AQUA COOLING SOLUTIONS LIMITED

UNIT D4 SEGENSWORTH BUSINESS CENTRE
SEGENSWORTH ROAD, FAREHAM
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Customer	:
Plant Designation	: CP1
Drawing number	: P15033
Project Number	:

End User	:	Control panel by	: Shellau
		Incoming supply	: 110VAC
Site Location	:	Feeder	:
		Control voltage	: 24VDC
		Manufacturing date	: July 2015
		Degree of protect.	: IP65
		Panel Location	:

ISSUED FOR MANUFACTURE = 22/07/2015

Created on	: 08. Jun. 2015		
Responsible for project	: Mike West		
Date changed	: 22. Jul. 2015	Highest Page No.	: 135
Editor	: MDC	No. of pages	: 63

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Column X: an automaticly created page is manual changed

ESSJ010E

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Column X: an automaticly created page is manual changed

ESSJ010E

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Column X: an automaticly created page is manual changed

ESSJ010E

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GENERAL SPECIFICATIONS AND TECHNICAL INFORMATION

CONTROL PANEL DETAILS	SPECIFICATION	NOTE COMMENTS: -	PAINT FINISH	SPECIFICATION
TOTAL SIZE OF ENCLOSURE/CONTROL PANEL/S	800(H)x600(W)x250(D)mm		GLOSS: SEMI GLOSS: MATT: POWDER-COATED etc	RITTAL STANDARD PAINT FINISH
APPROXIMATE OVERALL WEIGHT			EXTERIOR COLOUR (EXCLUDING DOORS)	RITTAL POWDER-COATED TEXTURED (RAL 7035)
SYSTEM SUPPLY	1 PHASE/NEUTRAL/EARTH 110VAC/60Hz		EXTERIOR COLOUR (DOORS)	RITTAL POWDER-COATED TEXTURED (RAL 7035)
SYSTEM SUPPLY TYPE			INTERIOR COLOUR (EXCLUDING BACKPLATE)	RITTAL POWDER-COATED TEXTURED (RAL 7035)
SYSTEM SUPPLY REQUIREMENTS	13AMP SUPPLY		INTERIOR COLOUR (INSIDE OF DOORS)	RITTAL POWDER-COATED TEXTURED (RAL 7035)
SYSTEM SUPPLY ALLOWANCES FOR DIVERSITY	DIVERSITY 100%FLC CONNECTED		MOUNTING PLATE/S	RITTAL STANDARD (ZINC PLATED)
SYSTEM SUPPLY DESIGN CURRENT REQUIREMENTS			BASE/PLINTH (FITTED)	RITTAL STANDARD (RAL 7022)
MAIN SUPPLY ISOLATOR TYPE 400AMP FUSE DISCONNECTOR	25AMP / 25kA MAIN ISOLATOR		CABLE CHAMBER (NOT FITTED)	RITTAL POWDER-COATED TEXTURED (RAL 7035)
SHORT CIRCUIT CAPACITY	10KA			
APPARENT POWER (KVA CONNECTED)		P = V x I x 1.732		
ACTIVE POWER (KW CONNECTED)		P = V x I x 1.732 x 0.8		
DC CONTROL POWER (WATTS CONNECTED)		POWER SUPPLY UNIT 400VAC/24VDC/60AMP/1440W.		
ENCLOSURE LIGHTS & SOCKETS, VOLTAGE	230VAC			
CONTROL & INDICATION VOLTAGE	24VDC			

PROTECTION	SPECIFICATION	COMMENTS: -	PLC EQUIPMENT	SPECIFICATION
BS/EN/IEC STANDARDS IMPLEMENTED	EN292/BSEN954-1/BSEN60204-1/BS7671	NOTE: -ALL APPLICABLE & RELEVANT STANDARDS etc.	PLC MAKE	CAREL
DEGREE OF ENCLOSURE PROTECTION (IP RATING)	IP54		PLC TYPE	PC05
DETAILS OF EQUIPMENT BY BARRIER SCREENING	25VAC/60VDC AND ABOVE (IP20B)	NOTE: -DRY ENVIRONMENTS MAINTAINED (EN60204)	PLC INTERFACE	
EQUIPOTENTIAL BONDING IMPLEMENTED	YES	BS7671 STANDARDS		
AUTOMATIC DISCONNECTION INSTALLED	YES			
MANUFACTURERS SPECIFICATIONS IMPLEMENTED	YES			
EMC STANDARDS REQUIRED (SCREENING)	YES	MANUFACTURERS EMC REQUIREMENTS IMPLEMENTED		
STANDARD LABELS TO BE FITTED	YES	HAZARDS/WARNING SIGNS AND VOLTAGE LABELS		

CONDUCTORS AND TERMINATIONS	SPECIFICATION	COMMENTS: -	CABLE COLOURS	SPECIFICATION
MINIMUM SIZE OF POWER WIRING	1.5mm²		AC 460VAC POWER WIRING	BLACK
MINIMUM SIZE OF CONTROLS & I/O WIRING 24VDC	1.0mm² (I/O 0.5mm²)		AC 230VAC POWER WIRING	BLACK
MINIMUM SIZE OF POWER TERMINALS	4.0mm TERMINATION		PROTECTIVE CONDUCTOR	GREEN/YELLOW
MINIMUM SIZE OF CONTROL TERMINALS	2.5mm TERMINATION		AC 110VAC POWER WIRING - 110V	RED
MAIN POWER BUSBAR SIZE			AC 110VAC POWER WIRING - 0V	WHITE/RED
MAIN EARTH BUSBAR SIZE			DC CONTROL CIRCUITS +	DARK BLUE
EARTH BUSBAR POSITIONS			DC CONTROL CIRCUITS -	WHITE/BLUE
METHOD OF TERMINATING OUTGOING PROTECTIVE CONDUCTORS	BUSBAR AND/OR PE TERMINALS		NEUTRAL CIRCUITS	LIGHT BLUE
EXTERNAL CABLES, ENTRY POSITION	BOTTOM/TOP ENTRY		LIVE SIDE OF ISOLATOR CIRCUITS	ORANGE
METHOD OF FIXING/SUPPORTING OUTGOING CABLES	CABLE TRUNKING/TRAY		EXTERNALLY FED INTERLOCKS CIRCUITS (AC)	ORANGE
SCHEMATIC SYMBOLS & CONTACT REFERENCE NUMBERS Etc	SYMBOLS BS EN 60617	EQUIPMENT PAGE-PATH NUMBERING.	EXTERNALLY FED INTERLOCKS CIRCUITS (DC)	ORANGE

GENERAL COMMENTS: -

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			Tested	22. Jul. 2015				
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50E4
50/1
UNIVERSAL ANALOGUE INPUTS

ADDRESS	PAGE	FUNCTION
U1	51/0	NEGATIVE PRESSURE VENTURI SUCTION
U2	51/1	NEGATIVE PRESSURE VENTURI SUCTION
U3	51/2	VENTURI INLET PRESSURE
U4	51/4	CHILLER FLOW TEMPERATURE
U5	51/5	CHILLER RETURN TEMPERATURE
U6	51/7	DATA CENTRE FLOW PRESSURE No. 1
U7	51/8	DATA CENTRE FLOW PRESSURE No. 2
U8	51/8	TANK LEVEL (NOT SELECTED)
U9	52/3	DATA CENTRE RETURN TEMPERATURE
U10	52/5	DATA CENTRE FLOW TEMPERATURE

50E4
50/1
ANALOGUE OUTPUTS

ADDRESS	PAGE	FUNCTION
Y1	60/2	HEAT EXCHANGER PRIMARY CONTROL VALE CHILLER (NOT SELECTED)
Y2	60/3	NEGATIVE PRESURE CONTROL VALVE LPS (NOT SELECTED)
Y3	60/4	SPARE
Y4	60/5	SPARE
Y5	60/6	SPARE
Y6	60/7	SPARE

50E4
50/1
24VDC DIGITAL INPUTS

ADDRESS	PAGE	FUNCTION
ID1	53/0	RTP1 LPS PUMP INVERTER FAULT
ID2	53/1	SPARE
ID3	53/2	SPARE
ID4	53/3	SPARE
ID5	53/4	CTP1 RECIRCULATION PUMP INVERTER FAULT
ID6	53/5	SPARE
ID7	53/6	SPARE
ID8	53/7	SPARE
ID9	54/0	LEAK DETECTION (NOT SELECTED)
ID10	54/1	B.E.M.S. INTERLOCK
ID11	54/2	24VDC CONTROL CIRCUIT HEALTHY
ID12	54/3	VENTURI FLOW SENSOR
ID13H	54/4	SPARE
ID13	54/5	SPARE
ID14	54/6	LEAK LEVEL SENSOR
ID14H	54/7	SPARE
ID15H	55/1	SPARE
ID15	55/2	SELECTION SETPOINT HEAT EXCHANGER
ID16	55/3	CONFIGURABLE INPUT No. 1 (NOT SELECTED)
ID16H	55/4	SPARE
ID17	55/5	CONFIGURABLE INPUT No. 2 (NOT SELECTED)
ID18	55/6	CONFIGURABLE INPUT No. 3 (NOT SELECTED)

50E4
50/1
DIGITAL RELAY OUTPUTS

ADDRESS	PAGE	FUNCTION
NO1	61/0	RTP1 + CTP1 PUMP ENABLE
NO2	61/1	AIR RELEASE SOLENOID VALVE
NO3	61/2	SPARE
NO4	61/3	SPARE
NO5	61/4	HIGH PRIORITY ALARM
NO6	61/5	SPARE
NO7	61/7	SPARE
NO8	61/8	SPARE
NC8	61/9	SPARE
NO9	62/0	SPARE
NO10	62/1	SPARE
NO11	62/2	SPARE
NO12	62/4	SPARE
NC12	62/4	SPARE
NO13	62/6	CONFIGURABLE OUTPUT No. 1 (NOT SELECTED)
NC13	62/6	SPARE
NO14	62/8	LPS PUMP No. 1 ENABLE (NOT SELECTED)
NC14	62/8	SPARE
NO15	63/2	LPS PUMP No. 2 ENABLE (NOT SELECTED)
NC15	63/3	SPARE
NO16	63/4	SPARE
NO17	63/5	SPARE
NO18	63/6	SPARE

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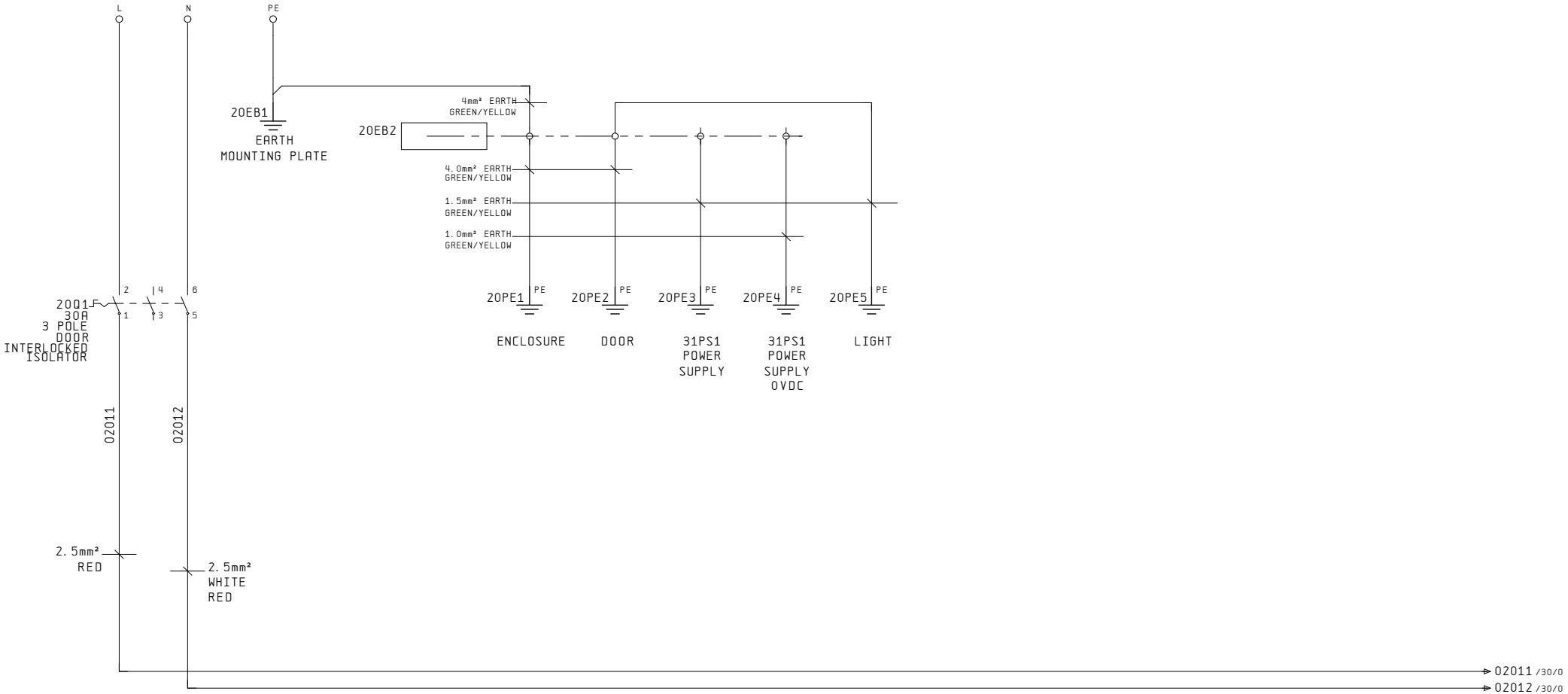
MAIN POWER SUPPLY
110VAC/60Hz



