9)	1
	BG707303	Diamag wing red box 9 pieces 60/80		1
	BG707304	Diamag wing red box 9 pieces 120/150		1
	BG7110050	Diamag wet polishing dot orange #50	(set of 9)	1
	BG7110100	Diamag wet polishing dot black #100	(set of 9)	1
	BG7110200	Diamag wet polishing dot blue #200	(set of 9)	1
	BG7110400	Diamag wet polishing dot red #400	(set of 9)	1
	BG7110800	Diamag wet polishing dot white #800	(set of 9)	1
	BG7111800	Diamag wet polishing dot yellow #1800	(set of 9)	1
	BG7113000	Diamag wet polishing dot green #3000	(set of 9)	1

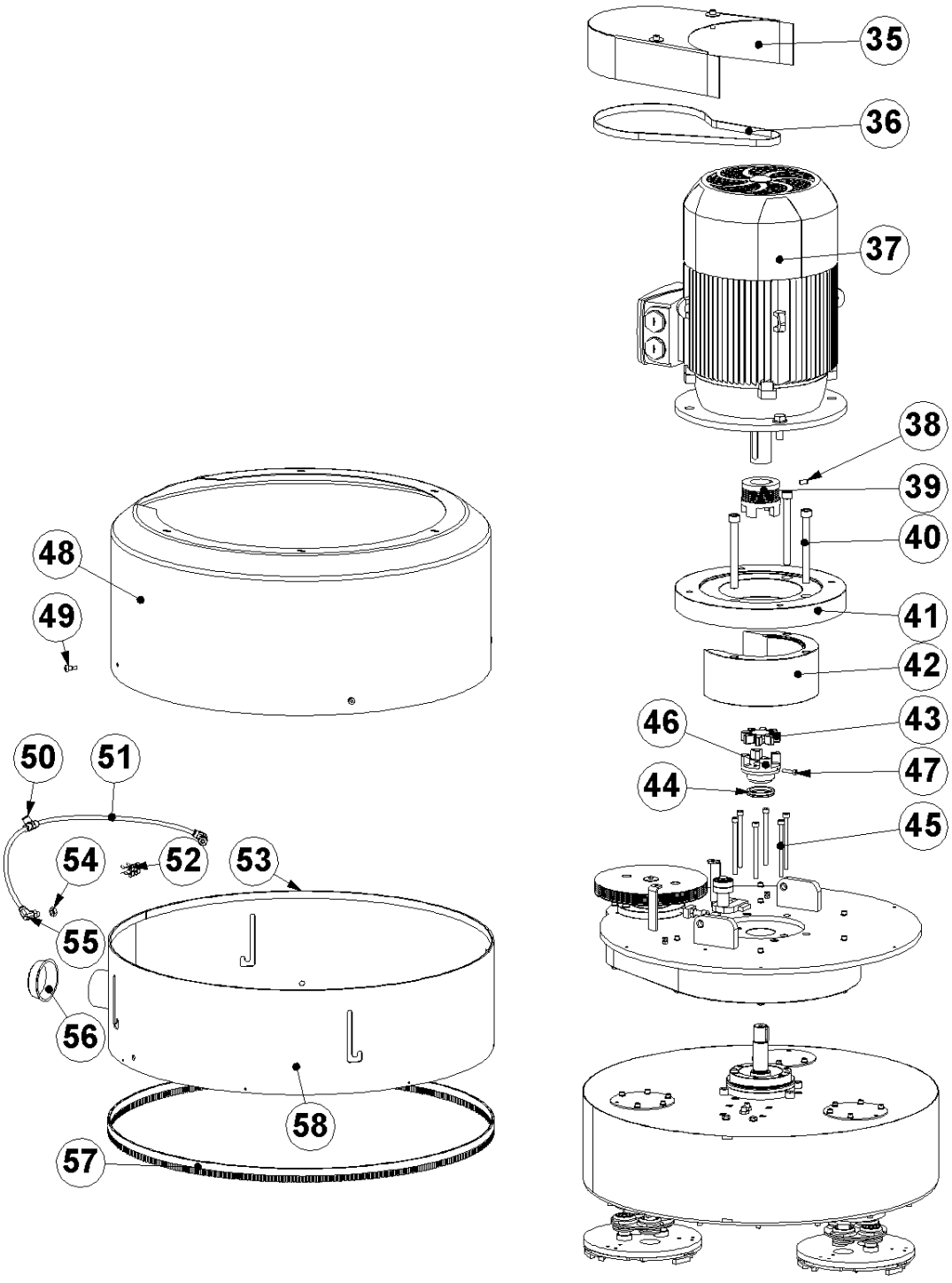
2. Spare parts

Frame complete



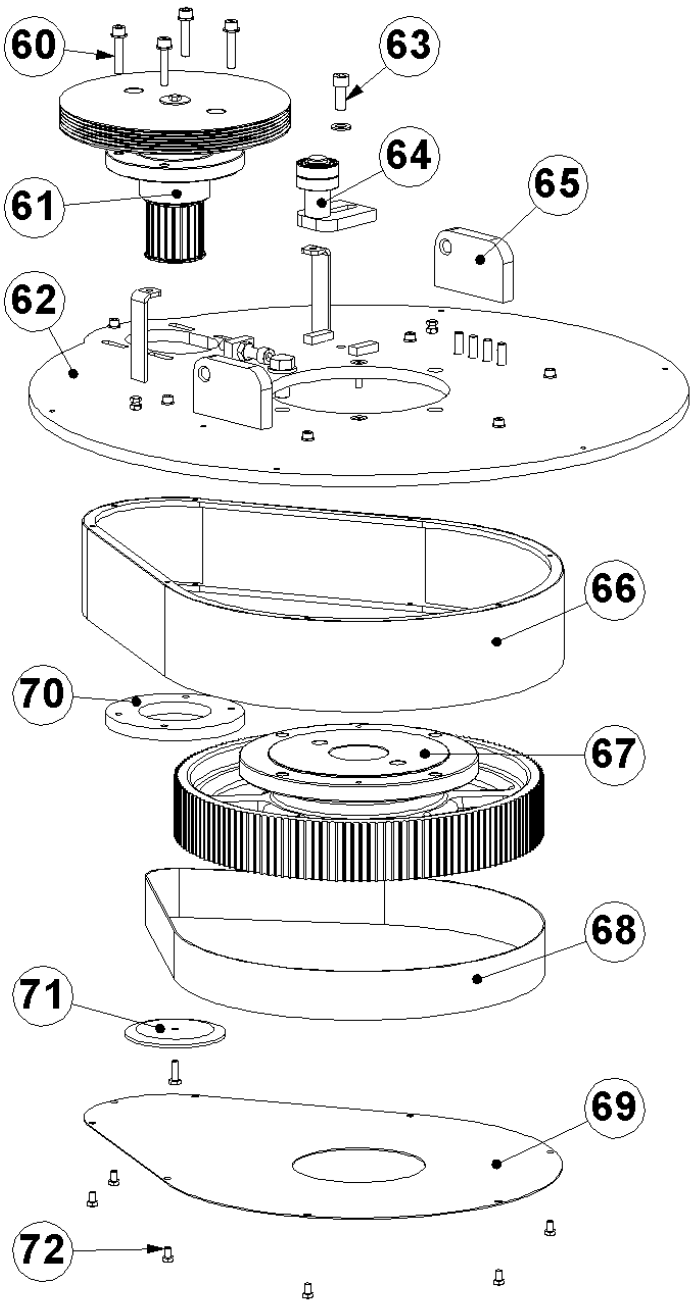
Item	Part number	Description	Remarks	Qty.
1	BE0643	Tube cap round		2
2	E07032/RD	Handle for steer long		1
3	999-9156	Pipe clamp (set)		2
4	BE0191	M6x50 hexagon socket head bolt	DIN 912	4
5	E07882	Operating box complete		1
	E01543	Emergency stop		
	E01318	Start button		
	E01351/1	Potentio meter (speed switch)		
	E01323	Left / right switch		
	E05130	Make contact (green)		
	E05131	Brake contact (red)		
6	BE0641	M10 clamp lever		1
7	BG005835	Steer handle		1
8	BE0640	M12 hexagon shoulder screw		1
9	BG11751-1	Handle locking pin		1
10	E06860	Clamping pin steer		1
11	BG11758	Cord for deadman switch		1
12	BG11759	Key for deadman switch		1
13	BG11760	Deadman switch		1
14	E07008	Chain (11links)		1
15	BE0653	Hook		2
16	E06883	Swing arm for dusthose		1
17	478198	Quick release pin		1
18	BG005338	Cover plate electro box		1
19	BG11917	Electrobox 15kW complete		1
	BG11917/UL230	Electrobox 15kW complete 230UL		1
	BG11917/UL480	Electrobox 15kW complete 480UL		1
20	E05135	Electrical inlet 3x400V 32A		1
	E05134	Electrical inlet 3x230V 63A		1
	E05132	Electrical inlet 3x480V 63A		1
21	BE0037	M12x30 hexagon head bolt		2
22	BG11850-1/1	Wheel spacers		4
23	BG11850-1	Wheel		2
24	E06915	Wheel axle left		1
	E06916	Wheel axle right		1
25	E07035	Frame		1
26	E06286	Water coupling		1
27	E06285	Waterhose connection		1
28	E06282	Ball valve mini		1
29	E06279	Water reducing coupling		1
30	E01492	Megi bush		2
31	BG11752	Hinge bolt		2
	E06893_RD	780PRO logo red		2
	E06820	Diamatic logo		4

Machine complete



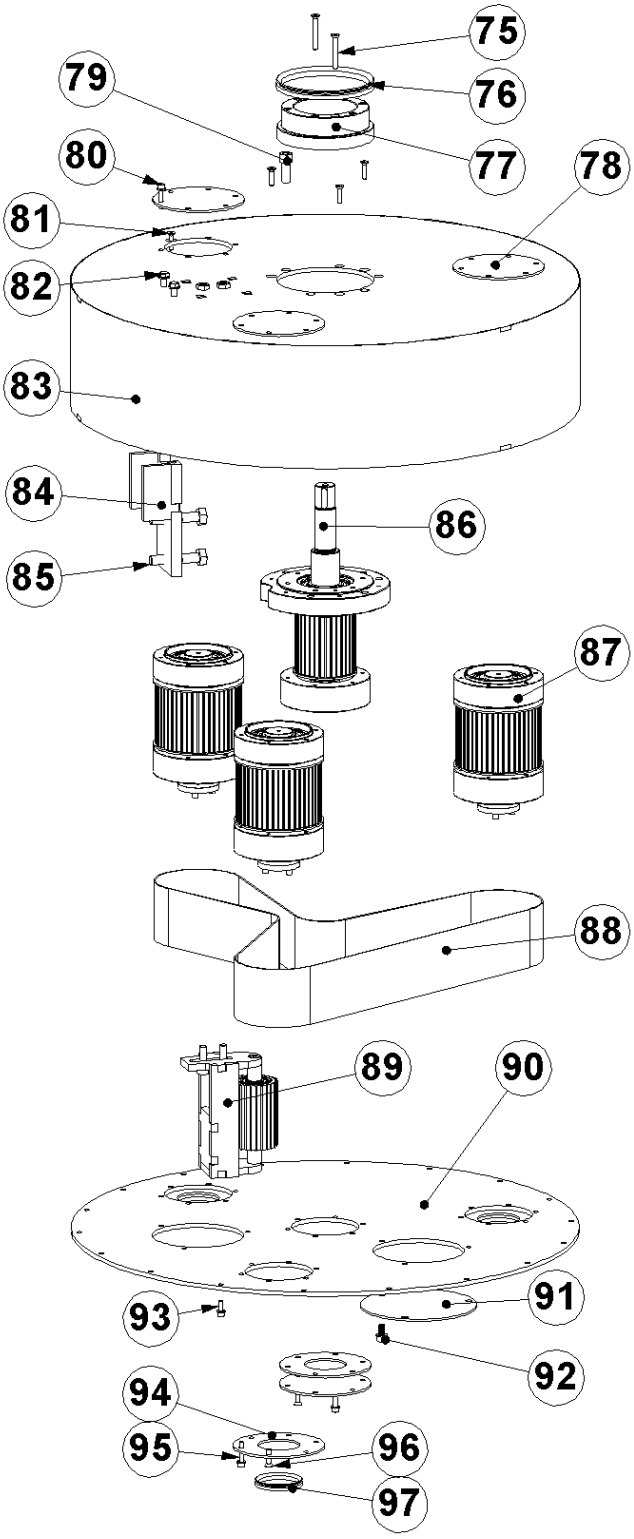
Item	Part number	Description	Remarks	Qty.
35	BG005847	Protection cap		1
36	BG11924	Upper belt		1
37	BG11899-1/RD	Motor 230V/480V		1
38	BE0654	M8x16 set screw	DIN 916	4
39	BG007808_2	Coupling upper part		1
40	BE0656	M14x140 hexagon socket head bolt	DIN 912	3
41	BG007810	Flange motor seat		1
42	BG007811	Motor seat		1
43	BG005844	Coupling plastic star		1
44	BG11829	V-seal		1
45	BE0635	M8x110 hexagon socket head bolt	DIN 912	6
46	BG007808_1	Coupling under part		1
47	BE0188	M6x25 hexagon socket head bolt	DIN 912	1
48	BG007839-2	Protection cover		1
49	BE0655	M6x12 hexagon shoulder screw		4
50	E06281	Water T-coupling		1
51	E06278	Waterhose		2,0m
52	E06276	Pipe clamp		2
53	E06897	Slide strip		3,0m
54	E06293	Nut for knee coupling		2
55	E06280	Water knee coupling		2
56	E04551	Plastic cap		1
57	BG007849	Brush for floating shroud		1
58	BG007855	Floating shroud		1
59				

Upper drive



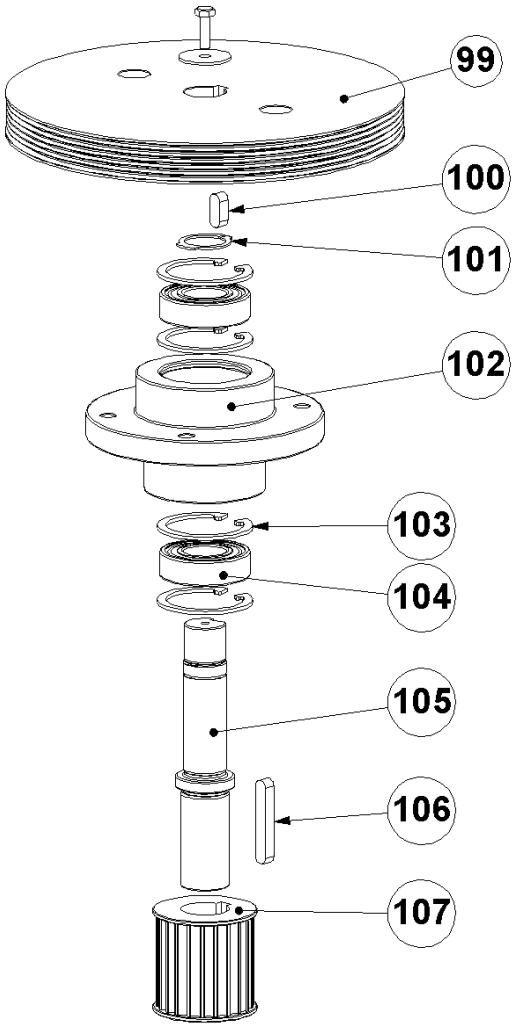
Item	Part number	Description	Remarks	Qty.
60	BE0631	M8x40 hexagon socket head bolt	DIN 7984	4
61	BG007866	Contra pulley		1
62	BG007809-1	Motorplate compl		1
63	BE0443	M10x25 hexagon socket head bolt		1
64	BG005860	Upper tensioner		1
65	BG005813	Holder		2
66	BG007838	Motor housing		1
67	BG007867	Centre pulley		1
68	BG11980	Middle belt		1
69	BG005834	Lower plate upper drive		1
70	BG005807	Ring		1
71	BG007804	Flange		1
72	BE0350	M6x10 hexagon head screw		8
73				
74				

