Installation Instructions

T-PI

PRT Insertion Temperature Sensor

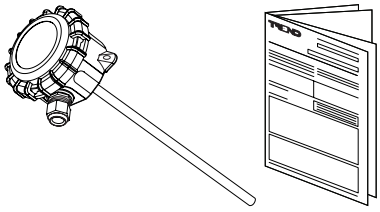
Important: Retain these instructions

These instructions shall be used by trained service personnel only. If the equipment is used in a manner not specified by these instructions, the protection provided by the equipment may be impaired.

https://partners.trendcontrols.com

CONTENTS

1 BOX CONTENTS



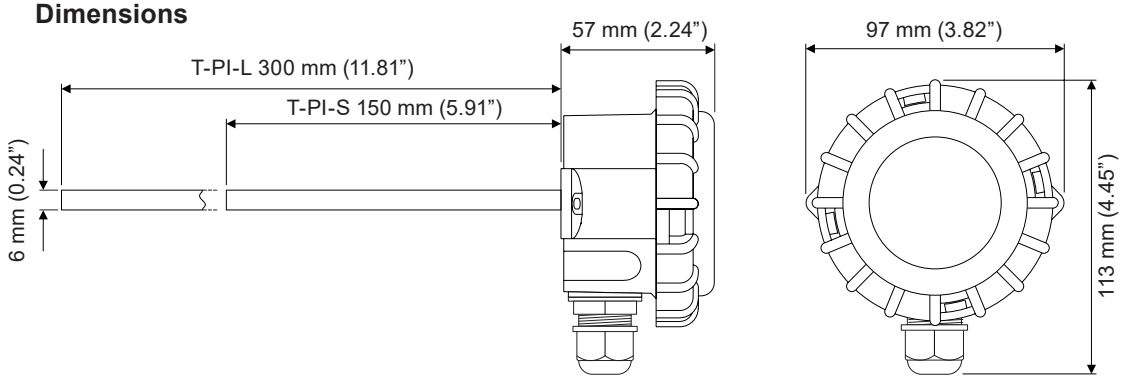
T-PI
Installation Instructions
(TG201420)

It is recommended that the installation should comply with the local electrical safety installation practices (e.g. HSE Memorandum of Guidance on Electricity at Work Regulations 1989, USA National Electric Code).

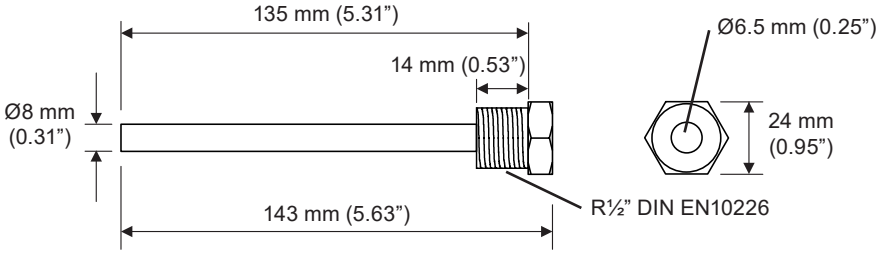
ATTENTION: Observe precautions for handling electrostatic sensitive devices.

2 INSTALLATION

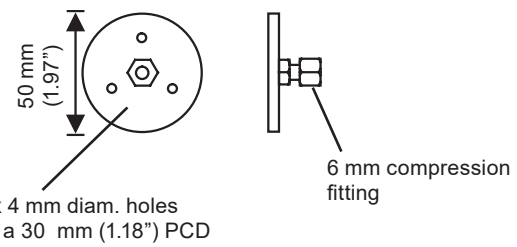
1 **Dimensions**



Pockets for use as immersion sensor; Brass (WB150) Stainless Steel (WS150)

