



## Analogue Scale Temperature Controller With 4 Digits Indicator

**ESD-7750** (72x72mm DIN 1/8)

**ESD-9950** (96x96mm DIN 1/4)



## Analogue Scale Temperature Controller

**ES-7750** (72x72mm DIN 1/8)

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ESD and ES series control units can be used with reliability for controlling the temperature. They can be used in many applications via their configurable properties. They are mainly used in glass, plastic, petro-chemistry, textile, automotive, machine production industries.

### SPECIFICATIONS

#### INPUT

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

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

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

**Accuracy:** For (ESD-7750 and ESD-9950)  $\pm 1\%$  of full scale

For (ES-7750 and ES-9950)  $\pm 1\%$  of full scale

Cold Junction Compensation: Automatically  $\pm 0.1^\circ\text{C}/1^\circ\text{C}$

**Sampling Cycle:** 3 samples per second

**Sensor Break Protection:** Upscale

#### CONTROL

##### Control Form:

ON/OFF or P(Time Proportional) can be selected for ESD-7750, ESD-9950

ON/OFF for ES-7750 and ES-9950.

##### Proportional Band:

Adjustable, maximum 30% of full scale for ESD-7750, ESD-9950

##### ON/OFF hysteresis:

It can be adjusted 0.25%, 0.5%, 1% ve 2% of full scale with DIP switch for ESD-7750, ESD-9950.

It can be adjusted 1% and 2% of full scale for

ES-7750 and ES-9950.

## Supply Voltage:

230V $\sim$ ( $\pm 15\%$ ) 50/60 Hz - 4VA  
 115V $\sim$ ( $\pm 15\%$ ) 50/60 Hz - 4VA  
 24V $\sim$ ( $\pm 15\%$ ) 50/60 Hz - 4VA  
 (It must be determined in order)

## Control Period:

For ESD-7750, ESD-9950 ;  
 1 second (Only SSR output is active),  
 5 second (SSR and Relay output is active),  
 10 second (SSR and Relay output is active) and  
 20 second (SSR and Relay output is active) can be  
 selected with DIP switch.

## OUTPUT

### Control Output:

Relay(5A@250V $\sim$ ) and SSR driver output  
 (Maximum 50mA@18V $\sim$ )  
 in ESD-7750, ESD-9950.  
 Relay output (5A@250V $\sim$ ) in ES-7750 and ES-9950.

## ADJUSTMENT

**Set point:** It can be set with single tour potentiometer from front panel.  
**Set Offset:** Adjustable on front panel, max.  $\pm 20\%$  of full scale.  
 (Set offset exists in ESD-7750 and ESD-9950 devices)  
 Resolution of Set Point:  $\pm 0.2\%$  FS  
 Accuracy of Set Point:  $\pm 1\%$  FS

## ENVIRONMENTAL RATINGS and PHYSICAL SPECIFICATIONS

**Operating Temperature:** 0...50°C  
**Humidity:** 0-90%RH (non-condensing)  
**Protection Class:** IP65 from front panel, Ip20 from rear  
**Dimensions:**  
 For ES-7750, ESD-7750  
 72 x 72mm, Depth: 104 mm  
 For ES-9950, ESD-9950  
 96 x 96mm, Depth: 100 mm

## ORDERING INFORMATION

ES-7750 (72x72 DIN Size)	A	BC	D	E	/	FG	HI	/	U	V	W	Z
ES-9950 (96x96 1/4 DIN)												
ESD-7750 (72x72 DIN Size)					/	00	00	/				
ESD-9950 (96x96 1/4 DIN)												

A	Supply Voltage
3	24V $\sim$ $\pm 15\%$ 50/60 Hz
4	115V $\sim$ $\pm 15\%$ 50/60 Hz
5	230V $\sim$ $\pm 15\%$ 50/60 Hz
9	Customer

BC	Input Type	Scale
01	PT 100, IEC751(ITS90)	-100.0 °C 100.0 °C
02	PT 100, IEC751(ITS90)	0.0 °C 200.0 °C
03	PT 100, IEC751(ITS90)	0 °C 400 °C
04	J,Fe CuNi IEC584.1(ITS90)	0 °C 400 °C
05	J,Fe CuNi IEC584.1(ITS90)	0 °C 800 °C
06	K ,NiCr Ni IEC584.1(ITS90)	0 °C 1200 °C
07	S ,Pt10%Rh Pt IEC584.1(ITS90)	0 °C 1600 °C
08	R ,Pt13%Rh Pt IEC584.1(ITS90)	0 °C 1600 °C

### For ES-7750 and ES-9950

E	Output-1
1	Relay Output

### For ES-7750 and ES-9950

U	Hysteresis Adjustment
2	1% of full scale
3	2% of full scale

### For ES-7750 and ES-9950

V	Control Period
0	It is not used

### For ESD-7750, and ESD-9950

E	Output-1
6	Relay & SSR Driver Output (Configurable)

### ESD-7750 ve ESD-9950

U	Hysteresis Adjustment
0	0.25% of full scale
1	0.5% of full scale
2	1% of full scale
3	2% of full scale

### For ESD-7750, and ESD-9950

V	Control Period
1	1 Second SSR Driver Output
2	5 Seconds SSR Driver and Relay Output
3	10 Seconds SSR Driver and Relay Output
4	20 Seconds SSR Driver and Relay Output

## ELECTRICAL WIRING