Lower drive



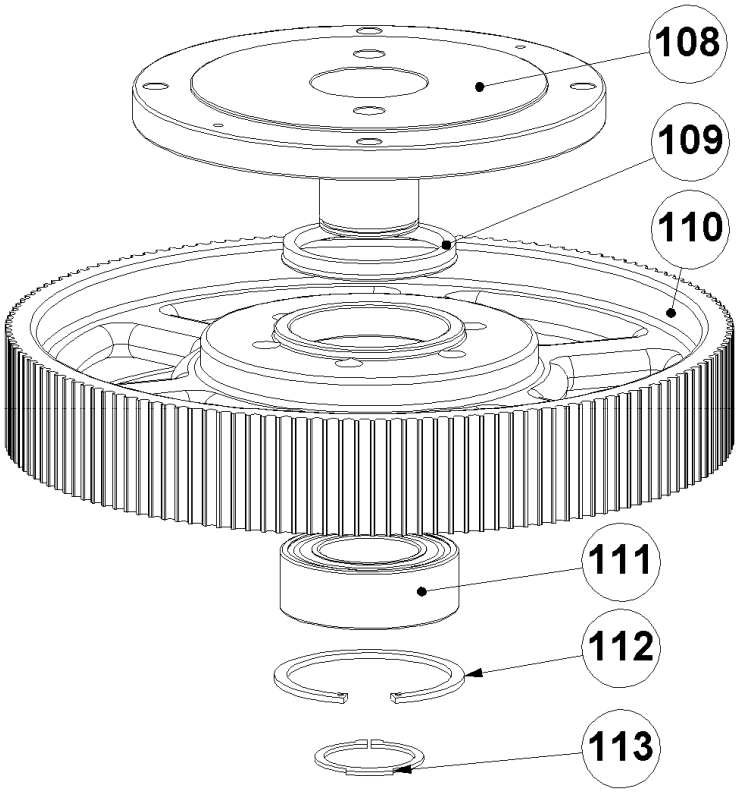
Item	Part number	Description	Remarks	Qty.
75	BE0617	M6x50 countersunk screw	DIN 7991	2
76	BG11849	V-seal		1
77	BG007814	Ring		1
78	BG007827	Cover		4
79	BE0198	M12x30 hexagon socket head bolt	DIN 912	5
80	BE0189	M6x30 hexagon head bolt	DIN 933	15
81	BE0502	M6x25 countersunk screw	DIN 7991	6
82	BE0030	M8x25 hexagon head bolt	DIN 933	2
83	BG007822-1	Housing complete		1
84	BG007832	Tensioner plate		1
85	BE0122	M14x75 hexagon head bolt	DIN 933	2
86	BG007868	Drive pulley		1
87	BG007869	Pulley		3
88	BG11866	Lower belt		1
89	BG007865	Lower tensioner		1
90	BG007824	Lower plate		1
91	BG007850	Inspection cover		2
92	BE0082	M8x12 hexagon socket head bolt	DIN 912	6
93	BE0035	M6x16 hexagon socket head bolt	DIN 912	18
94	BG0007826	Ring		4
95	BE0189	M6x30 hexagon head bolt	DIN 933	20
96	BE0502	M6x25 countersunk screw	DIN 7991	4
97	BG11797	V-seal		3
98				

Contra pulley BG007866



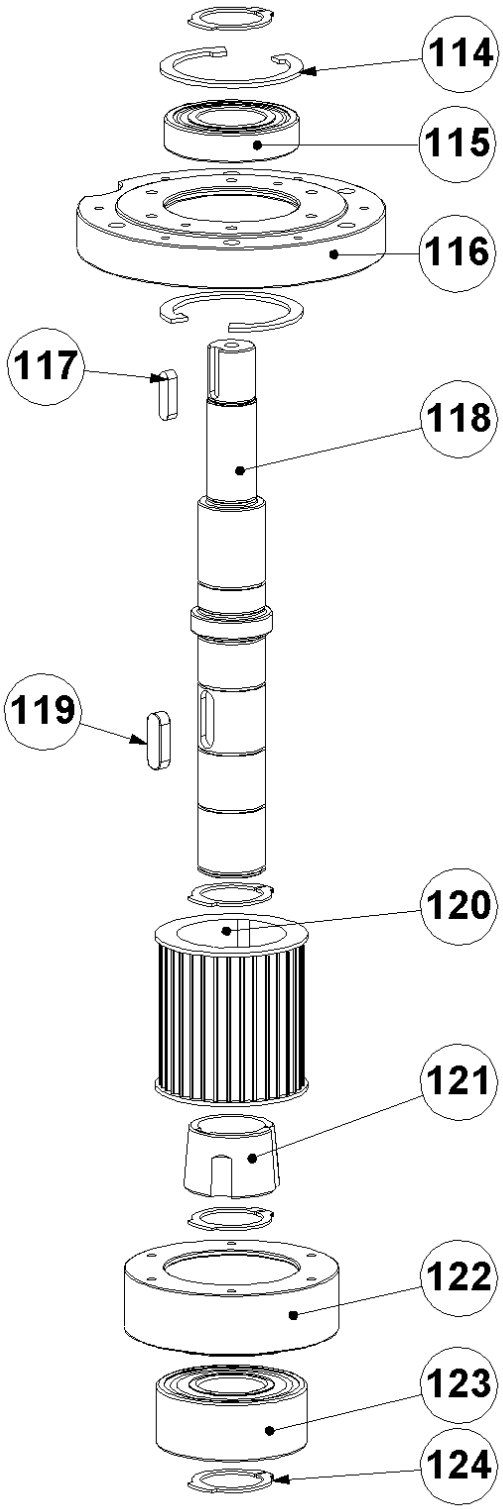
Item	Part number	Description	Remarks	Qty.
99	BG005803	Belt pulley		1
100	BE0109	Key 8x7x20	DIN 6885A	1
101	BE0076	Retaining ring for shaft Ø25	DIN 471	1
102	BG005802	Bearing house		1
103	BE0077	Retaining ring for bore Ø52	DIN 472	4
104	222-2331-E	Bearing		2
105	BG007801	Axle		1
106	BE0657	Key 8x7x50	DIN 6885A	1
107	BG007805	Pulley		1

Centre pulley BG007867



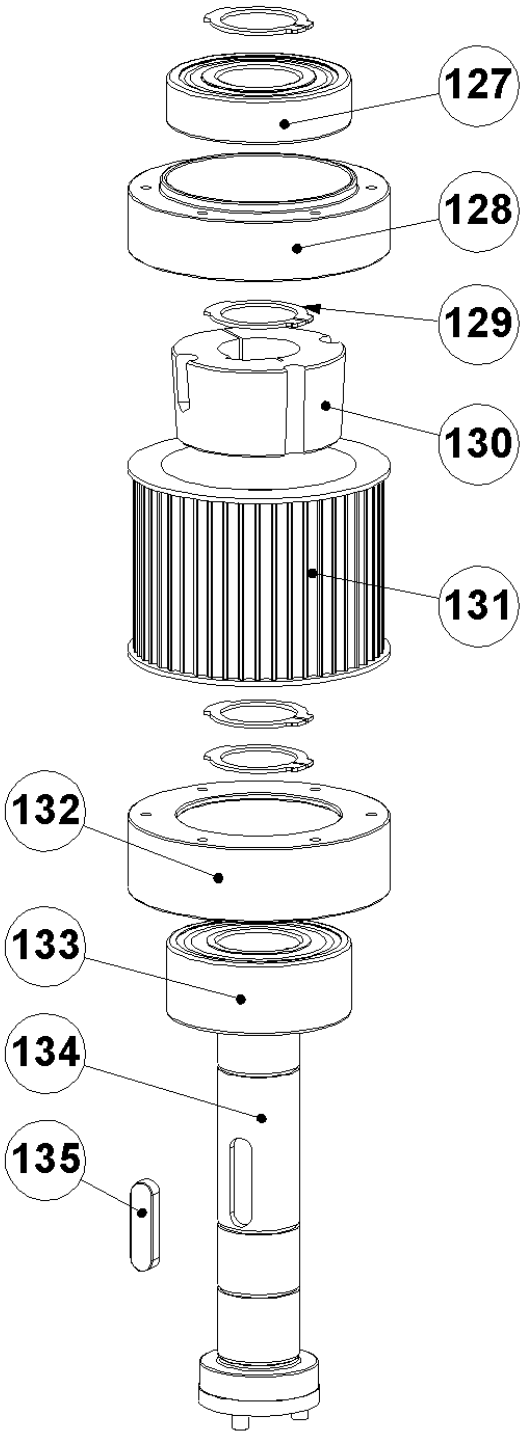
Item	Part number	Description	Remarks	Qty.
108	BG007812	Sprocket		1
109	E03703	V-seal		1
110	BG007806-1	Pulley		1
111	E01490	Bearing		1
112	E03993	Retaining ring for bore Ø90	DIN 472	1
113	BE0126	Retaining ring for shaft Ø50	DIN 471	1

Drive pulley BG007868



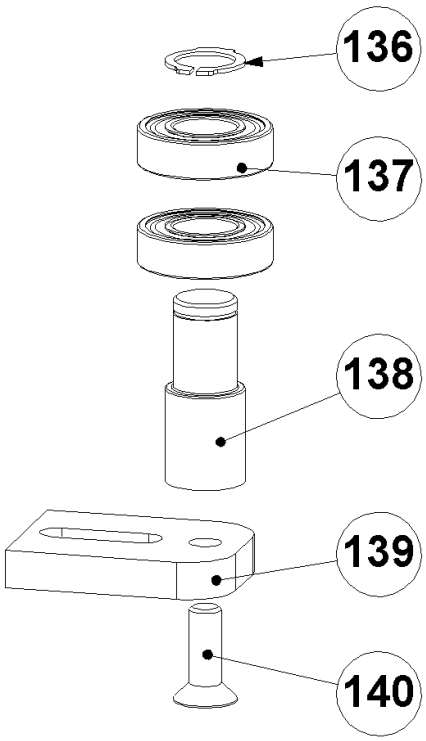
Item	Part number	Description	Remarks	Qty.
114	BE0107	Retaining ring for bore Ø80	DIN 472	2
115	BG11933	Bearing		1
116	BG007815	Bearing house		1
117	BE0256	Key 8x7x30	DIN 6885A	1
118	BG007818	Axle		1
119	BE0658	Key 12x8x35	DIN 6885A	1
120	BG11867	Pulley		1
121	BG11868	Taperlock		1
122	BG007817	Bearing house		1
123	BG11871	Bearing		1
124	BE0607	Retaining ring for shaft Ø40	DIN 471	4
125				
126				

Pulley (3x) BG007869



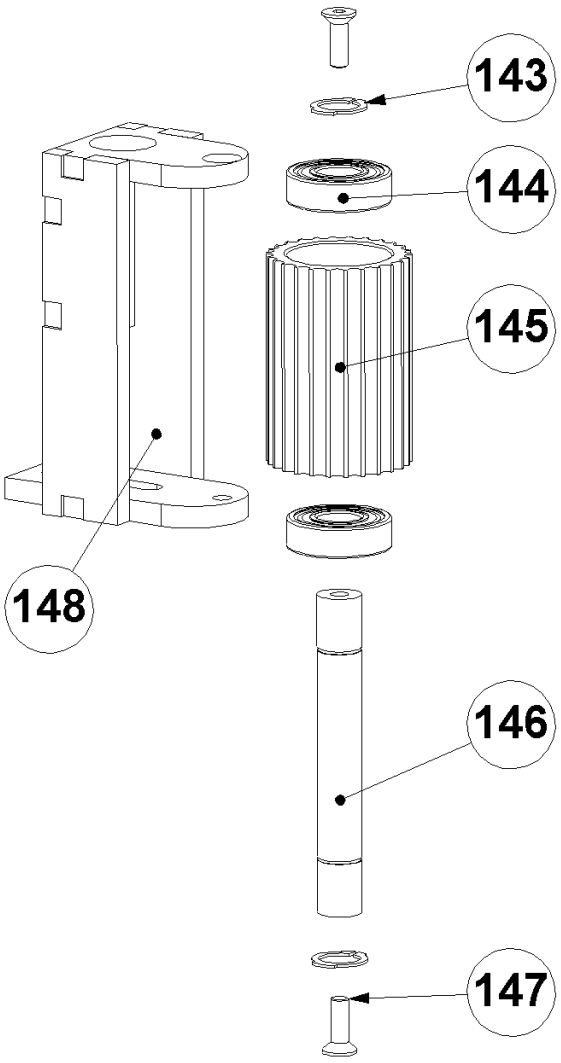
Item	Part number	Description	Remarks	Qty.
127	BG11887	Bearing		1
128	BG007819	Bearing house		1
129	BE0607	Retaining ring for shaft Ø40	DIN 471	4
130	BG11889	Taperlock		
131	BG11888	Pulley		
132	BG007817	Bearing house		
133	BG11871	Bearing		
134	BG007816	Axle		
135	BE0659	Key 12x8x45	DIN 6885A	1

Upper tensioner BG005860



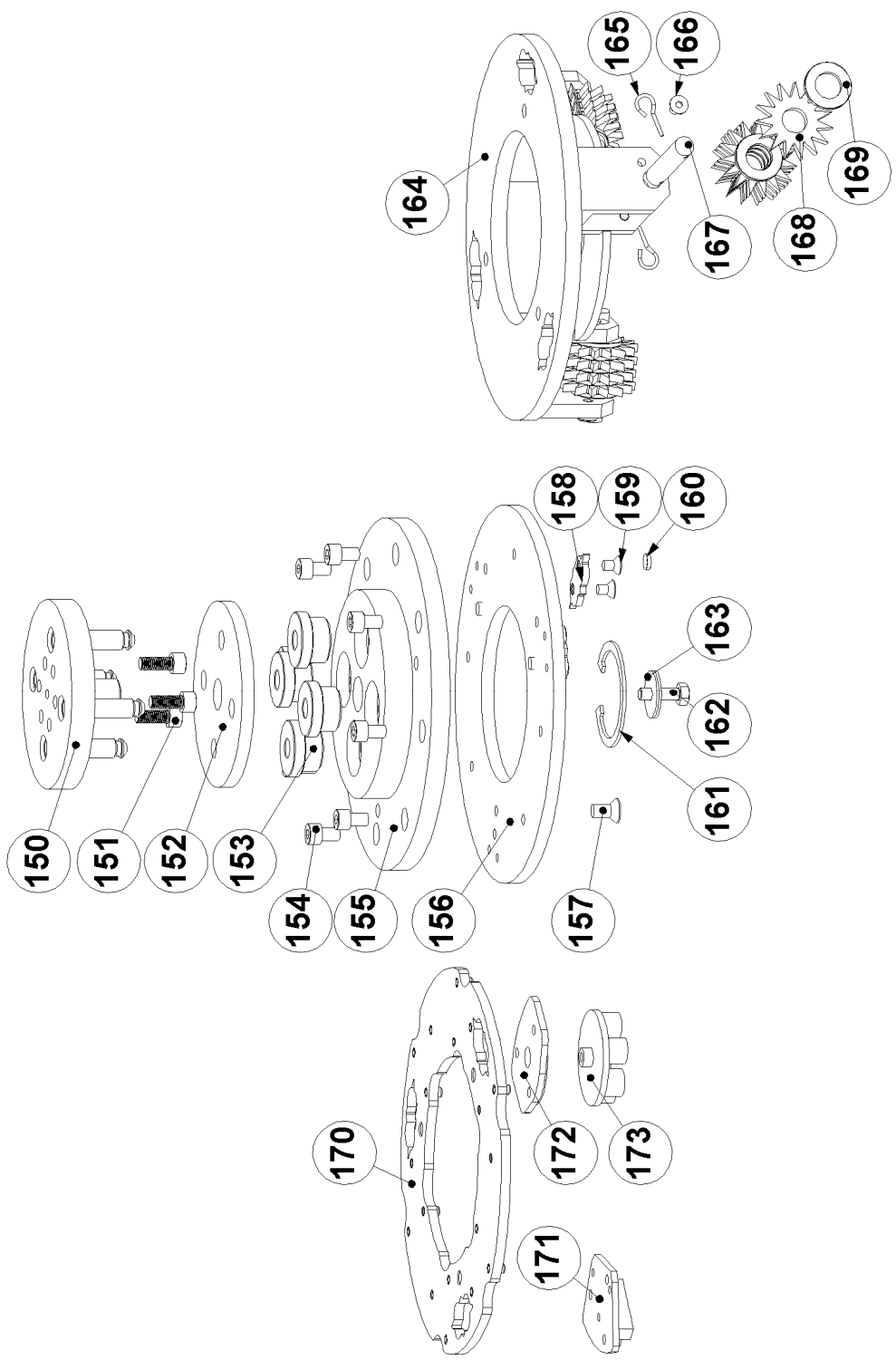
Item	Part number	Description	Remarks	Qty.
136	BE0074	Retaining ring for shaft Ø20	DIN 471	1
137	222-2245	Bearing		2
138	BG005830	Axle for tensioner		1
139	BG005831	Tension plate		1
140	BE0130	M10x25 countersunk screw	DIN 7991	1
141				
142				

Lower tensioner BG007865



Item	Part number	Description	Remarks	Qty.
143	BE0074	Retaining ring for shaft Ø20	DIN 471	2
144	BG11884	Bearing		2
145	BG007836	Pulley		1
146	BG007837	Axle tensioner		1
147	BE0458	M8x25 countersunk screw	DIN 7991	2
148	BG007833-1	Tensioner		1
149				

Buffer plate for surface preparation (3x)



Item	Part number	Description	Remarks	Qty.
153-160	BG240190-1	240mm diamond holder complete		1
156-160	BG2401901-1	240mm diamond holder		1

