

RTN300 Temperature Switch

- ▶ Probe and display designed separately
- ▶ Smart product
- ▶ 4-digit LED display
- ▶ All-metal housing
- ▶ PNP/NPN programmable
- ▶ 4 to 20mA/ 0 to 20mA/ 1 to 5V/ 0 to 5V output programmable
- ▶ Rotatable Indicator



RTN300 measures the temperature with a high-accuracy sensor and output signal is processed to standard electrical signal for outputting and displaying. All-metal housing; rotatable highlight LED display; dual keys design and friendly menu; multiple process connections selectable; 330° rotatable indicator.

Specifications

Measuring Range	-50 to 125°C
Power Supply	12 to 30VDC
Current Consumption	≤30mA (power supply 24VDC, no-load)
Switching Output	
Output	Push-pull (compatible with PNP/NPN)
	NC/NO configurable
S1, S2 Output Current	<500mA
Response Time	<10ms
Voltage Drop	<1V
Accuracy	±0.5% of F.S.
Current Analog Output	
Output	3-wire 0 to 20mA / 4 to 20mA programmable
Load RA	RA≤0.5KΩ

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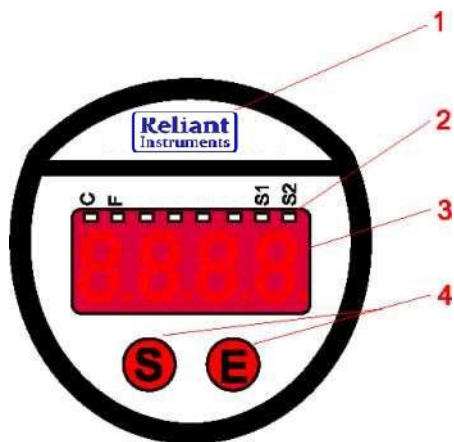
Казахстан (772)734-952-31

Linearity	$\leq \pm 0.5\%$ of F.S.
Voltage Analog Output	
Output	3-wire 0 to 5V / 1 to 5V programmable
Load RA	RA > 10K Ω
Linearity	$\leq \pm 0.5\%$ of F.S.
Wiring Protection	Reverse polarity, overvoltage and short-circuit
Display	
Design	8mm height, red 4-digit LED
Display Range	-1999 to 9999
Accuracy	$\leq \pm 0.5\%$ of F.S.
Stability (Drift/Year)	$\leq \pm 0.3\%$ of F.S.
Temperature	
Medium	-50 to 125°C
Ambient	-40 to 85°C
Storage	-40 to 100°C
Probe Pressure Rating	200bar
Material	
Display Head	Zinc Alloy
Housing	304 stainless steel
Wetted Parts	316 stainless steel
Protection Class	IP67
Electrical Connection	M12 x1 plug

Applications

- ▶ Circulating water/Cooling liquids
- ▶ Hydraulics and pneumatics
- ▶ Oil and Gas
- ▶ Machinery manufacturing
- ▶ Water treatment

Panel Setting



- 1 - LOGO
- 2 - 8 state lights
- 3 - 4-digit LED display window
- 4 - Keys

S + E	Press and hold for 2 seconds to enter setting mode/verification
S	Shift down the menu / change values
E	Shift up the menu / change the setting bit

Menu

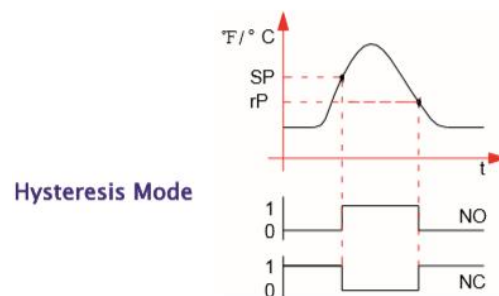
Display	Item	Description	Options
unit	unit	unit	F / °C
SP1	SP1	set point of output 1	2% ... 100% of F.S.
rP1	rP1	reset point of output 1	lower limit ... 98% of F.S.
out1	out1	output mode	hysteresis NC/NO window NC/NO
SP2	SP2	set point of output 2	2% ... 100% of F.S.
rP2	rP2	reset point of output 2	lower limit ... 98% of F.S.
out2	out2	output mode	hysteresis NC/NO window NC/NO
SFun	sfun	output function	PNP / NPN

