

Comparison Table

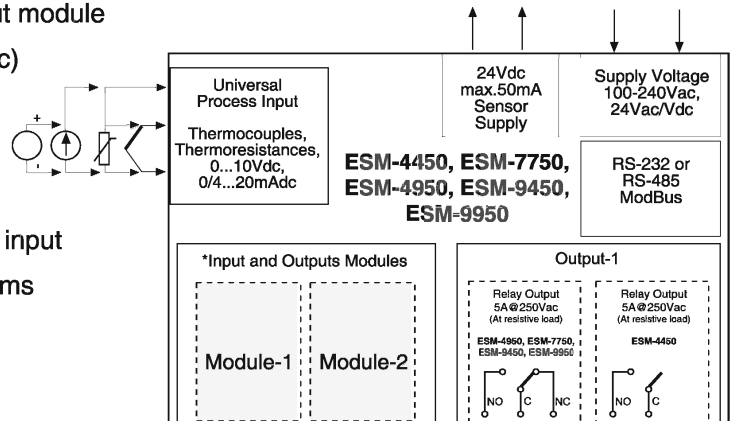
Order Code		ESM-4450	ESM-4950	ESM-7750	ESM-8450	ESM-9950	ESM-4430	ESM-4930	ESM-7730	ESM-9430	ESM-9930	ESM-4435	ESM-4400	ESM-4900	ESM-7700	ESM-8900	ESM-3700
A	BC	D	E	/	FG	HI	/	U	V	W	Z						
	20	1	/	/				0	0	0	0						
A Supply Voltage																	
1	100...240Vac (-%15, +%10) 50/60Hz																
2	24Vdc/Vac (-%15, +%15) 50/60Hz																
3	24Vac (-%15, +%15) 50/60Hz																
4	115Vac (-%15, +%15) 50/60Hz																
5	230Vac (-%15, +%15) 50/60Hz																
9	48Vdc (-%15, +%10) 50/60Hz																
BC Input Type																	
20	Configurable Universal inputs																
D Serial Communication																	
0	None																
1	RS-232 ModBus RTU																
2	RS-485 ModBus RTU																
E Process Output																	
0	None																
1	Relay Output (At resistive load 5A@250Vac)																
2	SSR Driver Output (Max. 20mA@12Vdc)																
FG Input/Output Modules-1																	
00	None																
01	Relay Output																
02	SSR Driver Output (Max. 20mA@12Vdc)																
03	Transistor Output (Max. 40mA@18Vdc)																
04	Analogue Output (0/4...20mA or 0...10Vdc)																
07	Digital Input																
08	Analogue Input (0/4...20mA)																
09	CT Input Module (0...5Aac)																
10	Thermocouple Input (0...50mVdc)																
11	Pt-100 Input																
12	Analogue Input (0...10Vdc)																
HI Input/Output Module-2																	
00	None																
01	Relay Output																
02	SSR Driver Output (Max. 20mA@12Vdc)																
03	Transistor Output (Max. 40mA@18Vdc)																
04	Analogue Output (0/4...20mA or 0...10Vdc)																
07	Digital Input																
08	Analogue Input (0/4...20mA)																
09	CT Input Module (0...5Aac)																
10	Thermocouple Input (0...50mVdc)																
11	Pt-100 Input																
12	Analogue Input (0...10Vdc)																
Specifications																	
	"Smart I/O Module" system																
	"Smart Output Module" system																
	Universal process (TC, RTD, mVdc, Vdc, mA) input																
	Bumpless transfer																
	Motorized valve control function																
	8 steps profile control																
	Remote Set point function																
	Re-transmission function																
	Detection of heater failure by CT input module																
Dimension																	
	77x35mm DIN																
	48x48mm DIN 1/16																
	96x48mm DIN 1/8																
	72x72mm DIN																
	48x96mm DIN 1/8																
	96x96mm DIN 1/4																



“Smart I/O Module” System
RS-232/485 Modbus RTU
Serial Communication
Process Controller



- 4 digits process (PV) and 4 digits set (SV) display
- Programmable heating, cooling and alarm functions for control outputs
- 8 steps profile control (Ramp & Soak) function and start-hold-stop by using logic input module
- Re-transmission of process value or process control by using 0/4...20 mAdc Current Output Module
- Detection of heater failure by using 0...5Aac CT input module
- Universal process input (TC, RTD, mVdc, Vdc, mAdc)
- Auto-tune and Self-tune PID
- Bumpless transfer
- Motorized valve control function
- Dual or multi point calibration for dc Voltage/Current input
- Configurable ON/OFF, P, PI, PD and PID control forms



* Input and output modules can be mounted each modules sockets.
* Two input modules can be not be plugged in Module-1 and Module-2 socket at the same time

Specifications

Input

Universal Input: TC, RTD, dc Voltage/Current
Thermocouple (TC): L(DIN 43710), J, K, R, S, T, B, E and N (IEC584.1)(ITS90), C (ITS90)
Thermoresistance (RTD): PT-100 (IEC751)(ITS90)

Output

Standard Relay Output: 5A@250Vac (at resistive load)

Measurement Range

Accuracy: $\pm 0.25\%$ of full scale for thermocouple, thermoresistance, mV, V $\pm 0.70\%$ of full scale for mA input
Cold Junction Compensation: Automatically $\pm 0.1^\circ\text{C}/1^\circ\text{C}$
Line Compensation: Maximum 10 Ohm
Sensor Break Protection: Upscale
Sampling Cycle: 3 samples per second
Input Filter: 0.0 to 900.0 seconds

Input/Output Modules

Two Input / Output Modules can be plugged in sockets.
Output Modules: Relay Output Module, SSR Output Module (Max.20mA @18Vdc), Digital(Transistor) Output Module (Max.40 mA @18Vdc), 0/4...20 mAdc Current Output Module
Input Modules: Digital Input Module, 0/4...20 mAdc Current Input Module, 0...5Aac CT Input Module, TC or 0...50mVdc Input Module, PT-100 Input Module, 0...10Vac Input Module

Supply Voltage

100-240Vac 50/60 Hz (-15%;+10%) -6VA Universal
24Vac 50/60 Hz (-15%;+10%) -6VA Optional
24Vdc (-15% ; +10%) -6W Optional
(Must be determined in order)