Table 1 - Index	
Sheet	Description
1	Index
2	Power supply, digital outputs, CB control, engine
3	Digital Inputs, Comms
4	Customer terminals
5	Power circuit
6	Powerlocks options
7	Sockets options

Table 5 - Circuit breaker & power cables info							
QAS	Q1 (In)	Ir	Isd	T1-T2-T3	Wire size X	Wire size Z	N
250	400A	0,9xIn=360A	4	400/5A	lx	jx	4P4D
325	630A	0,8xIn=505A	4	600/5A	nx	lx	4P4D

Table 2 - Cross-section legend		
Size	Cross section	Wire Type
aa	0,5 mm²	H05 V-K
a	1 mm²	H05 V-K
b	1,5 mm²	H07 V-K
c	2,5 mm²	H07 V-K
d	4 mm²	H07 V-K
e	6 mm²	H07 V-K
f	10 mm²	H07 V-K
g	16 mm²	H07 V-K
h	25 mm²	H07 V-K
i	35 mm²	H07 V-K
j	50 mm²	H07 V-K
k	70 mm²	H07 V-K
l	95 mm²	H07 V-K
ax	0,5 mm²	BELDEN 9271
fx	10 mm²	EPR-CSP (BS6195)
gx	16 mm²	EPR-CSP (BS6195)
hx	25 mm²	EPR-CSP (BS6195)
ix	35 mm²	EPR-CSP (BS6195)
jx	50 mm²	EPR-CSP (BS6195)
kx	70 mm²	EPR-CSP (BS6195)
lx	95 mm²	EPR-CSP (BS6195)
mx	120 mm²	EPR-CSP (BS6195)
nx	150 mm²	EPR-CSP (BS6195)
ox	185 mm²	EPR-CSP (BS6195)
px	2x95 mm²	EPR-CSP (BS6195)

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

Table 6 - Controller inputs	
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
47	MB close feedback
48	MB open feedback
49	GB close feedback
50	GB open feedback

Table 14 - Extension inputs	
Terminal	Description
10	CBE ON/OFF

Table 7 - Controller oputputs	
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

Table 4- Optional equipment	
Option	Description
O1	Battery switch
O4	Earth leakage relay
O5	Earth leakage relay Type B
O7	Battery charger
O8	Coolant heater
O9	Inlet shutdown valve
O10	Power door sensor
O11	Powerlocks
O12	Sockets
O13	Fleetlink
O15	Automatic DEF Transfer (ADT)
O16	AFT

-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

Table 8 - Component list		
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 (O9)	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
-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.F9
-K11	Relay 24V 1C - Open MB	02.B5
-K12	Relay 24V 1C - Close MB	02.B4
-K25	Relay 24V 1C - Inlet shutdown valve control (O9)	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 compartmen 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	02.D4
-Q1	Circuit breaker - GB	05.E4
-Q2..Q11	Circuit breaker - Sockets	06.C
-Q15	Circuit breaker - VSD	05.D1
-Q16	Circuit breaker - Engine fan motor	05.D3
-Q17	Circuit breaker - DEF Pump (O15)	03.B6
-R3	Resistor - 120 Ω Engine CAN end	02.B7

Table 8 - Component list		
Tag	Description	Location *
-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
-S12	Switch - 50/60 Hz	03.C5
-S11	Switch CBE ON/OFF	03.B6
-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 (4C+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-IN/OUT	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.F3
-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
3	A4 Reconnected & 2nd ALS Connector	2024-01-18	LEzquer
2	U1 & KA1 connection updated	2023-07-25	FArcega
1	S10 Without Key & A4 Colour Wire	2023-06-13	LEzquer

Drawing Owner	ESF	Approved By	OArranz	Approv. Date	2024-01-19
Status	Released	Secrecy Class	1102 K/ CONFIDENTIAL		
ACD	A3			Compare	1636044181
Replaces					
Designation				Sheet	1 / 7