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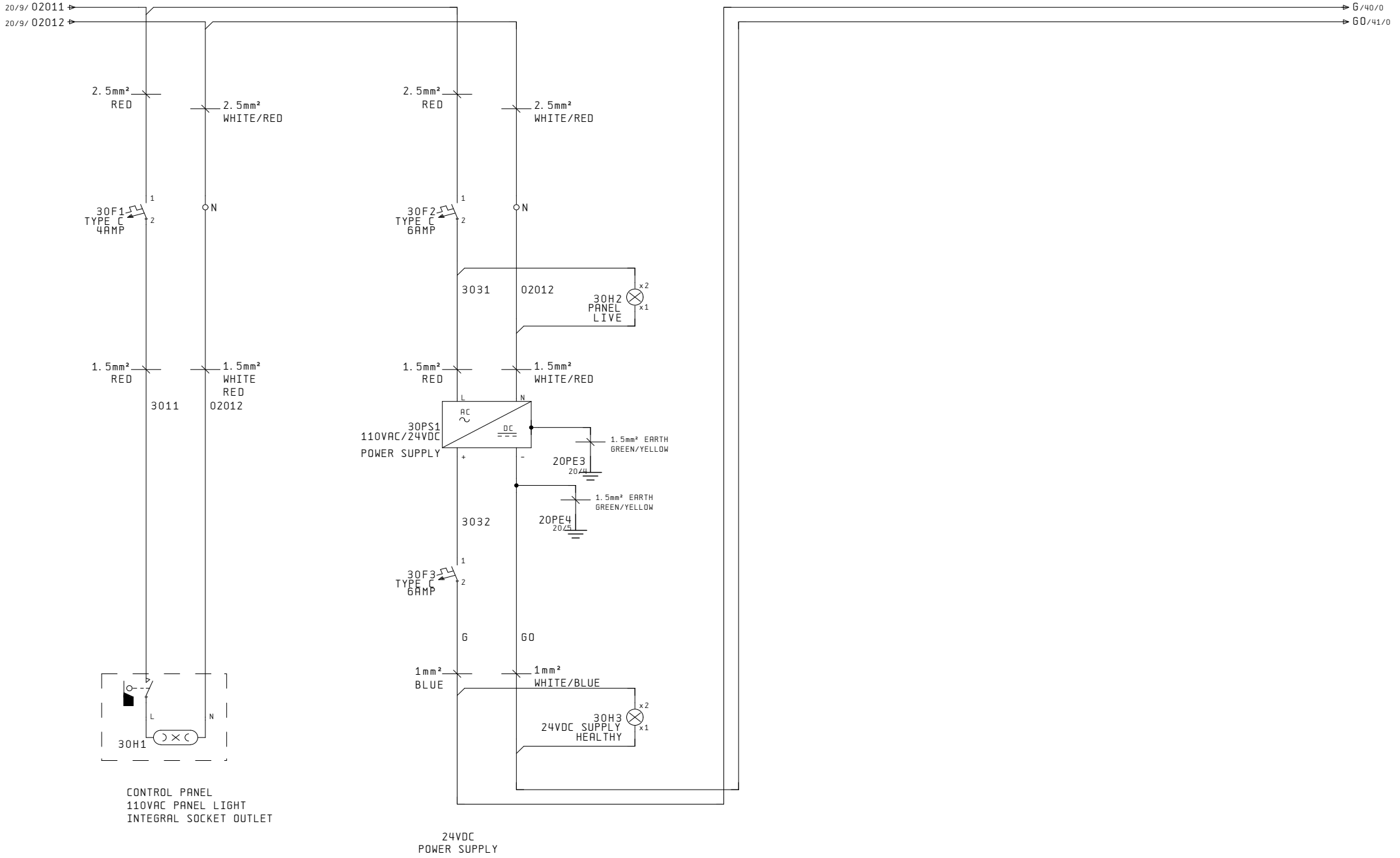
			Date	08. Jun. 2015	CP1		AQUA COOLING SOLUTIONS	110VAC Power Supply Main Distribution	P15033
			Editor	M. CARMODY					
			Tested	22. Jul. 2015					
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.		



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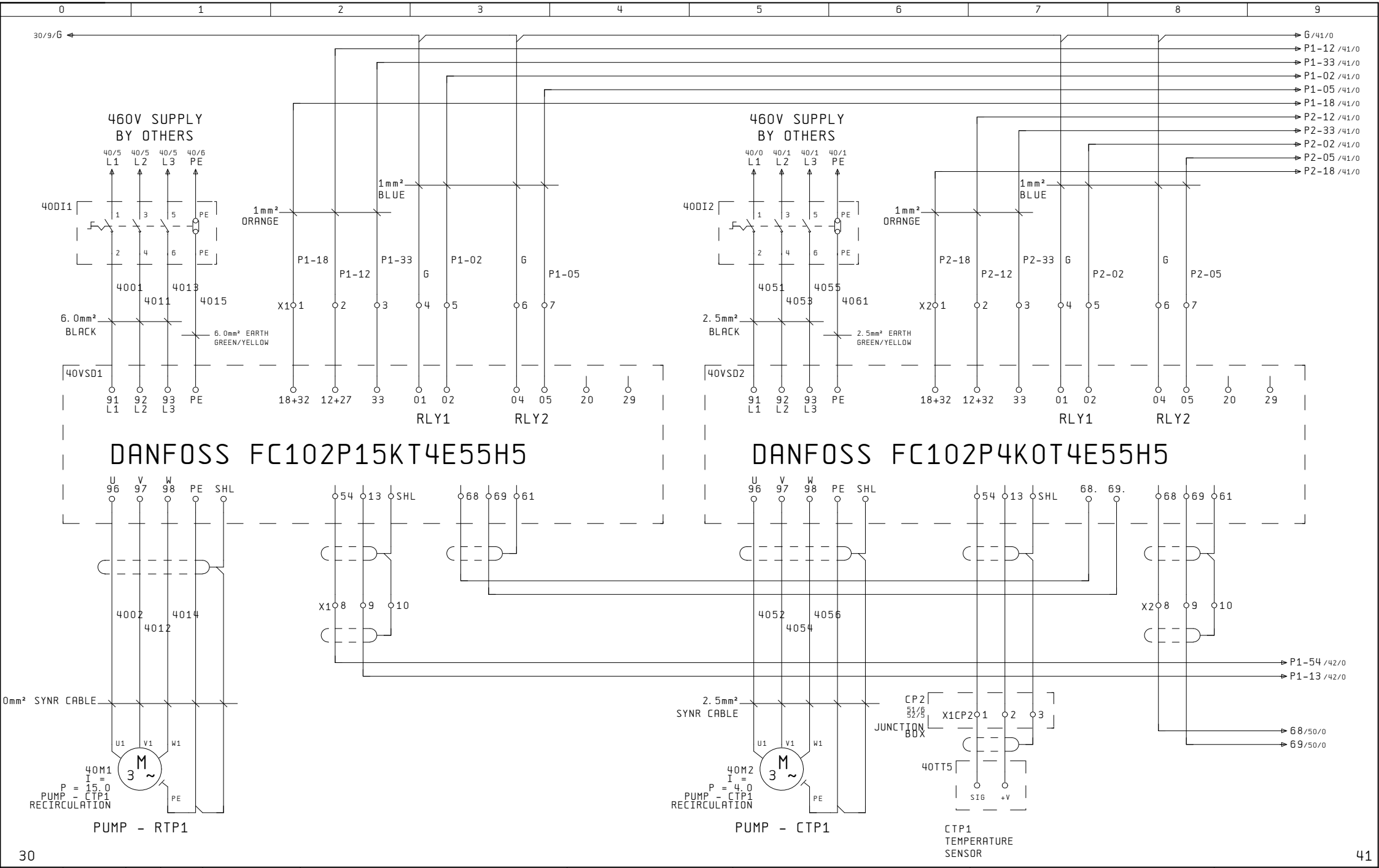
			Date	08. Jun. 2015	CP1	AQUA COOLING SOLUTIONS	110VAC & 24VDC Distribution	P15033
			Editor	M. CARMODY				
			Tested	22. Jul. 2015				
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.	P. 30 / 135 P.



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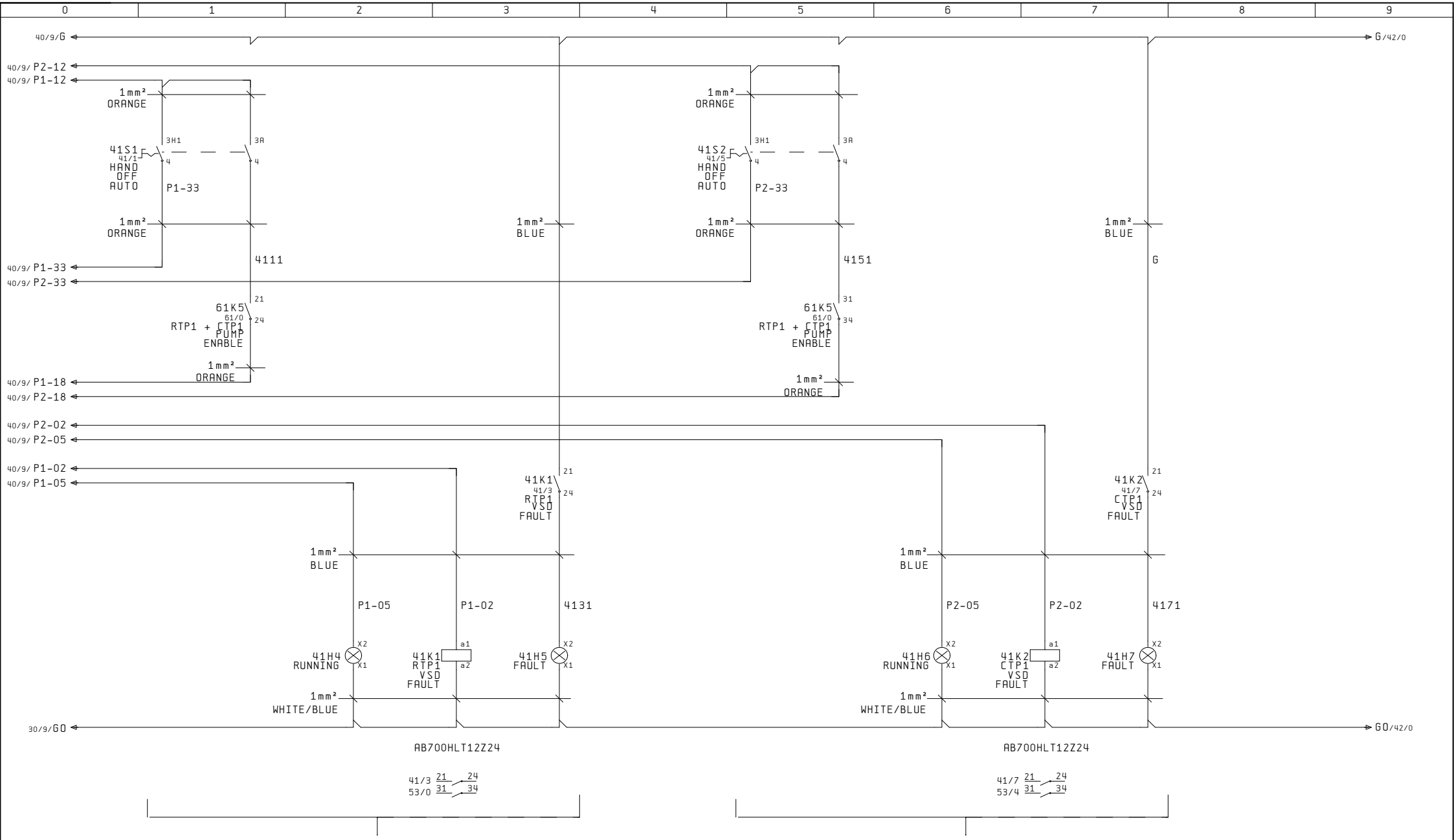
			Date		CP1	AQUA COOLING SOLUTIONS	Pump VSD's	P15033
			Editor	MDC				
			Tested	22. Jul. 2015				P. 40
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.	135 P.



			Date		CP1		AQUA COOLING SOLUTIONS	Pump Control	P15033
			Editor	MDC					
			Tested	22. Jul. 2015					P. 41
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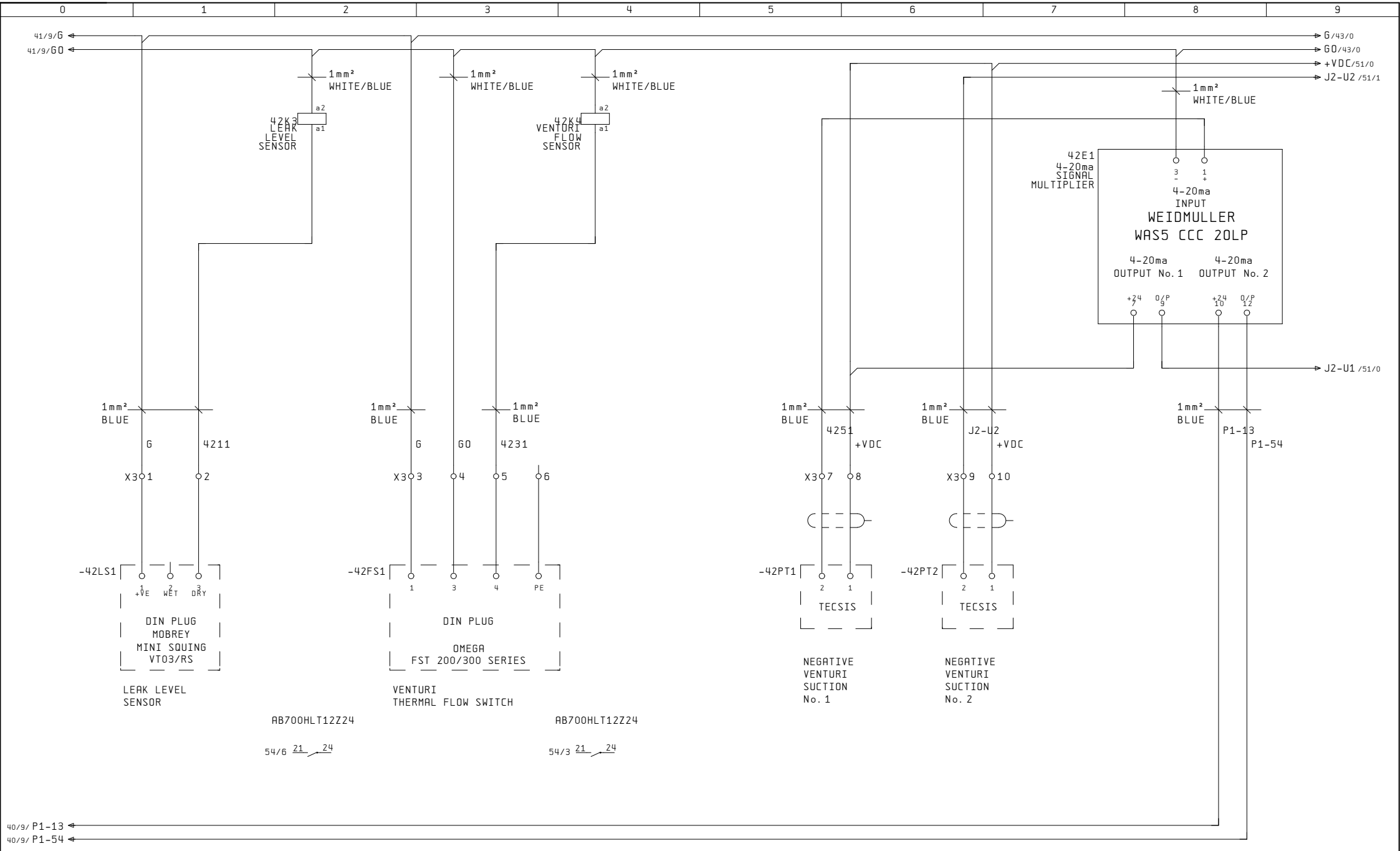

