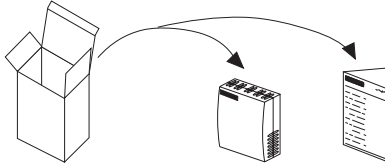


# Thermistor Room Temperature Sensors

Important: Retain these instructions



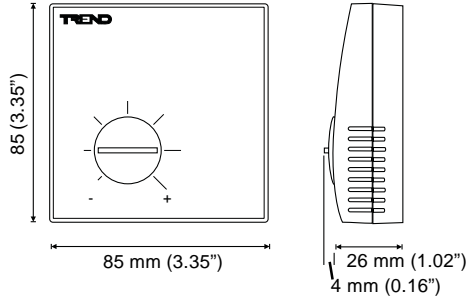
## UNPACKING



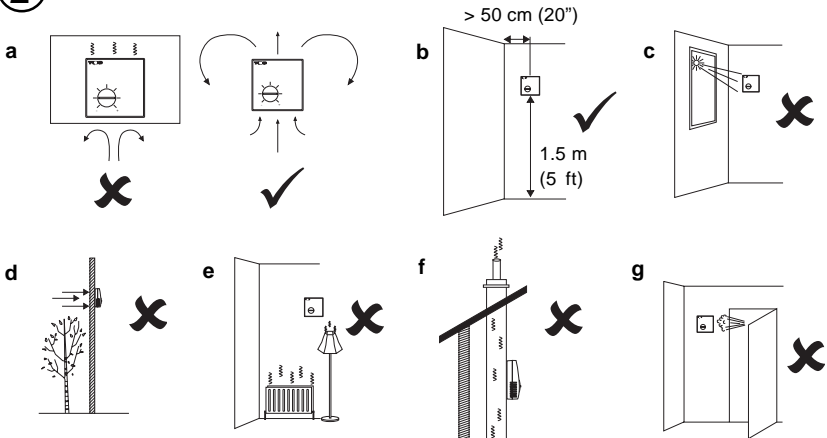
TB/TS/K Installation  
Instructions TG200607

## INSTALLATION

### 1 Dimensions

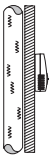


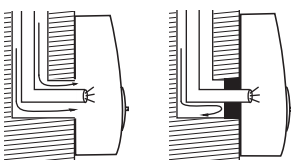
### 2 Requirements





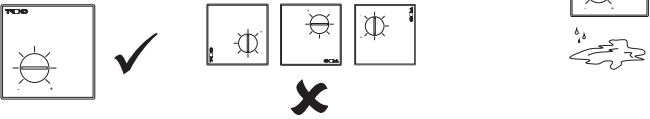
**INSTALLATION** (continued)

**2 Requirements** (continued)

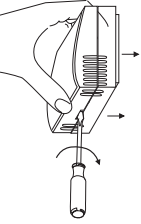
**h** 

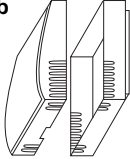
**i** 

**j**  -10 °C (14 °F) → +50 °C (122 °F) ✓  
 0 °C (32 °F) → +40 °C measurement (104 °F)  
 0 %RH → 90 %RH ✓

**l** 

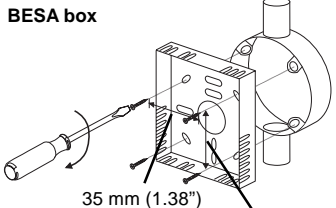
**3 Remove backplate**

**a** 

**b** 

**4 Mount backplate**

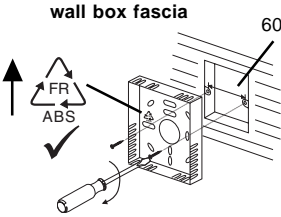
**BESA box**



35 mm (1.38")

35 mm (1.38")

**or wall**



60 mm (2.36")

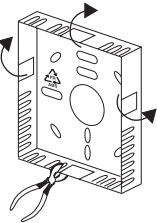
FR  
ABS

35 mm (1.38")

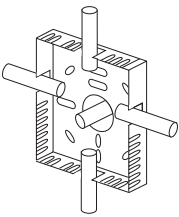
35 mm (1.38")

**5 Remove cutout(s)**

as required



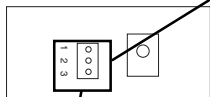
**6 Route cables**



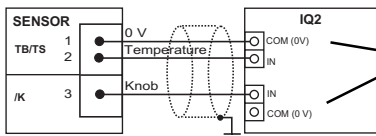
INSTALLATION (continued)

