Programmable ON/OFF Controller RT38

CE

- ♦ **Low cost**
- ♦ **6 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 Ptx and 4 Cux 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 [1]
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 [2] contact
Solid state relay [7]	1A/250VAC [3]
MOS gate [7]	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

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

Power supply

Mains supply voltage [4]	230 VAC or 115 VAC
SMPS voltage [5]	90…250 V
Isolated low voltage [4]	12…24 V or 24 VAC
Non-isolated low voltage	12…24 V
External mains transformer [6]	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

Ambient temperature	-10...65 °C
Ambient 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 / 9	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	IP65	-	IP65	-
Case material	plastic	plastic	plastic	plastic	plastic
Wiring (terminals)	plug-in	plug-in	screw	screw	screw

[5] Not available for cases 'L' and 'M'
[6] Available only for case 'M'. Transformer is ordered separately.
[7] Ask for availability!
[8] 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 [4], **B** - 115 VAC [4], **C** - 90…250 V [5], **E** - 9(12) VAC w/ external transformer [6], **P** - 12…24 V, non-isolated, **Q** - 12…24 V, isolated [4], **R** - 24 VAC [4]
G5	Relay output	**X** - none, **C** - relay NO/NC [2], **D** - SSR [7], **J** - for external SSR, **M** - isolated MOS gate [7]
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 [8]

COMECO reserves the right of changing specifications without prior notice!