

GENERATOR CIRCUIT-BREAKER SYSTEM

TIANSHENGQIAO

TYPE HECS-100M

ABB ORDER 19160

- CONTROL VOLTAGE
CLOSE / TRIP 1

:

220 VDC
- CONTROL VOLTAGE
TRIP 2

:

220 VDC
- SUPPLY VOLTAGE
SPRING DRIVE MOTOR

:

220 VDC
- SUPPLY VOLTAGE
DISCONNECTOR, STARTING SWITCH AND
EARTHING SWITCH

:

3x 380 VAC | 50 Hz
- SUPPLY VOLTAGE
HEATING

:

1x 220 VAC | 50 Hz

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	AB	2016-09-27	OBRIST	Checked	2016-09-15	SPITZNAGEL			Resp. dept.:	PGHV-GE2	Cont	87
	AC	2016-09-29	OBRIST	Released	2016-09-15	PERRUCHOUD		ABB ABB Switzerland Ltd	Doc. No	1HC0125772	Sheet	1 of 125*
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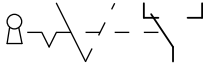
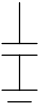
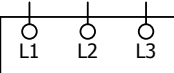
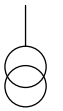
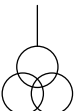
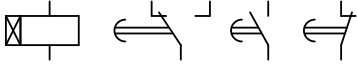
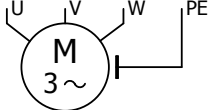
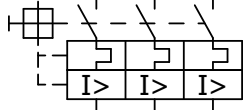
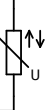
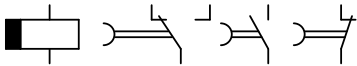
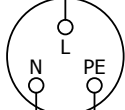
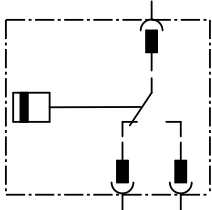
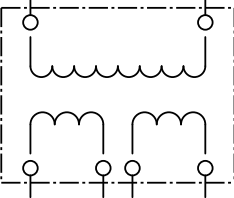
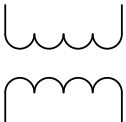
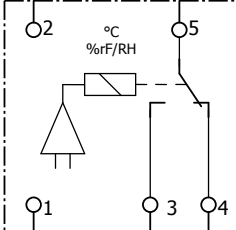
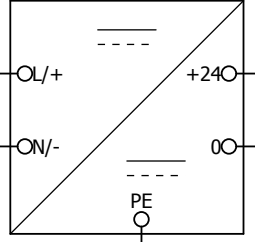
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50.1	XMAIN	TERMINAL BLOCK : =+XMAIN-X1	2016-09-15	OBRIST	AA			
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55	XMAIN	TERMINAL BLOCK : =+XMAIN-X12.1	2016-09-15	OBRIST	AA			
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63	XMAIN	TERMINAL BLOCK : =+XMAIN-XKEY	2016-09-15	OBRIST	AA			
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[illegible]

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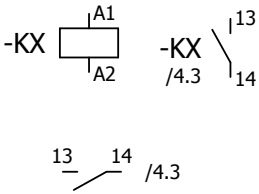
 MINI CIRCUIT BREAKER	 MAKE CONTACT ** RELAY * CONTACTOR	 KEY-OPERATED SWITCH	 PLUG (MALE)	 PLUG (FEMALE)
 TERMINALS	 BREAK CONTACT	 CAPACITOR	 HEATING	 PHASE-SEQUENCE RELAY
 RELAY	 CHANGING OVER CONTACT	 TRANSFORMER WITH TWO WINDINGS	 TRANSFORMER WITH THREE WINDINGS	 DISCONNECT AND MEASURING TERMINAL
 TIME RELAY ON DELAY	 INDUCTIONMOTOR THREE-PHASE	 PLATE SPRING COLUMN MOTOR HMB 4.5	 MOTOR PROTECTION SWITCH	 VARISTOR
 TIME RELAY OFF DELAY	 IMPULSE COUNTER	 FLUORESCENCE LAMP	 PLUG SOCKET	 RESISTOR
 SF6 - DENSITY RELAY	 TRANSFORMER WITH THREE WINDINGS	 TRANSFORMER WITH TWO WINDINGS	 HYGROTHERM	 DC/DC CONVERTER

CIRCUIT-BREAKER IN POSITION "OFF"
AUXILIARY CIRCUIT "OFF"
DRAWN WITHOUT PRESSURE

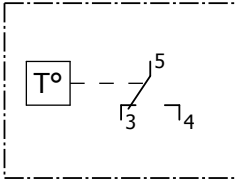
- +GH001 CONTROL CUBICLE
526559
- +Q0G FRAMEWORK
- +Q0G -F6 2GHV006162R0022
- +Q0A CIRCUIT-BREAKER DRIVE
1HC0016655
- +Q0A -S0 GPFX730247P0001
- +Q0A -S0.1 GPFX730247P0001
- +Q0 CIRCUIT-BREAKER
- +Q9 DISCONNECTOR

➔ L10+ /6.2

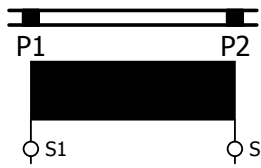
E.G. L10+/6.2 MEANS THAT SUPPLY LINE L10+ CONTINUES ON SHEET 6 CLUMN 2 ON THE CONTINUATION SHEET THE REVERSE DESIGNATION IS GIVEN. THE COLUMN LETTERS ARE INDICATED ON THE FRAME AT THE TOP.



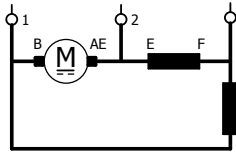
FOR RELAYS THE CONTACT DEVELOPMENT IS SHOWN BELOW THE COIL SYMBOL. THE REFERENCE NUMBERS INDICATE THE SHEETS WHERE THE CONTACTS ARE USED. E.G. 4.3 MEANS: SHEET 4, COLUMN 3. IF ONLY .3 IS SHOWN, THIS MEANS: SAME SHEET, COLUMN 3.



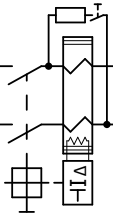
THERMOSTAT



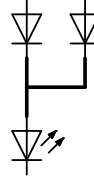
CURRENT TRANSFORMER



MOTOR DC



EARTH-LEAKAGE CIRCUIT BREAKER



DIODE

LED

+ST CONTROL PRINT

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WIRING		REMARKS
CONDUCTOR CROSS-SECTION		
MAIN CIRCUITS	2.5mm ² 600/1000V (Uo/U) (IEC 60228)	
CONTROL CIRCUITS	1.5mm ² 600/1000V (Uo/U) (IEC 60228)	
SIGNAL CIRCUITS (INTERNAL < 24VDC)	0.75mm ² 300/500V (Uo/U) (IEC 60228)	
SIGNAL CIRCUITS (POT. FREE FOR EXTERNAL)	1.5mm ² 600/1000V (Uo/U) (IEC 60228)	
COLOUR		
AC - CIRCUITS (HEATING,LIGHTING)	BLACK	
AC- NEUTRAL	LIGHT BLUE	
DC - CIRCUITS	BLACK	
DC - CIRCUITS (24VDC-INTERPOSING RELAYS AND SIGNALING)	GRAY	
POTENTIAL FREE	BLACK	
EARTHING CONDUCTOR	GNYE	

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2016-09-15 OBRIST

Prepared

2016-09-15 OBRIST

Project name
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19160
HECS-100M

Title
LEGEND

ABB **ABB Switzerland Ltd**

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COMPONENT LIST	ITEM	MANUFACTURER	TECHNICAL DATA	REMARKS
CAPACITOR GENERATOR SIDE	C11-13	ABB	130nF	
CAPACITOR TRANSFORMER SIDE	C21-23	ABB	130nF	

COMPONENT LIST	ITEM	MANUFACTURER	TECHNICAL DATA	REMARKS
CURRENT TRANSFORMER (GENERATOR SIDE)	T1.1-T1.3	ABB	10000A /1A /1A /1A CORE 1: 30VA, 0.5S CORE 2: 30VA, 5P20 CORE 3: 30VA, 5P20	
CURRENT TRANSFORMER (TRANSFORMER SIDE)	T2.1-T2.3	ABB	10000A /1A /1A /1A CORE 1: 30VA, 5P20 CORE 2: 30VA, 5P20 CORE 3: 30VA, 5P20	

COMPONENT LIST	ITEM	MANUFACTURER	TECHNICAL DATA	REMARKS
SURGE ARRESTER	R21-23	ABB	POLIM-H 23N	



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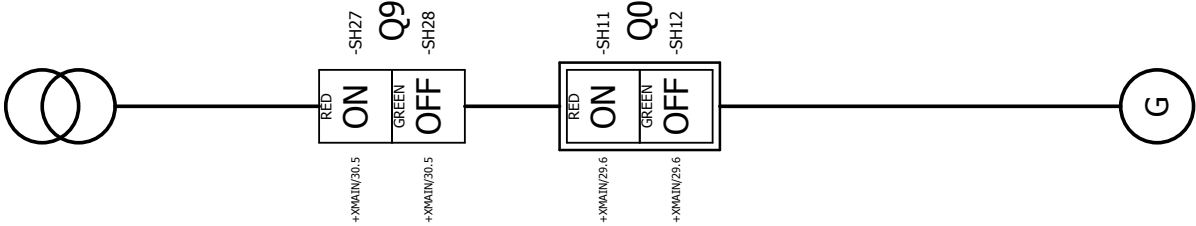
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HECS-100M

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MIMIC DIAGRAM

ABB **ABB Switzerland Ltd**

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OPERATION COUNTER Q0

-P1

+XMAIN/21.6
220VDC

000001

-P2

+XMAIN/24.7
220VDC

000001

PUMP OPERATION COUNTER Q0

-S2 +GH001/13.4

REMOTE

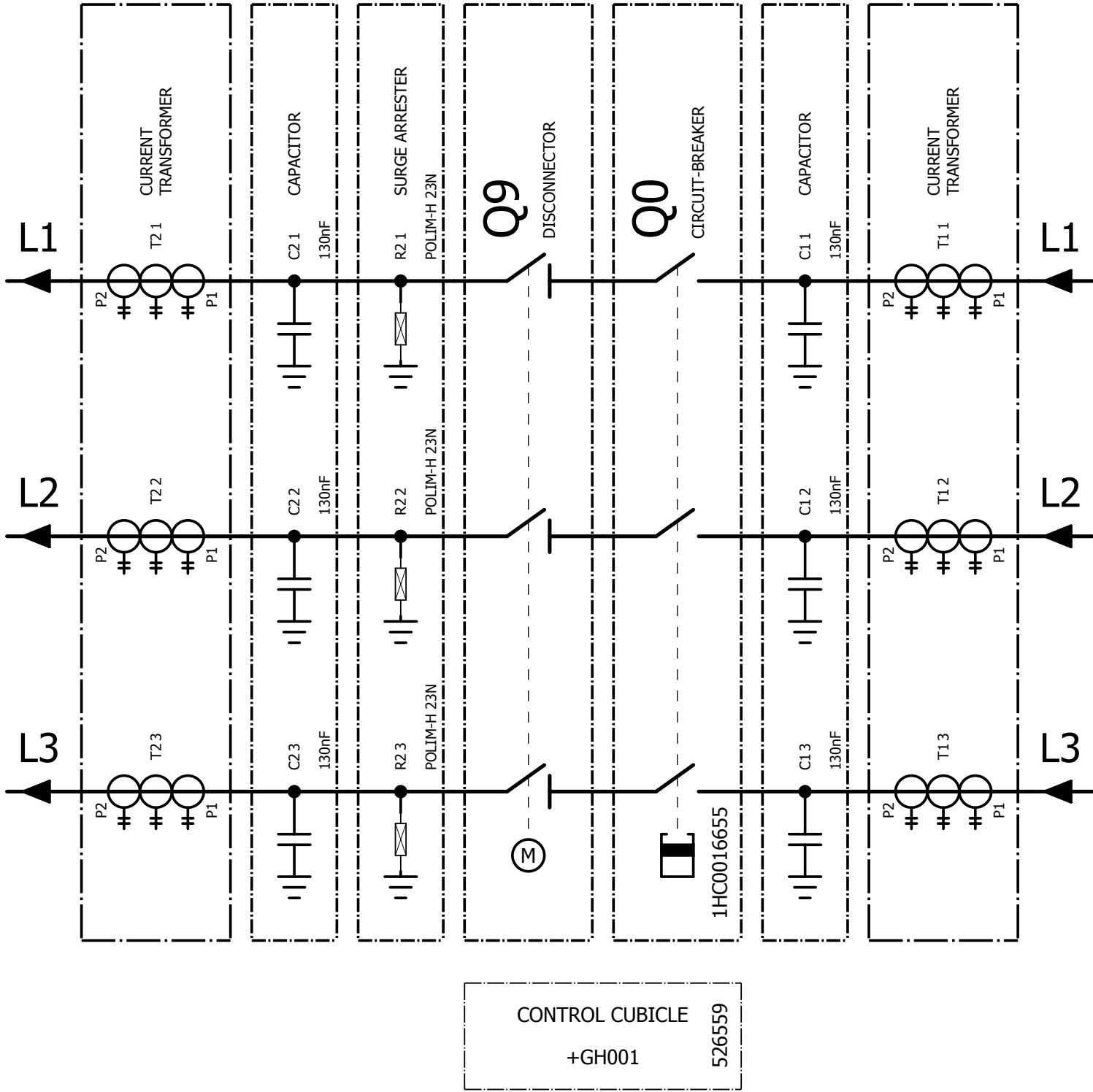
LOCAL

1	SF6 - LOW DENSITY	11	
2	SF6 - BLOCKING CLOSE & TRIP	12	
3	BLOCKING CLOSE	13	
4	BLOCKING TRIP	14	CLOSE CIRCUIT FAULT
5	LONG TIME PUMP RUNNING	15	TRIP 1 CIRCUIT FAULT
6	DC VOLTAGE FAULT	16	TRIP 2 CIRCUIT FAULT
7	VOLTAGE FAULT PUMP MOTOR	17	
8	AC VOLTAGE FAULT	18	
9	PHASE-SEQUENCE FAILURE	19	
10	MOTOR PROT. Q9 TRIPPED	20	
			-M1 +XMAIN/31.1 +XMAIN/32.1
			LAMP-TEST



TO TRANSFORMER

GENERATOR CIRCUIT-BREAKER SYSTEM



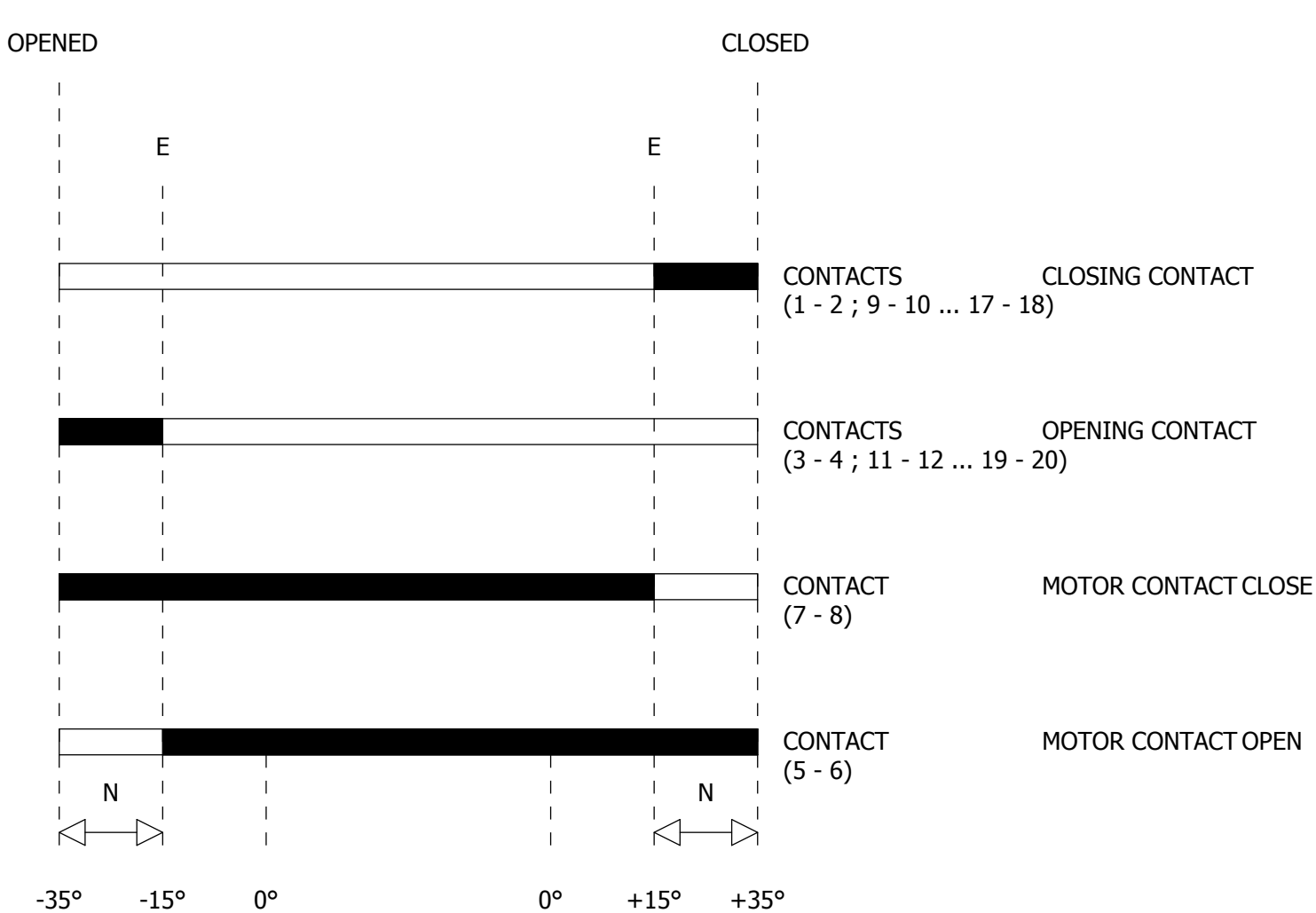
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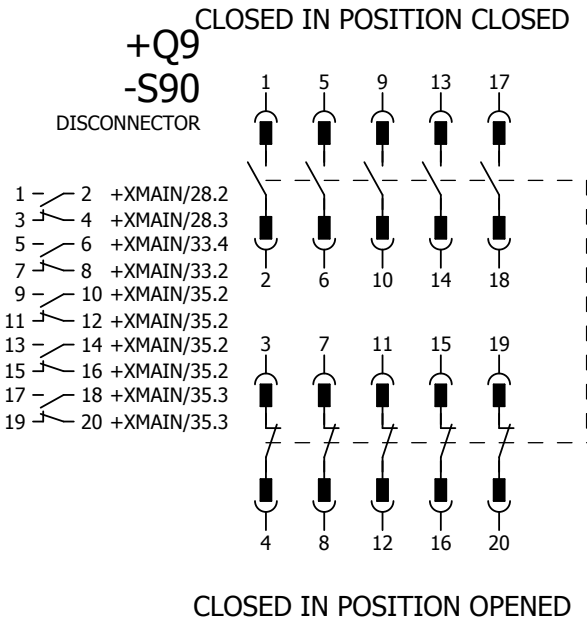


SLOW DRIVE AUXILIARY SWITCH



E END POSITION
N AFTER-RUNNING

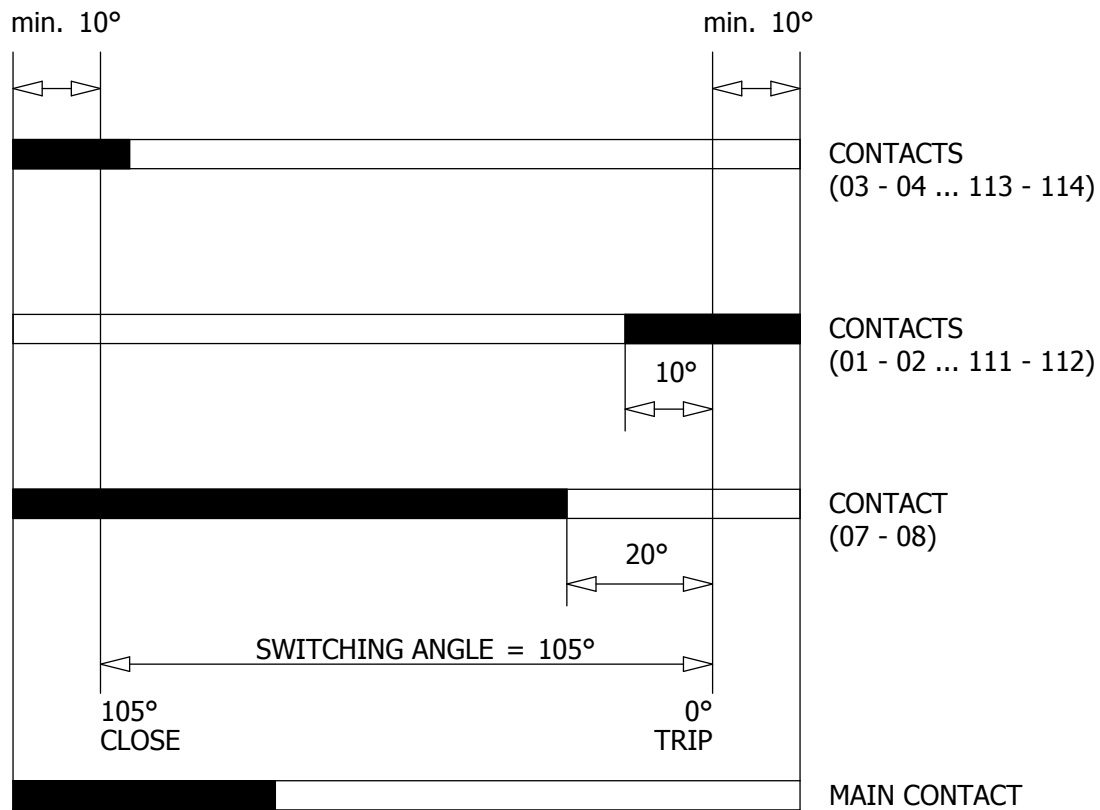
SWITCHING CAPACITY			
	NC	NO	TIME CONSTANT
110VDC	4A	3A	20ms
125VDC	4A	3A	20ms
220VDC	2A	1A	20ms



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				Checked					Resp. dept.:	PGHV-GE2	Cont.	87
				Released					Doc. No.	1HC0125772	Sheet	7 of 125*
				Derived from								