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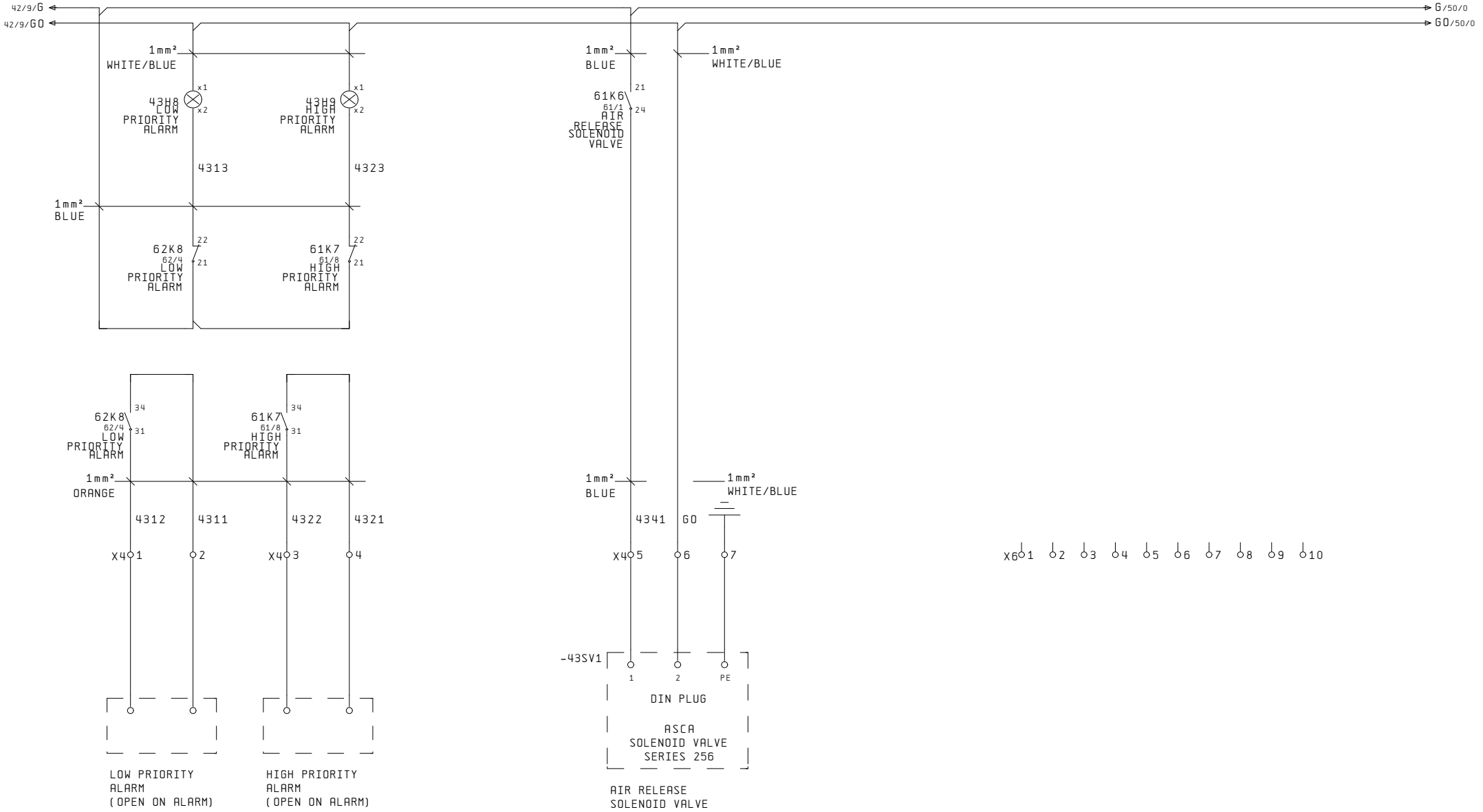
			Date		CP1	AQUA COOLING SOLUTIONS	Control Field Devices	P15033
			Editor	MDC				
			Tested	22. Jul. 2015				
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.	P. 42 / 135 P.



			Date		CP1	AQUA COOLING SOLUTIONS	Control Field Devices	P15033
			Editor	MDC				
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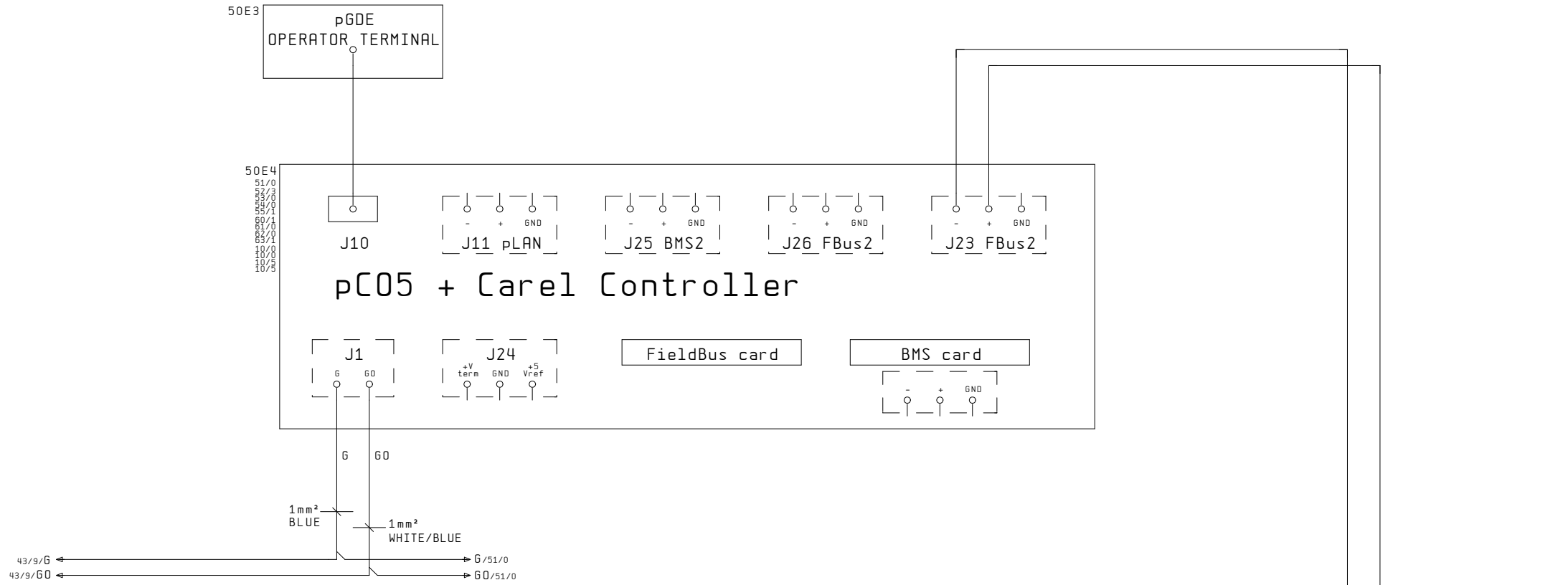
BACnet / MSTP (RS485)
TO
DANFOSS DRIVES



			Date		CP1	AQUA COOLING SOLUTIONS	Carel pCO5+ Controller	P15033
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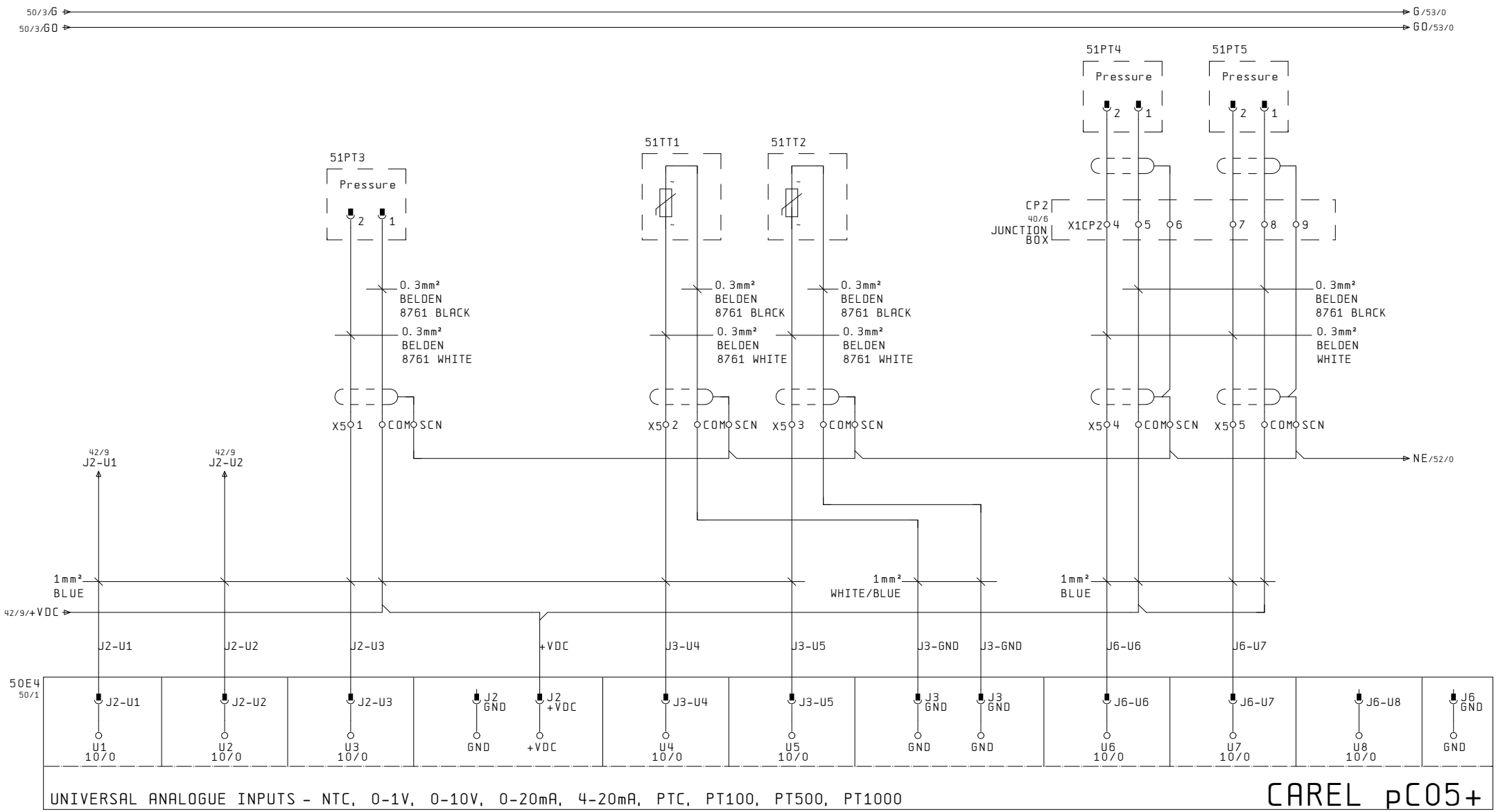