DIAGRAM CIRCUIT
QAS+250-325 AGC150 LOXAM

1636044384

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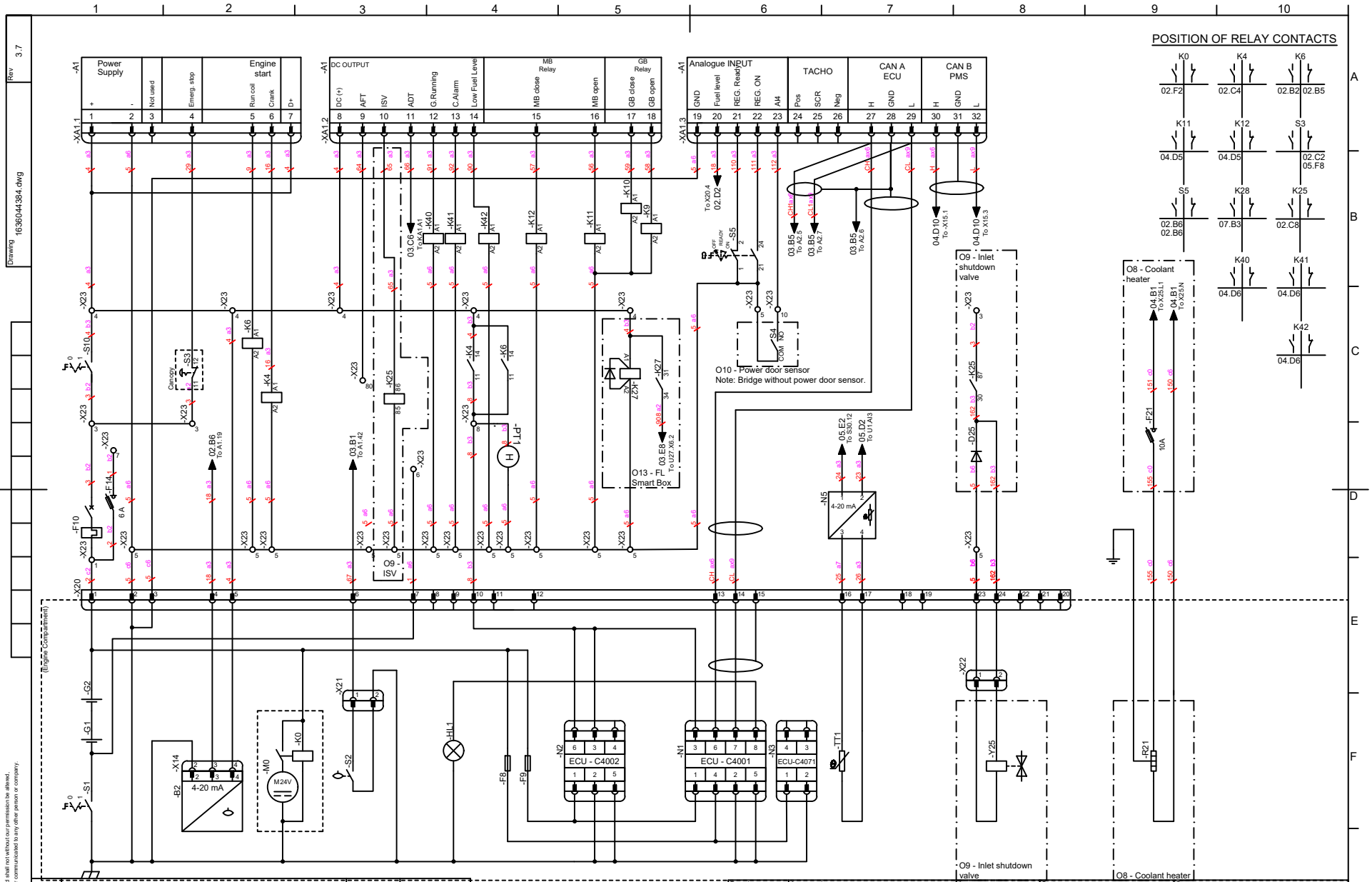
Drawing 1636044384.dwg