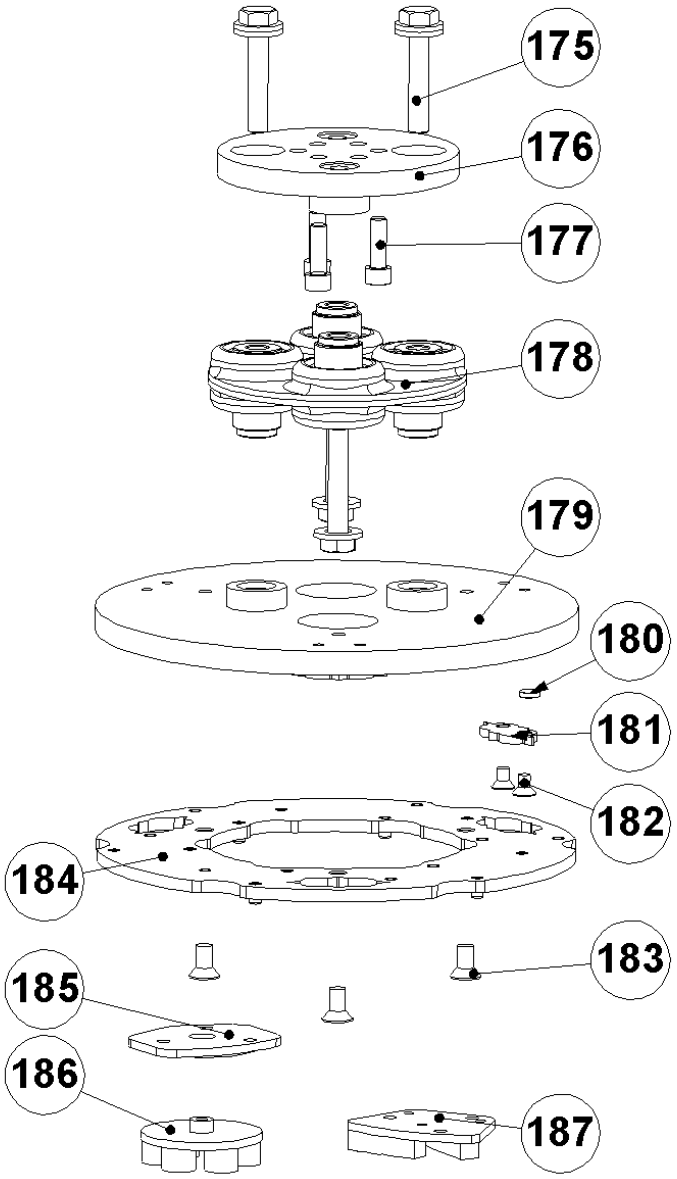
150	BG11880	Fork		1
151	BE0204 + BE0584	M8x25 hexagon socket head bolt small + M8 spring washer small	DIN 7984 DIN 7980	3
152	BG11879	Buffer disc		1
153	BG11878	Buffer hard		4
154	BE0082	M8x12 hexagon socket head bolt	DIN 912	8
155	BG11877	Magnet plate holder 240mm		1
156	BG11876-1	Magnet plate 240mm		1
157	BE0456	M8x16 countersunk screw	DIN 7991	3
158	BG11811	Centering star		3
159	BG11810	M6x10 countersunk screw	DIN 7991	6
160	E06446	Magnet		3
161	BE0608	Retaining ring for bore Ø58	DIN 472	1
162	BE0030	M8x25 hexagon head bolt	DIN 933	1
163	BE0314	M8x30x1,5 washer		2

164-169	BG300117	240mm cutter housing complete		1

164	BG300501-1	185mm cutter housing		1
165+166	BG300133	Locking pin & screw		6
167	BG300130	Axle		3
168	BG300109	Cutter		12
169	MPL48	Washer		15

170	E07240	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
171		DIAMAG grinding wings		3
172	E06447	DIAMAG adapter plate for dots		3
173		Dry polish dots		3

Buffer plate for polishing (3x)



Item	Part number	Description	Remarks	Qty.
175	BE0579	7/16 x 2”½ hexagon UNC bolt		4
176	BG2402001	Flexplate adapter for axle		1
177	BE0012	M8x25 hexagon socket head bolt	DIN 912	3
178	BG400310	Morflex coupling		1
179-182	BG2402002-1	Flexplate diamond holder		1
179	BG24020021-1	Flexplate diamond holder only		1
180	E06446	Magnet		3
181	BG11811	Centering star		3
182	BG11810	M6x10 countersunk screw		6
183	BE0456	M8x16 countersunk screw	DIN 7991	3
184	E07240	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
185		DIAMAG grinding wings		3
186	E06447	DIAMAG adapter plate for dots		3
187		Dry polish dots		3

3. Electric schedules

E06867 / 3x 400V / 15kW / frequency drive

WIRE COLOR

Main Voltage 400V

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

SYMBOL CODE

11 F 11

- Running number
- Symbol letter
- Schedule page

CORE CODE

11 11

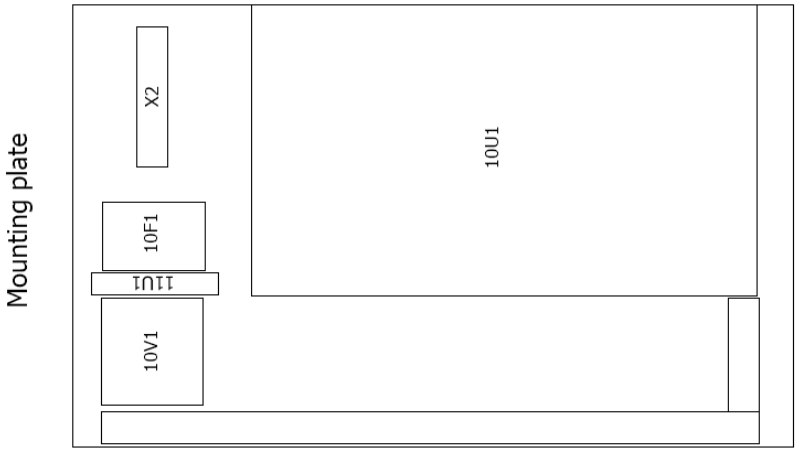
- Running number

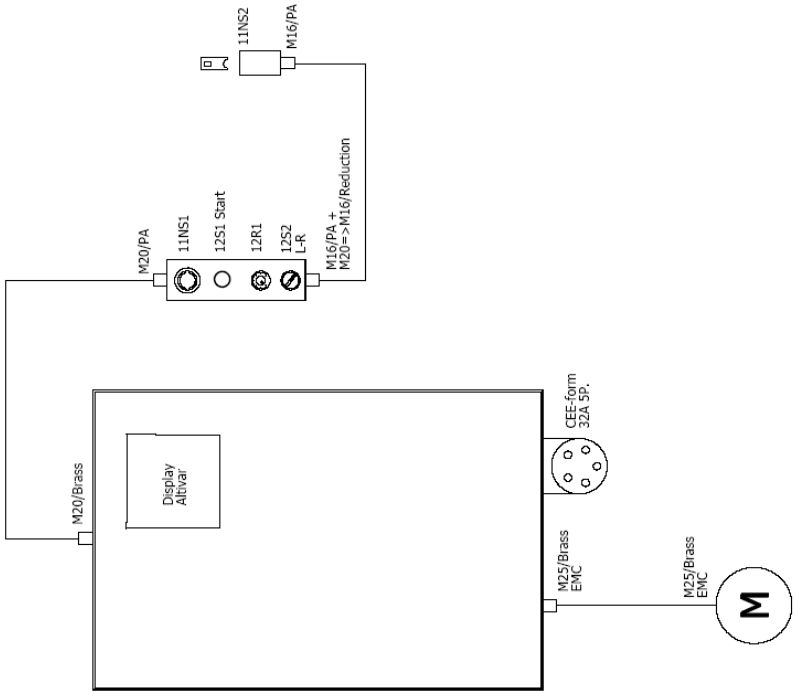
DRAWING NUMBER

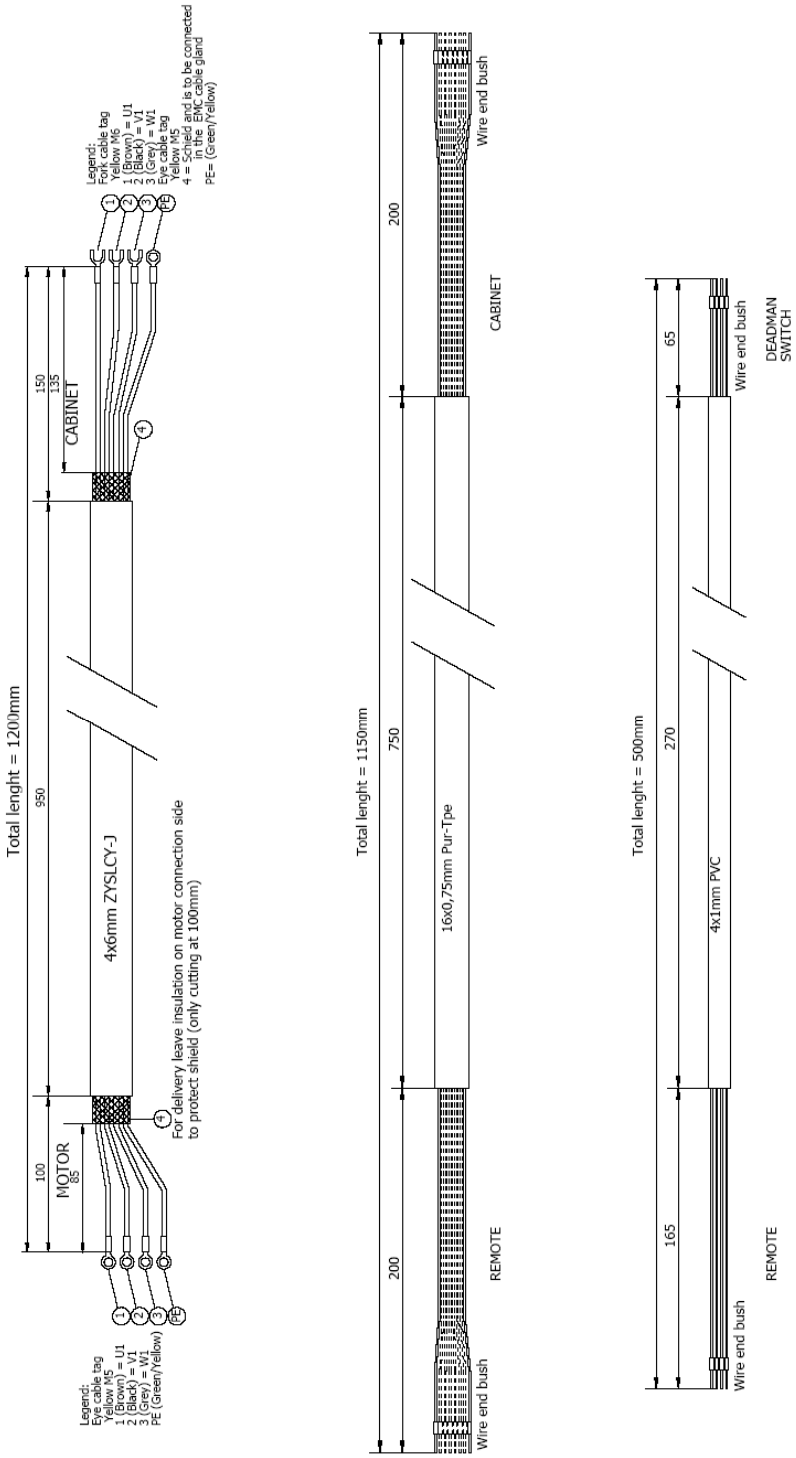
PJ##.####.##

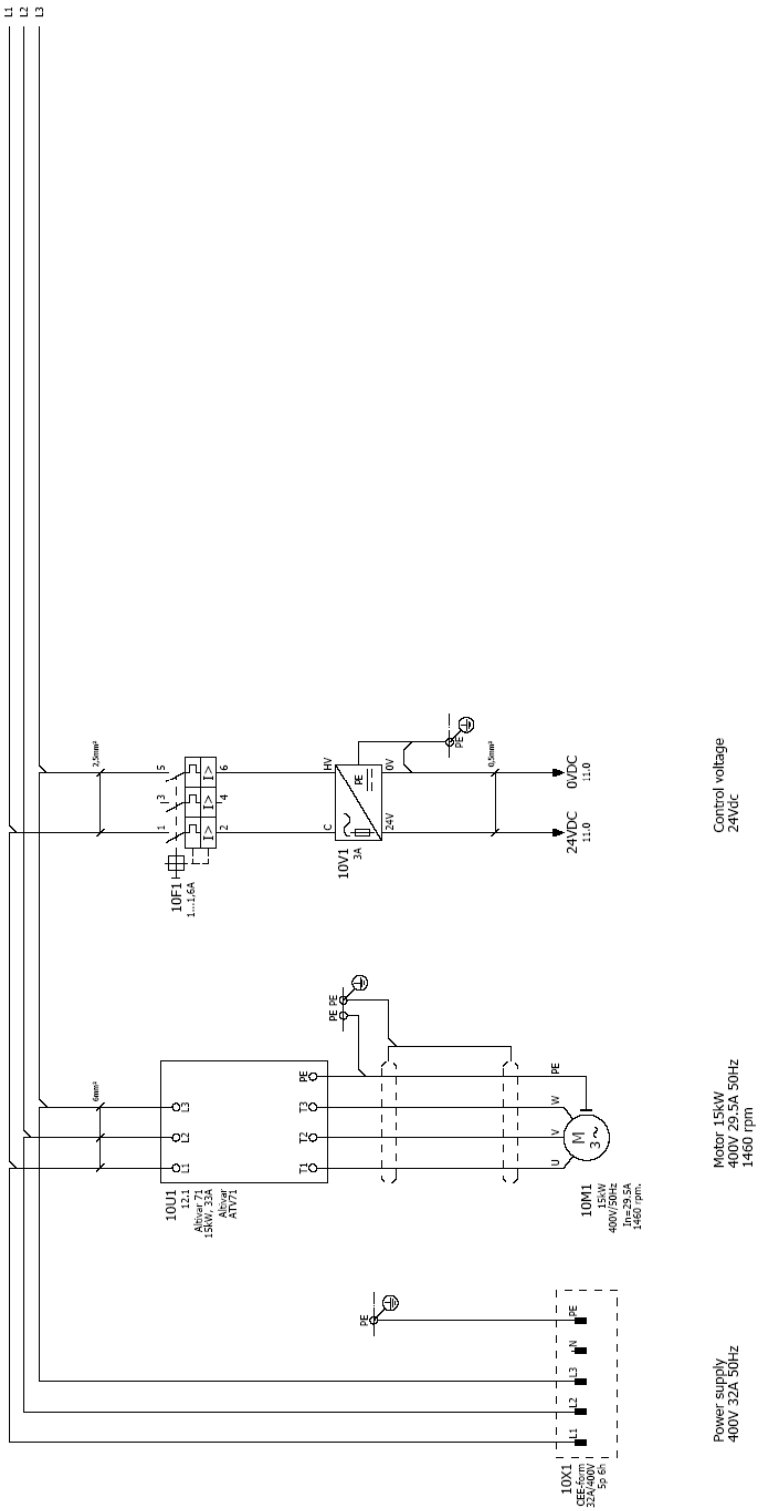
- Revision number
- Archive number
- Year

