

Rev 2.2
Drawing 1636042316.dwg

Sheet	Description
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2	Power supply, digital outputs, CB control, engine
3	Digital inputs, Comms
4	Customer terminals
5	Power circuit
6	Powerlocks options
7	Sockets options

QAS	Q1 (In)	Ir	tr	Isd	tsd	N	T1-T2-T3	Wire size X	Wire size Z
450	800A	0.8xin=640A	12s	4 x Ir	100ms	4P4D	800/5A	2 x lx	lx

Size	Cross section	Wire Type
aa	0.5 mm ²	H05 V-K
a	1 mm ²	H05 V-K
b	1.5 mm ²	H07 V-K
c	2.5 mm ²	H07 V-K
d	4 mm ²	H07 V-K
e	6 mm ²	H07 V-K
f	10 mm ²	H07 V-K
g	16 mm ²	H07 V-K
h	25 mm ²	H07 V-K
i	35 mm ²	H07 V-K
j	50 mm ²	H07 V-K
k	70 mm ²	H07 V-K
l	95 mm ²	H07 V-K
ax	0.5 mm ²	BELDEN 9271
fx	10 mm ²	EPR-CSP (BS6195)
gx	16 mm ²	EPR-CSP (BS6195)
hx	25 mm ²	EPR-CSP (BS6195)
ix	35 mm ²	EPR-CSP (BS6195)
jx	50 mm ²	EPR-CSP (BS6195)
kx	70 mm ²	EPR-CSP (BS6195)
lx	95 mm ²	EPR-CSP (BS6195)
mx	120 mm ²	EPR-CSP (BS6195)
nx	150 mm ²	EPR-CSP (BS6195)
ox	185 mm ²	EPR-CSP (BS6195)
px	2x95 mm ²	EPR-CSP (BS6195)

Size	Cross-se
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Purple
8	Grey
9	White

Terminal	Description
4	Emergency stop
20	Fuel level sensor (analog)
21	Regen Ready
22	Regen ON
23	TB Opened
39	Fan failure alarm
40	VSD failure alarm
41	Remote start
42	Spillage liquid alarm
43	ELR/ITR alarm
44	ADT ON/OFF
45	50/60Hz
46	FREE
47	MB close feedback
48	MB open feedback
49	GB close feedback
50	GB open feedback

Terminal	Description
10	CBE ON/OFF

Relay	Description
5	Run Coil
6	Stop Coil
9	AFT
10	Inlet shutdown valve control
11	ADT
12	Genset Running
13	Common alarm
14	Low fuel level
15	Close MB
16	Open MB
17	Close GB
18	Open GB

-S5			
	OFF	Ready	ON
11-12	0	X	X
23-24	0	0	X

This table represents the status of the contacts in each position:
0 contact is open
X contact is closed

Tag	Description	Location *
-A1	Control unit	02-05.A
-A2	CIO116	03.A5
-A3	IOM 230	04.A6
-A4	FX-30	04.A8
-B2	Fuel level sensor	02.F2
-D25	Diode	02.D8
-F1	Fuse - 2A	05.B8
-F2	Fuse - 2A	05.B8
-F3	Fuse - 2A	05.B8
-F4	Fuse - 2A	04.C2
-F5	Fuse - 2A	04.C2
-F6	Fuse - 2A	04.C2
-F8	Fuse - 20A	02.F4
-F9	Fuse - 20A	02.F4
-F10	Circuit breaker - 10A	02.D1
-F14	Fuse - 6A	02.D1
-F20	Fuse - 2A (O7)	04.C2
-F21	Fuse - 10A (O8)	02.D9
-F27	Fuse - 2A (O13)	03.D7
-F31	Fuse - 20A (O16)	03.C3
-G1	Battery	02.F1
-G2	Battery	02.F1
-G3	Alternator	05.A6
-HL1	Battery disconnection lamp	02.F4
-HL2	ISV activated lamp	02.D9
-H22	ADT lamp	03.C5
-KA1	ADT Contactor	03.C6
-K0	Starter solenoid	02.F3
-K4	Relay 24V 1C - Stop Coil relay	02.C2
-K6	Relay 24V 2C - Fuel relay	02.C2
-K7	Relay 24V 1C - ELR/ITR trip	05.F8
-K9	Relay 24V 1C - Open GB	02.B5
-K10	Relay 24V 1C - Close GB	02.B5
-K11	Relay 24V 1C - Open MB	02.B5
-K12	Relay 24V 1C - Close MB	02.B4
-K25	Relay 24V 1C - Inlet shutdown valve control	03.D5
-K27	Relay 24V - Fleetlink Advanced Smart Box (O13)	02.C5
-K28	Relay 24V - AFT	03.D4
-K40	Relay 24V 1CO - Genset Running	02.B4
-K41	Relay 24V 1CO - Common alarm	02.B4
-K42	Relay 24V 1CO - Low fuel level	02.B5
-K45	Relay 24V 2CO - Overfill sensor (O16)	03.D3
-K46	Relay 24V 1CO 20A - Fuel pump (O16)	03.D2
-M0	Starter motor	02.F2
-M1	Cooling compartment fan motor	05.F1
-M2	Engine compartment fan motor	05.F3
-N1	ECU - C4001	02.F6
-N2	ECU - C4002	02.F5
-N3	ECU - C4071	02.F6
-N4	AVR	05.A4
-N5	PT100 4-20mA Converter	02.D7
-N22	Earth leakage relay	05.E7
-N23	Earth leakage relay type B	05.E10
-PT1	Hour Meter	05.C10
-Q1	Circuit breaker - GB	05.E4
-Q2, Q11	Circuit breaker - Sockets	06.C
-Q15	Circuit breaker - VSD	05.D1