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ACD	A3	Compare 1636044181	Replaces
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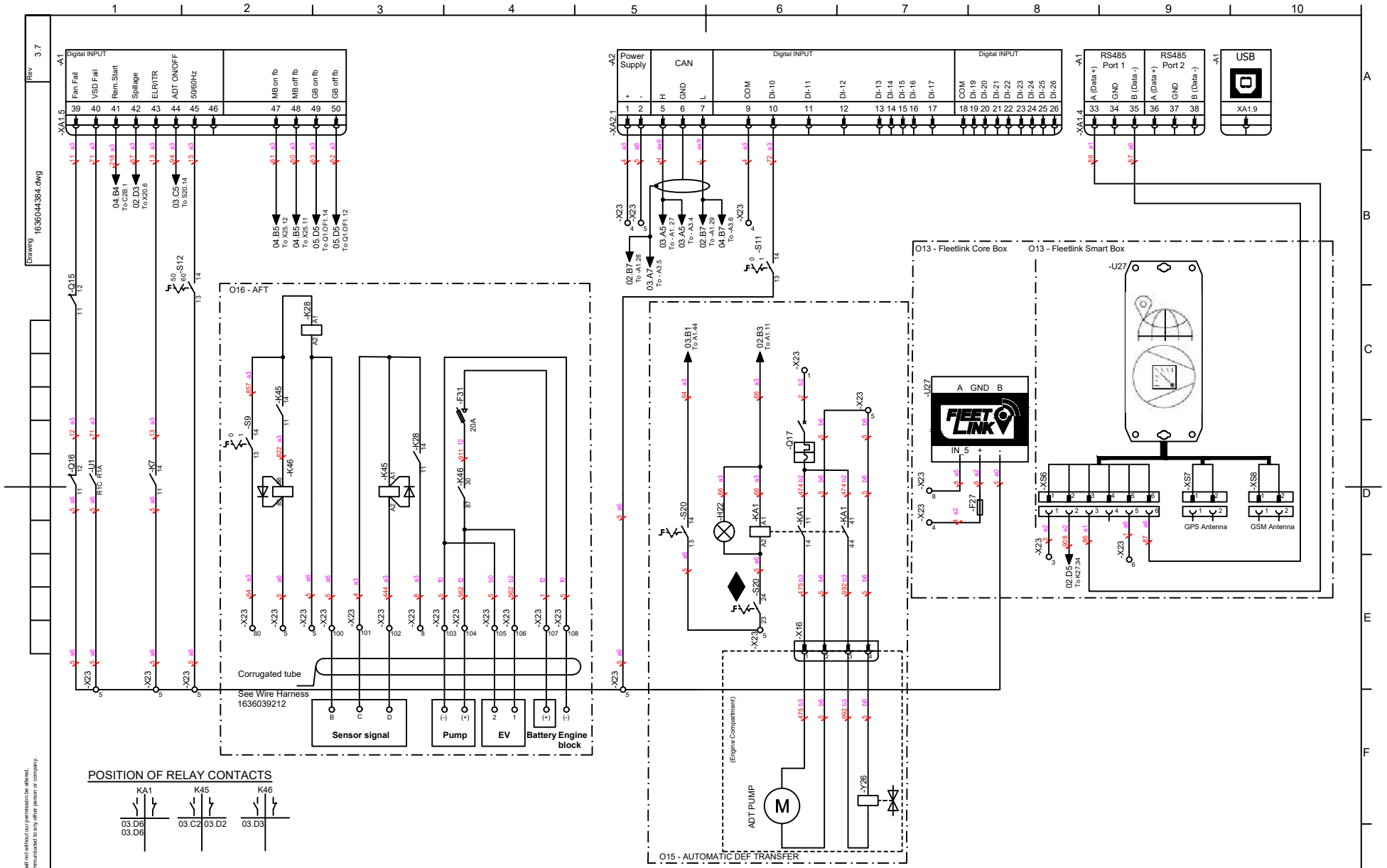

