

SECD04 SERIES**DUAL ELECTRONIC EXPANSION VALVE CONTROLLER****eDual****FEATURES**

- DUAL EEV CONTROL
- ADVANCED PID ALGORITHM TO ENSURE ACCURATE AUTOMATIC ADJUSTMENT OF SUPERHEAT
- QUICK-SAFE PREVENTION OF LOW AND HIGH SUPERHEAT TO ENSURE THE SYSTEM OPERATING WELL AT ANY CONDITIONS
- SMALL SIZE, RAIL MOUNTING DESIGN, EASY TO INSTALL
- ENERGY EFFICIENT, ACHIEVING THE MOST EFFICIENT USE OF THE EVAPORATOR
- FAIL SAFE FUNCTION TO ENSURE CONTINUOUS OPERATION
- VALVE CONTROL VIA MODBUS
- ELECTRICAL BALL VALVE (EBV) CONTROL

GENERAL SPECIFICATIONS

- Applicable for various refrigerants applications
- Operating temperature: -30°C ~ 55°C
- Storage temperature: -30°C ~ 55°C
- Relative humidity: ≤95% RH
- Certification: CE Declaration according to EMC
- Installation method:
DIN rail snap-in or wall mounting with screws
- Compatible with Sanhua LPF-T, DPF and EBV valves

ELECTRICAL PARAMETERS

- Power supply: 24Vac/24Vdc +10%/-15%, 50/60Hz
- Requested transformer:
Sanhua TM02 [≥ 30VA (24Vac) or ≥ 20W (24Vdc)]
- Inputs: 1x Pressure sensor input for 2 circuits
2x Temperature sensor input
1x upper level Communication input (RS485 & Modbus)
1x Cascading communication input (RS485 & Modbus)
2x Run/Stop Signal
- Output: 2x EEV output (12Vdc±10%), rectangular wave



MODEL DESIGNATION LEGEND

NO.				Model Designation Legend
1	2	3	4	
SECD04-R1	→			SANHUA electronic Expansion valve Controller
SECD04-R1	→			Dual EEV Controller
SECD 04 -R1	→			The 4th Generation of eDual family
SECD04- R1	→			Different Combination of functions like pressure signal, button and display

ORDERING METHOD

All the models are compatible with the main refrigerants on the market:

R22, R404A, R410A, R134a, R407C, R507, R1234ze, R1234yf, R290, R450A, R513A, R448A, R449A, R452A, R744(CO2), R744A(N2O), R32, R245fa, R23, R407A, R407F, R124, R717, R407H, R454C, R455A, R454B, R452B, R600A, R600, R1270, R1233zdE, R1234zeZ, R452C, R454A, R457A.

All the models get a RS485 port for communication.

Model	Model	Part Number	Details
Controller	SECD04-R1	SECD0000302	Voltage pressure sensor + Display + button (°C/Bar & °F/Psi)
	SECD04-R2	SECD0000202	Current pressure sensor + Display + button (°C/Bar & °F/Psi)
	SECD04-01	SECD0000402	Voltage pressure sensor - No Display - No button (°C/Bar & °F/Psi)
	SECD04-02	SECD0000502	Current pressure sensor - No Display - No button (°C/Bar & °F/Psi)
Temp. Sensor	NTC2A1	10665000102	2m Temp. Sensor (5kΩ)
	NTC5A1	10665000202	5m Temp. Sensor (5kΩ)
	NTC9A1	10665000402	9m Temp. Sensor (5kΩ)
Pressure Sensor*	YCQB02H01-1	10185001502	0/20 bar (0,5-3,5V) with Solder connection, 2m cable length
	YCQB02H18-1	10185015402	0/20 bar (0,5-3,5V) with Solder connection, 4.9m cable length
	YCQB02L12-1	10185015502	0/20 bar (0,5-3,5V) with Flare connection, 2m cable length
	YCQB02L28-1	10185015602	0/20 bar (0,5-3,5V) with Flare connection, 4.9m cable length
	YCQB03H06	10185046502	0/30 bar (0,5-4,5V) with Solder connection, 2m cable length
	YCQB04H50	10185004602	0/34,5 bar (0,5-4,5V) with Solder connection, Packard socket
	YCQB02L01	10185004902	0/20 bar (0,5-4,5V) with Flare connection, 2m cable length
	YCQB03L157	10185046202	0/30 bar (0,5-4,5V) with Flare connection, Packard socket
	YCQC02L18	10185017102	-1/12 bar (4-20mA) with Flare connection, Packard socket
	YCQC09L02	10185042402	0/90 bar (4-20mA) with Flare connection, Packard socket
Packard cable	YCQB02-013251	20185108201	2m cable length for YCQB & YCQC pressure sensors
	YCQB02-013252	20185108101	5m cable length for YCQB & YCQC pressure sensors
	YCQB02-013253	20185108001	9m cable length for YCQB & YCQC pressure sensors