**7** Wire to controller

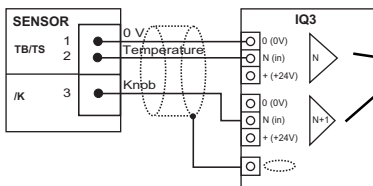
Terminal size 0.5 to 2.5 mm<sup>2</sup>  
(14 to 20 AWG)



**if IQ**



analogue inputs  
linked for  
thermistor (T)



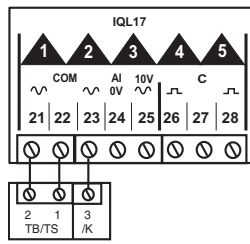
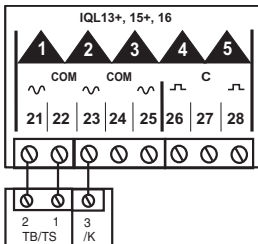
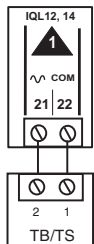
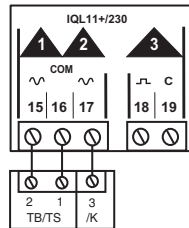
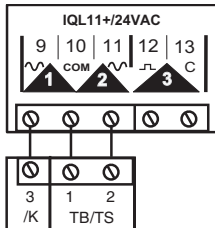
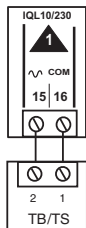
analogue inputs  
linked for  
thermistor (T)

**if IQL**

Note that screened cable is not required for sensor wiring to IQLs. If screened cable is used, the screen must be terminated at the controller to its supply cable earth.

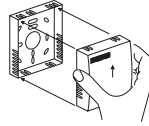
OPTION	CONNECT TERMINALS
TB/TS	1, 2
TB/TS/K	1, 2, 3

IQL	OPTIONS
IQL10, 12, 14	TB/TS
IQL11+, 13+, 15+, 16, 17	TB/TS, TB/TS/K



INSTALLATION (continued)

**8 Assemble unit**



**9 Set up IQ Sensor types**  
If IQ controller

It is recommended to use SET (software tool) for the setting of sensor type modules. For all IQ2 series controllers with firmware version 2.1 or greater, or IQ3 series controllers, select the appropriate SET Unique Sensor Reference from the following:

Knob: **Knob TB 3 deg trim** (guaranteed  $\pm 3$  trim)  
alternatively: **Knob T 3 deg trim** ( $\pm 3 \pm 20\%$  linear)

Thermistor: **Thermistor TBTS ( $^{\circ}\text{C}$ )**  
**Thermistor TBTS F ( $^{\circ}\text{F}$ )**  
(change the values of U and L to those in the following table)

If not using SET, use the following tables for all IQ2 series controllers of firmware version 2.1 or greater or IQ3 controllers, and set mode to 5 (characterise); for all other IQ controllers see Sensor Scaling Reference Card TB100521A.

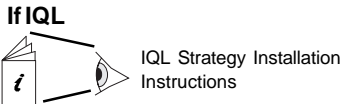
**Thermistor**  
(0 to  $+40^{\circ}\text{C}$ )

Units		$^{\circ}\text{C}$	$^{\circ}\text{F}$
<b>Y</b>	Input type	1 (thermistor volts)	
<b>E</b>	Exponent	3	
<b>U</b>	Upper	50	122
<b>L</b>	Lower	-5	23
<b>P</b>	Points	6	
<b>x</b>	<b>I<sub>x</sub></b>	<b>O<sub>x</sub> (<math>^{\circ}\text{C}</math>)</b>	<b>O<sub>x</sub> (<math>^{\circ}\text{F}</math>)</b>
<b>1</b>	2.641	50	122
<b>2</b>	3.47	40	104
<b>3</b>	4.46	30	86
<b>4</b>	6.663	10	50
<b>5</b>	7.668	0	32
<b>6</b>	8.102	-5	23

**Knob**  
(trim -3 to +3)

<b>Y</b>	Input type	<b>3 (Kohms)</b>
<b>E</b>	Exponent	1
<b>U</b>	Upper	3.2
<b>L</b>	Lower	-3.2
<b>P</b>	Points	4
<b>x</b>	<b>I<sub>x</sub></b>	<b>O<sub>x</sub></b>
<b>1</b>	.95	-3.1
<b>2</b>	1.05	-3
<b>3</b>	8.95	+3
<b>4</b>	13.05	+3.1

**10 Test system**



**DISPOSAL**



**WEEE Directive :**

At the end of their useful life the packaging and product should be disposed of by a suitable recycling centre.  
Do not dispose of with normal household waste.  
Do not burn.

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorized Representative, Trend Control Systems Limited.

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