Display	Item	Description	Options
Aout	Aout	current analog output	0...20mA or 4...20mA
		voltage analog output	0...5V or 1...5V
ASt	Ast	analog output start point	lower limit ... 75% of F.S.
AEd	AEd	analog output end point	25%...100% of F.S.
Sto	Sto	Save	Yes/No

Functional Specifications

Hysteresis Mode

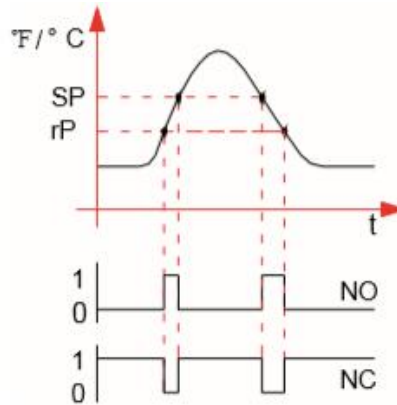
The hysteresis keeps the switching output stable if temperature fluctuates around the setpoint. Output switches when rising temperature reaches set point (SP1). As temperature falls, the output switches back only if the reset point (rP1) is reached.



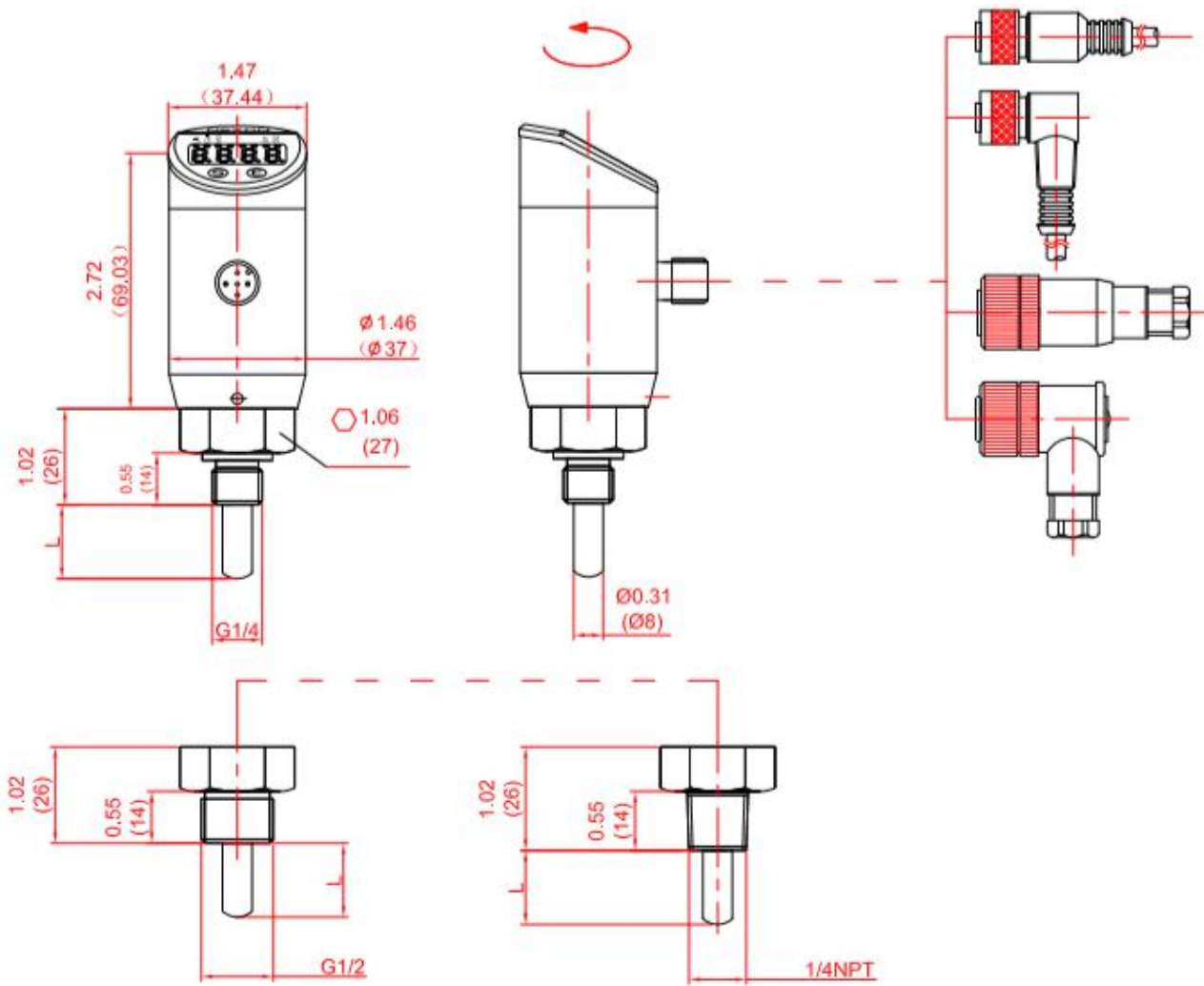
Window Mode

The window function allows the monitoring of a defined range. If the temperature is between set point (SP1) and reset point (rP1), the output is activated (NO), otherwise it is deactivated (NC).

Window Mode

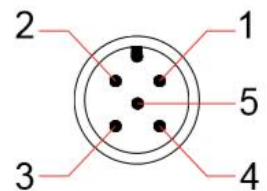


