

SPECIFICATIONS



Model	OPA 970RLTB2FPQD Econex Pro
Configuration	Horizontal Supply Air
Item No. (Standard / Opposite Hand)	876-097-701 / 876-097-710
Configuration	Downward Supply Air
Item No. (Standard / Opposite Hand)	876-097-723 / 876-097-732
Cooling capacity (net) ¹	91 kW
Cooling capacity range (gross)	16 ~ 102 kW
Heating capacity ¹	95.8 kW
Heating capacity range	13 ~ 110 kW
Electrical input - cooling	29.9 kW
Electrical input - heating	28.7 kW
EER / AEER (cooling) ¹	3.04 / 3.03
COP / ACOP (heating) ¹	3.34 / 3.33
Operating Range (outdoor ambient) - cooling	-10°C ~ 50°C
Operating Range (outdoor ambient) - heating	-10°C ~ 25°C
Master Controller	<i>c.pCO</i>
Slave Controllers	UC8 (x2)
Refrigerant	R32
Refrigerant Charge	10 kg/sys.
Minimum floor area (@2.4m below ceiling diffuser)	53 m ²
Compressor oil type	POE-46 (NXG5020 or equivalent)
Compressor type	inverter scroll (x2)
Power supply ²	3 ph. 400 V ac 50 Hz + N + E
Compressor (3ph.) run amps at rating cond.	19 A/ph. (x2)
Compressor + VSD circuit breaker	40 A (x2)
Indoor fan motor size	EC Plug 500 dia. 3.65kW (x2)
Nominal air flow at rating conditions	4 700 l/s
Indoor fan motor (3ph.) - full load	4.5 A/ph. (x2)
Outdoor fan motor (3ph.) - full load	5.5 A/ph. (x2)
Outdoor fan max. static pressure@ 10 560 l/s	125 Pa
Control circuit breaker (internal)	2 A
Single phase socket circuit breaker	10 A
Running amps (total system) ¹	46 / 41 / 47 A.
Max. running amps (total system)	74 / 74 / 77 A
RCD type recommended	type B, 30mA, 3 pole
Net weight	1270 kg
Shipping weight	1296 kg

Accessories:

Remote wired Service Interface Device (<i>pGD1</i>)	201-000-379
Filters - rated EU4/G4 disposable	019-400-004 500x500x50 (x9) ³
Filters - rated EU4/G4 washable (NZ Only)	019-000-033 500x500x50 (x9) ³
Drain tundish (2 per set; 2 sets required)	060-000-653

Refer to temperzone for other options.

¹ Tested in accordance with AS/NZS 3823

² Voltage range: 380-440V

³ Filter sizes are nominal; refer to Temperzone for actual measurements.

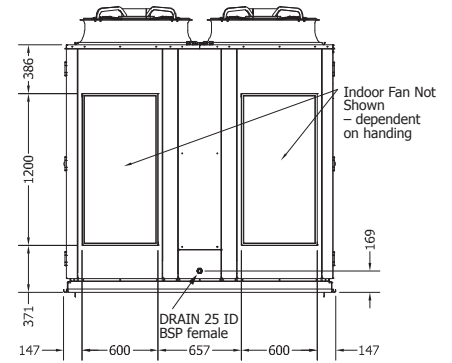
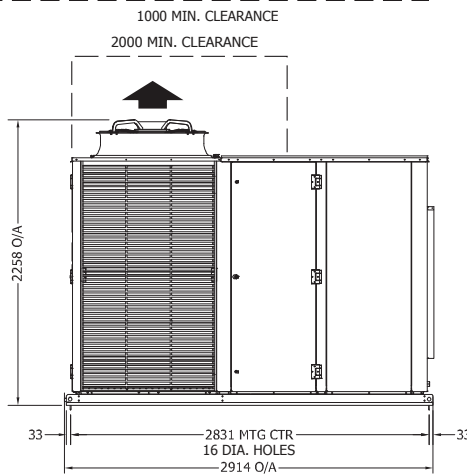
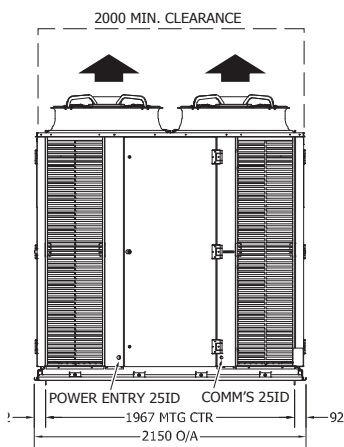
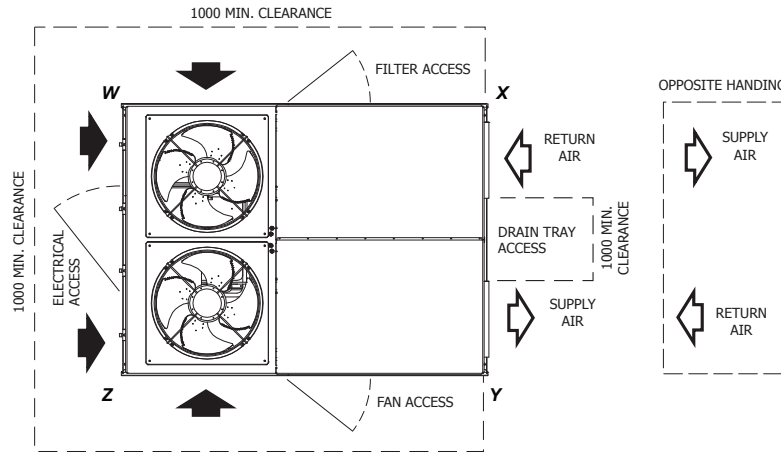
DIMENSIONS (mm)



