

TRT-1R - Touchscreen room thermostats



TRT-1R smart thermostats offer a modern flush mounted slim design look for heating or cooling control. The thermostats can be used for various zone control or underfloor heating/cooling control applications and they have 3.5" backlit colour touchscreen. The devices are connected to BMS or controllers via Modbus or BACnet communication interfaces. The thermostats can also be configured to be used as a lighting and/or air conditioning interface.

The thermostats are equipped with a relay output (230 V, 7 A), two external sensor inputs and a digital input.

The products are available with three different supply voltage choices.

Technical specifications

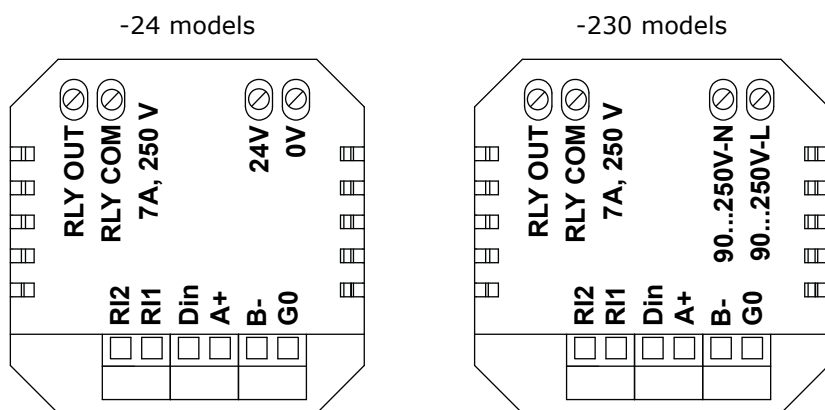
Property	Value
Supply	
-12 models	12 Vdc (11.4...13.8 V)
-24 models	24 Vac/dc (22...28 V) < 80 mA
-230 models	90...250 Vac/dc
Internal temperature measurement	
Range	0...50 °C (32...122 °F)
Accuracy (25 °C / 77 °F)	±0.5 °C (0.9 °F)
Humidity measurement (RH models)	
Range	0...100 %rH
Accuracy (25 °C / 77 °F)	±2 %rH (20...80 %rH)
Relay output	230 Vac, 7 A (res.) / 2.2 A (inductive) or 115 Vac, 7 A (res.) / 1.3 A (inductive)
Inputs	
Analogue inputs	2 x external NTC 10 sensor. Resistive inputs can also act as potential free contacts.
Digital inputs	1 x digital input, potential free contact, impedance <1 kΩ
Communication (MOD models)	Modbus RTU

Property	Value
Bus speed	9600*/19200/38400/57600/76800 bit/s
Parity	none*/odd/even
Stop bits	1 or 2
Network size	up to 63 devices per segment
Communication (BAC models)	BACnet MS/TP
Bus speed	9600*/19200/38400/57600/76800 bit/s
Parity	none*/odd/even
Stop bits	1 or 2
Network size	up to 63 devices per segment
Display	3.5" backlit touchscreen, 320 x 480 pixels, 255K colours
Operating conditions	
Temperature	0...50 °C (32...122 °F)
Humidity	0...95 %rH (non-condensing)
Storage conditions	
Temperature	-30...70 °C (-22...158 °F)
Humidity	0...95 %rH (non-condensing)
Wiring terminals (power supply and outputs)	
Wire type	Solid and stranded wire
Wire size	Solid: 0.05...2.5 mm ² , stranded: 0.05...1.50 mm ² / 14...30 AWG (UL)
Rising clamp size	2.5 x 2.2 mm
Wiring terminals (communication and inputs)	Tilted terminals
Wire type	Solid and stranded wire
Wire size	0.05...1.5 mm ² / 14...30 AWG (UL)
Rising clamp size	2.5 x 1.9 mm
Housing	
Protection class	IP20
Materials	Polycarbonate plastics, self extinguishing
Mounting	On a flush mounting box (60 mm hole distance)
Dimensions (w x h x d)	88 x 112 x 43 mm
Weight	220 g
	* = factory setting

Wiring



CAUTION: Device wiring and commissioning can only be carried out by qualified professionals. Always make the wirings while the power is switched off.

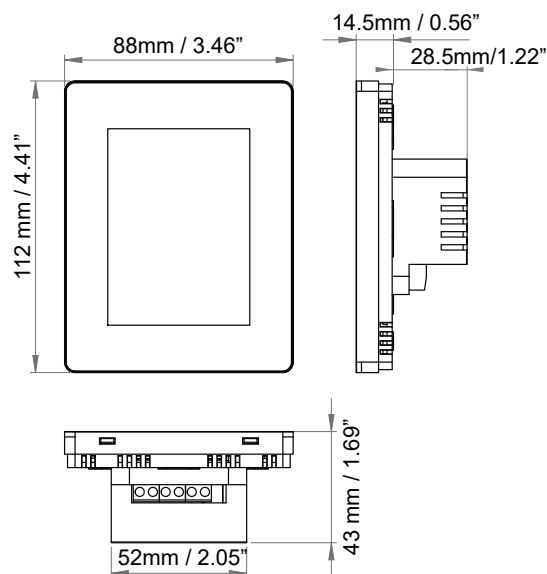


<i>RLY OUT</i>	Relay contact, 230 Vac / 30 Vdc, 7 A	
<i>RLY COM</i>	Relay contact, 230 Vac / 30 Vdc, 7 A	
<i>24V</i>	Supply, 24 Vac/dc	-24 models
<i>0V</i>	0 V, common	
<i>90...250V-N</i>	Supply, 90...250 Vac/dc, neutral	-230 models
<i>90...250V-L</i>	Supply, 90...250 Vac/dc, live	
<i>RI2</i>	External temperature sensor input 2, NTC 10 (control, floor, outside, network only, digital input)	
<i>RI1</i>	External temperature sensor input 1, NTC 10 (control, floor, outside, network only, digital input)	
<i>Din</i>	Digital input, potential free contact (override, e.g. holiday)	
<i>A+</i>	Modbus RTU / BACnet MS/TP, RS-485	
<i>B-</i>		
<i>G0</i>	0 V, common	

Ordering information

		Type	0	1	2	3	4	5	6
0	Touchscreen room thermostat		6001	1				0	
1	Device type	Room thermostat	TRT-1R	1					
2	Communication	No communication			A				
	Modbus	-MOD			M				
	Bacnet	-BAC			B				
3	Power supply	24 Vac/dc	-24			2			
	12 Vdc	-12				1			
	90...250 Vac/dc	-230				M			
4	Additional measurements	No additional measurements					0		
	Relative humidity	-RH					1		
5	Reserved							0	
6	Body colour	Chrome							0
	White (RAL 9010)	-W							W
	Black (RAL 8022)	-B							B

Dimensions



Supported standards and directives

Standard	Description
2014/30/EU	Electromagnetic Compatibility (EMC).
2014/35/EU	Low Voltage Directive (LVD).
2011/65/EU	Restriction of Hazardous Substances (RoHS2) Directive.
EN 61000-6-1:2007	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments.
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
EN 61000-6-3:2007/A1:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
EN 61000-6-4:2007/A1:2011	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.
EN 60730-1:2016	Automatic electrical controls - Part 1: General requirements.