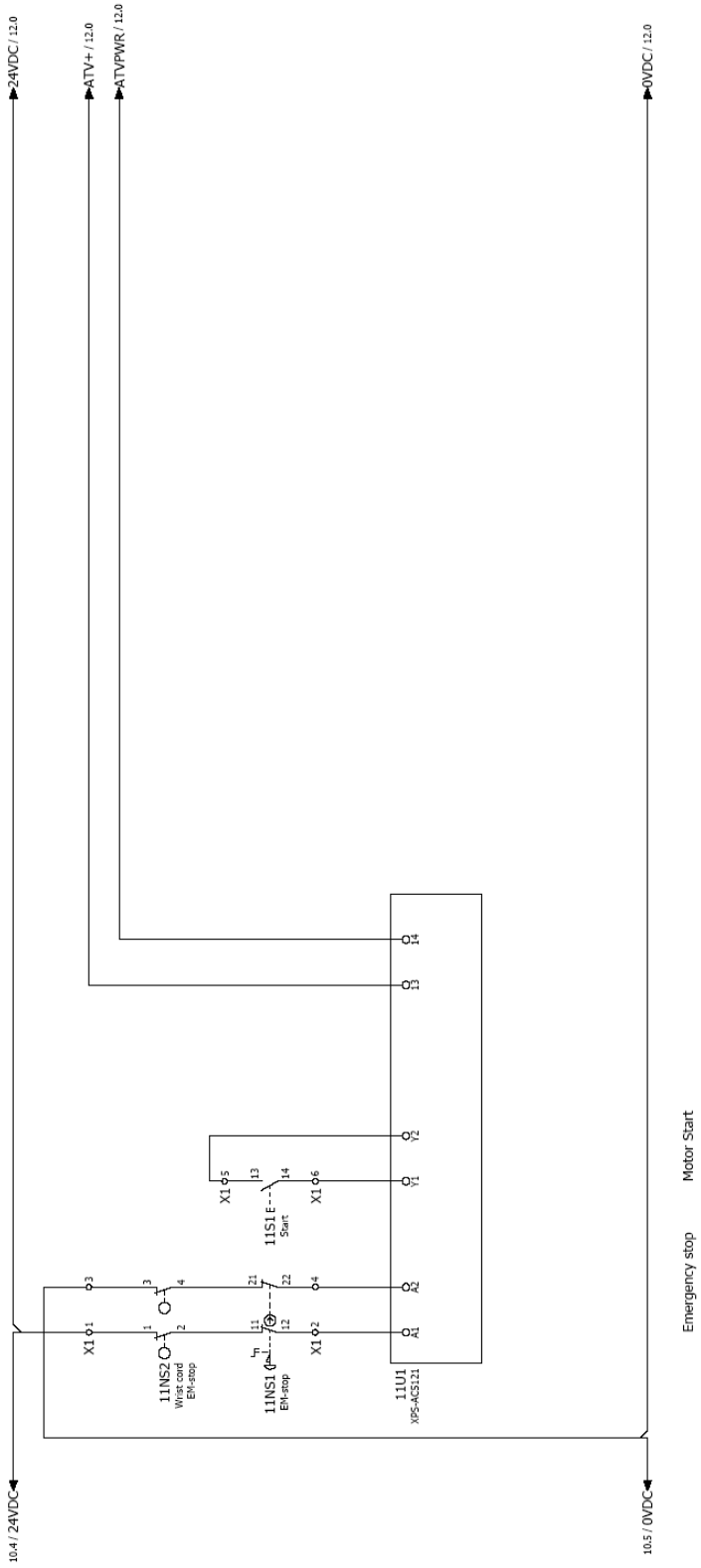
auxiliary contact
hulpcontact
signal light
signaallamp
Safety fuse
smeltveiligheid
Power contact
vermogenscontact
horn
hoorn
Fused switch, three-pole
schakelbare scheider
NO contact, opens with time delay
maakcontact, vertraagd open
apm.meter
amperemeter
Fused disconnect, three-pole
scheider "klapbak"
NO contact, closes with time delay
maakcontact, vertraagd sluitend
runninghour counter
urenteller
Main switch
hoofdschakelaar
NC contact, opens with time delay
verbreekcontact, vertraagd open
transformer
transformator
Circuit breaker, single-pole
installatieautomaat 1-polig
NC contact, closes with time delay
verbreekcontact, vertraagd sluitend
Contactor coil relay coil
spoel
Circuit breaker, two-pole
installatieautomaat 2-polig
Pushbotton rebound
druknoo terugveerend
Contactor/relay coil, with pick-up delay
Spoel met opkomstvertraging
Circuit breaker, three-pole
installatieautomaat 3-polig
Pushbotton locking
druknkop blijvend
Contactor/relay coil, with drop-out delay
spoel met afvalvertraging
Power circuit breaker motor overload switch with switch mechanism
motorbeveiligingsschakelaar
Rotary switch rebound
tip draaischakelaar
Contactor pulse coil relay pulse coil,
spoel puls
Valve
elektrisch bedienda klep
Rotary switch locking
draaischakelaar
Tube light
TL verlichting
Resistor with movable contact
regelbare weerstand
Emergency stop rotary unlock
noodstop met draaibare vrijgave
Resistor / Heating
weerstand verwarming
Terminal
rijgklem
Thermostatic switch
thermostaat hygrostaat
Socket
wandcontactdoos
Terminal with fuse
rijgklem met zekering
Pressure switch
drukschakelaar
Current transformer
stroomtransformator
Rectifier
gelijkrichter
Limit switch
eindschakelaar
Proximity switch
naderingsschakelaar

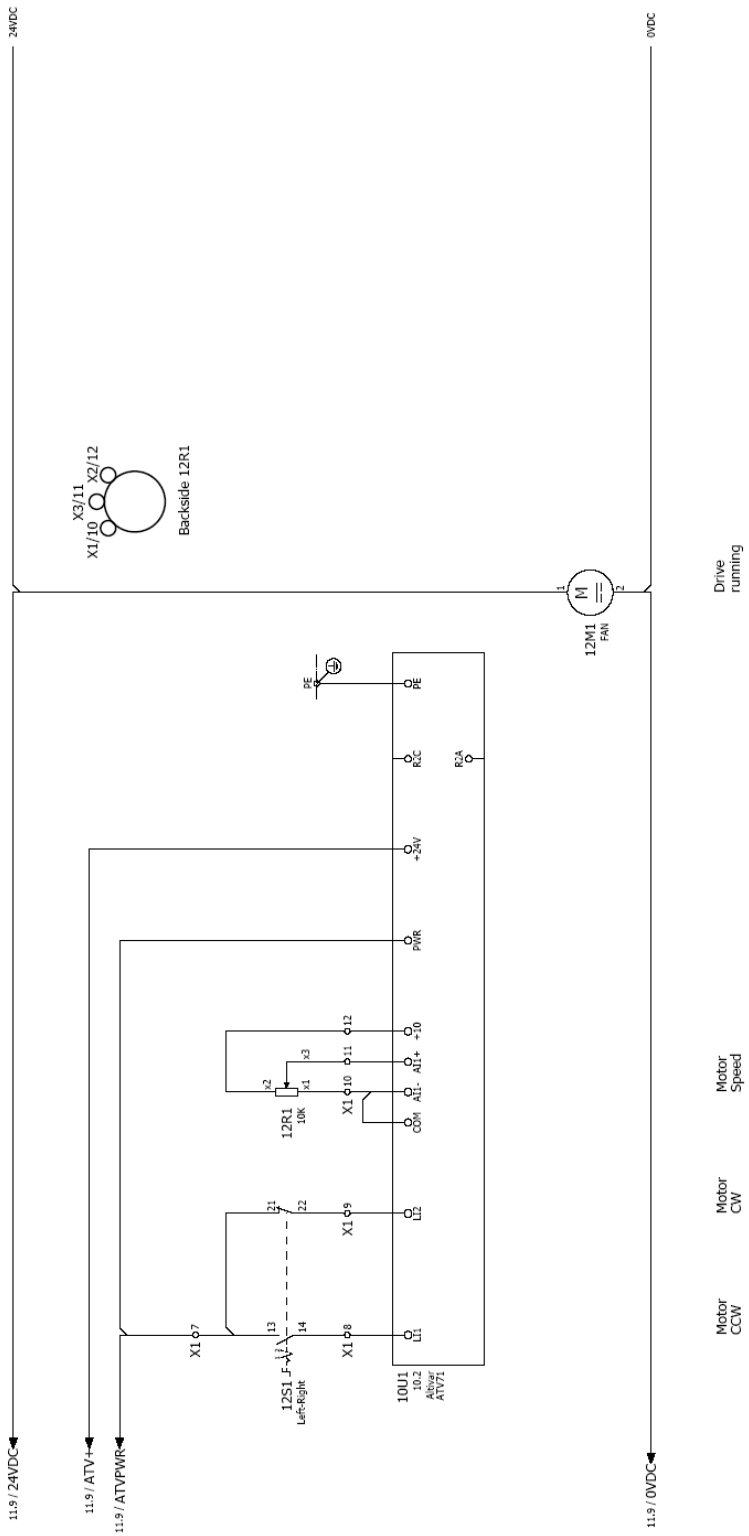

Mounting plate
X2
10U1
10F1
11U1
10V1


11NS2
M16/PA
M16/PA +
M20=>M16/Reduction
M20/PA
11NS1
12S1 Start
12R1
12S2
L-R
CEE-form
32A 5P.
M20/Brass
Display
Altivar
M25/Brass
EMC
M25/Brass
EMC
M


Total lenght = 1200mm
950
100
MOTOR
85
4x6mm ZYSLCY-J
150
135
CABINET
For delivery leave insulation on motor connection side
to protect shield (only cutting at 100mm)
Legend:
Eye cable tag
Yellow M5
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
PE (Green/Yellow)
Legend:
Fork cable tag
Yellow M6
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
Eye cable tag
Yellow M5
4 = Schield and is to be connected
in the EMC cable gland
PE= (Green/Yellow)
Total lenght = 1150mm
750
200
200
16x0,75mm Pur-Tpe
CABINET
REMOTE
Wire end bush
Wire end bush
Total lenght = 500mm
270
165
65
4x1mm PVC
DEADMAN
SWITCH
REMOTE
Wire end bush
Wire end bush


L1
L2
L3
10F1
1...1.6A
10V1
3A
HV
PE
0V
24V
0VDC
11.0
24VDC
11.0
Control voltage
24Vdc
10U1
12.1
Altivar 71
15kW / 32A
Altivar
ATV71
10M1
15kW
400V/50Hz
In=29.5A
1460 rpm.
Motor 15kW
400V 29.5A 50Hz
1460 rpm
10X1
CEE-form
32A/400V
5p 6h
Power supply
400V 32A 50Hz


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
11NS2
Wrist cord
EM-stop
11NS1
EM-stop
11S1
Start
11U1
XPS-AGS121
Motor Start
Emergency stop
10.4 / 24VDC
10.5 / 0VDC


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
12M1
FAN
Drive running
PE
RCC
+24V
PWR
+10
AI1+
AI1-
COM
LI2
LI1
X1
12R1
10K
12S1
Left-Right
10U1
10.2
Altivar ATV71
Motor Speed
Motor CW
Motor CCW
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC

Terminal diagram

Strip
X1
Terminals 24Vdc

function text	Cable name	cable type	Target designation	Connection point	terminal	jumper	Target designation	Connection point	Cable name	cable type	Page / column
Motor Speed					PE	,	10U1	PE			12.5
Emergency stop			11NS2	1	1	,	10V1:10U1	24V:R2C			11.1
=			11NS1	12	2	,	11U1	A1:			11.1
=			11NS2	3	3	,	10V1:12M1	0V:PE:2			11.1
=			11NS1	22	4	,	11U1	A2			11.1
Motor Start			11S1	13	5	,	11U1	Y2			11.2
=			11S1	14	6	,	11U1	Y1			11.2
Motor CCW			12S1	13	7	,	11U1	14			12.1
=			12S1	14	8	,	10U1	L11			12.1
Motor CW			12S1	22	9	,	10U1	L12			12.2
Motor Speed			12R1	x1	10	,	10U1	A1I-			12.2
=			12R1	x3	11	,	10U1	A1I+			12.3
=			12R1	x2	12	,	10U1	+10			12.3

Parts list

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 400x600x300 with mounting plate 350x550	84002 - ENNW09120029	84002 - ENNW09120029
PG	1	Cable Gland M32*1.5 Nickel-plated	WARTEL L-M32*1.5	50.632 M-L
PG	1	Locknut M32*1.5 Nickel-plated	WARTELMOER M32	50.232 M
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTEL PA M16*1.5	50.616 PA7035
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA7035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
10X1	1	32A CEE-form male wall outlet socket 6h	G52530 6h	G52530
10U1	1	Altivar 71 Variable Speed Drive	ATV71HD15N4	ATV71HD15N4
10F1	1	Transformer circuit breaker 1..1.6A	GV2 RT06	GV2RT06
10V1	1	Power Supply 400/24V 3A	ABL8RPS24030	ABL8RPS24030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11NS2	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11NS1	1	Emergency stop	ZB5 AS844	ZB5 AS844
11NS1	2	element NC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZB5 AA333	08.01.0237
11S1	1	element NO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZB5 AD2	ZB5 AD2
12S1	1	element NC XAL	ZEN L1121	ZEN L1121
12S1	1	element NO XAL	ZEN L1111	ZEN L1111
12R1	1	Trim-pot 10K	Potmeterset 10K ZB4	Potmeterset 10K ZB4
12R1	1	Pot.meter	ZB5 AD912	ZB5 AD912
12M1	1	Fan	FAN 8314	FAN 80*80*32 24VDC
12M1	1	Fan filter		221-336 kast kl.beh.
12M1	1	Fan finger guard		250-1612 kast kl.beh.
X1	2	End bracket	WEID ZEW 35	9540000000
X1	1	2 Wire PE terminal 2.5mm²	WEID ZPE 2.5/	1608640000
X1	12	2 Wire terminal 2.5mm²	WEID ZDU 2.5	1608510000
X1	1	End plate ZDU 2.5	WEID ZAP/TW 1	1608740000