Tag	Description	Location *
-Q16	Circuit breaker - Engine fan motor	05.D3
-Q17	Circuit breaker - DEF Pump (O15)	03.B6
-Q23	Circuit breaker - 2P 6A	05.D9
-R3	Resistor - 120 Ω Engine CAN end	02.B7
-S1	Battery switch	02.F1
-S2	Spillage sensor	02.F3
-S3	Emergency stop - Cubicle	02.C2/05.F8
-S4	Switch - Door	02.C6
-S5	Regeneration Switch	02.B6
-S9	Switch AFT (O16)	03.D2
-S10	Switch ON/OFF	02.C1
-S11	Switch CBE ON/OFF	03.B6
-S12	Switch - 50/60 Hz	03.C5
-S14	Switch ISV ON/OFF	02.C9
-S15	Switch Resistance bus CAN ON/OFF	04.C10
-S16	Switch Thorus INT/EXT	05.D8
-S20	Switch - DEF Pump	03.C5
-S22	Switch - ELR	05.E7
-S30	Programming vsd switch	05.E2
-T1	Current transformer	05.B6
-T2	Current transformer	05.B6
-T3	Current transformer	05.B6
-T22	Earth leakage relay torus	05.D7
-T23	RCMA 420 torus	05.D10
-TT1	PT100 - Coolant temperature	02.F7
-U1	VSD	05.E1
-U20	Battery charger	04.B2
-U27	Fleetlink	03.C7
-X1	Terminal board	05.G6
-X2, X11	Socket 1PH/3PH - 16A to 125A	06.D
-X12	Powerlocks	06.E
-X13	Powerlocks	06.E
-X14	Connector - Fuel level sensor	02.F2
-X16	Connector - ADT	03.D6
-X20	Connector - Cubicle-engine wire harness	02
-X21	Connector - Spillage Sensor	02.F3
-X22	Connector - Inlet shutdown valve	02.E8
-X23	Terminal strip - Control cubicle connections	02-05
-X24	Terminal strip - Socket CB trip coil	07
-X25	Terminal strip - Customer terminals	04.E2-6
-X30	Connector - Power management system	04.E6
-X44	Connector - Supply M2 (3C+T)	05.E3
-X45	Connector - Supply M1 (3C+T)	05.E1
-X50, X51	AVR Connectors Alternator side	03.A5
-X52, X53	AVR Connectors AVR side	03.A5
-X60	Terminal strip - voltage transformer	06
-X81	Socket 1PH16A	04.E2
-ALS	Connector - Analogue Load Sharing	04.C8
-C1	Connector - External Thorus	04.E7
-C2B	Connector - Remote start	04.E4
-C4B-IN/OUT	Connector - Power management system	04.E9
-C6B	Connector - Main sensing	04.E3
-C8B	Connector - External tank	04.E8
-Y25	Inlet shutdown valve	02.F8
-Y26	ADT valve	03.E6

