



## Heating Controller (SET + ALARM)



### ESM-3712-H

- Heating Applications
- Economic
- Easy to Use
- Functional Internal Buzzer
- Alarm Output
- 3 Digits Display
- PTC Input or  
J Type Thermocouple Input or  
K Type Thermocouple Input or  
2-wire Pt-100 Input or  
2-wire Pt-1000 Input (It must be determined in order)
- ON/OFF Control
- Adjustable Temperature Offset
- Temperature Control Output and Alarm Output
- Process and Alarm Set Values Boundaries
- Relay or SSR Driver Output
- Digital Input (Cooking time start/stop input)
- Heating Function
- Adjustable Cooking Time from Front Panel
- Temperature Control according to the Cooking Time
- Starting Cooking Time when Temperature reaches to the Set Value
- Temperature Control with Manual Heating Function
- Alarm Parameters
- Adjustable Internal Buzzer According to cooking time,  
Probe Defect and Alarm Status
- Button Protection
- Password Protection for Programming Section

#### SPECIFICATIONS

##### INPUT

PTC: PTC (1000Ω@ 25°C)

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

Thermoresistance (RTD): 2-wire Pt-100, Pt-1000 (IEC 751)(ITS90)

**Measurement Range:** It is in 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

**Control Form:** ON/OFF

**ON/OFF hysteresis:** It can be configured by the user

## OUTPUT

### Process Output:

Relay (10A@250V~ at resistive load) or  
SSR Driver Output (Maximum 10mA@24V=)

### Alarm Output:

Relay (5A@250V~ at resistive load) or  
SSR Driver Output (Maximum 10mA@24V=)

### Supply Voltage:

24V~ (-%15, +%10) 50/60 Hz -1.5 VA  
(It 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

**Dimension:**

ESM-3712-H : 77 x 35 mm, Depth : 62.5 mm

## Ordering Information

|                                |   |    |   |   |   |    |    |   |   |   |   |   |
|--------------------------------|---|----|---|---|---|----|----|---|---|---|---|---|
| ESM-3712-H (77x35 DIN Boyutlu) | A | BC | D | E | / | FG | HI | / | U | V | W | Z |
|                                |   |    | 0 | / |   | 00 | /  | 1 |   | 0 | 0 |   |

| A | Supply Voltage            |
|---|---------------------------|
| 2 | 24V~ (-%15, +%10) 50/60Hz |

| BC | Input Type                 | Scale(°C)      |
|----|----------------------------|----------------|
| 05 | J, Fe CuNi IEC584.1(ITS90) | 0°C 800°C      |
| 10 | K, NiCr Ni IEC584.1(ITS90) | 0°C 999°C      |
| 11 | PT 100, IEC751(ITS90)      | -50°C 400°C    |
| 09 | PT 100, IEC751(ITS90)      | -19.9°C 99.9°C |
| 12 | PTC (Note-1)               | -50°C 150°C    |
| 15 | PTC (Note-1)               | -19.9°C 99.9°C |
| 14 | PT 1000, IEC751(ITS90)     | -50°C 400°C    |
| 13 | PT 1000, IEC751(ITS90)     | -19.9°C 99.9°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 declared in ordering information.

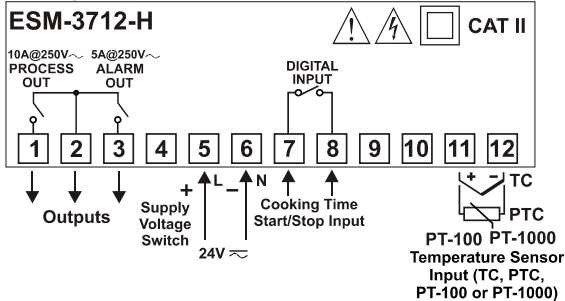
| E | Process Output                                    |
|---|---|
| 1 | Relay Output (10A@250V~ at resistive load, 1 NO ) |
| 2 | SSR Driver Output (Maximum 10mA@ 24V =)           |

| FG | Alarm Output                                     |
|----|--|
| 01 | Relay Output (5A@250V~ at resistive load, 1 NO ) |
| 02 | SSR Driver Output (Maximum 10mA@ 24V =)          |

| V | Temp.Sensor which is given with ESM-3712-H                      |
|---|---|
| 0 | None  |
| 1 | PTC-M6L50.K1.5(PTC Air probe with 1.5 m silicon cable)          |
| 2 | PTCS-M6L30.K1.5.1/8"(PTC Liquid probe with 1.5 m silicon cable) |
| 9 | Customer  |

## Electrical Wiring

For Relay Output Devices;



For SSR Driver Output Devices;