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			Date		CP1	AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Universal Analogue Inputs	P15033
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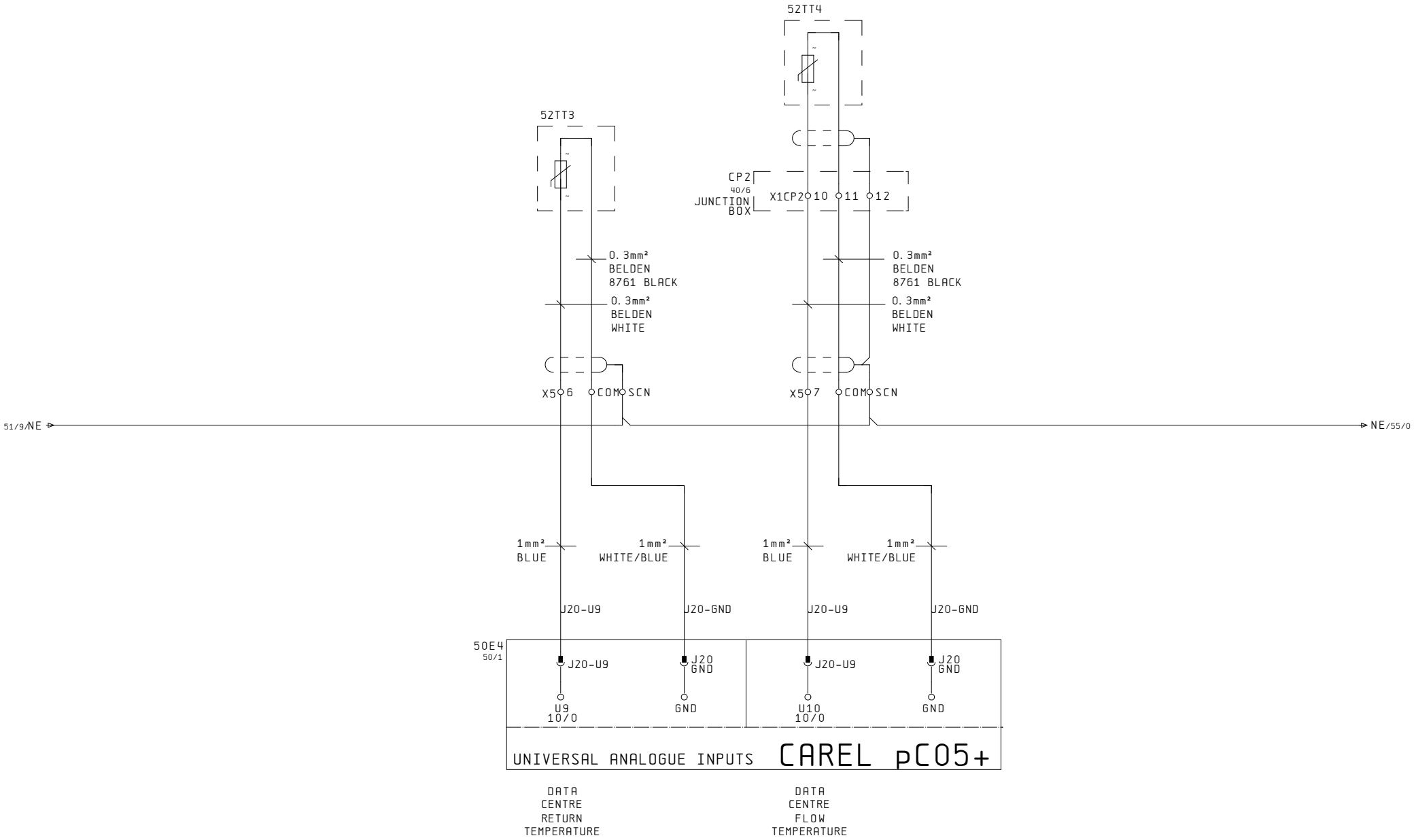

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			Date		CP1		AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Universal Analogue Inputs	P15033
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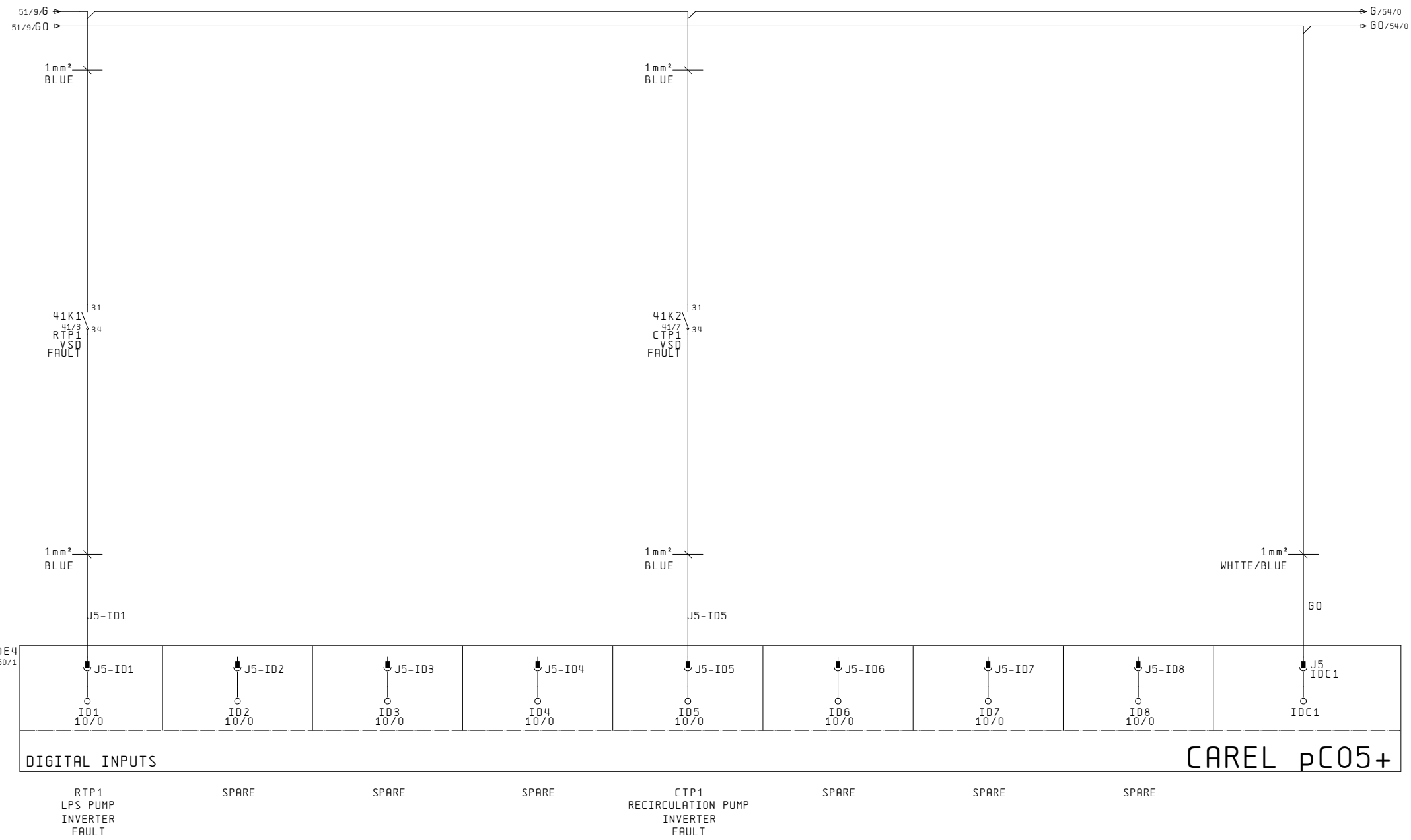

			Date		CP1	AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Digital Inputs	P15033
			Editor	M. CARMODY				
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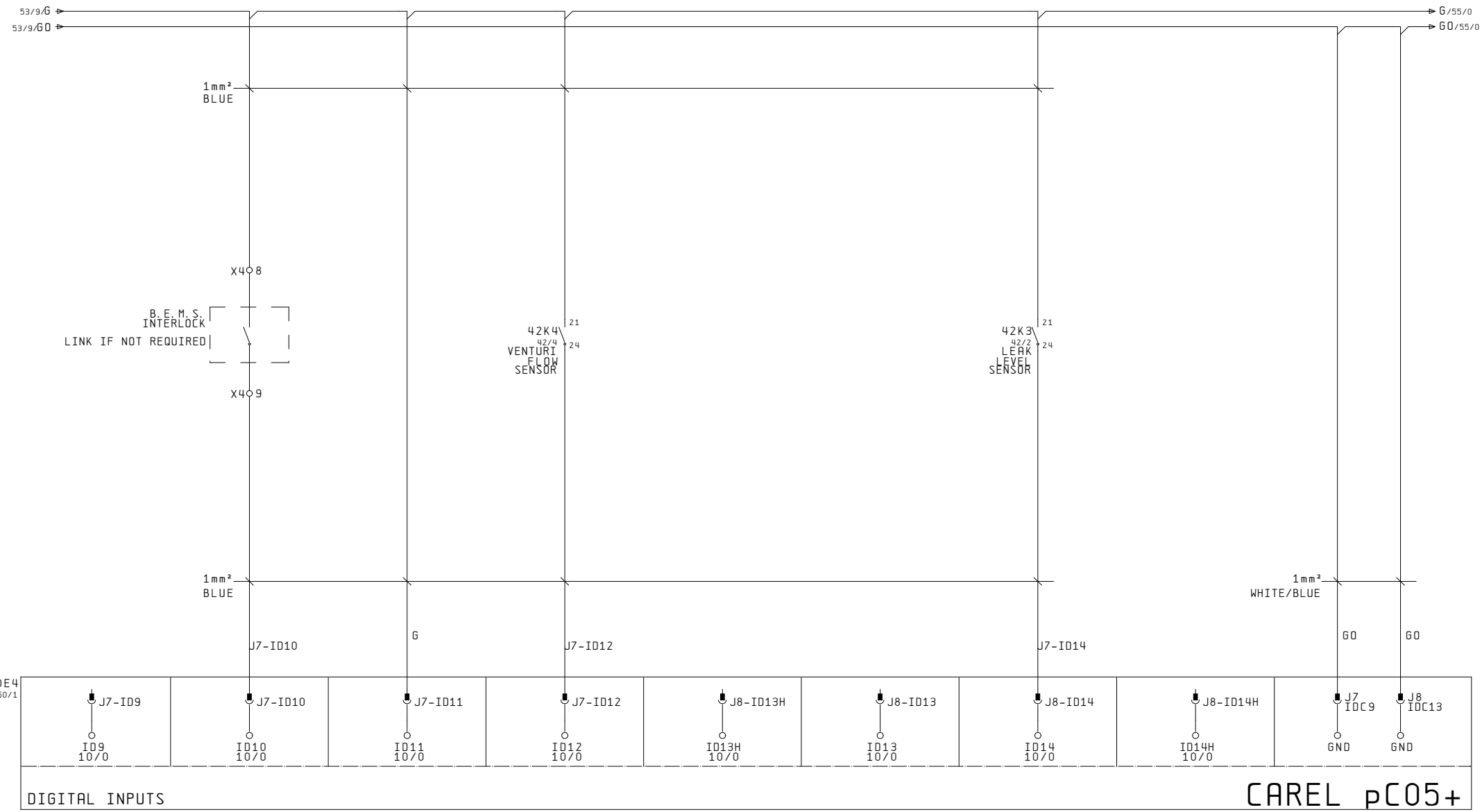

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			Date		CP1		AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Digital Inputs	P15033	=
			Editor	MDC						+
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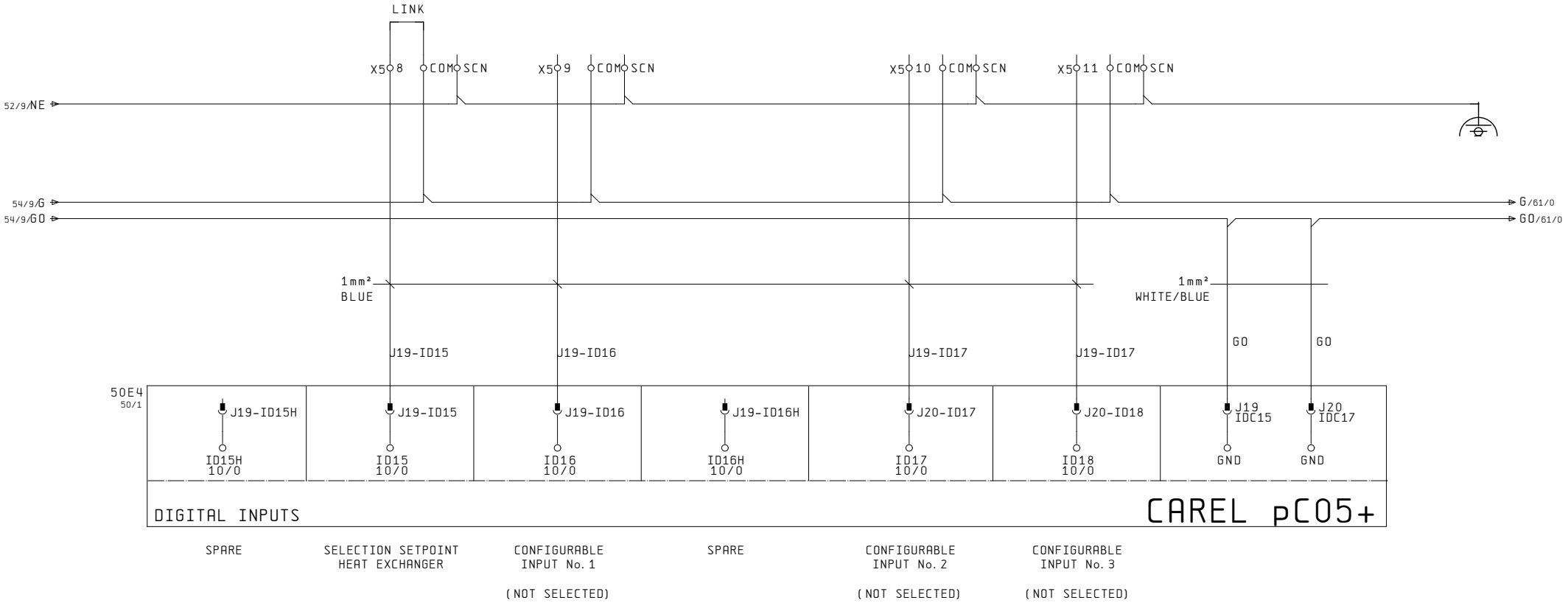

			Date		CP1		AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Digital Inputs	P15033	=
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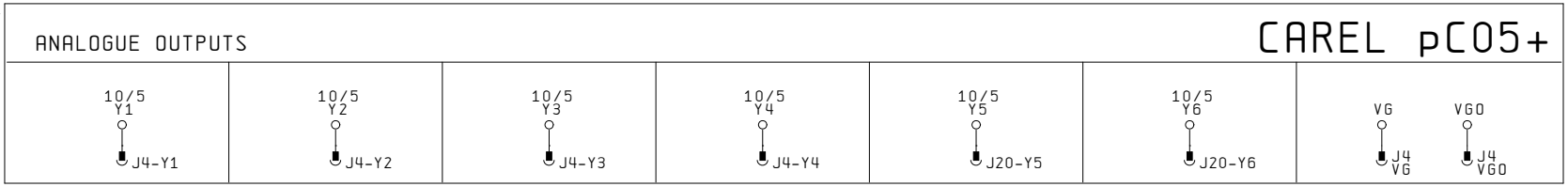
50E4
50/1