OPA 970RLTBFPQD01 Standard Hand, Horizontal Supply

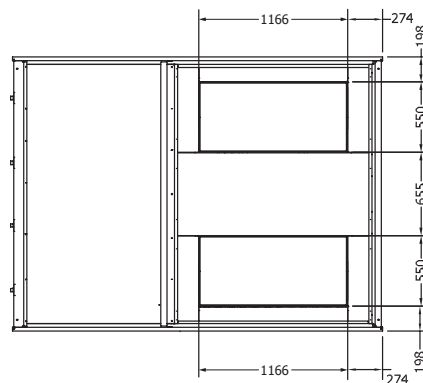
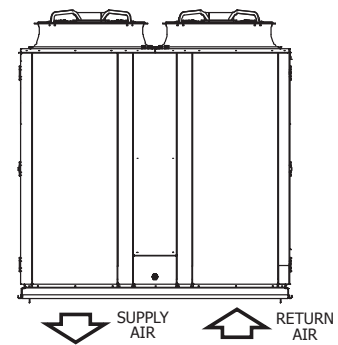
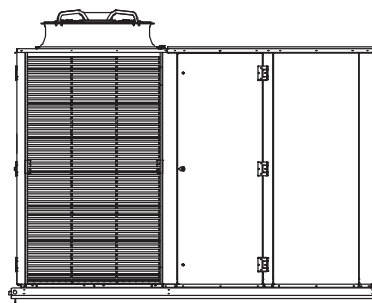
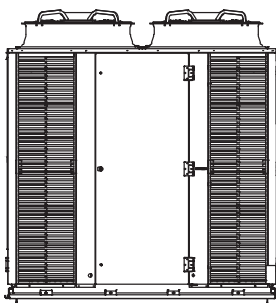
Not to Scale

POINT LOADS (kg)			
W	X	Y	Z
341	266	280	383



OPA 970RLTBFPQD23 Standard Hand, Downward Supply

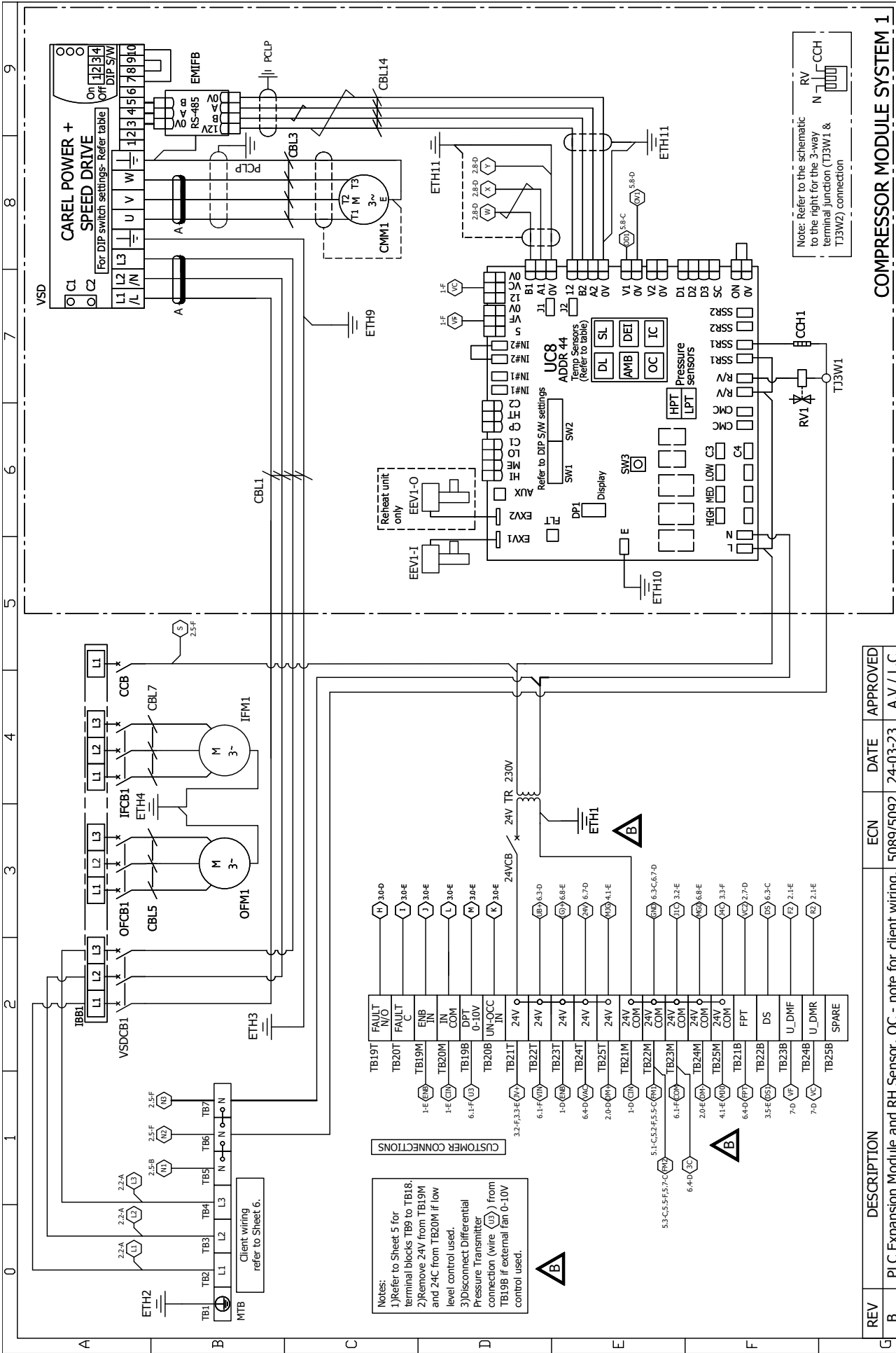
Clearances as above



NOTE

Specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

BOTTOM VIEW



Notes:
 1) Refer to Sheet 5 for terminal blocks TB9 to TB18.
 2) Remove 24V from TB19M and 24C from TB20M if low level control used.
 3) Disconnect Differential Pressure Transmitter connection (wire (U)) from TB19B if external fan 0-10V control used.