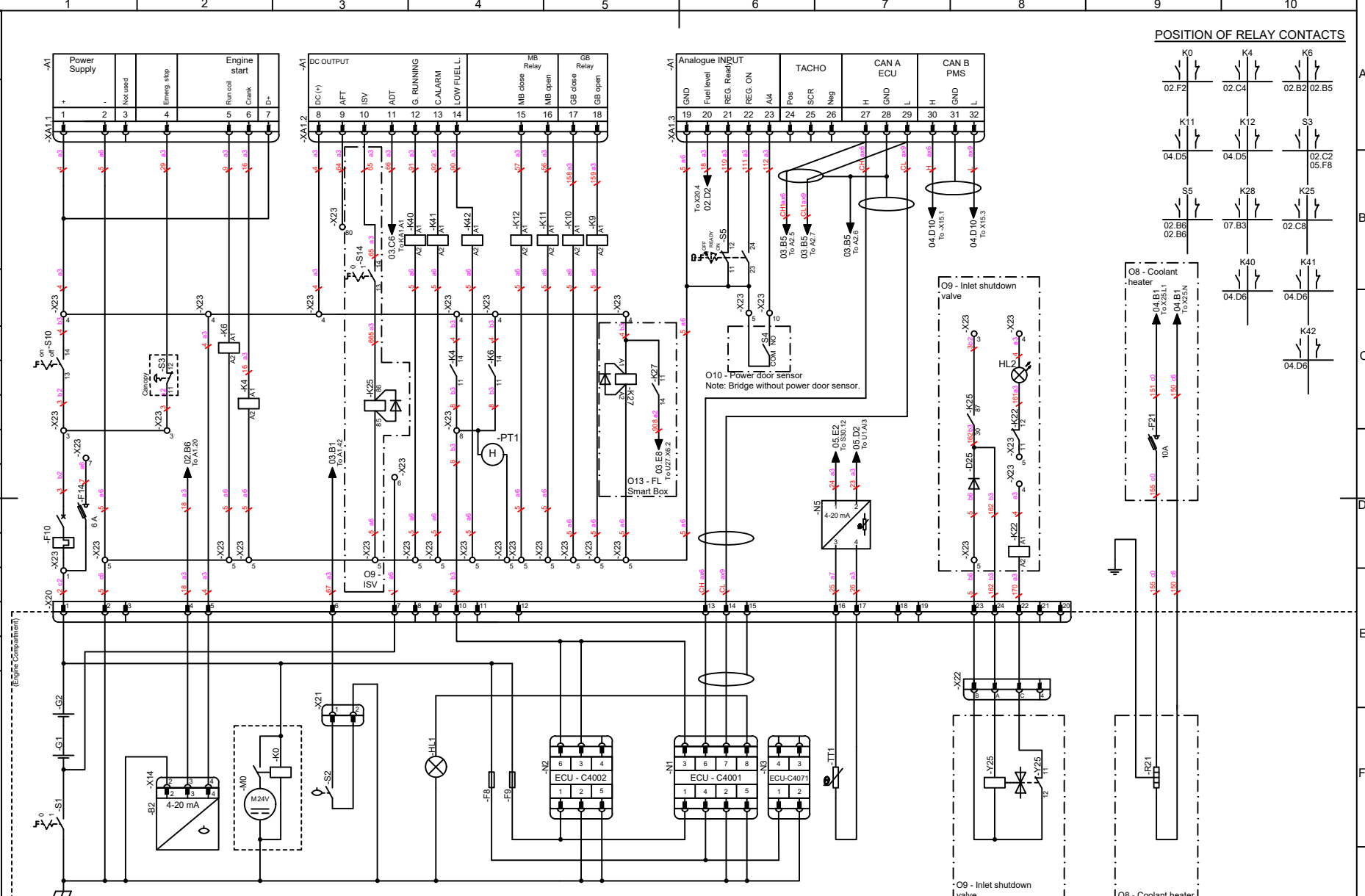
Settings of cubicle electrical components according to instruction 1636032080

Rev	Modification	Date	Modified by
2	S12 Remove On U1	2023-08-08	LEzquer
1	U1 & KA1 connection updated	2023-06-13	LEzquer
0	---	2022-12-09	LEzquer

Drawing Owner	ESF	Approved By	OArranz	Approval Date	2023-08-09	Status	Released	Secrecy Class	1102 K/CONFIDENTIAL
Compare	ACD	A3	1636040724	Replaces		Designation	Sheet 1 / 7	1636042316	

