

E-49 SERIES DIGITAL INDICATING CONTROLLERS



DESCRIPTION

E-49 Series controllers are designed using new generation micro-controllers for on/off and PID control. The unit has dimensions of 48x96 mm, conforming IEC/TR 60668.

E-49 Series have a 2x4 digits LED display range between -1999 and +9999, configurable universal inputs (T/C, R/T, mV, mA) with 16 bit resolution, low calibration drifts with environmental conditions.

E-49 Series controllers have easy programming facilities to provide on/off and PID forms and are used in every field of industry for measurement and control of temperature, pressure, level, current, voltage, resistance and other process parameters in industries such as iron & steel, cement, plastic, chemistry, metallurgy, petrochemical plants, refineries, ceramic, glass and others.

FEATURES

| | |
|------------------------|--|
| Set Adjustment | Between span limits |
| Contact Forms | Low (LO), High (HI) Lob, Hlb, Lod, Hld |
| Dead Band (Hysteresis) | 0-999.9 (EU)* |
| Resolution | 0.1 or 1 |
| Proportional Band (Pb) | 0.1-999.9 (EU)* |
| Integral Time (It) | 0-9999 seconds |
| Derivative Time (Dt) | 0-2500 seconds |
| Bias | %0-100 |
| Control Form | On / Off, PID |
| Control Outputs | 0-20 mA, 4-20 mA, 0-10 V DC NA Contact, SSR |

* (EU) °C for the thermocouples and resistance thermometer inputs for the linear inputs, same with the units which is controlled. Decimal point can be determined by parameter of dP.

TECHNICAL SPECIFICATIONS

| | |
|-----------------------|---|
| Accuracy Class | 0.5 |
| Display Resolution | 1/9999 |
| Display | 2x4 Digit LED (10 mm) |
| A/D Conversion | 16 bit |
| D/A Conversion | 12 bit |
| Reading Speed | 2 readings / second |
| Input Resistance | T/C, mV $\geq 1 \text{ M}\Omega$ mA, $\leq 51 \Omega$ |
| Noise Suppression | 120 dB 50 Hz |
| Operating Temperature | -10 ... 55°C |
| Temperature Comp. | 0 ... 50°C |
| Power Supply | 85-265 V AC / 85-375 V DC 20-60 V AC / 20-85 V DC |
| Power Consumption | Max. 7 W |
| Relay Output | NA Contact 250 V AC 5 A |
| Input Signal | T/C, R/T, mA, mV |
| Sensors | Thermocouple Resistance Thermometer Others = Standard and non-standard transmitters and converters |
| Memory | EEPROM max. 10^5 writing |
| Protection Class | Front panel IP66 (NEMA 4X) Rear panel IP20 |
| Weight | 220 gr |



- This controller complies with the European Low Voltage Directive 2006/95/EC, by the application of safety standard TS EN 61010-1. (Pollution degree 2)
- This controller complies with the EMC Directive 2004/108/EC by the application of EMC standard TS EN 61326.

STANDARD WORKING LIMITS

| Inputs | Type | Min. | Max. |
|----------------|---------|--------|--------|
| Cu-Const | Type-U* | -200°C | 600°C |
| Cu-Const | Type-T | -200°C | 400°C |
| Fe-Const | Type-L* | -200°C | 900°C |
| Fe-Const | Type-J | -200°C | 1100°C |
| NiCr-Ni | Type-K | -200°C | 1300°C |
| Cr-Const | Type-E | -200°C | 800°C |
| Nicrosil-Nisil | Type-N | -200°C | 1300°C |

| Inputs | Type | Min. | Max. |
|------------|----------------|------------|-----------|
| Pt%10Rh-Pt | Type-S | 0°C | 1760°C |
| Pt%13Rh-Pt | Type-R | 0°C | 1760°C |
| Pt%18Rh-Pt | Type-B | 60°C | 1800°C |
| Pt-100 | $\alpha=0.385$ | -200°C | 840°C |
| mV | 0-1000 mV | -1999 unit | 9999 unit |
| mA | 0-20 / 4-20 mA | -1999 unit | 9999 unit |

* DIN 43710 standards, others conform to IEC 60584-1. E-49 Series instruments are general purpose and can be configured according to the application.

ORDERING GUIDE

E-49 Series Controllers

E-49 - W - X - Y - Z

Standard Features

- Programlanabilen üniversal girişler
- Programlanabilen üniversal çıkışlar
- Transmitter besleme çıkışı 24 V DC
- Harici Set değeri girişi (external)
- Motorised valve feedback input
- Heat / cool
- Auto-tune
- Configurable by the customer

Relay Outputs

| | |
|---|---|
| 2 relay (RL1, RL2) | 2 |
| 3 relay (RL1, RL2, RL3) | 3 |
| 4 relay (RL1, RL2, RL3, RL4) | 4 |
| 1 SSR (SSR1) + 1 relay (RL2) | 5 |
| 1 SSR (SSR1) + 2 relay (RL2, RL3) | 6 |
| 1 SSR (SSR1) + 3 relay (RL2, RL3, RL4) | 7 |
| 2 SSR (SSR1, SSR2) + 1 relay (RL3) | 8 |
| 2 SSR (SSR1, SSR2) + 2 relay (RL3, RL4) | 9 |

Analog Outputs

| | |
|----------------------------------|---|
| None | 0 |
| 1 x 0-20 mA / 4-20 mA (AO1) | 1 |
| 2 x 0-20 mA / 4-20 mA (AO1, AO2) | 2 |
| 1 x 0-10 V DC (AO1) | 3 |
| 2 x 0-10 V DC (AO1, AO2) | 4 |

Communication

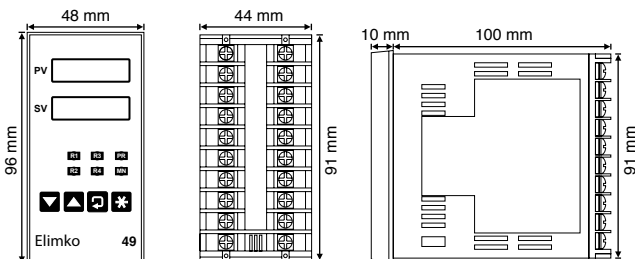
| | |
|-----------------|---|
| None | 0 |
| RS485 Modbus ** | 1 |

Power Supply

| | |
|---------------------------|---|
| 85-265 V AC / 85-375 V DC | 0 |
| 20-60 V AC / 20-85 V DC | 1 |

* Valve feedback is standard with a potentiometer input. If mA is desired, it should be specified in the order. Valve feedback is not available in communication-enabled devices.
** Additionally, if 2 pieces of 0-20 / 4-20 mA (AO1, AO2) or 2 pieces of 0-10 V DC (AO1, AO2) are selected, RL1 and RL2 can be chosen.

DIMENSIONS



Panel cut-out = 45 x 92 mm

Elimko

The company's policy is one of continuous product improvement. We reserve the right to modify the information contained herein without notice.



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