



Blastrac bv
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Project description 654 BDC DUAL VOLTAGE ULCSA

Drawing number PJ11.1068.11
Blastrac number E06901/ULCSA



Power supply 240V/480V
Input lead Input lead
Control Voltage 24Vac/24Vdc

Year of Manufacturing 2011

Remarks As Built

Note: Production check Parts for Aproval Label

Created on 28-2-2011 by hvandenbrink
Edit date 17-8-2012 by

Number of pages 15

Revision	Date	Discription	Remark	Editor
01	05-05-2011	As built	Engeneering Art4	HvdB
02	19-05-2011	Cable gland added for connection of Earth wire to frame	Engeneering Art4	HvdB
03	08-06-2011	Connector type changed 10X4 it was wrong type in partlist	Engeneering Art4	HvdB
04	30-06-2011	Blastrac numbers changed due to double numbers	Engeneering Art4	HvdB
05	09-08-2011	Time delay set at undervotage relay and delay on timer added for control power	Engeneering Art4	HvdB
06	13-09-2011	Cable size Fan Motor changed from AWG16 to AWG14	Engeneering Art4	HvdB
07	18-10-2011	Updated Accoring CSA	Engeneering Art4	KS
08	02-01-2012	CSA logo added	Engeneering Art4	HvdB
09	26-04-2012	Mounting position of insert in connector Housing of motor connection	Engeneering Art4	HvdB
10	16-05-2012	Dark blue and white/blue wire added in partlist	Engeneering Art4	HvdB
11	17-08-2012	Remark added for production acc CSA surveyor remark	Engeneering ART4	HvdB

Modification				Date	Name	Last print	20-8-2012	Project name: 654 BDC DUAL VOLTAGE ULCSA E06901/ULCSA					Page description: Revision sheet		Customer: Blastrac bv		Drawing number: PJ11.1068.11		= + Page 2.a	
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WIRE COLOR

Main Voltage

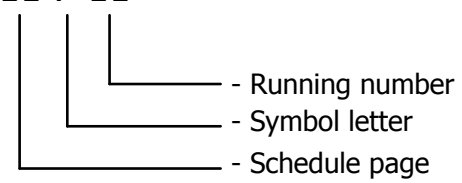
Phase	Colors
L1	- Black
L2	- Black
L3	- Black
N	- Light Blue
Earth / PE	- Yellow/Green

Control Voltage

Phase (24VAC)	- Red
Hook-up wire	- Red
Neutral (24VAC)	- Red
Plus (24VDC)	- Dark blue
Hook-up wire	- Dark blue
Minus / Ground (24VDC)	- White/Blue

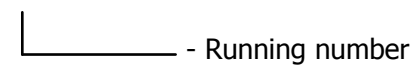
SYMBOL CODE

11 F 11



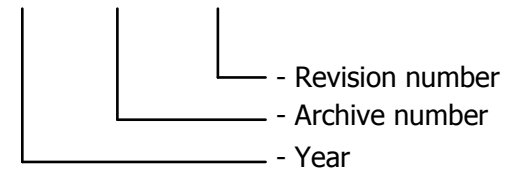
CORE CODE

11 11



DRAWING NUMBER

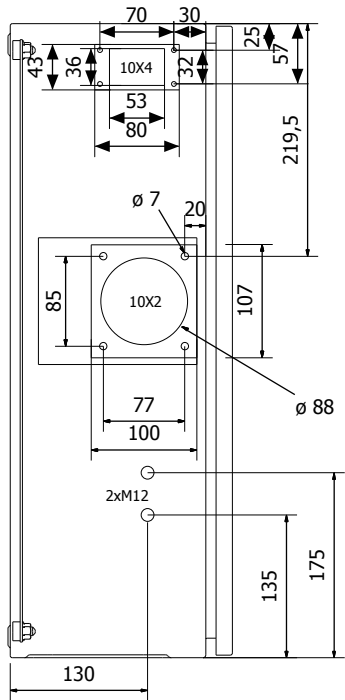
PJ##.####.##



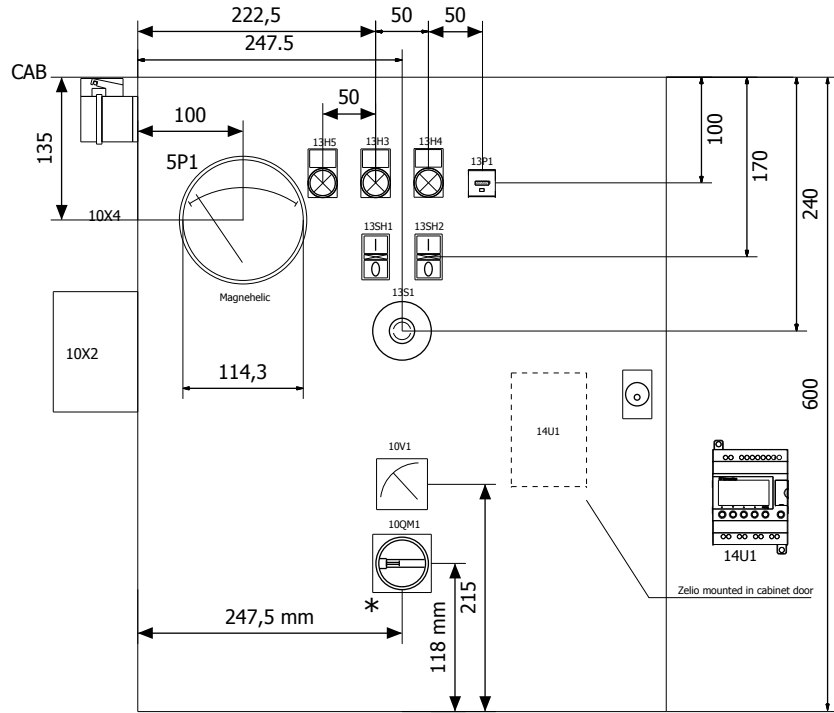
	auxiliary contact	hulpcontact		signal light	signaallamp		Safety fuse	smeltveiligheid
	Power contact	vermogenscontact		horn	hoorn		Fused switch, three-pole	schakelbare scheider
	NO contact, opens with time delay	maakcontact, vertraagd open		apm.meter	amperemeter		Fused disconnect, three-pole	scheider "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
	Pushbutton rebound	drukknop terugverend		Contactor/relay coil, with pick-up delay	Spoel met opkomvertraging		Circuit breaker, three-pole	installatieautomaat 3-polig
	Pushbutton 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 metzekering
	Pressure switch	drukschakelaar		Current transformer	stroomtransformator		Rectifier	gelijkrichter
	Limit switch	eindschakelaar						
	Proximity switch	naderingsschakelaar						

