

SPECIFICATIONS



Model	OPA 820RLTB1FPQ Econex
Configuration	Horizontal Supply Air
Item No. (Standard / Opposite Hand)	866-082-701 / 866-082-710
Configuration	Downward Supply Air
Item No. (Standard / Opposite Hand)	866-082-723 / 866-082-732
Cooling capacity (net) ¹	78.4 kW
Cooling capacity range (gross)	11.2 ~ 83.8 kW
Heating capacity ¹	79.0 kW
Heating capacity range	10.0 ~ 87.0 kW
Electrical input - cooling	24.6 kW
Electrical input - heating	23.8 kW
EER / AEER (cooling) ¹	3.18 / 3.17
COP / ACOP (heating) ¹	3.22 / 3.21
Operating Range (outdoor ambient) - cooling	-10°C ~ 50°C
Operating Range (outdoor ambient) - heating	-10°C ~ 25°C
Controller	UC8 (x2)
Refrigerant	R32
Refrigerant Charge	8.0 kg/sys.
Minimum floor area (@2.4m below ceiling diffuser)	34 m ²
Compressor oil type	POE-46 (NXG5020 or equivalent)
Compressor type	inverter + fixed scroll
Power supply ²	3 ph. 400 V ac 50 Hz + N + E
Compressor (3ph.) run amps at rating cond.(inv./fixed)	16 A/ph.(x1) / 16 A/ph.(x1)
Compressor + VSD circuit breaker	32 A (x2)
Indoor fan motor size	EC Plug 500 dia. 3.65kW (x2)
Nominal air flow at rating conditions	4 400 l/s
Indoor fan motor (3ph.) - full load	4.5 A/ph. (x2)
Outdoor fan motor (3ph.) - full load	5 A/ph. (x2)
Outdoor fan - max. external static available@ 11 600 l/s	125 Pa
Control circuit breaker (internal)	2 A
Single phase socket circuit breaker	10 A
Running amps (total system) ¹	38 / 36 / 39 A
Max. running amps (total system)	52 / 50 / 52 A
RCD type recommended	type B, 30mA, 3 pole
Net weight	1270 kg
Shipping weight	1296 kg

Accessories:

TZT-100 Room temperature controller	201-000-792
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

24004

² Voltage range: 380-440V

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

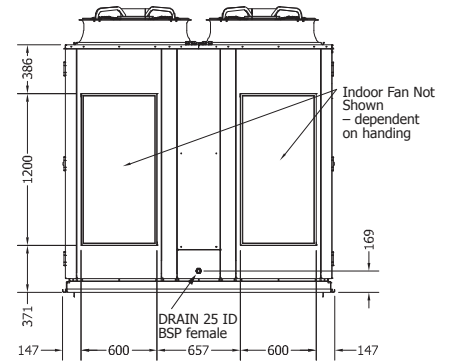
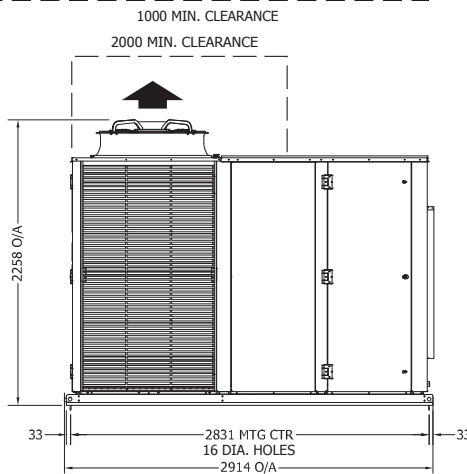
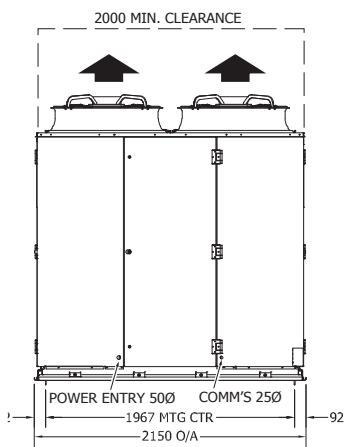
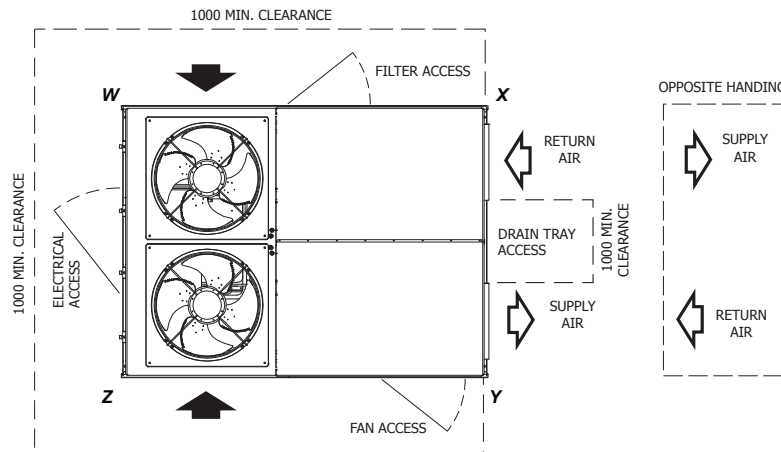
DIMENSIONS (mm)



