

E-72 Series Universal Advanced Controller Quick Start Guide

Manufacturer / Technical Support :
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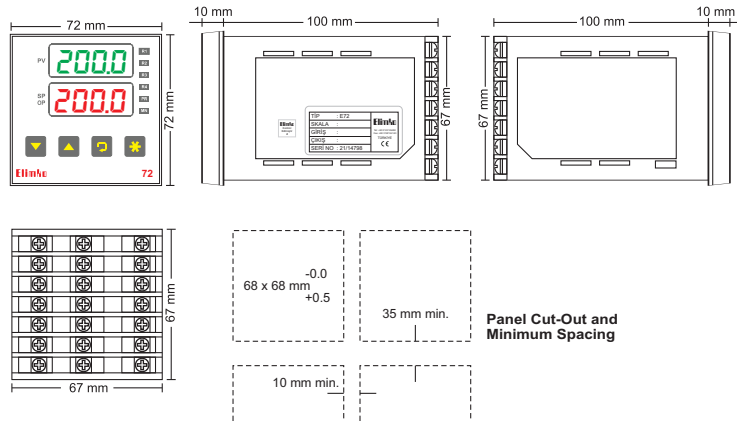


1. DESCRIPTION

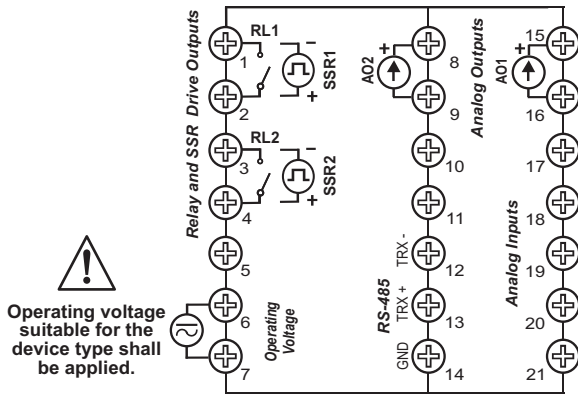
E-72 Series general purpose process controllers are industrial devices in 1/8 DIN (72x72 mm IEC/TR 60668) dimensions designed by using new generation microcontrollers with on/off, PID and other control forms. Inputs and outputs can be easily programmed by the user.

In E-94 Series controllers, set value and measured value can be displayed from -1999 to 9999 on two 4-digit displays and general purpose inputs (T/C, R/T, mV, mA) can be programmed.

2. DIMENSIONS and PANEL CUT-OUT

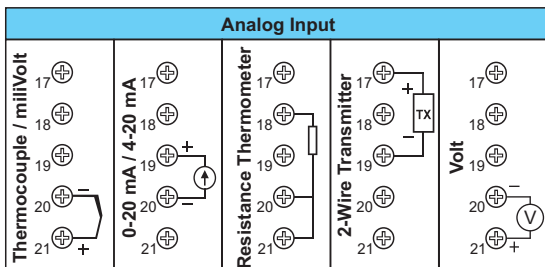


3. CONNECTION DIAGRAM



1st and 2nd control outputs can be selected as either Relay (RL1, RL2) or SSR (SSR1, SSR2).

Analog output (AO1) mA or 0-10 V DC can be selected.



4. WARNINGS

E-72 controller is designed for panel mounting and should be used in an industrial environment.

- The package of E-72 controller contains; Controller, 2 pieces of mounting clamps, User manual and Guarantee certificate.
- After opening the package, please check the contents with the above list. If the delivered product is wrong type, any item is missing or there are visible defects, contact the vendor from which you purchased the product.
- Before installing and operating the controller, please read the user manual thoroughly.
- The installation and configuration of the controller must only be performed by a person qualified in instrumentation.
- Keep the unit away from flammable gases, that could cause explosion.
- Do not use alcohol or other solvents to clean the controller. Use a clean cloth soaked in water tightly squeezed to gently wipe the outer surface of the controller.
- It is not used in medical applications.



EU DIRECTIVE COMPLIANCE

Low Voltage Directive
EN 61010-1
EMC Directive
EN 61326-1



TS EN ISO 9001
Quality Management System Certificate

5. TYPE CODING

E-72 Series Universal Advanced Controller

E-72 - W - X - Y - Z

Relay Outputs

- None
- 1 relay (RL1)
- 2 relays (RL1, RL2)
- 1 SSR (SSR1)
- 1 SSR (SSR1) + 1 relay (RL2)
- 2 SSR (SSR1, SSR2)

Analog Outputs *

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

Communication

- None
- RS-485 **

Operating Voltage

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

* Analog outputs are isolated from each other.

