



E-48P SERIES

UNIVERSAL ADVANCED DIGITAL CONTROLLERS



DESCRIPTION

E-48P Series universal process controllers are industrial instruments with 48x48 mm IEC/TR 60668 dimensions designed using new generation microcontrollers with on/off, PID and other control modes, where inputs and outputs can be easily programmed by the user.

In E-48P Series controllers, the set value and measured value can be monitored from -1999 to 9999 on two 4-digit displays; general purpose inputs (T/C, R/T, mV, mA) can be programmed.

It is used in the measurement and control of temperature, pressure, level, speed, current, voltage, resistance and other physical units in all fields of industry; Plastics, Iron and Steel, Chemical, Metallurgy, Petro-Chemistry, Refineries, Food, Cement, Ceramics, Glass and other industries.

STANDARD WORKING LIMITS

Inputs	Tip	Min.	Max.
Cu-Const	Tip-U*	-200°C	600°C
Cu-Const	Tip-T	-200°C	400°C
Fe-Const	Tip-L*	-200°C	850°C
Fe-Const	Tip-J	-200°C	1100°C
NiCr-Ni	Tip-K	-200°C	1300°C
Cr-Const	Tip-E	-200°C	1000°C
Nikrosil-Nisil	Tip-N	-200°C	1200°C
Pt%10Rh-Pt	Tip-S	0°C	1760°C
Pt%13Rh-Pt	Tip-R	0°C	1760°C
Pt%18Rh-Pt	Tip-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 mA/ 4-20 mA	-1999 unit	9999 unit

* DIN 43710 standards, others conform to IEC 60584-1.
E-48P Series instruments are general purpose and can be configured according to the application.

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'de
Operating Temperature	-10 ... 55°C
T/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 Kontak 250 V AC 5 A
Input Signal	T/C, R/T, mA, mV
Sensors	Thermocouple Resistance thermometer Others= Standard and nonstandard transmitters and converters
Memory	EEPROM max. 10^5 writing
Protection Class	Front panel IP66 (NEMA 4X) Rear Panel IP20
Weight	155 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.

FEATURES

Set Adjustment	Between set point 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)	0-3600 seconds (1 sec steps)
Derivative Time (Dt)	0-3600 seconds (1 sec steps)
Bias	% 0-100
Control Form	On / Off, PID
Control Outputs	0-20 mA, 4-20 mA, NA Contact, SSR

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

ORDERING GUIDE

E-48P Series Controllers

E- 48P - W - X - Y - Z

Standard Features

- Programmable universal inputs
- Auto - tune
- Configurable by the customer.
- Programmable universal outputs
- Transmitter power supply 24 V DC
- On - Off / PID Control Forms

Relay Outputs

None	0
1 relay (RL1)	1
2 relay (RL1, RL2)	2
3 relay (RL1, RL2, RL3)	3
1 SSR (SSR1)	4
1 SSR (SSR1) + 1 relay (RL2)	5
1 SSR (SSR1) + 2 relay (RL2, RL3)	6
2 SSR (SSR1, SSR2)	7
2 SSR (SSR1, SSR2) + 1 relay (RL3)	8

Analog Outputs

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

Communication

None	0
RS485**	1

Power Supply

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

* Only one of the relay 3 output, Analogue output and RS485 Modbus options can be coded.

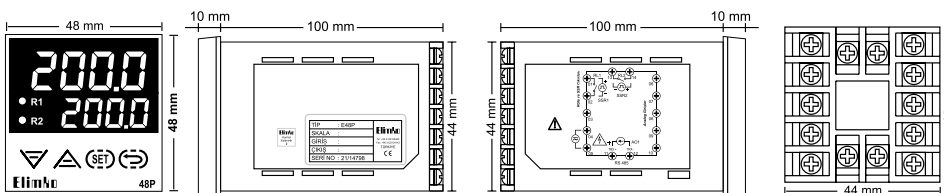
For example, only one of the (X) and (Y) options can be coded as 1. Similarly, when the (W) option includes Relay 3 (W=3, 6 or 8) X and Y I cannot be selected. Analog outputs are isolated from each other.

** When E-48P Series controllers are ordered with communication, the E-IB-11 USB-RS485 converter can be used for PC connection. There are various control and monitoring software provided by Elimko.

Example

- E - 48P - 0 - 0 - 0 - 0 Standard feature, 220 V AC power supply.
E - 48P - 1 - 0 - 0 - 0 1 relay output, 220 V AC power supply.
E - 48P - 2 - 1 - 0 - 1 2 relay outputs, 1 analog output, 24 V DC power supply.

DIMENSIONS



Panel cut - out = 45 x 45 mm



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