			Date	28-2-2011	Project name: 654 BDC DUAL VOLTAGE ULCSA E06901/ULCSA		Page description: Symbol library	Customer:	Blastrac bv	=
			Ed.					Drawing number:	PJ11.1068.11	+
Modification	Date	Name	Last print	20-8-2012						Page

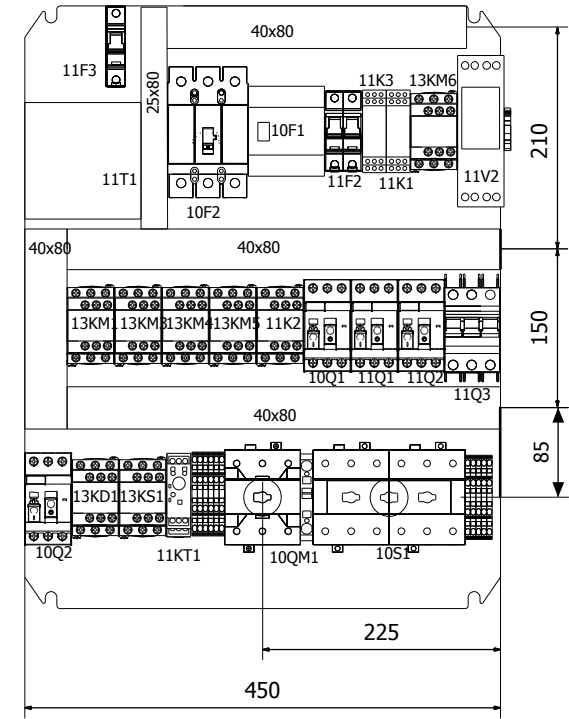
CABINET
LEFT HAND VIEW



CABINET
FRONT VIEW

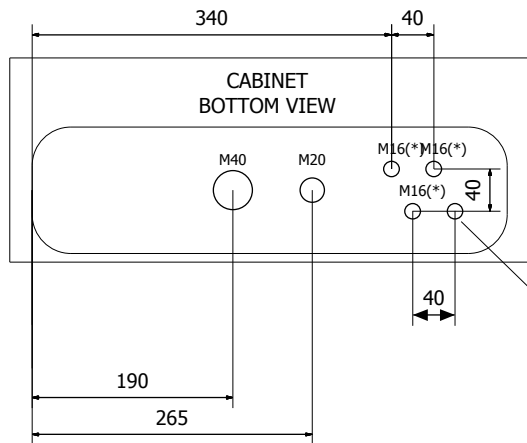


MOUNTING PLATE



* Axle length 95mm

CABINET
BOTTOM VIEW



(*): With cable
M16 - Pulse system 3x0.75mm² length 3,0 mtr.
SP16-M20/A - Compressor
M40 - Power supply

M16 for PE to Frame

CABINET DATA
ELDON
MAS 0605021
(HxBxD) 600x500x210

Modification	Date	Name	Last print	20-8-2012
			Date	16-5-2012
			Ed.	HvdB
			Appr	