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QAS+250-325 AGC150 LOXAM

Compare: 1636044181 | Replaces:

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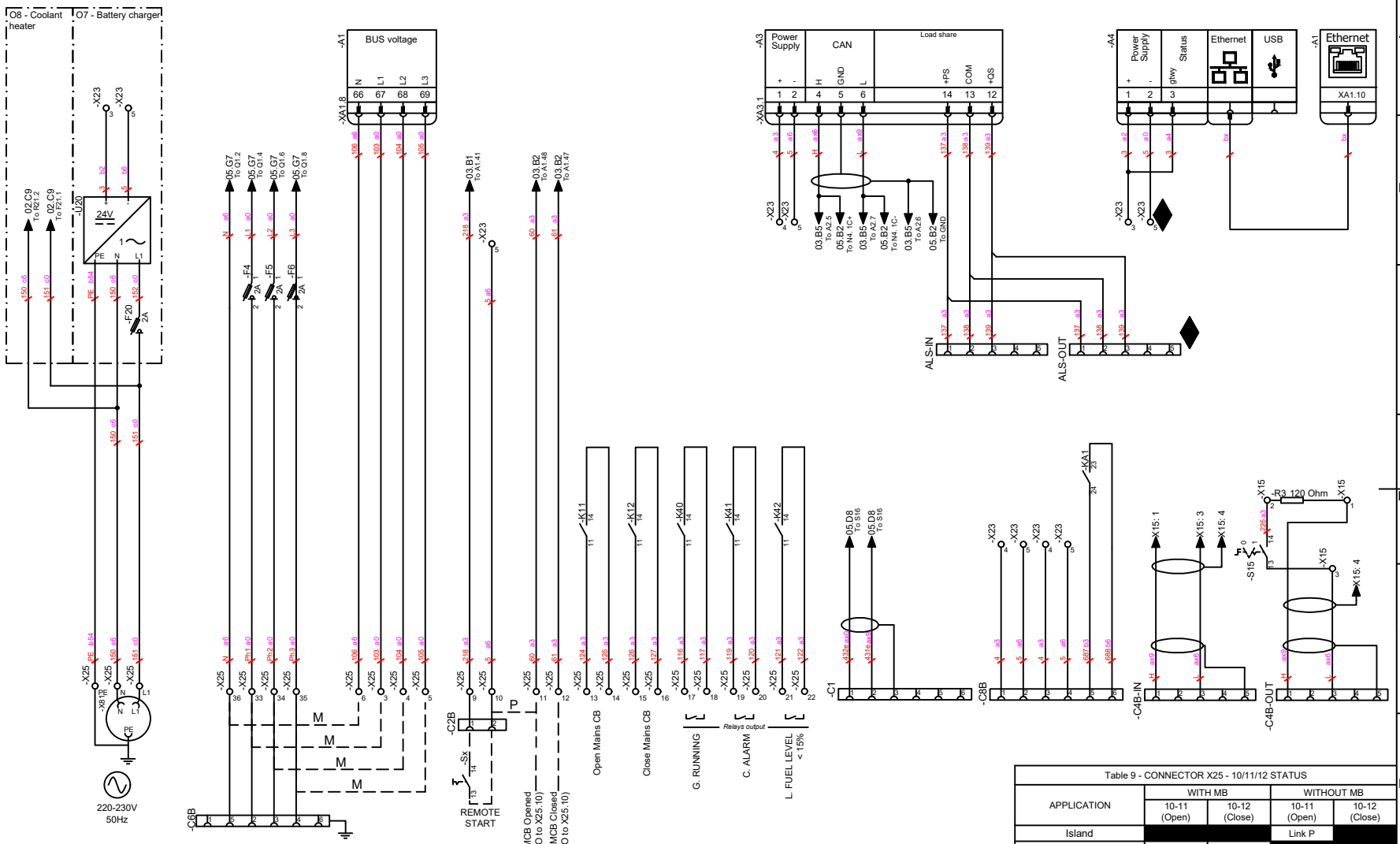