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ACD	A3		

Approval Date: 2023-08-09 Status: Released

Compare 1636040724 Replaces

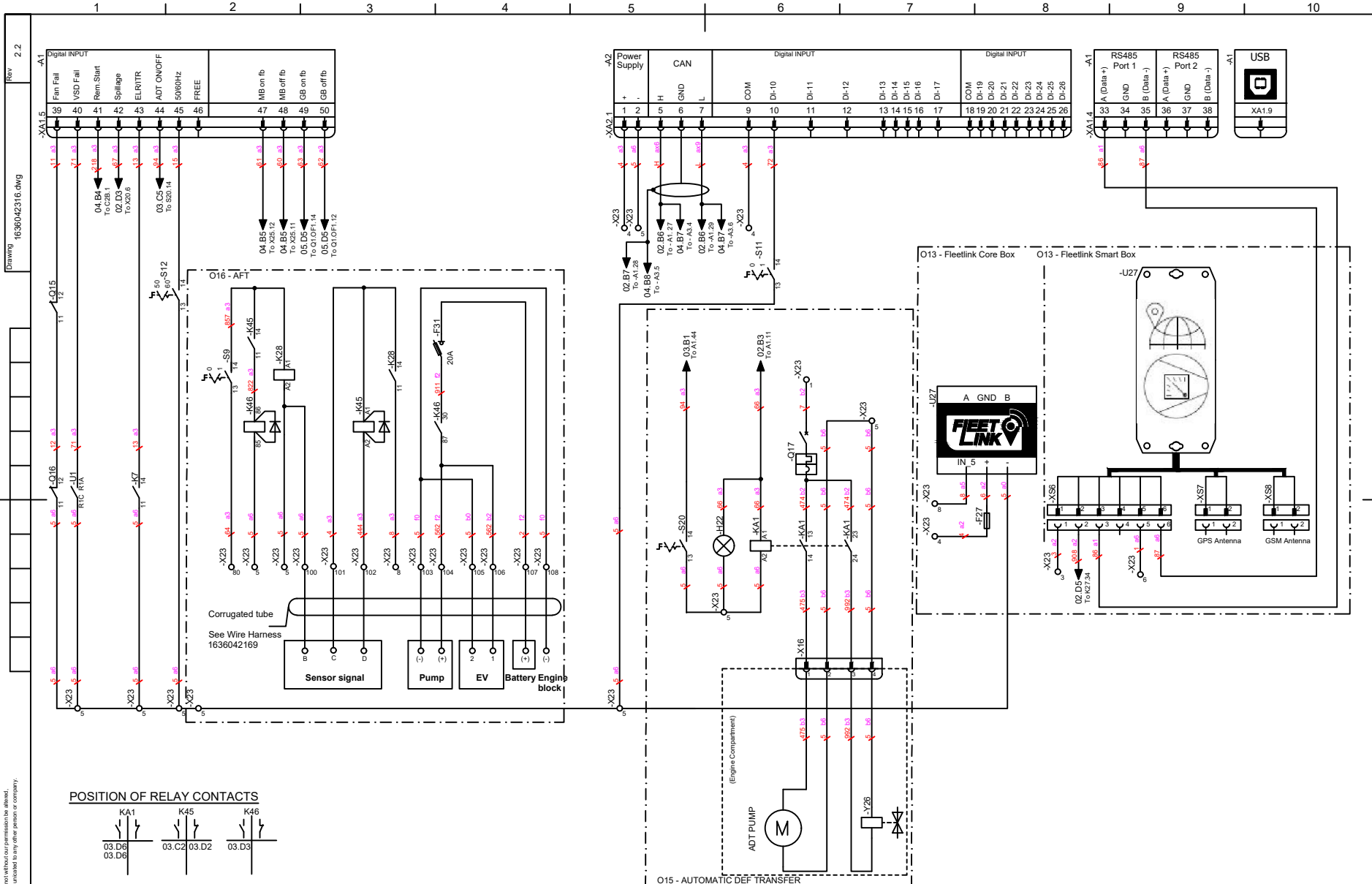