Note: The temperature & pressure sensors should be ordered separately.

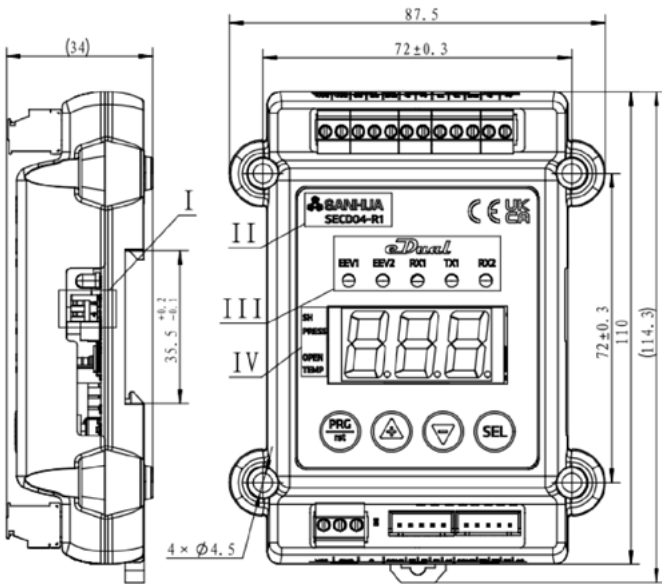
*Other YCQ models are available, please check the SANHUA YCQ Datasheet or ask your local support