NOTES

Note 3: Remove link "M" when parallelling with the mains. When parallelling 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 differents 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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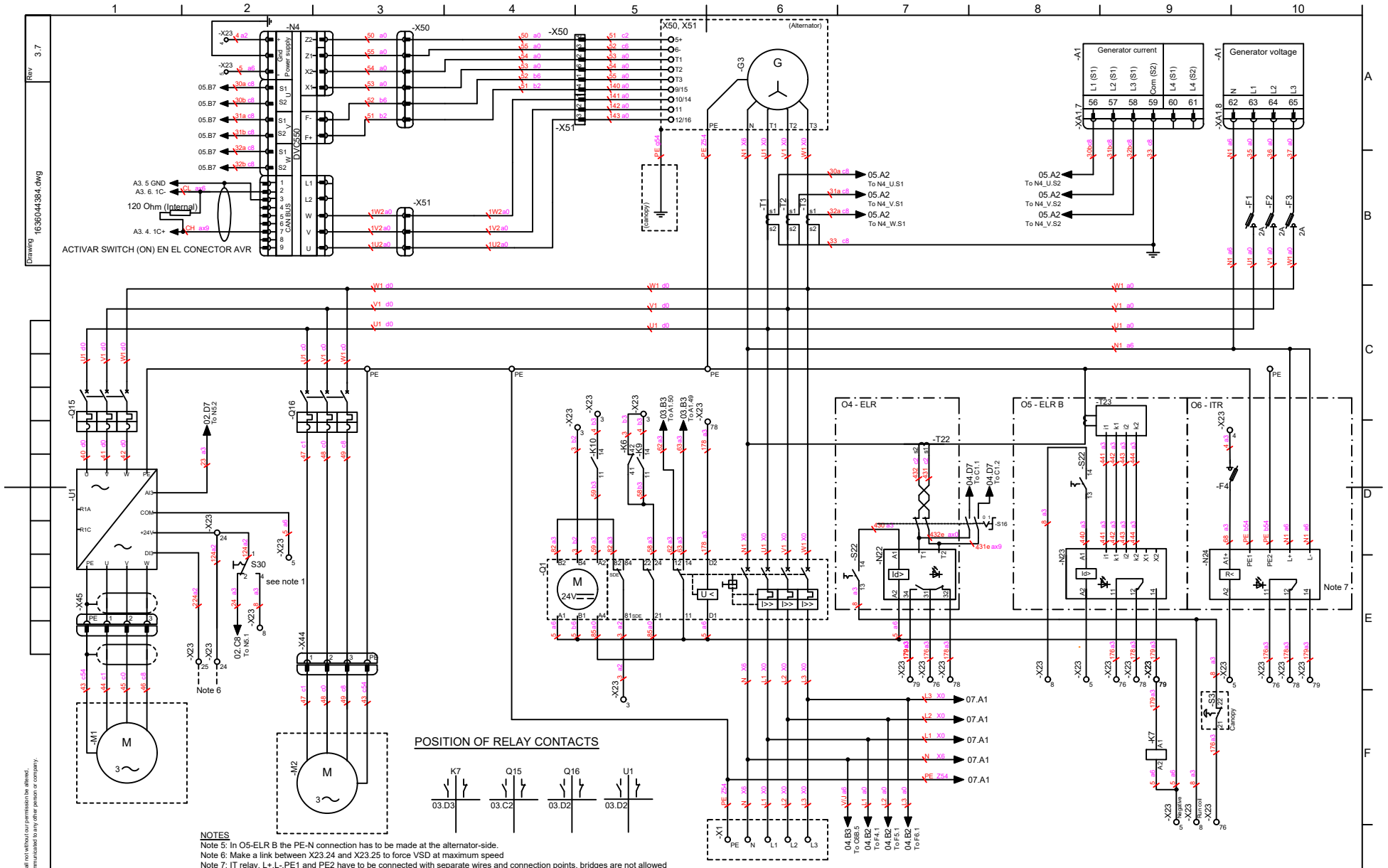