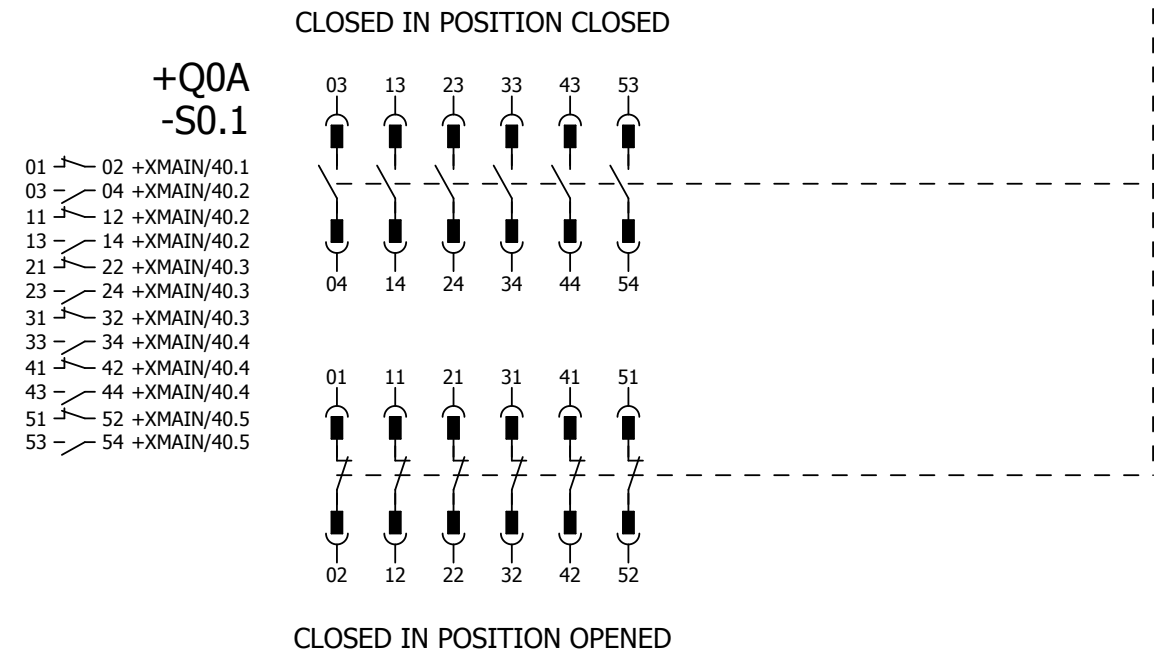
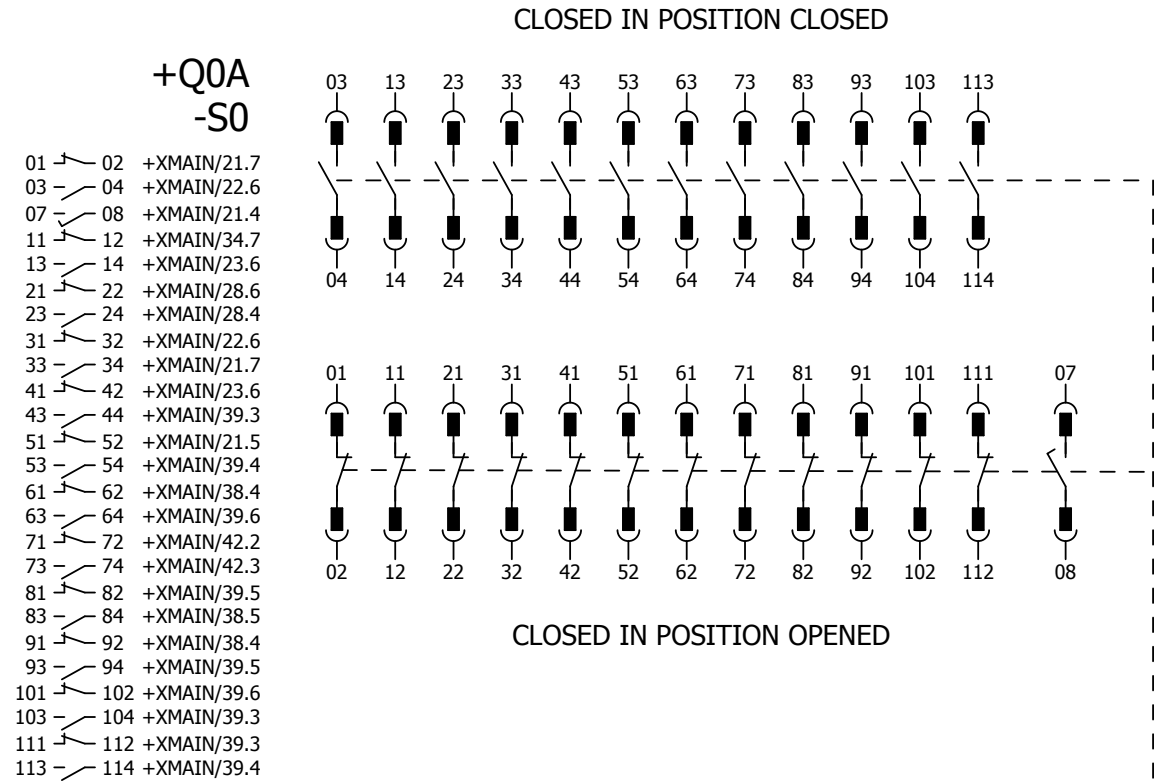


SWITCHING PROGRAM AUXILIARY SWITCH

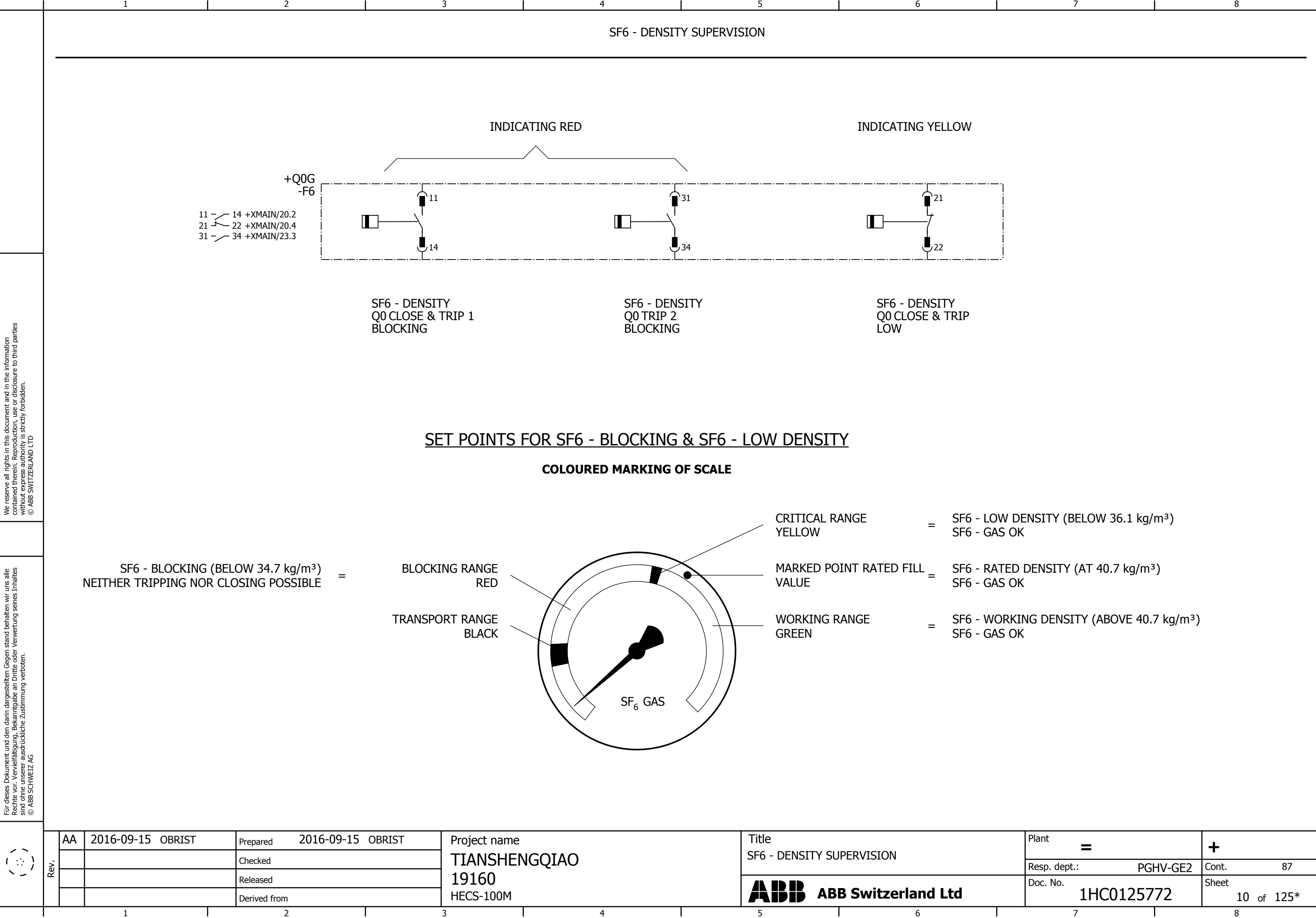


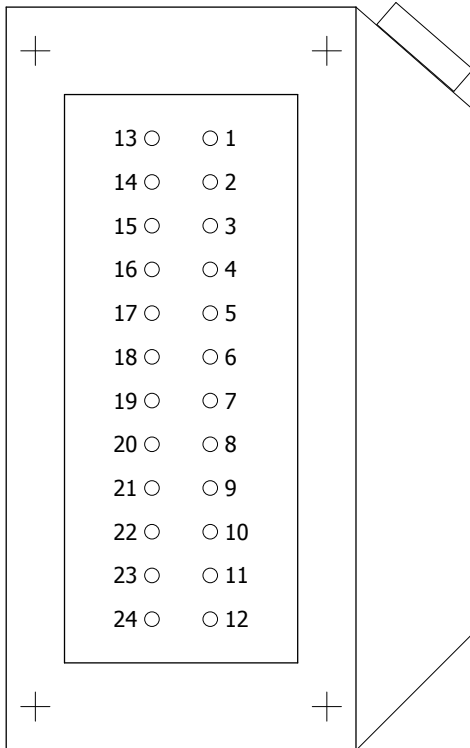
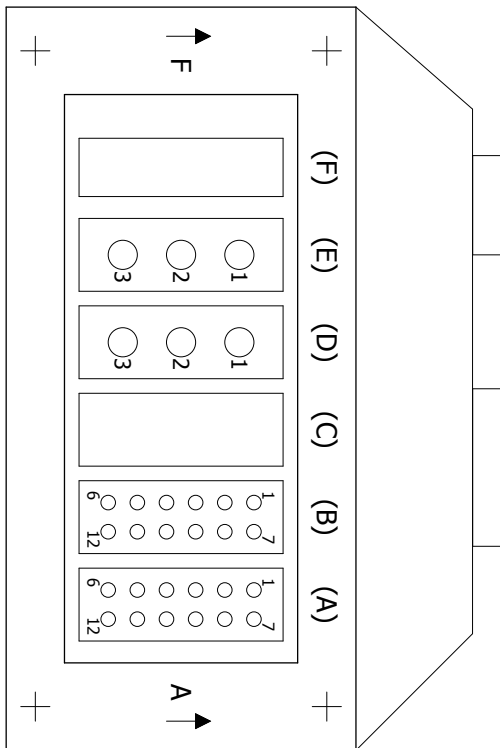
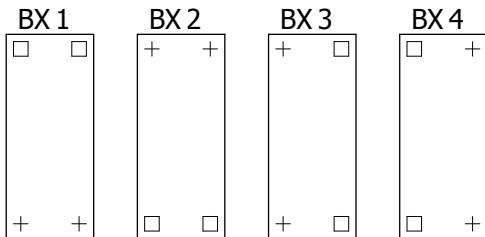
SWITCHING CAPACITY			
	NC	NO	TIME CONSTANT
110VDC	2.5A	2.5A	20ms
125VDC	2.5A	2.5A	20ms
220VDC	2.5A	2.5A	20ms

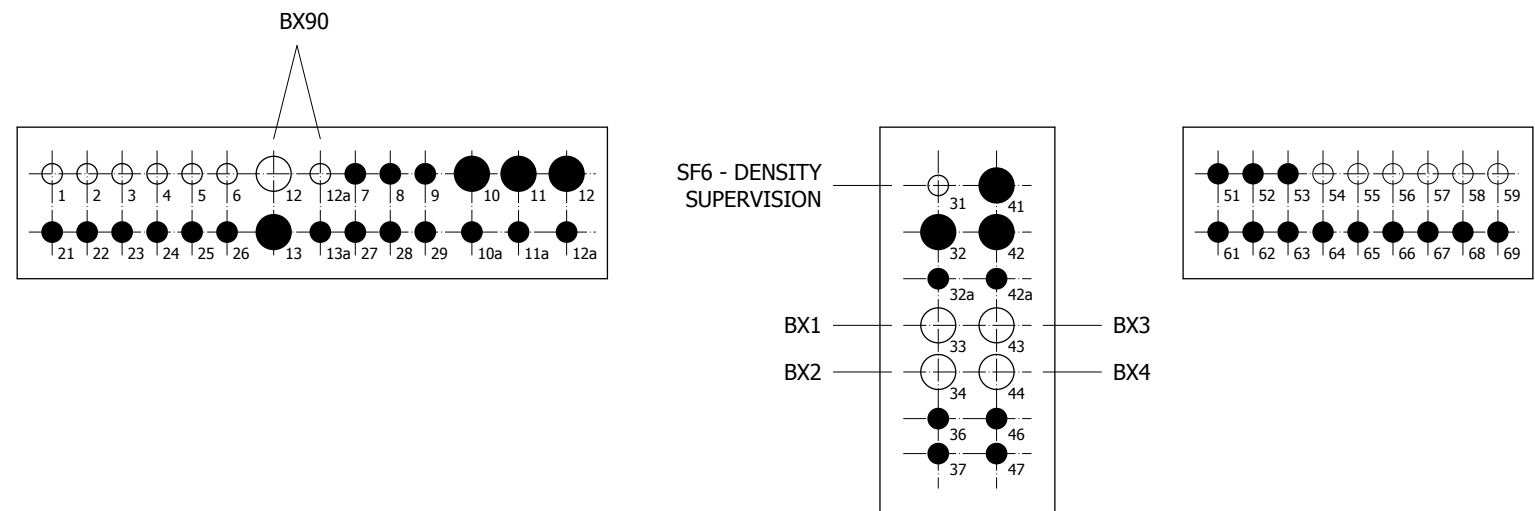
CIRCUIT-BREAKER
CIRCUIT-BREAKER IN TRIPPED POSITION



Rev.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title AUXILIARY SWITCH S0/S0.1 ABB ABB Switzerland Ltd	Plant	=	+
			Checked				Resp. dept.:	PGHV-GE2	Cont. 87
			Released				Doc. No.	1HC0125772	Sheet 9 of 125*
			Derived from						



		1	2	3	4	5	6	7	8										
		<u>CONTACT GROUPING OF THE HEAVY DUTY CONNECTORS - CONTACT VIEW</u>																	
		BX 1...4 DRIVE HMB 4.5				BX 90 DRIVE DISCONNECTOR													
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		FEMALE (F)				FEMALE (F)													
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						CODE IDENTIFICATION PLUG SOCKET													
						+ FIXING SCREW □ GUIDE BOLT													
	Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M		Title PLUG SOCKET ABB ABB Switzerland Ltd		Plant		=		+			
					Checked							Resp. dept.:		PGHV-GE2		Cont.		87	
					Released							Doc. No.		1HC0125772		Sheet		11 of 125*	
					Derived from														
		1	2	3	4	5	6	7	8										



<u>LENGTH OF CABLE</u>			
	STANDARD	ADDITIONAL	TOTAL
BX1	1970 mm	0 mm	1970 mm
BX2	1990 mm	0 mm	1990 mm
BX3	2070 mm	0 mm	2070 mm
BX4	2120 mm	0 mm	2120 mm
BX90	1190 mm	0 mm	1190 mm

Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title CONTROL CUBICLE LAYOUT	Plant =	+ GH001
				Checked					Resp. dept.: PGHV-GE2	Cont. 87
				Released				ABB ABB Switzerland Ltd	Doc. No. 1HC0125772	Sheet 12 of 125*
				Derived from						

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LOCAL - REMOTE SELECTOR SWITCH

Ith= 25A (Permanent current)
Ui= 660VAC (Nominal insulation Voltage)

-S2

POSITION OF SWITCH	MOVEMENT	CONTACTS							
		1	3	5	7	9	11	13	15
		2/4	6/8	10/12	14/16				
LOCAL REMOTE									

Rev.	AA	2016-09-15 OBRIST	Prepared 2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title KEY-OPERATED SWITCH	Plant =	+ GH001
			Checked			Resp. dept.: PGHV-GE2	Cont. 87
			Released		ABB ABB Switzerland Ltd	Doc. No. 1HC0125772	Sheet 13 of 125*
			Derived from				

LIST OF APPARATUS

LOCAL (+)	ITEM (-)	Cross reference	ITEM NAME		TYPE	MANUFACTURER	ID.NUMBER
+Q0A	-M0	24.1	MOTOR	220-250VDC 660W	COMPOUNDMOTOR	GROSCHOPP	GPFX052220R0002
+Q0A	-R1	25.7	HEATING	220-250V, 70W, 691 OHM	691 OHM 70W	HORN	GPFX730173P0002
+Q0A	-S0	9.6	AUXILIARY SWITCH	25 POLE	25 POL	RUHRTAL	GPFX730247P0001
+Q0A	-S0.1	9.6	AUXILIARY SWITCH	25 POLE	25 POL	RUHRTAL	GPFX730247P0001
+Q0A	-S1	8.5	SPRING STROKE SWITCH	HMB 4.5	HMB 4.5	Gessmann	1HDH112000P0004
+Q0A	-Y1	21.7	COIL	220VDC	R= 201,7Ohm/240W/220VDC	ABB	1HDH112145P0103
+Q0A	-Y2	22.6	COIL	220VDC	R= 201,7Ohm/240W/220VDC	ABB	1HDH112145P0103
+Q0A	-Y3	23.6	COIL	220VDC	R= 201,7Ohm/240W/220VDC	ABB	1HDH112145P0103
+Q0G	-F6	10.2	SF6 - DENSITY RELAY		HECS	TRAFAG	2GHV006162R0022
+Q9	-M90	33.7	MOTOR	3x 380-480VAC 50/60Hz	HDZ-120-65	WUXI NEWHON.	1HC0073959R0001
+Q9	-R1	25.6	HEATING DRIVE	AC/DC 100-250V 8W	RC 016	STEGO	HAQN400910P0008
+Q9	-S90	7.6	AUXILIARY SWITCH		10.POL/HECS	ABB	1HC0018219P0001
+Q9V	-R1	25.6	HEATING DRIVE	AC/DC 100-250V 8W	RC 016	STEGO	HAQN400910P0008
+Q9V	+Q9V -S901	34.6	LOCKING CONTACT		BZ-2 RW 822-A2	HONEYWELL	HZN 452874P0001
+GH001	-E11	26.2	HEATING CONTROL CUBICLE	AC/DC 110-240V 100W	06010.0-00	STEGO	1HC6023783R0002
+GH001	-E12	26.3	HEATING CONTROL CUBICLE	AC/DC 110-240V 100W	06010.0-00	STEGO	1HC6023783R0002
+GH001	-M1	5.4	SIGNAL BOARD		Typ AZ320-20R-30-LK	ELOTECH	1HC6020773R0001
+GH001	-P1	5.5	IMPULSE COUNTER	220VDC	Typ 464.181 / 1405 465	HENGSTLER	HAGG404099P0001
+GH001	-P2	5.5	IMPULSE COUNTER	220VDC	Typ 464.181 / 1405 465	HENGSTLER	HAGG404099P0001
+GH001	-PMONT-P1	5.5	PROTECTIVE CASES		Typ. 1 405 669	HENGSTLER	HAGG404099P0101
+GH001	-S2	13.4	KEY-OPERATED SWITCH	HF2	Typ HF2	GHIELMETTI	1HC0067057P0000
+ST	-SH11	5.3	LIGHTED PUSHBUTTON SWITCH		51-151.022	EAO	HAGG404273P0009
+ST	-SH11	5.3	PRESSURE CAP RED		51-953.2	EAO	HAGG404273P0022
+ST	-SH11	5.3	STAR-LED	RED	10-2112.1062	EAO	HAGG404273P0045
+ST	-SH12	5.3	LIGHTED PUSHBUTTON SWITCH		51-151.022	EAO	HAGG404273P0009
+ST	-SH12	5.3	PRESSURE CAP	GREEN	51-953.5	EAO	HAGG404273P0023
+ST	-SH12	5.3	STAR-LED	GREEN	10-2112.1065	EAO	HAGG404273P0047
+ST	-SH27	5.2	LIGHTED PUSHBUTTON SWITCH		51-151.022	EAO	HAGG404273P0009

REV.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title APPARATUS LIST	Plant =	+ GH001
			Checked					
			Released			Doc. No. 1HC0125772	Sheet 14.1 of 125*	
			Derived from					
						ABB ABB Switzerland Ltd		