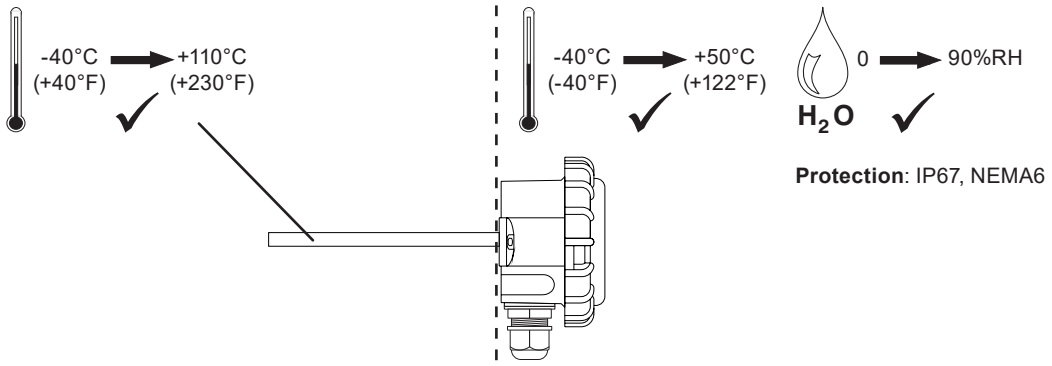


Mounting flange for use as duct sensor (ACC/DF)



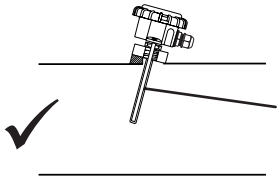
2 INSTALLATION (continued)

2 **Mounting Requirements**

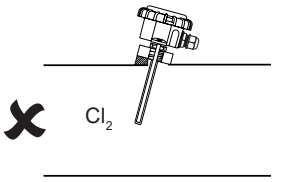


Protection: IP67, NEMA6

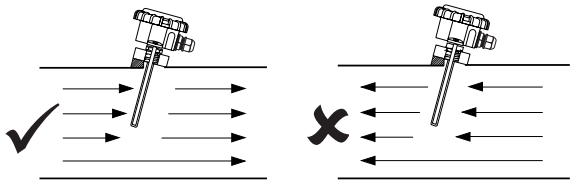
For **immersion** applications

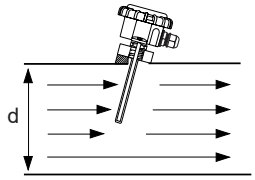


Pocket (e.g. WB150, WS150)



Note: WS150 is NOT suitable for use in chlorine rich environments.



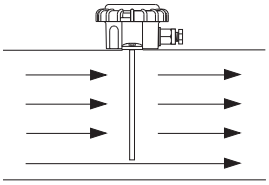


Ensure no stratification (e.g. downstream of mixing valves, junctions)

(minimum distance from junctions =10xd).

Proceed to step 3

For **duct** applications



Ensure no stratification (e.g. downstream of mixing dampers, heating coils, cooling coils) otherwise use averaging sensor.

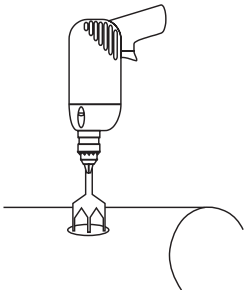
Proceed to step 4

2 INSTALLATION (continued)

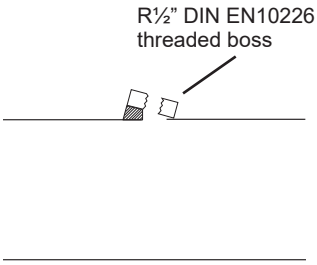
3 Install as Immersion Sensor

Install Pocket (if installing new pocket)

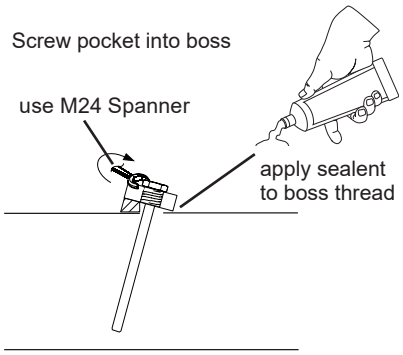
Drill hole for boss



Fix threaded boss

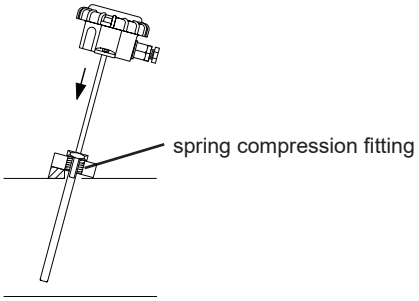


Screw pocket into boss

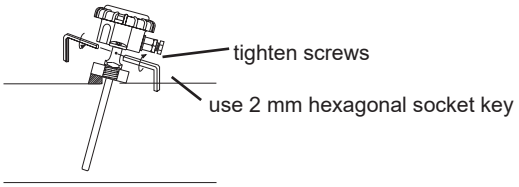


Install Sensor into Pocket (if using compatible pocket)

either: (if using new pocket)