NOTES
Note 5: In O5-ELR B the PE-N connection has to be made at the alternator-side.
Note 6: Make a link between X23.24 and X23.25 to force VSD at maximum speed
Note 7: IT relay. L+,L-,PE1 and PE2 have to be connected with separate wires and connection points. bridges are not allowed

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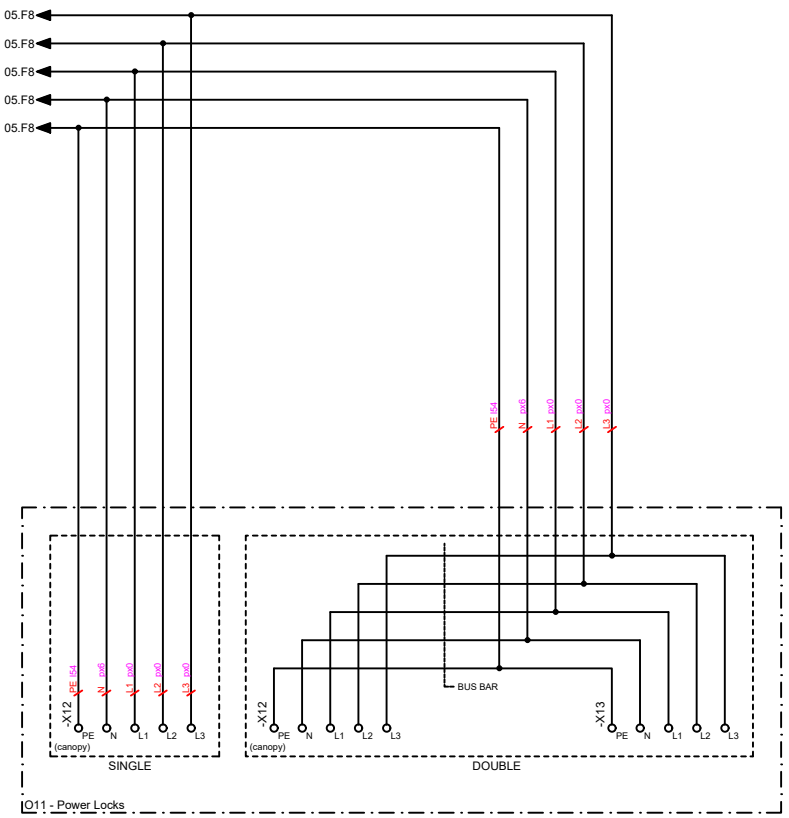