WIRE COLOR All wiring AWG

Main Voltage 230V

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

SYMBOL CODE

11 F 11

- Running number
- Symbol letter
- Schedule page

CORE CODE

11 11

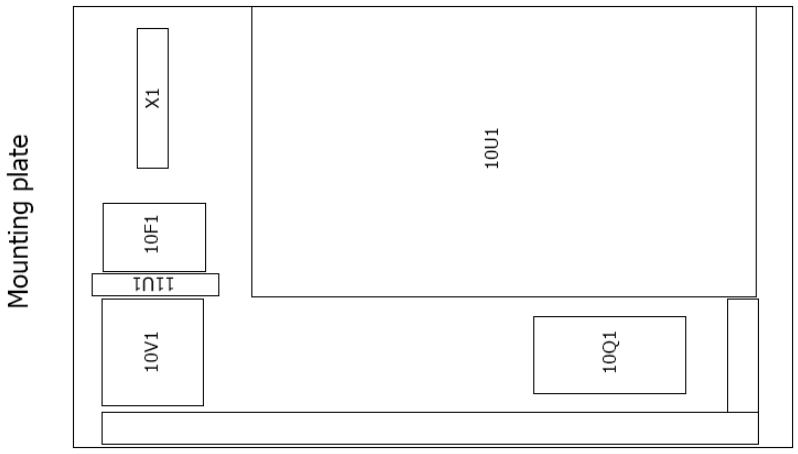
- Running number

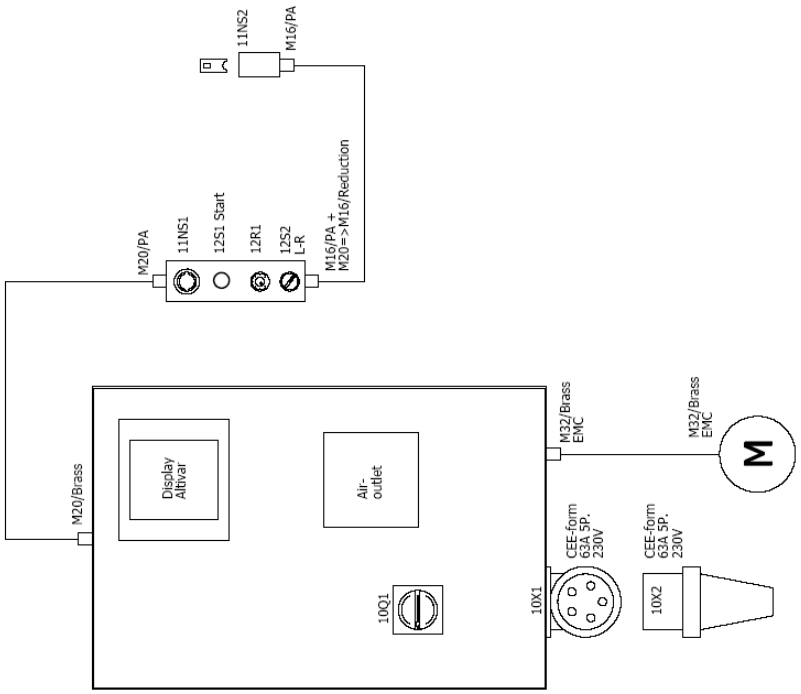
DRAWING NUMBER

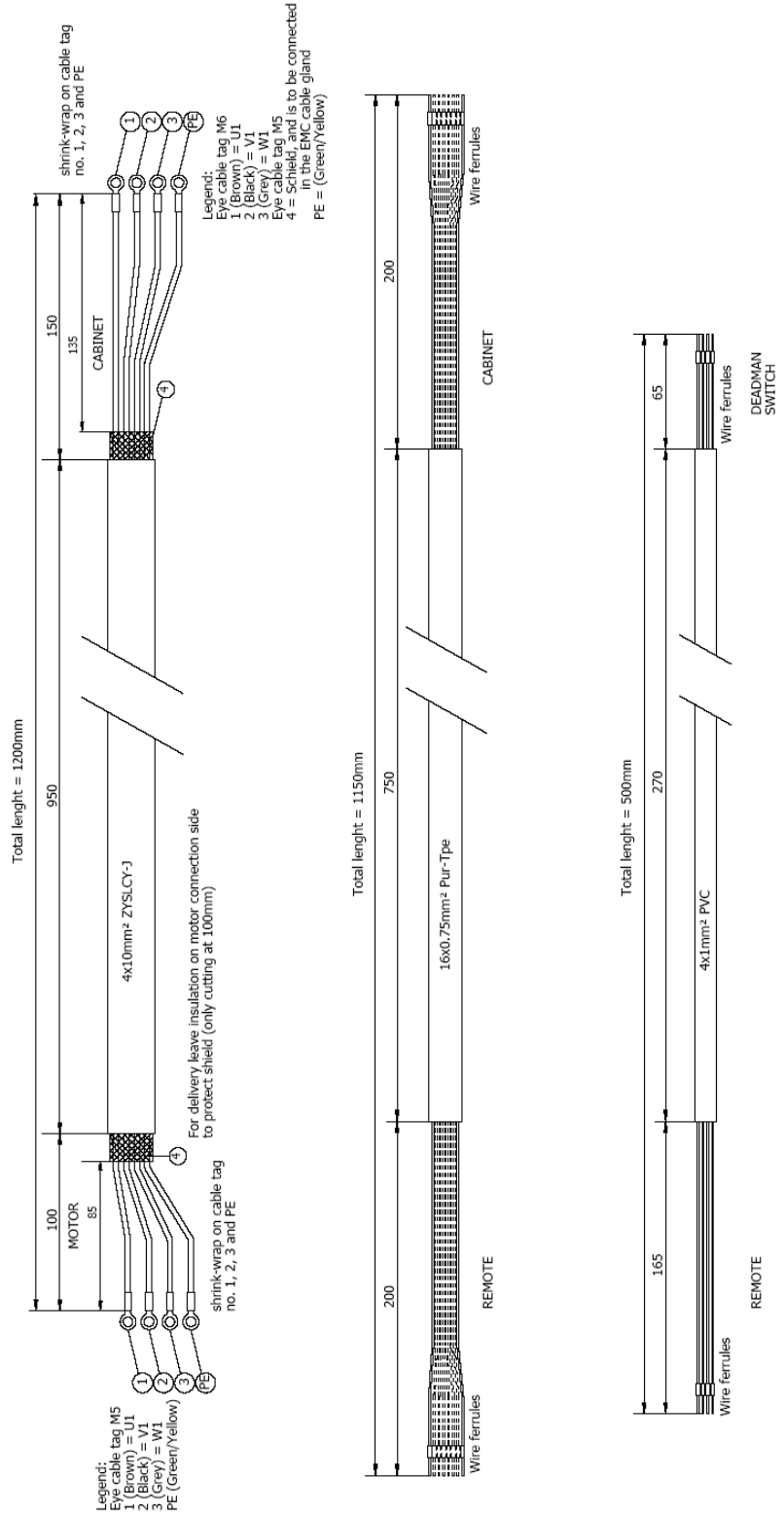
PJ##.####.##

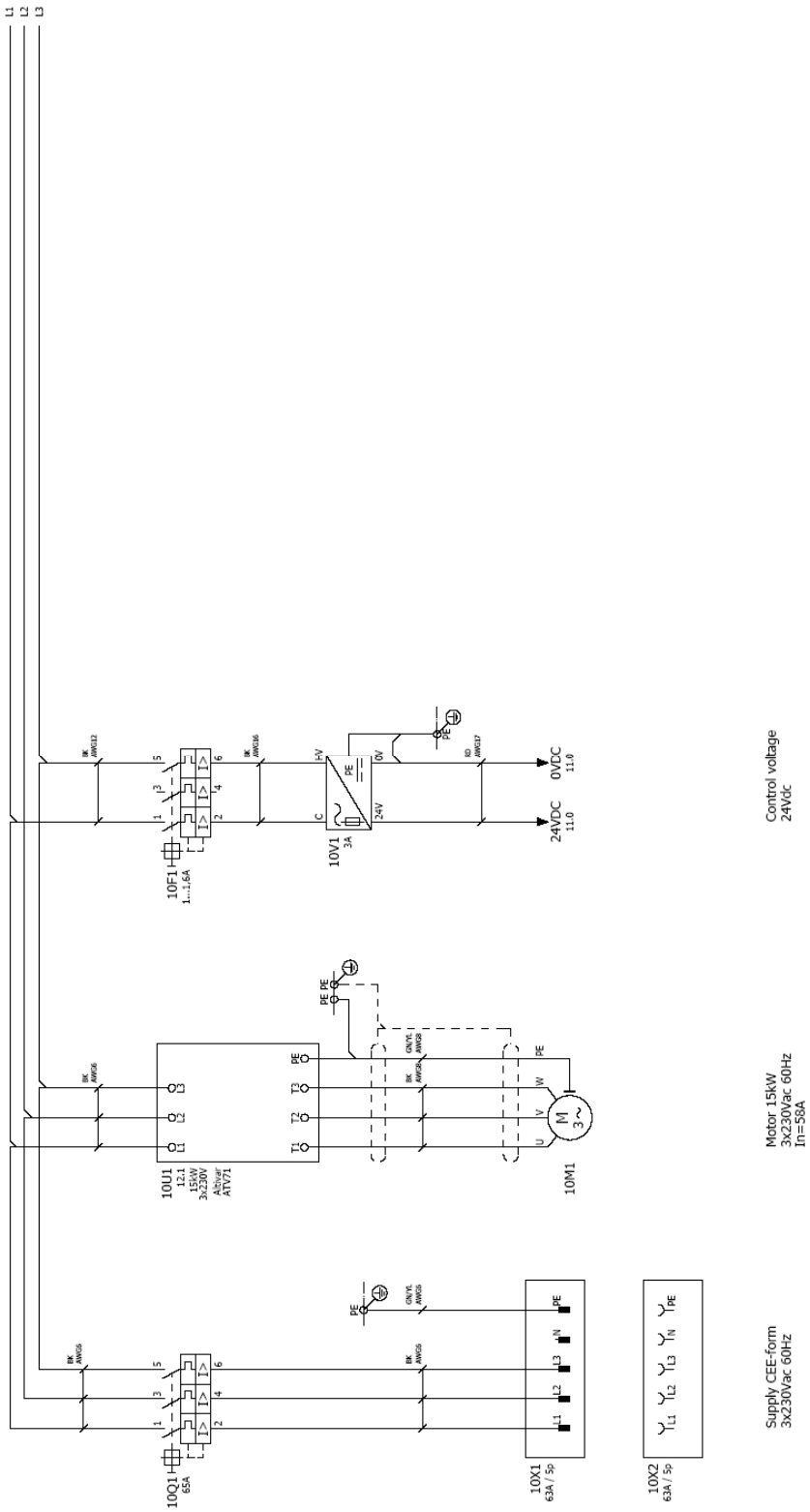
- Revision number
- Archive number
- Year

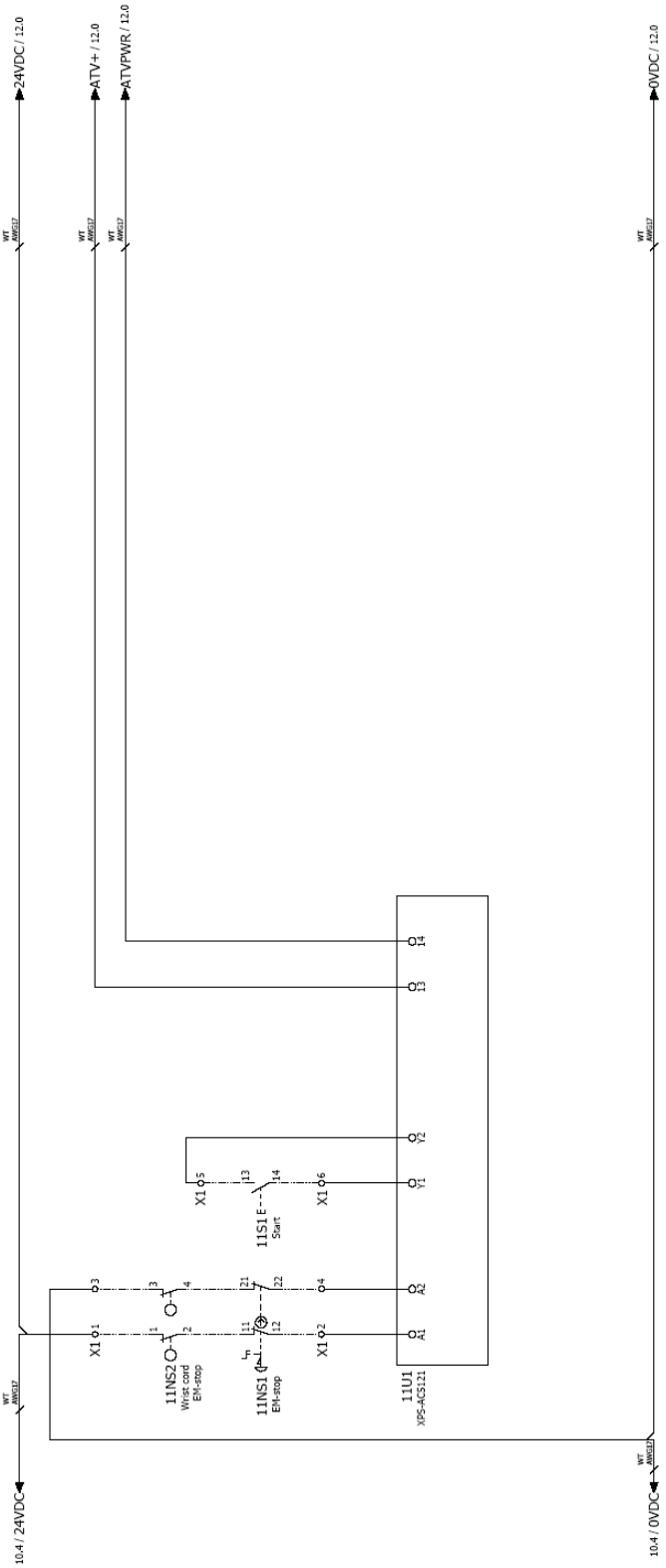
auxiliary contact
hulpcontact
signal light
signaallamp
Safety fuse
smeltveiligheid
Power contact
vermogenscontact
horn
hoorn
Fused switch, three-pole
schakelbare scheider
NO contact, opens with time delay
maakcontact, vertraagd open
apm.meter
ampèremeter
Fused disconnect, three-pole
scheider "klapbak"
NO contact, closes with time delay
maakcontact, vertraagd sluitend
runninghour counter
urenteller
Main switch
hoofdschakelaar
NC contact, opens with time delay
verbreekcontact, vertraagd open
transformer
transformator
Circuit breaker, single-pole
installatieautomaat 1-polig
NC contact, closes with time delay
verbreekcontact, vertraagd sluitend
Contactor coil relay coil
spoel
Circuit breaker, two-pole
installatieautomaat 2-polig
Pushbotton rebound
drukknop terugverend
Contactor/relay coil, with pick-up delay
Spoel met opkomvertraging
Circuit breaker, three-pole
installatieautomaat 3-polig
Pushbotton locking
drukknop blijvend
Contactor/relay coil, with drop-out delay
spoel met afvalvertraging
Power circuit breaker motor overload switch with switch mechanism
motorbeveiligingsschakelaar
Rotary switch rebound
tip draaischakelaar
Contactor pulse coil relay pulse coil,
spoel puls
Valve
elektrisch bediende klep
Rotary switch locking
draaischakelaar
Tube light
TL verlichting
Resistor with movable contact
regelbare weerstand
Emergency stop rotary unlock
noodstop met draaibare vrijgave
Resistor / Heating
weerstand verwarming
Terminal
rijgklem
Thermostatic switch
thermostaat hygrostaat
Socket
wandcontactdoos
Terminal with fuse
rijgklem met zekering
Pressure switch
drukschakelaar
Current transformer
stroomtransformator
Rectifier
gelijkrichter
Limit switch
eindschakelaar
Proximity switch
naderingsschakelaar

