Blastrac bv
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Project description	BMS-150E ELECT. BOX 1X230V MKI
Drawing number	PJ19.1327.09
Blastrac number	E13999
Power supply	230V 50/60Hz SPH
Input lead	Input lead
Control Voltage	24Vdc
Year of Manufacturing	2019
Remarks	As Built

Created on	23-7-2019	by HvdB	
Edit date	30-9-2022	by HVDB	Number of pages 48

1.a

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Revision	Date	Discription	Remark	Editor
00	7-02-2019	Preliminary	Engineering Blastrac Infra	HvdB
01	03-05-2019	Update part list	Engineering Blastrac Infra	HvdB
02	15-09-2020	As built	Engineering Blastrac Infra	HvdB
03	02-11-2020	Updated Cable set diagrams and connectors	Engineering Blastrac Infra	HvdB
04	27-11-2021	Updated Emergency stop circuit (changes in pages 11,12,18)	Engineering Blastrac Infra	HvdB
05	12-04-2021	Updated Powersupply to Joysticks with DC/DC converter	Engineering Blastrac Infra	HvdB
06	20-04-2021	Updated with brake rectifier connections	Engineering Blastrac Infra	HvdB
07	28-04-2021	Updated cable length arm consoles	Engineering Blastrac Infra	HvdB
08	12-04-2022	Updated with EMC filter in power supply	Engineering Blastrac Infra	HvdB
09	30-09-2022	Updated Cable length W11 and W12	Engineering Blastrac Infra	HvdB

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WIRE COLOR All wiring AWG

Main Voltage 400V

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

Control Voltage

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

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

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	auxiliary contact	hulpcontact
	Power contact	vermogenscontact
	NO contact, opens with time delay	maakcontact, vertraagd open
	NO contact, closes with time delay	maakcontact, vertraagd sluitend
	NC contact, opens with time delay	verbreekcontact, vertraagd open
	NC contact, closes with time delay	verbreekcontact, vertraagd sluitend
	Pushbotton rebound	drukknop terugverend
	Pushbotton locking	drukknop blijvend
	Rotary switch rebound	tip draaischakelaar
	Rotary switch locking	draaischakelaar
	Emergency stop rotary unlock	noodstop met draaibare vrijgave
	Thermostatic switch	thermostaat hygrostaat
	Pressure switch	drukschakelaar
	Limit switch	eindschakelaar
	Proximity switch	naderingsschakelaar

	signal light	signaallamp
	horn	hoorn
	amp.meter	amperemeter
	runninghour counter	urenteller
	transformer	transformator
	Contactor coil relay coil	spoel
	Contactor/relay coil, with pick-up delay	Spoel met opkomvertraging
	Contactor/relay coil, with drop-out delay	spoel met afvalvertraging
	Contactor pulse coil relay pulse coil,	spoel puls
	Tube light	TL verlichting
	Resistor / Heating	weerstand verwarming
	Socket	wandcontactdoos
	Current transformer	stroomtransformator

	Safety fuse	smeltveiligheid
	Fused switch, three-pole	schakelbare scheider
	Fused disconnect, three-pole	scheider "klapbak"
	Main switch	hoofdschakelaar
	Circuit breaker, single-pole	installatieautomaat 1-polig
	Circuit breaker, two-pole	installatieautomaat 2-polig
	Circuit breaker, three-pole	installatieautomaat 3-polig
	Power circuit breaker motor overload switch with switch mechanism	motorbeveiligingsschakelaar
	Valve	elektrisch bediende klep
	Resistor with movable contact	regelbare weerstand
	Terminal	rijgklem
	Terminal with fuse	rijgklem met zekering
	Rectifier	gelijkrichter

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BLASTRAC

Page description: Symbol library

Customer: Blastrac bv.

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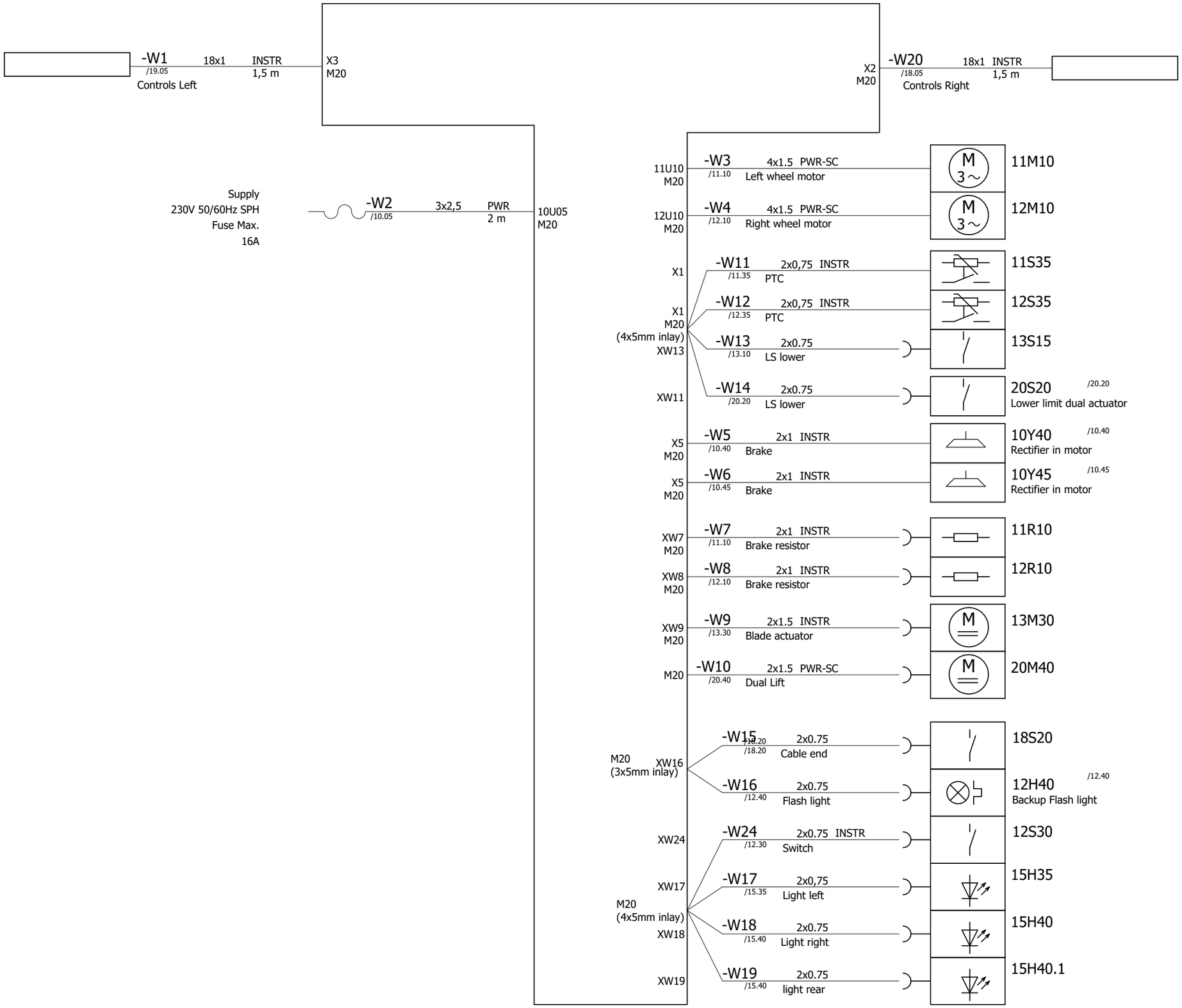

PWR = Power cable
INSTR = Instrument cable
SC = screened cable (screen is also PE)

The wire cross sections in this diagram are refering to a maximum lenght of 30m at an ambient temperature of 25°C they are only a recommendation, any change in lenght and ambient temperature will result in cable core size change.

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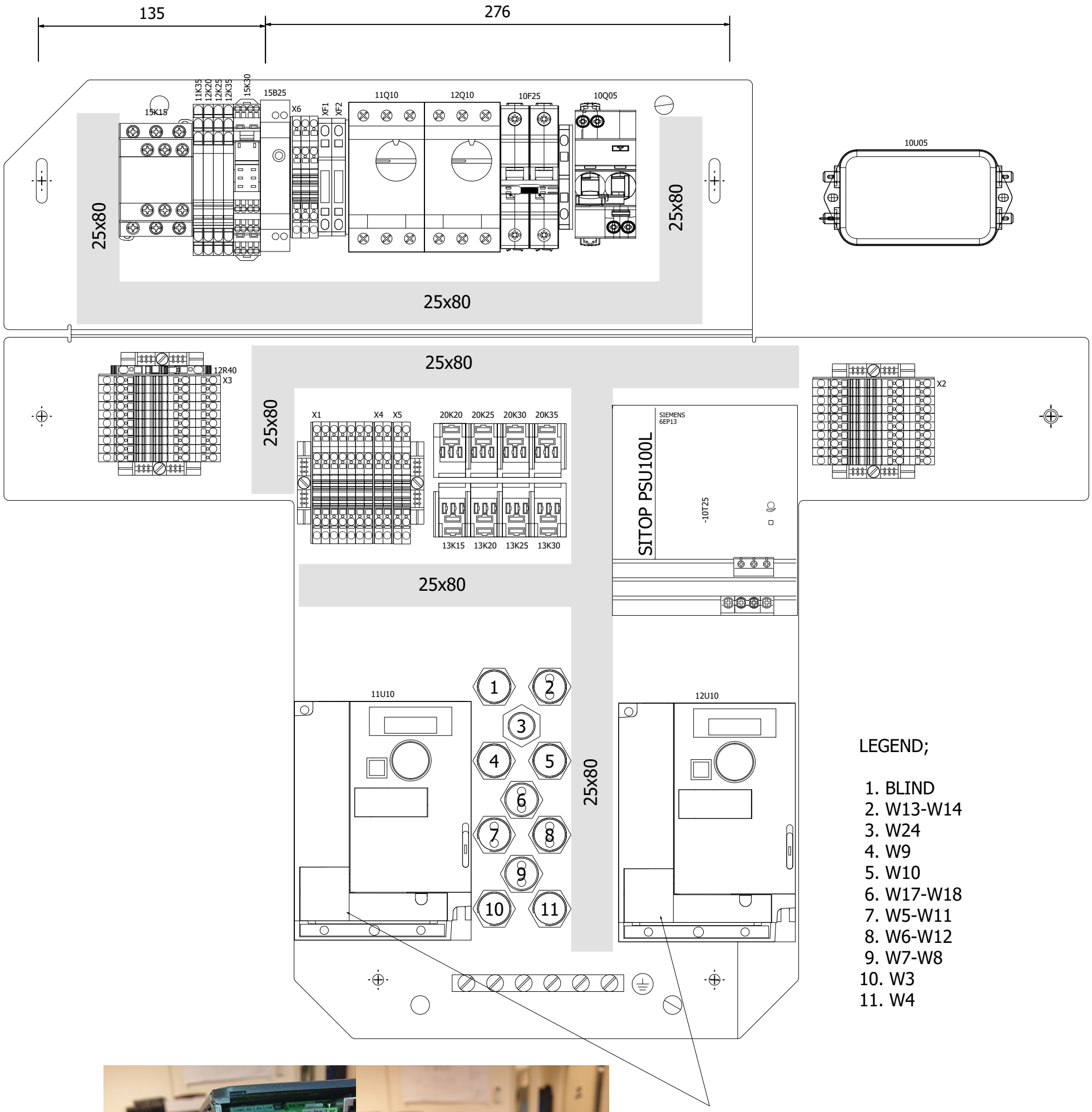
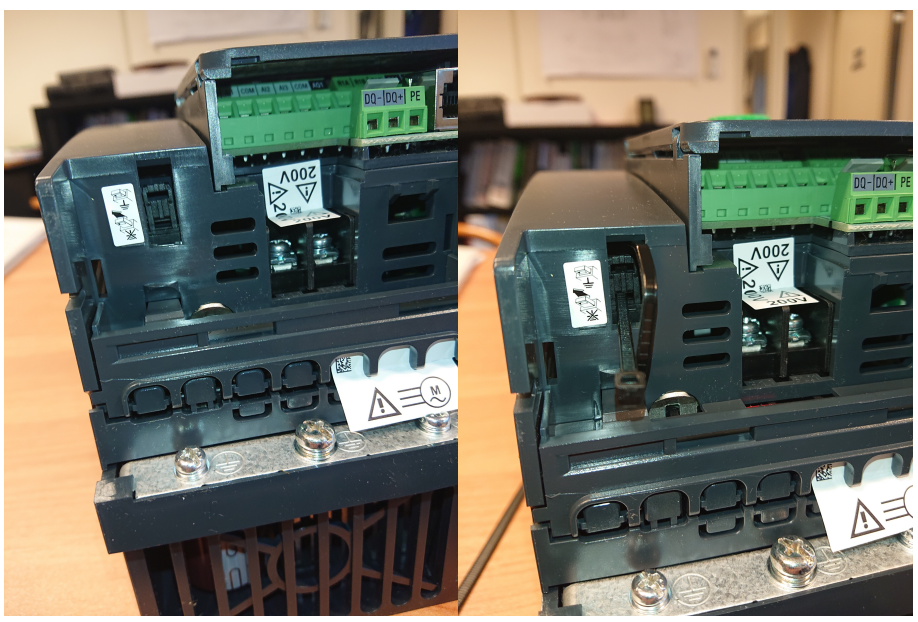
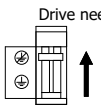