OPA 820RLTBFPQ01 Standard Hand, Horizontal Supply

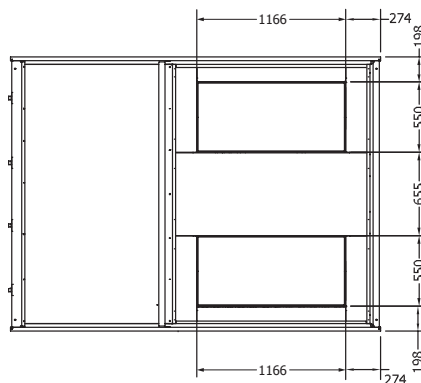
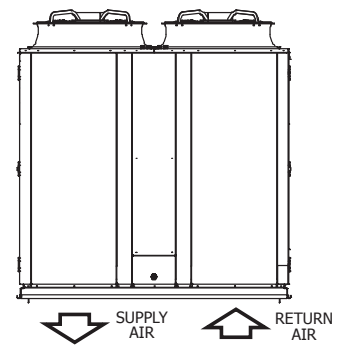
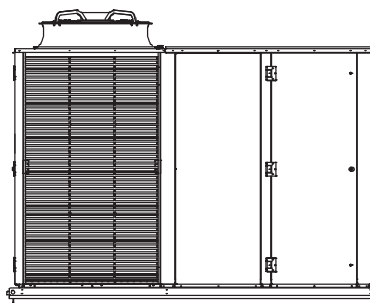
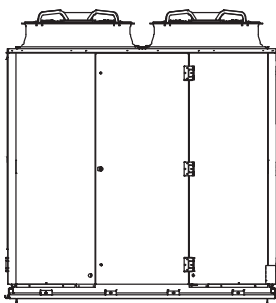
Not to Scale

