DISAI

Temperature Controllers

CE PG

ESM-4410
ESM-7710
ESM-9910
Digital ON/OFF Temperature Controller

ESM-4420
ESM-7720
ESM-9920
PID Temperature Controller

ESM-1510
Rail Panel Montage Type ON/OFF Temperature Controller

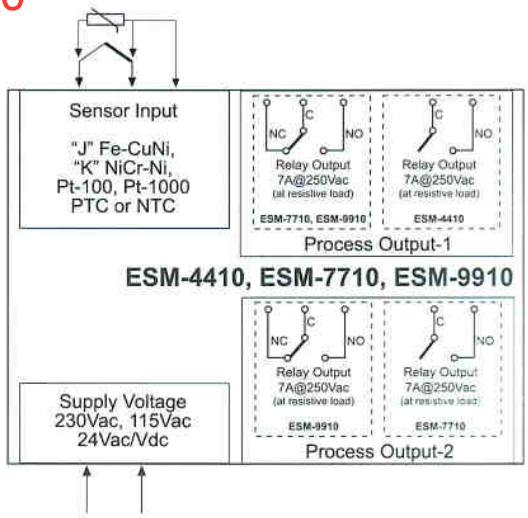
- Heating / Cooling applications
- Easy to Use
- PTC, NTC, Pt-100, Pt-1000 thermoresistance input types
- Fe-Const (J), NiCr-Ni (K), PtRh-Pt (R, S), Cu-CuNi (T) thermocouple input types
- ON / OFF, P, PI, PD, PID Temperature control
- Adjustable temperature Offset
- Selection of Operation with Hysteresis
- Set value Boundaries
- Selectable Relay or SSR driver outputs
- Adaptation of PID Coefficients to the system with Self -Tune operation
- Selectable alarm functions
- Compressor protection delays
- Password protection for programming mode

EMKO

ESM-4410, ESM-7710, ESM-9910

Digital ON/OFF Temperature Controller

- ON/OFF tempareture control
- Selectable heating and cooling function
- Adjustable temperature offset
- Operating type selection with hysteresis
- Minimum pulling time adjustment for control outputs
- 3 Digits display
- One or dual SET temperature control (It can be described in order)
- Password Protection for Programming Section
- Fe-Const (J), NiCr-Ni (K) thermocouple input selection
- PTC, NTC, Pt-100, Pt-1000 thermoresistances input selection



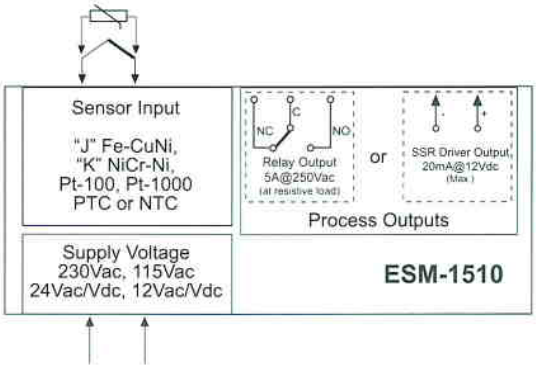
Specification

Measurement Range	: It is ordering information
Accuracy	: +/-%1 of scale
Cold Junction Compensation	: Automatically +/- 0.1°C / 1°C
Sensor Break Protection	: Upscale
Sampling Cycle	: 3 samples per second
Control Output	: ON/OFF
ON/OFF Hysteresis	: It can be configured by the user
Operation Temperature	: 0...50°C
Humidity	: %0-90RH (none condensing)
Protection Class	: IP65 at front , IP20 at rear
Dimension	: ESM-4410 48x48mm, depth: 95mm,
	ESM-7710 72x72mm, depth: 95,5mm,
	ESM-9910 96x96mm, depth: 96mm,
	ESM-1510 86x35mm, depth: 59mm.

ESM-1510

Digital ON/OFF Temperature Controller

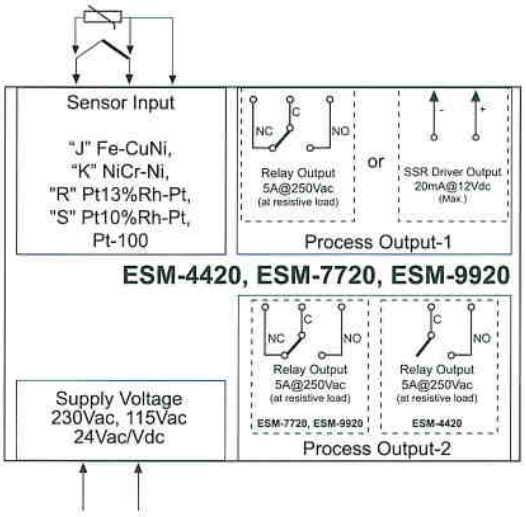
- ON/OFF temperature control
- Selectable heating and cooling function
- Fe-Const (J), NiCr-Ni (K) thermocouple input selection
- PTC, NTC, Pt-100, Pt-1000 thermoresistances input selection
- Adjustment of temperature offset value
- Operating type selection with hysteresis
- DIN RAIL mounting
- 3 digits display
- Password Protection for Programming Section



ESM-4420, ESM-7720, ESM-9920

PID Temperature Controller

- ON/OFF, P, PI, PD or PID control forms
- Programmable Heating or Cooling functions for control outputs
- Adaptation of PID coefficients to the system with Self-Tune operation
- Universal Thermocouple and thermoresistances process input
- Relay or SSR driver outputs selection for process output
- Accurate temperature control with PID functions
- Optimal power consumption by PID control methode
- Alarm functions for alarm output
- 4 digits process and 4 digits SET value display
- °C or °F temperature indicating
- High and low limit boundaries for Process and Alarm SET values
- Adjustable hysteresis value for Process and Alarm output
- Adjustable Off/On delay time for alarm output
- Password Protection for Programming Section