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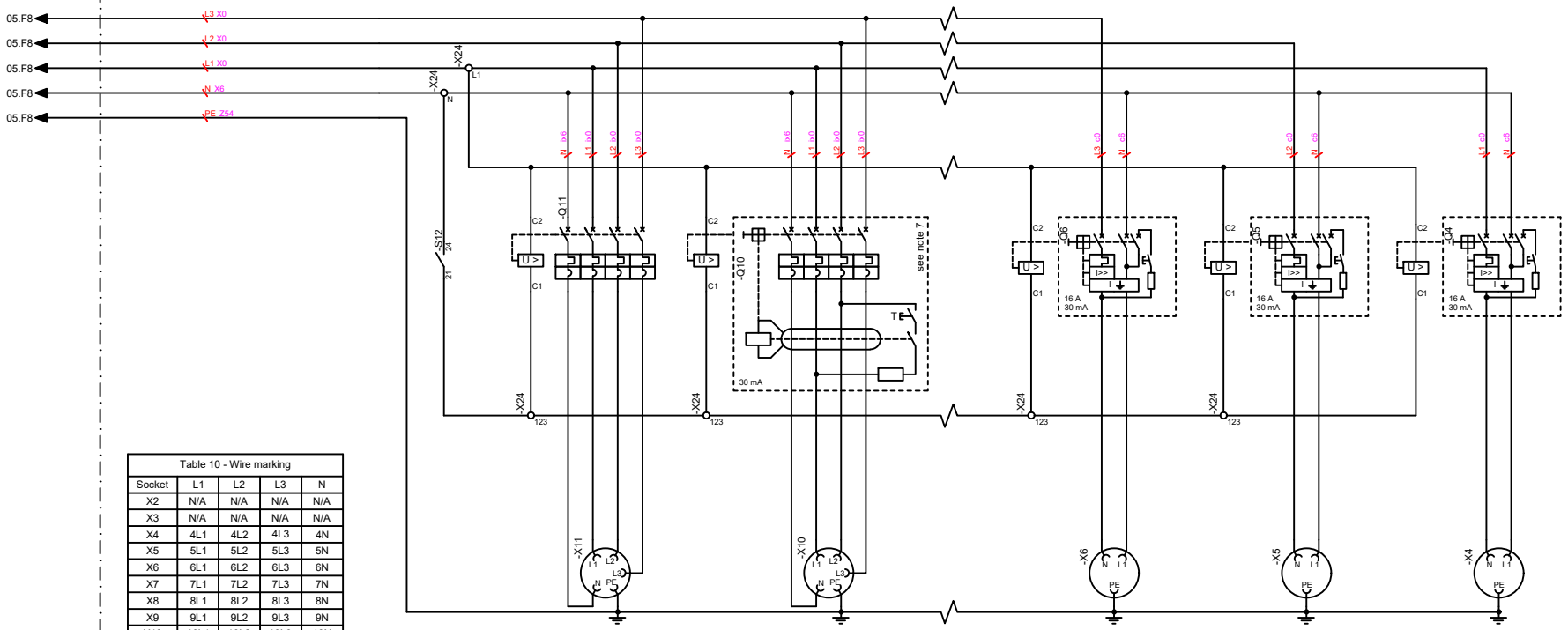

Table 10 - Wire marking				
Socket	L1	L2	L3	N
X2	N/A	N/A	N/A	N/A
X3	N/A	N/A	N/A	N/A
X4	4L1	4L2	4L3	4N
X5	5L1	5L2	5L3	5N
X6	6L1	6L2	6L3	6N
X7	7L1	7L2	7L3	7N
X8	8L1	8L2	8L3	8N
X9	9L1	9L2	9L3	9N
X10	10L1	10L2	10L3	10N
X11	11L1	11L2	11L3	11N

Table 11 - 1PH socket connection				
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

Table 12 - Cross-section/colour			
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 migth be selected: magnet-thermal circuit breaker or earth leakage (ELCB) circuit breaker. With 1PH sockets only ELCB can be mounted. With 63A and 125A sockets, an earth leakage add-on blockis used when ELCB type is selected.

Note 11: In each socket slot migth be fitted 2 sockets with exception of 63A and 125A sockets, in this case only one socket per slot is allowed. 63A and 125 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.

Table 13 - Socket configuration set												
	Configuration set 1			Configuration set 2			Configuration set 3			Configuration set 4		
	Socket type	Socket Label	Circuit braker label	Socket type	Socket Label	Circuit braker label	Socket type	Socket Label	Circuit braker label	Socket type	Socket Label	Circuit braker 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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QAS+250-325 AGC150 LOXAM

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