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



OPA 820RLTBFPQ23 Standard Hand, Downward Supply

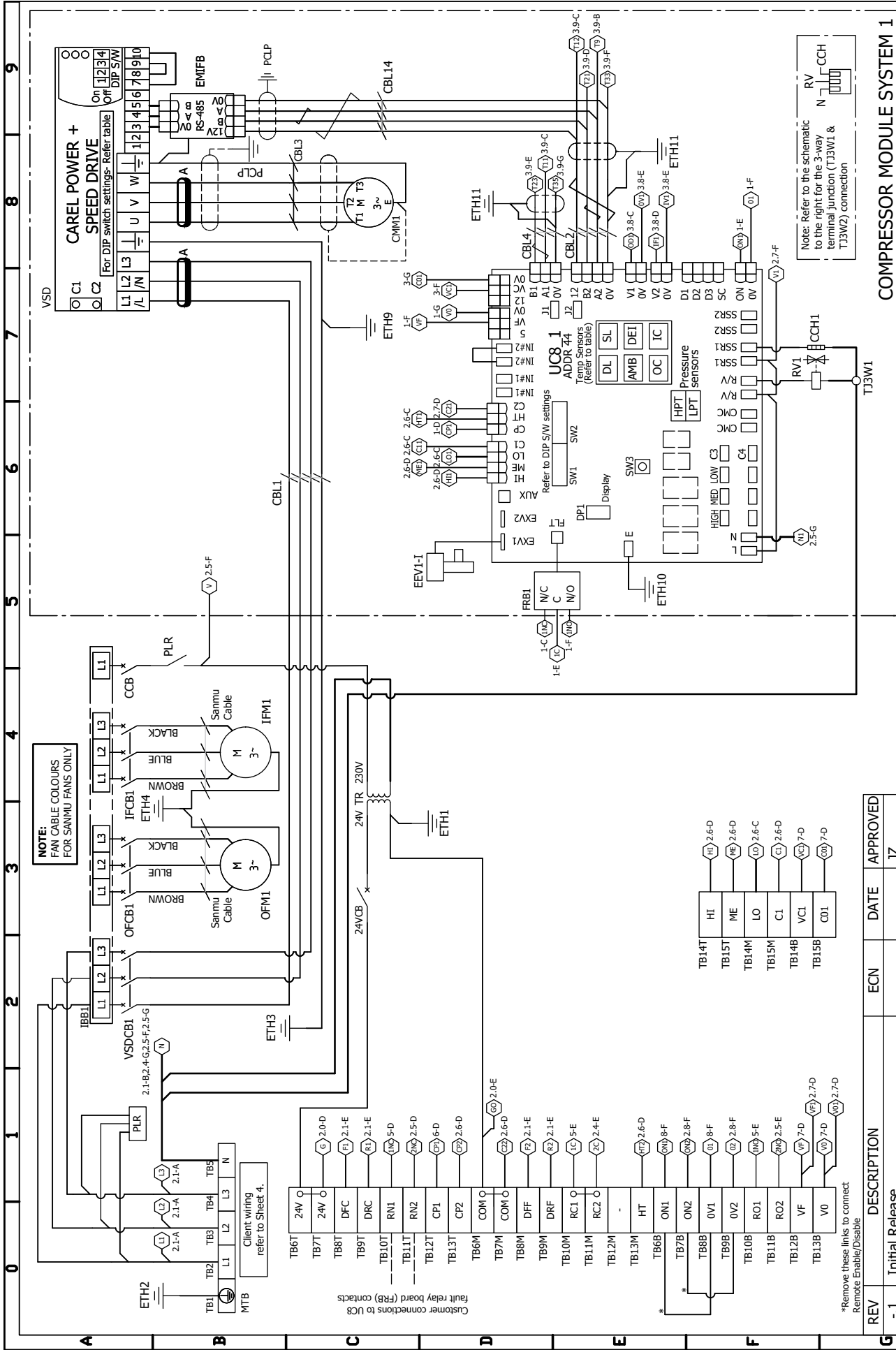
Clearances as above



NOTE

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

BOTTOM VIEW



REV	DESCRIPTION	ECN	DATE	APPROVED
-1	Initial Release			JZ

Client Wiring

Drawn: JZ

Date: 11/10/23

Title: OPA 820RLTB1FPQ-(Z) Wiring Schematic