Specification

Measurement Range	: It is in ordering information
Accuracy	: ±%0,25 of scale
Cold Junction Compensation	: Automatically +/- 0.1°C / 1°C
Sensor Break Protection	: Upscale
Sampling Cycle	: 3 samples per second
Control Output	: ON/OFF, P, PI, PD or PID
ON/OFF Hysteresis	: It can be configured by the user
Operation Temperature	: 0...50°C
Humidity	: %0-90RH (none condensing)
Protection Class	: IP65 at front , IP20 at rear
Dimension	: ESM-4420 48x48mm, depth: 95mm,
	ESM-7720 72x72mm, depth: 95,5mm,
	ESM-9920 96x96mm, depth: 96mm,

Input type	Range (°C)	Range (°F)
J, Fe-CuNi IEC584.1 (ITS90)	-200...900°C	-328...1652°F
K, NiCr-Ni IEC584.1 (ITS90)	-200...1300°C	-328...2372°F
R, Pt13%Rh Pt IEC584.1 (ITS90)	0...1700°C	32...3092°F
S, Pt10%Rh Pt IEC584.1 (ITS90)	0...1700°C	32...3092°F
T, Cu-CuNi IEC584.1 (ITS90)	-200...400°C	-328...752°F
Pt-100, IEC751 (ITS90)	-200...650°C	-328...1202°F
Pt-100, IEC751 (ITS90)	-199,9...650,0°C	-199,9...999,9°F

Order Code		ESM-4410	ESM-7710	ESM-9910	ESM-4420	ESM-7720	ESM-9920	ESM-1510
A BC D E / FG H1 / U V W Z								
[ ] [ ] 0 [ ] / [ ] 00 / 1 [ ] 0 0								
A	Supply Voltage							
2	24Vac/Vdc (-%15, +%10) 50/60Hz	+	+	+	+	+	+	+
3	24Vac (-%15, -%15) 50/60Hz	+	+	+	+	+	+	+
4	115Vac (-%15, -%15) 50/60Hz	+	+	+	+	+	+	+
5	230Vac (-%15, -%15) 50/60Hz	+	+	+	+	+	+	+
6	12Vac/Vdc (-%15, -%15) 50/60Hz	-	-	-	-	-	-	+
BC	Input Type							
20	Universal (Thermocouple or Thermoresistance)	-	-	-	+	+	+	-
05	J, Fe-CuNi, 0...800 °C	+	+	+				+
10	K, NiCr-Ni, 0...999 °C	+	+	+				+
03	Pt-100, 0...400 °C	+	+	+				+
09	Pt-100, -19.9...99.9 °C	+	+	+				+
12	PTC, -50...150 °C	+	+	+	-	-	-	+
15	PTC, -19.9...99.9 °C	+	+	+	-	-	-	+
14	Pt-1000, -50...400 °C	+	+	+	-	-	-	+
13	Pt-1000, -19.9...99.9 °C	+	+	+	-	-	-	+
18	NTC, -50...100 °C	+	+	+	-	-	-	+
19	NTC, -19.9...99.9 °C	+	+	+	-	-	-	+
E	Output-1							
1	Relay Output	+	+	+	+	+	+	+
2	SSR Driver Output (max. 20mA@12Vdc)	-	-	-	+	+	+	+
FG	Output-2							
01	Relay Output	-	+	+	+	+	+	-
V	PTC and NTC Temperature Sensor Selections							
0	Without Sensor	+	+	+	+	+	+	+
1	PTC-M6L40.K1,5 PTC Air probe 1,5 m silicon cable	+	+	+	-	-	-	+
2	PTCS-M6L30.K1,5.1/8" PTC Liquid probe with 1,5 m silicon cable, 1/8" fittingnut	+	+	+	-	-	-	+
3	NTC-M5L20.K1,5 Thermoplastic covering for cooling application 1,5 m cable NTC probe	+	+	+	-	-	-	+
4	NTC-M6L50.K1,5 Metal protection tube, 1,5 m cable NTC probe	+	+	+	-	-	-	+
Specifications								
Dimension		48x48mm	72x72mm	96x96mm	48x48mm	72x72mm	96x96mm	DIN Rail
Password protection for programming mode		+	+	+	+	+	+	+
Set value boundaries		-	-	-	+	+	+	+
Adjustable temperature offset		+	+	+	+	+	+	+
ON/OFF Temperature control		+	+	+	+	+	+	+
Adjustable P, PD, PI and PID Control forms		-	-	-	+	+	+	-
Adjustable Compressor delay times		-	-	-	-	-	-	+
Alarm functions for alarm output		-	-	-	+	+	+	-
Adaptation of PID coefficients to the system with Self-Tune operation		-	-	-	+	+	+	-
Universal Thermocouple and thermoresistances process input		-	-	-	+	+	+	-
Programmable Heating or Cooling functions for control outputs		+	+	+	+	+	+	+
Adjustable hysteresis value		+	+	+	+	+	+	+
Adjustable re-activation time for control outputs		+	+	+	-	-	-	-
Process display		3 digits	3 digits	3 digits	4 digits	4 digits	4 digits	3 digits
SET display		-	-	-	4 digits	4 digits	4 digits	-