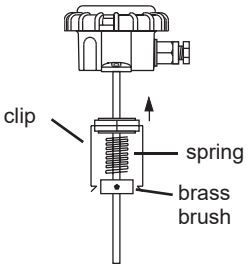


or: (if using old pocket with grub screws)

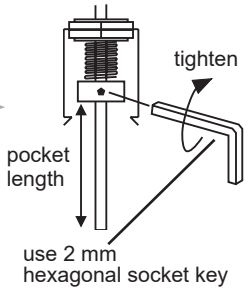


Install Sensor into Pocket (if using Universal Fixing Kit)

Push adaptor onto probe

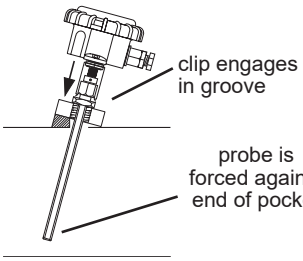


Adjust probe length

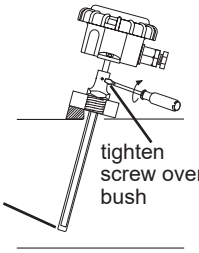


*Mount in pocket

if pocket has clip retaining groove, push clip over pocket



if pocket has grub screw, discard spring and clip



*If used for chilled water ensure pocket is sealed around probe or fill pocket with thermally conducting oil to avoid the build up of condensation in bottom of pocket.