Drawing No: 291-003-556
SHEET 1 OF 4

Rev: -1

COMPRESSOR MODULE SYSTEM 1

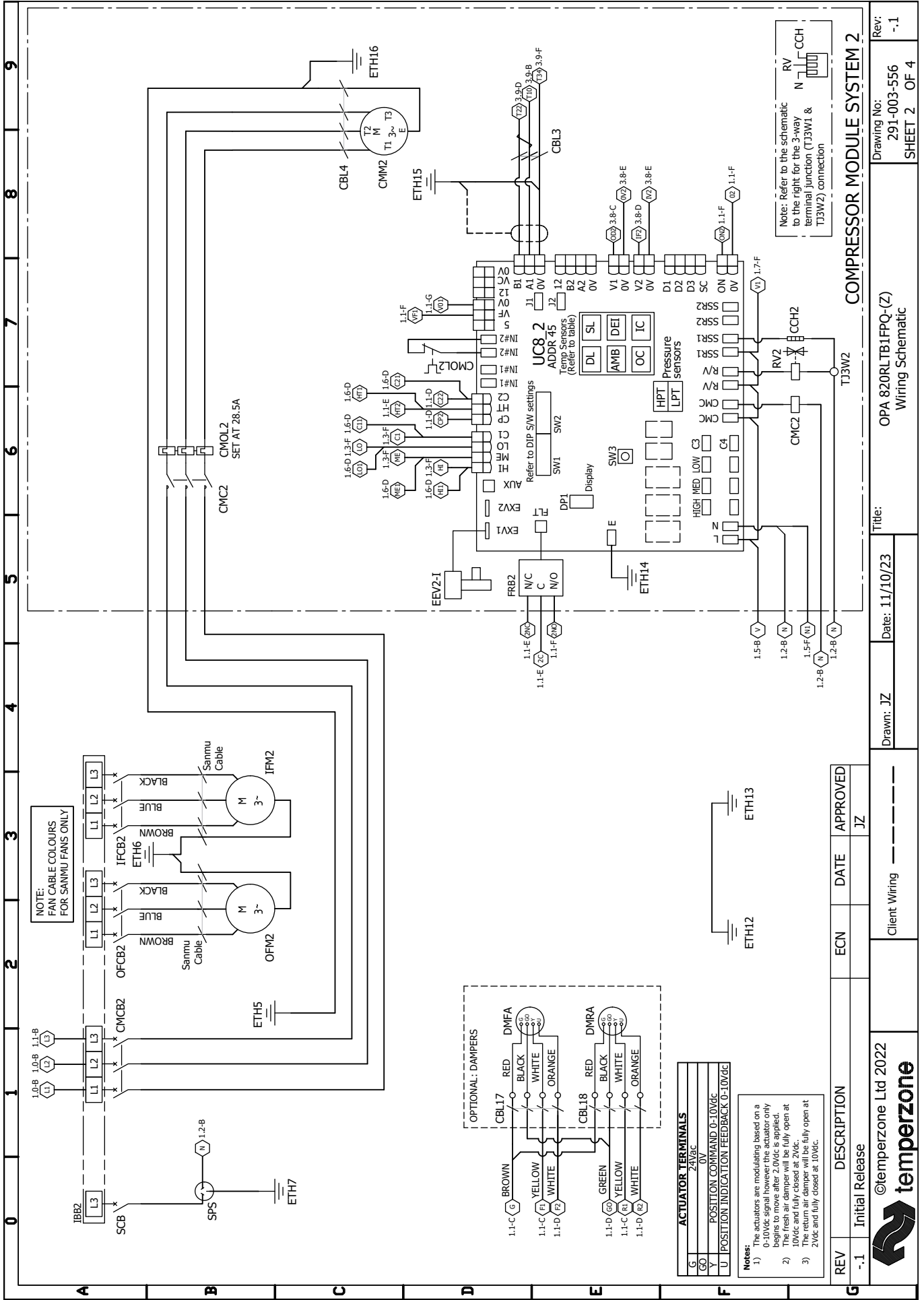
Note: Refer to the schematic to the right for the 3-way terminal junction (TJ3W1 & TJ3W2) connection

Terminal	Label	Wiring
TB14T	HT	HT 2.6-D
TB15T	ME	ME 2.6-D
TB14M	LO	LO 2.6-C
TB15M	CL	CL 2.6-D
TB14B	VCL	VCL 7-D
TB15B	CO1	CO1 7-D