Notes:
 Refer to the schematic to the right for the 3-way terminal junction (TJ3W1 & TJ3W2) connection

Reheat unit only
 EEV1-I
 EEV1-O

Temp Sensors (Refer to table)
 UC8 ADDR 44
 DL SL
 AMB DEI
 OC IC
 Pressure sensors
 HPT LPT
 HIGH MED LOW C3 C4
 Z
 J
 N
 R
 T
 S
 SR
 V
 V1 V2 V3
 V4 V5 V6 V7 V8 V9 V10 V11 V12
 V13 V14 V15 V16 V17 V18 V19 V20 V21 V22 V23 V24 V25 V26 V27 V28 V29 V30 V31 V32 V33 V34 V35 V36 V37 V38 V39 V40 V41 V42 V43 V44 V45 V46 V47 V48 V49 V50 V51 V52 V53 V54 V55 V56 V57 V58 V59 V60 V61 V62 V63 V64 V65 V66 V67 V68 V69 V70 V71 V72 V73 V74 V75 V76 V77 V78 V79 V80 V81 V82 V83 V84 V85 V86 V87 V88 V89 V90 V91 V92 V93 V94 V95 V96 V97 V98 V99 V100

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 UC8 ADDR 44
 DL SL
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 HPT LPT
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 V1 V2 V3
 V4 V5 V6 V7 V8 V9 V10 V11 V12
 V13 V14 V15 V16 V17 V18 V19 V20 V21 V22 V23 V24 V25 V26 V27 V28 V29 V30 V31 V32 V33 V34 V35 V36 V37 V38 V39 V40 V41 V42 V43 V44 V45 V46 V47 V48 V49 V50 V51 V52 V53 V54 V55 V56 V57 V58 V59 V60 V61 V62 V63 V64 V65 V66 V67 V68 V69 V70 V71 V72 V73 V74 V75 V76 V77 V78 V79 V80 V81 V82 V83 V84 V85 V86 V87 V88 V89 V90 V91 V92 V93 V94 V95 V96 V97 V98 V99 V100

Reheat unit only
 EEV1-I
 EEV1-O

Temp Sensors (Refer to table)
 UC8 ADDR 44
 DL SL
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 Pressure sensors
 HPT LPT
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 V1 V2 V3
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 V13 V14 V15 V16 V17 V18 V19 V20 V21 V22 V23 V24 V25 V26 V27 V28 V29 V30 V31 V32 V33 V34 V35 V36 V37 V38 V39 V40 V41 V42 V43 V44 V45 V46 V47 V48 V49 V50 V51 V52 V53 V54 V55 V56 V57 V58 V59 V60 V61 V62 V63 V64 V65 V66 V67 V68 V69 V70 V71 V72 V73 V74 V75 V76 V77 V78 V79 V80 V81 V82 V83 V84 V85 V86 V87 V88 V89 V90 V91 V92 V93 V94 V95 V96 V97 V98 V99 V100

COMPRESSOR MODULE SYSTEM 1

Rev: B
 Drawing No: 291-003-492
 SHEET 1 OF 6

Title: OPA 970RLTB2FPQD-(Z) UC8 c/w CAREL c.p.c.c
 Wiring Schematic

Date: 16/12/22

Drawn: A.V

ECN

DATE

APPROVED

A.V / L.C

24-03-23

5089/5092

note for client wiring.