LIST OF APPARATUS																																																																																																																																																																																																																					
<table><tr><th>LOCAL (+)</th><th>ITEM (-)</th><th>Cross reference</th><th>ITEM NAME</th><th>TYPE</th><th>MANUFACTURER</th><th>ID.NUMBER</th></tr><tr><td>+ST</td><td>-SH27</td><td>5.2</td><td>PRESSURE CAP RED</td><td>51-953.2</td><td>EAO</td><td>HAGG404273P0022</td></tr><tr><td>+ST</td><td>-SH27</td><td>5.2</td><td>STAR-LED RED</td><td>10-2112.1062</td><td>EAO</td><td>HAGG404273P0045</td></tr><tr><td>+ST</td><td>-SH28</td><td>5.2</td><td>LIGHTED PUSHBUTTON SWITCH</td><td>51-151.022</td><td>EAO</td><td>HAGG404273P0009</td></tr><tr><td>+ST</td><td>-SH28</td><td>5.2</td><td>PRESSURE CAP GREEN</td><td>51-953.5</td><td>EAO</td><td>HAGG404273P0023</td></tr><tr><td>+ST</td><td>-SH28</td><td>5.2</td><td>STAR-LED GREEN</td><td>10-2112.1065</td><td>EAO</td><td>HAGG404273P0047</td></tr><tr><td>+ST</td><td>-ST</td><td>5.1</td><td>CONTROL CIRCUIT-BOARD</td><td>Control-Print 24VDC</td><td>ART</td><td>161747</td></tr><tr><td>+XMAIN</td><td>-B1</td><td>26.4</td><td>HYGROTHERM 230VAC/0...60°C/50..90%rF</td><td>ETF012</td><td>STEGO</td><td>1HC6009190P0011</td></tr><tr><td>+XMAIN</td><td>-E1</td><td>26.7</td><td>CUBICLE LIGHTING 100..240 VAC 50/60Hz</td><td>LED 025</td><td>STEGO</td><td>02541.0-00</td></tr><tr><td>+XMAIN</td><td>-E2</td><td>26.8</td><td>PLUG SOCKET 250VAC Deutschland mit Sicherung (Max.</td><td>SD 035</td><td>STEGO</td><td>1HC6009160P0001</td></tr><tr><td>+XMAIN</td><td>-F1</td><td>18.4</td><td>MINI CIRCUIT BREAKER 2 x 2A/UC-K</td><td>S202M-K2UC</td><td>ABB</td><td>2CDS272061R0277</td></tr><tr><td>+XMAIN</td><td>-F2</td><td>18.4</td><td>MINI CIRCUIT BREAKER 2 x 6A/UC-K</td><td>S 202M-K6UC</td><td>ABB</td><td>2CDS272061R0377</td></tr><tr><td>+XMAIN</td><td>-F3</td><td>18.4</td><td>MINI CIRCUIT BREAKER 2 x 2A/UC-K</td><td>S202M-K2UC</td><td>ABB</td><td>2CDS272061R0277</td></tr><tr><td>+XMAIN</td><td>-F4</td><td>18.4</td><td>MINI CIRCUIT BREAKER 2 x 2A/UC-K</td><td>S202M-K2UC</td><td>ABB</td><td>2CDS272061R0277</td></tr><tr><td>+XMAIN</td><td>-F5</td><td>18.4</td><td>MINI CIRCUIT BREAKER 2 x 2A/UC-K</td><td>S202M-K2UC</td><td>ABB</td><td>2CDS272061R0277</td></tr><tr><td>+XMAIN</td><td>-F11</td><td>19.3</td><td>RESIDUAL CURRENT DEVICE 16A/B 30mA (1L-N)</td><td>DS201-B 16/0.03</td><td>ABB</td><td>2CSR255140R1165</td></tr><tr><td>+XMAIN</td><td>-F12</td><td>19.3</td><td>MINI CIRCUIT BREAKER 1 x 16A/B</td><td>S201M-B 16</td><td>ABB</td><td>2CDS271001R0165</td></tr><tr><td>+XMAIN</td><td>-F12</td><td>19.3</td><td>AUXILIARY CONTACTS 1NO+1NC</td><td>S2C-H11L</td><td>ABB</td><td>2CDS200936R0001</td></tr><tr><td>+XMAIN</td><td>-F13</td><td>19.3</td><td>MINI CIRCUIT BREAKER 3 x 16A/B</td><td>S203M-B 16</td><td>ABB</td><td>2CDS273001R0165</td></tr><tr><td>+XMAIN</td><td>-F19</td><td>27.2</td><td>MINI CIRCUIT BREAKER 1 x 0.5A/UC-Z</td><td>S 201M UC-Z 0.5</td><td>ABB</td><td>2CDS271061R0158</td></tr><tr><td>+XMAIN</td><td>-F19</td><td>27.2</td><td>AUXILIARY CONTACTS 1NO+1NC</td><td>S2-H11</td><td>ABB</td><td>GHS2701916R0001</td></tr><tr><td>+XMAIN</td><td>-K1</td><td>21.5</td><td>CONTACTOR 220VDC 1.3W</td><td>62.33</td><td>FINDER</td><td>1HC6002941P0035</td></tr><tr><td>+XMAIN</td><td>-K1</td><td>21.5</td><td>SOCKET</td><td>92.03</td><td>FINDER</td><td>1HC6002941P0041</td></tr><tr><td>+XMAIN</td><td>-K2</td><td>20.5</td><td>AUXILIARY RELAY 4NO+4NC 100...250VUC</td><td>NF44E-13</td><td>ABB</td><td>1SBH137001R1344</td></tr><tr><td>+XMAIN</td><td>-K3</td><td>20.2</td><td>AUXILIARY RELAY 4NO+4NC 100...250VUC</td><td>NF44E-13</td><td>ABB</td><td>1SBH137001R1344</td></tr><tr><td>+XMAIN</td><td>-K4</td><td>20.4</td><td>AUXILIARY RELAY 4NO 100...250VUC</td><td>NF40E-13</td><td>ABB</td><td>1SBH137001R1340</td></tr><tr><td>+XMAIN</td><td>-K5</td><td>20.5</td><td>AUXILIARY RELAY 4NO+4NC 100...250VUC</td><td>NF44E-13</td><td>ABB</td><td>1SBH137001R1344</td></tr><tr><td>+XMAIN</td><td>-K8</td><td>24.6</td><td>AUXILIARY RELAY 4NO 100...250VUC</td><td>NF40E-13</td><td>ABB</td><td>1SBH137001R1340</td></tr><tr><td>+XMAIN</td><td>-K9</td><td>24.7</td><td>TIME RELAY 24...240VUC 2W</td><td>700-FSM4UU18</td><td>Allen-Bradley</td><td>1HC6002630P0001</td></tr></table>											LOCAL (+)	ITEM (-)	Cross reference	ITEM NAME	TYPE	MANUFACTURER	ID.NUMBER	+ST	-SH27	5.2	PRESSURE CAP RED	51-953.2	EAO	HAGG404273P0022	+ST	-SH27	5.2	STAR-LED RED	10-2112.1062	EAO	HAGG404273P0045	+ST	-SH28	5.2	LIGHTED PUSHBUTTON SWITCH	51-151.022	EAO	HAGG404273P0009	+ST	-SH28	5.2	PRESSURE CAP GREEN	51-953.5	EAO	HAGG404273P0023	+ST	-SH28	5.2	STAR-LED GREEN	10-2112.1065	EAO	HAGG404273P0047	+ST	-ST	5.1	CONTROL CIRCUIT-BOARD	Control-Print 24VDC	ART	161747	+XMAIN	-B1	26.4	HYGROTHERM 230VAC/0...60°C/50..90%rF	ETF012	STEGO	1HC6009190P0011	+XMAIN	-E1	26.7	CUBICLE LIGHTING 100..240 VAC 50/60Hz	LED 025	STEGO	02541.0-00	+XMAIN	-E2	26.8	PLUG SOCKET 250VAC Deutschland mit Sicherung (Max.	SD 035	STEGO	1HC6009160P0001	+XMAIN	-F1	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277	+XMAIN	-F2	18.4	MINI CIRCUIT BREAKER 2 x 6A/UC-K	S 202M-K6UC	ABB	2CDS272061R0377	+XMAIN	-F3	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277	+XMAIN	-F4	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277	+XMAIN	-F5	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277	+XMAIN	-F11	19.3	RESIDUAL CURRENT DEVICE 16A/B 30mA (1L-N)	DS201-B 16/0.03	ABB	2CSR255140R1165	+XMAIN	-F12	19.3	MINI CIRCUIT BREAKER 1 x 16A/B	S201M-B 16	ABB	2CDS271001R0165	+XMAIN	-F12	19.3	AUXILIARY CONTACTS 1NO+1NC	S2C-H11L	ABB	2CDS200936R0001	+XMAIN	-F13	19.3	MINI CIRCUIT BREAKER 3 x 16A/B	S203M-B 16	ABB	2CDS273001R0165	+XMAIN	-F19	27.2	MINI CIRCUIT BREAKER 1 x 0.5A/UC-Z	S 201M UC-Z 0.5	ABB	2CDS271061R0158	+XMAIN	-F19	27.2	AUXILIARY CONTACTS 1NO+1NC	S2-H11	ABB	GHS2701916R0001	+XMAIN	-K1	21.5	CONTACTOR 220VDC 1.3W	62.33	FINDER	1HC6002941P0035	+XMAIN	-K1	21.5	SOCKET	92.03	FINDER	1HC6002941P0041	+XMAIN	-K2	20.5	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344	+XMAIN	-K3	20.2	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344	+XMAIN	-K4	20.4	AUXILIARY RELAY 4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340	+XMAIN	-K5	20.5	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344	+XMAIN	-K8	24.6	AUXILIARY RELAY 4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340	+XMAIN	-K9	24.7	TIME RELAY 24...240VUC 2W	700-FSM4UU18	Allen-Bradley	1HC6002630P0001
LOCAL (+)	ITEM (-)	Cross reference	ITEM NAME	TYPE	MANUFACTURER	ID.NUMBER																																																																																																																																																																																																															
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+XMAIN	-E1	26.7	CUBICLE LIGHTING 100..240 VAC 50/60Hz	LED 025	STEGO	02541.0-00																																																																																																																																																																																																															
+XMAIN	-E2	26.8	PLUG SOCKET 250VAC Deutschland mit Sicherung (Max.	SD 035	STEGO	1HC6009160P0001																																																																																																																																																																																																															
+XMAIN	-F1	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277																																																																																																																																																																																																															
+XMAIN	-F2	18.4	MINI CIRCUIT BREAKER 2 x 6A/UC-K	S 202M-K6UC	ABB	2CDS272061R0377																																																																																																																																																																																																															
+XMAIN	-F3	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277																																																																																																																																																																																																															
+XMAIN	-F4	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277																																																																																																																																																																																																															
+XMAIN	-F5	18.4	MINI CIRCUIT BREAKER 2 x 2A/UC-K	S202M-K2UC	ABB	2CDS272061R0277																																																																																																																																																																																																															
+XMAIN	-F11	19.3	RESIDUAL CURRENT DEVICE 16A/B 30mA (1L-N)	DS201-B 16/0.03	ABB	2CSR255140R1165																																																																																																																																																																																																															
+XMAIN	-F12	19.3	MINI CIRCUIT BREAKER 1 x 16A/B	S201M-B 16	ABB	2CDS271001R0165																																																																																																																																																																																																															
+XMAIN	-F12	19.3	AUXILIARY CONTACTS 1NO+1NC	S2C-H11L	ABB	2CDS200936R0001																																																																																																																																																																																																															
+XMAIN	-F13	19.3	MINI CIRCUIT BREAKER 3 x 16A/B	S203M-B 16	ABB	2CDS273001R0165																																																																																																																																																																																																															
+XMAIN	-F19	27.2	MINI CIRCUIT BREAKER 1 x 0.5A/UC-Z	S 201M UC-Z 0.5	ABB	2CDS271061R0158																																																																																																																																																																																																															
+XMAIN	-F19	27.2	AUXILIARY CONTACTS 1NO+1NC	S2-H11	ABB	GHS2701916R0001																																																																																																																																																																																																															
+XMAIN	-K1	21.5	CONTACTOR 220VDC 1.3W	62.33	FINDER	1HC6002941P0035																																																																																																																																																																																																															
+XMAIN	-K1	21.5	SOCKET	92.03	FINDER	1HC6002941P0041																																																																																																																																																																																																															
+XMAIN	-K2	20.5	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344																																																																																																																																																																																																															
+XMAIN	-K3	20.2	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344																																																																																																																																																																																																															
+XMAIN	-K4	20.4	AUXILIARY RELAY 4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340																																																																																																																																																																																																															
+XMAIN	-K5	20.5	AUXILIARY RELAY 4NO+4NC 100...250VUC	NF44E-13	ABB	1SBH137001R1344																																																																																																																																																																																																															
+XMAIN	-K8	24.6	AUXILIARY RELAY 4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340																																																																																																																																																																																																															
+XMAIN	-K9	24.7	TIME RELAY 24...240VUC 2W	700-FSM4UU18	Allen-Bradley	1HC6002630P0001																																																																																																																																																																																																															
<table><tr><td rowspan="4"> </td><td rowspan="4">Rev.</td><td>AA</td><td>2016-09-15 OBRIST</td><td>Prepared</td><td>2016-09-15 OBRIST</td><td rowspan="4">Project name TIANSHENGQIAO 19160 HECS-100M</td><td rowspan="4">Title APPARATUS LIST ABB ABB Switzerland Ltd </td><td>Plant</td><td>=</td><td>+ GH001</td></tr><tr><td></td><td></td><td>Checked</td><td></td><td>Resp. dept.:</td><td>PGHV-GE2</td><td>Cont.</td><td>87</td></tr><tr><td></td><td></td><td>Released</td><td></td><td>Doc. No.</td><td>1HC0125772</td><td>Sheet</td><td></td></tr><tr><td></td><td></td><td>Derived from</td><td></td><td></td><td>14.2 of 125*</td></tr></table>												Rev.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title APPARATUS LIST ABB ABB Switzerland Ltd	Plant	=	+ GH001			Checked		Resp. dept.:	PGHV-GE2	Cont.	87			Released		Doc. No.	1HC0125772	Sheet				Derived from			14.2 of 125*																																																																																																																																																																										
	Rev.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title APPARATUS LIST ABB ABB Switzerland Ltd	Plant	=	+ GH001																																																																																																																																																																																																											
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LIST OF APPARATUS

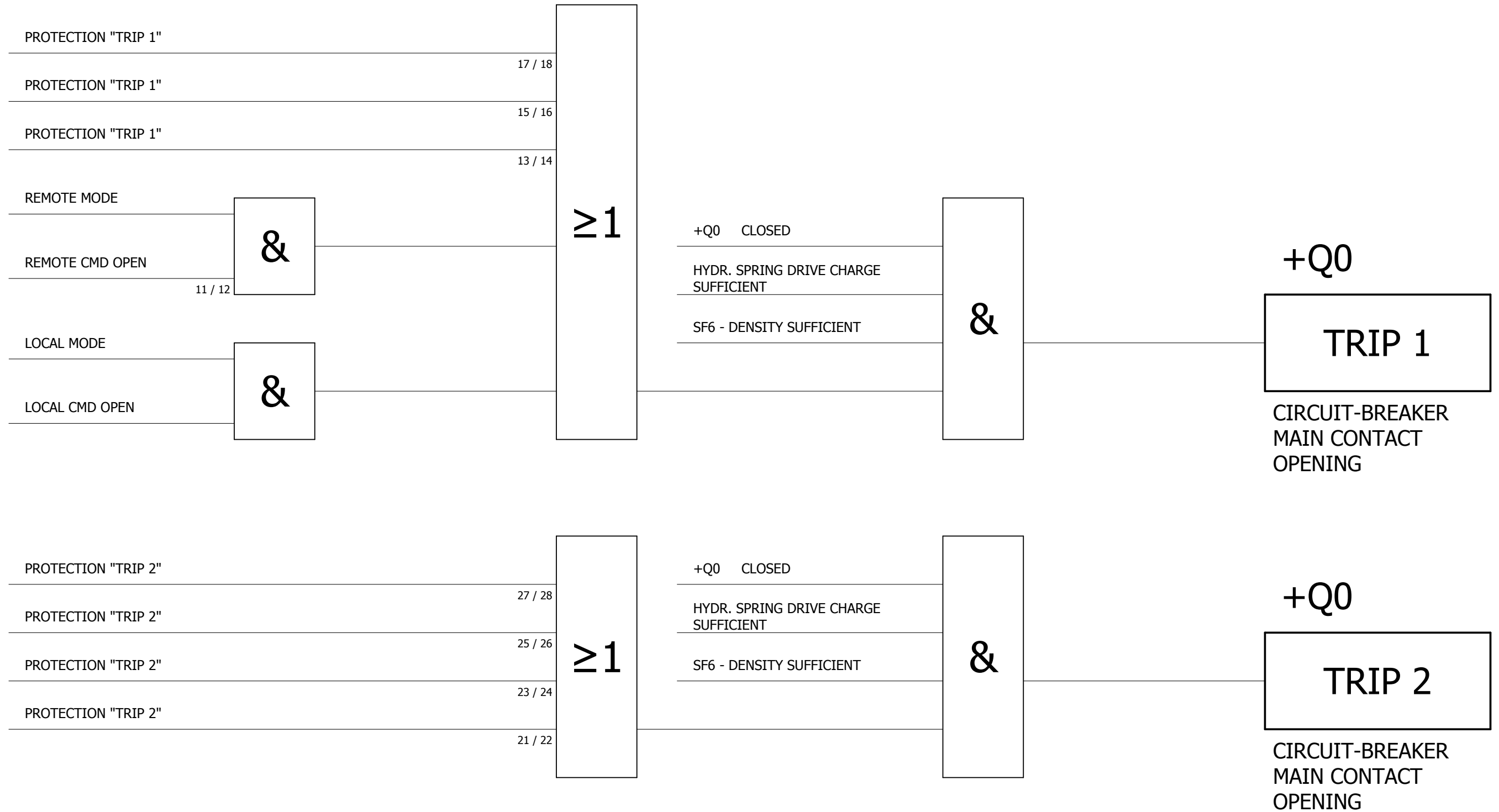
LOCAL (+)	ITEM (-)	Cross reference	ITEM NAME		TYPE	MANUFACTURER	ID.NUMBER
+XMAIN	-K10	24.4	AUXILIARY RELAY	4NO 220VDC	MG40E	CMC	HASV400599P0025
+XMAIN	-K10.1	24.5	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K11	27.2	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K12	27.3	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K21	33.2	CONTACTOR	3H+1NO 100...250VDC	AF09-30-10-13	ABB	1SBL137001R1310
+XMAIN	-K21	33.2	AUXILIARY SWITCH	1NC	CA4-01	ABB	1SBN010110R1001
+XMAIN	-K22	33.4	CONTACTOR	3H+1NO 100...250VDC	AF09-30-10-13	ABB	1SBL137001R1310
+XMAIN	-K22	33.4	AUXILIARY SWITCH	1NC	CA4-01	ABB	1SBN010110R1001
+XMAIN	-K50	45.2	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K51	45.4	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K52	45.6	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K53	45.8	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K54	45.2	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K55	45.4	AUXILIARY RELAY	2NO+2NC 17...32VDC	TNL22E 17-32VDC	ABB	1SBH143061R5122
+XMAIN	-K57	45.7	PHASE-SEQUENCE RELAY	2W 300-500V 50/60Hz	CM-PAS.41S	ABB	1SVR730774R3300
+XMAIN	-K57A	19.6	AUXILIARY RELAY	2NO+2NC 100...250VUC	NF22E-13	ABB	1SBH137001R1322
+XMAIN	-K60C	28.4	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K60O	28.6	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K64	26.5	AUXILIARY RELAY	4NO 100...250VUC	NF40E-13	ABB	1SBH137001R1340
+XMAIN	-K90C	28.2	AUXILIARY RELAY	8NO 100...250VUC	NF80E-13	ABB	1SBH137001R1380
+XMAIN	-K90O	28.3	AUXILIARY RELAY	8NO 100...250VUC	NF80E-13	ABB	1SBH137001R1380
+XMAIN	-Q900	33.6	MOTOR PROTECTION SWITCH	1.6-2.5A	MS 132-2.5	ABB	1SAM350000R1007
+XMAIN	-Q900	33.6	AUXILIARY CONTACTS	MS132 Serie 2 NO	HK1-20	ABB	1SAM201902R1002
+XMAIN	-Q900	33.6	AUXILIARY CONTACTS	MS132 Serie 2 NC	HK1-02	ABB	1SAM201902R1003
+XMAIN	-U1	18.5	DC/DC CONVERTER		RS25-24	SIMPEX	1HC6002633P0165
+XTCS	-K100	73.2	TRIP CIRCUIT-CONTROL-RELAY	220VDC	TSG912X22L22	Schärer	HASV402552P0001
+XTCS	-K101	73.4	TRIP CIRCUIT-CONTROL-RELAY	220VDC	TSG912X22L22	Schärer	HASV402552P0001
+XTCS	-K102	73.7	TRIP CIRCUIT-CONTROL-RELAY	220VDC	TSG912X22L22	Schärer	HASV402552P0001

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										LIST OF APPARATUS											
										LOCAL (+)	ITEM (-)	Cross reference	ITEM NAME	TYPE	MANUFACTURER	ID.NUMBER					
										+XTCS	-R1	73.2	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
										+XTCS	-R2	73.2	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
										+XTCS	-R3	73.4	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
										+XTCS	-R4	73.4	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
										+XTCS	-R5	73.7	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
										+XTCS	-R6	73.7	RESISTOR	8,9kOhm 10/11W	Schärer	HASV402552P0003					
We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © ABB SWITZERLAND LTD										+XCUST_1	-K601	114.3	BISTABLE RELAY	220VDC	AD 8851.19.220DC	DOLD	1HC6020527P0220				
										+XCUST_1	-K602	114.4	BISTABLE RELAY	220VDC	AD 8851.19.220DC	DOLD	1HC6020527P0220				
										+XCUST_2	-K901	119.3	BISTABLE RELAY	220VDC	AD 8851.19.220DC	DOLD	1HC6020527P0220				
										+XCUST_2	-K902	119.4	BISTABLE RELAY	220VDC	AD 8851.19.220DC	DOLD	1HC6020527P0220				
										+XCUST_2	-K903	119.5	BISTABLE RELAY	220VDC	AD 8851.19.220DC	DOLD	1HC6020527P0220				
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												Released		19160		ABB ABB Switzerland Ltd		Doc. No.	1HC0125772	Sheet	
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INTERLOCKING CB Q0 TRIP 1 & 2

INTERFACE TERMINAL BLOCK: -X11



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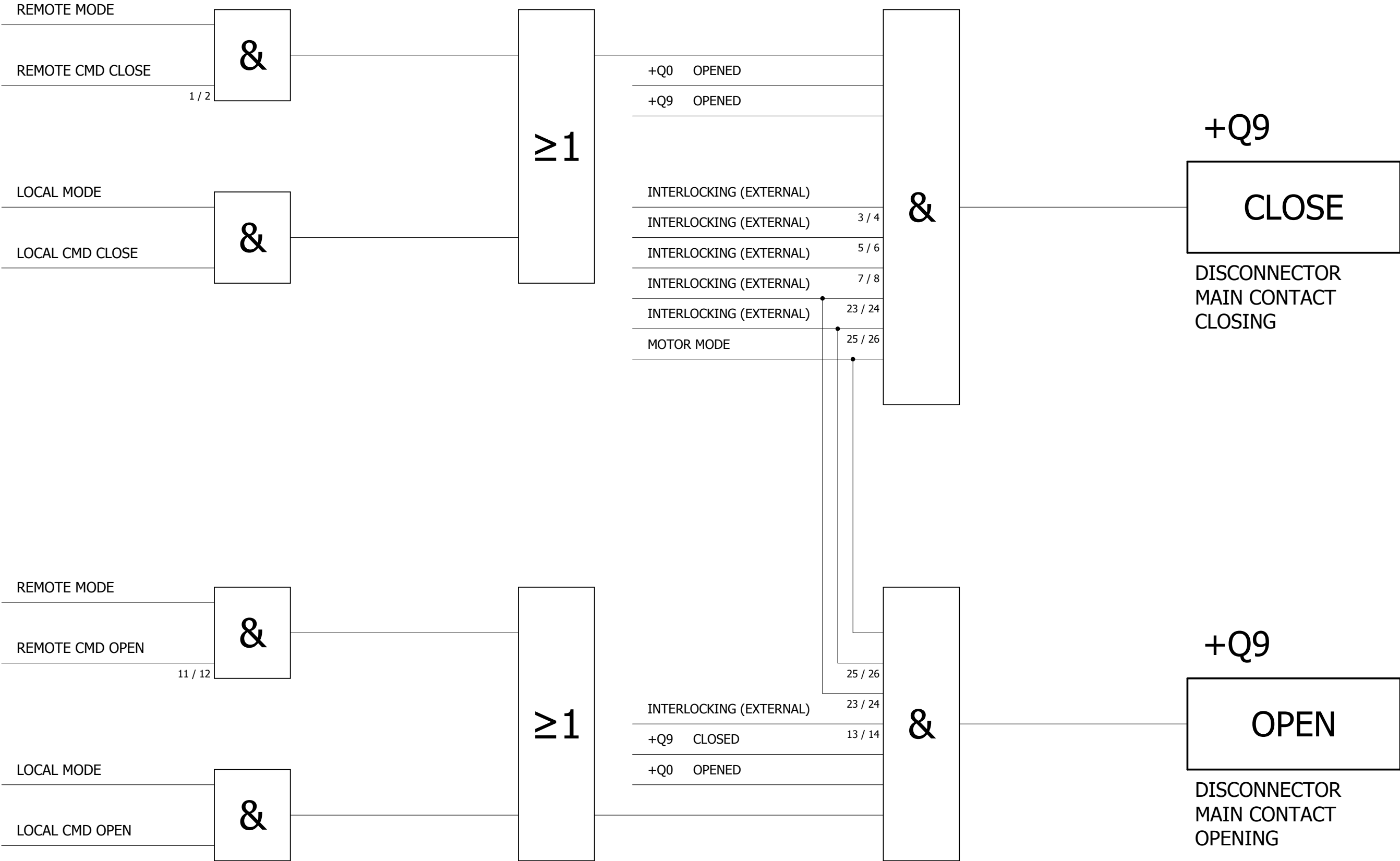
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INTERLOCKING Q9