*Remove these links to connect Remote Enable/Disable

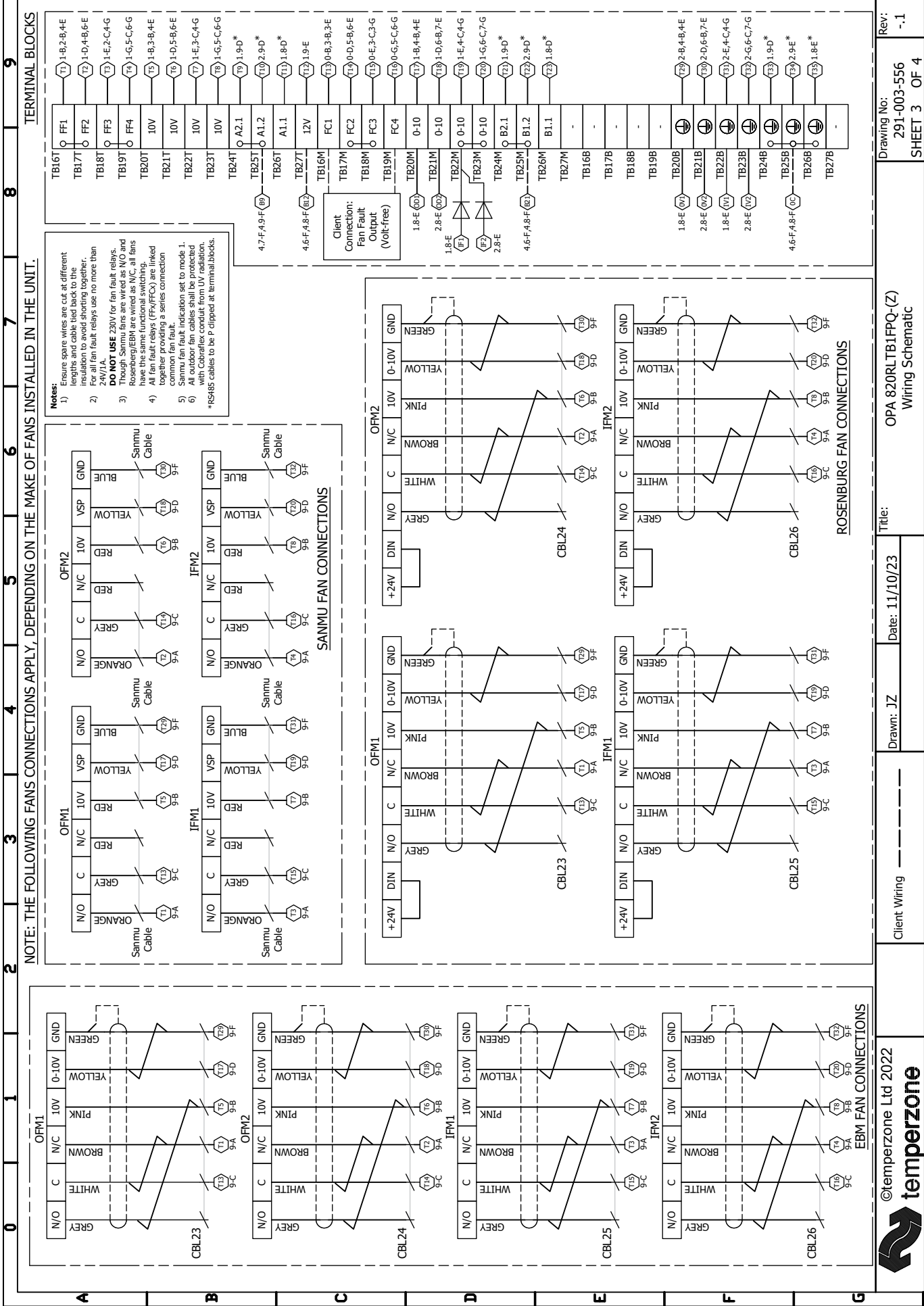


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COMPRESSOR MODULE SYSTEM 2

REV	-1	DESCRIPTION	Initial Release	ECN		DATE		APPROVED	JZ		
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Title:			Date: 11/10/23			Drawn: JZ			Client Wiring		
Drawing No:			291-003-556			Rev:			-1		
SHEET 2			OF 4			Wiring Schematic			OPA 820RLTB1FPQ-(Z)		



0123456789

24VCB	24 Volt Circuit Breaker
CBL	Cable Marker
CCB	Control Circuit Breaker
CCH	Crankcase Heater
CMC	Compressor Motor Contactor
CMCB	Compressor Motor Circuit Breaker
COM	Compressor Motor
CMOL	Compressor Motor Overload
DMF	Damper Motor Fresh Air
DMR	Damper Motor Return Air
EEV	Electronic Expansion Valve
EMIFB	Electromagnetic Interference Filter Board
ETH	Earth
FRB	Fault Relay Board
IBB	Insulated Bus Bar
IFCB	Indoor Fan Circuit Breaker
IFM	Indoor Fan Motor
MTB	Main Terminal Block
OFCB	Outdoor Fan Circuit Breaker
OFM	Outdoor Fan Motor
PCLP	P Clip
PLR	Phase Loss Relay
RV	Reversing Valve
SCB	Socket Circuit Breaker
SPS	Single Phase Socket
TBXT	Terminal Block (number) Top
TBXM	Terminal Block (number) Middle
TBXB	Terminal Block (number) Bottom
TJ3W	Terminal Junction 3 Way
TR	Transformer
UC8	Unit Controller 8
VSD	Variable Speed Drive
VSDCB	Variable Speed Drive Circuit Breaker

