

SEC61 SERIES**ELECTRONIC
EXPANSION VALVE
CONTROLLER**

Electronic Expansion Valve Controller SEC61 series is the controller with enhanced features for the refrigeration applications, A/C and HP applications.

**FEATURES**

- 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.

GENERAL SPECIFICATIONS

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

ELECTRICAL PARAMETERS

- Power supply:
 - 24Vac +10%/-15%, 50/60Hz (SEC611 & SEC613 only)
 - 24Vdc+10%/-15% (Suitable for all the SEC models)
 - Class II
- Requested transformer: ≥ 15VA
- Inputs: 1 Pressure sensor input
1 Temperature sensor input
1 Communicationinput (RS485 Modbus)
- Output: 1 Auxiliary relay output (30Vdc/3A)
1 EEV output (12V DC±10%), rectangular wave



MODEL DESIGNATION LEGEND

NO.				Model Designation Legend
1	2	3	4	
SEC	6	11	R4	SANHUA electronic Expansion valve Controller
SEC	6	11	R4	Digital means the sixth-generation product
SEC	6	11	R4	Odd means voltage P-sensor, even means current type
SEC	6	11	R4	R4 means with RS485 modbus communication

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), R744(N2O), R32, R245fa, R23, R407A, R407F, R124, R717, R407H, R454C, R455A.

All the models get a RS485 port for communication.

NO.	Item	Model	Part Number	Details		
				Item	Qty.	
1	Controller Package ¹⁾	SEC611-R4	10680001002	Voltage pressure sensor	°C/Bar	1
		SEC613-R4	10680001202		°F/Psi	1
		SEC612-R4	10680001102	Current pressure sensor	°C/Bar	1
		SEC614-R4	10680001302		°F/Psi	1
2	Temp. Sensor ²⁾	NTC2A1	10665000102	2m Temp. Sensor		
3		NTC5A1	10665000202	5m Temp. Sensor		
4		NTC9A1	10665000402	9m Temp. Sensor		
6	Pressure Sensor ³⁾	YCQB02H01-1	10185001502	Ratio with Solder connection, 2m cable length		
7		YCQB02L12-1	10185015502	Ratio with Thread connection, 2m cable length		
8		YCQB02H18-1	10185015402	Ratio with Solder connection, 4.9m cable length		
9		YCQB02L28-1	10185015602	Ratio with Thread connection, 4.9m cable length		
10		YCQC02L18	10185017102	Current with Thread connection, Packard connection		
11	Packard cable	YCQC02-013038	20185051202	5m cable length		
12		YCQC02-013039	20185051302	9m cable length		

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

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

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TEMPERATURE SENSOR

Item	Description	
Temperature Sensor	Type	NTC 5KΩ
	Wire	2C×0.5mm ²
	Protection class	IP 67
	Accuracy	±0.3°C (below 25°C)
	Temperature Range	-50 ~ 50°C
	Electrical connector	JST-XHP connector