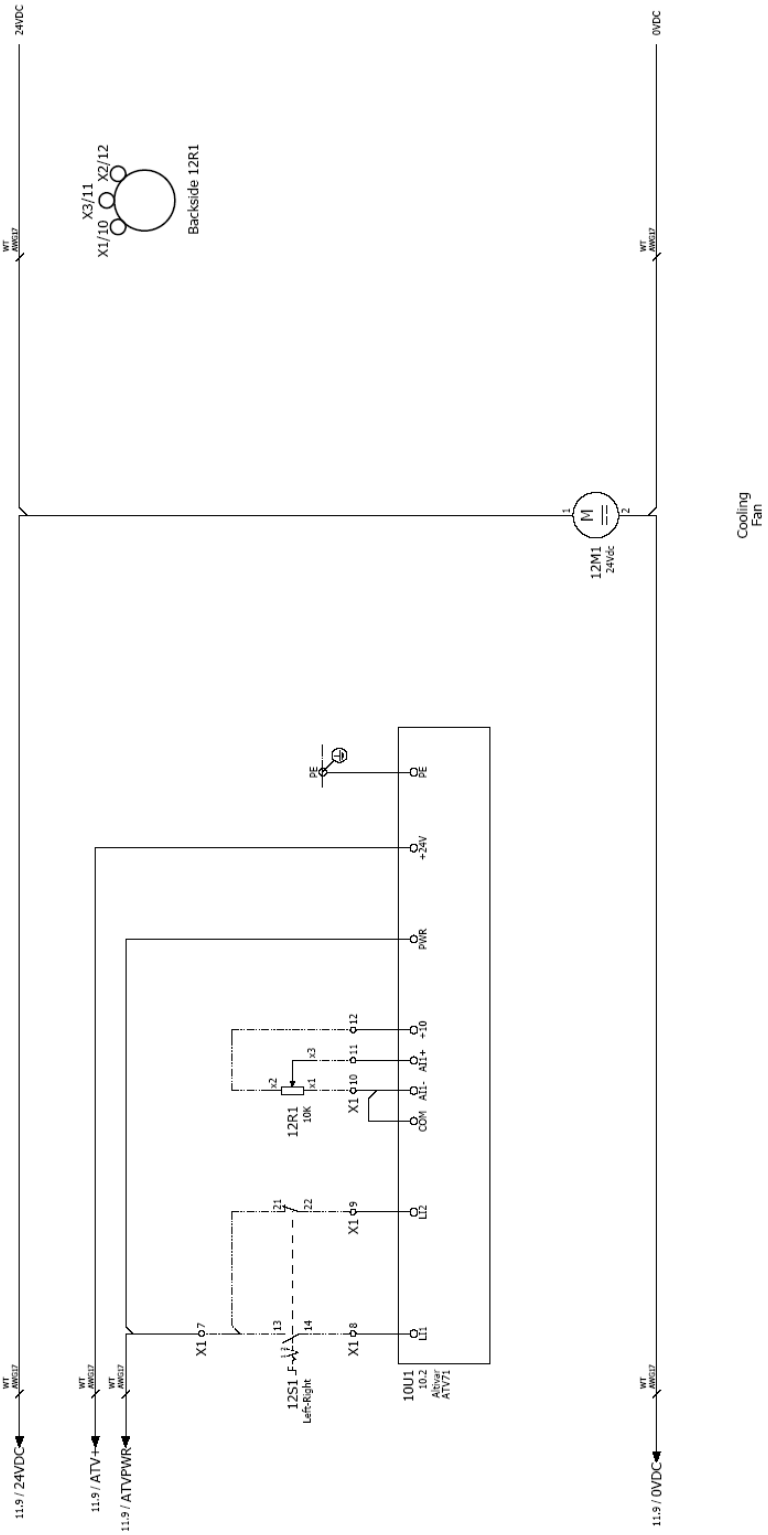

Mounting plate
X1
10U1
10F1
11U1
10V1
10Q1

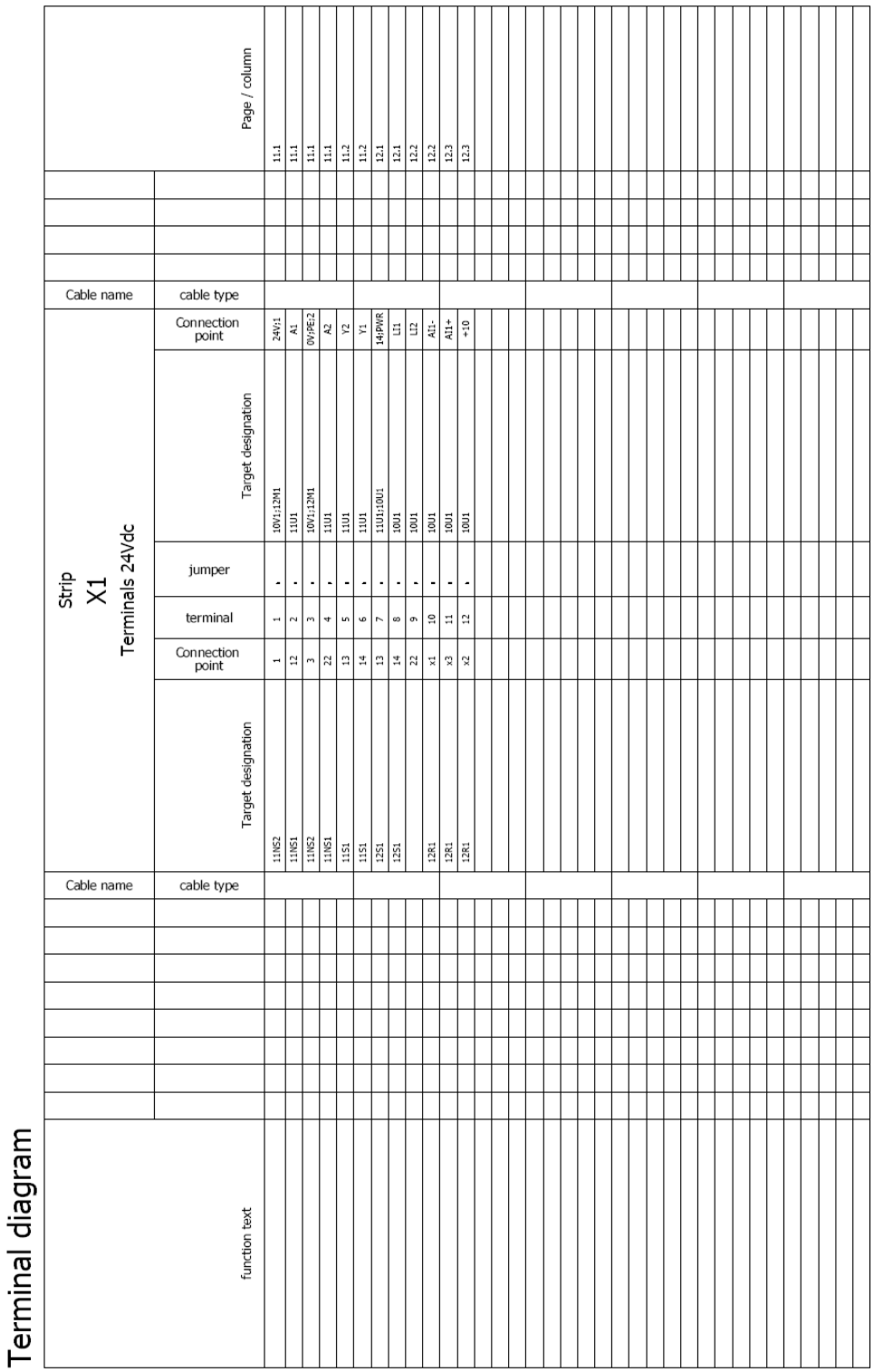

11NS2
M16/PA
M16/PA +
M20->M16/Reduction
M20/PA
11NS1
12S1 Start
12R1
12S2
L-R
M20/Brass
Display
Altivar
Air-
outlet
M32/Brass
EMC
M32/Brass
EMC
M
CEE-form
63A 5P.
230V
CEE-form
63A 5P.
230V
10Q1
10X1
10X2


Total lenght = 1200mm
950
100
MOTOR
85
4x10mm² 2YSLCY-J
For delivery leave insulation on motor connection side
to protect shield (only cutting at 100mm)
shrink-wrap on cable tag
no. 1, 2, 3 and PE
Legend:
Eye cable tag M5
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
PE (Green/Yellow)
150
135
CABINET
shrink-wrap on cable tag
no. 1, 2, 3 and PE
Legend:
Eye cable tag M6
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
Eye cable tag M5
4 = Schield, and is to be connected
in the EMC cable gland
PE = (Green/Yellow)
Total lenght = 1150mm
200
750
200
16x0.75mm² Pur-Tpe
Wire ferrules
REMOTE
CABINET
Wire ferrules
Total lenght = 500mm
165
270
65
4x1mm² PVC
Wire ferrules
REMOTE
Wire ferrules
DEADMAN
SWITCH


L1
L2
L3
10F1
1...1.6A
10V1
3A
0VDC
11.0
24VDC
11.0
Control voltage
24Vdc
10U1
12.1
15kW
3x230V
Altivar
ATV71
10M1
Motor 15kW
3x230Vac 60Hz
In=58A
10Q1
65A
10X1
63A / 5p
10X2
63A / 5p
Supply CEE-form
3x230Vac 60Hz


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
WT AWG12
11NS2
Wrist cord
EM-stop
11NS1
EM-stop
11S1 E
Start
11U1
XPS-AGS121
X1
10.4 / 24VDC
10.4 / 0VDC


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
12M1
24Vdc
Cooling Fan
PE
+24V
PWR
+10
AI1+
AI1-
COM
12R1
10K
L2
L1
12S1
Left-Right
10U1
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC


Terminal diagram
Strip
X1
Terminals 24Vdc
function text
Cable name
cable type
Target designation
Connection point
terminal
jumper
Target designation
Connection point
Cable name
cable type
Page / column
11NS2
11NS1
11NS2
11NS1
11S1
11S1
12S1
12S1
12R1
12R1
12R1
1
12
3
22
13
14
13
14
22
x1
x3
x2
10V1:12M1
11U1
10V1:12M1
11U1
11U1
11U1
11U1:10U1
10U1
10U1
10U1
10U1
24V:1
A1
0V/PE:2
A2
Y2
Y1
14:PWR
L11
L12
A11-
A11+
+10
11.1
11.1
11.1
11.1
11.2
11.2
12.1
12.1
12.2
12.2
12.3
12.3

Parts list

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 400x600x300 with mounting plate 350x550	84002 - ENNW09120029	84002 - ENNW09120029
PG	1	Cable Gland M32*1.5 Nickel-plated EMC	50.632 M/EMV	50.632 M/EMV
PG	1	Locknut M32*1.5 Nickel-plated EMC	50.232 M/POT	50.232 M/POT
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTEL PA M16*1.5	50.616 PA7035
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA7035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
PG	1	Locknut M25*1.5 Nickel-plated EMC	50.225 M/POT	50.225 M/POT
PG	1	Cable Gland M25*1.5 Nickel-plated EMC	50.625 M/EMV	50.625 M/EMV
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
10X1	1	63A CEE-form Wall outlet socket 9h IP67	ABL 653525	653525
10X2	1	63A CEE-form Socket 9h IP67	ABL K53525	K53525
10Q1	1	Motor circuit breaker 65A 3p	TELE GV3-P65	GV3 P65
10Q1	1	Large spacing UL	TELE GV3-G66	GV3 G66
10Q1	1	Axle + black ON/OFF handle	TELE GV3AP03	GV3AP03
10U1	1	Frequency controller 15kW 3x230V	ATV71 HD15 M3X 3*230V	ATV71 HD15 M3X
10F1	1	Transformer circuit breaker 1..1.6A	GV2 RT06	GV2RT06
10V1	1	Power Supply 400/24V 3A	ABL8RPS24030	ABL8RPS24030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11NS2	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11NS1	1	Emergency stop	ZB5 AS844	ZB5 AS844
11NS1	2	element NC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZB5 AA333	08.01.0237
11S1	1	element NO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZB5 AD2	ZB5 AD2
12S1	1	element NC XAL	ZEN L1121	ZEN L1121
12S1	1	element NO XAL	ZEN L1111	ZEN L1111
12R1	1	Trim-pot 10K	Potmeterset 10K ZB4	Potmeterset 10K ZB4
12R1	1	Pot.meter	ZB5 AD912	ZB5 AD912
12M1	1	Fan 24Vdc	FAN ;19*119*38 24VDC	4414 N
12M1	1	Fan finger guard	FG LZ30-4	LZ30-4