INTERFACE TERMINAL BLOCK: -X31



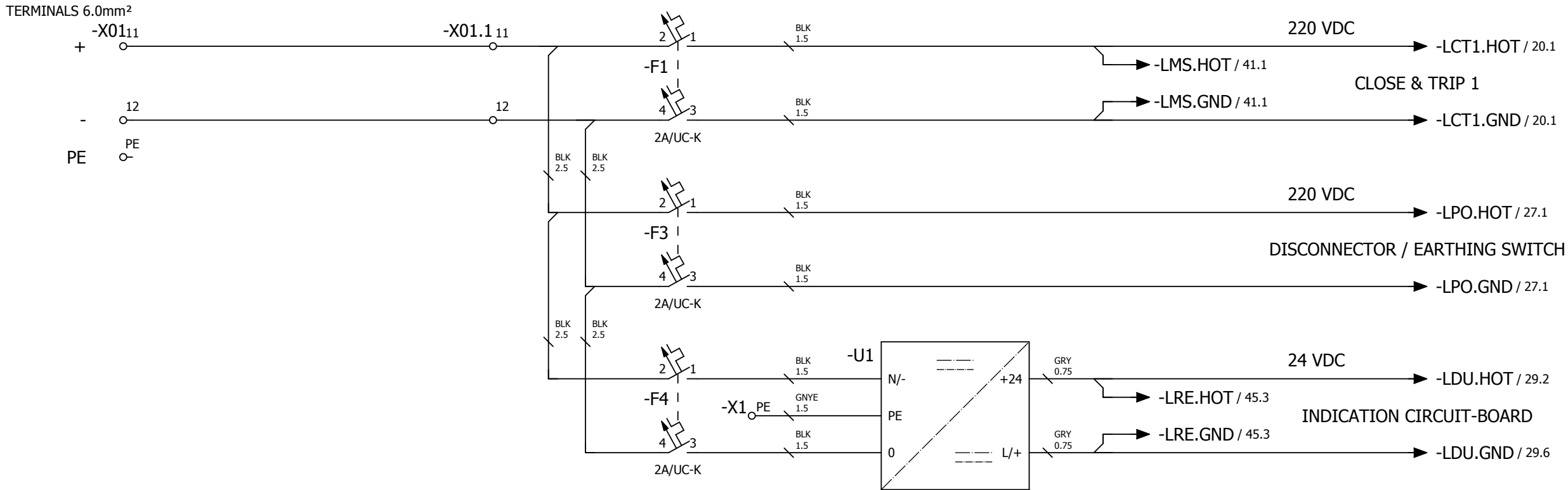
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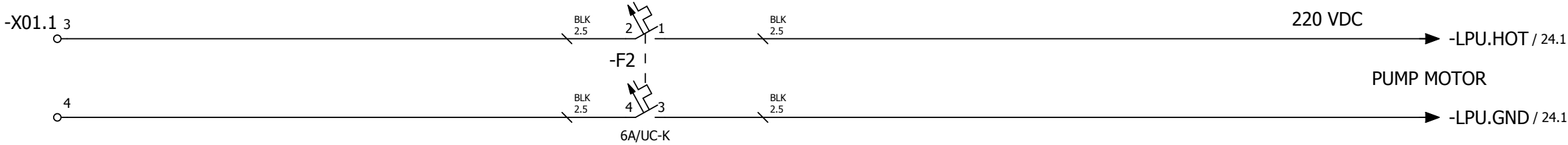
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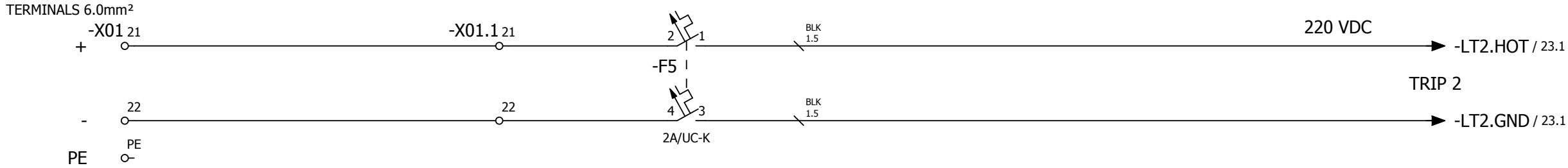
POWER SUPPLY 1
220 VDC
APPROX. 1.0 kW



POWER SUPPLY 1.1
220 VDC
APPROX. 1.5 kW



POWER SUPPLY 2
220 VDC
APPROX. 0.5 kW



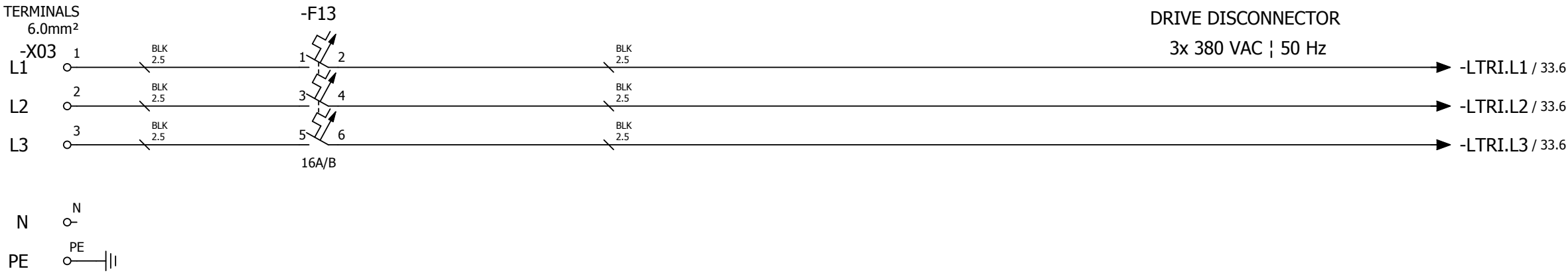
Rev.	AA	2016-09-15 OBRIST	Prepared 2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title POWER SUPPLY ABB ABB Switzerland Ltd	Plant =	+ XMAIN
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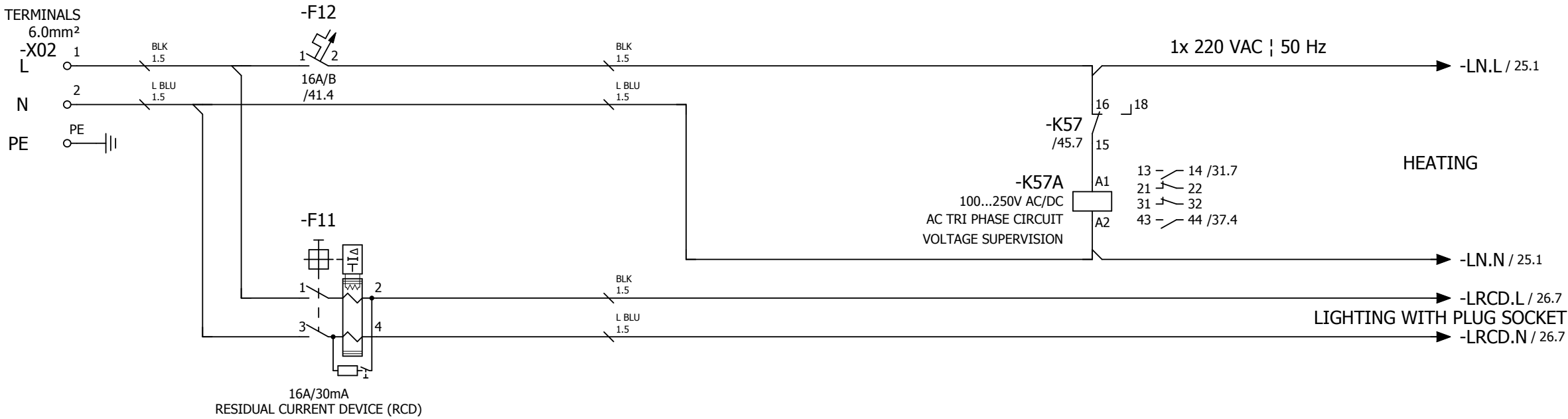
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POWER SUPPLY 3
3x 380 VAC | 50 Hz
APPROX. 1.5 kVA



POWER SUPPLY 4
1x 220 VAC | 50 Hz
APPROX. 0.5 kVA



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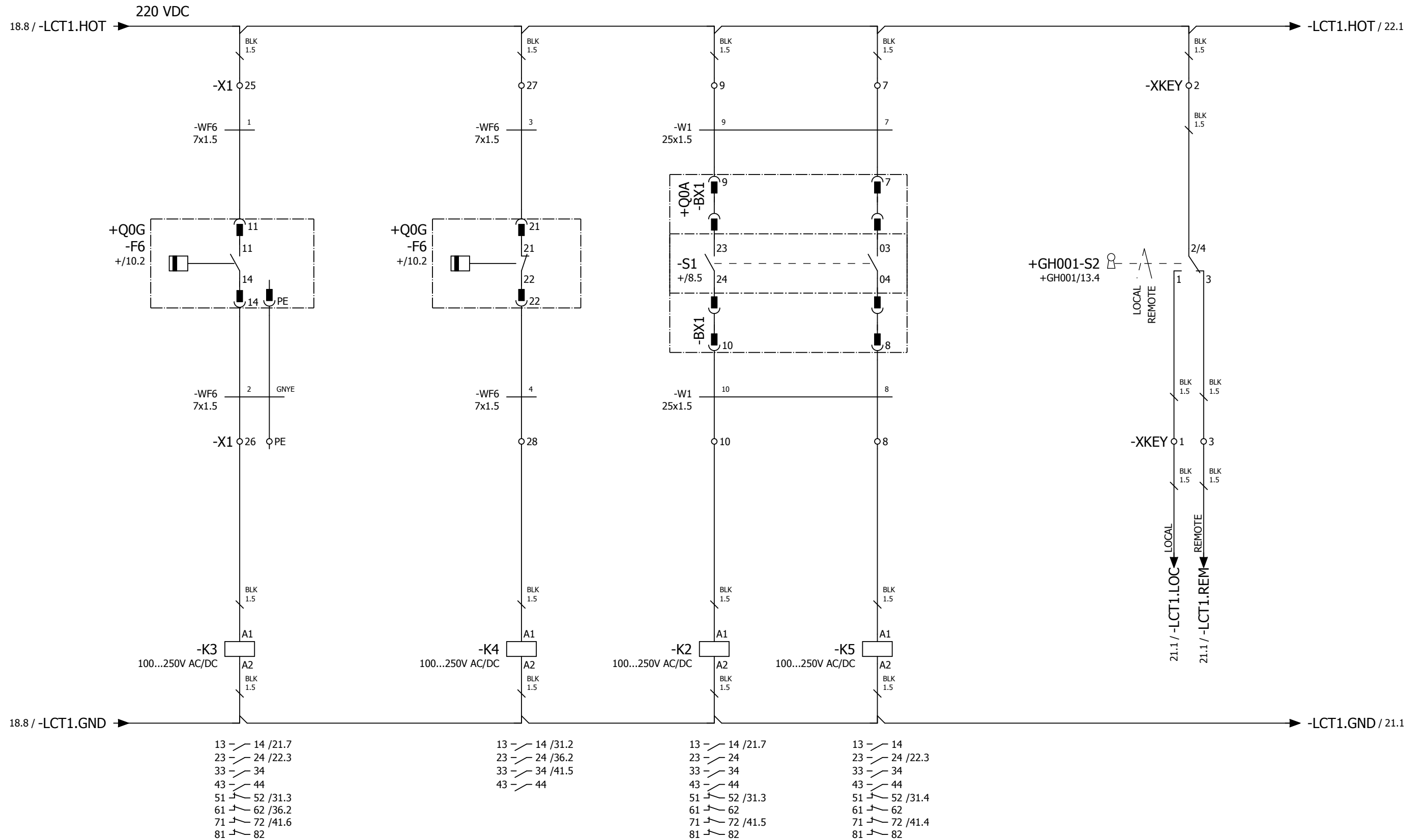
CIRCUIT-BREAKER Q0

SF6 - DENSITY
Q0 CLOSE & TRIP 1
BLOCKING

SF6 - DENSITY
Q0 CLOSE & TRIP
LOW

SPRING STROKE SWITCH
Q0 CLOSE Q0 TRIP
BLOCKING BLOCKING

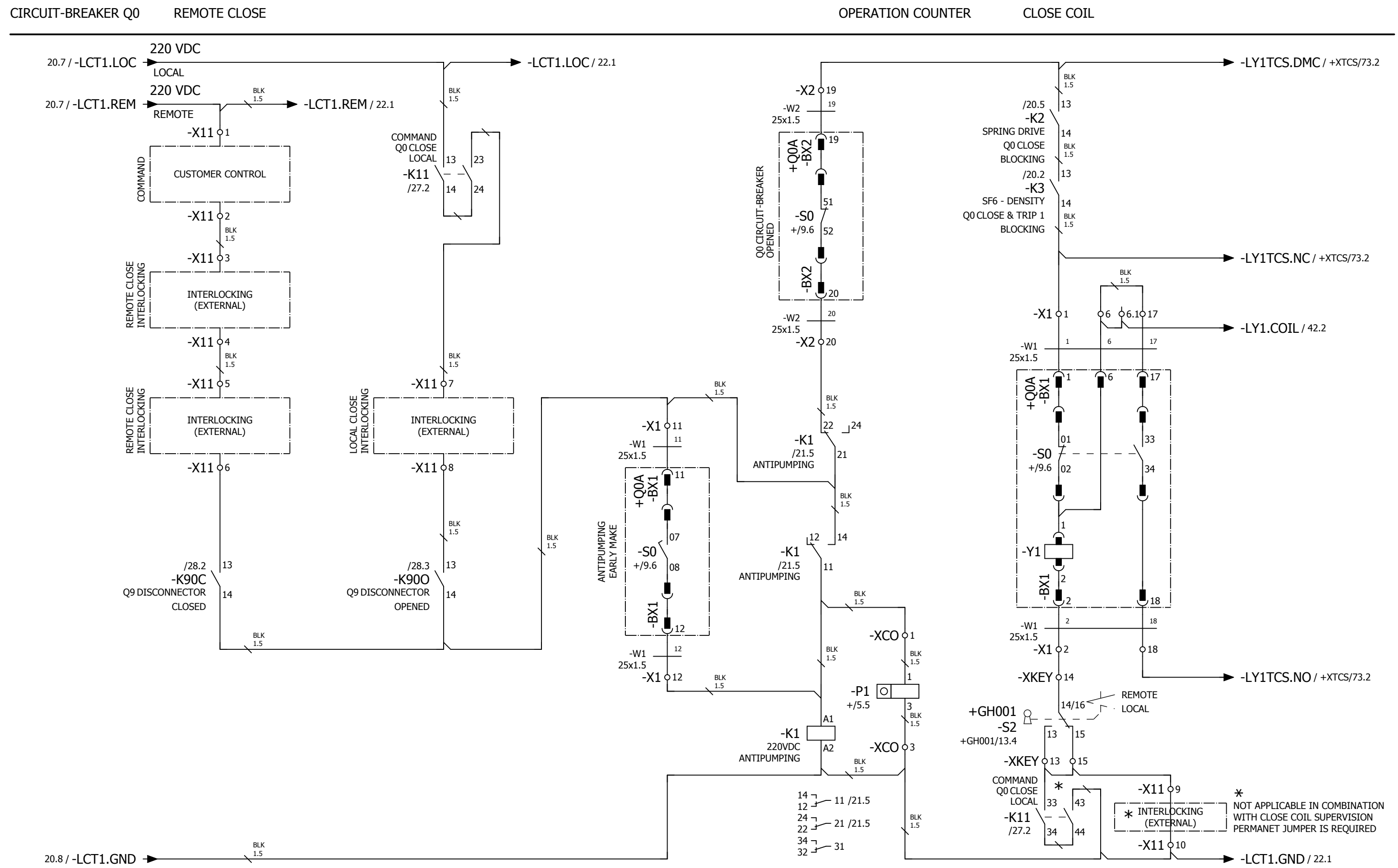
SELECTOR SWITCH
Q0 LOCAL - REMOTE



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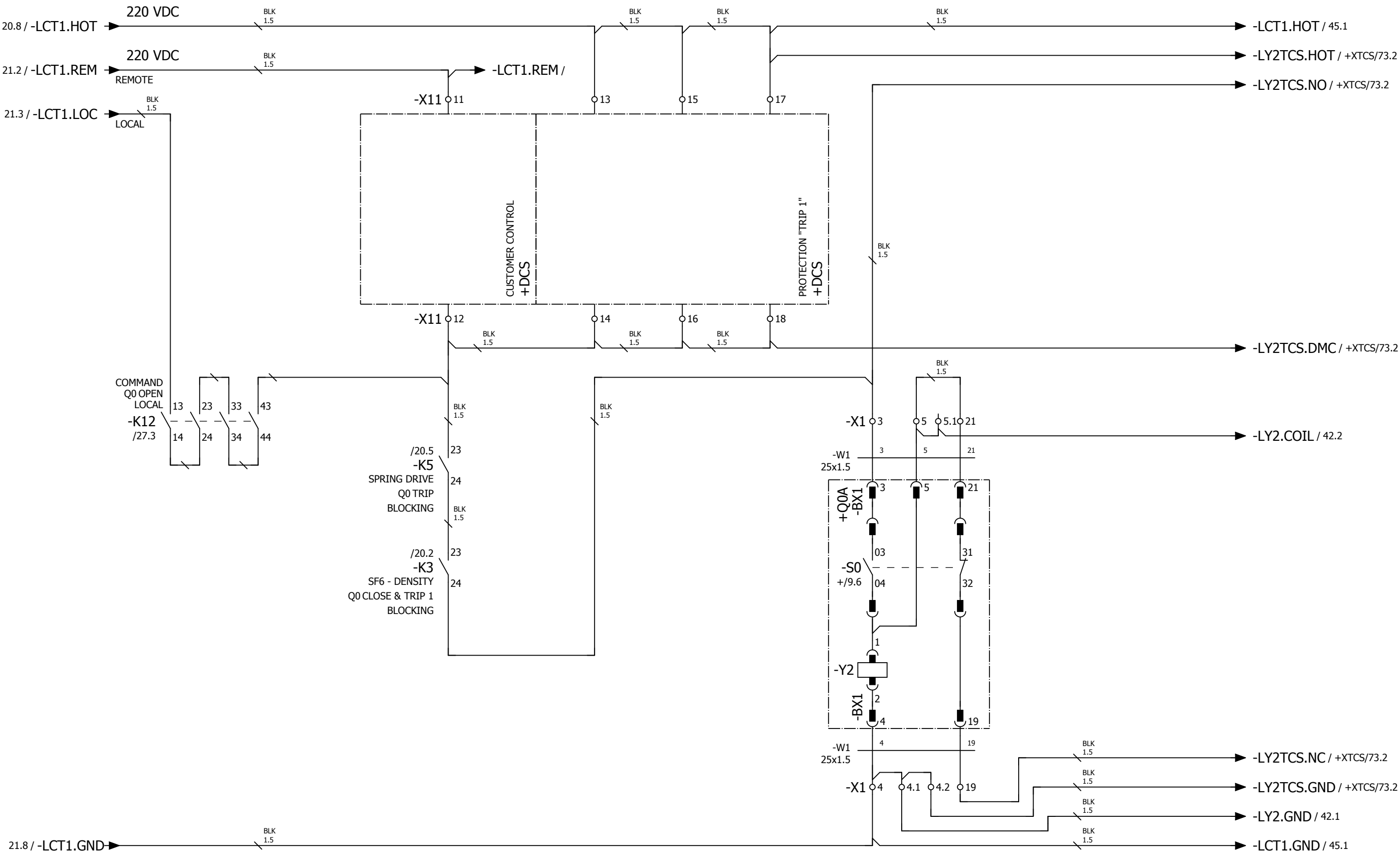
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CIRCUIT-BREAKER Q0

REMOTE TRIP 1

TRIP 1 COIL



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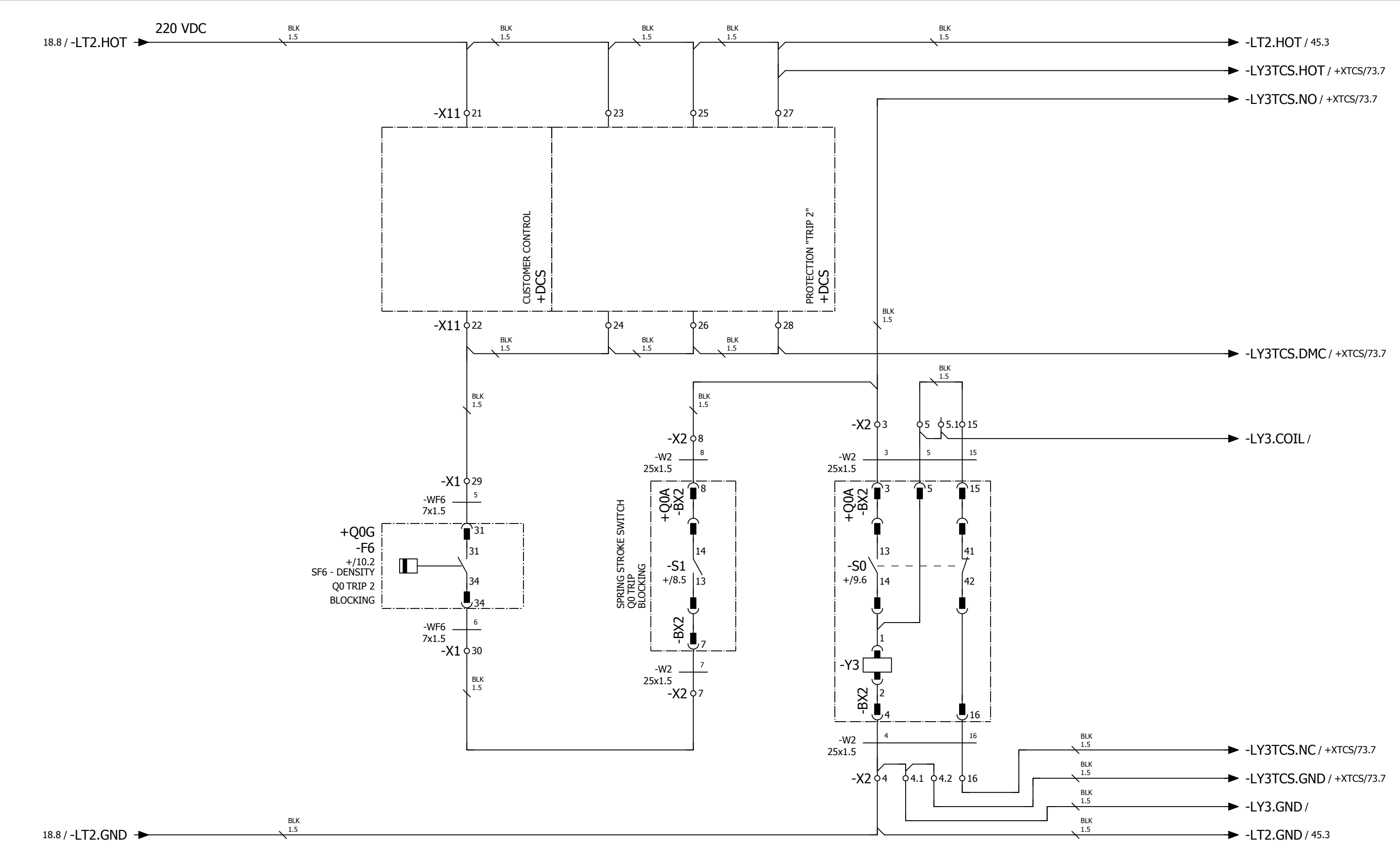
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CIRCUIT-BREAKER Q0

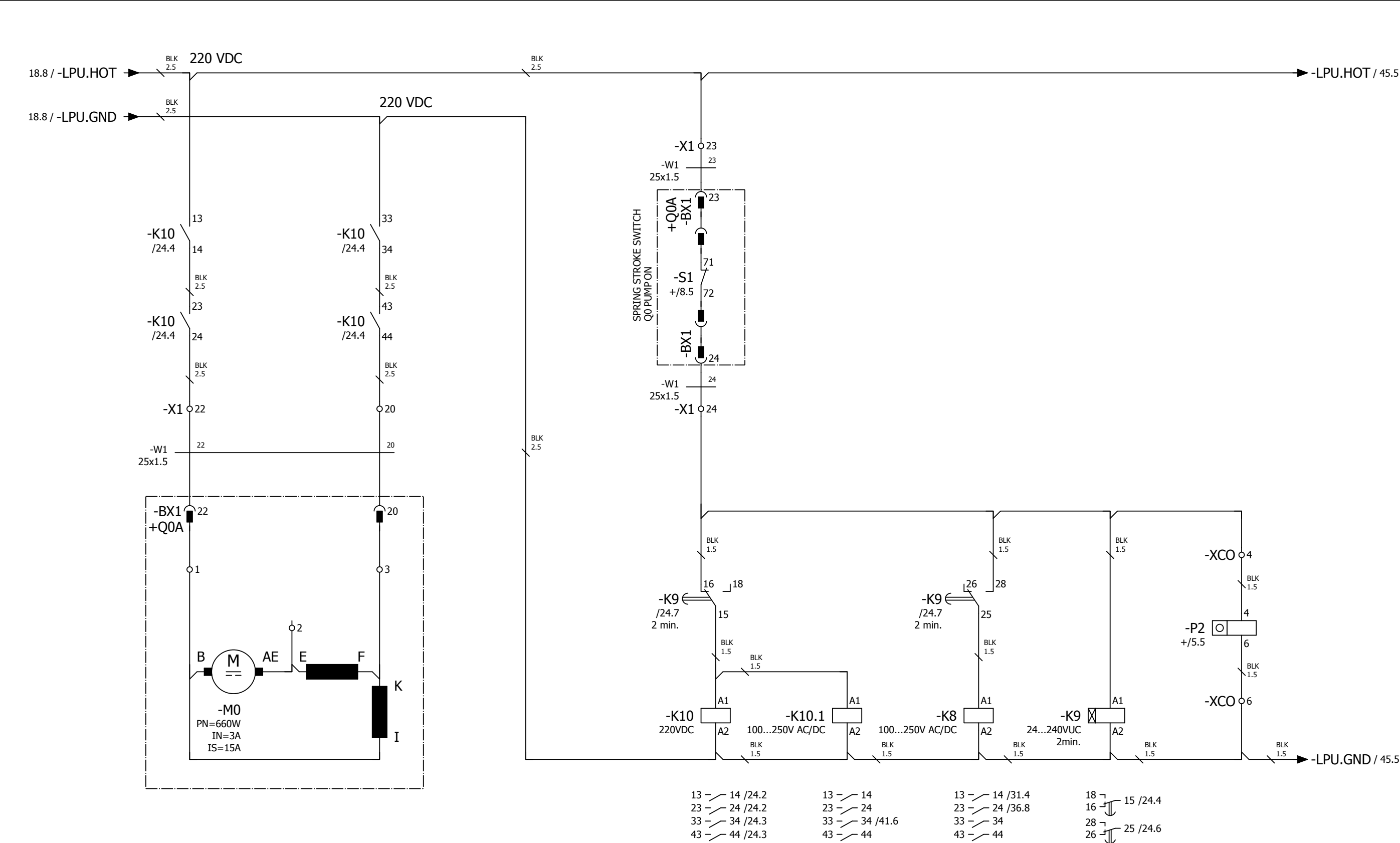
REMOTE TRIP 2

TRIP 2 COIL



Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title TRIP CIRCUIT 2 ABB ABB Switzerland Ltd	Plant =		+ XMAIN
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CIRCUIT-BREAKER Q0PUMP MOTORLONG TIME PUMP RUNNINGPUMP OPERATION COUNTER