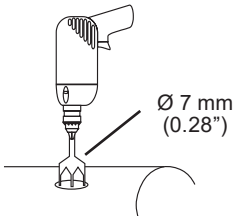
Proceed to step 5

2 INSTALLATION (continued)

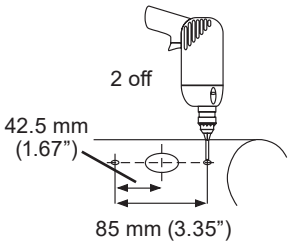
4 Install as Duct Sensor

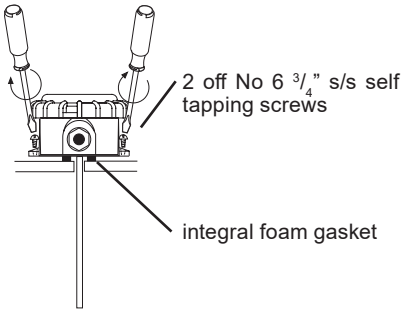
Either: Direct mount sensor on duct

Drill hole in duct



Drill 2 pilot holes

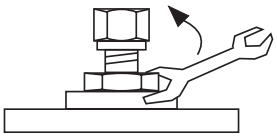




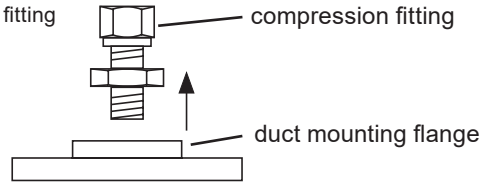
Or: Use compression fitting

Separate compression fitting

Loosen nut

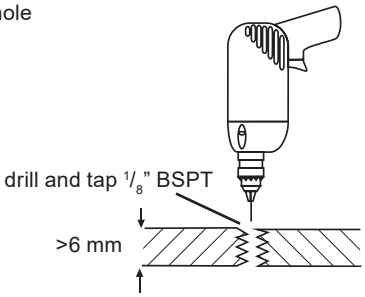


Unscrew fitting

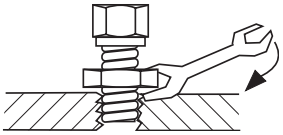


Either: (for thicker material) use compression fitting only

tap hole

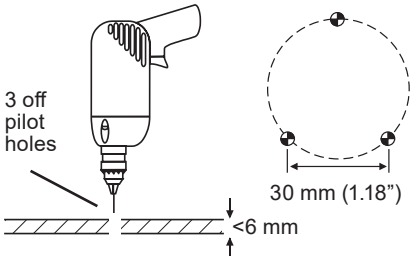


screw in fitting



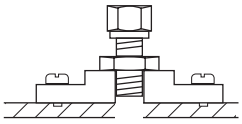
Or: (for thinner material) use complete mounting flange

drill 3 holes



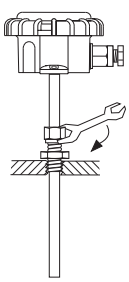
screw on flange

mounted flange

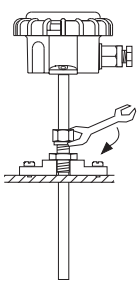


Adjust depth of probe

Either:

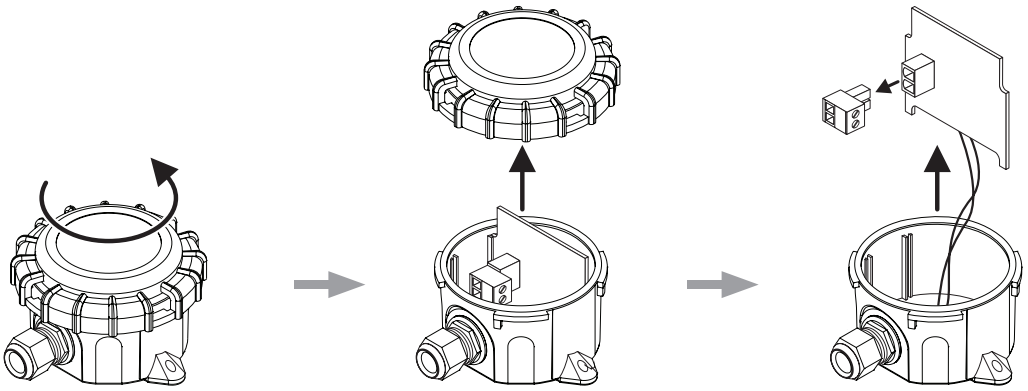


Or:

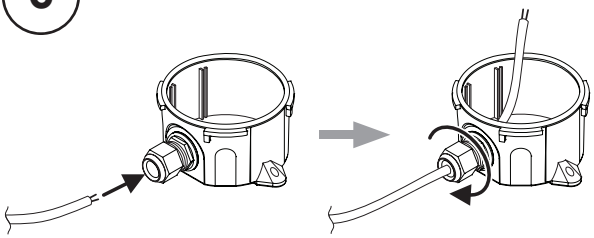


2 INSTALLATION (continued)

5 Remove Lid, PCB & Connector



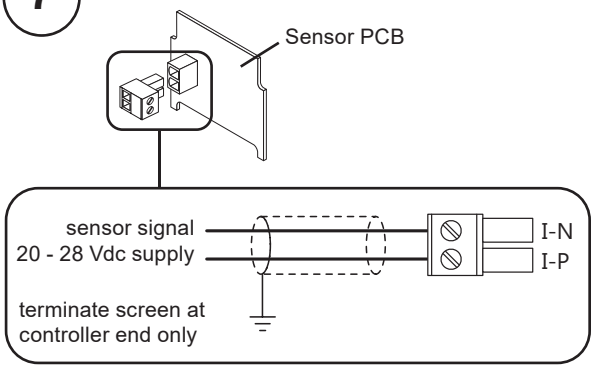
6 Insert Cable



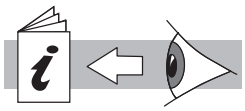
Recommended cable: Trend TP/I/22/HF/200 (Belden 8761)

Note: Rigid or flexible 20mm PVC conduit may be used as an alternative to the supplied cable gland, in which case remove the cable gland and secure the conduit directly to the box using a suitable adapter.