WIRE COLOR All wiring AWG

Main Voltage 480Vac

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

SYMBOL CODE

11 F 11

- 11 - Schedule page
- F - Symbol letter
- 11 - Running number

CORE CODE

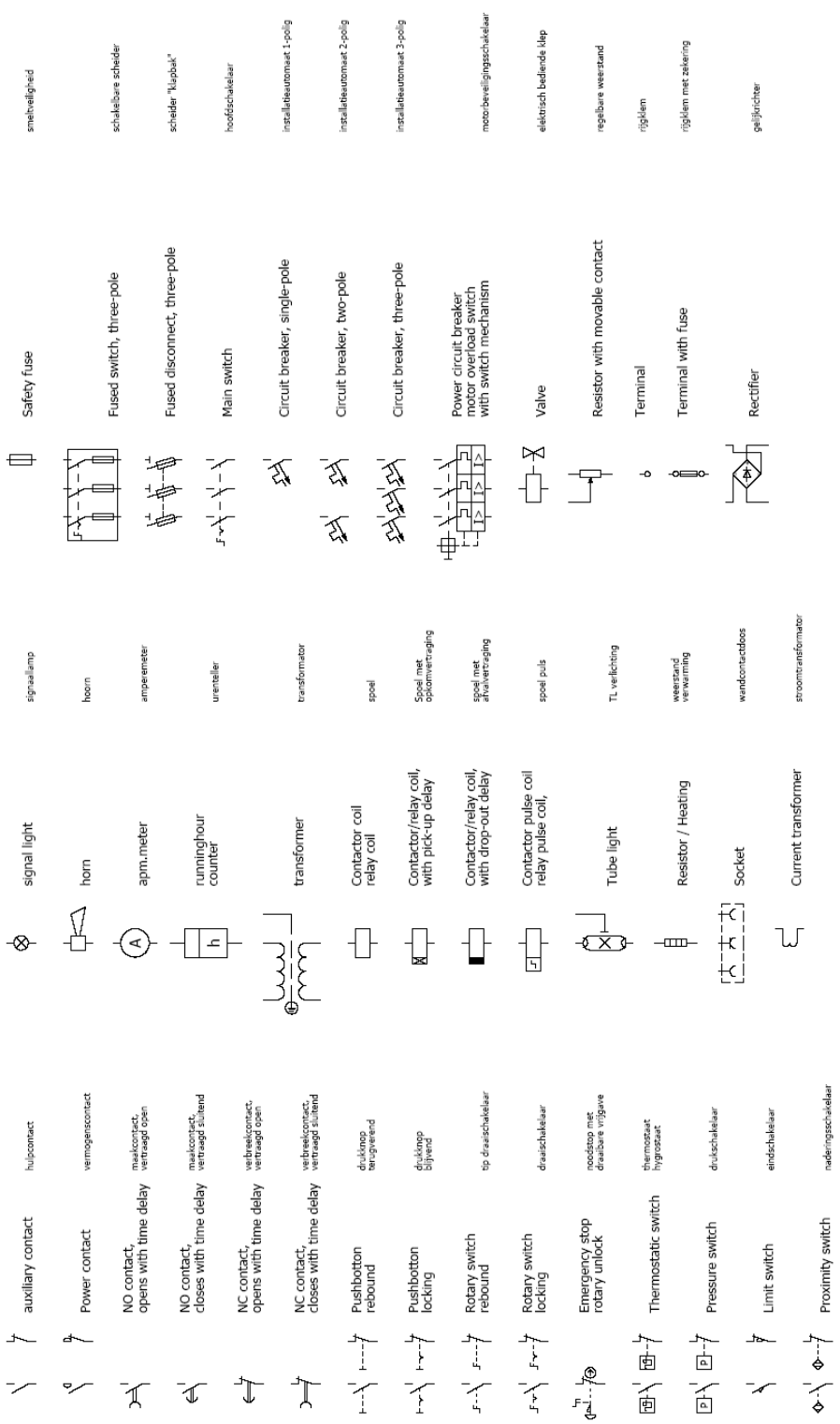
11 11

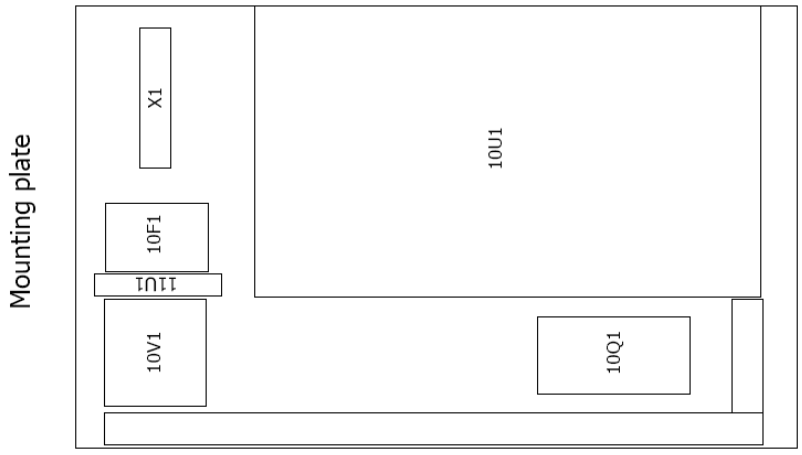
- 11 - Running number

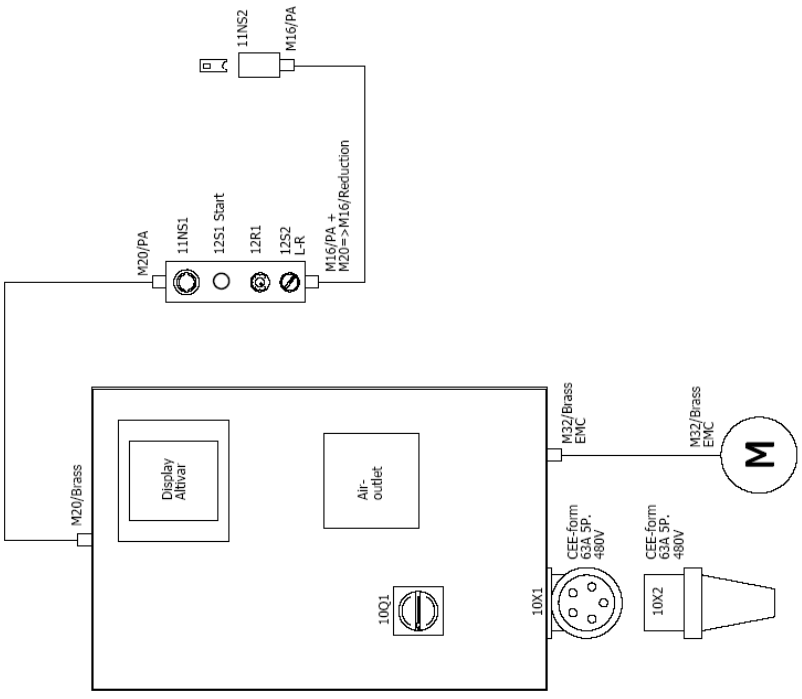
DRAWING NUMBER

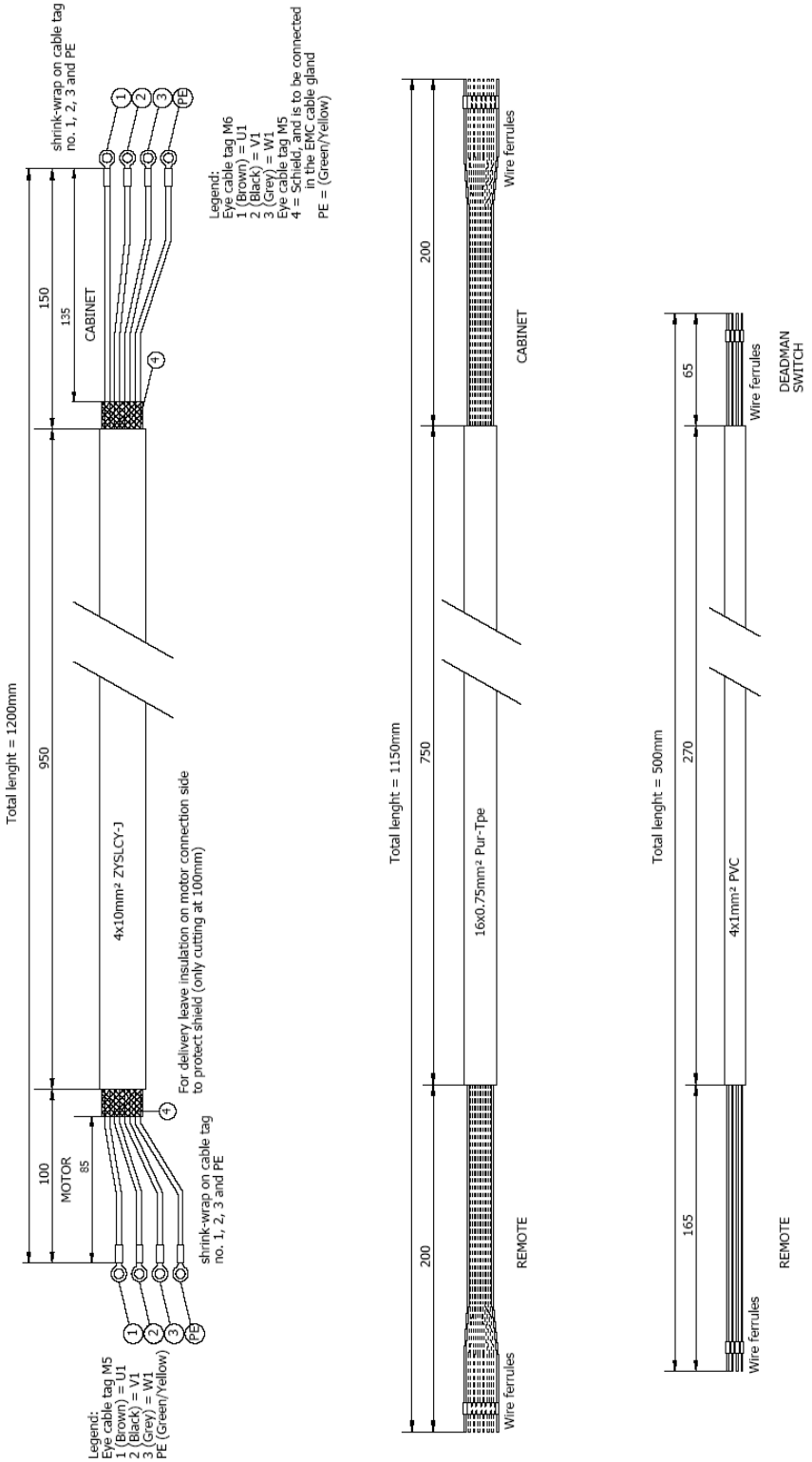
PJ##.####.##

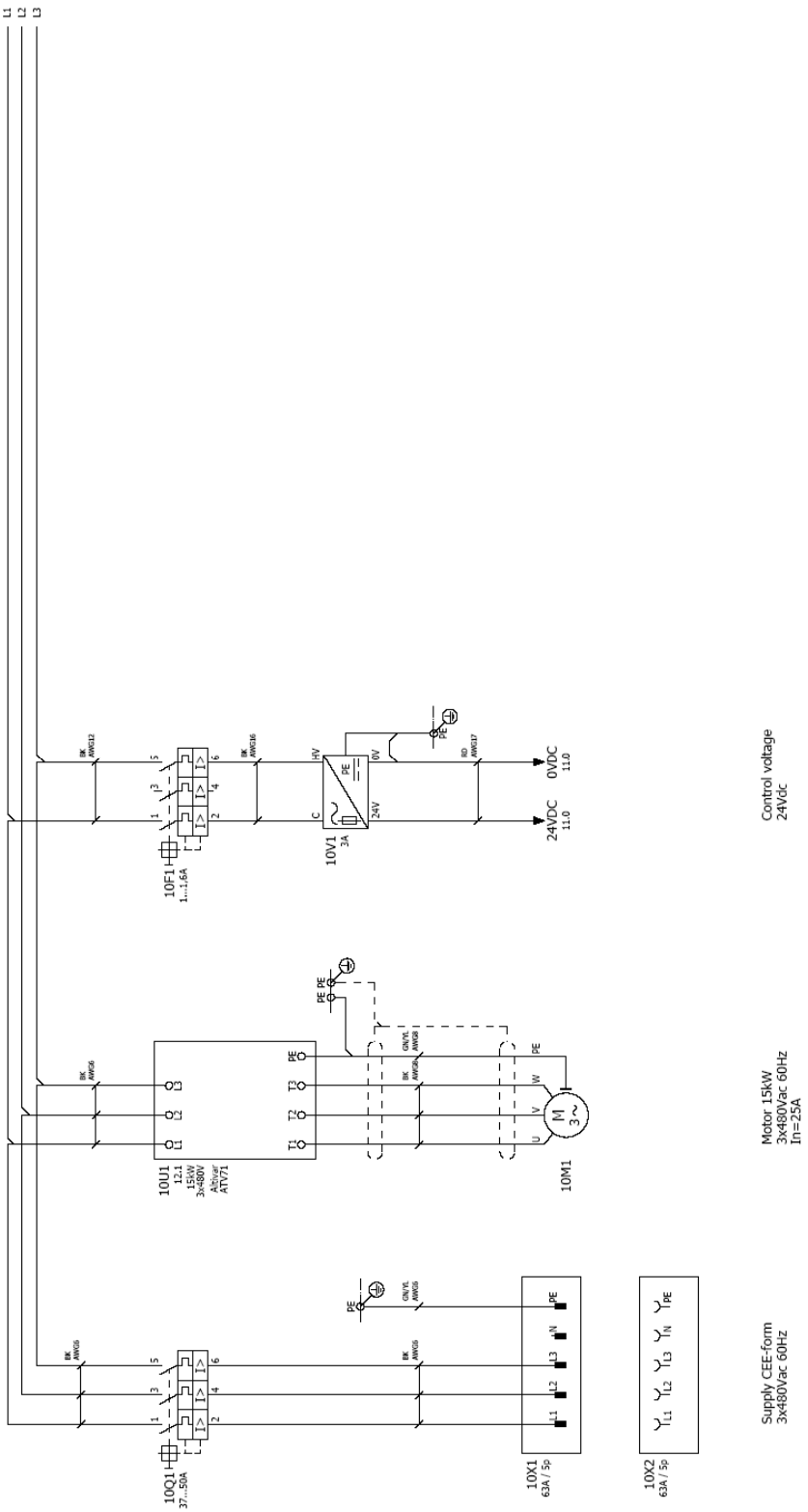
- PJ - Year
- #### - Archive number
- ## - Revision number

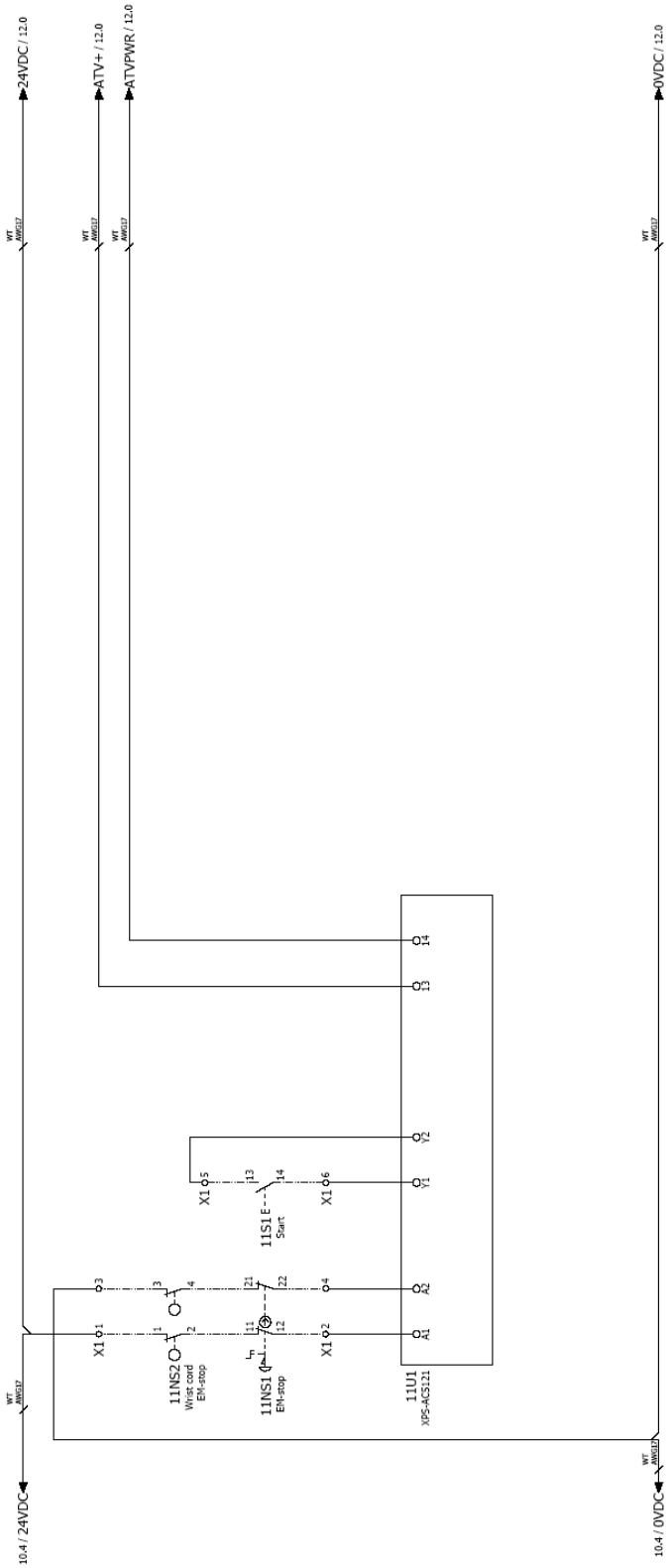

auxiliary contact
hulpcontact
signal light
signaallamp
Safety fuse
smeltveiligheid
Power contact
vermogenscontact
horn
hoorn
Fused switch, three-pole
schakelbare scheider
NO contact,
opens with time delay
maakcontact,
ventraagd open
apm.meter
ampèremeter
Fused disconnect, three-pole
scheider "klapbak"
NO contact,
closes with time delay
maakcontact,
ventraagd sluitend
runninghour
counter
urenteller
Main switch
hoofdschakelaar
NC contact,
opens with time delay
verbreekcontact,
ventraagd open
transformer
transformator
Circuit breaker, single-pole
installatieautomaat 1-polig
NC contact,
closes with time delay
verbreekcontact,
ventraagd sluitend
Contactor coil
relay coil
spoel
Circuit breaker, two-pole
installatieautomaat 2-polig
Pushbotton
rebound
drukknop
terugverend
Contactor/relay coil,
with pick-up delay
Spoel met
opkomstvertraging
Circuit breaker, three-pole
installatieautomaat 3-polig
Pushbotton
locking
drukknop
blijvend
Contactor/relay coil,
with drop-out delay
spoel met
afvalvertraging
Power circuit breaker
motor overload switch
with switch mechanism
motorbeveiligingsschakelaar
Rotary switch
rebound
tip draaischakelaar
Contactor pulse coil
relay pulse coil,
spoel puls
Valve
elektrisch bediende klep
Rotary switch
locking
draaischakelaar
Tube light
TL verlichting
Resistor with movable contact
regelbare weerstand
Emergency stop
rotary unlock
noodstop met
draaibare vrijgave
Resistor / Heating
weerstand
verwarming
Terminal
rijgklem
Thermostatic switch
thermostaat
hygrostaat
Socket
wandcontactdoos
Terminal with fuse
rijgklem met zekering
Pressure switch
druckschakelaar
Current transformer
stroomtransformator
Rectifier
gelijkrichter
Limit switch
eindschakelaar
Proximity switch
naderingsschakelaar

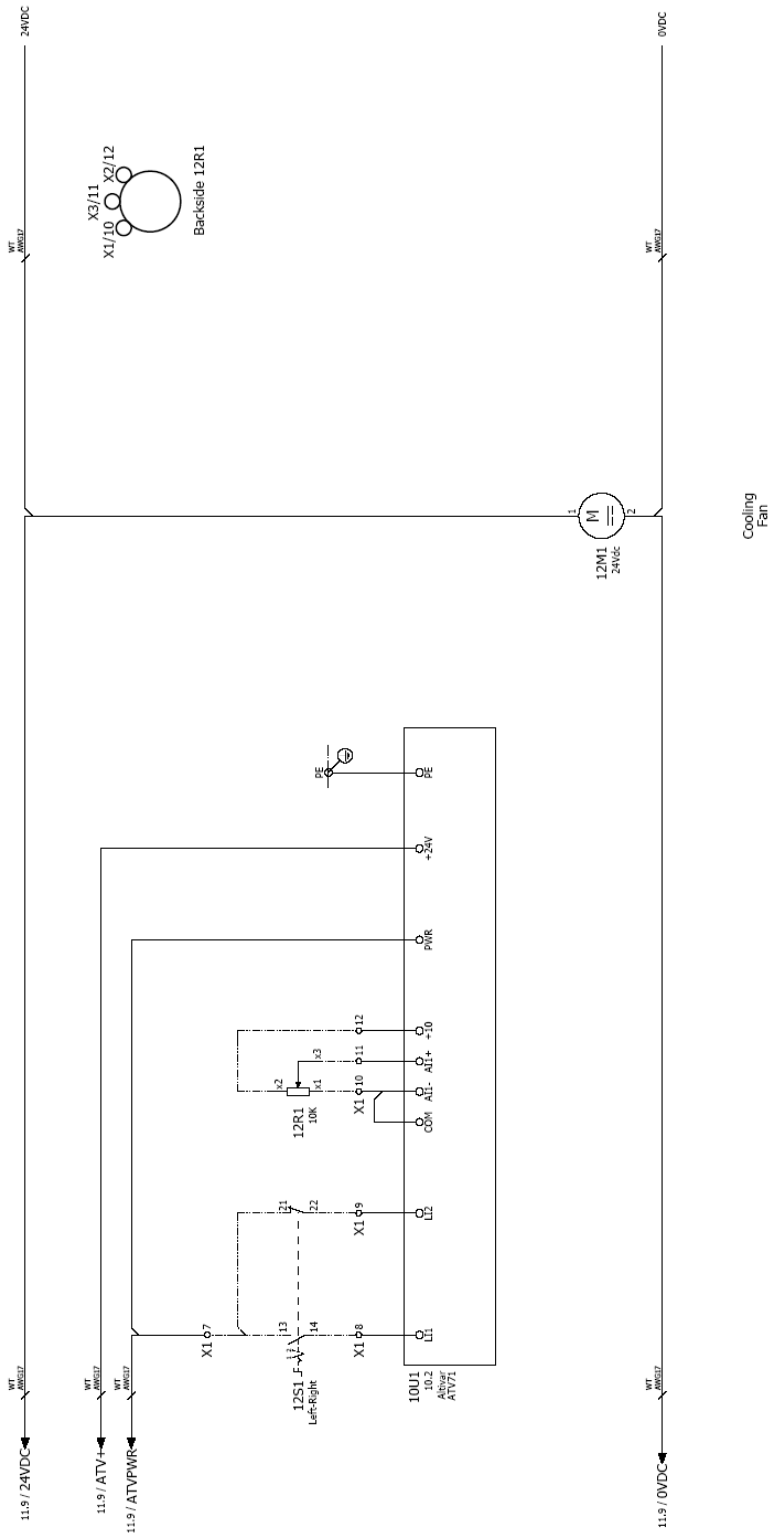

Mounting plate
X1
10U1
10F1
11U1
10V1
10Q1


11NS2
M16/PA
M16/PA +
M20=>M16/Reduction
M20/PA
11NS1
12S1 Start
12R1
12S2
L-R
M20/Brass
Display
Altivar
Air-
outlet
M32/Brass
EMC
M32/Brass
EMC
M
CEE-form
63A 5P.
480V
CEE-form
63A 5P.
480V
10Q1
10X1
10X2

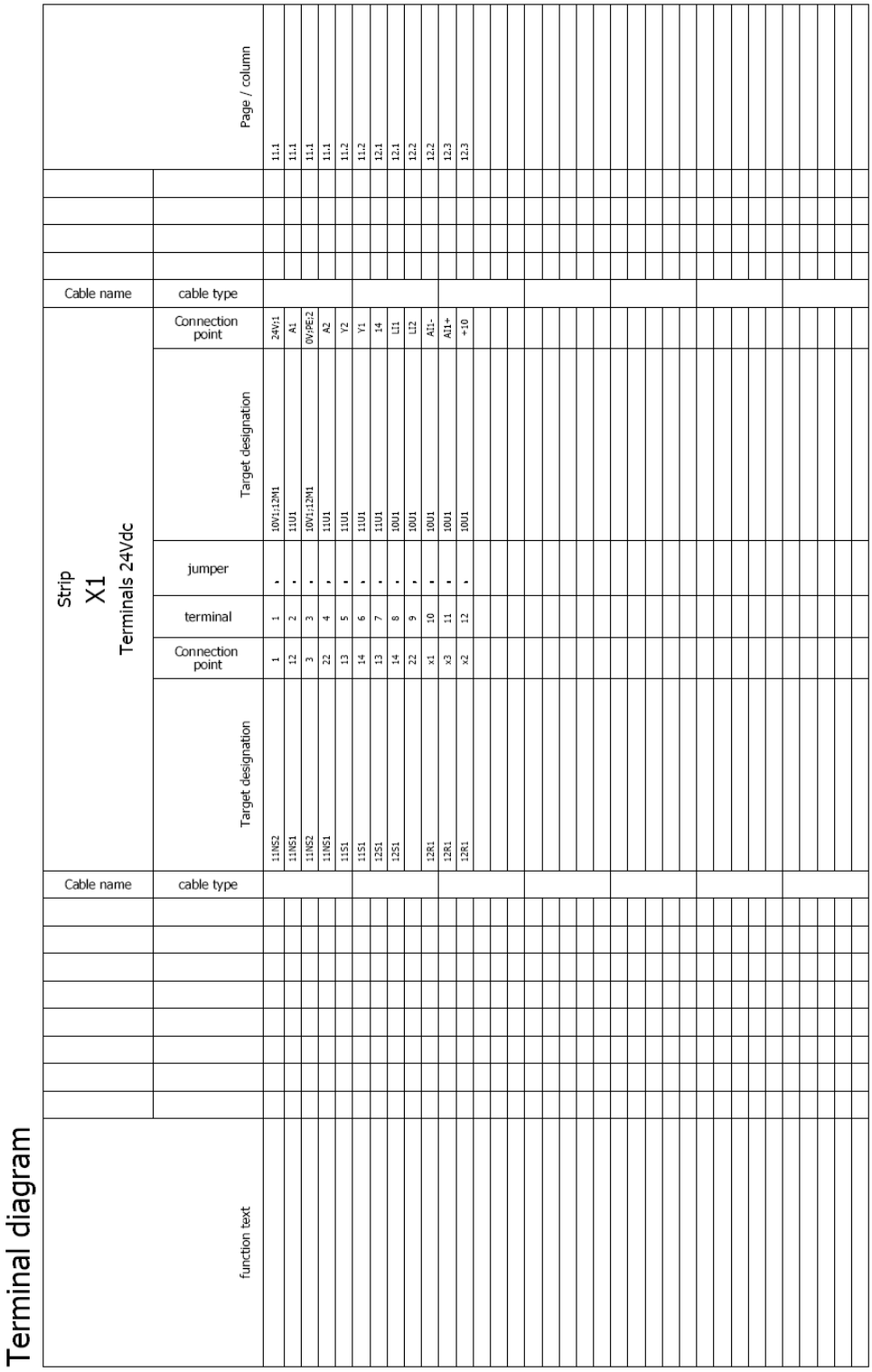

Total lenght = 1200mm
950
100
MOTOR
85
4x10mm² ZYSLCY-J
150
135
CABINET
shrink-wrap on cable tag
no. 1, 2, 3 and PE
For delivery leave insulation on motor connection side
to protect shield (only cutting at 100mm)
shrink-wrap on cable tag
no. 1, 2, 3 and PE
Legend:
Eye cable tag M5
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
PE (Green/Yellow)
Legend:
Eye cable tag M6
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
Eye cable tag M5
4 = Schield, and is to be connected
in the EMC cable gland
PE = (Green/Yellow)
Total lenght = 1150mm
200
750
200
16x0.75mm² Pur-Tpe
Wire ferrules
CABINET
REMOTE
Wire ferrules
Total lenght = 500mm
165
270
65
4x1mm² PVC
Wire ferrules
DEADMAN
SWITCH
REMOTE
Wire ferrules