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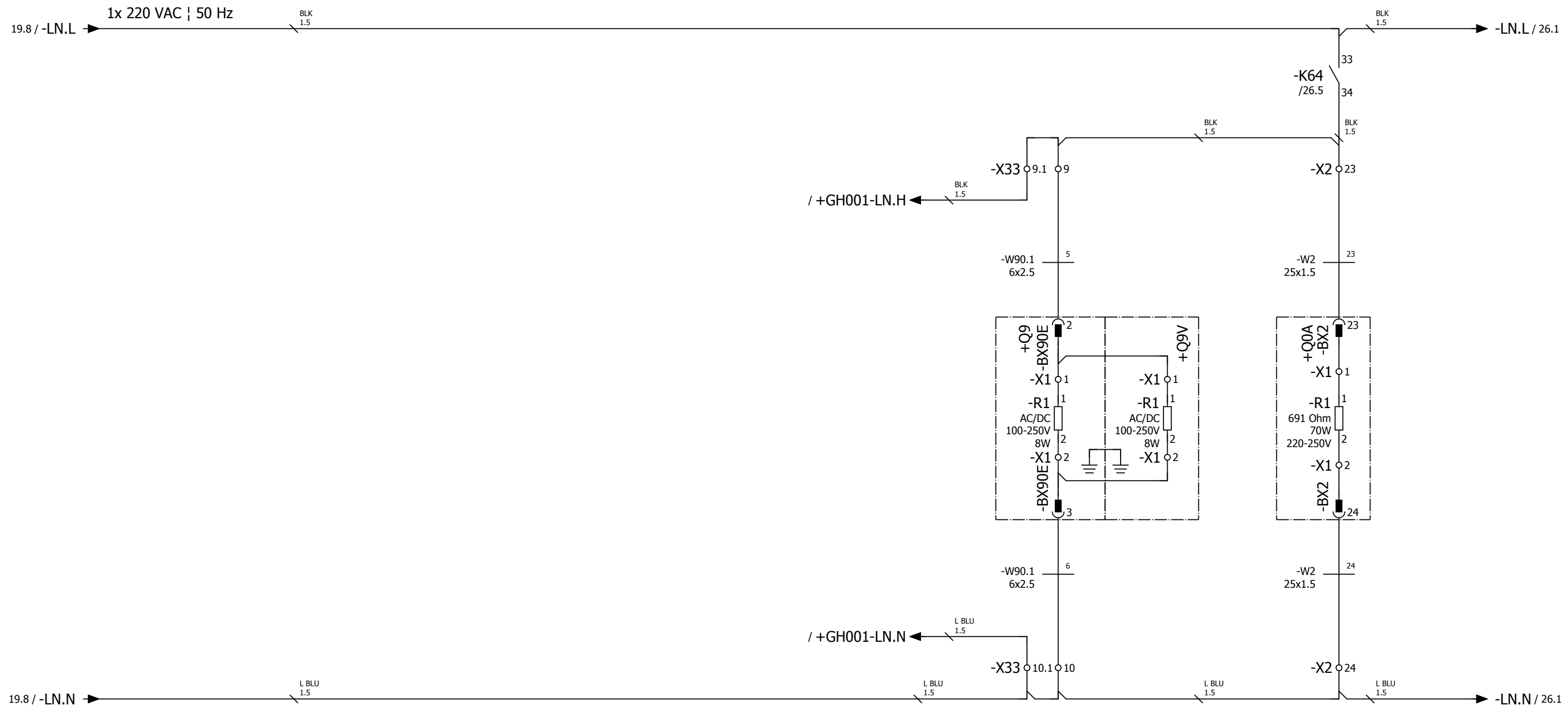
Rev.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title PUMP MOTOR ABB ABB Switzerland Ltd	Plant = Res. dept.: PGHV-GE2 Doc. No. 1HC0125772	+ XMAIN Cont. 87 Sheet 24 of 125*
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			Released					
			Derived from					

DRIVE HEATING

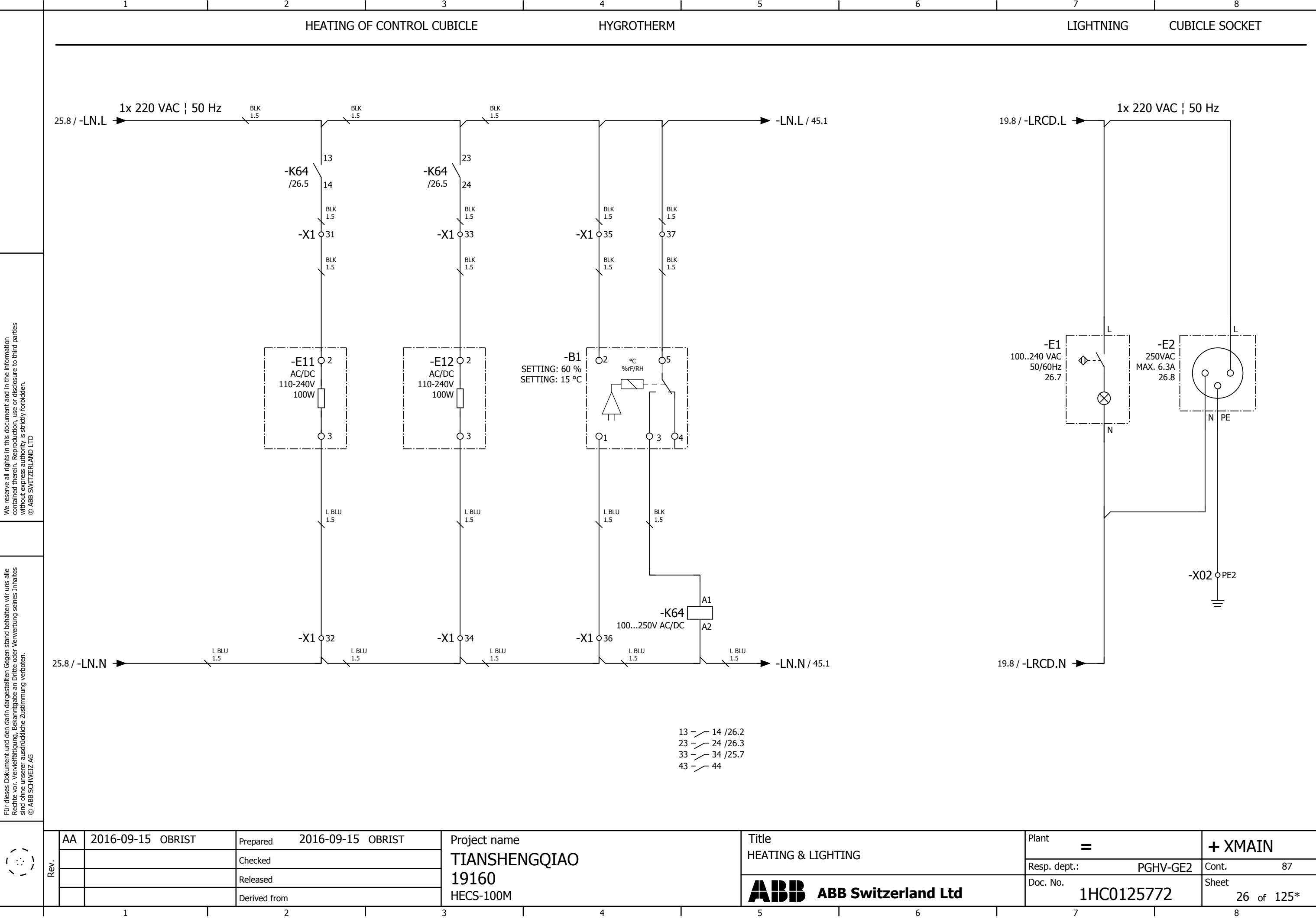
Q9 DISCONNECTOR

DRIVE HEATING

Q0 CIRCUIT-BREAKER



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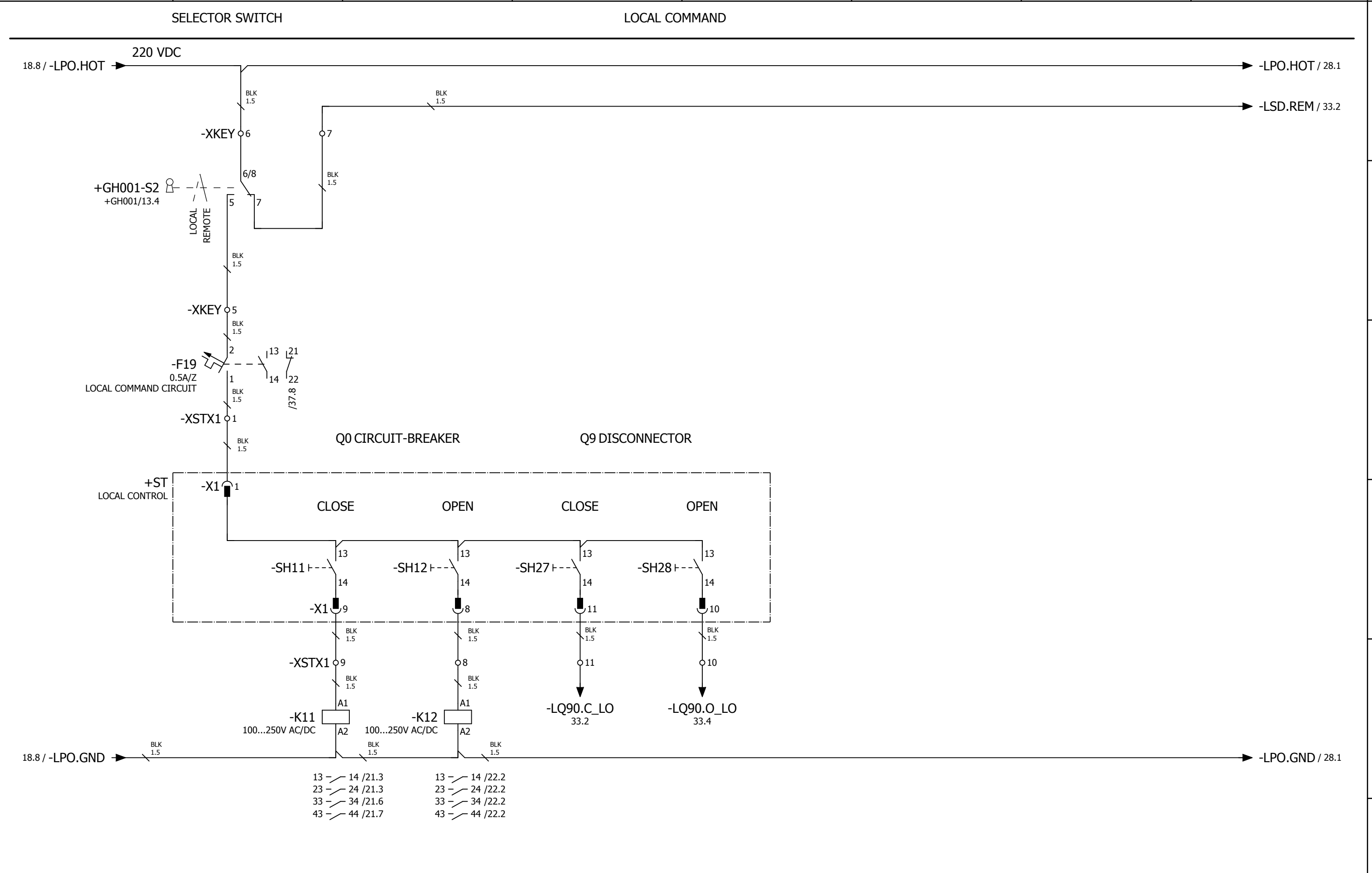


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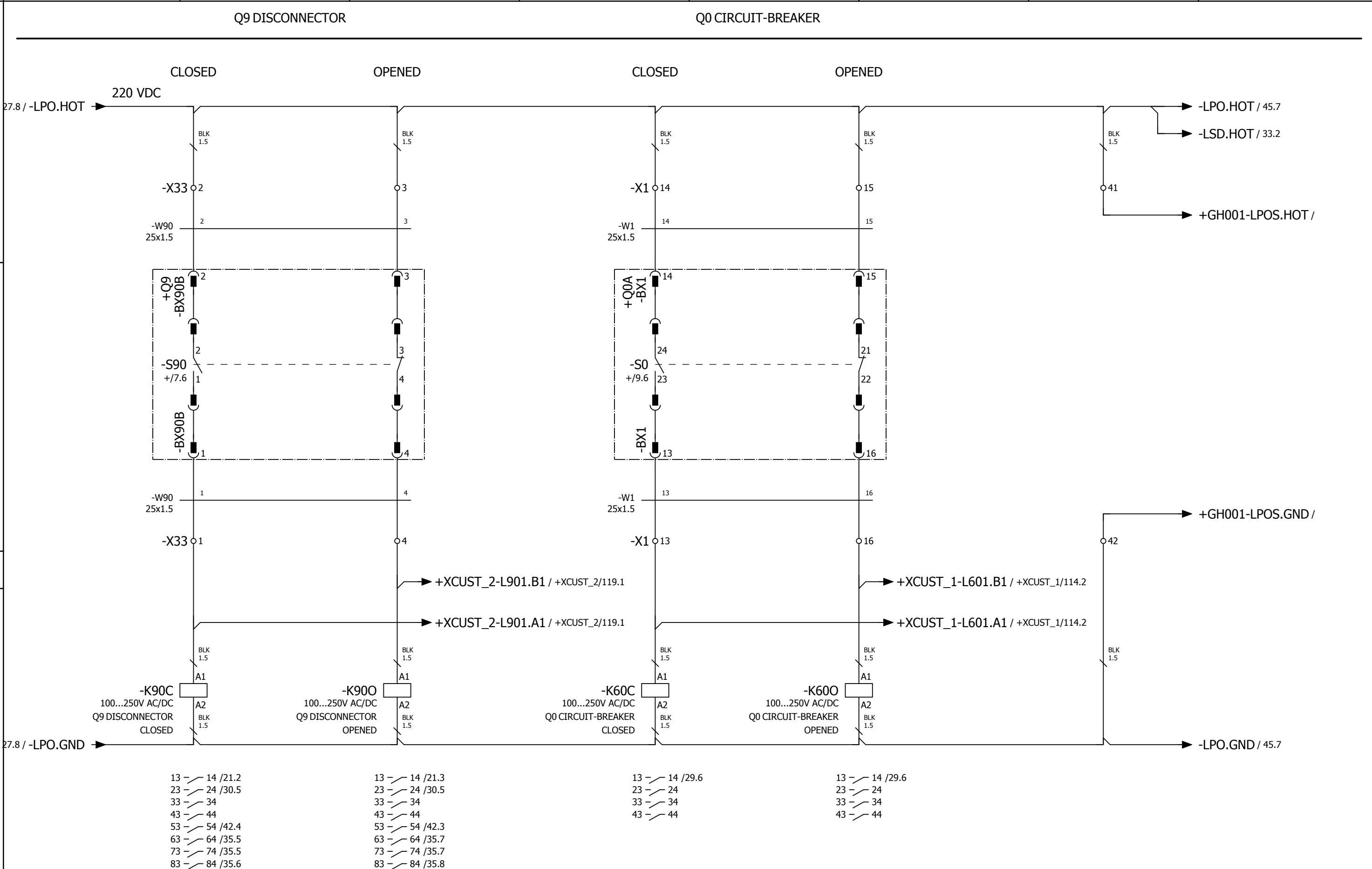
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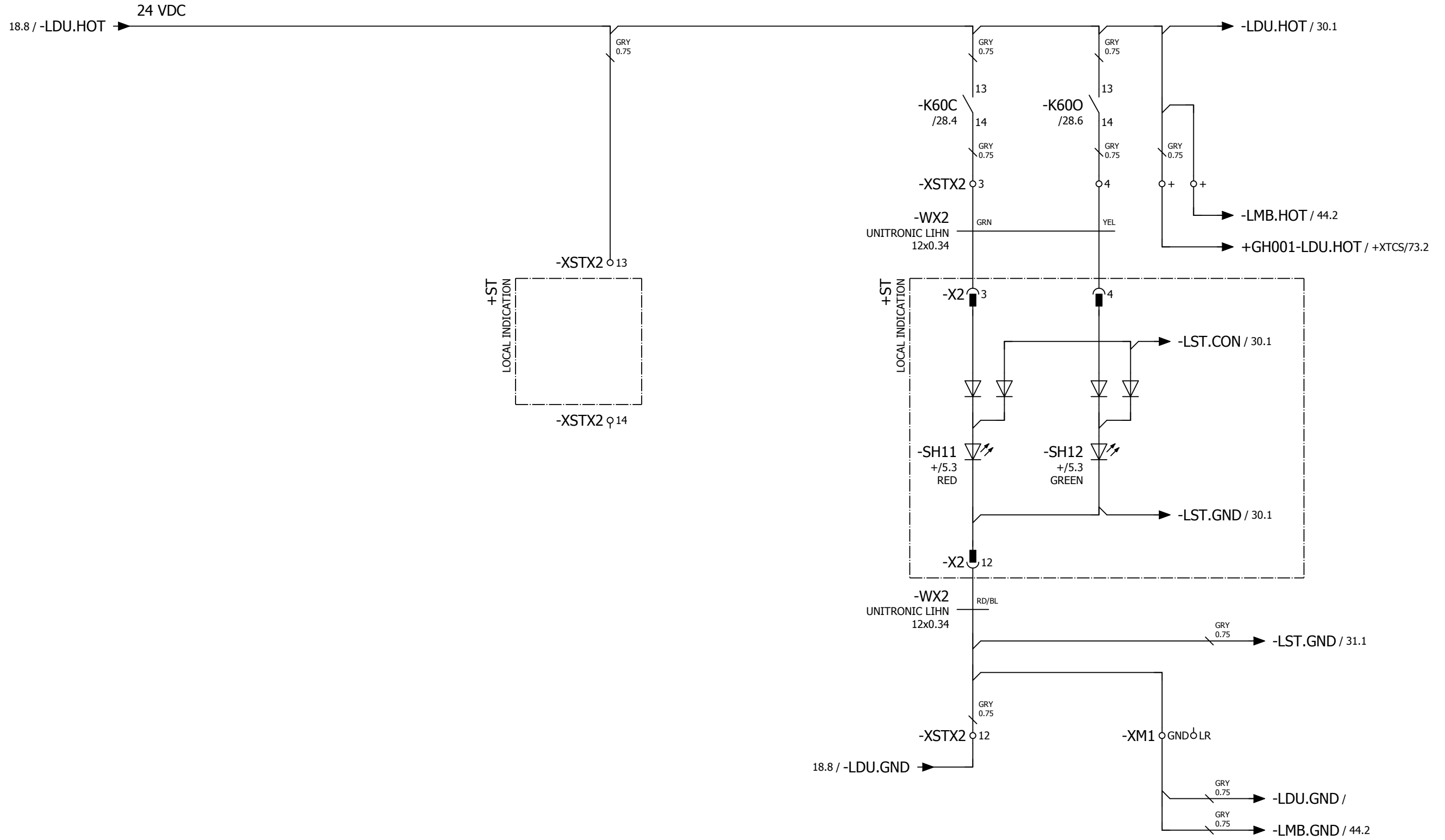


Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title POSITION INDICATION	Plant	=	+ XMAIN	
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Q0 CIRCUIT-BREAKER

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				Released				Doc. No. 1HC0125772	Sheet 29 of 125*		
				Derived from							

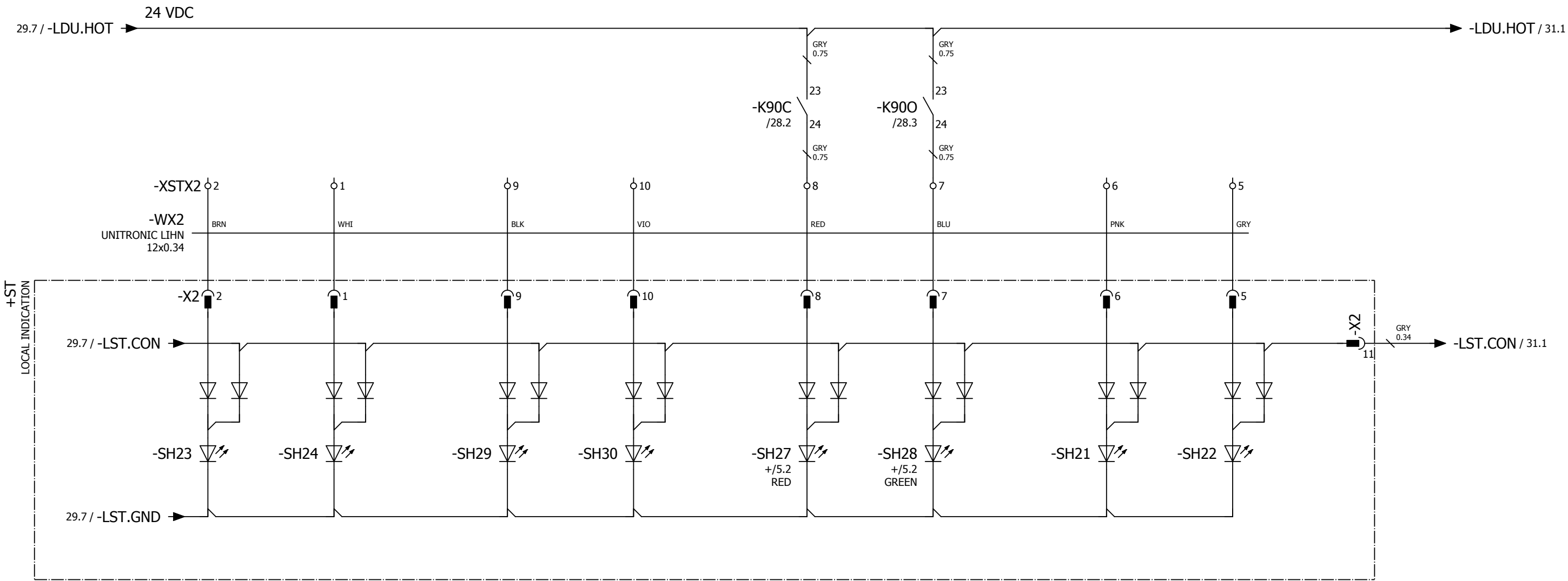
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Q9 DISCONNECTOR