ANALOGUE OUTPUTS

CAREL pCO5+



HEAT EXCHANGER PRIMARY CONTROL VALE CHILLER (NOT SELECTED)	NEGATIVE PRESURE CONTROL VALVE LPS (NOT SELECTED)	SPARE	SPARE	SPARE	SPARE

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			Date		CP1		AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Analogue Outputs	P15033
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= +

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50E4
50/1

RELAY DIGITAL OUTPUTS

CAREL pCO5+

10/5 NO1	C1	10/5 NO2	C1	10/5 NO3	10/5 NO4	C4	10/5 NO5	C4	10/5 NO6	C7	10/5 NO7	C7	C8	10/5 NO8	10/5 NC8
J12-NO1	J12 C1	J12-NO2	J12 C1	J12-NO3	J13-NO4	J13 C4	J13-NO5	J13 C4	J13-NO6	J14 C7	J14-NO7	J14 C7	J15 C8	J15-NO8	J15-NC8

J14-NO1 J12-NO2 J13-NO8

55/9/G → G/62/0

1mm² BLUE

61K5 RTP1 + CTP1 PUMP ENABLE (a1/a2)

61K6 AIR RELEASE SOLENOID VALVE (a1/a2)

61K7 HIGH PRIORITY ALARM (a1/a2)

1mm² WHITE/BLUE

55/9/GO → GO/62/0

AB700HLT12Z24 AB700HLT12Z24 AB700HLT12Z24

41/1 21 24
41/5 31 34

43/4 21 24

43/2 21 22
43/2 31 34

RTP1 + CTP1 PUMP ENABLE	AIR RELEASE SOLENOID VALVE	SPARE	SPARE	HIGH PRIORITY ALARM	SPARE	SPARE	SPARE	SPARE

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			Date		CP1		AQUA COOLING SOLUTIONS	Carel pCO5+ Controller Digital Relay Outputs
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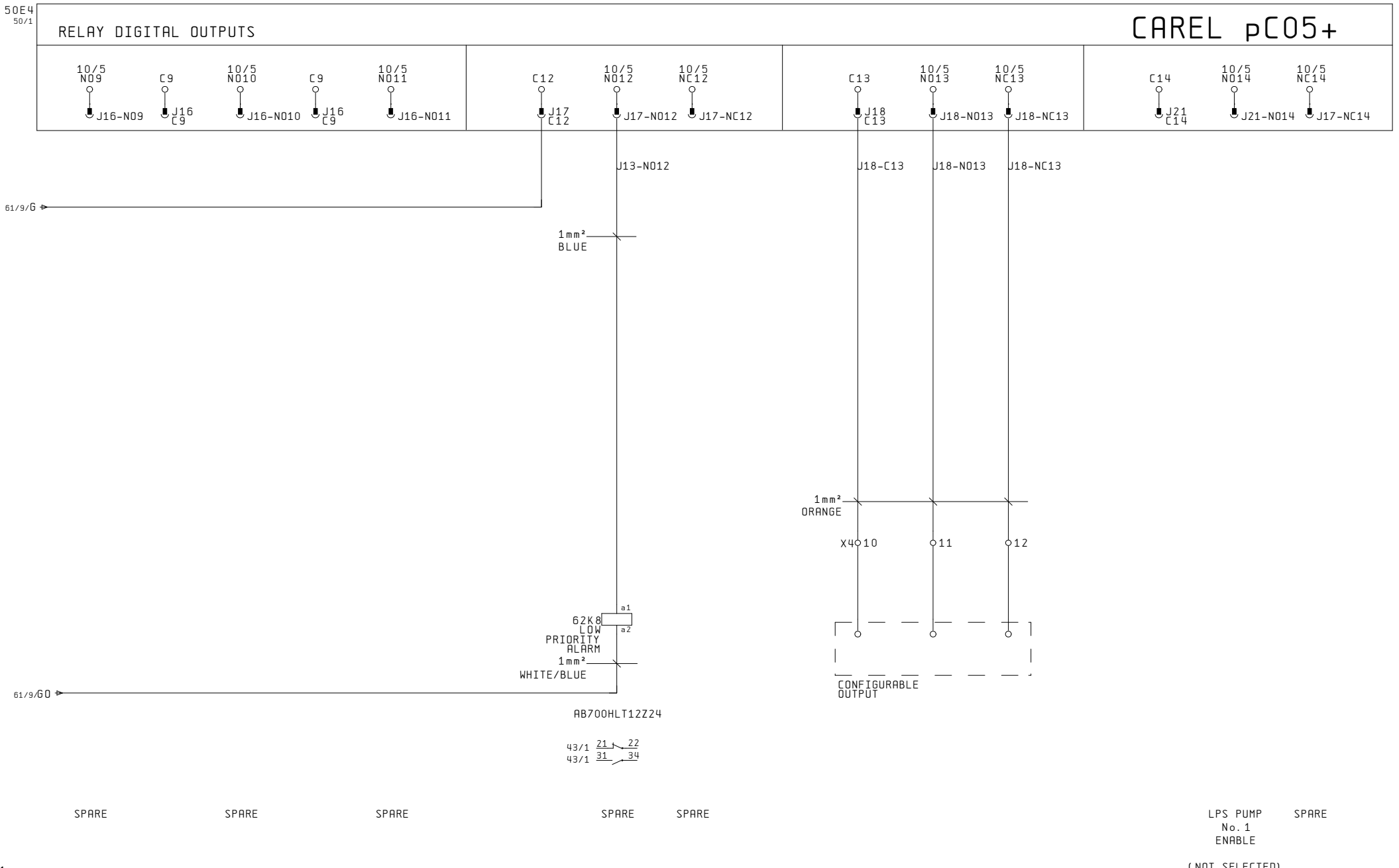
RELAY DIGITAL OUTPUTS

CAREL pCO5+



SPARE SPARE SPARE SPARE SPARE LPS PUMP No. 1 ENABLE SPARE

(NOT SELECTED)

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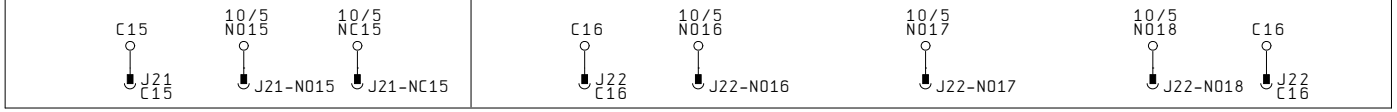
RELAY DIGITAL OUTPUTS

CAREL pCO5+



LPS PUMP No. 2 ENABLE

SPARE

(NOT SELECTED)

SPARE

SPARE

SPARE

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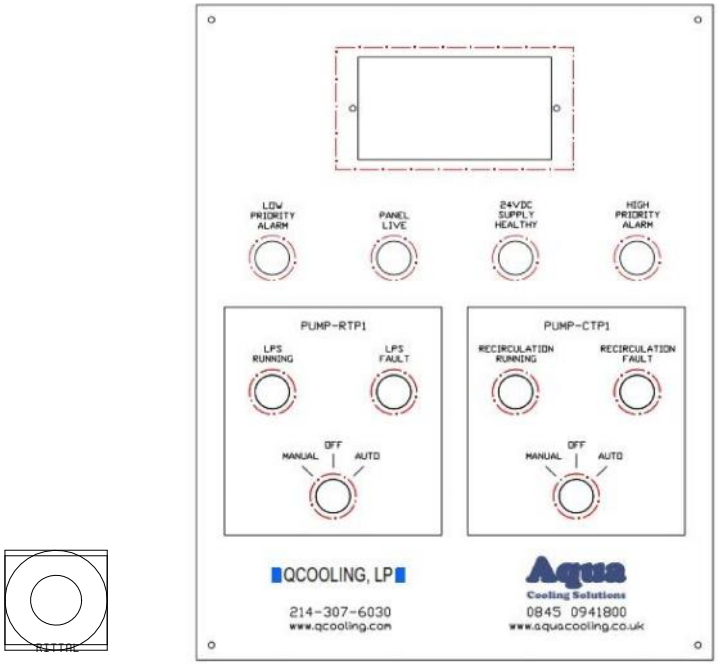
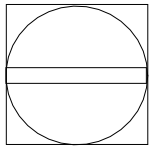
70ENC1



1.

2.



MANUFACTURING NOTE: -
ALL DIMENSIONS AND POSITIONS
ARE APPROXIMATE SCALE 1: 2
(A3 PRINT SIZE)

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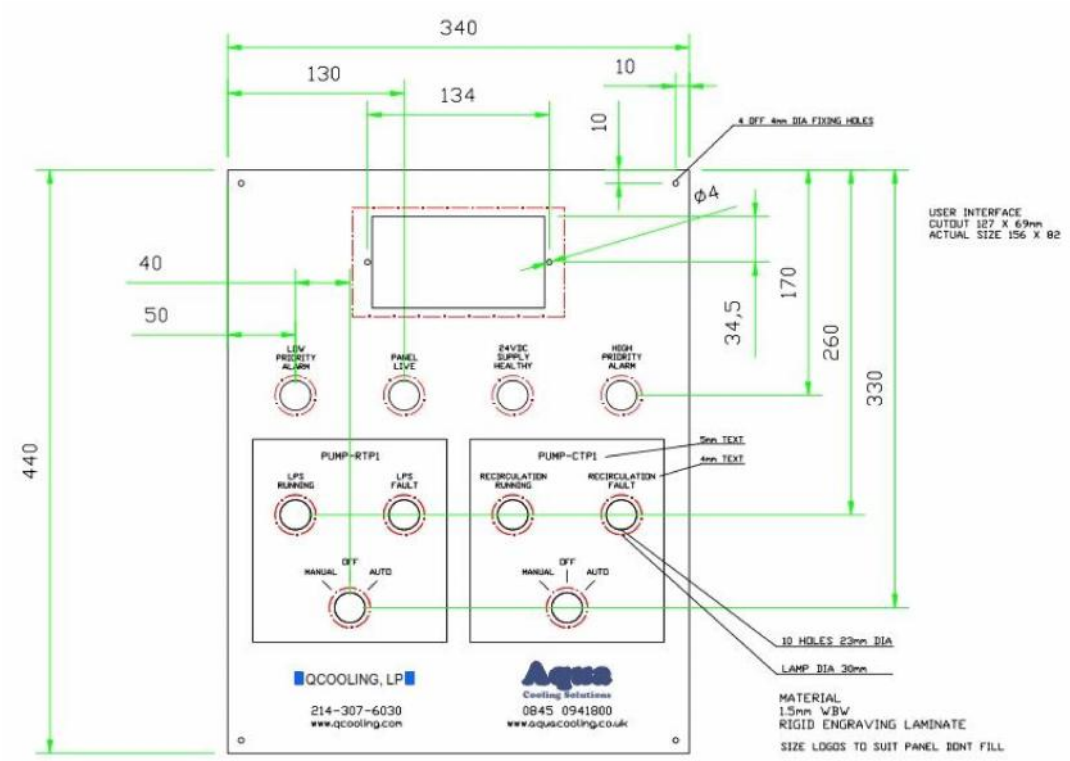

71LAB1

1. DANGER 110VAC

71LAB2

12. ISOLATE HERE
BEFORE OPENING DOOR

71LAB3

SUPPLY VOLTAGE	110V
CONTROL VOLTAGE	24VDC
INCOMING CABLE SIZE	
IP RATING	IP65
MANUFACTURING DATE	JULY 2015
SCL GROUP PROJECT NUMBER	P15033
SCL GROUP DRAWING NUMBER	P15033/CP1
CLIENT	AQUA COOLING SOLUTIONS
CLIENT PROJECT NUMBER	CNxxxx