DESCRIPTION

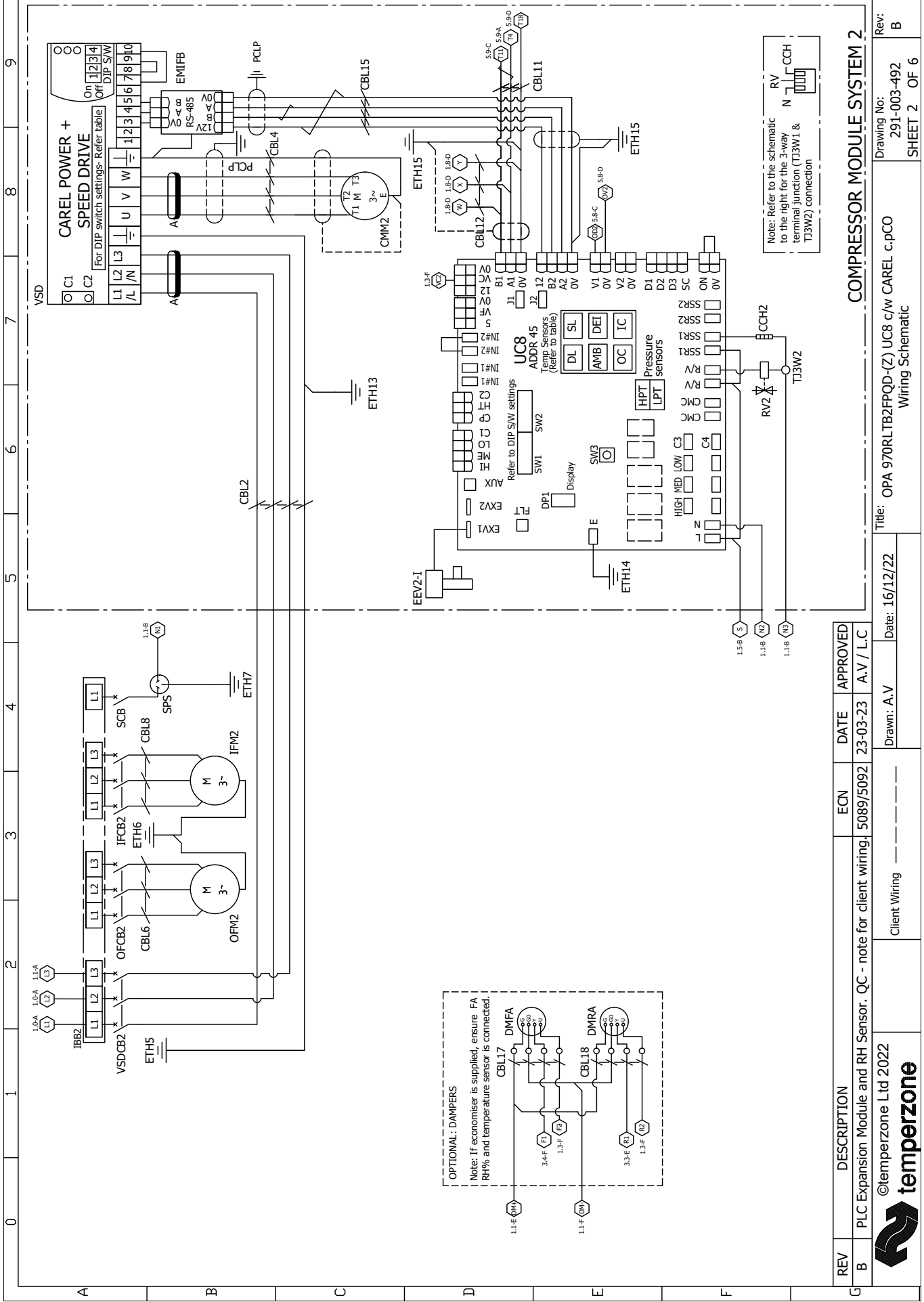
PLC Expansion Module and RH Sensor. QC -

Client Wiring

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WIRING (2)



COMPRESSOR MODULE SYSTEM 2

Title: OPA 970RLTB2FPQD-(Z) UC8 c/w CAREL c.pCO
 Wiring Schematic

Rev: B
 Drawing No: 291-003-492
 SHEET 2 OF 6

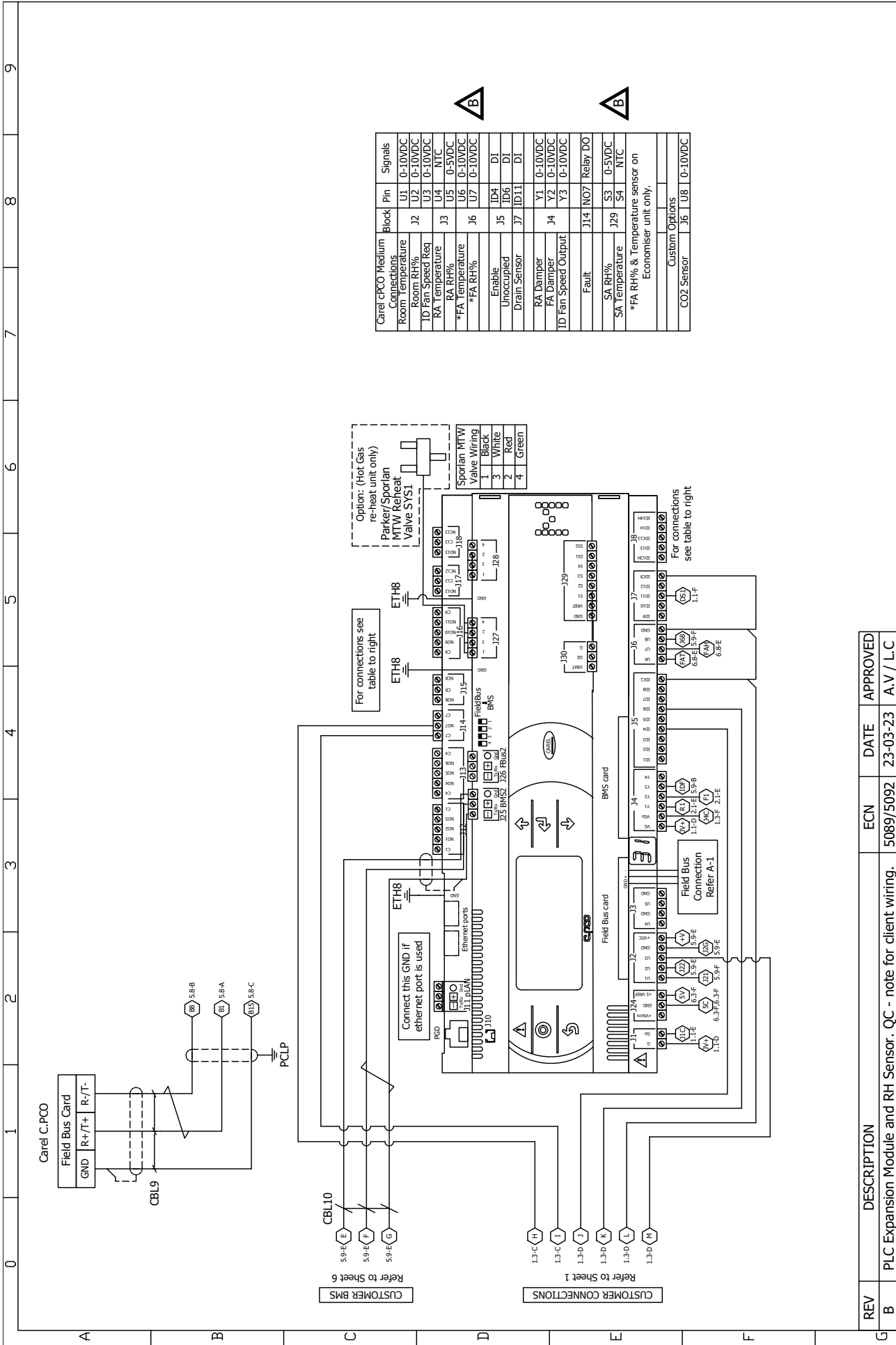
REV	DESCRIPTION	ECN	DATE	APPROVED
B	PLC Expansion Module and RH Sensor. QC - note for client wiring.	5089/5092	23-03-23	A.V / L.C