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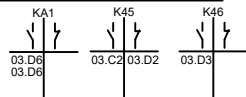
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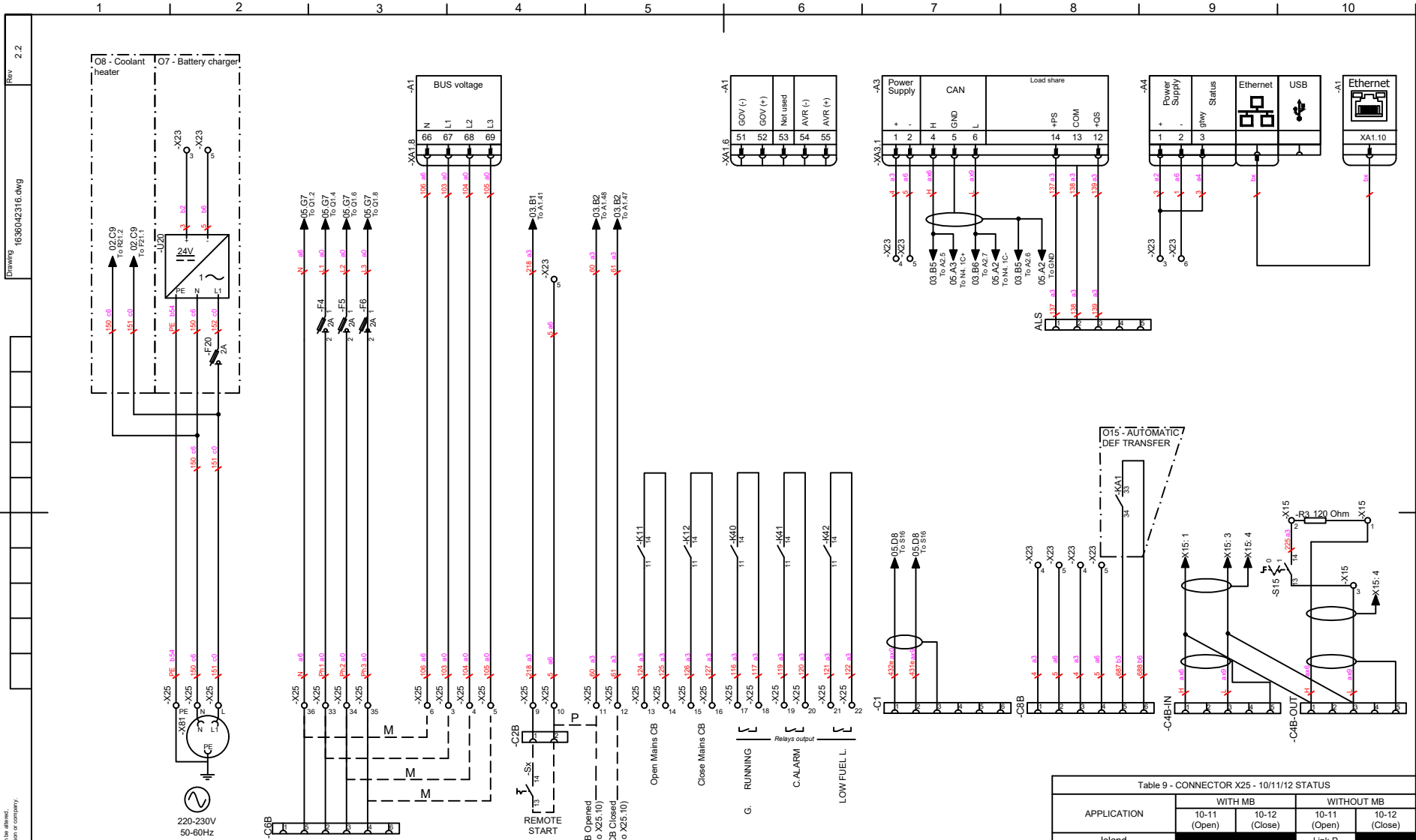


