

## Programmable Controller RT384

- ◆ 5 DIN cases
- ◆ Universal programmable input
- ◆ Various control algorithms including auto-tuning
- ◆ PID-pulse and PID for motor valves
- ◆ Programmable digital filter
- ◆ Manual mode for bumpless switching
- ◆ Calibration and self-calibration
- ◆ RS485 serial interface available

RT384 is a multifunctional programmable controller with universal input for the most common thermoresistances, thermocouples, and linear signals. The input has a built-in automatic software compensation of line resistance and cold junction temperature as well as automatic software compensation of temperature drift, and can be calibrated manually. RT384 is also equipped with a programmable input filter and a 4-digit display with programmable refresh rate. Available are various options for access restriction. The device can have up to 2 outputs (2 relays or 1 relay and 1 analog output), which can control variety of actuators through different programmable control algorithms. RT384 can work in manual or automatic mode, and an RS485 serial interface enables networking.



### Technical specifications

Input	(programmable)
Pt100 (w=1.385, 1.391); 3-wire	-100...600 °C
Cu100 (w=1.426, 1.428); 3-wire	-50...200 °C
Thermocouple "J"	0...1000 °C
Thermocouple "K"	0...1300 °C
Thermocouple "S"	0...1700 °C
Thermocouple "R"	0...1700 °C
Thermocouple "B"	100...1800 °C
Thermocouple "C"	0...2300 °C
Thermocouple "L - GOST"	0...600 °C
Linear voltage 0...50 mV <sup>(1)</sup>	-1999...9999, programmable
Linear current 0...20 mA	-1999...9999, programmable
Linear current 4...20 mA	-1999...9999, programmable <sup>(2)</sup>
Input type selection	programmable
Decimal point selection	programmable
Digital filter	programmable
Input calibration	programmable
Outputs	(up to 2 outputs)
Relay electromechanical	5A/250V w/ NO/NC or NO 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
Operation modes	manual and automatic
Control algorithms	ON/OFF, PID-pulse, and PID for motor valves, programmable
Auto-tuning	programmable
Alarms	programmable
Other control features	BUMPLESS and ANTI-WINDUP
Analog output <sup>(4)</sup>	4(0)...20 mA or 0...10 V, isolated
Serial interface	RS485, isolated

Accuracy	
Measurement error	0.3% <sup>(5)</sup> from span
Temperature drift	0.01% from span for 1 °C
Self-calibration	automatic software
Cold junction compensation	automatic software
RTD line compensation	automatic software
Power supply	
Mains supply voltage <sup>(6)</sup>	230 VAC or 115 VAC
SMPS voltage <sup>(6)</sup>	90...250 VAC/DC
Isolated low voltage	12...24 VAC/DC or 24 VAC <sup>(6)</sup>
Non-isolated low voltage	12...24 VAC/DC
Consumption	max. 3 VA
Indication and controls	
Digital display	4 LED indicators
LEDs	2 LEDs for output state
Keyboard	3 membrane keys
Operating conditions	
Operating temperature	-10...55 °C
Operating humidity	0...85 %RH
Design and materials	'B' 'H' / 'V' 'Q' 'S' 'L'
Front dimensions [mm]	96x96 96x48 72x72 48x48 72x36
Mounting	panel panel panel panel panel
Panel cutout [mm]	90x90 90x42 67x67 45x45 71x29
Mounting depth [mm]	98 98 66 100 56
Display digit height [mm]	20 14 / 10 14 10 9
Maximum weight [g]	350 300 300 200 150
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>(1)</sup> Other voltage ranges can be obtained by the means of two external resistors.  
<sup>(2)</sup> Provides loop supply voltage - 24 VDC (only w/ isolated power supply)  
<sup>(3)</sup> 0.2A/250VAC for case 'L'  
<sup>(4)</sup> Instead of 1<sup>st</sup> relay! If mounted, it can be programmed as control or retransmission!

<sup>(5)</sup> 0.5% for noble thermocouples  
<sup>(6)</sup> Not available for case 'L'  
<sup>(7)</sup> Ask for availability!  
<sup>(8)</sup> Not available for cases 'Q' and 'S'

### Ordering code RT384 - G0.G1.G5G5.G9'9".G11 - #1

Code	Feature or option	Code values
G0	Case (front size)	B - 96x96 mm, H - 96x48 mm, V - 48x96 mm, Q - 72x72 mm, S - 48x48 mm, L - 72x36 mm
G1	Power supply	A - 230 VAC <sup>(6)</sup> , B - 115 VAC <sup>(6)</sup> , C - 90...250 V <sup>(6)</sup> , P - 12...24 V, non-isolated, Q - 12...24 V, isolated, R - 24 VAC <sup>(6)</sup>
G5	Relay output	X - none, C - relay NO/NC, D - SSR, J - for external SSR, M - isolated MOS gate
G9'	Serial interface	X - none, B - RS485
G9"	Protocol	A - ASCII, C - ASCII for "PolyMonitor"
G11	Analog output <sup>(4,7)</sup>	X - none, E - 0...20 mA, F - 4...20 mA, K - 0...10 V
#1	Increased front protection	X - none, P - IP65 front protection <sup>(8)</sup>