Client Wiring

Drawn: A.V
 Date: 16/12/22



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REV	DESCRIPTION	ECN	DATE	APPROVED
B	PLC Expansion Module and RH Sensor. QC - note for client wiring.	5089/5092	23-03-23	A.V / L.C

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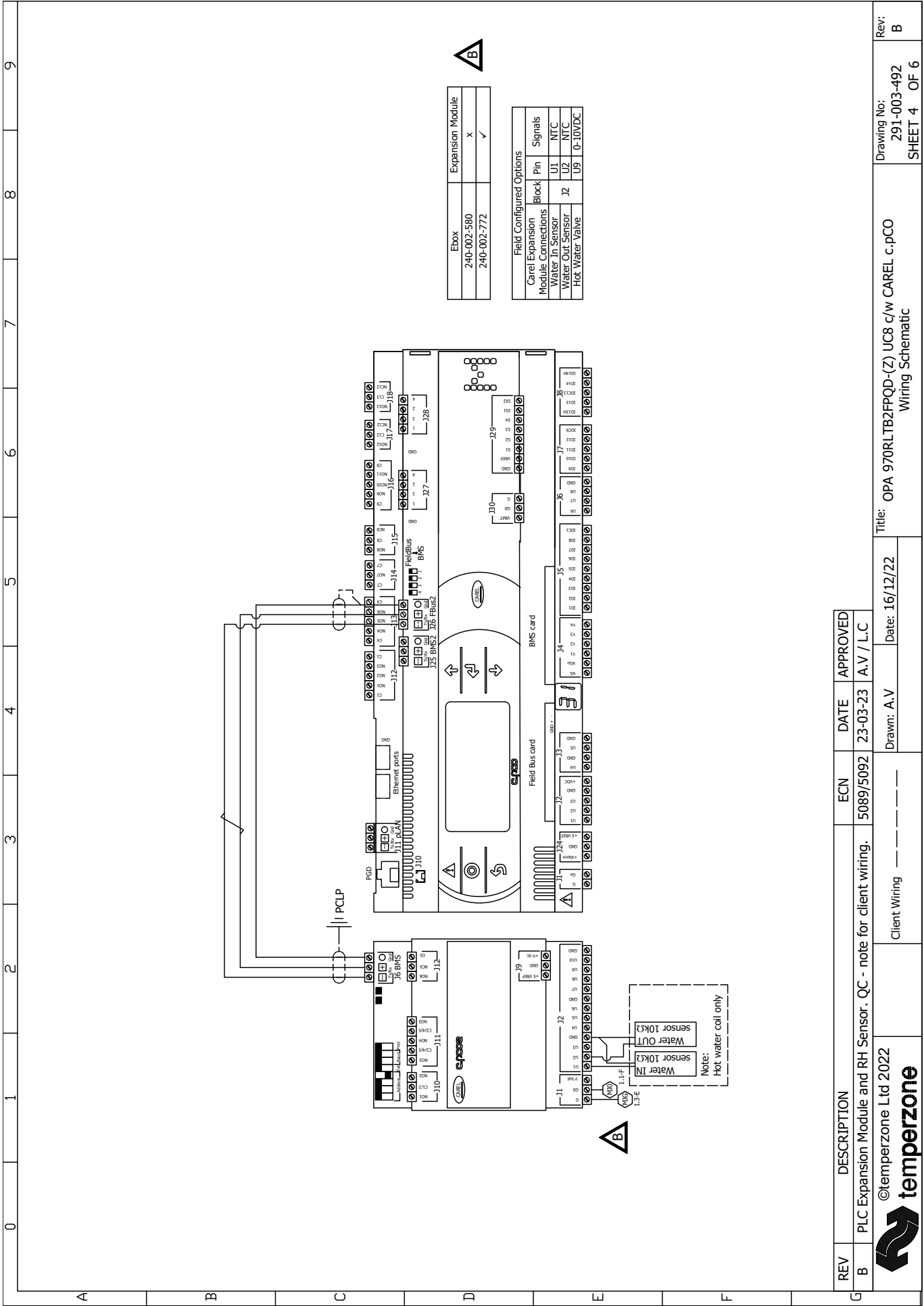
Client Wiring

Drawn: A.V Date: 16/12/22

Title: OPA 970RLTB2FPQD-(Z) UCS c/w CAREL c.pCO Wiring Schematic

Drawing No: 291-003-492 SHEET 3 OF 6

Rev: B



REV	DESCRIPTION	ECN	DATE	APPROVED
B	PLC Expansion Module and RH Sensor. QC - note for client wiring.	5089/5092	23-03-23	A.V / L.C