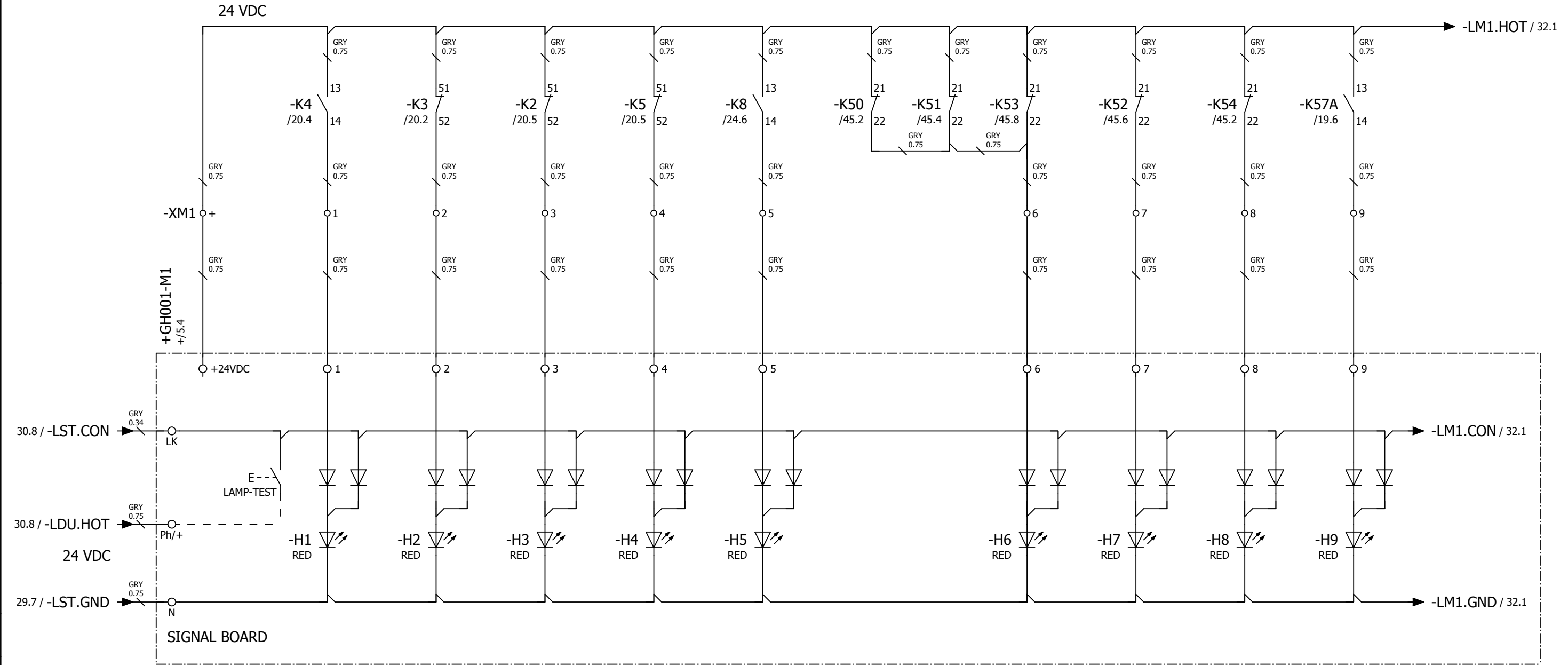
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SF6 - LOW DENSITY

SF6 - BLOCKING CLOSE & TRIP

BLOCKING CLOSE

BLOCKING TRIP

LONG TIME PUMP RUNNING

DC VOLTAGE FAULT

VOLTAGE FAULT PUMP MOTOR

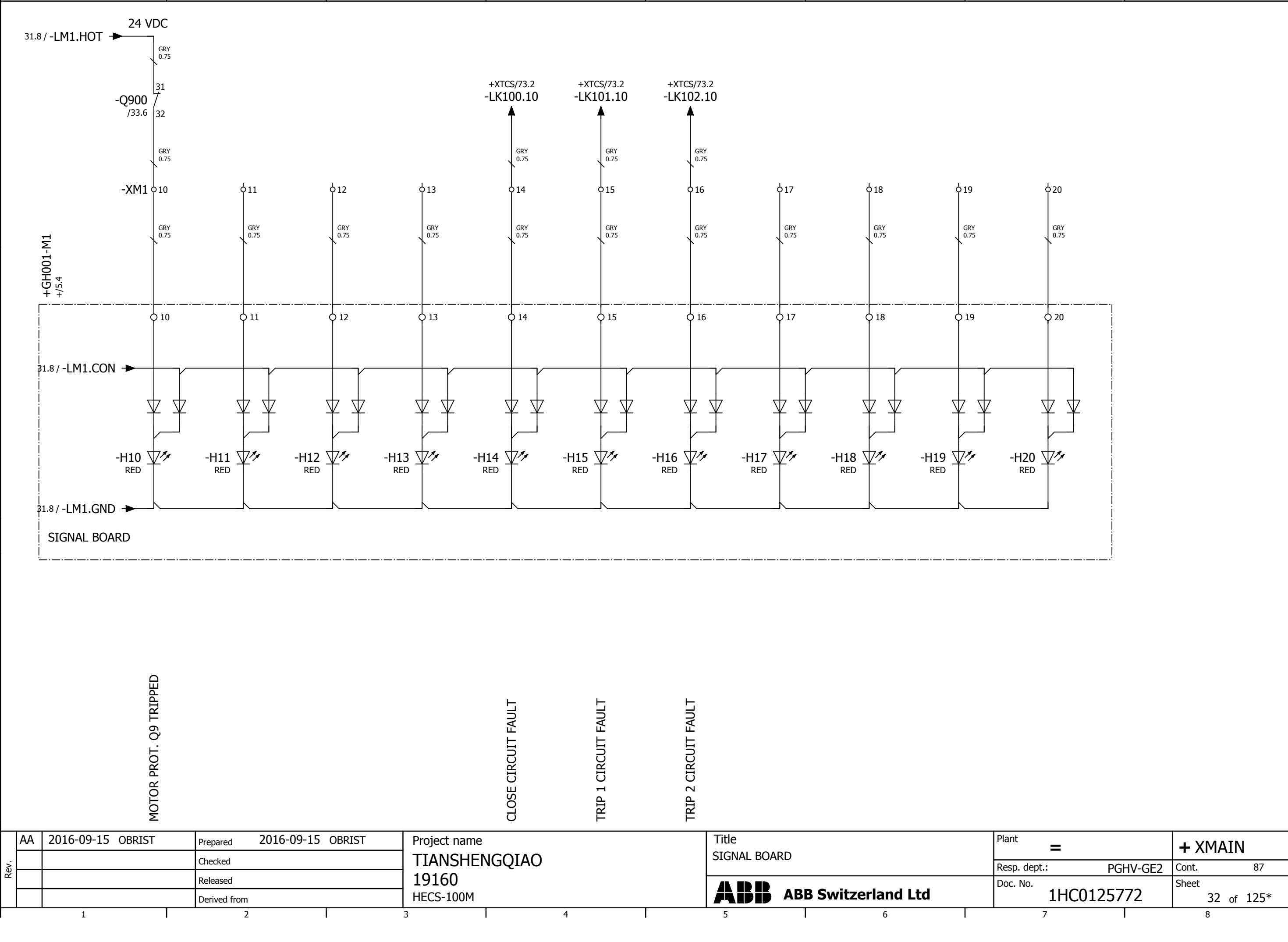
AC VOLTAGE FAULT

PHASE-SEQUENCE FAILURE

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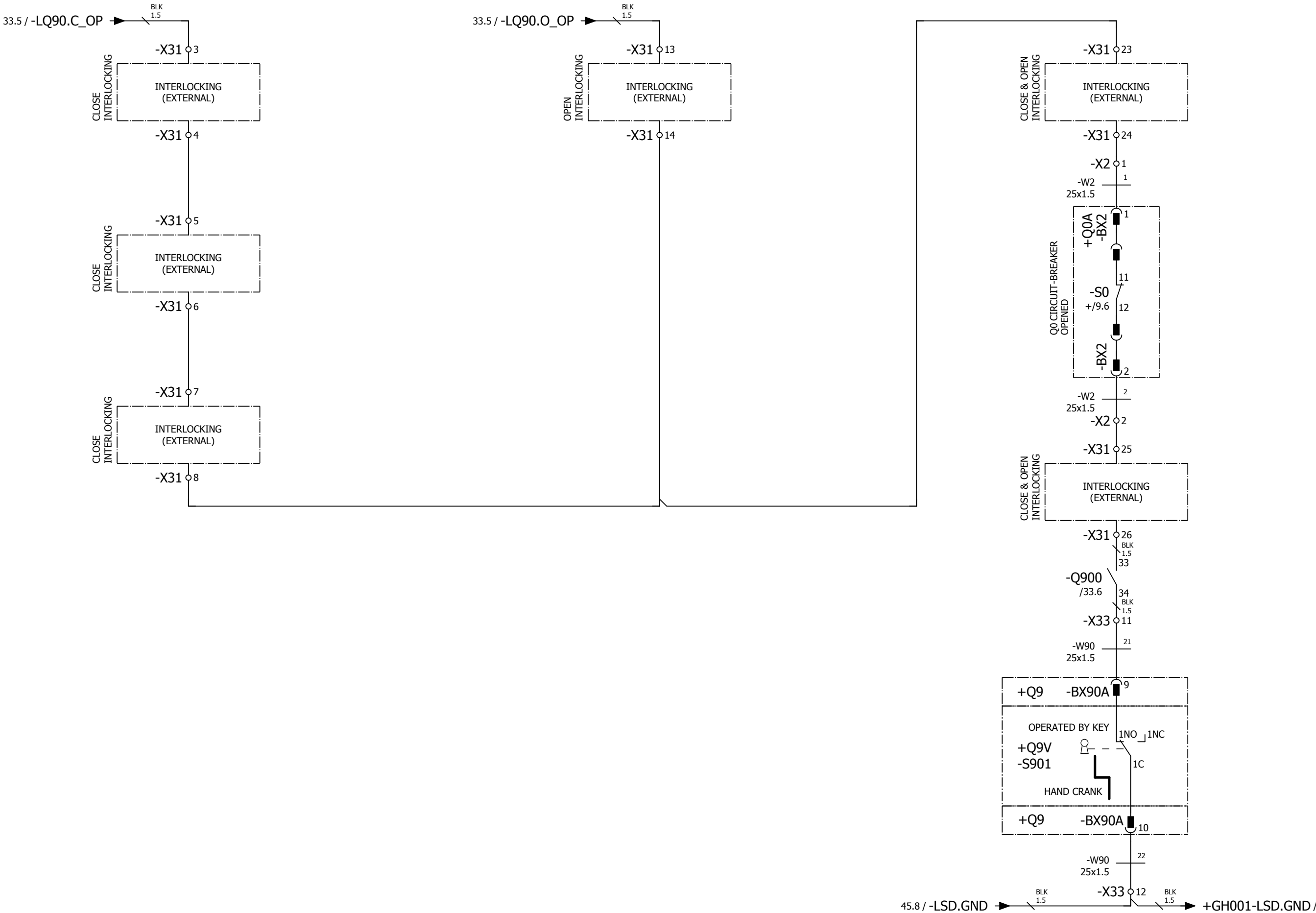


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Project name
TIANSHENGQIAO
19160
HECS-100M

Title
DISCONNECTOR Q9
ABB **ABB Switzerland Ltd**

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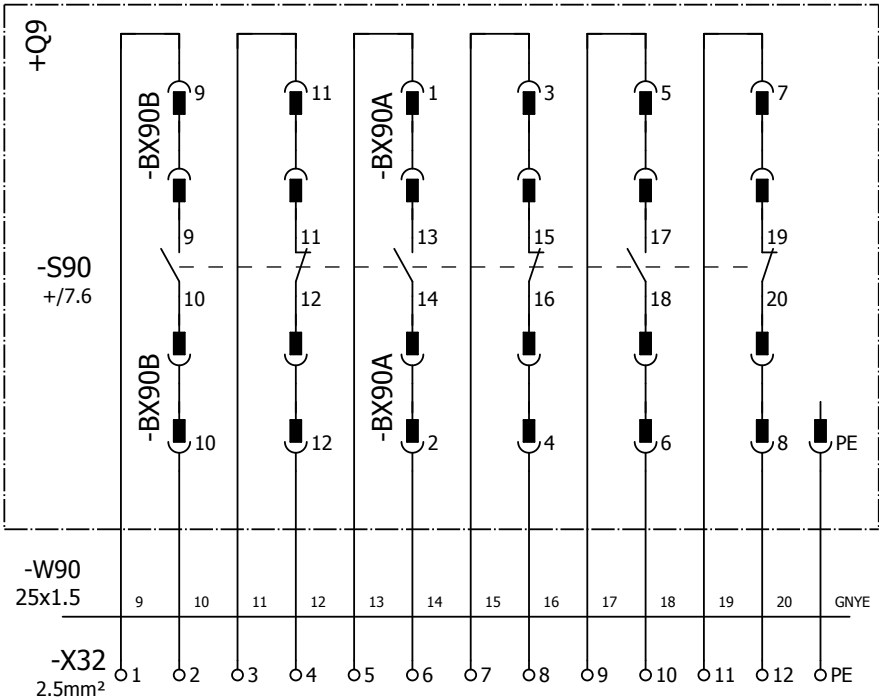
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Project name
TIANSHENGQIAO
19160
HECS-100M

Title
FREE AUXILIARY SWITCH CONTACTS Q9
ABB **ABB Switzerland Ltd**

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DISCONNECTOR Q9



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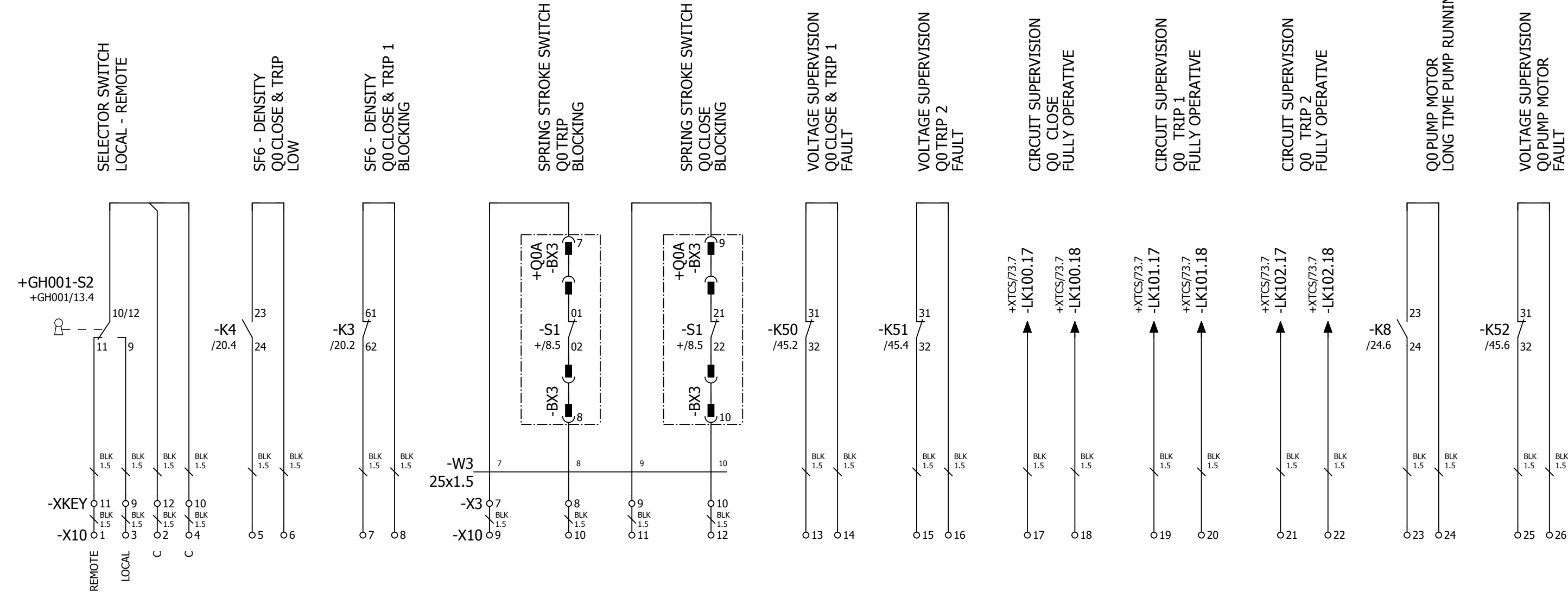
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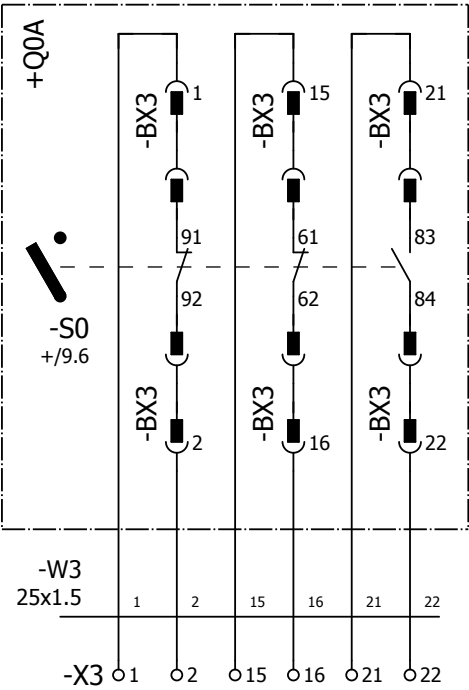
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19160
HECS-100M

Title
SIGNAL CONTACTS
ABB ABB Switzerland Ltd

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FREE AUXILIARY SWITCH CONTACTS Q0



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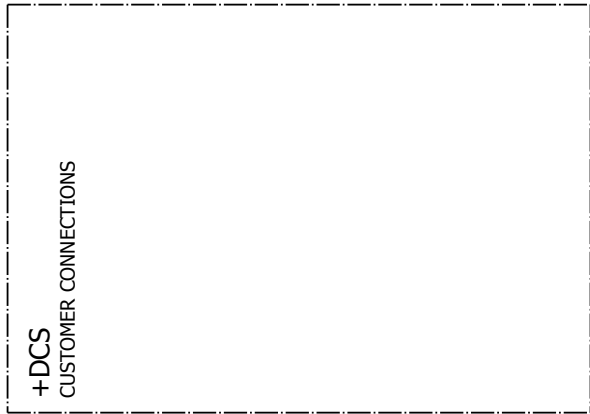
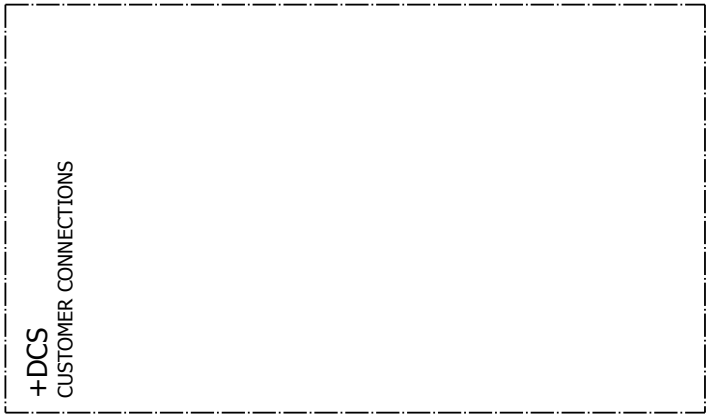
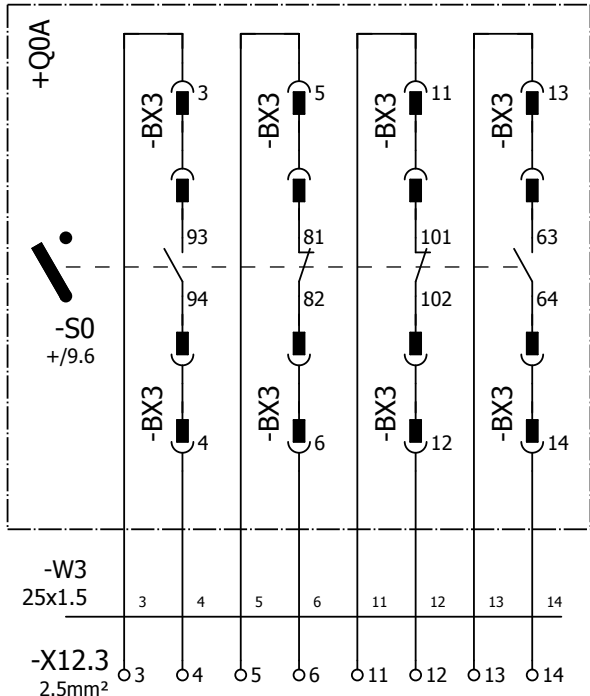
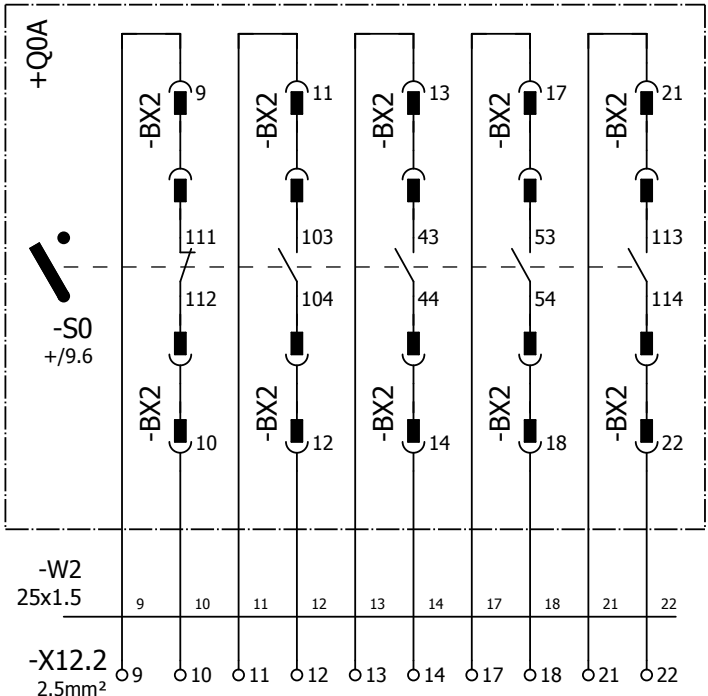
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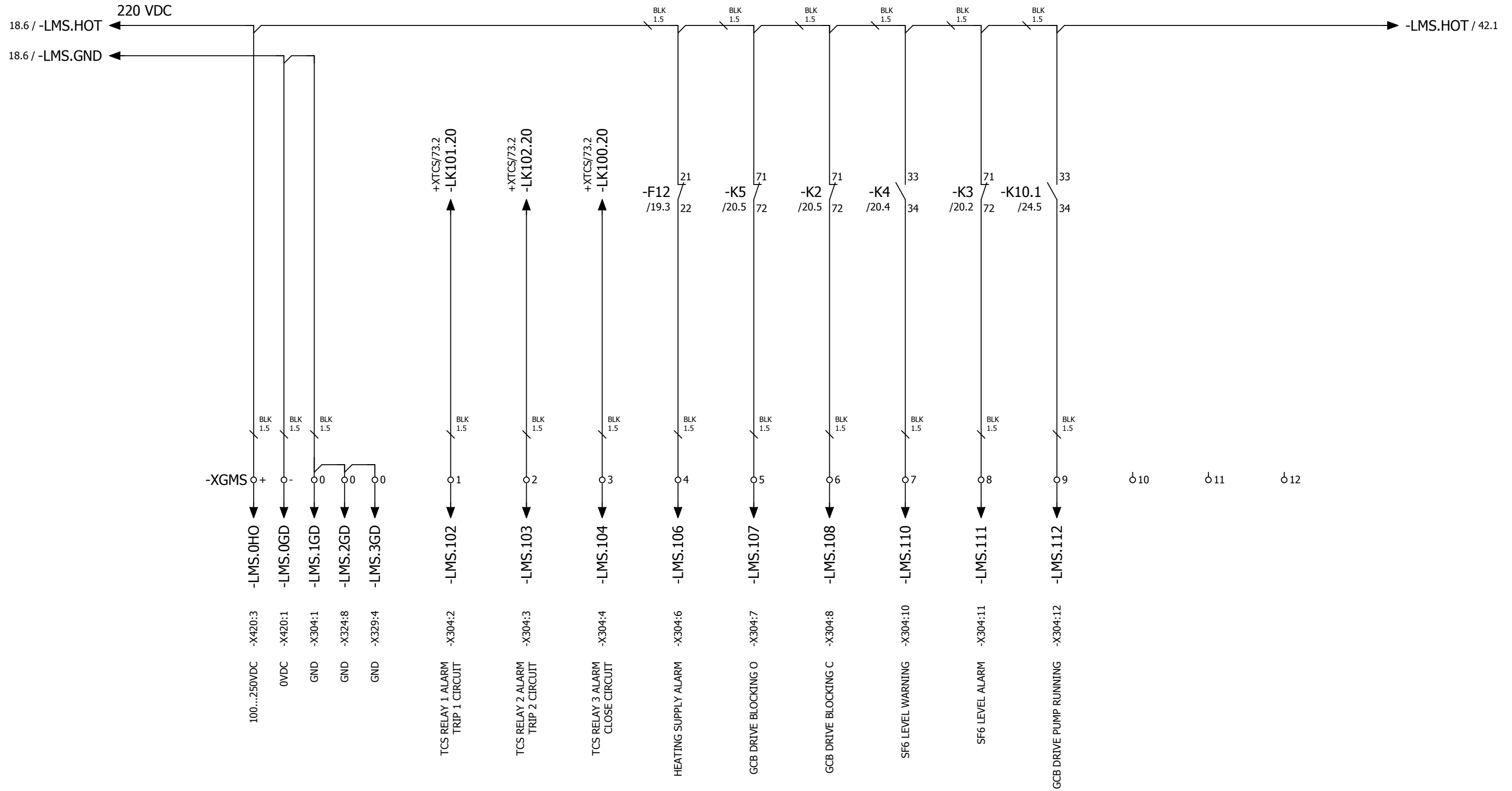


