

## Programmable Controller RT28

- ◆ 2 output relays
- ◆ ON/OFF or PD-for-MV control algorithm
- ◆ 4 DIN cases - up to 1/16 DIN
- ◆ Fixed input
- ◆ Various power supplies
- ◆ Easy programming

The simple-design low-cost microprocessor-based controller RT28 combines the advantages of the microprocessor devices with the high reliability of analog controllers. It is available with 48x48, 96x48, 48x96, and 96x96 mm DIN-sized front panel and can be equipped with up to 2 control relays. To control its outputs, RT28 may utilize either ON/OFF (heat/cool) duplex or PD control algorithm. The ON/OFF control algorithm allows flexible programming of the action of each relay for solving variety of problems. The PD algorithm results in PI control when used to control motorized valve actuators without position feedback. The reliable operation even in the presence of electromagnetic disturbances and the attractive price also account for the success of the RT28 controller.



### Technical specifications

**Input** (total number of points for any range: 999)

Pt50 (w=1.385); 3-wire	-9.9(-50)...90.0(500) °C
Pt100 (w=1.385); 3-wire	-9.9(-50)...90.0(500) °C
Pt500 (w=1.385); 3-wire	-9.9(-50)...90.0(500) °C
Pt1000 (w=1.385); 3-wire	-9.9(-50)...90.0(500) °C
Cu100; 3-wire	-9.9(-50)...90.0(200) °C
Cu50; 3-wire	-9.9(-50)...90.0(200) °C
Other RTD <sup>(1)</sup>	min. -99...max. 500 °C
Thermocouple "J"	0...999(600) °C
Thermocouple "K"	0...999(850) °C
Thermocouple "L"	0...900(600) °C
Thermocouple "L-GOST"	0...650(550) °C
Other thermocouple <sup>(1)</sup>	min. -99(0)...max. 900(999) °C
Linear voltage 0...10 V	-99...900 (0...999) <sup>(2,3)</sup>
Linear current 0(4)...20 mA	-99...900 (0...999) <sup>(2,3)</sup>
Custom linear voltage; max. 40 V	min. -99...max. 999 <sup>(2,3)</sup>
Custom linear current; max. 80 mA	min. -99...max. 999 <sup>(2,3)</sup>

**Outputs** (up to 2 relay outputs)

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, PD
Set point	within input range limits
Programmable parameters	according to control algorithm

<sup>(1)</sup> Custom; specify range within the limits stated.

<sup>(2)</sup> Specify lower and upper display limits.

<sup>(3)</sup> Provides loop supply voltage - 24 VDC (only w/ isolated power supply)

### Accuracy

Measurement error	0.4% from span
Temperature drift	0.005% from span for 1 °C
Cold junction compensation	± 1 °C
RTD line compensation (option)	0.01% from span for 1 Ω

### Power supply

Mains supply voltage	230 VAC or 115 VAC
SMPS voltage	90...250 VAC/DC
Isolated low voltage	12...24 VAC/DC or 24 VAC
Non-isolated low voltage	12...24 VAC/DC
Consumption	max. 3 VA

### Indication and controls

Digital display	3 LED indicators
LEDs	2 LED for output state
Keyboard	3 membrane keys

### Operating conditions

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

### Design and materials

	'B'	'H'	'V'	'S'
Front dimensions [mm]	96x96	96x48	48x96	48x48
Mounting	panel	panel	panel	panel / rail
Panel cutout [mm]	90x90	90x42	42x90	45x45
Mounting depth [mm]	98	98	98	95
Display digit height [mm]	20	14	14	9
Maximum weight [g]	350	300	300	200
Protection, front/terminals	IP54/20	IP54/20	IP54/20	IP54/20
Increased front IP (option)	IP65 <sup>(4)</sup>	IP65	IP65	-
Case material	plastic	plastic	plastic	plastic
Wiring (terminals)	plug-in	plug-in	plug-in	socket <sup>(5)</sup>

<sup>(4)</sup> Ask for availability!

<sup>(5)</sup> Ordered separately (see 'Accessories')

### Ordering code RT28 - G0.G1.G3.G5G5.G6'6".G8 - #1.#2

Code	Feature or option	Code values	
G0	Case (front size)	B - 96x96 mm, H - 96x48 mm, V - 48x96 mm, S - 48x48 mm	
G1	Power supply	A - 230 VAC, B - 115 VAC, C - 90...250 V, P - 12...24 V, non-isolated, Q - 12...24 V, isolated, 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, Z - other on request	
G6"	Sensor	RTD	B - Pt50, D - Pt100, F - Pt500, G - Pt1000, H - Cu50, K - Cu100, Z - other <sup>(1)</sup>
		T/C	J - "J", K - "K", L - "L", M - "L-GOST", Z - other <sup>(1)</sup>
		linear	B - 0...20 mA <sup>(2)</sup> , C - 4...20 mA <sup>(2)</sup> , K - 0...10 V <sup>(2)</sup> , Z - other <sup>(2)</sup>
G8	Control algorithm	A - ON/OFF, D - PD	
#1	Compensation for 3-wire RTD line	X - none, LC - built-in line resistance compensation	
#2	Increased front protection	X - none, P - IP65 front protection <sup>(6)</sup>	

<sup>(6)</sup> Not available for case 'S'!