POSITION OF RELAY CONTACTS



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2	S12 Remove On U1	2023-08-08	LEzquer
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NOTES
 Note 3: Remove link "M" when paralleling with the mains. When paralleling multiple gen-sets in ISLAND-mode, link "M" is necessary.
 Note 4: Remove link "P" when NOT running in ISLAND-mode. See table 9 for the setting of "P" link and the status of terminals X25.10, X25.11 and X25.12 with the different application modes.

Table 9 - CONNECTOR X25 - 10/11/12 STATUS

APPLICATION	WITH MB		WITHOUT MB	
	10-11 (Open)	10-12 (Close)	10-11 (Open)	10-12 (Close)
Island			Link P	
AMF	NO Contact	NO Contact		
Peak Shaving	NO Contact	NO Contact	Link P	
Fixed Power	NO Contact	NO Contact	Link P	
Load Take Over	NO Contact	NO Contact		
Mains Power Exp/Imp	NO Contact	NO Contact	Link P	

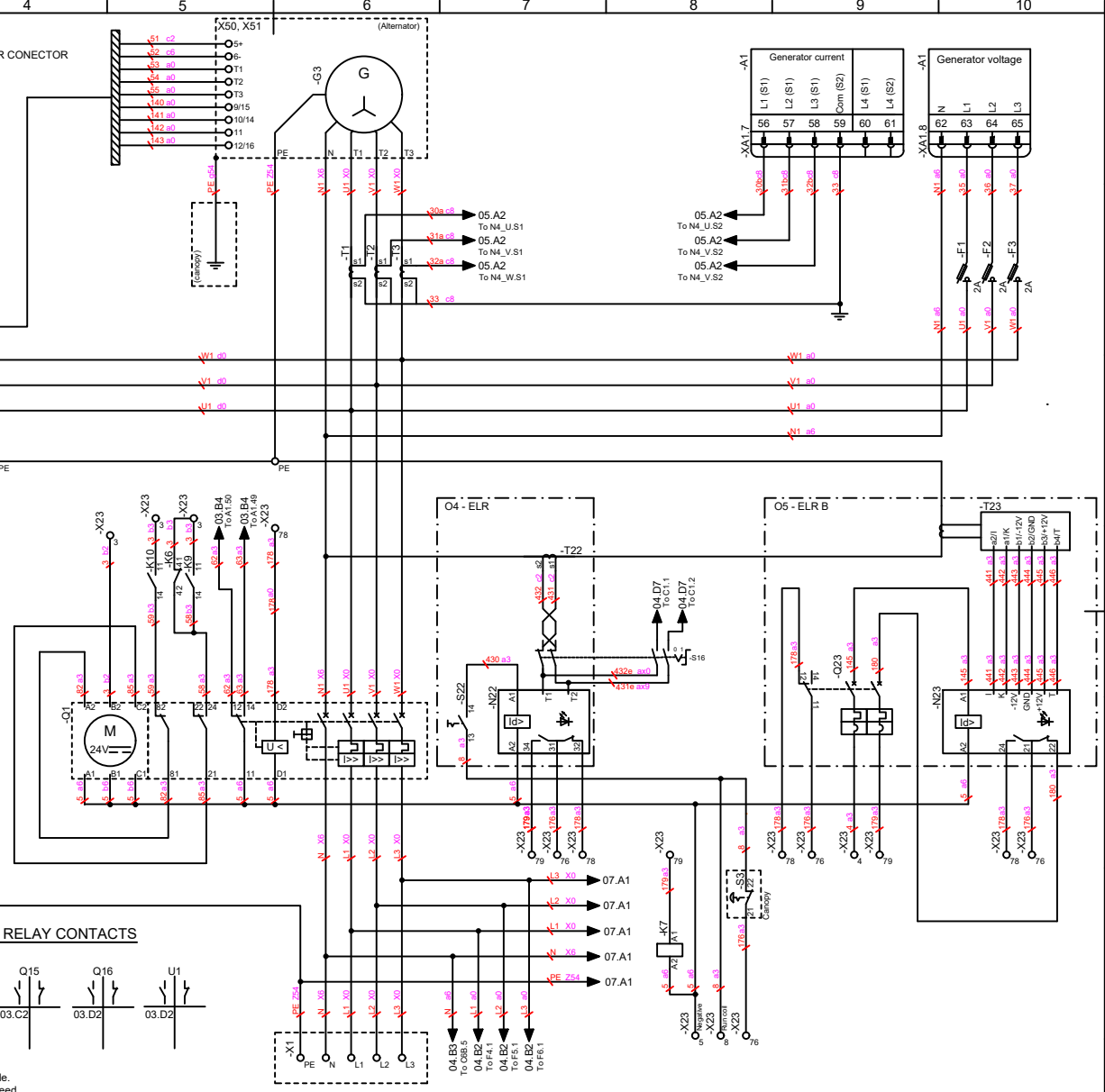
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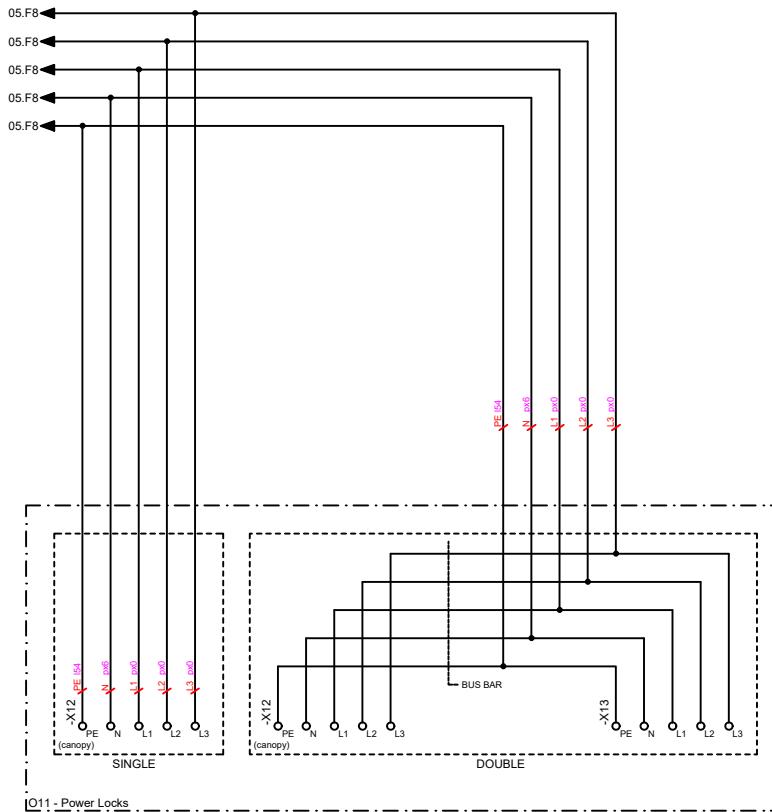
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Q11 - Power Locks