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Client Wiring

Drawn: A.V

Date: 16/12/22

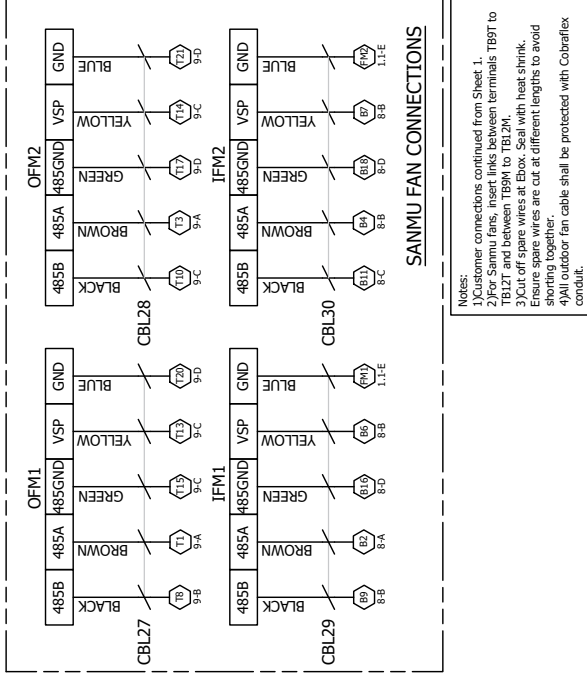
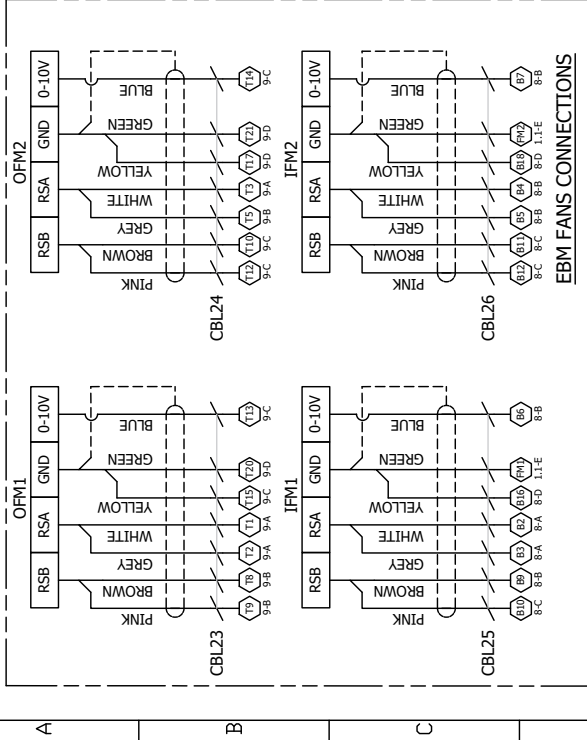
Title: OPA 970RLTB2FPQD-(Z) UCS c/w CAREL c.pCO
Wiring Schematic

Drawing No: 291-003-492
SHEET 4 OF 6

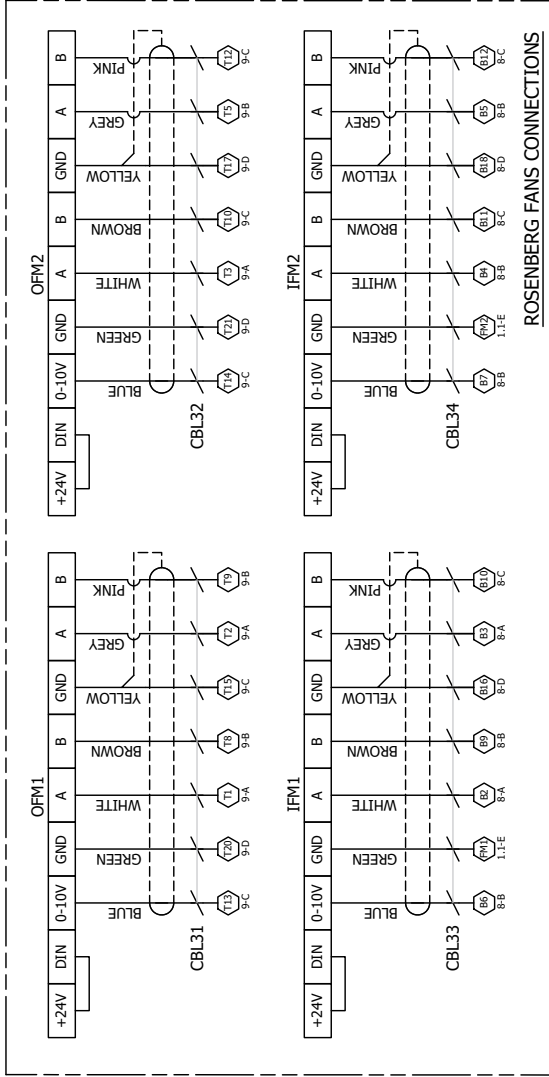
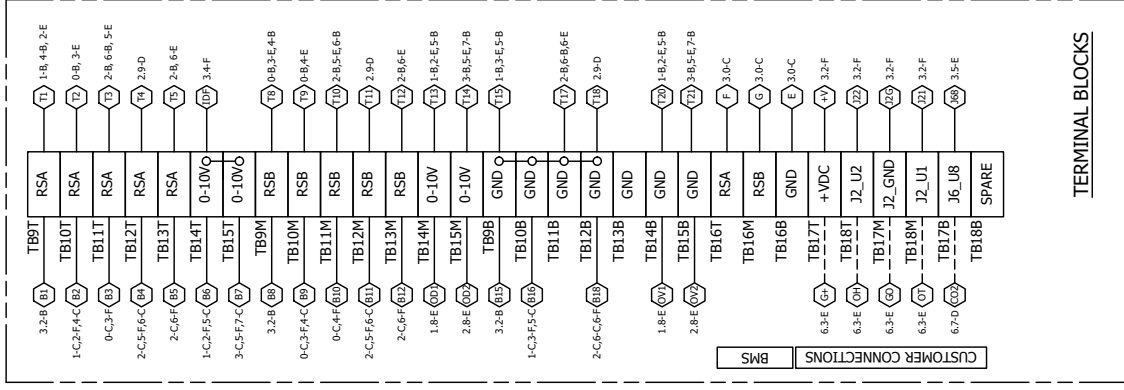
Rev: B

