

## Programmable ON/OFF Controller RT38



- ◆ Low cost
- ◆ 5 DIN cases - up to 1/32 DIN
- ◆ Low power consumption
- ◆ Semi-universal input
- ◆ Various power supplies
- ◆ Fully programmable parameters

The cheap programmable controller RT38 is designed for wide range of ON/OFF control applications. Equipped with a 3-digit LED display, RT38 is especially suitable for measuring and controlling various technological values with resolution of up to 1000 points. It can be ordered in various cases including the smallest 1/32 DIN case, and for different power supplies. The device has 1 programmable relay control/alarm output and is available in 2 universal-input versions: RTD - for 7 selectable P<sub>Tx</sub> and 4 C<sub>ux</sub> sensor types, and T/C - for 3 selectable thermocouples as well as versions for linear current and voltage signals. RT38 allows an automatic software compensation of line resistance and cold junction temperature. The display-to-input correspondence (in case of linear input), the decimal point position, the temperature measuring unit as well as the offset value are also programmable. Thanks to its power supply options, semi-universal input, and excellent price-to-performance ratio, RT38 is an exceptionally widely applicable device.



### Technical specifications

Input	(programmable)
RTD, DIN (w=1.385); 3-wire	Pt50, Pt100, Pt500, Pt1000
RTD, GOST (w=1.391); 3-wire	Pt46, Pt50, Pt100, Cu50, Cu100
RTD measurement range	-100...600 °C
Thermocouple "T"	-40...400 °C
Thermocouple "J"	-20...999 °C
Thermocouple "K"	-20...999 °C
Linear voltage 0...10 V	-199...999, programmable
Linear current 0(4)...20 mA	-199...999, programmable
Two-wire external transmitter	4...20 mA <sup>(1)</sup>
RTD or T/C type selection	programmable
Decimal point selection	programmable
Temperature measurement unit	°C or °F, programmable
Output	
Relay electromechanical	5A/250V w/ NO/NC <sup>(2)</sup> contact
Solid state relay	1A/250VAC <sup>(3)</sup>
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
Alarms	programmable
Accuracy	
Measurement error	0.3% from span
Temperature drift	0.02% from span for 1 °C
Cold junction compensation	automatic, -10...80 °C
RTD line compensation	automatic, up to 2 x 25 Ω

<sup>(1)</sup> Provides loop supply voltage - 24 VDC (only w/ isolated power supply)  
<sup>(2)</sup> NO for case 'M'  
<sup>(3)</sup> 0.2A/250VAC for case 'M'  
<sup>(4)</sup> Not available for case 'M'

Power supply	
Mains supply voltage	230 VAC <sup>(4)</sup> or 115 VAC <sup>(4)</sup>
SMPS voltage	90...250 VAC/DC <sup>(5)</sup>
Isolated low voltage	12...24 VAC/DC or 24 VAC <sup>(4)</sup>
Non-isolated low voltage	12...24 VAC/DC
External mains transformer <sup>(6)</sup>	9(12) VAC
Consumption	max. 1.5 VA
Indication and controls	
Digital display	3 LED indicators
LEDs	LED for output state
Keyboard	2 or 3 membrane keys, lockable
Operating conditions	
Operating temperature	-10...65 °C
Operating humidity	0...85 %RH
Design and materials	
	'B' 'H' / 'V' 'S' 'L' 'M'
Front dimensions [mm]	96x96 96x48 48x48 72x36 48x24
Mounting	panel panel panel panel panel
Panel cutout [mm]	90x90 90x42 45x45 71x29 46x22
Mounting depth [mm]	98 98 100 56 42
Display digit height [mm]	20 14 10 14 9
Maximum weight [g]	300 250 200 150 30
Protection, front/terminals	IP54/20 IP54/20 IP54/20 IP54/20 IP54/20
Increased front IP (option)	IP65 <sup>(7)</sup> IP65 - IP65 -
Case material	plastic plastic plastic plastic plastic
Wiring (terminals)	plug-in plug-in screw screw screw

<sup>(5)</sup> Not available for cases 'L' and 'M'  
<sup>(6)</sup> Ordered separately (see 'Accessories')  
<sup>(7)</sup> Ask for availability!  
<sup>(8)</sup> Not available for cases 'S' and 'M'

### Ordering code RT38 - G0.G1.G5.G6 - #1

Code	Feature or option	Code values
G0	Case (front size)	B - 96x96 mm, H - 96x48 mm, V - 48x96 mm, S - 48x48 mm, L - 72x36 mm, M - 48x24 mm
G1	Power supply	A - 230 VAC <sup>(4)</sup> , B - 115 VAC <sup>(4)</sup> , C - 90...250 V <sup>(5)</sup> , E - 9(12) VAC w/ external transformer <sup>(6)</sup> , P - 12...24 V, non-isolated, Q - 12...24 V, isolated, R - 24 VAC <sup>(4)</sup>
G5	Relay output	X - none, C - relay NO/NC <sup>(2)</sup> , D - SSR, J - for external SSR, M - isolated MOS gate
G6	Input	B - RTD (programmable), C - thermocouple (programmable), D - 0(4)...20 mA, DK - 0...10 V
#1	Increased front protection	X - none, P - IP65 front protection <sup>(8)</sup>