

All Purpose Analog Controller TC57



- ◆ **Very good protection against EMI**
- ◆ **Set point constantly visible**
- ◆ **Analog retransmission outputs**
- ◆ **4-digit display**

The TC57 controller is an extension of the successful TC56 analog controllers range. It is housed in a case with 96x96 mm sized front panel. They are used for control of various processes by means of relay type control or alarm outputs employing ON-OFF control algorithms. A special feature of TC57 controllers is the setting of Set Point by means of a BCD-coder (push wheels). This allows both measured value and set point to be viewed simultaneously. This model is very convenient when older controllers with 96x96 mm sized front panel have to be replaced. Similarly to the TC56 family TC57 controllers integrate seamlessly with a variety of input sensors from various manufacturers. They can generate retransmission analog signal to external chart recorders, displays etc. and provide auxiliary supply voltage for transmitter or other external devices.



Technical specifications

TC

Inputs (2 or 3 - wire)

Pt46 (GOST)	-50 to +199.9(600) °C
Pt50 (w=1.385 or w=1.391)	-50 to +199.9(600) °C
Pt100 (w=1.385 or w=1.391)	-50 to +199.9(600) °C
Pt500 (w=1.385)	-50 to +199.9(600) °C
Pt1000 (w=1.385)	-50 to +199.9(600) °C
Cu100 (w=1.426 or w=1.428)	-50 to +199.9(200) °C
Cu50 (w=1.426 or w=1.428)	-50 to +199.9(200) °C
Cu53 (GOST)	-50 to +199.9(200) °C
Other thermoresistive ⁽¹⁾	min. -99 to max.+600 °C
Thermocouple "J"	0 to +700 °C
Thermocouple "K"	0 to +700(1200) °C
Linear voltage ^(2,3)	0 to 1(2, 5 or 10) V ⇒ -199.9(1999) to +199.9(1999)
Linear current ^(2,3)	0 to 5 or 0(4) to 20 mA ⇒ -199.9(1999) to +199.9(1999)
Custom linear voltage ^(2,3)	max. 10 V ⇒ 4000 points
Custom linear current ^(2,3)	max.50 mA ⇒ 4000 points

Outputs (up to 2 relay type and 1 analog)

Relay electromechanical	5A/250V - NO/NC or NO
Solid state relay (optional)	SSR - 1A/250 VAC
Transistor gate (optional)	Open collector - 40mA/40V or TTL
Control algorithm	ON/OFF
Set point	Within input range limits
Analog retransmission	0(4) to 20 mA or 0 to 1(2) V

⁽¹⁾ Custom – specify the range within the limits stated
⁽²⁾ High and low display range limits are specified by the customer
⁽³⁾ Provides supply voltage for external transmitter - 12(24)VDC/30mA

Accuracy

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

Power supply

Supply voltage	220(110) VAC ± 10%
Low voltage supply (optional)	12 to 24 VAC/DC
Consumption	Max. 4 VA

Indication and controls

Digital display	3.5 LCD(LED) - 13(14) mm
LEDs	LED for relay outputs
Set Point controls	Potentiometer ⁽⁴⁾ or BCD-coder
Hysteresis and dead band	Trimmer on front panel
Alarm limits	Trimmers on the side

Operating conditions

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

Design and materials

Case material	Plastic
Mounting	In panel cut-out
Wiring	Screw terminals
Dimensions	96x96x120 ⁽⁵⁾ mm
Weight	Max. 450 g
Protection front/terminals	IP-40 / IP-20

⁽⁴⁾ Displayed while the SP button is pressed
⁽⁵⁾ Front panel controls not included

Ordering code



TC57 - G1.G2.G3.G4.G5G5.G6'6".G10.G11

Code	Feature or option	Code values
G1	Power Supply type	A - 220 VAC, B - 110 VAC, D - low voltage-DC ⁽⁶⁾ , E - low voltage-AC ⁽⁶⁾
G2	Display type	A - LCD, B - LED normal, C - LED bright
G3	Resolution	B - 1, C - 0.1
G4	Set point adjustment controls	D - 10 turn potentiometer, E - BCD-coder (push wheel)
G5	Relay output type	X - none, A - relay NO, C - relay NO/NC, D - SSR, E - open collector NPN, G – TTL
G6'	Input signal type	B - thermoresistance, C - thermocouple, D - linear
G6"	Sensor type	Thermoresistor Thermocouple Linear ⁽²⁾ A - Pt46, B,C - Pt50, D,E - Pt100, F - Pt500, G - Pt1000, H,I - Cu50, J - Cu53, K,L - Cu100, Z - other J - "J", K - "K" A - 0..0.5 mA, B - 0..20 mA, C - 4..20 mA, H - 0..1V, I - 0..2 V, J - 0.5 V, K - 0..10 V, Z - other
G10	Alarm type	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 ⁽⁷⁾	X - none, E - 0÷20mA, F - 4÷20mA, G - 0÷1V, H - 0÷2V, Z - other

⁽⁶⁾ Specified by the customer
⁽⁷⁾ May be ordered when there are 2 NO relay type outputs or 1 NO/NC relay output

For detailed instructions on ordering coding see chapter "ORDERING CODES"!