71LAB4

NOTICE - AFTER COMMISSIONING
THIS CONTROL PANEL SHOULD BE ISOLATED
AND ALL TERMINATIONS TIGHTENED

			Date		CP1	AQUA COOLING SOLUTIONS	CP1 Label Engraving Details	P15033	=
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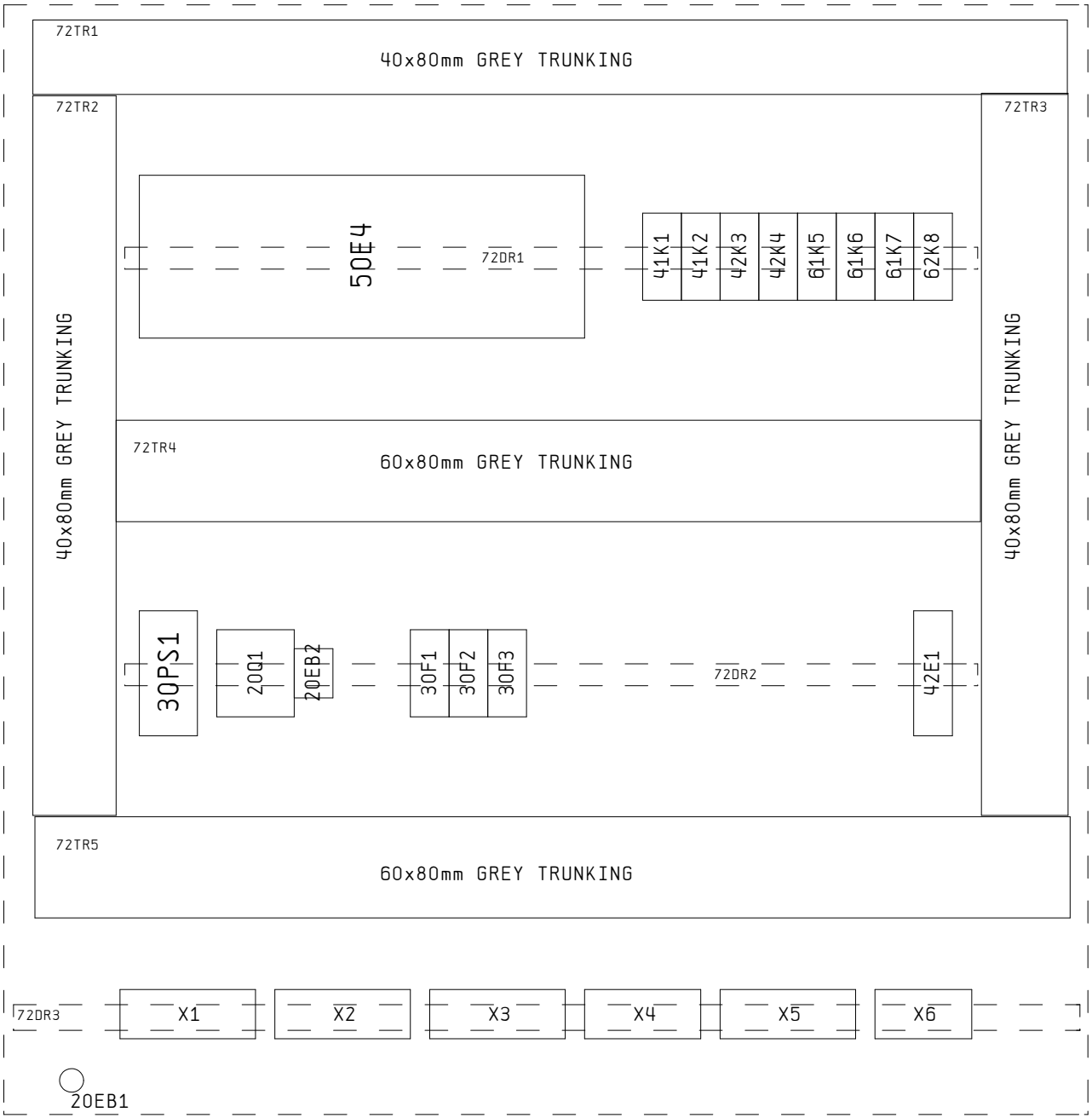
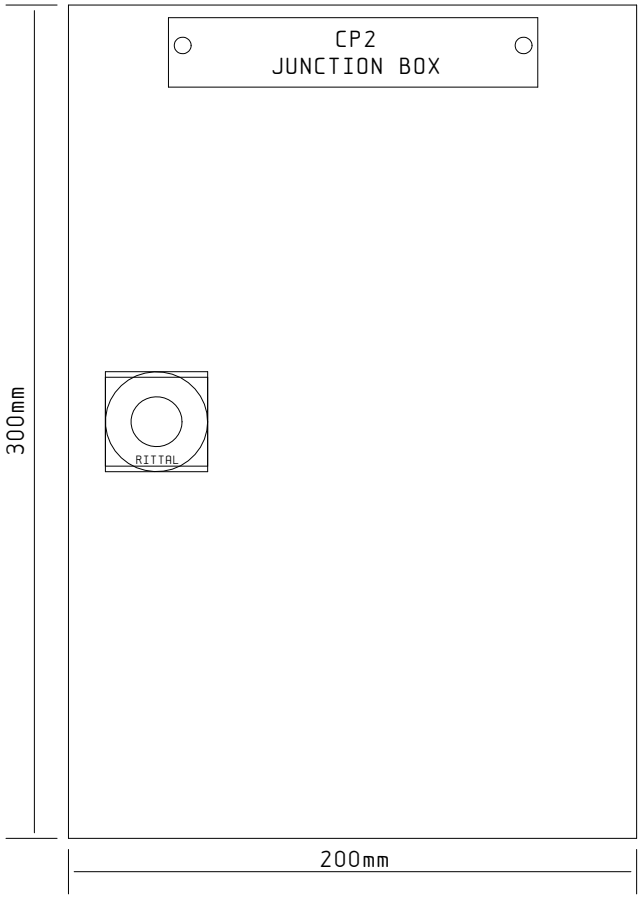
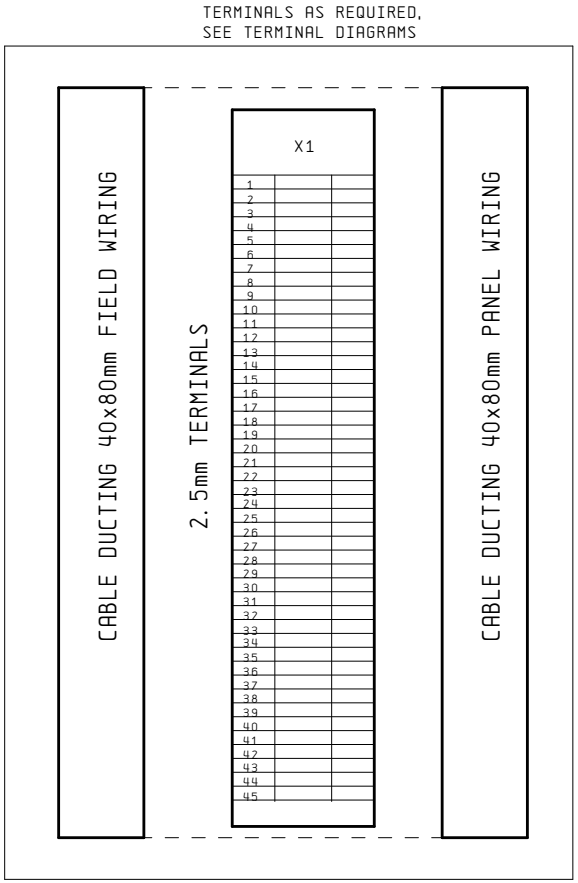


			Date		CP1		AQUA COOLING SOLUTIONS	CP1 Backplate Arrangement	P15033
			Editor	MDC					
			Tested	22. Jul. 2015					
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.		





MANUFACTURING NOTE: -
ALL DIMENSIONS AND POSITIONS
ARE APPROXIMATE SCALE 1:2
(A3 PRINT SIZE)

72

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			Date		CP1	AQUA COOLING SOLUTIONS	CP2 Panel Arrangement Backplate Arrangement	P15033
			Editor	MDC				
			Tested	22. Jul. 2015				
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DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE. PATH	LINE CODE	ITEM №
20Q1	UL98 3 POLE 30A DISCONNECT SWITCH	AB194R-N30-1753	ALLEN BRADLEY	1	20. 1		1
20Q1	12" EXTENSION SHAFT	AB194R-RS1	ALLEN BRADLEY	1	20. 1		2
20Q1	AB194R BLACK PISTOL HANDLE	AB194R-PB	ALLEN BRADLEY	1	20. 1		3
20Q1	AB194R 3 POLE COVER	AB194R-30C3	ALLEN BRADLEY	2	20. 1		4
20EB1	M8x40mm BRASS HEX BOLT	M8X40	Merlin	1	20. 2		5
20EB1	M8 CUT WASHER	M8S	Merlin	1	20. 2		6
20EB1	M8 BRASS WASHER	M8W	Merlin	5	20. 2		7
20EB1	M8 BRASS NUT	M8N	Merlin	3	20. 2		8
20EB2	4mm PE Terminal	57.504.9055.0	WIELAND ELECTRIC	4	20. 2		9
30F1	4A 1 POLE AC C CURVE MCB	AB1489-M1C040	ALLEN BRADLEY	1	30. 1		10
30F1	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	1	30. 1		11
30H1	120V 60Hz STANDARD LIGHT WITH DOOR OPERATED SWITCH	SZ 4138.250	Rittal Ltd	1	30. 1		12
30H1	Universal Bracket - AE/TP	SZ 2373.000	Rittal Ltd	2	30. 1		13
30H1	SZ CONNECTION CABLE - 3M	SZ 4315.150	Rittal Ltd	1	30. 1		14
30F2	6A 1 POLE AC C CURVE MCB	AB1489-M1C060	ALLEN BRADLEY	1	30. 5		15
30F2	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	1	30. 5		16
30F2	2.5/4mm END PLATE	07.311.0155.0	WIELAND ELECTRIC	1	30. 5		17
30PS1	85...264VAC 24VDC POWER SUPPLY 5A	AB1606XLE120E	ALLEN BRADLEY	1	30. 5		18
30F3	6A 1 POLE DC C CURVE MCB	AB1492-D1C060	ALLEN BRADLEY	1	30. 5		19
30H2	CLEAR PILOT LAMP	800FP-P7	ALLEN BRADLEY	1	30. 6		20

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DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE.PATH	LINE CODE	ITEM №
30H2	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	30. 6		21
30H2	110V WHITE LED MODULE	800F-N5W	ALLEN BRADLEY	1	30. 6		22
30H3	CLEAR PILOT LAMP	800FP-P7	ALLEN BRADLEY	1	30. 6		23
30H3	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	30. 6		24
30H3	24VAC/DC WHITE LED MODULE	800F-N3W	ALLEN BRADLEY	1	30. 6		25
40VSD1	15.0KW IP55 INVERTER DRIVE H5 FILTER	FC102P15KT4E55H5	DANFOSS	1	40. 0		26
40DI1	UL ENCLOSED STEEL FUSED DISCONNECT SWITCH	AB194R-FJ60-1753-PB	ALLEN BRADLEY	1	40. 0		27
40DI1	40A CLASS J SERIES FUSE	JKS-40	BUSSMAN	3	40. 0		28
X1	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	7	40. 2		29
X1	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	40. 2		30
X1	4mm Knife Terminal	57.504.2055.0	WIELAND ELECTRIC	3	40. 2		31
40VSD2	4.0KW IP55 INVERTER DRIVE H5 FILTER	FC102P4K0T4E55H5	DANFOSS	1	40. 5		32
40DI2	UL ENCLOSED STEEL FUSED DISCONNECT SWITCH	AB194R-FJ30-1753-PB	ALLEN BRADLEY	1	40. 5		33
40DI2	20A CLASS J SERIES FUSE	JKS-20	BUSSMAN	3	40. 5		34
X2	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	7	40. 6		35
X2	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	40. 6		36
X2	4mm Knife Terminal	57.504.2055.0	WIELAND ELECTRIC	3	40. 6		37
CP2	200x200x80mm KL TERMINAL BOX RAL 7035	KL 1515.510	Rittal Ltd	1	40. 6		38
CP2	200x200x80mm KL MOUNTING PLATE RAL 7035	KL 1562.700	Rittal Ltd	1	40. 6		39
X1CP2	2.5mm Terminal	57.503.0055.0	WIELAND ELECTRIC	12	40. 7		40

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DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE.PATH	LINE CODE	ITEM №
X1CP2	2.5/4mm END PLATE	07.311.0155.0	WIELAND ELECTRIC	1	40. 7		41
X1CP2	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	40. 7		42
41S1	3 POSITION SELECTOR SWITCH	800FP-SM32	ALLEN BRADLEY	1	41. 1		43
41S1	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 1		44
41S1	N.O. CONTACT BLOCK	800F-X10	ALLEN BRADLEY	2	41. 1		45
41H4	GREEN PILOT LAMP	800FP-P3	ALLEN BRADLEY	1	41. 2		46
41H4	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 2		47
41H4	24VAC/DC GREEN LED MODULE	800F-N3G	ALLEN BRADLEY	1	41. 2		48
41K1	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	41. 3		49
41H5	RED PILOT LAMP	800FP-P4	ALLEN BRADLEY	1	41. 3		50
41H5	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 3		51
41H5	24VAC/DC RED LED MODULE	800F-N3R	ALLEN BRADLEY	1	41. 3		52
41S2	3 POSITION SELECTOR SWITCH	800FP-SM32	ALLEN BRADLEY	1	41. 5		53
41S2	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 5		54
41S2	N.O. CONTACT BLOCK	800F-X10	ALLEN BRADLEY	2	41. 5		55
41H6	GREEN PILOT LAMP	800FP-P3	ALLEN BRADLEY	1	41. 6		56
41H6	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 6		57
41H6	24VAC/DC GREEN LED MODULE	800F-N3G	ALLEN BRADLEY	1	41. 6		58
41K2	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	41. 7		59
41H7	RED PILOT LAMP	800FP-P4	ALLEN BRADLEY	1	41. 7		60

DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE.PATH	LINE CODE	ITEM №
41H7	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	41. 7		61
41H7	24VAC/DC RED LED MODULE	800F-N3R	ALLEN BRADLEY	1	41. 7		62
X3	4mm Knife Terminal	57.504.2055.0	WIELAND ELECTRIC	5	42. 1		63
X3	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	42. 1		64
X3	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	5	42. 1		65
X3	2.5/4mm END PLATE	07.311.0155.0	WIELAND ELECTRIC	1	42. 1		66
42K3	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	42. 2		67
42K4	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	42. 4		68
42E1	WAS5 CCC 20LP SIGNAL MULTIPLIER	KL8581160000	Weidmüller	1	42. 7		69
X4	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	9	43. 1		70
X4	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	43. 1		71
X4	4mm Knife Terminal	57.504.2055.0	WIELAND ELECTRIC	1	43. 1		72
43H8	YELLOW PILOT LAMP	800FP-P5	ALLEN BRADLEY	1	43. 1		73
43H8	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	43. 1		74
43H8	24VAC/DC WHITE LED MODULE	800F-N3W	ALLEN BRADLEY	1	43. 1		75
43H9	RED PILOT LAMP	800FP-P4	ALLEN BRADLEY	1	43. 2		76
43H9	PLASTIC MOUNTING LATCH	800F-ALP	ALLEN BRADLEY	1	43. 2		77
43H9	24VAC/DC RED LED MODULE	800F-N3R	ALLEN BRADLEY	1	43. 2		78
X6	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	10	43. 6		79
X6	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	43. 6		80

DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE. PATH	LINE CODE	ITEM №
X6	2.5/4mm END PLATE	07.311.0155.0	WIELAND ELECTRIC	1	43. 6		81
50E3	PGD1 GRAPHICS TERMINAL	PGD1000FW0	Carel	1	50. 1		82
50E4	pCO5+ CAREL CONTROLLER LARGE FB/BMS, NO OPTO, NO USB	P+500B0A000L0	Carel	1	50. 1		83
X5	3 Tier Terminal	57.503.8855.0	WIELAND ELECTRIC	7	51. 2		84
X5	TERMINAL END STOP	Z5.522.8555.0	WIELAND ELECTRIC	2	51. 2		85
X5	70 WAY BLUE COMB	Z7.267.0027.6	WIELAND ELECTRIC	1	51. 2		86
-X4	4mm Knife Terminal	57.504.2055.0	WIELAND ELECTRIC	1	54. 1		87
-X4	4mm Terminal	57.504.0055.0	WIELAND ELECTRIC	1	54. 1		88
-X4	2.5/4mm END PLATE	07.311.0155.0	WIELAND ELECTRIC	1	54. 1		89
-X5	3 Tier Terminal	57.503.8855.0	WIELAND ELECTRIC	4	55. 2		90
61K5	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	61. 0		91
61K6	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	61. 1		92
61K7	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	61. 8		93
62K8	24VDC 2 POLE CHANGEOVER RELAY	AB700HLT12Z24	ALLEN BRADLEY	1	62. 4		94
70ENC1	800x600x250mm AE ENCLOSURE	AE 1058.500	Rittal Ltd	1	70. 2		95
-71LAB1	105x20mm ENGRAVED LABEL - Y/B/Y	LAB8	CE Controls	1	71. 5		96
-71LAB2	105x20mm ENGRAVED LABEL - Y/B/Y	LAB8	CE Controls	1	71. 5		97
-71LAB3	RATING PLATE	LAB10	CE Controls	1	71. 5		98
-71LAB4	COMMISSIONING NOTICE	LAB11	CE Controls	1	71. 5		99
-72TR1	40X80mm NARROW TRUNKING	E154	Lovato Electric	1	72. 2		100

DEVICE DESIGNATION	DESCRIPTION	MODEL TYPE/PART №	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE. PATH	LINE CODE	ITEM №
-72TR2	40X80mm NARROW TRUNKING	E154	Lovato Electric	1	72. 2		101
-72TR6	60x80mm NARROW TRUNKING	E114	Lovato Electric	1	72. 2		102
-72TR4	40X80mm NARROW TRUNKING	E154	Lovato Electric	1	72. 3		103
-72TR5	40X80mm NARROW TRUNKING	E154	Lovato Electric	1	72. 3		104
-72DR2	35mm X 15mm TOP HAT SLOTTED RAIL HEAVY DUTY	TS35HS	Lovato Electric	1	72. 6		105
-72DR3	35mm X 15mm TOP HAT SLOTTED RAIL HEAVY DUTY	TS35HS	Lovato Electric	1	72. 6		106
-72DR1	35mm X 15mm TOP HAT SLOTTED RAIL HEAVY DUTY	TS35HS	Lovato Electric	1	72. 6		107
-72TR3	40X80mm NARROW TRUNKING	E154	Lovato Electric	1	72. 7		108
-72DR4	35mm X 15mm TOP HAT SLOTTED RAIL HEAVY DUTY	TS35HS	Lovato Electric	1	72. 7		109

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Terminal diagram

ESSK034E

Function text	W52TT4 8761	W51PT5 8761	W51PT4 8761	W40TT5 8761	Cable name Type	Strip designation X1CP2 Target design.	Connection	Terminal number	Jumpers	Connection	Target design.	Connection	Cable name Type	W40VSD2 8761	WX5.1 8761	WX5.2 8761	WX5.3 8761	Page/ path
PUMP - CTP1			White			-40TT5	SIG	1	○		-40VSD2	54	White					40/7
PUMP - CTP1			Black			-40TT5	+V	2	○		-40VSD2	13	Black					40/7
PUMP - CTP1				SH		W40TT5	SHIELD	3	○		-40VSD2	SHL		SH				40/7
DATA CENTRE FLOW PRESSURE No.1		White				-51PT4	2	4	○	U6	-X5	4		White				51/7
DATA CENTRE FLOW PRESSURE No.1		Black				-51PT4	1	5	○		-X5	COM		Black				51/7
DATA CENTRE FLOW PRESSURE No.1			SH			W51PT4	SHIELD	6	○		-X5	SCN			SH			51/7
DATA CENTRE FLOW PRESSURE No.2	White					-51PT5	2	7	○	U7	-X5	5			White			51/8
DATA CENTRE FLOW PRESSURE No.2	Black					-51PT5	1	8	○		-X5	COM			Black			51/8
DATA CENTRE FLOW PRESSURE No.2		SH				W51PT5	SHIELD	9	○		-X5	SCN				SH		51/8
DATA CENTRE FLOW TEMPERATURE					White	-52TT4	~	10	○	U10	-X5	7				White		52/5
DATA CENTRE FLOW TEMPERATURE					Black	-52TT4	~	11	○		-X5	COM				Black		52/5
DATA CENTRE FLOW TEMPERATURE	SH					W52TT4	SHIELD	12	○		-X5	SCN					SH	52/5

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Terminal diagram

ESSK034E

Function text	W43SV1 YYNR	Cable name Type	Strip designation -X4 Target design.	Connection	Terminal number	Jumpers	Connection	Target design.	Connection	Cable name Type					Page/ path
LOW PRIORITY ALARM (OPEN ON ALARM)					1	○		-61K10	31		X				43/1
LOW PRIORITY ALARM (OPEN ON ALARM)					2	○		-61K10	34		X				43/1
HIGH PRIORITY ALARM (OPEN ON ALARM)					3	○		-61K11	31		X				43/2
HIGH PRIORITY ALARM (OPEN ON ALARM)					4	○		-61K11	34		X				43/2
AIR RELEASE SOLENOID VALVE	1		-43SV1	1	5	○		-61K9	24			X			43/4
AIR RELEASE SOLENOID VALVE	2		-43SV1	2	6	○		-43H9	x1				X		43/4
AIR RELEASE SOLENOID VALVE	PE		-43SV1	PE	7	○									43/4
B.E.M.S. INTERLOCK (LINK IF NOT REQUIRED)					8	○		-61K9	21			X			43/6
B.E.M.S. INTERLOCK (LINK IF NOT REQUIRED)					9	○		-43K8	a1			X			43/6

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Terminal diagram

ESSK034E

Function text		WX5.3 8761	W52TT3 8761	WX5.2 8761	WX5.1 8761	W51TT2 8761	W51TT1 8761	W51PT3 8761	Cable name Type	Strip designation -X5 Target design.	Connection	Terminal number	Jumpers	Connection	Target design.	Connection	Cable name Type					Page/ path
VENTURI INLET PRESSURE							White			-51PT3	2	1	○	U3	-50E4	J2-U3		X				51/2
CHILLER FLOW TEMPERATURE						White				-51TT1	~	2	○	U4	-50E4	J3-U4		X				51/4
CHILLER RETURN TEMPERATURE					White					-51TT2	~	3	○	U5	-50E4	J3-U5		X				51/5
DATA CENTRE FLOW PRESSURE No. 1				White						X1CP2	4	4	○	U6	-50E4	J6-U6		X				51/7
DATA CENTRE FLOW PRESSURE No. 2			White							X1CP2	7	5	○	U7	-50E4	J6-U7		X				51/8
DATA CENTRE RETURN TEMPERATURE		White								-52TT3	~	6	○	U9	-50E4	J20-U9		X				52/3
DATA CENTRE FLOW TEMPERATURE	White									X1CP2	10	7	○	U10	-50E4	J20-U9		X				52/5
VENTURI INLET PRESSURE							Black			-51PT3	1	COM			-X3	10		X				51/2
CHILLER FLOW TEMPERATURE						Black				-51TT1	~	COM			-50E4	J3GND			X			51/4
CHILLER RETURN TEMPERATURE					Black					-51TT2	~	COM			-50E4	J3GND			X			51/5
DATA CENTRE FLOW PRESSURE No. 1				Black						X1CP2	5	COM										51/7
DATA CENTRE FLOW PRESSURE No. 2			Black							X1CP2	8	COM										51/8
DATA CENTRE RETURN TEMPERATURE		Black								-52TT3	~	COM	○	GND	-50E4	J20GND			X			52/4
DATA CENTRE FLOW TEMPERATURE	Black									X1CP2	11	COM	○		-50E4	J20GND			X			52/5
VENTURI INLET PRESSURE								SH		W51PT3	SHIELD	SCN										51/2
CHILLER FLOW TEMPERATURE							SH			W51TT1	SHIELD	SCN										51/4
CHILLER RETURN TEMPERATURE						SH				W51TT2	SHIELD	SCN										51/5
DATA CENTRE FLOW PRESSURE No. 1					SH					X1CP2	6	SCN										51/7
DATA CENTRE FLOW PRESSURE No. 2				SH						X1CP2	9	SCN										51/8
DATA CENTRE RETURN TEMPERATURE			SH							W52TT3	SHIELD	SCN										52/4
DATA CENTRE FLOW TEMPERATURE										X1CP2	12	SCN										52/5

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Terminal strip and connector overview

ESSR001E

Terminal strip and connector design.	Text of the strip definition	Terminals					Graphics page of the terminal strip
		first	last	Sum of all PE	Sum of all N	Total number	
-50E4		J4VG19-ID16H		0	0	90	
-51PT3		1	2	0	0	2	
-51PT4		1	2	0	0	2	
-51PT5		1	2	0	0	2	
-40VSD1		13	SHL	0	0	6	100
-40VSD2		13	SHL	0	0	6	101
X1CP2		1	12	0	0	12	102
-X1		1	10	0	0	10	103
-X2		1	10	0	0	10	104
-X3		1	10	1	0	10	105
-X4		1	9	1	0	9	106
-X5		1	SCN	0	0	21	107

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Cable overview

ESSS002E

Cable name	Source	Target		Total	Used	Cross-section	Leng.		Graphics-
Cable designation	by	to	Cable type	Cores	Cores	mm²	m	Remark	Page
W40DI1	-40DI1	-40VSD1	YYNR	4/PE	4/PE	6	-	PUMP - RTP1 LPS ISOLATOR	108
W40DI2	-40DI2	-40VSD2	YYNR	4/PE	4/PE	2.5	-	PUMP - CTP1 RECIRCULATION	109
W40M1			SYNR	4/PE+SHIELD	4/PE+SHIELD	2.5	-	PUMP - RTP1 LPS	112
	-40M1	-40VSD1		4/PE+SHIELD	4/PE	2.5		PUMP - RTP1 LPS	112
	SHIELD	-40VSD1		4/PE+SHIELD	0+SHIELD	2.5		PUMP - RTP1 LPS	112
W40M2			SYNR	4/PE+SHIELD	4/PE+SHIELD	2.5	-	PUMP - CTP1 RECIRCULATION	109
	-40M2	-40VSD2		4/PE+SHIELD	4/PE	2.5		PUMP - CTP1 RECIRCULATION	109
	SHIELD	-40VSD2		4/PE+SHIELD	0+SHIELD	2.5		PUMP - CTP1 RECIRCULATION	109
W40TT5	X1CP2	-40TT5	8761	2+SHIELD	2+SHIELD	0.3	-	CTP1 TEMPERATURE SENSOR	114
W40VSD-M1	-40VSD1	-40VSD2	9841	2+SHIELD	2+SHIELD	0.3	-	MODBUS NETWORK	115
W40VSD-M2	-40VSD2	-X2	9841	2+SHIELD	2+SHIELD	0.3	-	MODBUS NETWORK	116
W40VSD1	-40VSD1	-X1	8761	2+SHIELD	2+SHIELD	0.3	-	VENTURI FLOW PRESSURE	117
W40VSD2	-40VSD2	X1CP2	8761	2+SHIELD	2+SHIELD	0.3	-	CTP1 TEMPERATURE SENSOR	118
W42FS1	-X3	-42FS1	YYNR	4/PE	4/PE	0.75	-	VENTURI THERMAL FLOW SWITCH	119
W42LS1	-X3	-42LS1	YYNR	2	2	0.75	-	LEAK LEVEL SENSOR	120
W42PT1	-X3	-42PT1	8761	2+SHIELD	2	0.3	-	NEGATIVE VENTURI SUCTION No. 1	121
W42PT2	-X3	-42PT2	8761	2+SHIELD	2	0.3	-	NEGATIVE VENTURI SUCTION No. 2	122
W43SV1	-X4	-43SV1	YYNR	3/PE	3/PE	0.75	-	AIR RELEASE SOLENOID VALVE	123
W51PT3	-51PT3	-X5	8761	2+SHIELD	2+SHIELD	0.3	-	VENTURI INLET PRESSURE	124
W51PT4	-51PT4	X1CP2	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW PRESSURE No. 1	125
W51PT5	-51PT5	X1CP2	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW PRESSURE No. 2	126
W51TT1	-X5	-51TT1	8761	2+SHIELD	2+SHIELD	0.3	-	CHILLER FLOW TEMPERATURE	127
W51TT2	-X5	-51TT2	8761	2+SHIELD	2+SHIELD	0.3	-	CHILLER RETURN TEMPERATURE	128
W52TT3	-X5	-52TT3	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE RETURN TEMPERATURE	129
W52TT4	X1CP2	-52TT4	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW TEMPERATURE	130
WX1-40VSD1	-X1	-40VSD1	YYNR	8/PE	7	1.5	-	40VSD1 CONTROL	131
WX2-40VSD2	-X2	-40VSD2	YYNR	8/PE	7	1.5	-	40VSD2 CONTROL	132
WX5.1	X1CP2	-X5	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW PRESSURE No. 1	133
WX5.2	X1CP2	-X5	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW PRESSURE No. 2	134
WX5.3	X1CP2	-X5	8761	2+SHIELD	2+SHIELD	0.3	-	DATA CENTRE FLOW TEMPERATURE	135

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			Tested	22. Jul. 2015					
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Interconnection diagram

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Cable designation	Cable type		
W40DI1	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
PUMP - RTP1 LPS ISOLATOR TO VSD	4/PE	6	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - RTP1	40/0	-40DI1	2	1	-40VSD1	91L1	40/0	PUMP - RTP1
PUMP - RTP1	40/0	-40DI1	4	2	-40VSD1	92L2	40/1	PUMP - RTP1
PUMP - RTP1	40/0	-40DI1	6	3	-40VSD1	93L3	40/1	PUMP - RTP1
PUMP - RTP1	40/0	-40DI1	PE	PE	-40VSD1	PE	40/1	PUMP - RTP1

Changes | Date | Name | Norm | Date | Tested | Editor | MDC | 22.Jul.2015 | 15.Jun.2015 | Original | CP1 | Sub.f. | Sub.b. | AQUA COOLING SOLUTIONS | W40DI1 PUMP - RTP1 LPS ISOLATOR TO VSD | P15033 | + | = | P. 110 | 135 P.