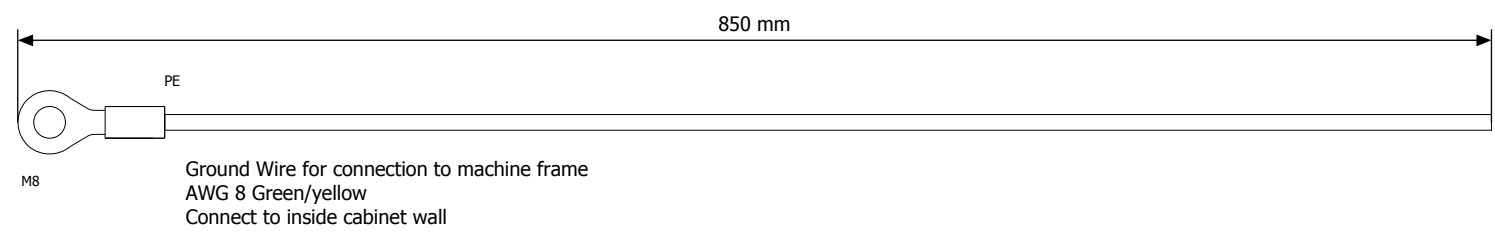
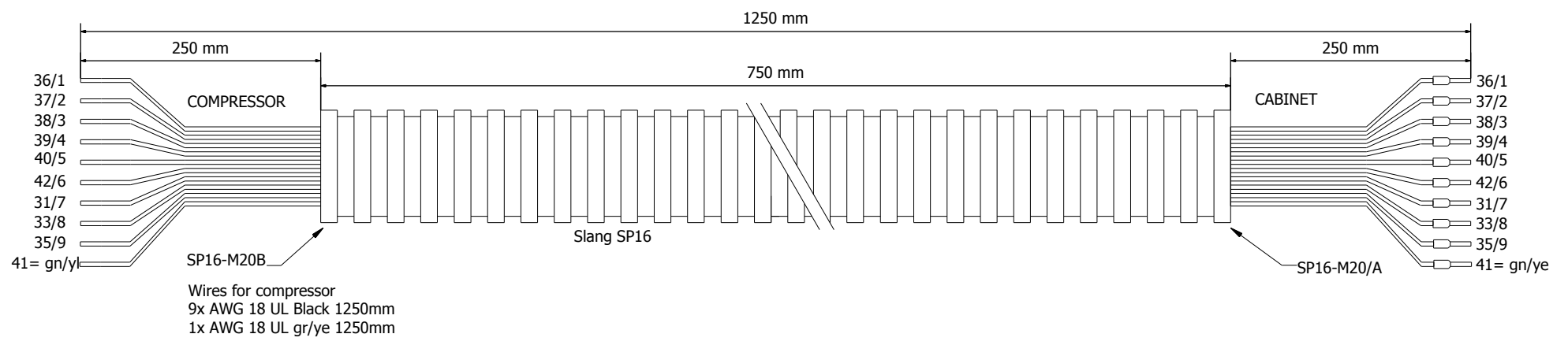
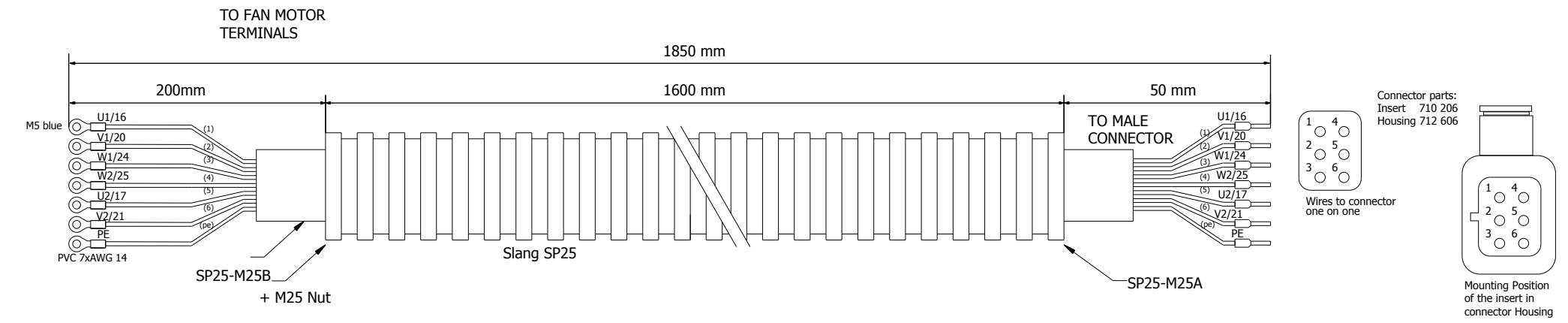
Project name:	654 BDC DUAL VOLTAGE ULCSA
	E06901/ULCSA



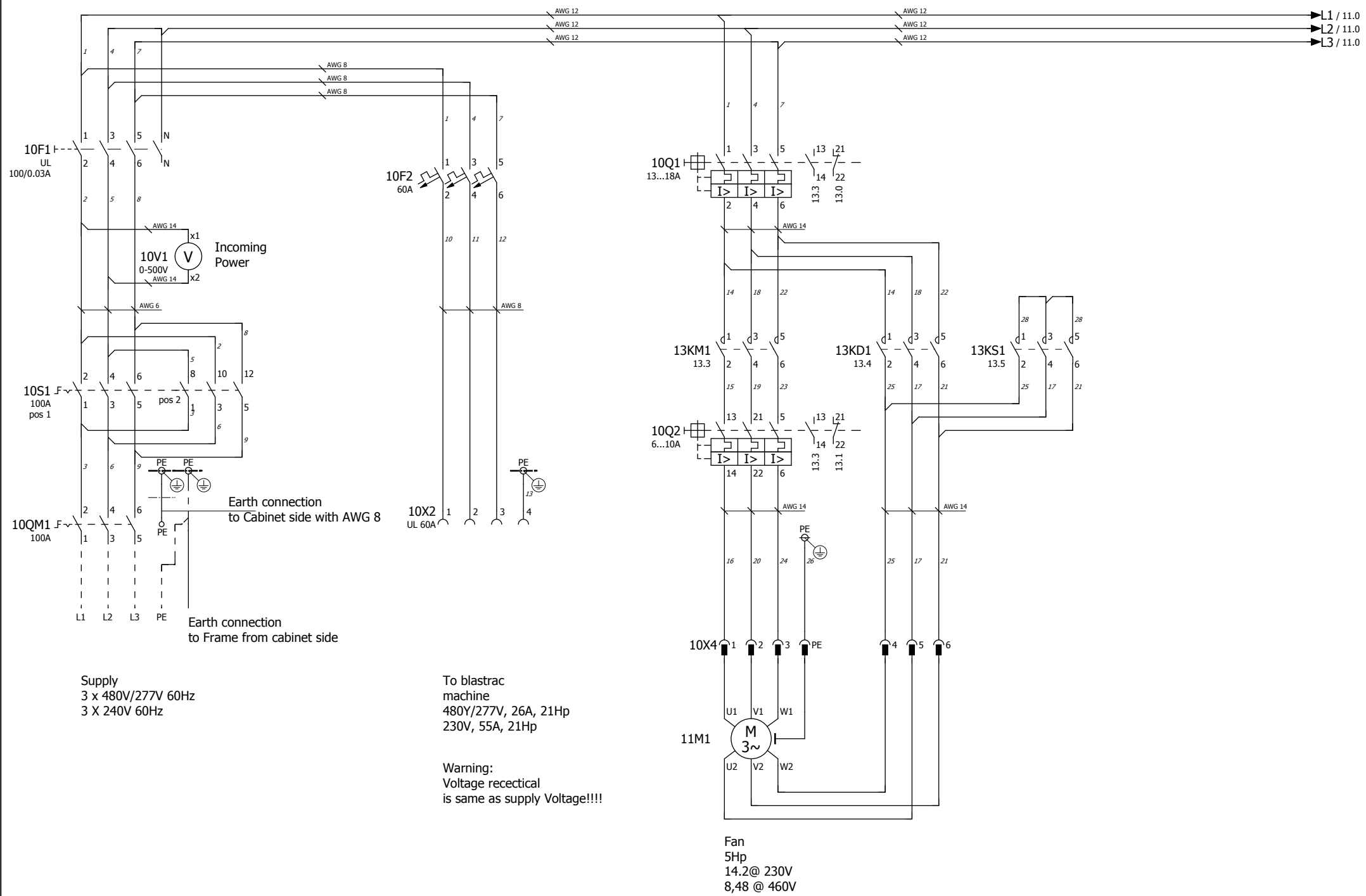
Page description:	Panel Layout
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Customer:	Blastrac bv
Drawing number:	PJ11.1068.11