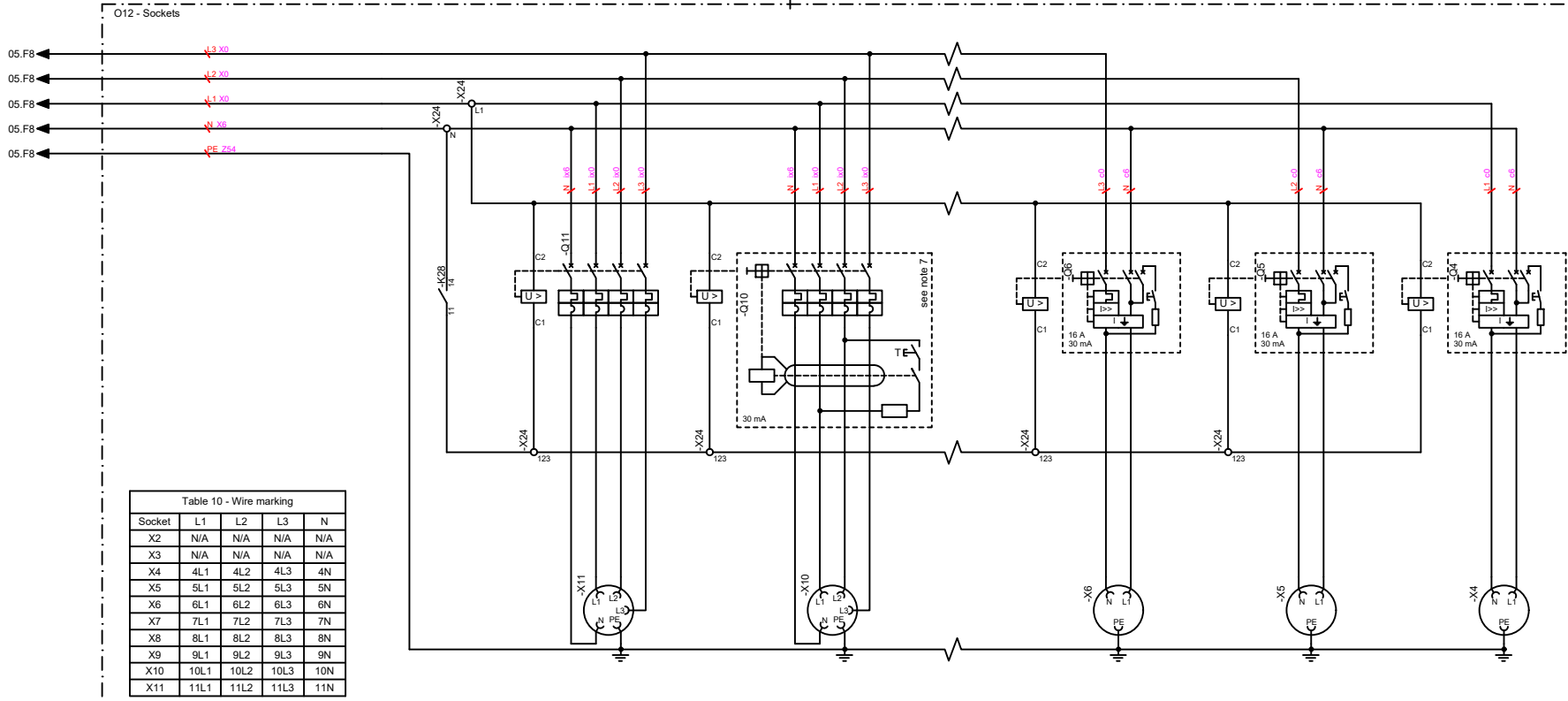
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1 2 3 4 5 6 7 8 9 10