LEGEND;

1. BLIND
2. W13-W14
3. W24
4. W9
5. W10
6. W17-W18
7. W5-W11
8. W6-W12
9. W7-W8
10. W3
11. W4



Drive needs to be set into IT system setting



IT setting;
1. Remove the power terminal cover.
2. The switch is factory set to the ⏚ position.
3. to disconect the built-in EMC filter position the filter in upper pos. to ⊗
4. refit the cover.
5. secure it with a Ty-rap

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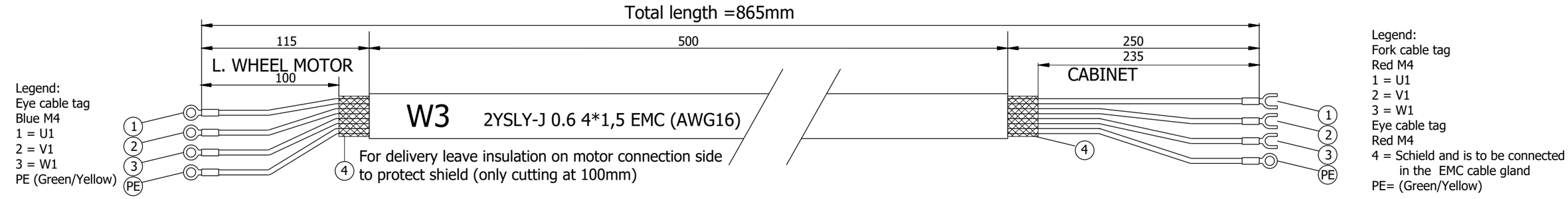

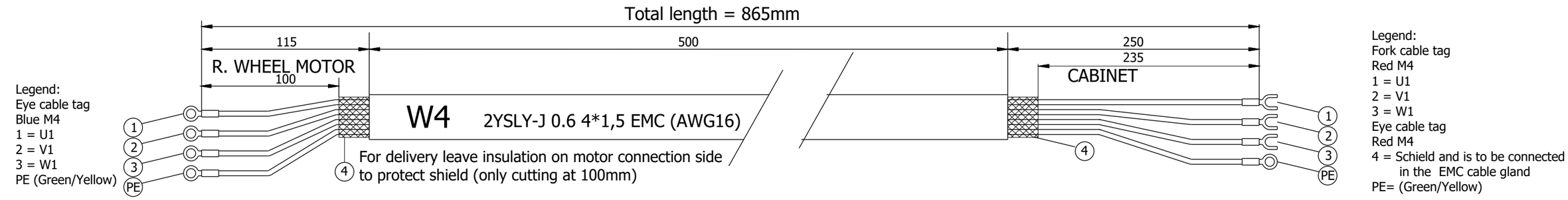

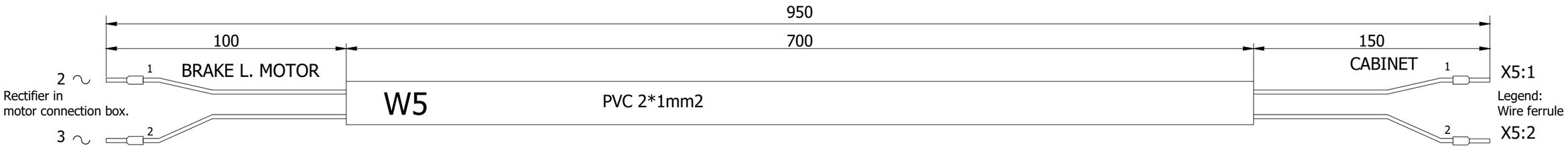

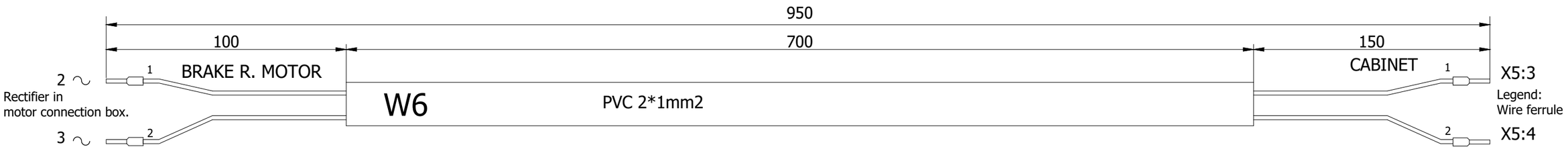

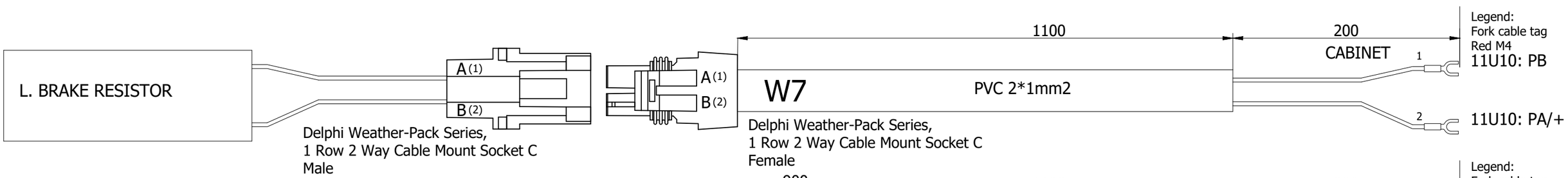

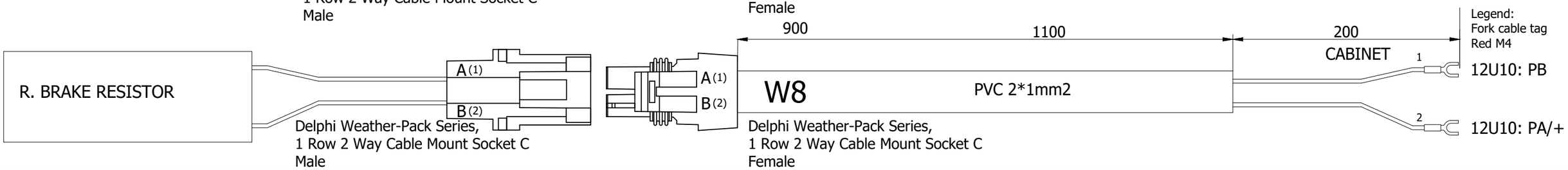

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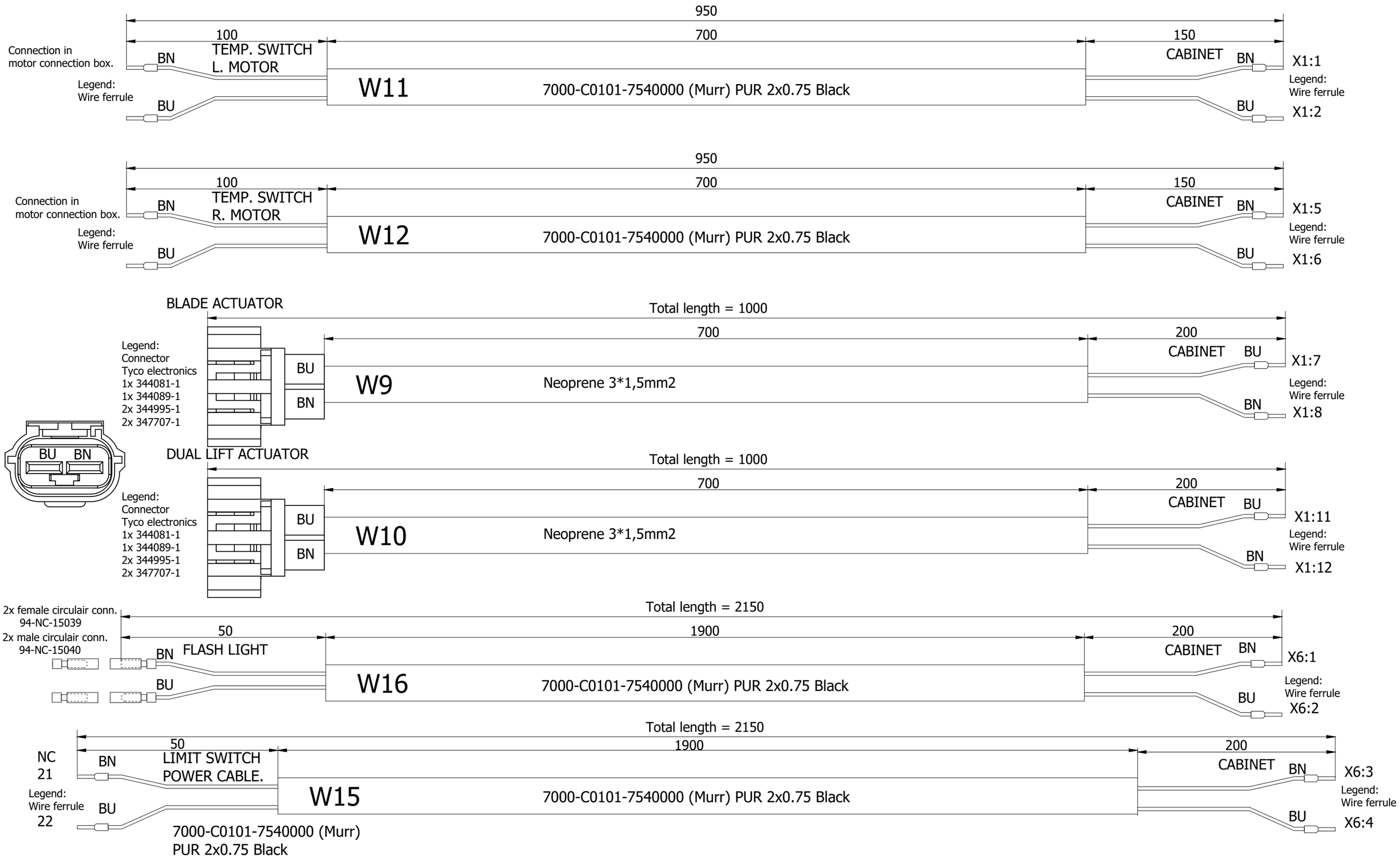