FREE AUXILIARY SWITCH CONTACTS Q0



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GMS600 INTERFACE TERMINAL



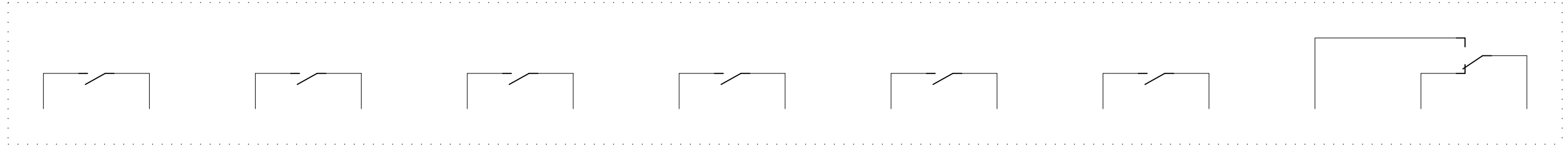
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						ABB ABB Switzerland Ltd		



-XGOP ○ → -LMO.07 -X317:7 ELEC. LIFETIME ALARM COMMON

8 ○ ———▶ -LMO.08 -X317:8 ELEC. LIFETIME ALARM CONTACT

—○—→ -LMO.09 -X317:9 MECH. LIFETIME ALARM COMMON

10 ○ —————> LMO.10 -X317:10 MECH. LIFETIME ALARM CONTACT

11 ○ —————> -LMO.11 -X317:11 TIME BASED LIFETIME ALARM COMMON

12 ○ —▶ -LMO.12 -X317:12 TIME BASED LIFETIME ALARM CONTACT

13 ○ —————> -LMO.13 -X317:15 HIGH TEMPERATURE ALARM CONTACT

14 ○ —————> -LMO.14 -X317:16 HIGH TEMPERATURE ALARM CONTACT

15 ○ —————> -LMO.15 -X317:15 GMS600 ALARM COMMON

16 ○ —▲— -LMO.16 -X317:16 GMS600 ALARM CONTACT

17 → -LMO.17 -X317:17 GMS600 WARNING COMMON

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graph LR
    18((18)) --- LMO["-LMO,18"]
    LMO --- X317["-X317:18"]
    X317 --- GSM600["GSM600 WARNING CONTACT"]
  
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19 → -LMO.19 -X319:1 GSM600 SYSTEM STATUS OKAY CONTACT

→ -LMO.20 -X319:2 GSM600 SYSTEM STATUS FAIL CONTACT 20

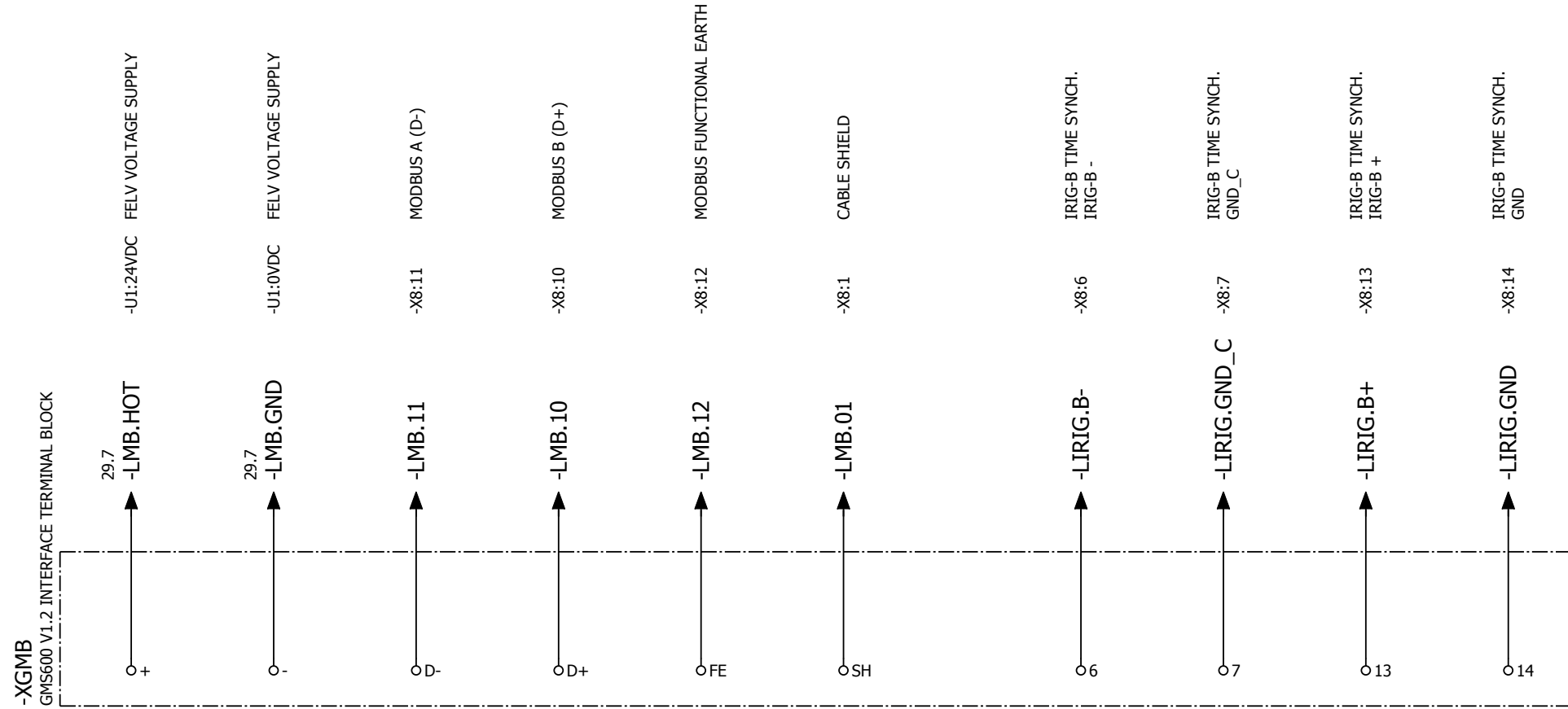

 -LMO.21 -X319:3 GMS600 SYSTEM STATUS COMMON

+DCS
CUSTOMER CONNECTIONS

Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title GMS600 INTERFACE TERMINAL ABB ABB Switzerland Ltd	Plant	=	+ XMAIN	
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GMS600 INTERFACE TERMINAL

MODBUS / IRIG-B INTERFACE



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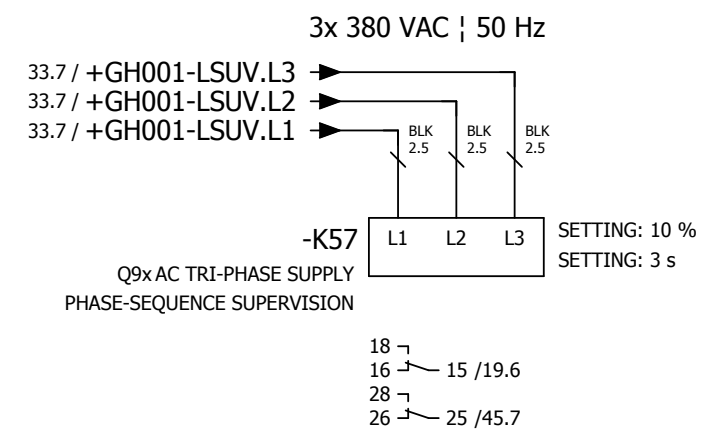
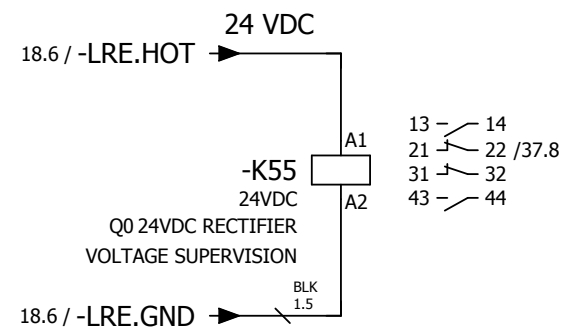
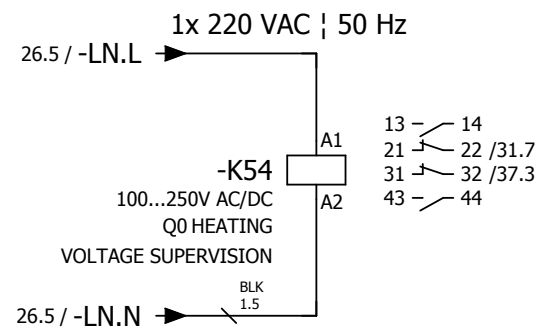
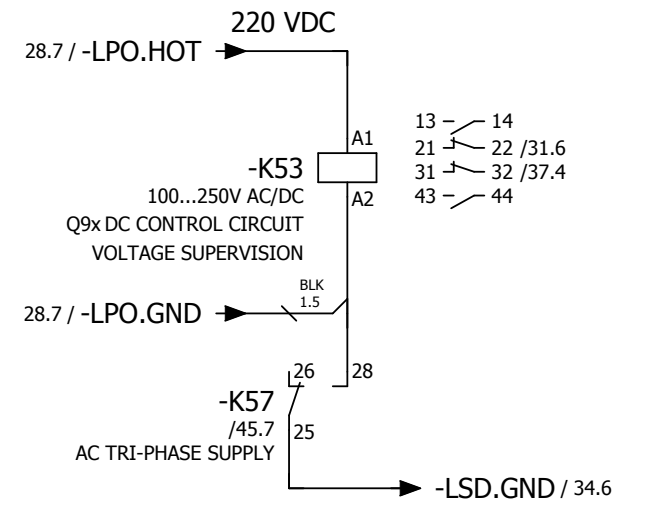
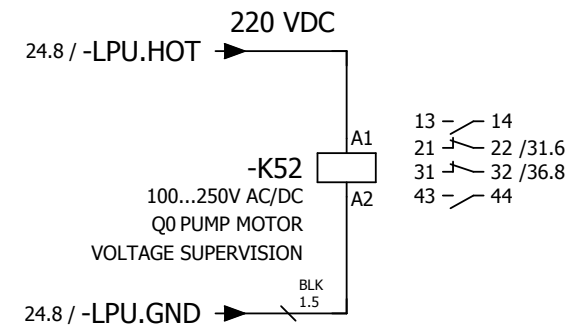
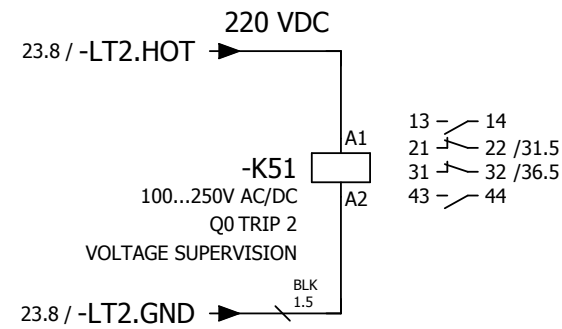
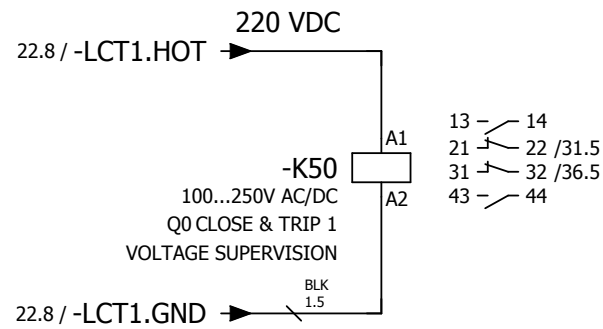
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VOLTAGE SUPERVISION



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Rev. AA 2016-09-15 OBRIST Prepared 2016-09-15 OBRIST Checked Released Derived from		Project name TIANSHENGQIAO 19160 HECS-100M		Title TERMINAL BLOCK : =+XMAIN-XM1 ABB ABB Switzerland Ltd		Plant		+ XMAIN	
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						Resp. dept.:		PGHV-GE2	
						Doc. No.		1HC0125772	
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								64 of 125*	

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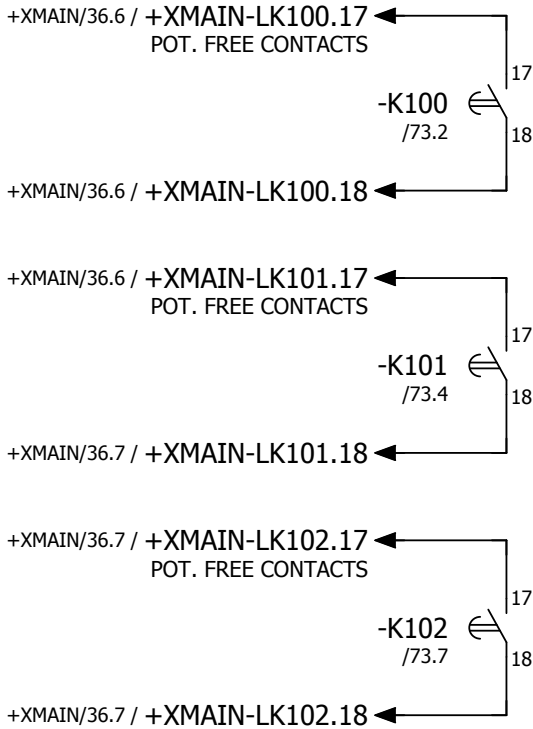
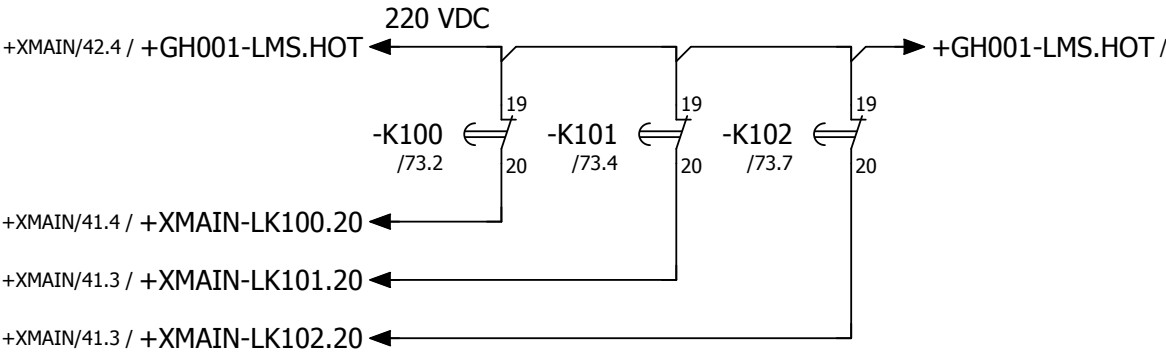
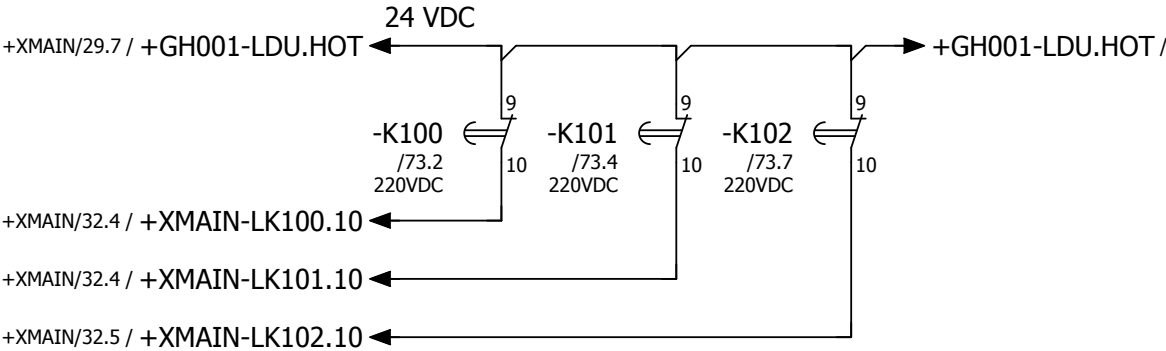
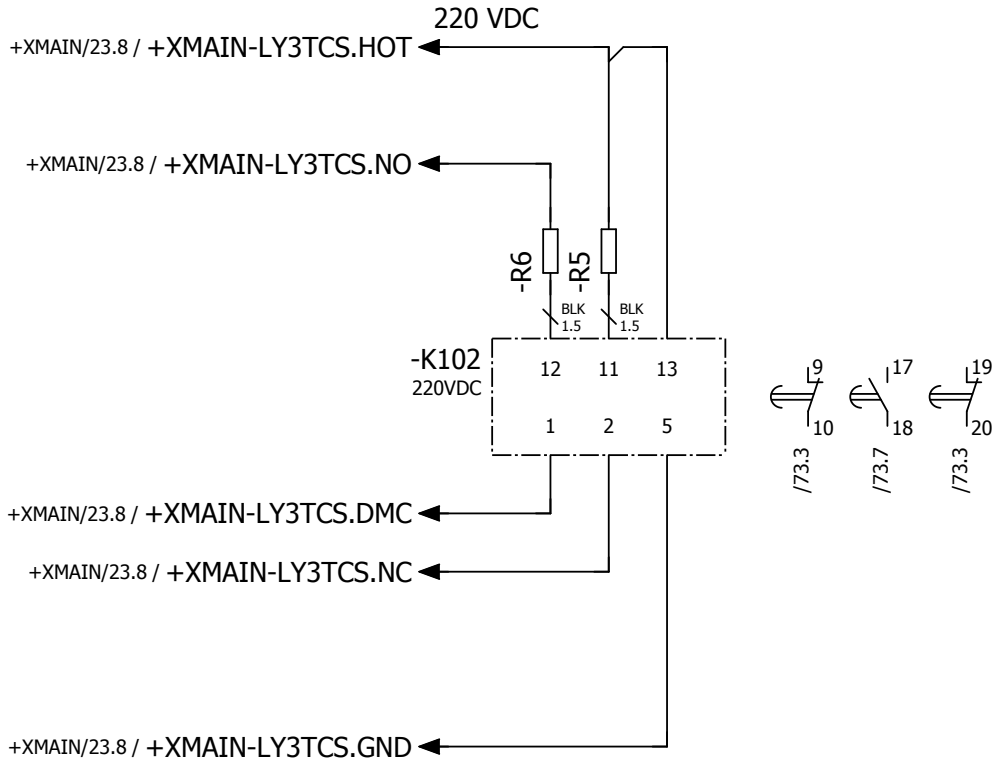
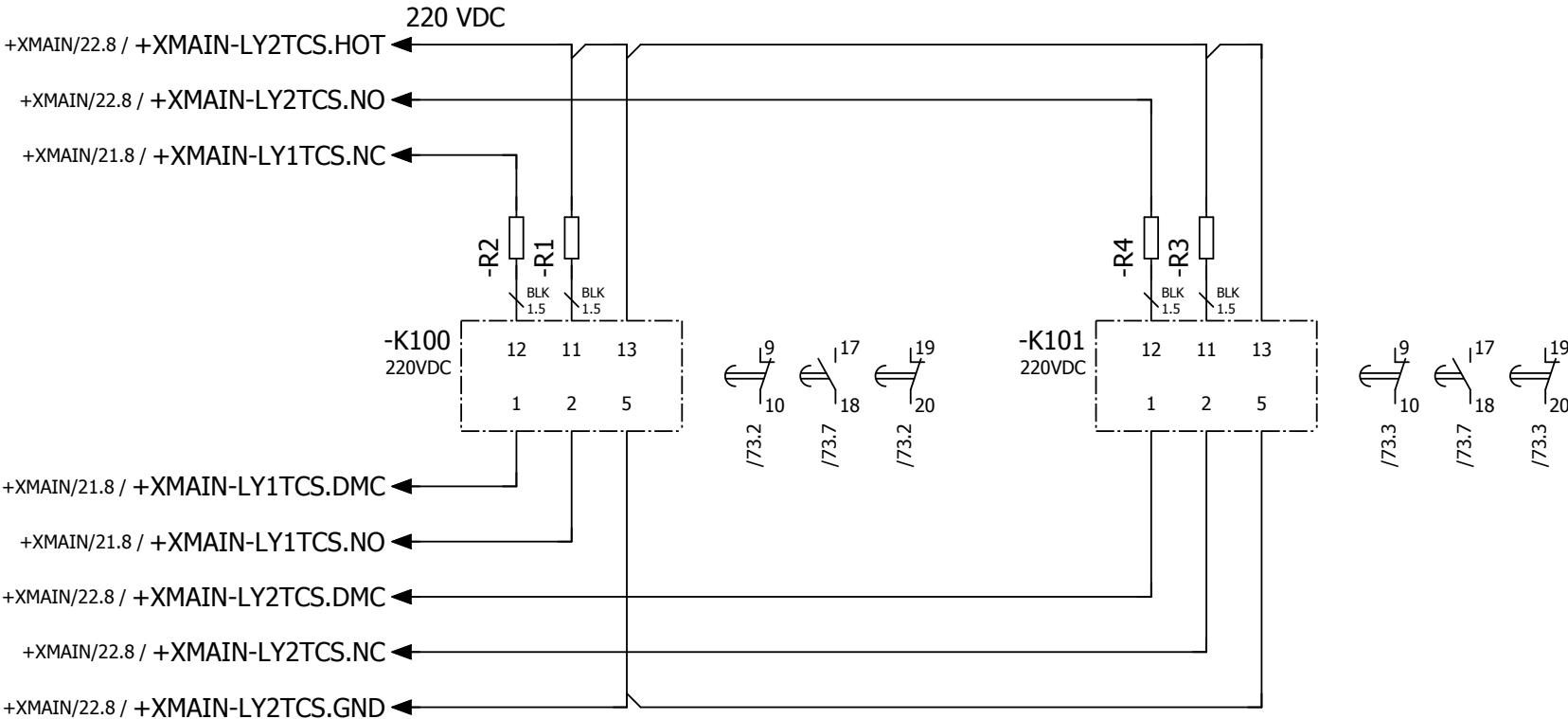
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Q0 CLOSE CIRCUIT SUPERVISION