Socket	L1	L2	L3	N
X2	N/A	N/A	N/A	N/A
X3	N/A	N/A	N/A	N/A
X4	4L1	4L2	4L3	4N
X5	5L1	5L2	5L3	5N
X6	6L1	6L2	6L3	6N
X7	7L1	7L2	7L3	7N
X8	8L1	8L2	8L3	8N
X9	9L1	9L2	9L3	9N
X10	10L1	10L2	10L3	10N
X11	11L1	11L2	11L3	11N

Socket slot	Socket 1	Phase	Socket 2	Phase
Socket slot 1	N/A	N/A	N/A	N/A
Socket slot 2	X4	L3	X5	L1
Socket slot 3	X6	L2	X7	L3
Socket slot 4	X8	L1	X9	L2
Socket slot 5	X10	L3	X11	L1

Socket	L1-L2-L3	N	PE
16A 1PH	c0	c6	c54
16A 3PH	c0	c6	c54
32A 3PH	e0	e6	e54
63A 3PH	fx0	fx6	fx54
125A 3PH	gx0	gx6	h54

NOTES
 Note 6: This representation of the sockets option is only one example of connection. Several configurations can be made.
 Note 7: See Table 10 for wire marking.
 Note 8: See Table 12 for wire cross-section and colour.
 Note 9: Connect 1PH sockets alternating the connection line as shown Table 11.
 Note 10: Two types of circuit breakers might be selected: magnet-thermal circuit breaker or earth leakage (ELCB) circuit breaker. With 1PH sockets only ELCB are mounted. With 63A and 125A sockets, an earth leakage add-on block is used when ELCB type is selected.
 Note 11: In each socket slot might be fitted 2 sockets with exception of 63A and 125A sockets, in this case only one socket per slot is allowed. 63A and 125A sockets can only be mounted in slots 3, 4 or 5. There are 4 configuration sets depending on number of the 63A/125A sockets selected: No 63A/125A sockets, 1 unit 63A/125A socket, 2 units 63A/125A sockets, 1 unit 63A socket and 2 units 63A/125A sockets. Table 13 shows the 4 configurations sets with the corresponding markings of sockets and circuit breakers.

Socket slot	Configuration set 1			Configuration set 2			Configuration set 3			Configuration set 4		
	Socket type	Socket Label	Circuit breaker label	Socket type	Socket Label	Circuit breaker label	Socket type	Socket Label	Circuit breaker label	Socket type	Socket Label	Circuit breaker label
Socket slot 1	PMS / PMS + TM Connectors	N/A	N/A	PMS / PMS + TM Connectors	N/A	N/A	PMS / PMS + TM Connectors	N/A	N/A	PMS / PMS + TM Connectors	N/A	N/A
Socket slot 2	2x16 1PH or 2x16 3PH or 2x32 3PH	X4, X5	Q4, Q5	2x16 1PH or 2x16 3PH or 2x32 3PH	X4, X5	Q4, Q5	2x16 1PH or 2x16 3PH or 2x32 3PH	X4, X5	Q4, Q5	2x16 1PH or 2x16 3PH or 2x32 3PH	X4, X5	Q4, Q5
Socket slot 3	2x16 1PH or 2x16 3PH or 2x32 3PH	X6, X7	Q6, Q7	2x16 1PH or 2x16 3PH or 2x32 3PH	X6, X7	Q6, Q7	2x16 1PH or 2x16 3PH or 2x32 3PH	X6, X7	Q6, Q7	1x63 3PH	X9	Q9
Socket slot 4	2x16 1PH or 2x16 3PH or 2x32 3PH	X8, X9	Q8, Q9	2x16 1PH or 2x16 3PH or 2x32 3PH	X8, X9	Q8, Q9	1x63 3PH or 1x125 3PH	X10	Q10	1x63 3PH or 1x125 3PH	X10	Q10
Socket slot 5	2x16 1PH or 2x16 3PH or 2x32 3PH	X10, X11	Q10, Q11	1x63 3PH or 1x125 3PH	X11	Q11	1x63 3PH or 1x125 3PH	X11	Q11	1x63 3PH or 1x125 3PH	X11	Q11

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