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W40DI2	YYNR		
Remark PUMP - CTP1 RECIRCULATION ISOLATOR TO VSD	No. of cores 4/PE	Conductor area 2.5	Cable length -

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - CTP1	40/5	-40DI2	2	1	-40VSD2	91L1	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40DI2	4	2	-40VSD2	92L2	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40DI2	6	3	-40VSD2	93L3	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40DI2	PE	PE	-40VSD2	PE	40/6	PUMP - CTP1

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W40DI2
PUMP - CTP1 RECIRCULATION

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W40M1	SYNR		
Remark	No. of cores	Conductor area	Cable length
PUMP - RTP1 LPS VSD TO PUMP	4/PE+SHIELD	2.5	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - RTP1	40/0	-40M1	U1	1	-40VSD1	U96	40/0	PUMP - RTP1
PUMP - RTP1	40/0	-40M1	V1	2	-40VSD1	V97	40/1	PUMP - RTP1
PUMP - RTP1	40/0	-40M1	W1	3	-40VSD1	W98	40/1	PUMP - RTP1
PUMP - RTP1	40/0	-40M1	PE	PE	-40VSD1	PE	40/1	PUMP - RTP1
PUMP - RTP1	40/1	SHIELD		SH	-40VSD1	PE	40/1	PUMP - RTP1

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Interconnection diagram

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Cable designation	Cable type		
W40M2	SYNR		
Remark PUMP - CTP1 RECIRCULATION VSD TO PUMP	No. of cores 4/PE+SHIELD	Conductor area 2.5	Cable length -

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - CTP1	40/5	-40M2	U1	1	-40VSD2	U96	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40M2	V1	2	-40VSD2	V97	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40M2	W1	3	-40VSD2	W98	40/5	PUMP - CTP1
PUMP - CTP1	40/5	-40M2	PE	PE	-40VSD2	PE	40/6	PUMP - CTP1
PUMP - CTP1	40/6	SHIELD		SH	-40VSD2	PE	40/6	PUMP - CTP1

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PUMP - CTP1 RECIRCULATION
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Interconnection diagram

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Cable designation	Cable type		
W40TT5	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
CTP1 TEMPERATURE SENSOR	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - CTP1	40/7	X1CP2	2	Black	-40TT5	+V	40/6	
PUMP - CTP1	40/7	X1CP2	1	White	-40TT5	SIG	40/6	
PUMP - CTP1	40/7	X1CP2	3	SH	W40TT5	SHIELD		

Changes | Date | Name | Norm | Tested | Editor | Date
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W40TT5
CTP1 TEMPERATURE SENSOR

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Interconnection diagram

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Cable designation	Cable type		
W40VSD-M1	9841		
Remark	**No. of cores**	**Conductor area**	**Cable length**
MODBUS NETWORK	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - RTP1	40/3	-40VSD1	68	Blu/Whi	-40VSD2	68.	40/5	
PUMP - RTP1	40/3	-40VSD1	69	Whi/Blu	-40VSD2	69.	40/5	
PUMP - RTP1	40/3	-40VSD1	61	SH	W40VSD-M1	SHIELD		

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W40VSD-M1
MODBUS NETWORK

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W40VSD-M2	9841		
Remark	**No. of cores**	**Conductor area**	**Cable length**
MODBUS NETWORK	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - CTP1	40/8	-40VSD2	68	Blu/Whi	-X2	8	40/8	PUMP - CTP1
PUMP - CTP1	40/8	-40VSD2	69	Whi/Blu	-X2	9	40/8	PUMP - CTP1
PUMP - CTP1	40/8	-40VSD2	61	SH	-X2	10	40/8	PUMP - CTP1

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W40VSD-M2
MODBUS NETWORK

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W40VSD1	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
VENTURI FLOW PRESSURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW PRESSURE	40/2	-40VSD1	13	Black	-X1	9	40/2	
FLOW PRESSURE	40/2	-40VSD1	54	White	-X1	8	40/2	
FLOW PRESSURE	40/2	-40VSD1	SHL	SH	-X1	10	40/2	

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W40VSD1 VENTURI FLOW PRESSURE
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Interconnection diagram

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Cable designation	Cable type		
W40VSD2	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
CTP1 TEMPERATURE SENSOR	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
TEMPERTURE SENSOR	40/7	-40VSD2	13	Black	X1CP2	2	40/7	
TEMPERTURE SENSOR	40/7	-40VSD2	54	White	X1CP2	1	40/7	
TEMPERTURE SENSOR	40/7	-40VSD2	SHL	SH	X1CP2	3	40/7	

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W40VSD2
CTP1 TEMPERATURE SENSOR

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W42FS1	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
VENTURI THERMAL FLOW SWITCH	4/PE	0.75	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW SWITCH	42/2	-X3	3	1	-42FS1	1	42/2	
FLOW SWITCH	42/3	-X3	4	2	-42FS1	3	42/2	
FLOW SWITCH	42/3	-X3	5	3	-42FS1	4	42/2	
FLOW SWITCH	42/3	-X3	6	PE	-42FS1	PE	42/2	

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W42FS1
VENTURI THERMAL FLOW SWITCH

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W42LS1	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
LEAK LEVEL SENSOR	2	0.75	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
LEAK LEVEL SENSOR	42/1	-X3	1	1	-42LS1	1+VE	42/0	
LEAK LEVEL SENSOR	42/1	-X3	2	2	-42LS1	3DRY	42/0	

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Interconnection diagram

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Cable designation	Cable type		
W42PT1	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
NEGATIVE VENTURI SUCTION No.1	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
NEGATIVE VENTURI	42/6	-X3	8	Black	-42PT1	1	42/5	
NEGATIVE VENTURI	42/5	-X3	7	White	-42PT1	2	42/5	
				SH				

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W42PT1
NEGATIVE VENTURI SUCTION No.1

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Interconnection diagram

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Cable designation	Cable type		
W42PT2	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
NEGATIVE VENTURI SUCTION No. 2	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
NEGATIVE VENTURI	42/7	-X3	10	Black	-42PT2	1	42/6	
NEGATIVE VENTURI	42/6	-X3	9	White	-42PT2	2	42/6	
				SH				

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W42PT2
NEGATIVE VENTURI SUCTION No. 2

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Interconnection diagram

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Cable designation	Cable type		
W43SV1	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
AIR RELEASE SOLENOID VALVE	3/PE	0.75	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
SOLENOID VALVE	43/4	-X4	5	1	-43SV1	1	43/4	
SOLENOID VALVE	43/4	-X4	6	2	-43SV1	2	43/4	
SOLENOID VALVE	43/4	-X4	7	PE	-43SV1	PE	43/4	

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W43SV1
AIR RELEASE SOLENOID VALVE

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W51PT3	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
VENTURI INLET PRESSURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
INLET PRESSURE	51/2	-51PT3	1	Black	-X5	COM	51/2	
INLET PRESSURE	51/2	-51PT3	2	White	-X5	1	51/2	
INLET PRESSURE	51/2	W51PT3	SHIELD	SH	-X5	SCN	72/7	

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W51PT3
VENTURI INLET PRESSURE

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Interconnection diagram

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Cable designation	Cable type		
W51PT4	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW PRESSURE No.1	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW PRESS. No.1	51/7	-51PT4	1	Black	X1CP2	5	51/7	
FLOW PRESS. No.1	51/7	-51PT4	2	White	X1CP2	4	51/7	
FLOW PRESS. No.1	51/7	W51PT4	SHIELD	SH	X1CP2	6		

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Interconnection diagram

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Cable designation	Cable type		
W51PT5	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW PRESSURE No. 2	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW PRESS. No. 2	51/8	-51PT5	1	Black	X1CP2	8	51/8	
FLOW PRESS. No. 2	51/8	-51PT5	2	White	X1CP2	7	51/8	
FLOW PRESS. No. 2	51/8	W51PT5	SHIELD	SH	X1CP2	9		

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W51PT5
DATA CENTRE FLOW PRESSURE No. 2

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W51TT1	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
CHILLER FLOW TEMPERATURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW TEMPERATURE	51/4	-X5	COM	Black	-51TT1	~	51/4	
FLOW TEMPERATURE	51/4	-X5	2	White	-51TT1	~	51/4	
FLOW TEMPERATURE	51/4	-X5	SCN	SH	W51TT1	SHIELD		

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W51TT1
CHILLER FLOW TEMPERATURE

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W51TT2	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
CHILLER RETURN TEMPERATURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
RTN. TEMPERATURE	51/5	-X5	COM	Black	-51TT2	~	51/5	
RTN. TEMPERATURE	51/5	-X5	3	White	-51TT2	~	51/5	
RTN. TEMPERATURE	51/5	-X5	SCN	SH	W51TT2	SHIELD		

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W51TT2
CHILLER RETURN TEMPERATURE

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W52TT3	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE RETURN TEMPERATURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
RTN. TEMPERATURE	52/4	-X5	COM	Black	-52TT3	~	52/3	
RTN. TEMPERATURE	52/3	-X5	6	White	-52TT3	~	52/3	
RTN. TEMPERATURE	52/4	-X5	SCN	SH	W52TT3	SHIELD		

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W52TT3
DATA CENTRE RETURN TEMPERATURE

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
W52TT4	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW TEMPERATURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW TEMPERATURE	52/5	X1CP2	11	Black	-52TT4	~	52/5	
FLOW TEMPERATURE	52/5	X1CP2	10	White	-52TT4	~	52/5	
FLOW TEMPERATURE	52/5	X1CP2	12	SH	W52TT4	SHIELD		

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W52TT4
DATA CENTRE FLOW TEMPERATURE

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Interconnection diagram

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Cable designation	Cable type		
WX1-40VSD1	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
40VSD1 CONTROL CP1 TO VSD	8/PE	1.5	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - RTP1	40/2	-X1	1	1	-40VSD1	18+32	40/0	
PUMP - RTP1	40/2	-X1	2	2	-40VSD1	12+27	40/0	
PUMP - RTP1	40/2	-X1	3	3	-40VSD1	33	40/0	
PUMP - RTP1	40/3	-X1	4	4	-40VSD1	01	40/0	
PUMP - RTP1	40/3	-X1	5	5	-40VSD1	02	40/0	
PUMP - RTP1	40/3	-X1	6	6	-40VSD1	04	40/0	
PUMP - RTP1	40/3	-X1	7	7	-40VSD1	05	40/0	
				PE				

Changes | Date | Name | Norm | Tested | Editor | Date
MDC | 15. Jun. 2015
22. Jul. 2015

Original | CP1 | Sub. f. | Sub. b. | AQUA COOLING SOLUTIONS | WX1-40VSD1 40VSD1 CONTROL | P15033

Interconnection diagram

ESSN001E

Cable designation	Cable type		
WX2-40VSD2	YYNR		
Remark	**No. of cores**	**Conductor area**	**Cable length**
40VSD2 CONTROL CP1 TO VSD	8/PE	1.5	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
PUMP - CTP1	40/6	-X2	1	1	-40VSD2	18+32	40/5	
PUMP - CTP1	40/7	-X2	2	2	-40VSD2	12+32	40/5	
PUMP - CTP1	40/7	-X2	3	3	-40VSD2	33	40/5	
PUMP - CTP1	40/7	-X2	4	4	-40VSD2	01	40/5	
PUMP - CTP1	40/7	-X2	5	5	-40VSD2	02	40/5	
PUMP - CTP1	40/8	-X2	6	6	-40VSD2	04	40/5	
PUMP - CTP1	40/8	-X2	7	7	-40VSD2	05	40/5	
				PE				

Changes | Date | Name | Norm | Tested | Editor | Date
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Original | CP1 | Sub. f. | Sub. b.

AQUA COOLING SOLUTIONS

WX2-40VSD2
40VSD2 CONTROL

P15033

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Interconnection diagram

ESSN001E

Cable designation	Cable type		
WX5.1	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW PRESSURE No.1	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW PRESS. No.1	51/7	X1CP2	5	Black	-X5	COM	51/2	
FLOW PRESS. No.1	51/7	X1CP2	4	White	-X5	4	51/7	
FLOW PRESS. No.1	51/7	X1CP2	6	SH	-X5	SCN	51/2	

Changes | Date | Name | Norm | Tested | Editor | Date
MDC | 15. Jun. 2015
22. Jul. 2015

Original | CP1

Sub. f.

Sub. b. | AQUA COOLING SOLUTIONS

WX5.1
DATA CENTRE FLOW PRESSURE No.1

P15033

+ | =

0 1 2 3 4 5 6 7 8 9

Interconnection diagram

ESSN001E

Cable designation	Cable type		
WX5.2	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW PRESSURE No.2	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW PRESS. No.2	51/8	X1CP2	8	Black	-X5	COM	51/2	
FLOW PRESS. No.2	51/8	X1CP2	7	White	-X5	5	51/8	
FLOW PRESS. No.2	51/8	X1CP2	9	SH	-X5	SCN	51/2	

Changes | Date | Name | Norm | Tested | Editor | Date
Tested: 22.Jul.2015 | Editor: MDC | Date: 15.Jun.2015
Original | Sub.f. | Sub.b.
CP1
AQUA COOLING SOLUTIONS
WX5.2
DATA CENTRE FLOW PRESSURE No.2
P15033

Interconnection diagram

ESSN001E

Cable designation	Cable type		
WX5.3	8761		
Remark	**No. of cores**	**Conductor area**	**Cable length**
DATA CENTRE FLOW TEMPERATURE	2+SHIELD	0.3	-

Function	Page/ path	Destination from	Conn.	Cable core	Destination to	Conn.	Page/ path	Function
FLOW TEMPERATURE	52/5	X1CP2	11	Black	-X5	COM	51/2	
FLOW TEMPERATURE	52/5	X1CP2	10	White	-X5	7	52/5	
FLOW TEMPERATURE	52/5	X1CP2	12	SH	-X5	SCN	51/2	

Changes | Date | Name | Norm | Tested | Editor | Date
MDC | 15. Jun. 2015
22. Jul. 2015
Original
CP1
Sub. f.
Sub. b.
AQUA COOLING SOLUTIONS
WX5.3
DATA CENTRE FLOW TEMPERATURE
P15033
+ =
P. 135
135 P.
0 1 2 3 4 5 6 7 8 9