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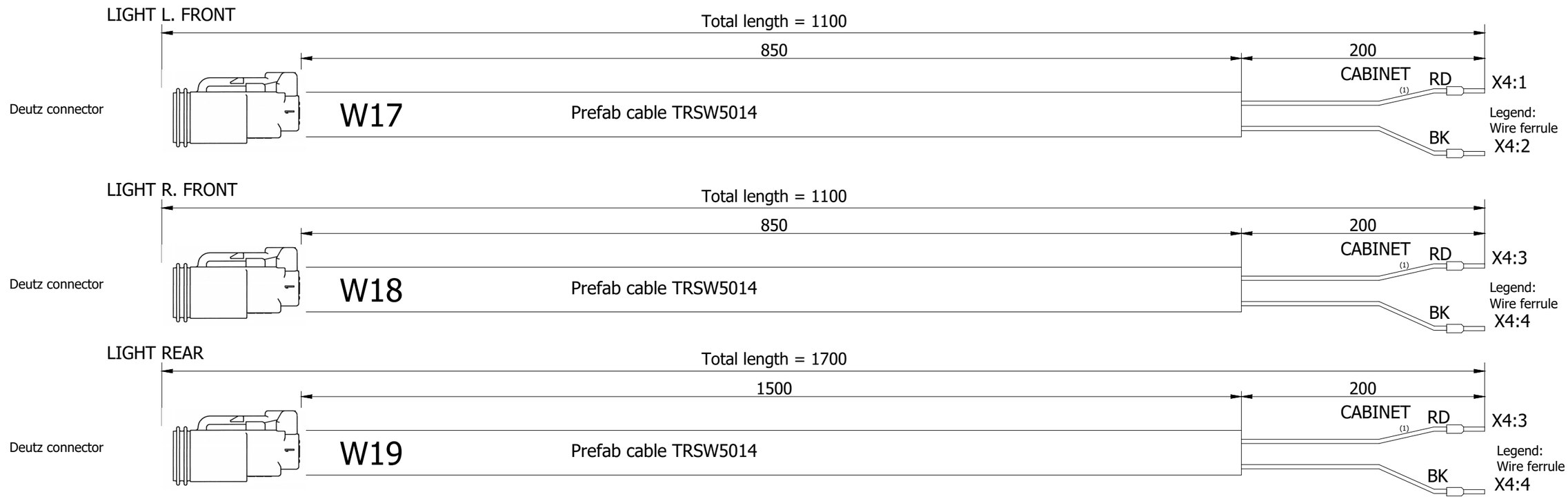

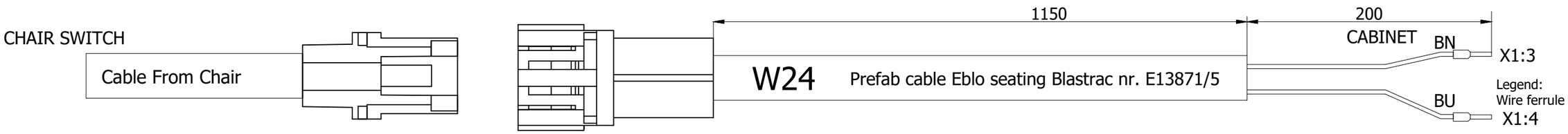

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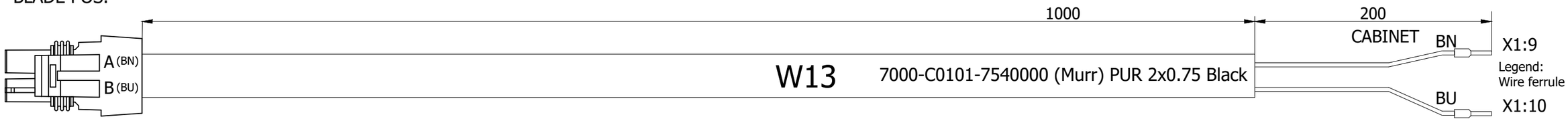
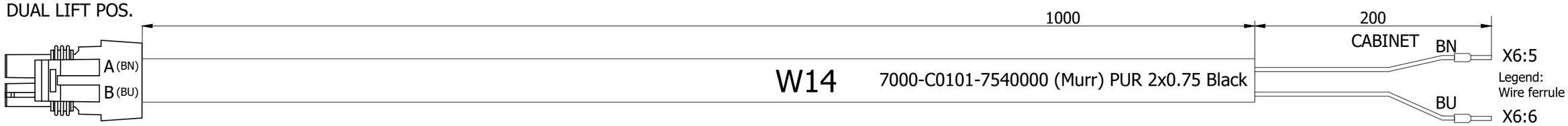
LIMIT SWITCH
BLADE POS.



Delphi Weather-Pack Series,
1 Row 2 Way Cable Mount Socket C
Female

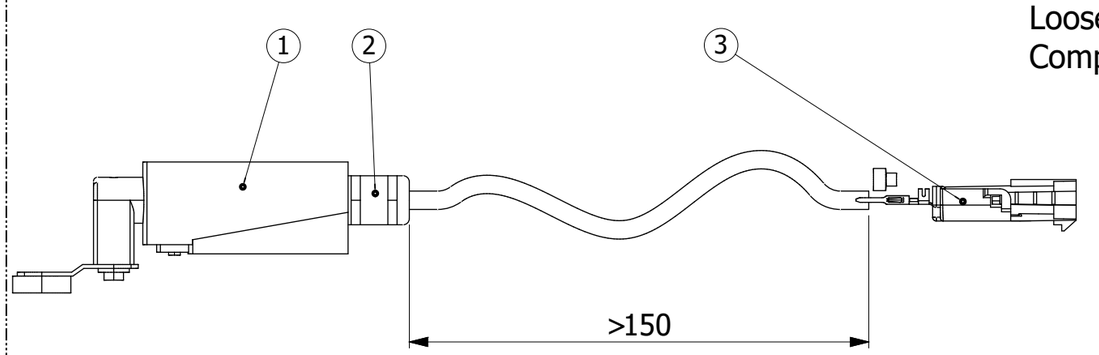
LIMIT SWITCH
DUAL LIFT POS.



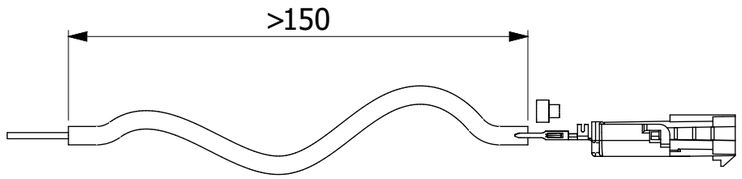
Delphi Weather-Pack Series,
1 Row 2 Way Cable Mount Socket C
Female

2x E14913

Loose delivery
Compleet assembled



ITEM	QTY.	PART NUMBER	DESCRIPTION
3	1	E14942	Cable limitswitch
2	1	E00405	SWIVEL M16
1	1	E05003	Limit switch



E14942

ITEM	QTY.	PART NUMBER	DESCRIPTION	VendorNo
4	2	E17023	Delphi weather pack male terminal	12124582
3	2	E13496	Delphi metri-pack wire seal	15324982
2	1	E17018	Delphi Weather-pack cable mount plug	12010973
1	1	E17127	Cable drum ⌀355mm PUR 2x0.75 Black UL/CSA	7000-C0101-7540000

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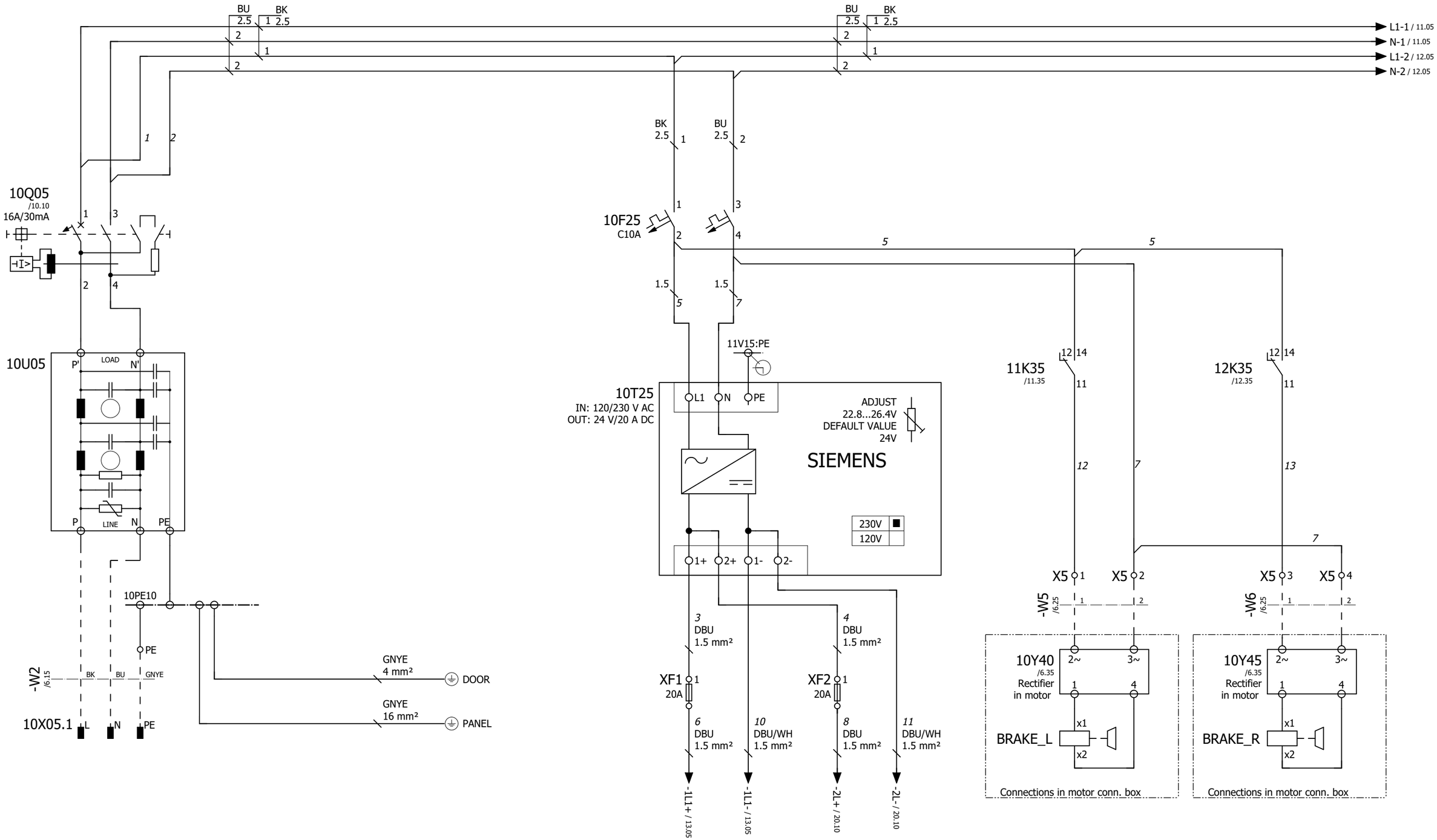