A 0 1 2 3 4 5 6 7 8 9

NOTE: THE FOLLOWING FANS CONNECTIONS APPLY, DEPENDING ON THE MAKE OF FANS INSTALLED IN THE UNIT.



- Notes:
- 1) Customer connections continued from Sheet 1.
 - 2) For Sanmu fans, insert links between terminals TB91 to TB106 and between TB99 to TB106.
 - 3) Cut off spare wires at Ebox. Seal with heat shrink. Ensure spare wires are cut at different lengths to avoid shorting together.
 - 4) All outdoor fan cable shall be protected with Cobraflex conduit.



REV	DESCRIPTION	ECN	DATE	APPROVED
B	PLC Expansion Module and RH Sensor. QC - note for client wiring.	5089/5092	23-03-23	A.V / L.C



Client Wiring

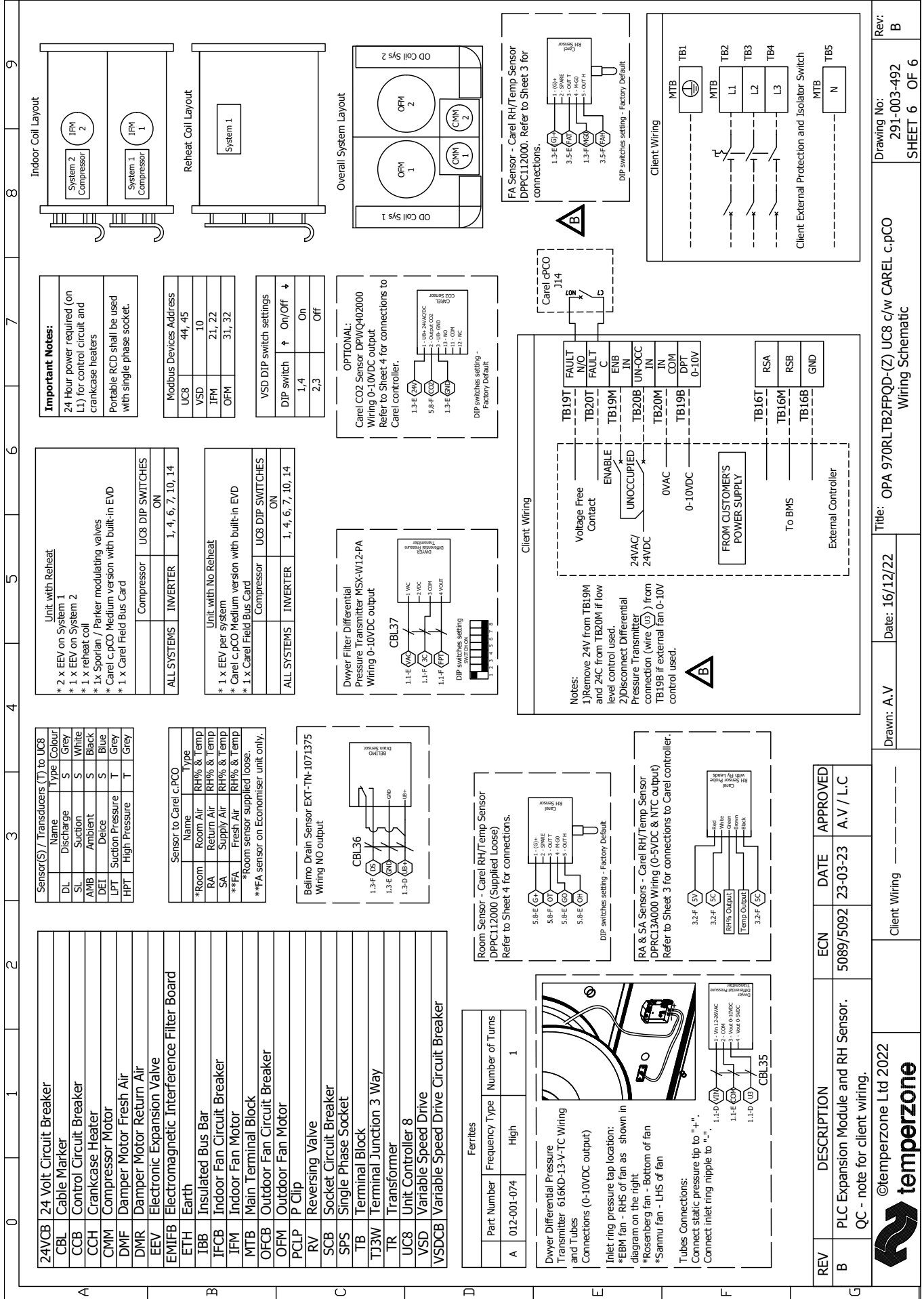
Drawn: A.V

Date: 16/12/22

Title: OPA 970RLTB2FPQD-(Z) UC8 c/w CAREL c.pCO
Wiring Schematic

Drawing No:
291-003-492
SHEET 5 OF 6

Rev:
B

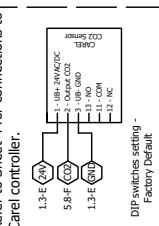


Important Notes:
 24 Hour power required (on L1) for control circuit and crankcase heaters
 Portable RCD shall be used with single phase socket.