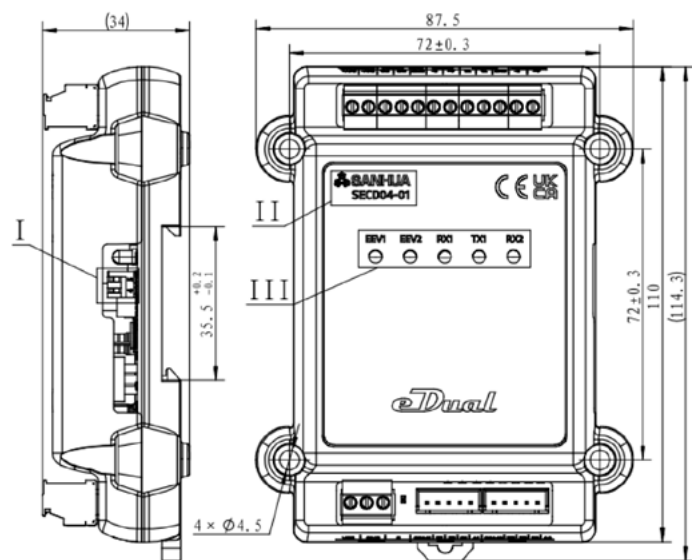
TEMPERATURE AND PRESSURE SENSORS

Items	Description	
Temperature sensor	Type	NTC 5 KΩ
	Wire	2 × 0.5 mm ²
	Protection class	IP 67
	Accuracy	±0.3°C (below 25°C)
	Temperature Range	-50 ~ 50°C
	Electrical connector	XHP connector
Pressure transmitter	Voltage supply	YCQB: 5±0.25 Vdc YCQC: 10-30 Vdc
	Output	YCQB: 0.5~3.5 Vdc or 0.5~4.5 Vdc YCQC: 4-20mA
	Accuracy	±0.8% F.S.(-40 ~ 40°C)
	Protection class	IP 67
	Connection Type	Solder 1/4" Flare = Thread SAE - 1/4"7/16-20UNF-2B
	Electrical connector	XHP connector Packard connector

DIMENSIONS AND INSTALLATION



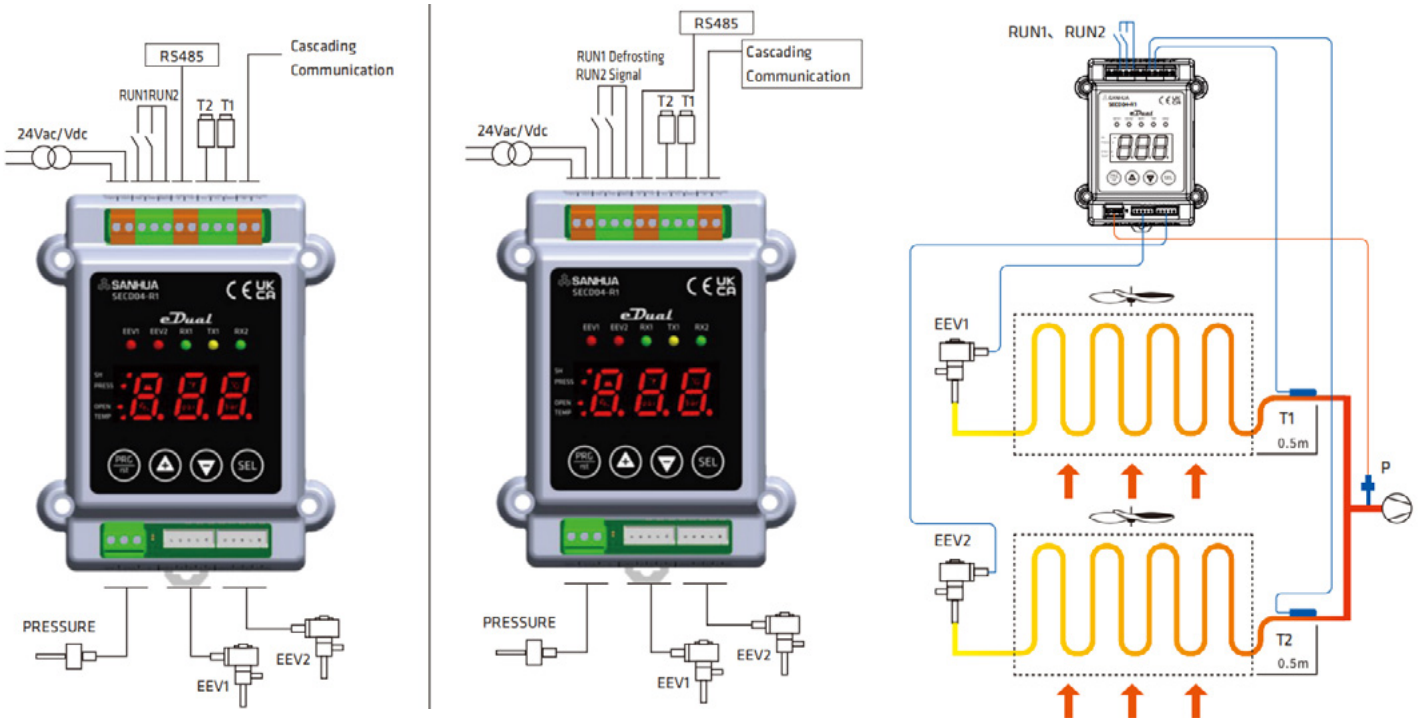
Version with display and buttons



Version without display nor buttons



INSTALLATION DIAGRAM



Option 1: The 2x Run signal can be configured as 2x independent RUN/STOP signal.