Supply

230V 50/60Hz SPH

Control voltage
24Vdc

Motor brake
left

Motor brake
right

9c

11

			Date	5-5-2022	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Main Current	Customer: Blastrac bv.	= E1
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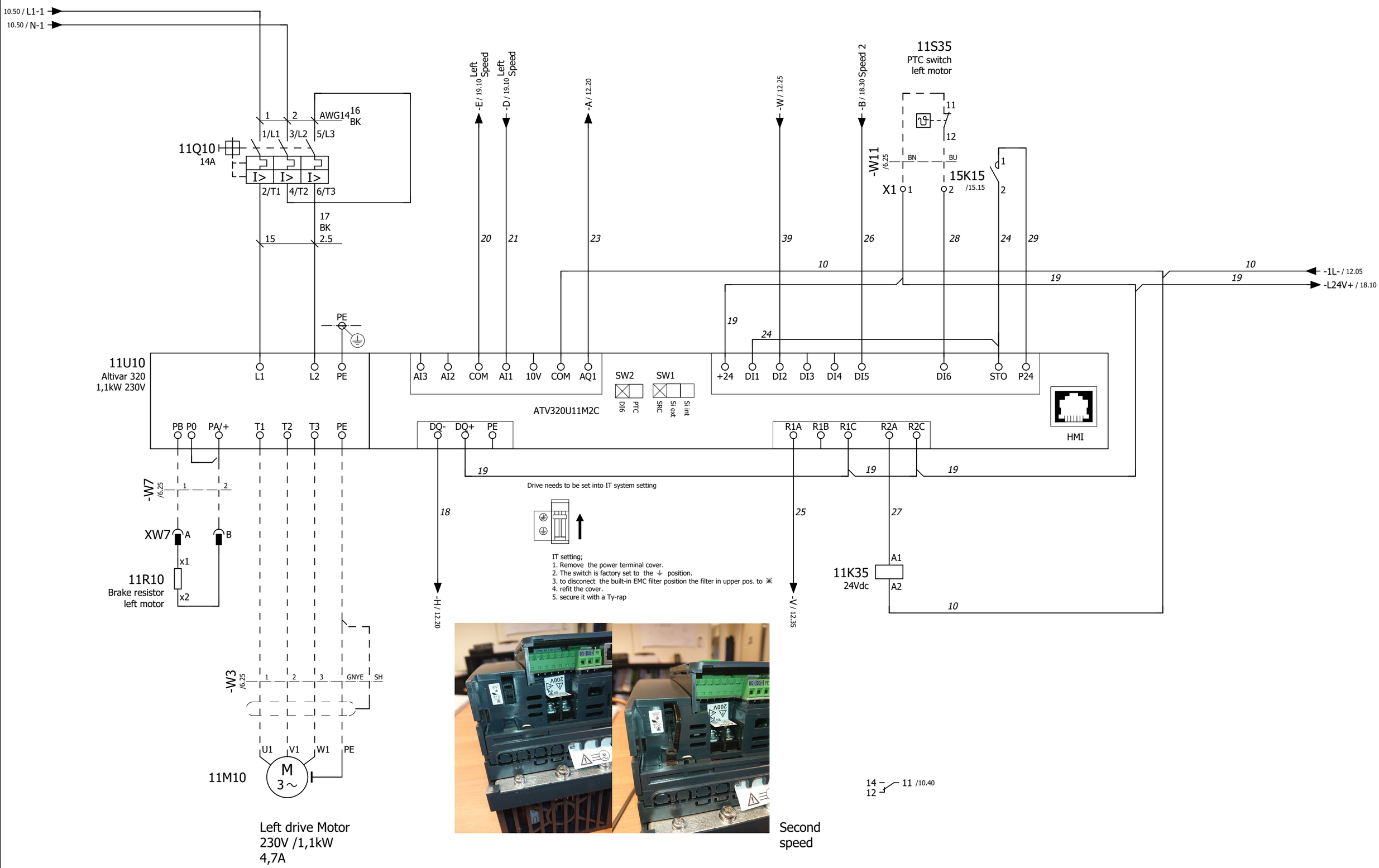

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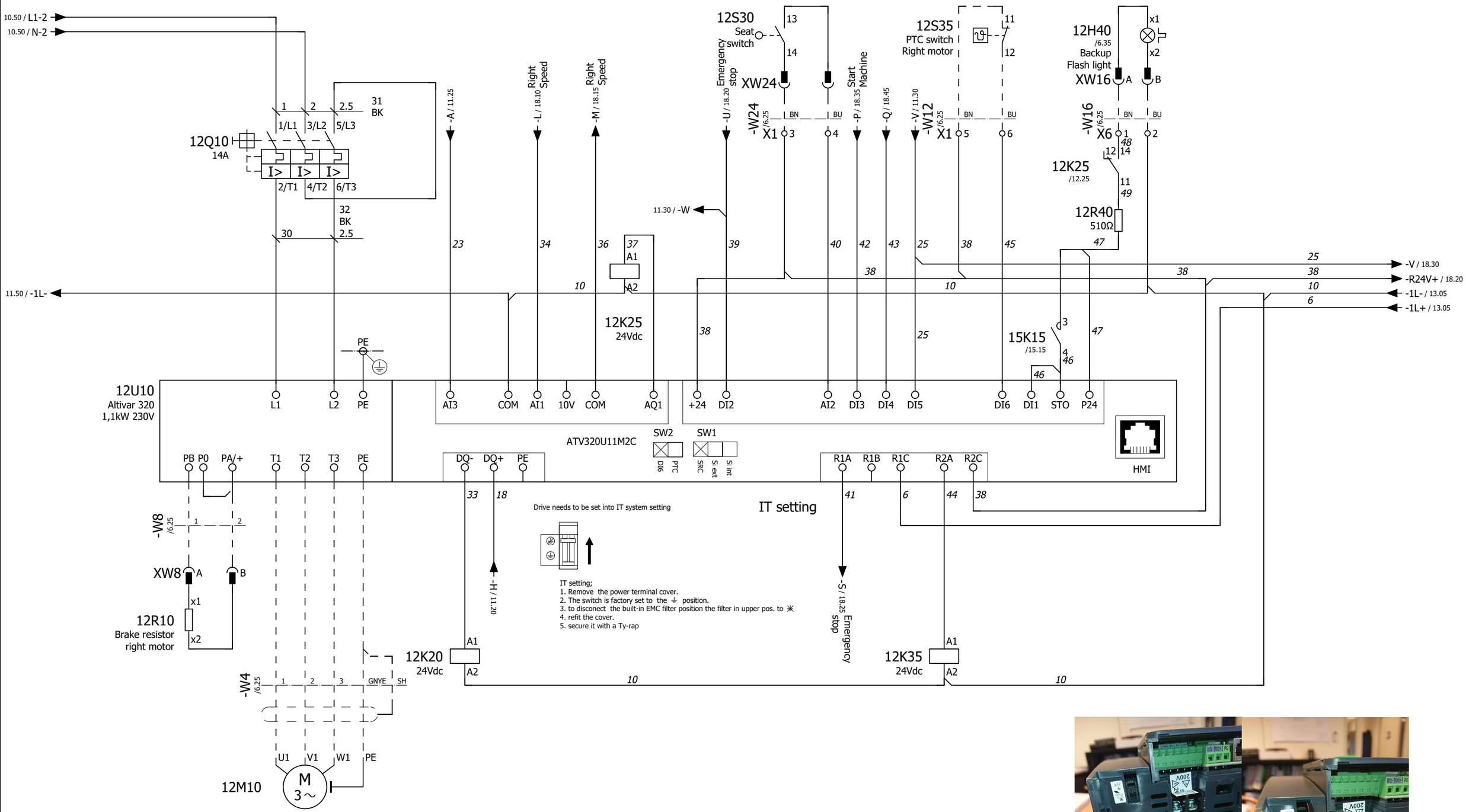
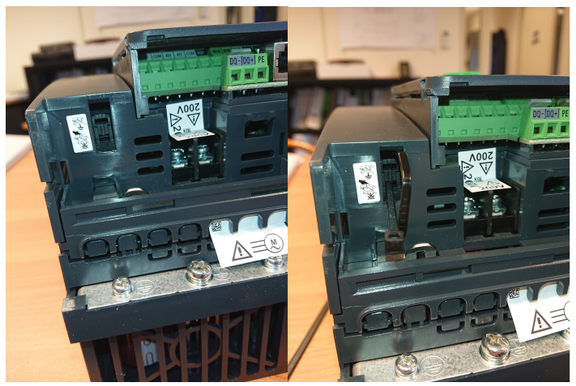


Right drive Motor
230V /1,1kW
4,7A

General Failure
14 – 12 – 11 /18.45

Backup
14 – 12 – 11 /12.40

14 – 12 – 11 /10.45



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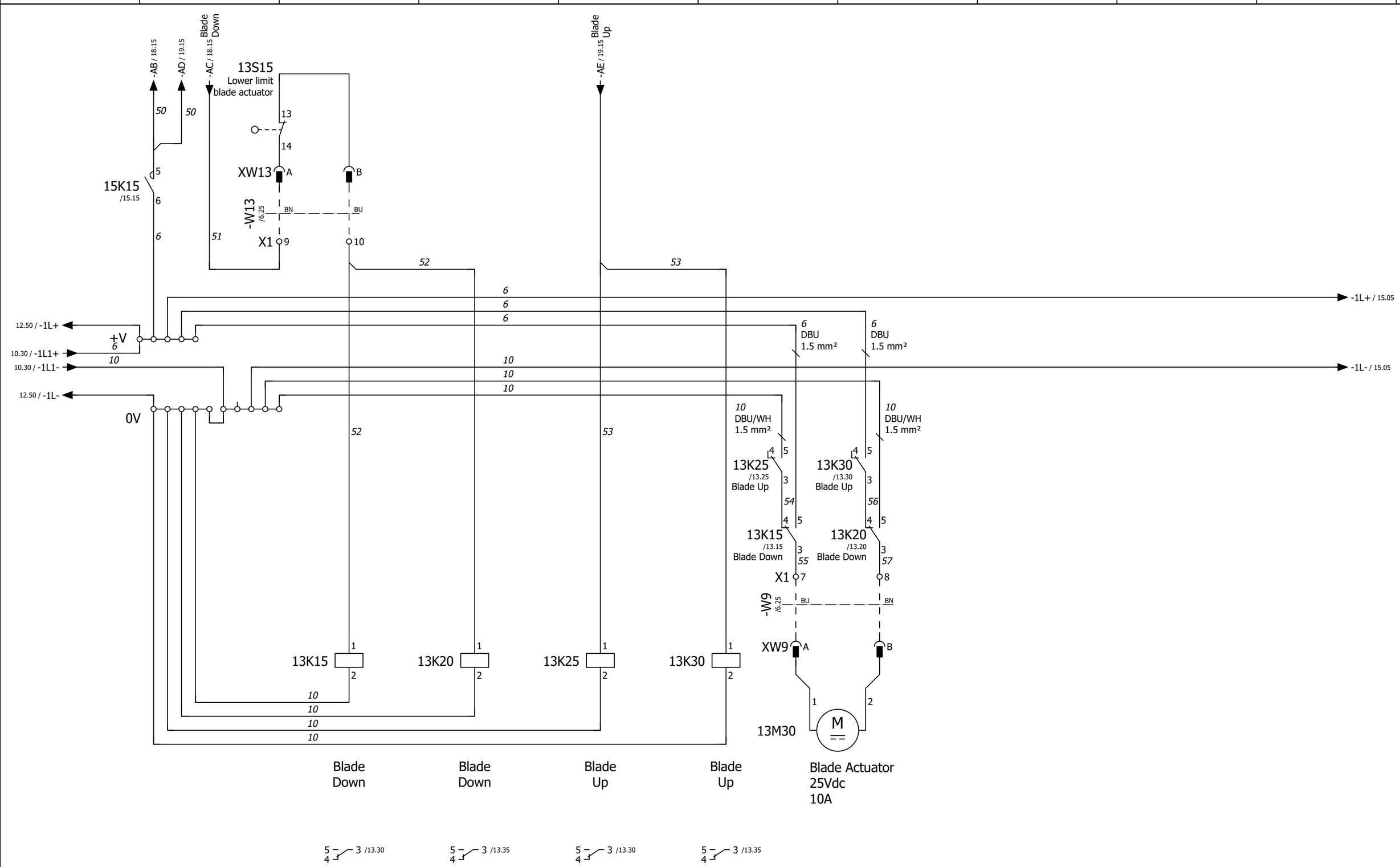