** When E-72 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.

6. TECHNICAL SPECIFICATIONS

Parameter	Description
Control Type	On/Off, PID, Heat/Cool, Floating and Feedback Control of Valves
Operating Voltage	20..60 V AC / 20..60 V DC or 85..265 V AC / 85..375 V DC
Relays / SSR	2 pieces SPST - NO 250 V AC 5A relays or 24 V DC 25 mA (SSR) drives
Dimensions (mm)	72 (Length) x 72 (Height) x 100 (Width)
Panel Cut-Out (mm)	68 (Length) x 68 (Height)
Analog Output	2 x 0..20 / 4..20 mA (Max. Load 600 Ohm) or 0..10 V DC optional
Analog Input	Universal (Note 1),
Communication (RS-485)	Available (Optional)
Digital Input	None
Valve Feedback	None
Transmitter Supply	Available
Weight	232 g
Power Consumption	Max. 7 W (10 VA)
Operating Temperature	-10 °C ... 55 °C
Storage Temperature	-25 °C ... 65 °C
Memory	Maks. 100.000 write
Protection Class	IP-65 Front Panel, IP-20 Rear Case

Notes:

(1) Universal Input :

- Thermocouple : B, E, J, K, L, N, R, S, T, U
- Resistance Thermometer : Pt-100
- Current : 0-20 mA, 4-20 mA (Linear)
- Voltage : 0-50 mV, 0-1 V, 0.2- 1 V (Linear), 0-10 V DC, must be specified in the order.
- Resolution : 16 bit
- Accuracy : Thermocouple, Max. ± 1.0 °C (Conversion and CJC error)
Resistance Thermometer, Max. ± 0.5 °C (Conversion and wire resistance compensation)
Linear Input, Max. % 0.1

7. PARAMETER TABLE

Description		Min	Maks	Unit
INPUT SETTINGS	GCnf			
	inP i	Table 1		
	dP	0	3	
	SLo	-199.9	999.9	EU
	SH i	-199.9	999.9	EU
	Un It	0C	0F	
	oF5t	-100.0	100.0	EU
	FLt r	1	15	s
	Snbr	Lo	Hi	
	Rd rS	1	127	
	bRid	[48, 96, 192, 384 kbaud]		
	Pr tY	[nonE, odd, EvEn]		

CONTROL SET SETTINGS	SEtP			
	SP5r	Table 2		
	SPLL	-199.9	5PHL	EU
	SPHL	5PLL	999.9	EU
	SPrr	oFF	60.0	EU/min
	S- i	5PLL	5PHL	EU
	t- i	oFF	999.9	min
	S-2	5PLL	5PHL	EU
	t-2	oFF	999.9	min
	S-3	5PLL	5PHL	EU
	t-3	oFF	999.9	min

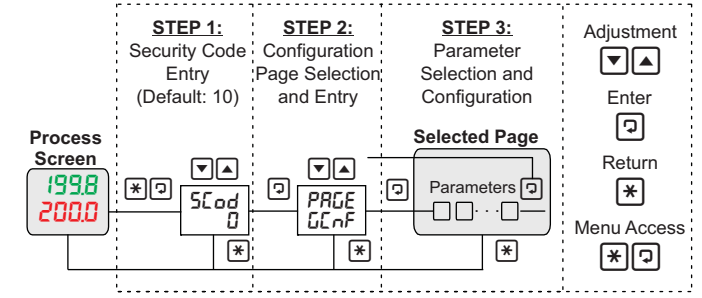
ALARM SETTINGS	RLnf			
	R i tP	Table 3		
	R iSP	-199.9	999.9	EU
	R iHY	0.0	999.9	EU
	R iLt	d5b	Enb	
	R2tP	Table 3		
	R2SP	-199.9	999.9	EU
	R2HY	0.0	999.9	EU
	R2Lt	d5b	Enb	