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Page	5



Date 26-4-2012				Project name: 654 BDC DUAL VOLTAGE ULCSA		Page description: Cable set		Customer: Blastrac bv		=	
Ed. HvdB				E06901/ULCSA		BLASTRAC		Drawing number: PJ11.1068.11		+	
Appr										Page 8	
Last print 20-8-2012											



Date	16-5-2012
Ed.	HvdB
Appr	
Modification	Date
Name	Last print
	20-8-2012

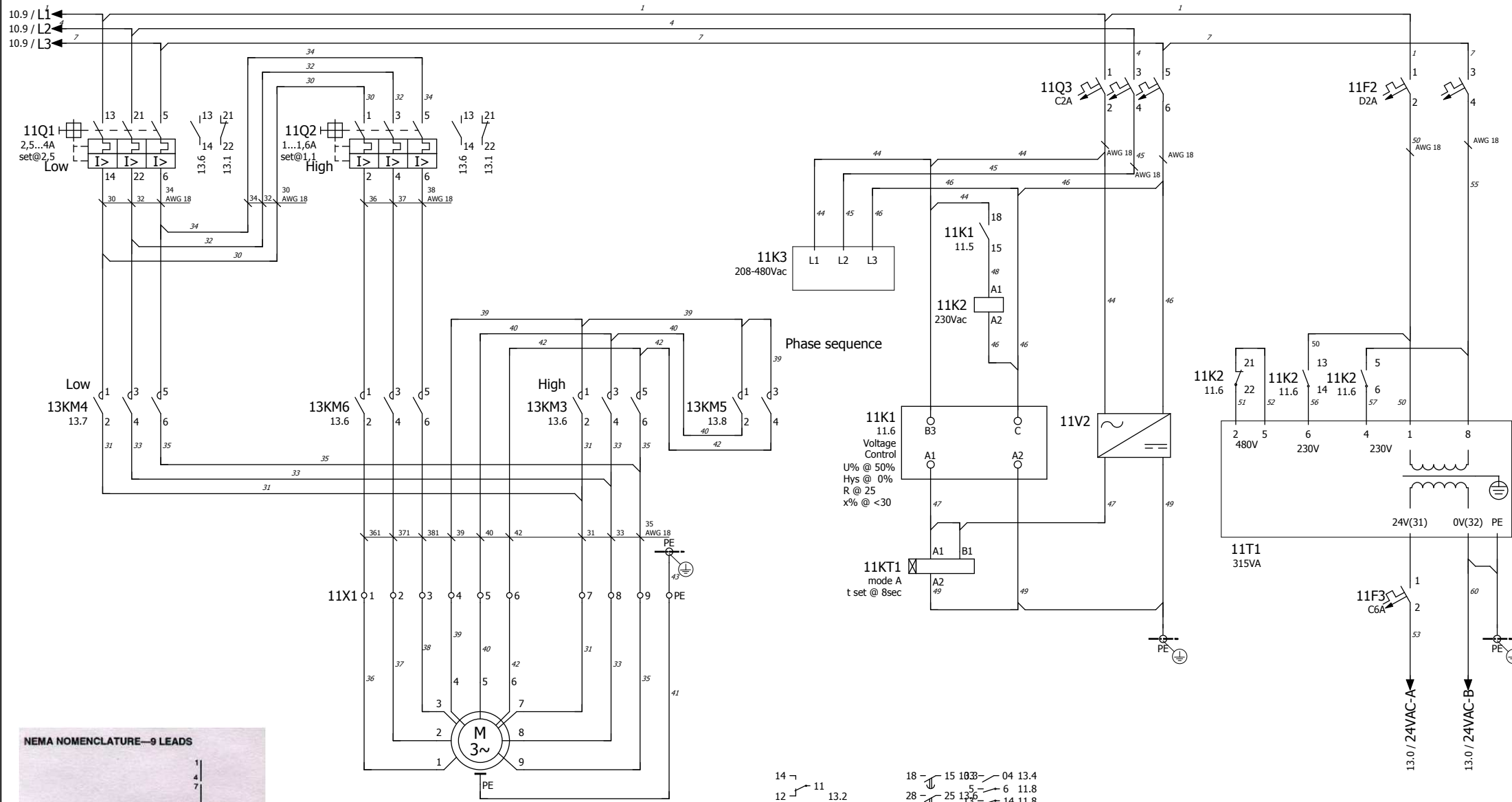
Project name:
654 BDC DUAL VOLTAGE ULCSA
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Page description:
Main Current