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Control Current	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 13
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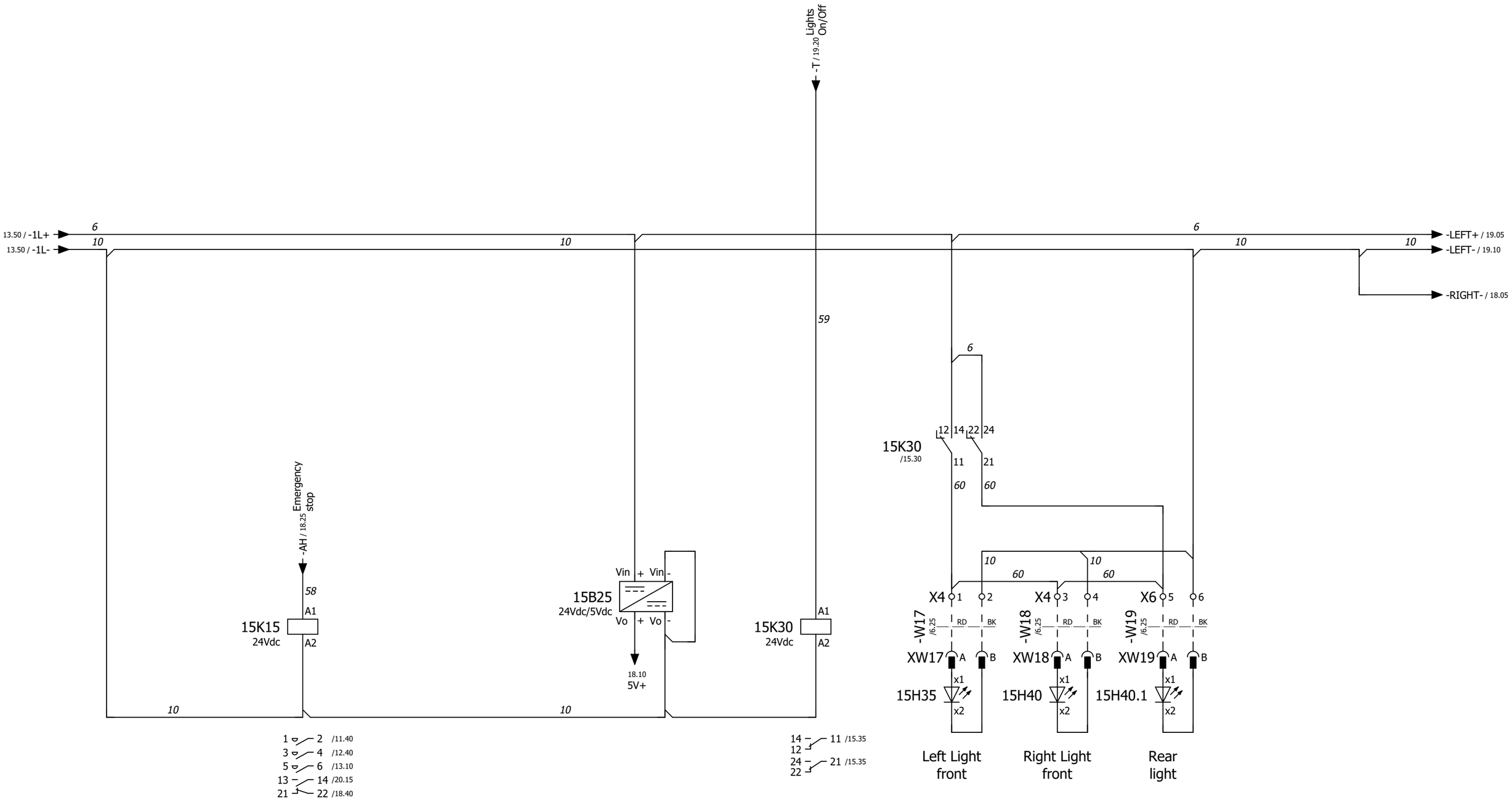

13 18

			Date	15-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Control Current	Customer: Blastrac bv.	= E1
			Ed.	HvdB				Drawing number: PJ19.1327.09	+
			Appr	--					Page **15**
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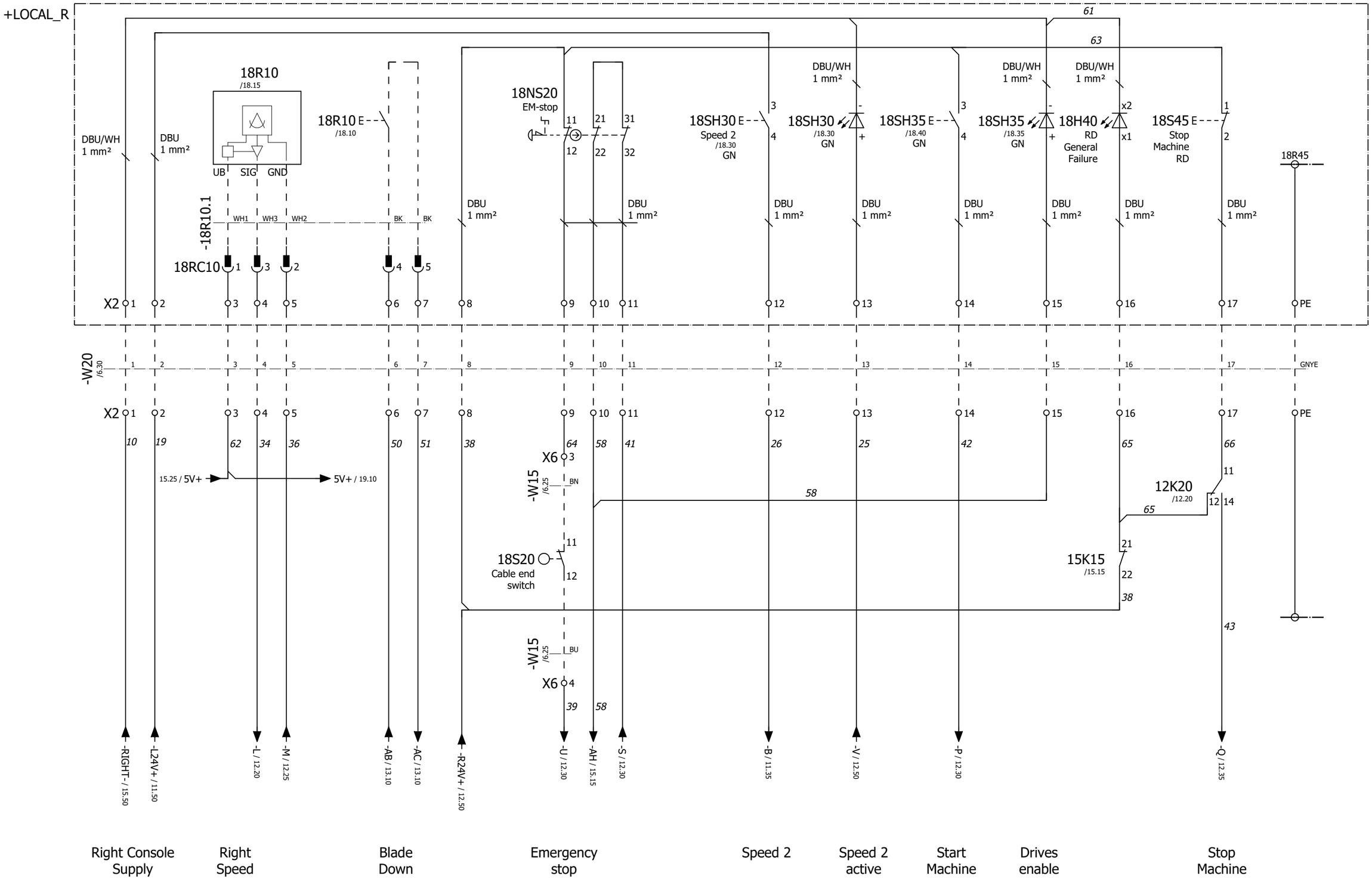

15 19

			Date	21-6-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Controls console Right side	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 18
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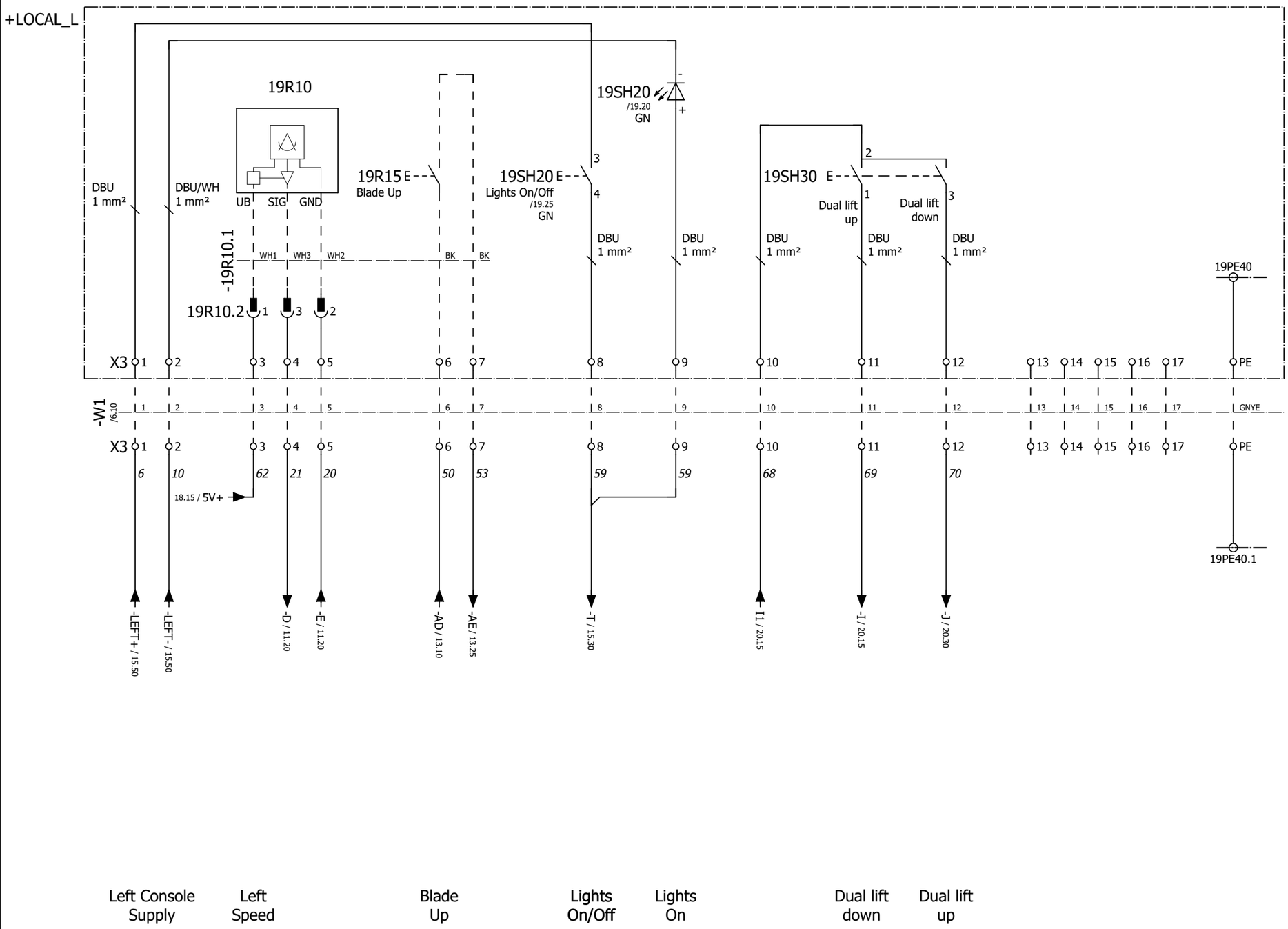