Modbus Devices Address	
UC8	44, 45
VSD	10
IFM	21, 22
OFM	31, 32

VSD DIP switch settings	
DIP switch	↑ On/Off ↓
1,4	On
2,3	Off

OPTIONAL:
 Carel CO2 Sensor DPWQ402000 Wiring 0-10VDC output. Refer to Sheet 4 for connections to Carel controller.

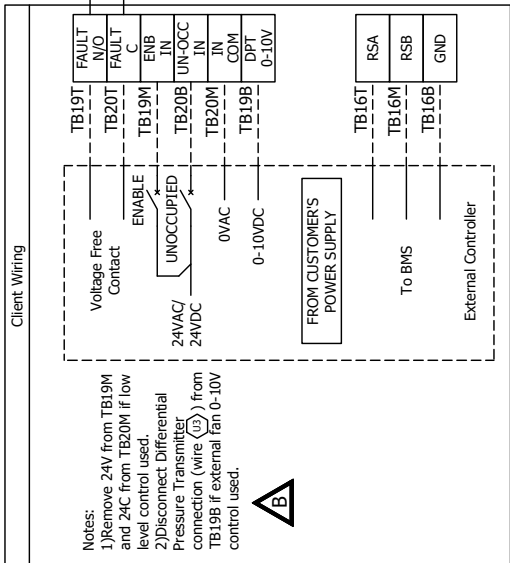
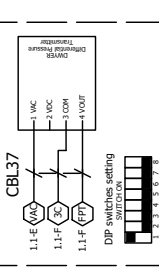


Unit with Reheat
 * 2 x EVV on System 1
 * 1 x EVV on System 2
 * 1 x reheat coil
 * 1 x Sporlan / Parker modulating valves
 * Carel c.pCO Medium version with built-in EVD
 * 1 x Carel Field Bus Card

ALL SYSTEMS	INVERTER	Compressor	UC8 DIP SWITCHES
			ON
			1, 4, 6, 7, 10, 14

ALL SYSTEMS	INVERTER	Compressor	UC8 DIP SWITCHES
			ON
			1, 4, 6, 7, 10, 14

Dwyer Filter Differential Pressure Transmitter MSX-W12-PA
 Wiring 0-10VDC output



Notes:
 1) Remove 24V from TB19M and 24C from TB20M if low level control used.
 2) Disconnect Differential Pressure Transmitter connection (wire (G)) from TB19B if external fan 0-10V control used.

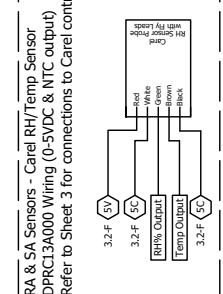
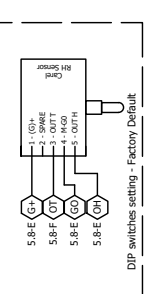
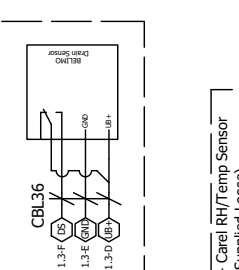
Sensor(S) / Transducers (T) to UC8

Name	Type	Colour
DL	Discharge	S Grey
SL	Suction	S White
AMB	Ambient	S Black
LPT	Suction Pressure	T Grey
HPT	High Pressure	T Grey

Sensor to Carel c.pCO

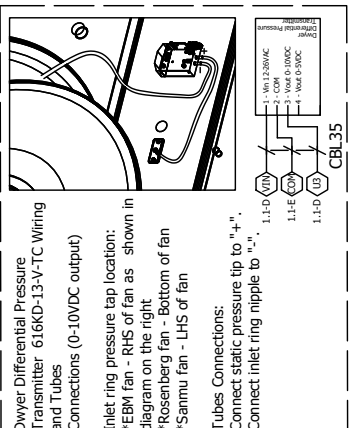
Name	Type
*Room	Room Air RH% & Temp
RA	Return Air RH% & Temp
SA	Supply Air RH% & Temp
**FA	Fresh Air RH% & Temp

**Room sensor supplied loose.
 **FA sensor on Economiser unit only.



24VDCB	24 Volt Circuit Breaker
CBL	Cable Marker
CCH	Control Circuit Breaker
CCH	Crankcase Heater
CM	Compressor Motor
DMF	Damper Motor Fresh Air
DMR	Damper Motor Return Air
EEV	Electronic Expansion Valve
EMIFB	Electromagnetic Interference Filter Board
ETH	Earth
IBB	Insulated Bus Bar
IFCB	Indoor Fan Circuit Breaker
IFM	Indoor Fan Motor
MTB	Main Terminal Block
OFM	Outdoor Fan Circuit Breaker
PCLP	P Clip
RV	Reversing Valve
SCB	Socket Circuit Breaker
SPS	Single Phase Socket
TB	Terminal Block
TJ3W	Terminal Junction 3 Way
TR	Transformer
UC8	Unit Controller 8
VSD	Variable Speed Drive
VSDCB	Variable Speed Drive Circuit Breaker

Part Number	Frequency Type	Number of Turns
A	012-001-074	High
		1



REV	DESCRIPTION	ECN	DATE	APPROVED
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Drawn: A.V

Date: 16/12/22

Title: OPA 970RLTB2FP0D-(Z) UC8 c/w CAREL c.pCO Wiring Schematic

Drawing No: 291-003-492
 SHEET 6 OF 6

Rev: B