OUTPUTS	oLnf			
	CLtYP	Table 4		
	CLFr n	d i r	rEu	
	CLPr d	1	250	s
	n nPr	d5b	Enb	
	CLr t n	10	2500	s
	CLbnd	0.1	25.0	%
	CLLo	0.0	oHL	%
	CLHo	oLL	100.0	%
	CLn r	oLL	oHL	%
	CLo nC	0	4	
	CLrLL	-199.9	CLrHL	EU
	CLrHL	CLrLL	999.9	EU
	CL i d	Table 5		
	CL2d	Table 5		
	CLo id	Table 6		
	CLo i r	Table 7.1 ve Table 7.2		
	CLo2d	Table 6		
	CLo2r	Table 7.1 ve Table 7.2		

PID SETTINGS	CLnE			
	RLt	oFF	on	
	P id	SLd	Rdu	
	Pb- i	0.1	999.9	EU
	Pb-2	0.1	999.9	EU
	ILtH	oFF	9999	s
	ILtC	oFF	9999	s
	dLtH	oFF	2500	s
	dLtC	oFF	2500	s
	HY5	0.0	999.9	EU

SECURITY	Pr tC			
	SLod	0	9999	
	dPrL	0	9	
	RPrL	0	9	
	FL5t	[oFF, LoRd, SRuE, dFLt]		

8. ACCESSING PARAMETERS



9. APPLICATION EXAMPLES

1) Input: Pt-100 **Relay / Alarm1:** 50 °C Low, **Relay2 / Alarm2:** 55 °C High
AO1: 4-20 mA PID Control Output

inP i	R i tP	R iSP	R2tP	R2SP	CLtYP	CL i d	CL2d	CLo id	CLo i r
Pt	Lo	50.0	Hi	55.0	SLo	RL- i	RL-2	CLo- i	4-20

2) Input: TC Type J, **Relay1:** On-Off Control Output, **Relay2 / Alarm2:** 350 °C High

inP i	R2tP	R2SP	CLtYP	CL i d	CL2d
J	Hi	350.0	SLo	CLo- i	RL-2

3) Input: TC Type K, Profile Control (Ramp up to 400°C in 10 minutes and wait for 60 minutes),
Relay1: PID Control Output, **AO1:** Retransmission Output (4-20 mA, 0-1200 °C)

inP i	SP5r	S- i	t- i	S-2	t-2	CLtYP	CLrLL	CLrHL	CL i d	CL2d	CLo id	CLo i r
K	PrFL	400	10.0	400	60.0	SLo	0	1200	CLo- i	RL-2	Pr t r	4-20

Table 1. Input Type Options

b	Type B Thermocouple
E	Type E Thermocouple
J	Type J Thermocouple
K	Type K Thermocouple
L	Type L Thermocouple
N	Type N Thermocouple
R	Type R Thermocouple
S	Type S Thermocouple
T	Type T Thermocouple
U	Type U Thermocouple
Pt	Pt-100
0-20	0-20 mA
4-20	4-20 mA
0-50	0-50 mV
0.0- i	0-1 V
0.2- i	0.2-1 V
0- i0	0-10 V (*)
2- i0	2-10 V (*)

(*) Custom specified volt input

Table 2. Control Set Options

In t	Internal adjustment with keys
PrFL	With Profile Control

Table 3. Alarm Options

oFF	Off
Lo	Low Alarm
Hi	High Alarm
Lo d	Low Deviation
Hi d	High Deviation
Lo b	Band Alarm (In)
Hi b	Band Alarm (Out)

Table 4. Control Type Options

oFF	No Control
SLo	Single (Heat)
dLo	Double (Heat/Cool)
bnd	Floating Control of Valve

Table 5. Relay Output Options

CLo- i	PID + (Heating)
CLo-2	PID - (Cooling)
CLo- i	On-Off + (Heating)
CLo-2	On-Off - (Cooling)
RL- i	Alarm 1
RL-2	Alarm 2
RL-3	Alarm 3
RL-4	Alarm 4

Table 6. Analog Output Options

CLo- i	PID + (Heating)
CLo-2	PID - (Cooling)
Pr t r	Process Value
SPt r	Control Set Value

Table 7.1. Analog Output Range

0-20	0-20 mA
20-0	20-0 mA
4-20	4-20 mA
20-4	20-4 mA

Table 7.2. Analog Output Range

0- i0	0-10 V
i0-0	10-0 V
2- i0	2-10 V
i0-2	10-2 V

For detailed information, you can access the comprehensive user manual of the device under the heading "User Manuals" at www.elimko.com.tr. You can also use the QR Code on the front for this.