Q0 TRIP 1 CIRCUIT SUPERVISION

Q0 TRIP 2 CIRCUIT SUPERVISION



Rev.	AA	2016-09-15 OBRIST	Prepared	2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title CLOSE / TRIP COIL SUPERVISION ABB ABB Switzerland Ltd	Plant	=	+ XTCS
			Checked				Resp. dept.:	PGHV-GE2	Cont. 87
			Released				Doc. No.	1HC0125772	Sheet 73 of 125*
			Derived from						



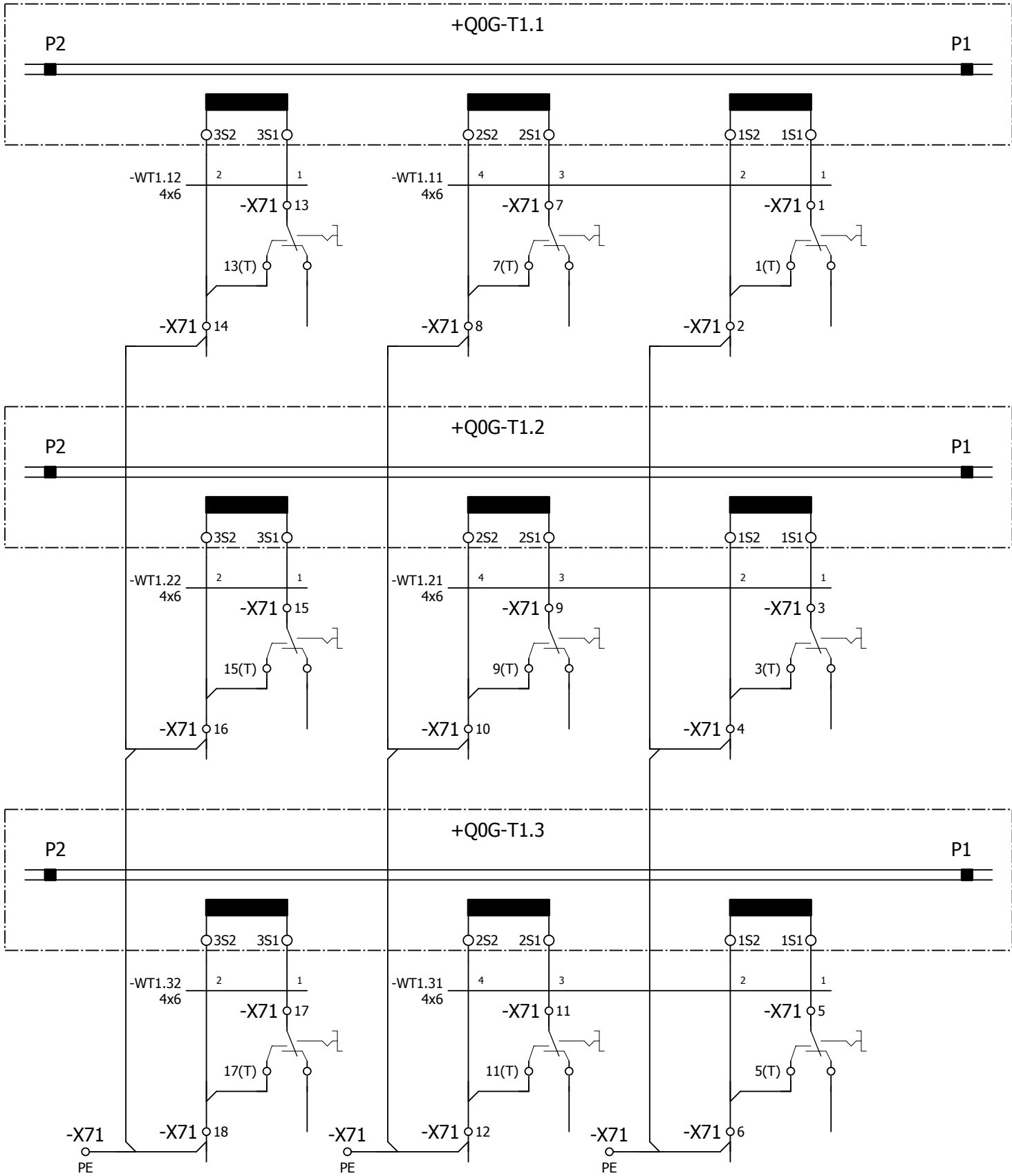
Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST
	AB	2016-09-27	OBRIST	Checked		
	AC	2016-09-29	OBRIST	Released		
				Derived from		

Project name	TIANSHENGQIAO
	19160
	HECS-100M

Title	CURRENT TRANSFORMER T1
ABB ABB Switzerland Ltd	

Plant	=	+ SWR
Resp. dept.:	PGHV-GE2	Cont. 87
Doc. No.	1HC0125772	Sheet 101 of 125*

TO CIRCUIT-BREAKER



10'000 A / 1A / 1A / 1A
CORE 1: 30VA 0.5S
CORE 2: 30VA 5P20
CORE 3: 30VA 5P20

10'000 A / 1A / 1A / 1A
CORE 1: 30VA 0.5S
CORE 2: 30VA 5P20
CORE 3: 30VA 5P20

10'000 A / 1A / 1A / 1A
CORE 1: 30VA 0.5S
CORE 2: 30VA 5P20
CORE 3: 30VA 5P20

FROM GENERATOR

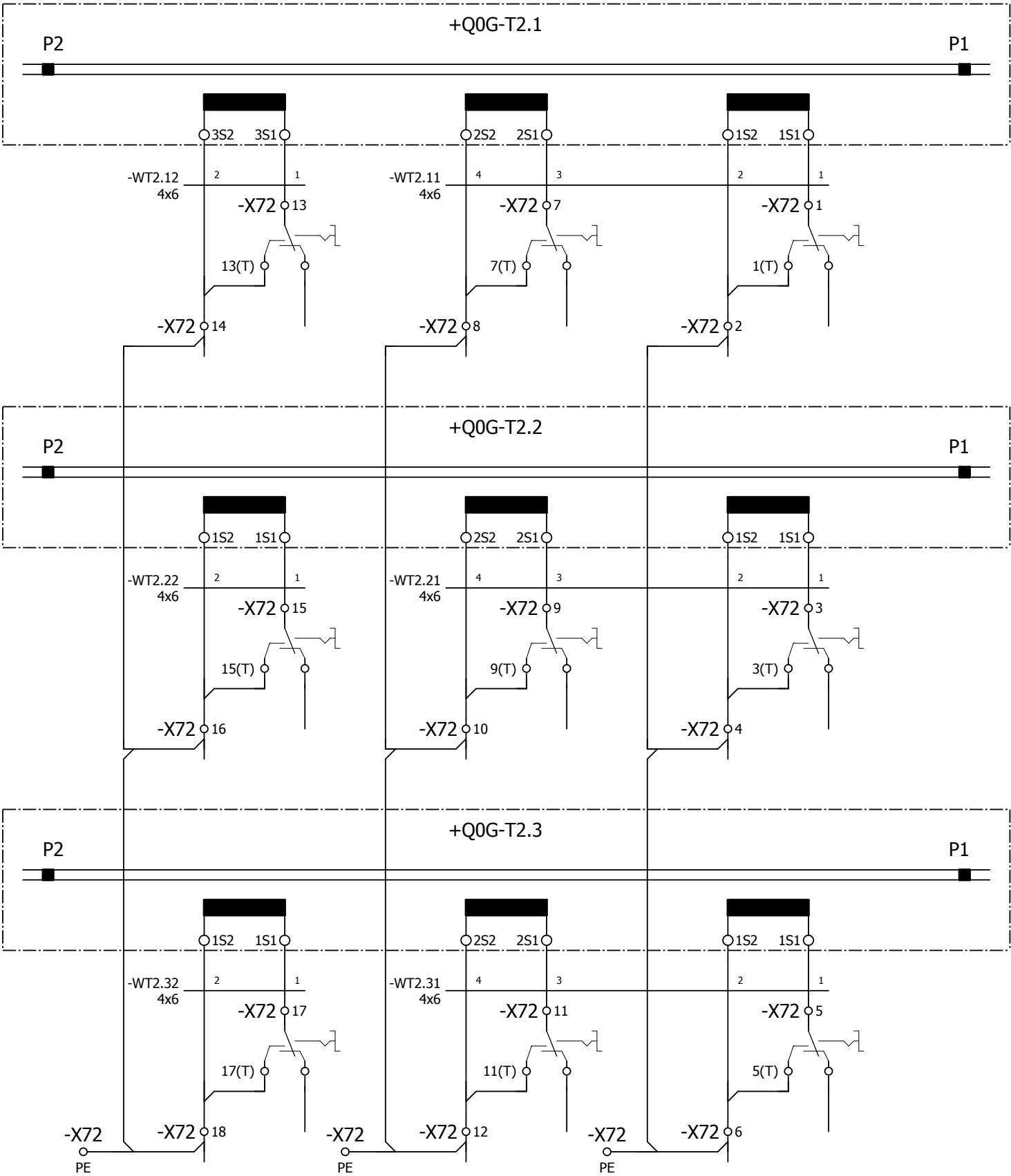
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TO TRANSFORMER

FROM DISCONNECTOR



10'000 A / 1 A / 1 A / 1A
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CORE 2: 30VA 5P20
CORE 3: 30VA 5P20

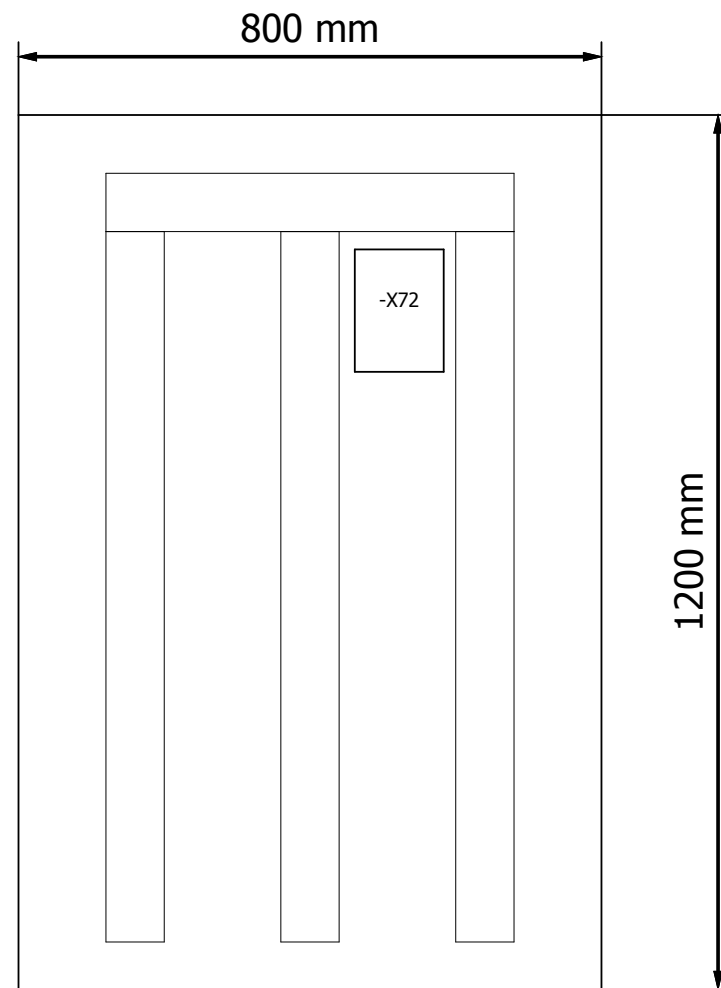
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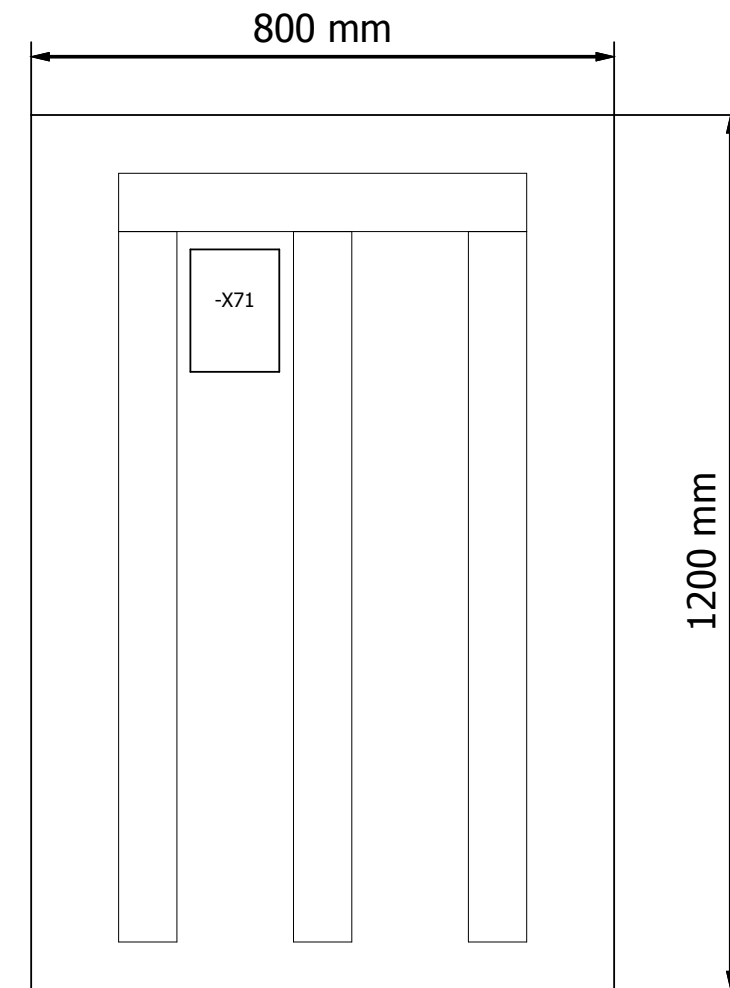
Rev.	AA	2016-09-15	OBRIST	Prepared	2016-09-15	OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title CURRENT TRANSFORMER T2	Plant	=	+ SWL
	AB	2016-09-27	OBRIST	Checked					Resp. dept.:	PGHV-GE2	Cont.
	AC	2016-09-29	OBRIST	Released				Doc. No.	1HC0125772	Sheet	103 of 125*
				Derived from							

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	282-870																

SIDE WALL LEFT



SIDE WALL RIGHT



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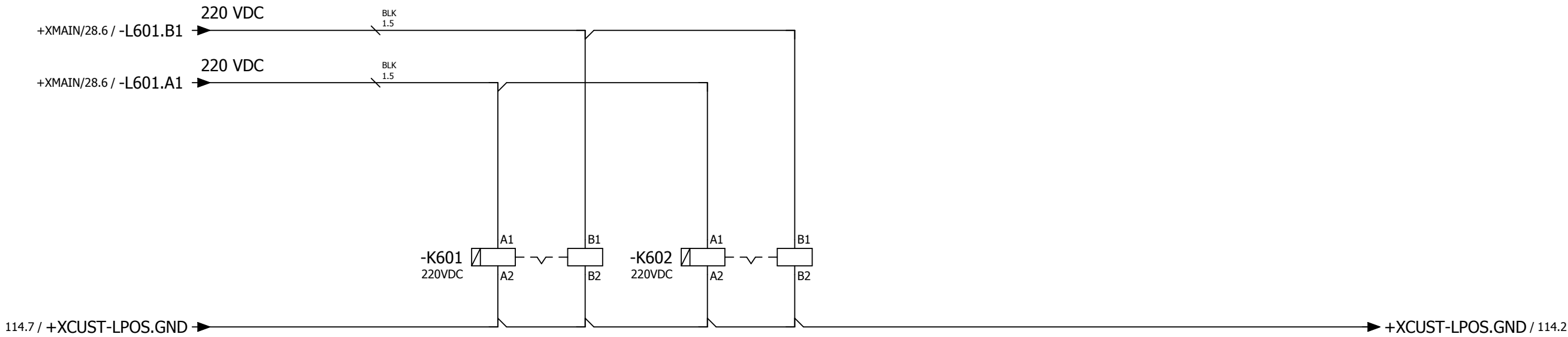
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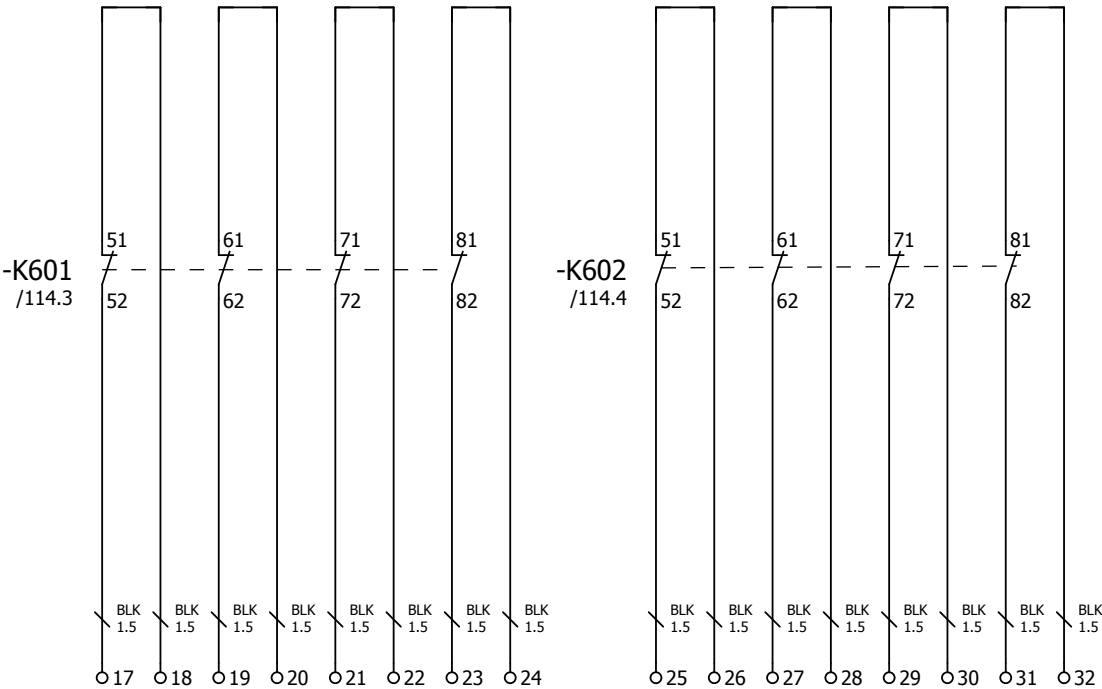
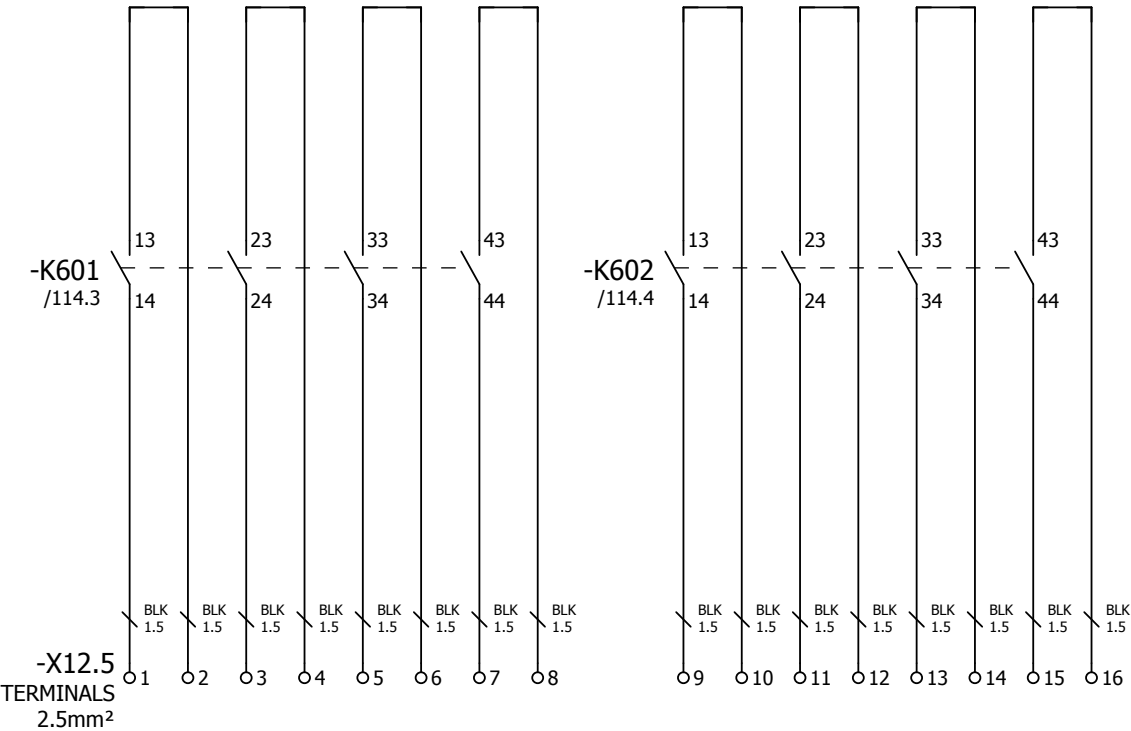
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BISTABLE RELAY CONTACTS ONLY FOR
POSITION INDICATION, NOT FOR
INTERLOCKING

CONTACTS CLOSED IN POSITION
CIRCUIT BREAKER Q0 CLOSED

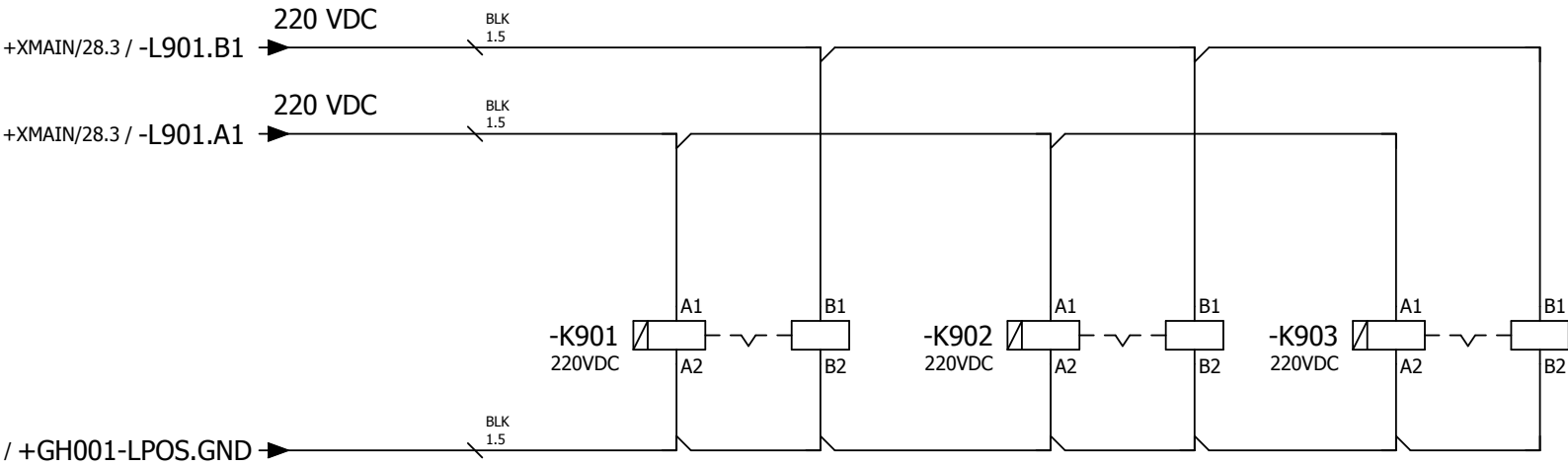
CONTACTS CLOSED IN POSITION
CIRCUIT BREAKER Q0 OPENED



Rev.	AA	2016-09-15 OBRIST	Prepared 2016-09-15 OBRIST	Project name TIANSHENGQIAO 19160 HECS-100M	Title BISTABLE RELAY CONTACTS Q0	Plant =	+ XCUST_1
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