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Controls console Left side	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 19
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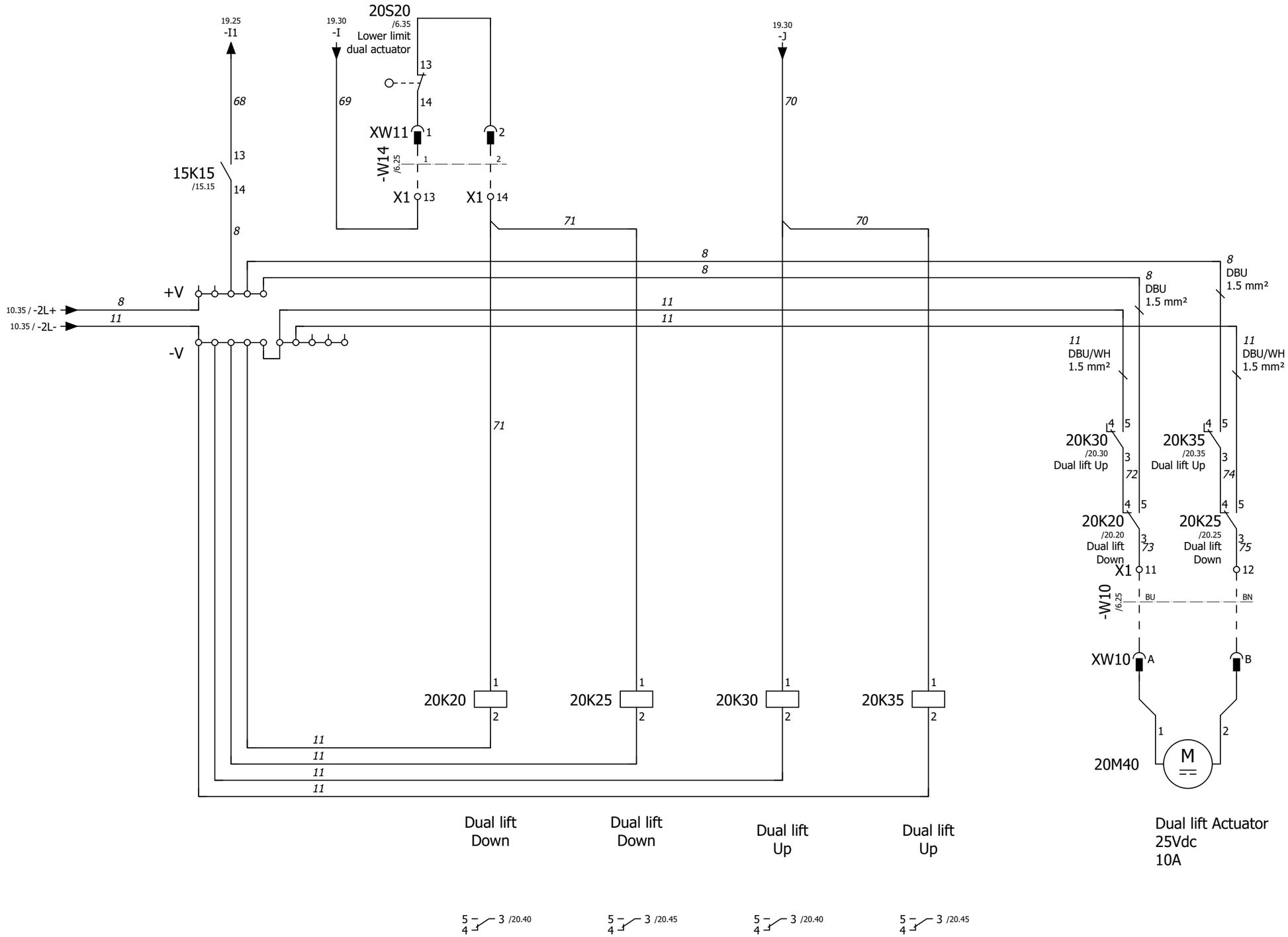

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Controls Dual lift	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 20
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Terminal diagram

Page / column					Cable name	Strip =E1+-V					Cable name											function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type										
/20.15						2-	-10T25			2	-20K35											
										2	-20K30											
										2	-20K25											
										2	-20K20											
/20.15										5	-20K30											
										5	-20K25											

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-V	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 21
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Terminal diagram

Page / column					Cable name	Strip =E1+-0V						Cable name											function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
/13.10						A2	-12K35			2	-13K30												
										2	-13K25												
										2	-13K20												
										2	-13K15												
/13.10										1-	-10T25												
										A2	-15K15												
										5	-13K20												
										5	-13K25												

			Date	15-9-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-0V	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+
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Terminal diagram

Page / column					Cable name	Strip =E1+-X1						Cable name	-W11	-W24	-W12	-W9	-W13	-W10	-W14				function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type	INSTR	INSTR	INSTR	INSTR		PWR-SC					
/11.35						R2C	-11U10		1	11	-11S35		BN										Second speed
						+24	-11U10																
/11.35						DI6	-11U10		2	12	-11S35		BU										Second speed
/12.30						+24	-12U10		3		-XW24			BN									Seat switch
						R2C	-12U10																
/12.30						AI2	-12U10		4		-XW24			BU									Seat switch
/12.35						R2C	-12U10		5	11	-12S35				BN								Backup
/12.35						DI6	-12U10		6	12	-12S35				BU								=
/13.30						3	-13K15		7	A	-XW9					BU							Blade Up
/13.35						3	-13K20		8	B	-XW9					BN							Blade Actuator 25Vdc 10A
/13.15						7	-X2		9	A	-XW13						BN						Upper limit spindle
/13.15						1	-13K15		10	B	-XW13						BU						=
						1	-13K20																
/20.40						3	-20K20		11	A	-XW10							BU					Dual lift Up
/20.45						3	-20K25		12	B	-XW10							BN					Dual lift Actuator 25Vdc 10A
/20.20						11	-X3		13	1	-XW11								1				spare
/20.20						1	-20K20		14	2	-XW11								2				=
						1	-20K25																

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X1	Customer: Blastrac bv.
			Ed.	HvdB				Drawing number: PJ19.1327.09
			Appr	--				
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= E1
+
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Terminal diagram

Page / column					Cable name	Strip =E1+-X2						Cable name	-W20									function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type	INSTR									
/18.05						6	-X6		1	1	+LOCAL_R-X2		1									
						2	-X3															
/18.10						R2C	-11U10		2	2	+LOCAL_R-X2		2									Right Console Supply
/18.10						+	-15B25		3	3	+LOCAL_R-X2		3									=
						3	-X3															
/18.10						AI1	-12U10		4	4	+LOCAL_R-X2		4									Right Speed
/18.15						COM	-12U10		5	5	+LOCAL_R-X2		5									=
/18.15						5	-15K15		6	6	+LOCAL_R-X2		6									=
/18.15						9	-X1		7	7	+LOCAL_R-X2		7									Blade Down
/18.20						22	-15K15		8	8	+LOCAL_R-X2		8									=
/18.20						3	-X6		9	9	+LOCAL_R-X2		9									Emergency stop
/18.25						A1	-15K15		10	10	+LOCAL_R-X2		10									=
/18.25						R1A	-12U10		11	11	+LOCAL_R-X2		11									=
/18.30						DI5	-11U10		12	12	+LOCAL_R-X2		12									Speed 2
/18.30						R1A	-11U10		13	13	+LOCAL_R-X2		13									=
/18.35						DI3	-12U10		14	14	+LOCAL_R-X2		14									Start Machine
/18.40						A1	-15K15		15	15	+LOCAL_R-X2		15									Drives enable
/18.40						21	-15K15		16	16	+LOCAL_R-X2		16									=
/18.45						11	-12K20		17	17	+LOCAL_R-X2		17									Stop Machine
/18.45									PE	PE	+LOCAL_R-X2		GNYE									=

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X2	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
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Terminal diagram

Page / column					Cable name	Strip =E1+-X3						Cable name	-W1									function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type	INSTR									
/19.05						14	-15K30		1	1	+LOCAL_L-X3		1									
/19.10						1	-X2		2	2	+LOCAL_L-X3		2									Left Console Supply
/19.10						3	-X2		3	3	+LOCAL_L-X3		3									Left Speed
/19.10						AI1	-11U10		4	4	+LOCAL_L-X3		4									=
/19.10						COM	-11U10		5	5	+LOCAL_L-X3		5									=
/19.15						5	-15K15		6	6	+LOCAL_L-X3		6									Blade Up
/19.15						1	-13K25		7	7	+LOCAL_L-X3		7									=
						1	-13K30															
/19.20						A1	-15K30		8	8	+LOCAL_L-X3		8									Lights On/Off
/19.25						A1	-15K30		9	9	+LOCAL_L-X3		9									Lights On
/19.25						13	-15K15		10	10	+LOCAL_L-X3		10									=
/19.30						13	-X1		11	11	+LOCAL_L-X3		11									Dual lift down
/19.30						1	-20K30		12	12	+LOCAL_L-X3		12									spare
						1	-20K35															
/19.35									13	13	+LOCAL_L-X3		13									spare
/19.35									14	14	+LOCAL_L-X3		14									=
/19.35									15	15	+LOCAL_L-X3		15									=
/19.35									16	16	+LOCAL_L-X3		16									=
/19.35									17	17	+LOCAL_L-X3		17									=
/19.40							-19PE40.1		PE	PE	+LOCAL_L-X3		GNYE									Dual lift up

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X3	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 25
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Terminal diagram

Page / column					Cable name	Strip =E1+-X4						Cable name	-W17	-W18									function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
/15.35						11	-15K30		1	A	-XW17		RD										Left Light front
/15.35						6	-X6		2	B	-XW17		BK										=
/15.40						5	-X6		3	A	-XW18			RD									Right Light front
/15.40									4	B	-XW18			BK									=

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X4	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
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Terminal diagram

Page / column			-W6	-W5	Cable name	Strip =E1+-X5						Cable name	-W5	-W6									function text
			INSTR	INSTR	cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type	INSTR	INSTR									
/10.40						11	-11K35		1	2~	-10Y40		1										Motor brake left
/10.45				2		3~	-10Y40		2	4	-10F25												=
/10.50						11	-12K35		3	2~	-10Y45			1									Motor brake right
/10.50			2			3~	-10Y45		4														=

			Date	12-4-2022	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X5	Customer: Blastrac bv.
			Ed.	HVDB				Drawing number: PJ19.1327.09
			Appr	--				
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= E1
+
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Terminal diagram