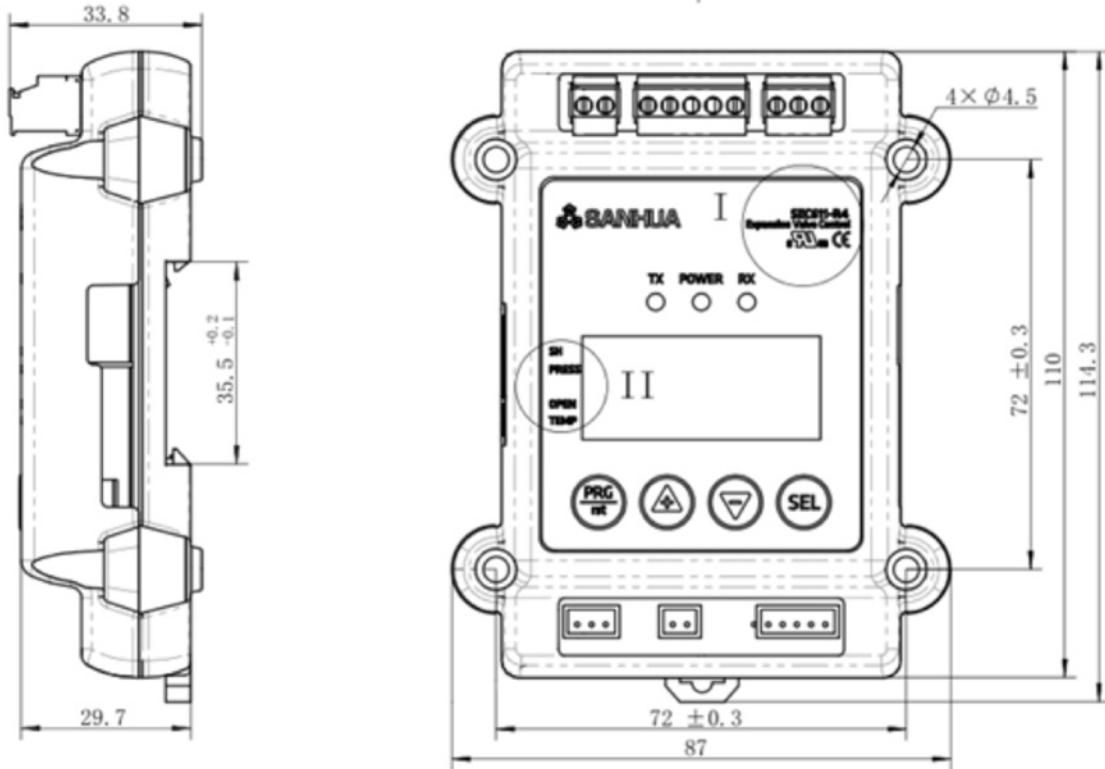
PRESSURE SENSORS

Item	Description		
Pressure sensor	Voltage supply	YCQB: 5±0.25 Vdc YCQC: 10-30 Vdc	
	Output	YCQB: 0.5~3.5 Vdc YCQC: 4-20mA	
	Pressure range	0~20 Bar -1~12 Bar	
	Test Pressure	52.5Bar	
	Accuracy	±0.8% F.S. (-40~40°C)	
	Protection class	IP 67	
	Connection Type	Solder 1/4" Thread SAE - 1/4" 7/16-20UNF	
	Electrical connector	JST-XHP connector Packard connector	

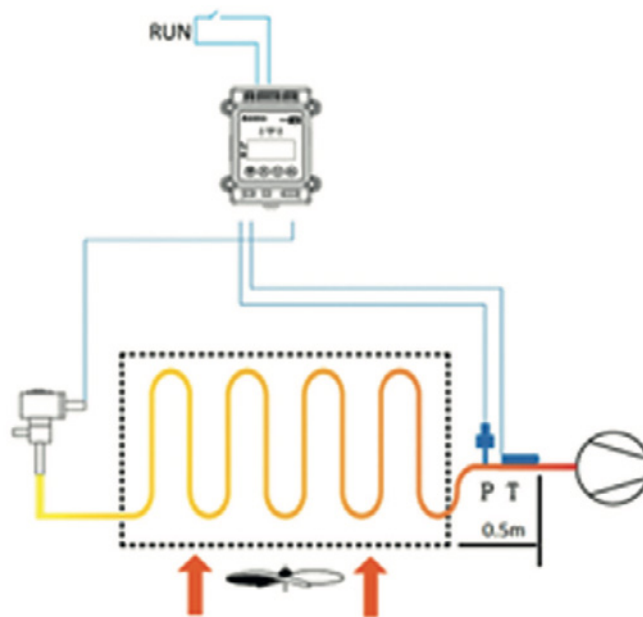
ELECTRONIC EXPANSION VALVE CONTROLLER



DIMENSIONS AND INSTALLATION



INSTALLATION DIAGRAM





ACCESSORIES

Transformer

Item	Description		
Transformer	Supply Voltage	100 ~ 240 VAC	
	Output Voltage	From 21.6 to 29V, Set at 24 VDC	
	Output current	0.63 A for TM01 1.5 A for TM02	
	Operating Temperature	-30 ~ +70°C	
	Mounting	DIN 35mm	

Model	Part Number	Output current	Code reported on the product label
TM01	20680008002	0.63 A	HDR 15
TM02	20680008102	1.5 A	HDR 30



Supercapacitor

Item	Description	
Supercapacitor	Power supply	24Vac +10%/-15%, 50/60Hz 24Vdc+10%/-15%, Class II
	Protection Level	IP20
	Mounting	DIN 35mm
	Weight	171 g

Model	Part Number
SP01	10680001702