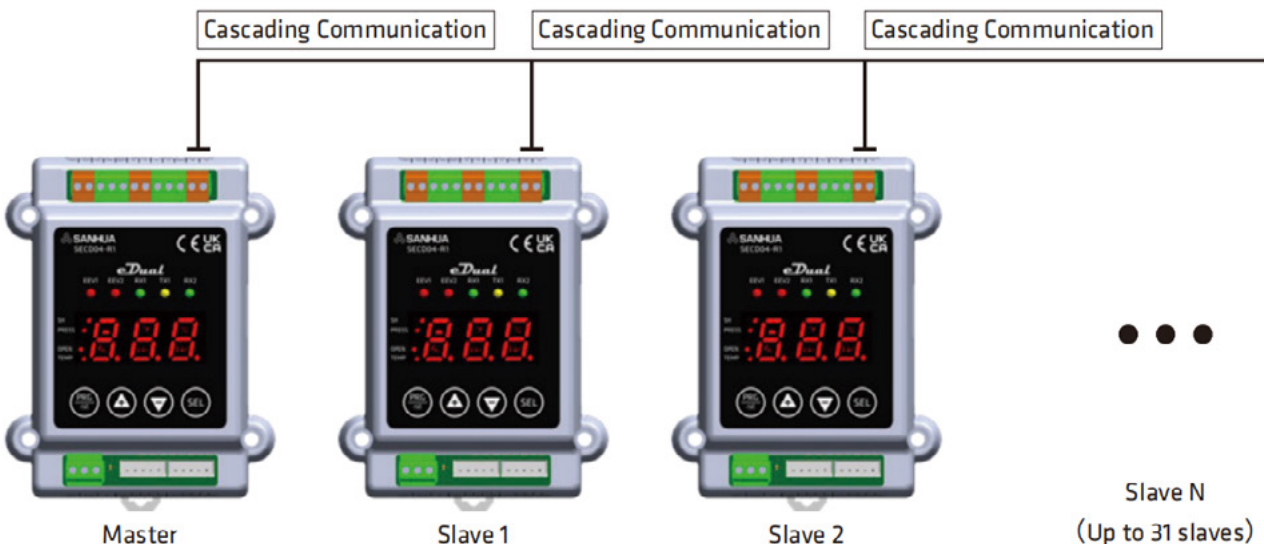
Option 2: 1x Run as shared RUN/STOP signal and the other as shared defrosting signal (to keep the EEV at defined position during defrosting).

Users can group up to 32 controllers (1x Master + 31x Slave) by cascading communication port and this will enable all the Slaves to share the RUN, pressure and defrosting signal from Master controller.

The Pressure sharing is automatic in cascading communication mode while specific parameter setting is needed for RUN signal {[40020]=1} and defrosting signal {[40019]=1} sharing.

If Parameter [40004] = 1, the Slaves are enabled to share the 1# temperature signal from Master.

Please notice that this require all the evaporators have identical performances all the time.





ACCESSORIES

Power supply

Item	Description	
Model	TM02	
Dimension	35(W)mm x 90 (H)mm x 58.3 (D)mm	
Voltage input	85 ~ 264VAC, 47 ~ 63Hz	
Current AC	0.5A/115VAC, 0.25A/230VAC	
Rated voltage output	24Vdc, ±1.0%	
Rated current output	1.5A	
Rated power	36W	
Operation	-30~+70°C, 20~90%RH (Non-condensing)	
Storage	-40~+85°C, 10~95%RH (Non-condensing)	
Wire	18~24AWG9 (0.2~0.8mm ²)	

Model	Part number	Output current	Code reported on the product label
TM02	20680008102	1.5 A	HDR 30