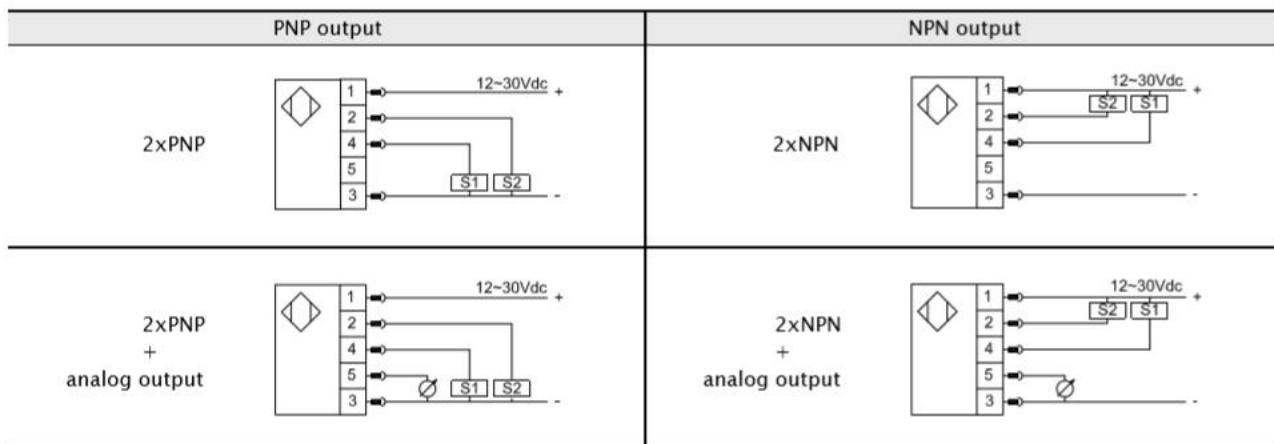
Dimensions in inches (mm)



Display Wiring

Signal	Plug	Cable
U+	1	Brown
U-	3	Blue
Switching output 1	4	Black
Switching output 2	2	White
Analog output (Current or Voltage)	5	Gray

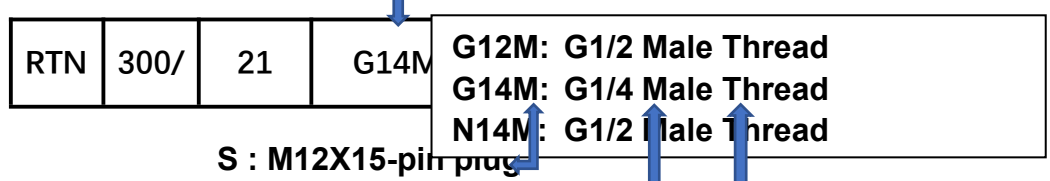




Order Code For Display

RTN : Electrical temperature switch
 300 : Series Number - With 4-digit LED display

20: 2 switching outputs
 21: 2 switching outputs +1 analog (0 to 20/ 4 to 20mA) output
 22: 2 switching outputs +1 analog (0 to 5/1 to 5V) output



G12M: G1/2 Male Thread
 G14M: G1/4 Male Thread
 N14M: G1/2 Male Thread

Mxxx: Probe Length L=xxx mm
 lxxx: Probe Length L=xxx inch
 e.g.:M050 means the probe length is 50mm.

Others

100 : Probe Length 100mm

Special Order on Request

- ▶ NPT 1/2 process connection
- ▶ Flange connection for sanitation requirement
- ▶ Other electrical / process connection

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