Page / column					Cable name	Strip =E1+-X6						Cable name	-W16	-W15	-W19								function text
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
/12.40						14	-12K25		1	A	-XW16		BN										Backup
/12.40						A2	-12K25		2	B	-XW16		BU										=
						A2	-12K35																
/18.20						9	-X2		3	11	-18S20			BN									Emergency stop
/18.20						DI2	-12U10		4	12	-18S20			BU									=
/15.40						21	-15K30		5	A	-XW19				RD								Rear light
						3	-X4																
/15.45						A2	-15K15		6	B	-XW19				BK								Rear light
						1	-X2																
						2	-X4																

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+-X6	Customer: Blastrac bv.	= E1
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Terminal line-up diagram

=E1+-V		
Terminal	End plate	End clamp
PTFIX 6X1.5 GY – 3002757		
PTFIX 1,5-NS35 - 1049497		
PHOENIX 3030118		
PTFIX 6X1.5 GY – 3002757		

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-V	Customer: Blastrac bv.	= E1
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Terminal line-up diagram

=E1+-0V		
Terminal	End plate	End clamp
PTFIX 6X1.5 GY – 3002757		
PTFIX 1,5-NS35 - 1049497		
PHOENIX 3030118		
PTFIX 6X1.5 GY – 3002757		

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Terminal line-up diagram

	1 2	
	3 4	
	5 6	
	7	
	8	
	9 10	
	11 12	
	13 14	

=E1+-X1		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	EINDSTEUN V4 CON.ACC
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X1	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 31
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Terminal line-up diagram

	1 2	
	3 4	
	5 6	
	7 8	
	9 10	
	11 12	
	13 14	
	15 16	
	17	
	PE	

=E1+-X2		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	EINDSTEUN V4 CON.ACC
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2PE		EINDSTEUN V4 CON.ACC

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X2	Customer: Blastrac bv.	= E1
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Terminal line-up diagram

	1 2	
	3 4	
	5 6	
	7 8	
	9 10	
	11 12	
	13 14	
	15 16	
	17	
	PE	

=E1+-X3		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	EINDSTEUN V4 CON.ACC
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		
WEID ZDK 2.5-2PE		EINDSTEUN V4 CON.ACC

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X3	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+
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Terminal line-up diagram

	1 2	
	3 4	

=E1+-X4		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	
WEID ZDK 2.5-2		

			Date	14-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X4	Customer: Blastrac bv.	= E1
			Ed.	HvdB					+
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Terminal line-up diagram

	1 2	
	3 4	

=E1+-X5		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	
WEID ZDK 2.5-2		EINDSTEUN V4 CON.ACC

			Date	12-4-2022	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X5	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 35
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Terminal line-up diagram

	1 2	
	3 4	
	5 6	

=E1+-X6		
Terminal	End plate	End clamp
WEID ZDK 2.5-2	WEID ZAP/TW ZDK2.5-2	
WEID ZDK 2.5-2		
WEID ZDK 2.5-2		

			Date	29-10-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+-X6	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+
			Appr	--				Drawing number: PJ19.1327.09	Page 36
Modification	Date	Name	Last print	30-9-2022					

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Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
-V	2	Phoenix PTFIX 6x1.5 GY – Distribution block	PTFIX 6X1.5 GY – 3002757	Phoenix Contact	E17168
-V	1	Phoenix PTFIX-NS35 - DIN rail adapter	PTFIX 1,5-NS35 - 1049497	Phoenix Contact	E17444
-V	1	Plug-in bridge FBS 2-4 GY	PHOENIX 3030118	Phoenix Contact	E17475
-X1	1	Endbracket V4 small 9708/2S35	EINDSTEUN V4 CON.ACC	Wieland	E07828
-X1	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X1	7	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-X2	2	Endbracket V4 small 9708/2S35	EINDSTEUN V4 CON.ACC	Wieland	E07828
-X2	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X2	9	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-X2	1	PE terminal Wemid, green/yellow	WEID ZDK 2.5-2PE	Weidmuller	E10886
-X3	2	Endbracket V4 small 9708/2S35	EINDSTEUN V4 CON.ACC	Wieland	E07828
-X3	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X3	9	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-X3	1	PE terminal Wemid, green/yellow	WEID ZDK 2.5-2PE	Weidmuller	E10886
-X4	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X4	2	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-X5	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X5	2	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-X5	1	Endbracket V4 small 9708/2S35	EINDSTEUN V4 CON.ACC	Wieland	E07828
-X6	1	End plate, Partition plate, dark Beige Wemid	WEID ZAP/TW ZDK2.5-2	Weidmuller	E10810
-X6	3	tension clamp connection Wemid, Dark Beige	WEID ZDK 2.5-2	Weidmuller	E10811
-XF1	1	Zekeringklem voor Vlakzekering	WEID ZSI 6-2/FC LD	Weidmuller	E10887
-XF1	1	STEEKZEK. ATO fast 20A	ZEK.STEEK 20A	Generic	E17514
-XF2	1	Zekeringklem voor Vlakzekering	WEID ZSI 6-2/FC LD	Weidmuller	E10887
-XF2	1	End plate for ZSI	WEID ZAP ZDU 6-2 SW	Weidmuller	E13070
-XF2	1	STEEKZEK. ATO fast 20A	ZEK.STEEK 20A	Generic	E17514
-XW7	1	Delphi Weather-Pack Series, 1 Row 2 Way Cable Mount Socket C	12015792	Delphi	E17019
-XW7	2	Delphi weather -pack series fermela terminal	12124580	Delphi	E17022
-XW7	2	Delphi metri-Pack Series, wire seal for use connectors	15324982	Delphi	E13496
-XW8	1	Delphi Weather-Pack Series, 1 Row 2 Way Cable Mount Socket C	12015792	Delphi	E17019
-XW8	2	Delphi weather -pack series fermela terminal	12124580	Delphi	E17022
-XW8	2	Delphi metri-Pack Series, wire seal for use connectors	15324982	Delphi	E13496
-XW9	2	receptacle contact strip / AMP	AMP 344070-1	TYCO	E17517
-XW9	1	Lock plate white nylon / AMP	AMP 344089-1	TYCO	E17518
-XW9	1	Housing black nylon / AMP	AMP 344081-1	TYCO	E17513
-XW10	2	receptacle contact strip / AMP	AMP 344070-1	TYCO	E17517
-XW10	1	Lock plate white nylon / AMP	AMP 344089-1	TYCO	E17518
-XW10	1	Housing black nylon / AMP	AMP 344081-1	TYCO	E17513
-XW11	1	Delphi Weather-Pack Series, 1 Row 2 Way Cable Mount Socket C	12015792	Delphi	E17019
-XW11	2	Delphi Weather-Pack Series Female Terminal for use with Auto	12089188	Delphi	E17526
-XW11	2	Delphi metri-Pack Series, wire seal for use connectors	15324982	Delphi	E13496
-XW13	1	Delphi Weather-Pack Series, 1 Row 2 Way Cable Mount Socket C	12015792	Delphi	E17019
-XW13	2	Delphi Weather-Pack Series Female Terminal for use with Auto	12089188	Delphi	E17526
-XW13	2	Delphi metri-Pack Series, wire seal for use connectors	15324982	Delphi	E13496
-XW16	2	Crimp Term, Bullet Female 4mm, Red 0.5-1.65mm2	94-NC-15039	Calpe	E17222
-XW16	2	Crimp Term, Bullet Male 4mm, Red 0.5-1.65mm2	94-NC-15040	Calpe	E17221
-XW17	1	4 mtr cable for led 12watt/1136lumen	TRSW5014	Tralert	E17428
-XW18	1	4 mtr cable for led 12watt/1136lumen	TRSW5014	Tralert	E17428
-XW19	1	4 mtr cable for led 12watt/1136lumen	TRSW5014	Tralert	E17428
-XW24	1	Seat witch cable	E13871/5	EBLO	E13871/5
-0V	2	Phoenix PTFIX 6x1.5 GY – Distribution block	PTFIX 6X1.5 GY – 3002757	Phoenix Contact	E17168
-0V	1	Phoenix PTFIX-NS35 - DIN rail adapter	PTFIX 1,5-NS35 - 1049497	Phoenix Contact	E17444
-0V	1	Plug-in bridge FBS 2-4 GY	PHOENIX 3030118	Phoenix Contact	E17475
-8M0	1	Cabel gland M16*1.5 (PG9/11) IP68 brass, nickel-plated 50616	WARTEL M16*1.5	Jacob	E00405
-8M0	1	Earth bar M5 25A 10x2 /m	AARDRAIL 1263/60	Generic	E13184
-8M0	6	Cabel gland M20*1.5 8-13MM brass, nickel-plated	WARTEL M20*1.5	Jacob	E00406

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Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
-8M0	7	Ozoflex neoprene cable 3*1.5 mm	H07RN-F 3*1.5 MM	Eupen Cable	E08399
-8M0	2	Cable gland M20 EMC/EMV brass, nickel-plated	JACO 50.620 M/EMV	Jacob	E08267
-8M0	4	PVC 2*1 genummerd 1-2	STUURSTROOMKAB 2*1	Bruflex cable	E13320
-8M0	8	2YSLCY-J 0.6 4*1.5 EMC AWG16	MOTORKABEL EMV 4*1.5 MM	Böhm kabeltechnik	E13141
-8M0	10	Cable Drum Ø 355mm PUR 2x0.75 black,UL/CSA	7000-C0101-7540000	Murr Elektronic	E17127
-8M0	4	PVC 18*1 genummerd	STUURSTROOMKAB 18*1	Bruflex cable	E13036
-8M0	6	Silencer @25*10 2xM6 male	@25*10*M6-M6 M-M	Generic	E17257
-8M0	2	Wartel doorvoer M20 4x5	WJ-DM 20 /4X5	Jacob	E17464
-8M0	1	BOM Body BMS-150 Blastrac Infra Blue	E14884-BL	Blastrac Poland Sp. z o.o	E14884-BL
-8M0	1	Tracopower-TEP-MK1-mounting clip Din Rail Tep series	TEP-MK1	Traco power	E17300
-8M0	4	3-2922/1T /	3U999600	Ripca	E17512
-8M0	2	Housing black nylon / AMP	AMP 344081-1	TYCO	E17513
-8M0	2	Crimp Term, Bullet Female 4mm, Red 0.5-1.65mm2	94-NC-15039	Calpe	E17222
-8M0	2	Crimp Term, Bullet Male 4mm, Red 0.5-1.65mm2	94-NC-15040	Calpe	E17221
-8M0	16	Cabletag Faston 2.8/0.5*19.5 0.25-1:65 red	IS-NC-15028-2	Calpe	E17250
-8M0	5	Wartel doorvoer M20 2x6	25-WJ-DM 20/2X6	Jacob	E17190
-10F25	1	Circuit breaker AB 1P+N 10A C-kar	C60N-1492-SPM1C100-N	Allen Bradley	E17460
-10Q05	1	Residual current device 16A 2P 30MA	A9DC4616	Schneider Electric	E17327
-10Q05	1	Earth terminal for ZDU 4 2*4(6)mm	WEID ZPE 4	Weidmuller	E08410
-10Q05	1	End plate Beige for ZDU 4	WEID ZAP/TW 4 DB	Weidmuller	E08411
-10T25	1	SITOP PSU100L 24 V/20 A Stabilized power sup. input:100/240V	6EP1336-1LB00	Siemens	E17461
-10U05	1	Multi-stage AC/DC EMI Filter	FN2090-16-06	Schaffner	E17835
-11K35	1	Interface relay 1CO 6A@220VAC	WEID TRZ 24VDC 1CO	Weidmuller	E08493
-11Q10	1	Motor circuit breaker 14A	GV2-L16	Schneider Electric	E17462
-11U10	1	Variable speed drive ATV320-1.1KW-200...240V 1 phase	ATV320U11M2C	Schneider Electric	E17463
-12H40	1	Velleman Signal lamp HAA40AN Orange	HAA40AN	Velleman	E17457
-12K20	1	Interface relay 1CO 6A@220VAC	WEID TRZ 24VDC 1CO	Weidmuller	E08493
-12K25	1	Interface relay 1CO 6A@220VAC	WEID TRZ 24VDC 1CO	Weidmuller	E08493
-12K35	1	Interface relay 1CO 6A@220VAC	WEID TRZ 24VDC 1CO	Weidmuller	E08493
-12Q10	1	Motor circuit breaker 14A	GV2-L16	Schneider Electric	E17462
-12R40	1	TE Connectivity Axial Metal Film Resistor 510Ohm	LR1F510R	TE-Connectivity	E17331
-12R40	1	Accessoires, Component plug	WEID BEST	Weidmuller	E13069
-12R40	2	Test-disconnection terminal, Wemid beige	WEID ZTR 2.5	Weidmuller	E13068
-12U10	1	Variable speed drive ATV320-1.1KW-200...240V 1 phase	ATV320U11M2C	Schneider Electric	E17463
-13K15	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-13K15	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-13K15	1	Relais holder	E14964		E14884-BL
-13K20	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-13K20	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-13K25	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-13K25	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-13K30	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-13K30	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-15B25	1	MNWL DDR-15G-5 CONVERTER 5VDC 3A	MEANWELL DDR-15G-5	Meanwell	E17662
-15K15	1	Contactor 4.0kW 400VAC coil 24VDC(LP) 1NO/1NC	LC1-D09-BL	Schneider Electric	E13228
-15K30	1	relay 2P,+LED+testbut.+diode 24VDC/5A	OMRON G2R-2-SNDI 24DC	Omron	E05187
-15K30	1	Screwless clamp terminal socket for G2R-2	OMRON P2RF-08-PU	Omron	E13064
-20K20	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-20K20	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-20K25	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-20K25	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-20K30	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-20K30	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-20K35	1	Automotive Relay, 24VDC, 30A, SPDT, through hole,SRZ series	SRZ-1CT-DL-24VDC	IMO	E13358
-20K35	1	Relayholder Micro RELH003B vpe=5	RELH003B	Ripca	E13374
-20S20	1	Limit switch with plug	E14913		