7 Wire to Controller

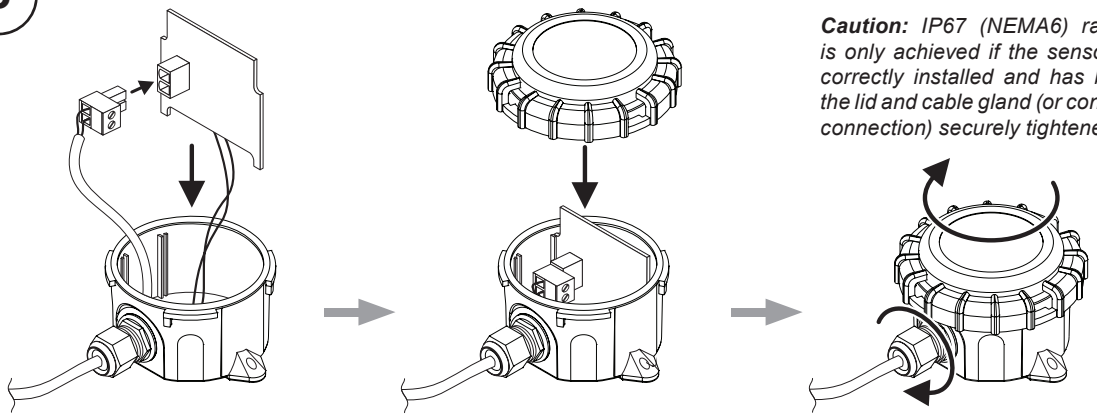


Terminal size: 0.5 to 2.5 mm² (20 to 14 AWG)



Refer to controller installation instructions for details of input type and required connections.

8 Refit Connector, PCB & Lid

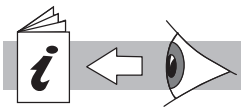


Caution: *IP67 (NEMA6) rating is only achieved if the sensor is correctly installed and has both the lid and cable gland (or conduit connection) securely tightened.*

2 INSTALLATION (continued)

9 Configure Controller

Use IQSET to configure the Sensor Type and External Sensor strategy modules as required.



IQSET Manual (TE200147)
IQ4 Configuration Manual (TE201263)
IQ3 Configuration Manual (TE200768)
IQ Configuration Manual (90-1533)
IQeco Configuration Manual (TE201089)

Setting the Sensor Type
For the following controller types:

IQ4 series,
IQ3 series,
IQ2 series (with firmware version 2.1 or greater)

configure the Sensor Type by selecting one of the following Unique Sensor References:

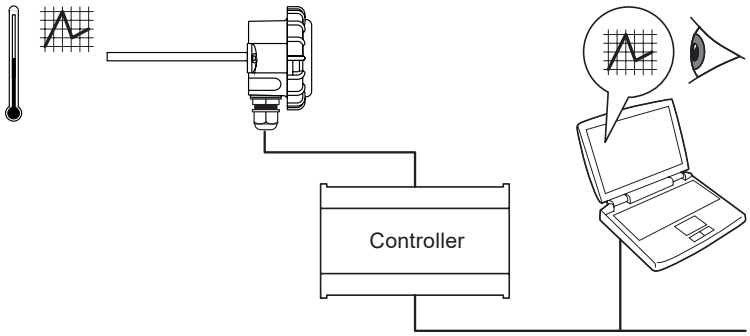
PRT I -10+110 (for systems using °C)
PRT I +14+230 F (for systems using °F)

Alternatively set scaling mode to 5 (characterise) and enter scaling parameters manually as defined in the following table.

Units		°C	°F
Y	Input type	2 (current)	
E	Exponent	3	
U	Upper	110	230
L	Lower	-10	14
P	Points	2	
x	**Ix**	**Ox**	
1	4	-10	14
2	20	110	230

Note: For IQ3/4 the scaling mode and exponent (E) do not need to be set up.

10 Test Operation



3 CLEANING AND MAINTENANCE

There are no serviceable parts inside the unit. Periodic cleaning of the unit should be carried out in order to avoid buildup of dust or other containments. Disconnect power before carrying out any cleaning.

4 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.

Please send any comments about this or any other Trend technical publication to techpubs@trendcontrols.com

TR CU Certification

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