

All-purpose Analog Controller TC56

- ♦ Very good EMI protection
- ♦ User-friendly controls
- ♦ Analog retransmission output
- ♦ 4-digit LED display

TC56 is an electronic analog controller with very good protection against electromagnetic disturbances, used for automatic control of various processes through relay outputs employing ON/OFF control algorithm. The device can operate with a number of input signal types – thermoresistive, thermoelectrical, or standard signals from relative humidity, pressure, flow, etc. transmitters – at that providing supply for input signal transmitters. In addition to the 2 control or alarm relay outputs, the TC56 controller can be equipped with an analog retransmission output that generates standard signal to external chart recorders, controllers, and indicators.



Technical specifications

Input

Pt46 (GOST)	-50...199.9(600) °C
Pt50 (w=1.385, 1.391)	-50...199.9(600) °C
Pt100 (w=1.385, 1.391)	-50...199.9(600) °C
Pt500 (w=1.385)	-50...199.9(600) °C
Pt1000 (w=1.385)	-50...199.9(600) °C
Cu100 (w=1.426, 1.428)	-50...199.9(200) °C
Cu50 (w=1.426, 1.428)	-50...199.9(200) °C
Cu53 (GOST)	-50...199.9(200) °C
Other RTD ⁽¹⁾	min. -99...max. 600 °C
Thermocouple "J"	0...700 °C
Thermocouple "K"	0...700(1200) °C
Linear voltage 0...1/ 2 / 5 / 10 V	-199.9(1999)...199.9(1999) ^(2,3)
Linear current 0...5 mA	-199.9(1999)...199.9(1999) ^(2,3)
Linear current 0(4)...20 mA	-199.9(1999)...199.9(1999) ^(2,3)
Custom linear voltage; max. 10 V	min. -1999...max. 1999 ^(2,3)
Custom linear current; max. 50 mA	min. -1999...max. 1999 ^(2,3)

Outputs

	<i>(up to 3 outputs)</i>
Relay electromechanical	5A/250V w/ NO/NC contact
Solid state relay	1A/250VAC
MOS gate	0.1A/60V, optically isolated
Output for external SSR	5...24 V, 30 mA
Control algorithm	ON/OFF
Set point	within input range limits
Relay function	2 control or 1 control and 1 alarm
Analog retransmission output	0(4)...20 mA or 0...10 V
Isolation	none

- ⁽¹⁾ Custom; specify range within the limits stated
⁽²⁾ Specify lower and upper display limits
⁽³⁾ Provides loop supply voltage - 24 VDC
⁽⁴⁾ Displayed while the set-point button is pressed

Accuracy

Measurement error	0.5% from span
Temperature drift	0.007% from span for 1 °C
Cold junction compensation	automatic hardware, ± 1 °C

Power supply

Mains supply voltage	230 VAC or 115 VAC
Isolated low voltage	24 VAC
Consumption	max. 4 VA

Indication and controls

Digital display	4 LED indicators, 14 mm
LEDs	2 LEDs for relay-output state
Multi-turn potentiometer	for set-point adjustment ⁽⁴⁾
Front-panel trimmer	for hysteresis and dead-band adjustment
Case-side trimmers	for alarm-limit adjustment

Operating conditions

Operating temperature	-10...65 °C
Operating humidity	0...85 %RH

Design and materials

Case material	plastic
Mounting	on 90x42 mm panel cut-out
Wiring	plug-in terminals
Dimensions	96x48(front)x107 mm
Mounting depth	98 mm
Weight	max. 400 g
Protection, front/terminals	IP40 / IP20

Ordering code TC56 - G1.G3.G5G5.G6'6".G10.G11

Code	Feature or option	Code values
G1	Power supply	A - 230 VAC, B - 115 VAC, R - 24 VAC
G3	Resolution	B - 1, C - 0.1
G5	Relay output	X - none, C - relay NO/NC, D - SSR, J - for external SSR, M - isolated MOS gate
G6'	Input signal	B - thermoresistance, C - thermocouple, D - linear
G6"	RTD	A - Pt46, B - Pt50, C - Pt50, D - Pt100, E - Pt100, F - Pt500, G - Pt1000, H - Cu50, I - Cu50, J - Cu53, K - Cu100, L - Cu100, Z - other ⁽¹⁾
	T/C	J - "J", K - "K"
	linear ⁽²⁾	A - 0...5 mA, B - 0...20 mA, C - 4...20 mA, H - 0...1 V, I - 0...2 V, J - 0...5 V, K - 0...10 V, Z - other
G10	Alarm	X - none, A - absolute upper, B - absolute lower, C - absolute mixed, D - relative above set point, E - relative below set point
G11	Analog retransmission output	X - none, E - 0...20 mA, F - 4...20 mA, K - 0...10 V, Z - other