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Terminal diagram

Page / column				-W1	Cable name	Strip =E1+LOCAL_L-X3						Cable name	-19R10.1										function text
				INSTR	cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
+/19.05				1		1	-X3		1	3	-19SH20												
+/19.10				2		2	-X3		2	-	-19SH20												Left Console Supply
+/19.10				3		3	-X3		3	1	-19R10.2												Left Speed
+/19.10				4		4	-X3		4	3	-19R10.2												=
+/19.10				5		5	-X3		5	2	-19R10.2												=
+/19.15				6		6	-X3		6		-19R15		BK										Blade Up
+/19.15				7		7	-X3		7		-19R15		BK										=
+/19.20				8		8	-X3		8	4	-19SH20												Lights On/Off
+/19.25				9		9	-X3		9	+	-19SH20												Lights On
+/19.25				10		10	-X3		10	2	-19SH30												=
+/19.30				11		11	-X3		11	1	-19SH30												Dual lift down
+/19.30				12		12	-X3		12	3	-19SH30												spare
+/19.35				13		13	-X3		13														=
+/19.35				14		14	-X3		14														=
+/19.35				15		15	-X3		15														=
+/19.35				16		16	-X3		16														=
+/19.35				17		17	-X3		17														=
+/19.40				GNYE		PE	-X3		PE		-19PE40												Dual lift up

			Date	23-11-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+LOCAL_L-X3	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+ LOCAL_L
			Appr	--				Drawing number: PJ19.1327.09	Page 1
Modification	Date	Name	Last print	30-9-2022					

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Terminal line-up diagram

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PE

=E1+LOCAL_L-X3		
Terminal	End plate	End clamp
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZPEA 2.5-2	WEID ZAO/TW ZDUA	

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal line-up =E1+LOCAL_L-X3	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+ LOCAL_L
			Appr	--				Drawing number: PJ19.1327.09	Page 2
Modification	Date	Name	Last print	30-9-2022					

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Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
-X3	2	e/mbk eindsteun klein	EINDSTEUN KLEIN	Phoenix Contact	E13388
-X3	17	Miniterminal 2*2.5 TS 15	WEID ZDUA 2.5-2	Weidmuller	E08332
-X3	1	MINI Earth terminal 2*2.5 TS 15	WEID ZPEA 2.5-2	Weidmuller	E08333
-X3	1	Miniterminal end plate	WEID ZAO/TW ZDUA	Weidmuller	E08331
-19R10	1	Robust-Joyst. 0.5-4, 5V ratio. 25", t/t 0. Verr. , Molex 6P	J7A6CA0BB0FAAB	Elobau	E17459
-19R10.2	5	Plug pins female (molex)	3900/0039	Molex	E13214
-19R10.2	5	Plug pins male (molex)	3900/0041	Molex	E13215
-19R10.2	1	Plug female 6P (molex)	3901/2060	Molex	E13216
-19R10.2	1	Plug male 6P (molex)	3901/2061	Molex	E13217
-19SH20	1	Round green illuminated pushbutton Ø16-flush push to release	XB6-AF3B5B	Schneider Electric	E17455
-19SH30	1	Marquardt Toggle switch 1839.1407 250 V AC 6 A 2 x (On)/Off/	MARQUARDT 1839.1407	Marquardt	E17458

			Date	15-10-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Parts list
			Ed.	HVDB			
			Appr	--			
Modification	Date	Name	Last print	30-9-2022			

Customer: Blastrac bv.
Drawing number: PJ19.1327.09
= E1
+ LOCAL_L
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Terminal diagram

Page / column				-W20	Cable name	Strip =E1+LOCAL_R-X2						Cable name											function text
				INSTR	cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
+/18.05				1		1	-X2		1	-	-18SH35												
										-	-18SH30												
+/18.10				2		2	-X2		2	3	-18SH30												Right Console Supply
+/18.10				3		3	-X2		3	1	-18RC10												=
+/18.10				4		4	-X2		4	3	-18RC10												Right Speed
+/18.15				5		5	-X2		5	2	-18RC10												=
+/18.15				6		6	-X2		6	4	-18RC10												=
+/18.15				7		7	-X2		7	5	-18RC10												Blade Down
+/18.20				8		8	-X2		8	11	-18NS20												=
+/18.20				9		9	-X2		9	12	-18NS20												Emergency stop
+/18.25				10		10	-X2		10	22	-18NS20												=
+/18.25				11		11	-X2		11	32	-18NS20												=
+/18.30				12		12	-X2		12	4	-18SH30												Speed 2
+/18.30				13		13	-X2		13	+	-18SH30												=
+/18.35				14		14	-X2		14	4	-18SH35												Start Machine
+/18.40				15		15	-X2		15	+	-18SH35												Drives enable
+/18.40				16		16	-X2		16	x1	-18H40												=
+/18.45				17		17	-X2		17	2	-18S45												Stop Machine
+/18.45				GNYE		PE	-X2		PE		-18R45												=

			Date	27-1-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+LOCAL_R-X2
			Ed.	HVDB			
			Appr	--			
Modification	Date	Name	Last print	30-9-2022			

Customer: Blastrac bv.

Drawing number: PJ19.1327.09

= E1

+ LOCAL_R

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Terminal line-up diagram

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PE

=E1+LOCAL_R-X2		
Terminal	End plate	End clamp
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
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WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZDUA 2.5-2		
WEID ZPEA 2.5-2	WEID ZAO/TW ZDUA	

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Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
-X2	2	e/mbk eindsteun klein	EINDSTEUN KLEIN	Phoenix Contact	E13388
-X2	17	Miniterminal 2*2.5 TS 15	WEID ZDUA 2.5-2	Weidmuller	E08332
-X2	1	MINI Earth terminal 2*2.5 TS 15	WEID ZPEA 2.5-2	Weidmuller	E08333
-X2	1	Miniterminal end plate	WEID ZAO/TW ZDUA	Weidmuller	E08331
-18H40	1	Red light block with body/fixing collar integral LED 24V	ZB5-AVB4	Schneider Electric	E05072
-18H40	1	flush mounted red pilot light head for integral led	ZB5-FV043	Schneider Electric	E13478
-18NS20	1	Red Ø40 EM-stop/switching off Ø22 turn release 2NC plastic	XB5-AS8444	Schneider Electric	E13003
-18NS20	1	Single contact block for head Ø22 1NC screw clamp terminal	ZBE-102	Schneider Electric	E05092 / BG001514
-18NS20	1	Sticker emergency stop yellow/red	EMERGENCY STOP STICKER	De Vries	E07832
-18R10	1	Robust-Joyst. 0.5-4, 5V ratio. 25", t/t 0. Verr. , Molex 6P	J7A6CA0BB0FAAB	Elobau	E17459
-18RC10	5	Plug pins female (molex)	3900/0039	Molex	E13214
-18RC10	5	Plug pins male (molex)	3900/0041	Molex	E13215
-18RC10	1	Plug female 6P (molex)	3901/2060	Molex	E13216
-18RC10	1	Plug male 6P (molex)	3901/2061	Molex	E13217
-18S45	1	Round red pushbutton Ø 16 - flush spring return - 1OC	XB6-AA45B	Schneider Electric	E17454
-18SH30	1	Round green illuminated pushbutton Ø16-flush spring return-2	XB6-AW3B5B	Schneider Electric	E17456
-18SH35	1	Round green illuminated pushbutton Ø16-flush spring return-2	XB6-AW3B5B	Schneider Electric	E17456

			Date	15-10-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	Page description: Parts list	Customer: Blastrac bv.
			Ed.	HVDB			Drawing number: PJ19.1327.09
			Appr	--			
Modification	Date	Name	Last print	30-9-2022			

= E1
+ LOCAL_R
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Terminal diagram

Page / column					Cable name	Strip =E1+V						Cable name											
					cable type	Connection point	Target designation	jumper	terminal	Connection point	Target designation	cable type											
+/13.10						1	-XF1			R1C	-12U10												
										6	-15K15												
										+	-15B25												
										5	-13K30												
										5	-13K15												
+/20.15						1	-XF2			14	-15K15												
										5	-20K35												
										5	-20K20												

+LOCAL_R/3

2

			Date	12-4-2021	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Terminal Diagram =E1+V	Customer: Blastrac bv.
			Ed.	HvdB				Drawing number: PJ19.1327.09
			Appr	--				
Modification	Date	Name	Last print	30-9-2022				

= E1
+ V
Page 1

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Terminal line-up diagram

=E1+V		
Terminal	End plate	End clamp
PTFIX 6X1.5 GY – 3002757		
PTFIX 1,5-NS35 - 1049497		
PTFIX 6X1.5 GY – 3002757		
PTFIX 1,5-NS35 - 1049497		

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Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
	2	Phoenix PTFIX 6x1.5 GY – Distribution block	PTFIX 6X1.5 GY – 3002757	Phoenix Contact	E17168
	2	Phoenix PTFIX-NS35 - DIN rail adapter	PTFIX 1,5-NS35 - 1049497	Phoenix Contact	E17444

			Date	3-7-2020	Project name: BMS-150E ELECT. BOX 1X230V MKI E13999	BLASTRAC	Page description: Parts list	Customer: Blastrac bv.	= E1
			Ed.	HVDB					+ V
			Appr	--				Drawing number: PJ19.1327.09	Page 3
Modification	Date	Name	Last print	30-9-2022					

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