Customer:
Blastrac bv

Drawing number:
PJ11.1068.11



NEMA NOMENCLATURE—9 LEADS

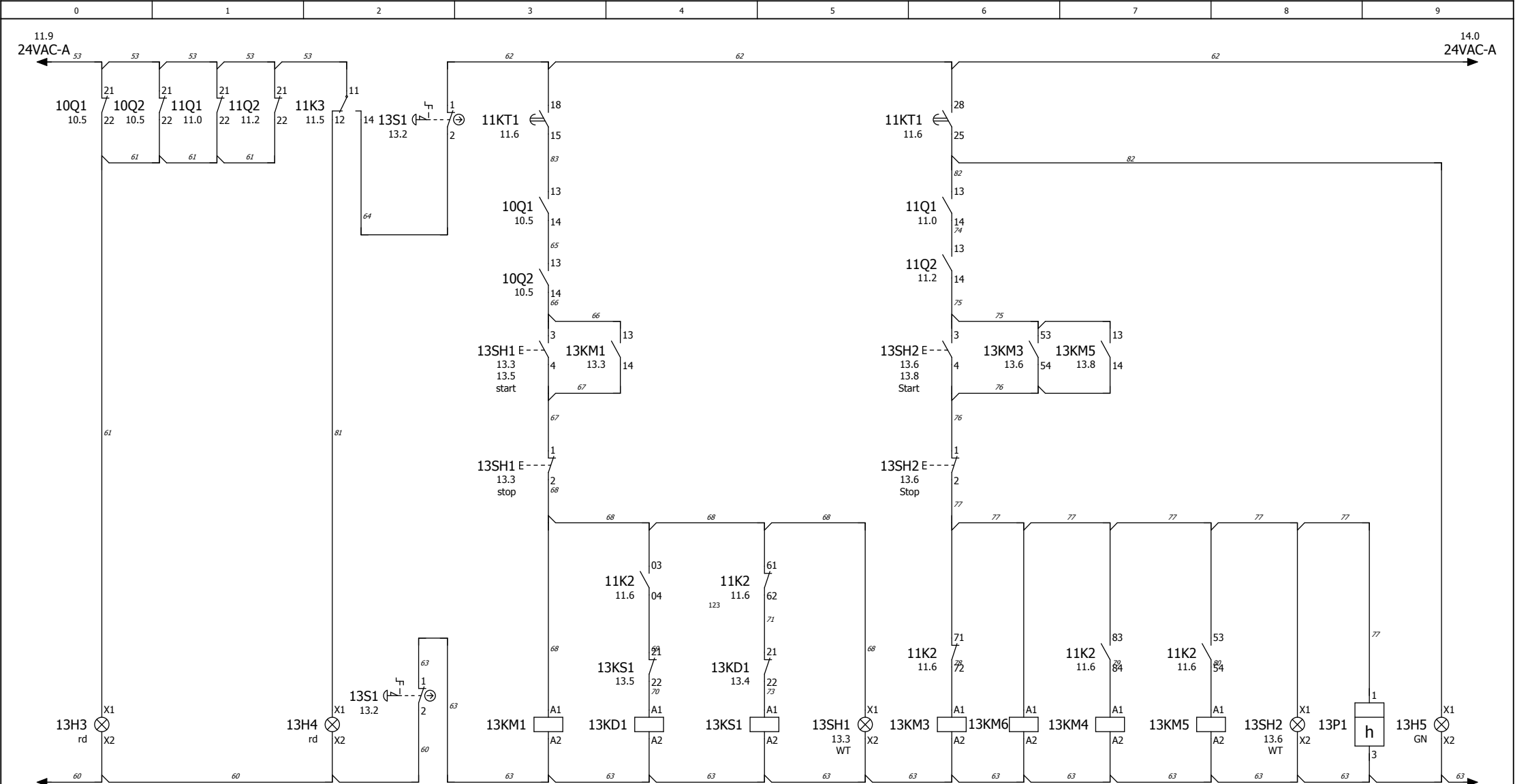
DUAL VOLTAGE WYE-CONNECTED

VOLTAGE	L1	L2	L3	JOIN
HIGH	1	2	3	4&7,5&8,6&9
LOW	1,7	2,8	3,9	4&5&6

11M1
Compressor 0,5/0,75 hp 1,1/ 2,5A

- 14 - 11
- 12 - 13.2
- 18 - 15 103 - 04 13.4
- 28 - 25 13.6 - 5 - 6 11.8
- 21 - 13 - 14 11.8
- 53 - 54 13.8
- 61 - 62 13.5
- 71 - 72 13.6
- 83 - 84 13.7

Date: 16-5-2012				Project name: 654 BDC DUAL VOLTAGE ULCSA		Page description: Main Current		Customer: Blastrac bv	
Ed: HvdB				E06901/ULCSA		BLASTRAC		Drawing number: PJ11.1068.11	
Appr:								Page 11	
Modification	Date	Name	Last print	20-8-2012					



Motor failure

Improper phase sequence

Fan

Fan Delta

Fan Star

Fan running

Compressor running High volt.

Compressor running Low volt.

Compressor running Low volt.

