



## Digital ON / OFF Temperature Controllers

**ESM-4410** (48x48mm DIN 1/16)

**ESM-7710** (72x72mm DIN 1/8)

**ESM-9910** (96x96mm DIN 1/4)



- 3 Digits display
- PTC Input or
- J type thermocouple or  
K type thermocouple or  
PT-100 2-wires or 3-wires temperature input
- ON/OFF control form
- Selectable heating and cooling function
- Operating type selection with hysteresis
- Adjustment of temperature offset value
- Minimum Pulling Time Adjustment for Control Outputs

ESM-XX10 series temperature controllers are designed for measuring and controlling temperature. They can be used in many applications with On/Off control form and heating and cooling selection. They are mainly used in glass, plastic, petro-chemistry, textile, automotive, machine production industries.

### SPECIFICATIONS

#### INPUT

**PTC:** PTC (1000Ω@25°C)

**Thermocouple (TC):** J, K (IEC 584.1) (ITS90)

**Thermoresistance (RTD):** 2 or 3-wire Pt-100 (IEC 751) (ITS90)

**Measurement Range:** It is in ordering information

**Accuracy:** ± 1% of full scale

**Cold Junction Compensation:** Automatically ± 0.1°C/1°C

**Sensor Break Protection:** Upscale

**Sampling Cycle:** 3 samples per second

## CONTROL

**Control Form:** ON/OFF

**ON/OFF hysteresis:** Two control outputs can be configured.

## OUTPUT

**Control Output:**

1 relay output in

ESM-4410-A.BC.0.1/00.00

ESM-7710-A.BC.0.1/00.00

ESM-9910-A.BC.0.1/00.00 models

Output (7A@250V~)

2 relays output in

ESM-7710-A.BC.0.1/01.00

ESM-9910-A.BC.0.1/01.00 models

Output-1 (7A@250V~), Output-2 (7A@250V~)

Relay Outputs that are on the device can be used as process control or alarm output.

## SUPPLY VOLTAGE

230V~(±15%) 50/60 Hz - 3VA

115V~(±15%) 50/60 Hz - 3VA

24V~(±15%) 50/60 Hz - 3VA

(Must be determined in order)

## ENVIRONMENTAL RATINGS and PHYSICAL SPECIFICATIONS

**Operating Temperature:** 0...50°C

**Humidity:** 0-90%RH (none condensing)

**Protection Class:** IP65 at front, IP20 at rear

**Dimensions:**

ESM-4410 : 48 x 48mm, Depth:95 mm

ESM-7710 : 72 x 72mm, Depth:95.5 mm

ESM-9910 : 96 x 96mm, Depth:96 mm

## Electrical Wiring

## Ordering Information

<b>ESM-4410</b> (48x48 DIN 1/16)	A	BC	D	E	/	FG	HI	/	U	V	W	Z
<b>ESM-7710</b> (72x72 DIN Size)												
<b>ESM-9910</b> (96x96 DIN 1/4)			0	1	/		00	/	1		0	0

A	Supply Voltage
3	24V ~ ( ± 15% ) 50/60Hz
4	115V ~ ( ± 15% ) 50/60Hz
5	230V ~ ( ± 15% ) 50/60Hz
9	Customer

BC	Input Type	Scale(°C)	
12	PTC (Note-1)	-50°C	150°C
15	PTC (Note-1)	-19.9°C	99.9°C
09	PT 100 , IEC751(ITS90)	-19.9°C	99.9°C
03	PT 100 , IEC751(ITS90)	0°C	400°C
05	J ,Fe CuNi IEC584.1(ITS90)	0°C	800°C
10	K ,NiCr Ni IEC584.1(ITS90)	0°C	999°C

**Note-1 :** If input type is selected PTC ( BC=12 or BC=15 ), PTC Temperature sensor is given with the device. For this reason PTC sensor type (V) must be determined in ordering information.

E	Output-1
1	Relay Output (7A@250V ~ at resistive load, 1 NO + 1NC)

FG	Output-2 (Output-2 doesn't exist in ESM-4410)
01	Relay Output (7A@250V ~ at resistive load, 1 NO + 1NC)

**Note-2 :** Output-1's rating is 7A@250V ~ ,1 NO in ESM-4410

**Note-3 :** Output-2's rating is 7A@250V ~ ,1 NO in ESM-7710

V	Temperature Sensor that is given with ESM-XX10
0	None
1	PTC-M6L50.K1.5 (PTC Air probe with 1.5mt silicon cable)
2	PTCS-M6L30.K1.5.1/8" (PTC liquid probe with 1.5mt silicon cable)
9	Customer