0V	UC8 Enable link Common
0-10	Indoor / Outdoor Fan 0-10Vdc analogue speed Control
10V	Indoor / Outdoor Fan 10Vdc Supply Output
12V	RS485 12V Supply Output
24V	24VAC Internal Supply
Ax.x	RS485 A (+) Communication Signal
Bx.x	RS485 B (-) Communication Signal
CO1	Compressor Analogue Speed Control Common
C1	Indoor Fan Fixed Three speed Control Common
COM	24VAC internal Supply Common
CP	Compressor ON / OFF Signal
DFC	Damper Motor Fresh Air 0-10Vdc Command
DFE	Damper Motor Fresh Air 0-10Vdc Feedback
DRC	Damper Motor Return Air 0-10Vdc Command
DFE	Damper Motor Return Air 0-10Vdc Feedback
FC	Fan Fault Relay Output Common
FF	Fan Fault Relay Output Contact Signal
HI	Indoor Fan Fixed High speed Control Signal
HT	Cooling / Heating Mode Selection Signal
LO	Indoor Fan Fixed Low speed Control Signal
ME	Indoor Fan Fixed Medium speed Control Signal
ON	UC8 Enable link Contact
RC	UC8 Fault Relay Output Common Contact
RN	UC8 Fault Relay Output Normally Closed Contact
RO	UC8 Fault Relay Output Normally Open Contact
VC	Compressor 0-10Vdc Analogue Speed Control Signal
VF	Indoor Fan 0-10Vdc Analogue Speed Control Signal
V0	Indoor Fan Analogue Speed Control Common

Important Notes:

24 Hour power required (on L1) for control circuit and crankcase heaters

Portable Residual Current Device (PRCD) shall be used with single phase socket.

Phase/Loss Relay

- PWR (Green) Indicator lit when power is being supplied.
- RY (Yellow) Indicator lit when relay is operating.

Modbus Devices Address

UC8	44, 45
VSD	10

VSD DIP switch settings

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

Sensor(S) / Transducers (T) to UC8

Name	Type	Colour
DL	Discharge	S Grey
SI	Suction	S White
AMB	Ambient	S Black
DEI	Deice	S Blue
LPT	Suction Pressure	T Grey
HPT	High Pressure	T Grey

UC8 Configuration

* 1 x EEV per system

Compressor	UC8 DIP SWITCHES
	ON
SYSTEM 1	INVERTER 1, 4, 6, 7, 10, 14
SYSTEM 2	FIXED SPEED 1, 4, 6, 7, 10, 11, 14

Ferrites

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

Indoor Coil Layout

Overall System Layout

Instructions To Convert To Master-Master Control

- Turn off power to entire system.
- Turn off dip switch 11 for system 2 fixed speed UC8 control.
- Move the jumper between terminal blocks TB24T and TB25T to between TB25T and TB26T (refer to sheet 3).
- Move the jumper between terminal blocks TB24M and TB25M to between TB25M and TB26M (refer to sheet 3).
- Turn power back on.
- Check UC8.2 (SYSTEM 2) address is set as 45. If it's address is 44, it needs to be changed to 45 using the pushbutton.

Client Wiring

Client External Protection and Isolator Switch
Power Supply 400V 50Hz

Client Wiring

Refer to Sheet 3 for Terminal Blocks

- Connect B12 to TB27T (12V)
- Connect B9 to TB25T (A1.2)
- Connect B21 to TB25M (B1.2)
- Connect 0V to TB25B (0)

Client Wiring

Refer to Sheet 3 for Terminal Blocks

- Connect B12 to TB27T (12V)
- Connect B9 to TB25T (A1.2)
- Connect B21 to TB25M (B1.2)
- Connect 0V to TB25B (0)

REV -1	DESCRIPTION Initial Release	ECN	DATE
		JZ	APPROVED

Drawing No: 291-003-556	Date: 11/10/23	Drawn: JZ	Date: 11/10/23
SHEET 4 OF 4	Client Wiring		

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Rev: -1

Drawing No: 291-003-556

SHEET 4 OF 4

Title: OPA 820RLTB1FPQ-(Z) Wiring Schematic

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