Compressor running

Control voltage on

1 2
1 2 10.5
3 4 10.5
5 6 10.5
13 14 13.4

1 2
1 2 10.6
3 4 10.6
5 6 10.6
21 22 13.5

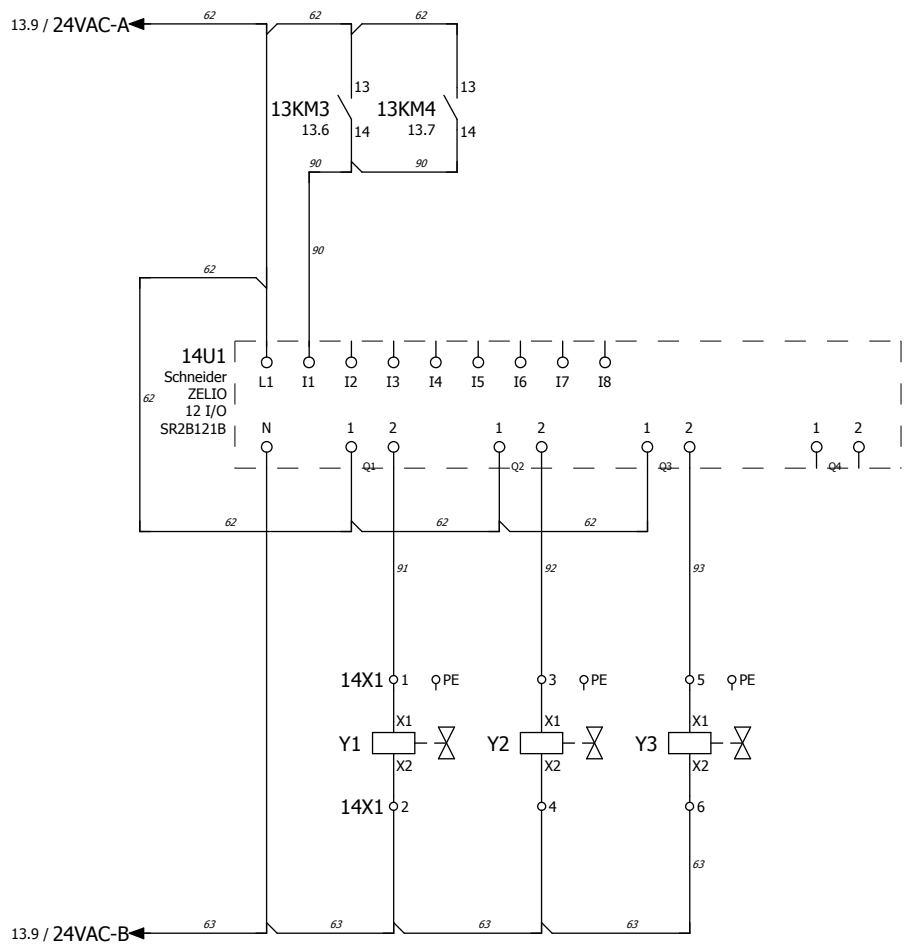
1 2
1 2 10.7
3 4 10.7
5 6 10.7
21 22 13.4

1 2
1 2 11.3
3 4 11.4
5 6 11.4
13 14 14.1
53 54 13.6

1 2
1 2 11.2
3 4 11.2
5 6 11.2

1 2
1 2 11.0
3 4 11.0
5 6 11.1
13 14 14.2

1 2
1 2 11.4
3 4 11.5
13 14 13.7



Air Pulse system

Modification	Date	Name	Date	16-5-2012
			Ed.	HvdB
			Appr	
			Last print	20-8-2012

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Page description:	Control Current Zelio PLC
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Page	14

Terminal diagram

F13_001

function text	Cable name				Strip 11X1				Cable name				Page / column		
					Target designation	Connection point	terminal	jumper	Target designation	Connection point	cable type				
Compressor 0,5/0,75 hp 1,1/ 2,5A					13KM6	2	1	.	11M1	1					11.2
=					13KM6	4	2	.	11M1	2					11.2
=					13KM6	6	3	.	11M1	3					11.2
=					13KM3	1	4	.	11M1	4					11.2
=					13KM3	3	5	.	11M1	5					11.3
=					13KM3	5	6	.	11M1	6					11.3
=					13KM3	2	7	.	11M1	7					11.3
					13KM4	2									
Compressor 0,5/0,75 hp 1,1/ 2,5A					13KM3	4	8	.	11M1	8					11.4
					13KM4	4									
Compressor 0,5/0,75 hp 1,1/ 2,5A					13KM3	6	9	.	11M1	9					11.4
					13KM4	6									
Compressor 0,5/0,75 hp 1,1/ 2,5A						PE	PE		11M1	PE					11.4

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Terminal diagram

F13_001

function text	Strip 14X1						Cable name	Cable name	Page / column
	Cable name	Cable type	Target designation	Connection point	terminal	jumper			
Air Pulse system			14U1	2	1	.	Y1	X1	14.2
=			14U1	N	2	┌	Y1	X2	14.2
=			14U1	2	3		.	Y2	X1
=					4	.	Y2	X2	14.2
=			14U1	2	5	.	Y3	X1	14.3
=					6	└	Y3	X2	14.3
=					PE		.		
=					PE	.			14.2
=					PE	.			14.3

Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
CAB	1	Wall mount enclosure with holes for 654 BDC dual voltage	MAS 0605021R5XSPECIAL	Eldon	
CAB	4	Cable gland M16*1.5 polyamide 50.616	WARTEL PA M16*1.5	Jacob	E01196
CAB	1	Cable gland M40*1.5 polyamide 50.640	WARTEL PA M40*1.5	Jacob	E07942
CAB	4	Cable gland nut M16*1.5 polyamide 50.216PA	WARTELMOER PA M16	Jacob	E07890
CAB	2	Cable gland nut M20*1.5 polyamide 50.220PA	WARTELMOER PA M20	Jacob	E07889
CAB	1	Cable gland nut M40*1.5 polyamide 50.240PA	WARTELMOER PA M40*1.	Jacob	E07943
CAB	2	Cable gland M20*1.5 polyamide 50.620	WARTEL PA M20*1.5	Jacob	E07887
CAB	1	FITTING @16*M20	SP16/M20/A	Adaptaflex	E07839
CAB	1	FITTING @16*M20 DRAAIBAAR	SP16/M20/B	Adaptaflex	E03508
CAB	2	Bescherm slang metaal + pvc 16*13 zwart	SP16/ZWART	Adaptaflex	E00559
CAB	1	differential pressure gauge range 0-10 inches of water	MAGNEHELIC MODEL 2010	Eldon	E07944
CAB	3	DIN-A Connectioncable led+suppr 24Vac/dc 3M Bk	MURR 7000-18021-636-300	Murr Elektronik	E07945
CAB	1	Mont.goot BxH 25x80 MM vpp=56	T1-E 25X80 MONT.GOOT	Generic	E07834
CAB	2	Mont.goot BXH 40X80 MM vpp=40	T1-E 40X80 MONT.GOOT	Generic	E07946
CAB	2	M.rail galvanized,7,5x35MM 2M	TS35 MONT.RAIL SLEUF	Generic	E07835
CAB	7	Internal wire black AWG16 1.5mm2 UL-CSA	AWG 16 ZWART	LAPP	E07947
CAB	3	Internal wire black AWG8 10mm2 UL-CSA	AWG 8 ZW	LAPP	E07867
CAB	3	Internal wire black AWG6 16mm2 UL-CSA	AWG 6 ZWART	LAPP	E07948
CAB	25	Internal wire red AWG18 1.0mm2 UL-CSA	AWG 18 ROOD	LAPP	E07894
CAB	25	Internal wire black AWG18 1.0mm2 UL-CSA	AWG 18 ZWART	LAPP	E07845
CAB	4	Internal wire black AWG14 2.5mm2 UL-CSA	AWG 14 ZWART	LAPP	E07843
CAB	5	Internal wire black AWG12 4mm2 UL-CSA	AWG 12 ZW	LAPP	E08110
CAB	32	Terminal marker for weidmuller terminals blanc	WEID DEK5/5MC	Weidmuller	E07949
CAB	150	Label for ader 12*12 Brady 7000pcs. p/r	BPT-305-427	Brady	E07893
CAB	1	Bocht 90 M20 inw* M20 uitw	B/PG13/90	Generic	E07838
CAB	2	Eszefflex pvc 7*2.5 mm UL/CSA 600V	H05VV5-F 7*2.5 MM		E08239
CAB	1	FITTING @25*M25 vast	SP25/M25/A	Adaptaflex	E07840
CAB	1	FITTING @25*M25 DRAAIBAAR	SP25/M25/B	Adaptaflex	E07841
CAB	2	Bescherm slang metaal + pvc 25*21.4 zwart	SP25/ZWART	Adaptaflex	E00560
CAB	1	Cable gland nut M25*1.5 brass, nickel-plated	WARTELMOER M25*1.5	Jacob	E00407_1
CAB	2	Internal wire yellow/green AWG8 10mm2 UL-CSA	AWG 8 GG	LAPP	E07866
CAB	2	Internal wire white/blue AWG18 1.0mm2 UL-CSA	AWG 18 WH/BL.	LAPP	E08155
CAB	6	Internal wire darkblue AWG18 1.0mm2 UL-CSA	AWG 18 D BL.	LAPP	E08154
10F1	1	Aardlek 100A 4-P 30mA UL/CSA ABB	F204-A100/0.03	Allen Bradley	E07951
10F2	1	Molded Case Circuit Breaker 3P C60A UL489	AB 140U-G2C3-C60	Allen Bradley	E07952
10F2	1	DIN Rail Adapter fo MCCB 3P 140U-G2C3	AB 140U-G-DRA3	Allen Bradley	E08127
11F2	1	Circuit breaker 2P 2A D-kar 480/277V UL489	C60N-1489-A2D020	Allen Bradley	E07953
11F3	1	Circuit breaker AB 1P 6A C-kar	C60N-1492-SP1C060	Allen Bradley	E05160
13H3	1	Red complete pilot light Ø22 plain lens with integral LED 24	XB5-AVB4	Schneider Electric	E05161
13H3	1	Legend holder 30 x 50 mm for legend 18 x 27 mm unmarked	ZBZ-35	Schneider Electric	E05080
13H4	1	Red complete pilot light Ø22 plain lens with integral LED 24	XB5-AVB4	Schneider Electric	E05161
13H4	1	Legend holder 30 x 50 mm for legend 18 x 27 mm unmarked	ZBZ-35	Schneider Electric	E05080
13H5	1	Green complete pilot light Ø22 plain lens with integral LED	XB5-AVB3	Schneider Electric	E08279
13H5	1	Legend holder 30 x 50 mm for legend 18 x 27 mm unmarked	ZBZ-35	Schneider Electric	E05080
11K1	1	Volt.bew.2w30-300/500V 24-240V	RM4-UA33MW	Schneider Electric	500-3570-EDA
11K2	1	Contacto 4,0kW 400vac 1NO/1NC coil 230Vac	LC1-D09-P7	Schneider Electric	333-3384
11K2	1	Auxiliary contact block - 2 NO + 2 NC - screw-clamps termin	LAD-N22	Schneider Electric	E05162
11K3	1	3-phase monitoring relays	DPA 01 C M44	Carlo Gavazzi	E07955
13KD1	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KM1	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KM3	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KM3	1	Auxiliary contact block - 1 NO + 1 NC - screw-clamps termin	LAD-N11	Schneider Electric	E01324 / 333-3482
13KM4	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KM5	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KM6	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580
13KS1	1	Contacto 4,0kW 400VAC coil 24VAC 1NO/1NC	LC1-D09-B7	Schneider Electric	333-3580

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			Ed.	HvdB	E06901/ULCSA		Part list				Drawing number:		PJ11.1068.11		Page		30	
Modification	Date	Name	Last print	20-8-2012														

Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
11KT1	1	Timerelay 2W multif. 24-240VAC/DC OMRON	OMRON H3DK-M2	Omron	E08238
13P1	1	Hour counter - mechanical 5 digit display - 12.24 V AC/DC	XB5-DSB	Schneider Electric	E00366
10Q1	1	Motor protection switch 13,0 18,0A	GV2-ME20	Schneider Electric	E00553
10Q1	1	Plug in aux. front for GV2-ME 1xNO +1xNC	GV-AE11	Schneider Electric	333-3455
10Q2	1	Motor protection switch 6,0 10,0A	GV2-ME14	Schneider Electric	E05163
10Q2	1	Plug in aux. front for GV2-ME 1xNO +1xNC	GV-AE11	Schneider Electric	333-3455
11Q1	1	Plug in aux. front for GV2-ME 1xNO +1xNC	GV-AE11	Schneider Electric	333-3455
11Q1	1	Motor protection switch 2,4 4,0A	GV2-ME08	Schneider Electric	E01456
11Q2	1	Plug in aux. front for GV2-ME 1xNO +1xNC	GV-AE11	Schneider Electric	333-3455
11Q2	1	Motor protection switch 1,0 1,6A	GV2-ME06	Schneider Electric	E07956
11Q3	1	Circuit breaker AB 3P 2A C-kar UL 489 480/277V	C60N-1489-A3C020	Allen Bradley	E07954
10QM1	1	Conn.aardkl. 35mm2 ge/gr.	VUPE 5-35 CON.AARDKL	Wieland	E08111
10QM1	1	Faseomkeerschakelaar 3P 100A, dinr.mot UL489	194E-A100-1753	Allen Bradley	E07957
10QM1	1	Bed. draaisch. rood/geel voor 194L-E (64*64) UL489	194L-HE61-175	Allen Bradley	E07958
10QM1	1	Bediening as	194L-G3393	Allen Bradley	E05061-1
10S1	1	Faseomkeerschakelaar 6P 100A, bodem montage omkeerbaar UL489	194E-A100-3753	Allen Bradley	E07960
10S1	1	Bed. draaisch. grijs/zwart voor 194L-E (64*64) UL489	194L-HE6A-375	Allen Bradley	E07959
13S1	1	Red Ø40 Emergency stop pushbutton head Ø22 trigger and latch	ZB5-AS844	Schneider Electric	E01543
13S1	1	Single contact block with body/fixing collar 2NC screw clamp	ZB5-AZ104	Schneider Electric	E01544
13S1	1	Marked legend Ø60 for emergency stop - EMERGENCY STOP/logo I	ZBY-9330	Schneider Electric	E00361
13SH1	1	White light block with body/fixing collar integral LED 24V	ZB5-AVB1	Schneider Electric	333-3226
13SH1	1	Green flush/red flush illuminated double-headed pushbutton Ø	ZB5-AW7A3741	Schneider Electric	E07804
13SH1	1	Transparent boot for rectangular multiple-headed pushbutton	ZBA-710	Schneider Electric	E05070
13SH1	1	Single contact block for head Ø22 1NO screw clamp terminal	ZBE-101	Schneider Electric	E05091
13SH1	1	Single contact block for head Ø22 1NC screw clamp terminal	ZBE-102	Schneider Electric	E05092
13SH2	1	White light block with body/fixing collar integral LED 24V	ZB5-AVB1	Schneider Electric	333-3226
13SH2	1	Green flush/red flush illuminated double-headed pushbutton Ø	ZB5-AW7A3741	Schneider Electric	E07804
13SH2	1	Transparent boot for rectangular multiple-headed pushbutton	ZBA-710	Schneider Electric	E05070
13SH2	1	Single contact block for head Ø22 1NO screw clamp terminal	ZBE-101	Schneider Electric	E05091
13SH2	1	Single contact block for head Ø22 1NC screw clamp terminal	ZBE-102	Schneider Electric	E05092
11T1	1	Transformer Sitas 315VA 480V 550..208V/24V UL/CSA	SIEM 4AM4342-8DN00-0EA0	Siemens	E08128
14U1	1	Compact smart relay Zelio Logic - 12 I O - 24 V AC - clock -	SR2B121B	Schneider Electric	E08171
14U1	1	Memory cartridge - for smart relay Zelio Logic firmware - fo	SR2MEM02	Schneider Electric	E08172
10V1	1	Voltmeter 500V 48*48 met cornermask E242-75VG Crompton	IQ/EQ48 500V	Crompton	BG007854
11V2	1	Power supply 24Vdc 3A 200-520Vac	ABL8-RPS24030	Schneider Electric	E05193
10X2	1	Receptacle 60 A 3p+ground	ME460R7W	Mennekes	E05067
10X4	1	Busbinnenwerk 6P+A 7306.6003.0 Westec	710.106	Westec	RIG-3630-CDF /3625?
10X4	1	Penbinnenwerk serie B6-P+A 7306.6103.0 Westec	710.206	Westec	RIG-3628-CDF
10X4	1	Stekkerhuis wartelzijkant 6+a 7806.6551.0 Westec	712.606	Westec	RIG-3627-CDF
10X4	1	Aanb.contacthuis 6+A 7806.6402.0 Westec	714.406	Westec	RIG-3629-CDF / 3617
11X1	1	End plate Beige for ZDK 2.5 multi level	WEID ZAP/TW ZDK2.5 DB	Weidmuller	E05171
11X1	5	tension clamp terminal multi level 2*2.5	WEID ZDK 2.5	Weidmuller	E05169
11X1	1	Earth terminal for ZDK 2*2.5	WEID ZDK 2.5PE	Weidmuller	E05170
14X1	1	End plate Beige for ZDK 2.5 multi level	WEID ZAP/TW ZDK2.5 DB	Weidmuller	E05171
14X1	3	tension clamp terminal multi level 2*2.5	WEID ZDK 2.5	Weidmuller	E05169
14X1	2	Earth terminal for ZDK 2*2.5	WEID ZDK 2.5PE	Weidmuller	E05170
14X1	1	End bracket for weidmuller terminals	WEID ZEW 35	Weidmuller	E05177

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