L1
L2
L3
10F1
1...1.6A
10V1
3A
24VDC
11.0
0VDC
11.0
Control voltage
24Vdc
10U1
ATV71
10M1
Motor 15kW
3x480Vac 60Hz
In=25A
10Q1
37...50A
10X1
63A / 5p
10X2
63A / 5p
Supply CEE-form
3x480Vac 60Hz


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
WT AWG17
11NS2
Wrist cord EM-stop
11NS1
EM-stop
11S1
Start
11U1
XPS-AGS121
X1
A1
A2
Y1
Y2
13
14
21
22
10.4 / 24VDC
10.4 / 0VDC


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
12M1
24Vdc
Cooling
Fan
PE
+24V
PWR
+10
AI1+
AI1-
COM
12R1
10K
X1
LT2
LT1
12S1 F
Left-Right
10U1
ATtiny
ATV71
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC

Terminal diagram



Parts list

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 400x600x300 with mounting plate 350x550	84002 - ENNW09120029	84002 - ENNW09120029
PG	1	Cable Gland M32*1.5 Nickel-plated EMC	50.632 M/EMV	50.632 M/EMV
PG	1	Locknut M32*1.5 Nickel-plated EMC	50.232 M/POT	50.232 M/POT
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTEL PA M16*1.5	50.616 PA7035
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA7035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
PG	1	Cable Gland M25*1.5 Nickel-plated EMC	50.625 M/EMV	50.625 M/EMV
PG	1	Locknut M25*1.5 Nickel-plated EMC	50.225 M/POT	50.225 M/POT
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
10X1	1	63A CEE-form Wall outlet socket 7h IP67	ABL 653555	653555
10X2	1	63A CEE-form Socket 7h IP67	ABL 653555	653555
10Q1	1	Motor circuit breaker 50A 3p	TELE GV3-P50	GV3 P50
10Q1	1	Large spacing UL	TELE GV3-G66	GV3 G66
10Q1	1	Axle + black ON/OFF handle	TELE GV3AP03	GV3AP03
10U1	1	Frequency controller 15kW	ATV71 HD15 N4	ATV71 HD15 N4
10F1	1	Transformer circuit breaker 1..1.6A	GV2 RT06	GV2RT06
10V1	1	Power Supply 100...120Vac -200...500Vac/24Vdc 3A	ABL8RPS24030	ABL8RPS24030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11NS2	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11NS1	1	Emergency stop	ZB5 AS844	ZB5 AS844
11NS1	2	element NC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZB5 AA333	08.01.0237
11S1	1	element NO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZB5 AD2	ZB5 AD2
12S1	1	element NC XAL	ZEN L1121	ZEN L1121
12S1	1	element NO XAL	ZEN L1111	ZEN L1111
12R1	1	Trim-pot 10K	Potmeterset 10K ZB4	Potmeterset 10K ZB4
12R1	1	Pot.meter	ZB5 AD912	ZB5 AD912
12M1	1	Fan 24Vdc	FAN 119*119*38 24VDC	4414 N
12M1	1	Fan finger guard	FG LZ30-4	LZ30-4

4. Fault diagnose frequency drive

For a complete overview of faults and how to resolve them, check the operating manual of the frequency drive or the CD, which are delivered with the machine.

If you put the CD in the computer, it will automatically go to the manuals.

Does the inverter shows an “INF” fault, reset the machine.
If the machine does not work after that, call you distributor.

To reset the machine, put out the power supply and wait 5 minutes.
Then start up the machine again. Call a technician if the machine still not works.

Fault	Name	Probable cause	Remedy
AI2F	[AI2 input]	• Non-conforming signal on analog input AI2	• Check the wiring of analog input AI2 and the value of the signal
AnF	[Load slipping]	• The encoder speed feedback does not match the reference	• Check the motor, gain and stability parameters • Add a braking resistor • Check the size of the motor/drive/load • Check the encoder's mechanical coupling and its wiring
bOF	[DBR overload]	• The braking resistor is under excessive stress	• Check the size of the resistor and wait for it to cool down • Check the [DB Resistor Power] (brP) and [DB Resistor value] (brU) parameters, page 211
brF	[Brake feedback]	• The brake feedback contact does not match the brake logic control	• Check the feedback circuit and the brake logic control circuit • Check the mechanical state of the brake
bUF	[DB unit sh. Circuit]	• Short-circuit output from braking unit	• Check the wiring of the braking unit and the resistor • Check the braking resistor
CrF1	[Precharge]	• Load relay control fault or charging resistor damaged	• Switch the drive off and then back on again • Check the internal connections • Inspect/repair the drive
CrF2	[Thyr. soft charge]	• DC bus charging fault (thyristors)	
ECF	[Encoder coupling]	• Break in encoder's mechanical coupling	• Check the encoder's mechanical coupling
EEF1	[Control Eeprom]	• Internal memory fault, control card	• Check the environment (electromagnetic compatibility) • Turn off, reset, return to factory settings • Inspect/repair the drive
EEF2	[Power Eeprom]	• Internal memory fault, power card	
EnF	[Encoder]	• Encoder feedback fault	• Check [Number of pulses] (PGI) and [Encoder type] (EnS), page 72 • Check that the encoder's mechanical and electrical operation, its power supply and connections are all correct • If necessary, reverse the direction of rotation of the motor ([Output Ph rotation] (PHr) parameter, page 66) or the encoder signals
FCF1	[Out. contact. stuck]	• The output contactor remains closed although the opening conditions have been met	• Check the contactor and its wiring • Check the feedback circuit

Fault	Name	Probable cause	Remedy
HdF	[IGBT desaturation]	• Short-circuit or grounding at the drive output	• Check the cables connecting the drive to the motor, and the insulation of the motor • Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu
ILF	[internal com. link]	• Communication fault between option card and drive	• Check the environment (electromagnetic compatibility) • Check the connections • Check that no more than 2 option cards (max. permitted) have been installed on the drive • Replace the option card • Inspect/repair the drive
InF1	[Rating error]	• The power card is different from the card stored	• Check the reference of the power card
InF2	[Incompatible PB]	• The power card is incompatible with the control card	• Check the reference of the power card and its compatibility
InF3	[Internal serial link]	• Communication fault between the internal cards	• Check the internal connections • Inspect/repair the drive
InF4	[Internal MFG area]	• Internal data inconsistent	• Recalibrate the drive (performed by Schneider Electric Product Support)
InF6	[Internal-option]	• The option installed in the drive is not recognized	• Check the reference and compatibility of the option
InF7	[Internal-hard init.]	• Initialization of the drive is incomplete	• Turn off and reset
InF8	[Internal-ctrl supply]	• The control power supply is incorrect	• Check the control power supply
InF9	[Internal- I measure]	• The current measurements are incorrect	• Replace the current sensors or the power card • Inspect/repair the drive
InFA	[Internal-mains circuit]	• The input stage is not operating correctly	• Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
InFb	[Internal- th. sensor]	• The drive temperature sensor is not operating correctly	• Replace the temperature sensor • Inspect/repair the drive
InFC	[Internal-time meas.]	• Fault on the electronic time measurement component	• Inspect/repair the drive
InFE	[internal- CPU]	• Internal microprocessor fault	• Turn off and reset. Inspect/repair the drive
OCF	[Overcurrent]	• Parameters in the [SETTINGS] (SEt-) and [1.4 MOTOR CONTROL] (drC-) menus are not correct • Inertia or load too high • Mechanical locking	• Check the parameters • Check the size of the motor/drive/load • Check the state of the mechanism
PrF	[Power removal]	• Fault with the drive's "Power removal" safety function	• Inspect/repair the drive
SCF1	[Motor short circuit]	• Short-circuit or grounding at the drive output • Significant earth leakage current at the drive output if several motors are connected in parallel	• Check the cables connecting the drive to the motor, and the insulation of the motor • Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu • Reduce the switching frequency • Connect chokes in series with the motor
SCF2	[Impedant sh. circuit]		
SCF3	[Ground short circuit]		
SOF	[Overspeed]	• Instability or driving load too high	• Check the motor, gain and stability parameters • Add a braking resistor • Check the size of the motor/drive/load
SPF	[Speed fdback loss]	• Encoder feedback signal missing	• Check the wiring between the encoder and the drive • Check the encoder
tnF	[Auto-tuning]	• Special motor or motor whose power is not suitable for the drive • Motor not connected to the drive	• Check that the motor/drive are compatible • Check that the motor is present during auto-tuning • If an output contactor is being used, close it during auto-tuning

Fault	Name	Probable cause	Remedy
APF	[Application fault]	• Controller Inside card fault	• Please refer to the card documentation
bLF	[Brake control]	• Brake release current not reached • Brake engage frequency threshold [Brake engage freq] (bEn) only regulated when brake logic control is assigned	• Check the drive/motor connection • Check the motor windings • Check the [Brake release I FW] (Ibr) and [Brake release I Rev] (Ird) settings, page 148. • Apply the recommended settings for [Brake engage freq] (bEn)
CnF	[Com. network]	• Communication fault on communication card	• Check the environment (electromagnetic compatibility) • Check the wiring • Check the time-out • Replace the option card • Inspect/repair the drive
COF	[CAN com.]	• Interruption in communication on the CANopen bus	• Check the communication bus • Check the time-out • Refer to the CANopen user's manual
EPF1	[External flt-LI/Bit]	• Fault triggered by an external device, depending on user	• Check the device, which caused the fault, and reset
EPF2	[External fault com.]	• Fault triggered by a communication network	• Check for the cause of the fault and reset
FCF2	[Out. contact. open.]	• The output contactor remains open although the closing conditions have been met	• Check the contactor and its wiring • Check the feedback circuit
LCF	[input contactor]	• The drive is not turned on even though [Mains V. time out] (LCt) has elapsed	• Check the contactor and its wiring • Check the time-out • Check the line/contactor/drive connection
LFF2 LFF3 LFF4	[AI2 4-20mA loss] [AI3 4-20mA loss] [AI4 4-20mA loss]	• Loss of the 4-20 mA reference on analog input AI2, AI3 or AI4	• Check the connection on the analog inputs
ObF	[Overbraking]	• Braking too sudden or driving load	• Increase the deceleration time • Install a braking resistor if necessary • Activate the [Dec ramp adapt.] (brA) function, page 127, if it is compatible with the application
OHF	[Drive overheat]	• Drive temperature too high	• Check the motor load, the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting
OLF	[Motor overload]	• Triggered by excessive motor current	• Check the setting of the motor thermal protection, check the motor load. Wait for the drive to cool down before restarting
OPF1	[1 output phase loss]	• Loss of one phase at drive output	• Check the connections from the drive to the motor

Fault	Name	Probable cause	Remedy
OPF2	[3 output phase loss]	• Motor not connected or motor power too low • Output contactor open • Instantaneous instability in the motor current	• Check the connections from the drive to the motor • If an output contactor is being used, parameterize [Output Phase Loss] (OPL) = [Output cut] (OAC), page 201 • Test on a low power motor or without a motor: In factory settings mode, motor phase loss detection is active [Output Phase Loss] (OPL) = [Yes] (YES). To check the drive in a test or maintenance environment, without having to use a motor with the same rating as the drive (in particular for high power drives), deactivate motor phase loss detection [Output Phase Loss] (OPL) = [No] (nO) • Check and optimize the following parameters: [IR compensation] (UFr), page 70, [Rated motor volt.] (UnS) and [Rated mot. current] (nCr), page 85, and perform [Auto tuning] (tUn), page 86
OSF	[Mains overvoltage]	• Mains voltage too high • Disturbed mains supply	• Check the mains voltage
OtF1	[PTC1 overheat]	• Overheating of the PTC1 probes detected	• Check the motor load and motor size • Check the motor ventilation • Wait for the motor to cool before restarting • Check the type and state of the PTC probes
OtF2	[PTC2 overheat]	• Overheating of the PTC2 probes detected	
OtFL	[LI6=PTC overheat]	• Overheating of PTC probes detected on input LI6	
PtF1	[PTC1 probe]	• PTC1 probes open or short-circuited	• Check the PTC probes and the wiring between them and the motor/drive
PtF2	[PTC2 probe]	• PTC2 probes open or short-circuited	
PtFL	[LI6=PTC probe]	• PTC probes on input LI6 open or short-circuited	
SCF4	[IGBT short circuit]	• Power component fault	• Perform a diagnostic test via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
SCF5	[Motor short circuit]	• Short-circuit at drive output	• Check the cables connecting the drive to the motor, and the motor's insulation • Perform diagnostic tests via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
SLF1	[Modbus com.]	• Interruption in communication on the Modbus bus	• Check the communication bus • Check the time-out • Refer to the Modbus user's manual
SLF2	[PowerSuite com.]	• Fault communicating with PowerSuite	• Check the PowerSuite connecting cable • Check the time-out
SLF3	[HMI com.]	• Fault communicating with the graphic display terminal	• Check the terminal connection • Check the time-out
SrF	[Torque time-out]	• The time-out of the torque control function is attained	• Check the function's settings • Check the state of the mechanism
SSF	[Torque/current lim]	• Switch to torque limitation	• Check if there are any mechanical problems • Check the parameters of [TORQUE LIMITATION] (tLA-) page 171 and the parameters of fault [TORQUE OR I LIM. DETECT.] (tId-), page 210)
tJF	[IGBT overheat]	• Drive overheated	• Check the size of the load/motor/drive • Reduce the switching frequency • Wait for the motor to cool before restarting

Fault	Name	Probable cause	Remedy
CFF	[Incorrect config.]	• Option card changed or removed	• Check that there are no card errors • In the event of the option card being changed/removed deliberately, see the remarks below
		• Control card replaced by a control card configured on a drive with a different rating	• Check that there are no card errors • In the event of the control card being changed deliberately, see the remarks below
		• The current configuration is inconsistent	• Return to factory settings or retrieve the backup configuration, if it is valid (see page 223)
CFI	[Invalid config.]	• Invalid configuration The configuration loaded in the drive via the bus or communication network is inconsistent	• Check the configuration loaded previously • Load a compatible configuration
HCF	[Cards pairing]	• The [CARDS PAIRING] (PPI-) function, page 212, has been configured and a drive card has been changed	• In the event of a card error, reinsert the original card • Confirm the configuration by entering the [Pairing password] (PPI) if the card was changed deliberately
PHF	[Input phase loss]	• Drive incorrectly supplied or a fuse blown • Failure of one phase • 3-phase ATV71 used on a single-phase line supply • Unbalanced load This protection only operates with the drive on load	• Check the power connection and the fuses • Use a 3-phase mains supply • Disable the fault by [Input phase loss] (IPL) = [No] (nO) (page 202)
USF	[Undervoltage]	• Line supply too low • Transient voltage dip • Damaged pre-charge resistor	• Check the voltage and the parameters of [UNDERVOLTAGE MGT] (USb-), page 205 • Replace the pre-charge resistor • Inspect/repair the drive