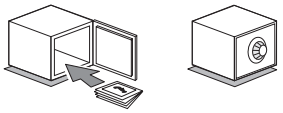
Installation Instructions

HT/O

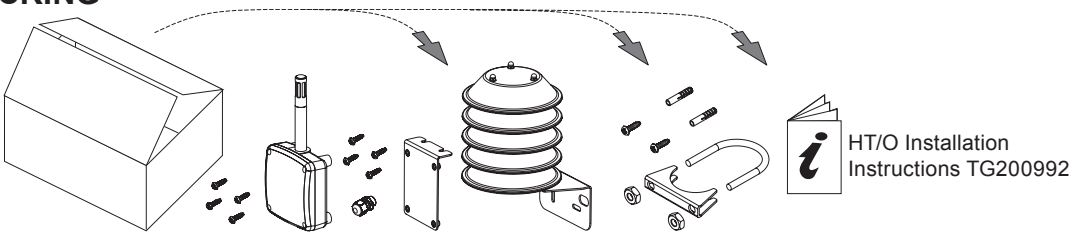
Outside Humidity and Temperature Sensor

Important: Retain these instructions

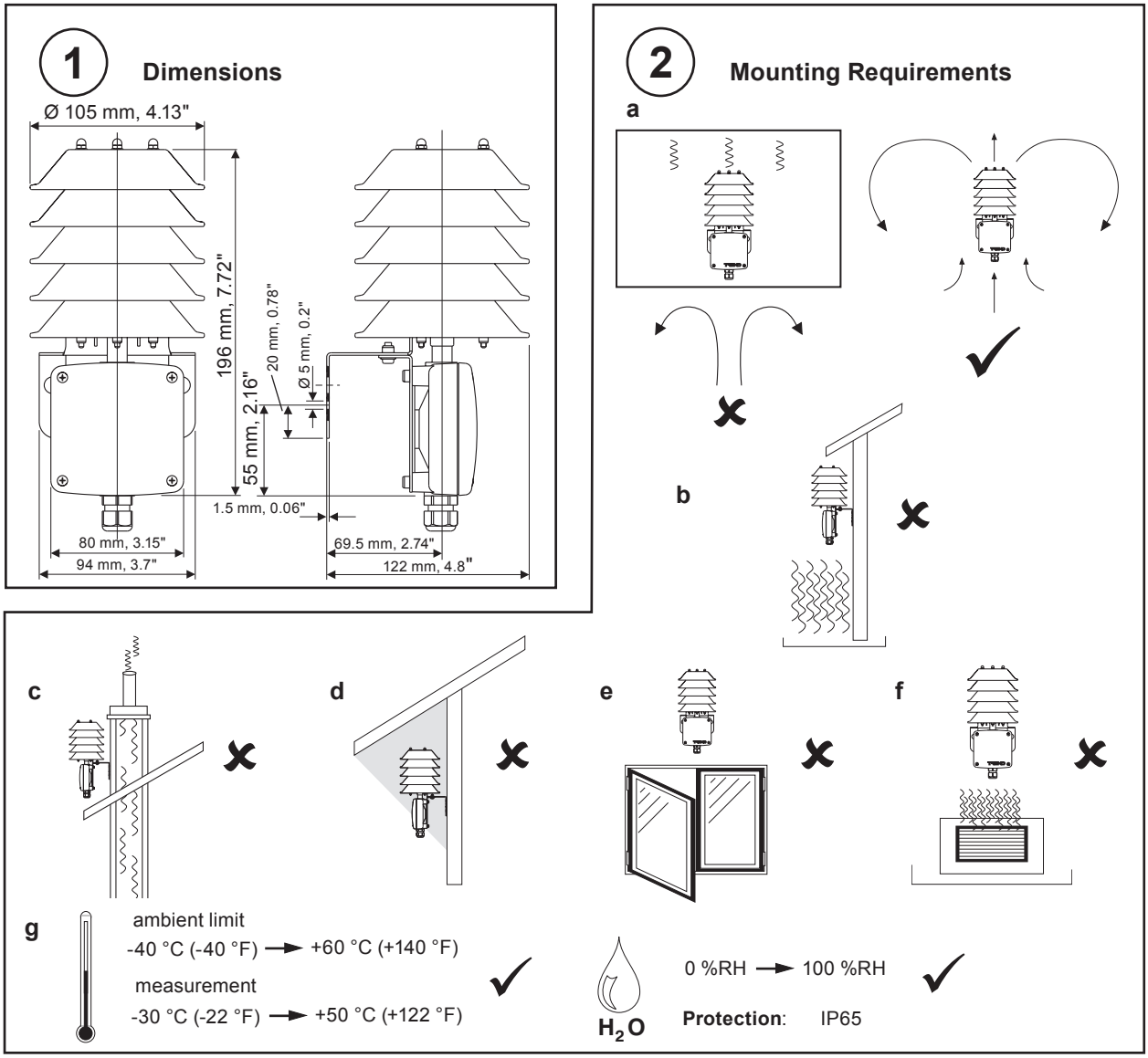


CONTENTS

1 UNPACKING



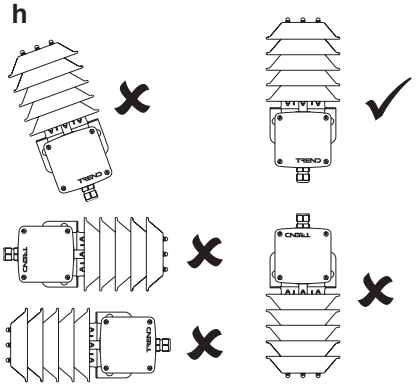
2 INSTALLATION



2 INSTALLATION (continued)

2 Mounting Requirements (continued)

h



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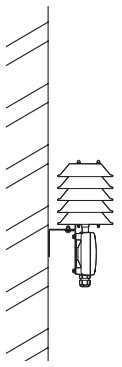

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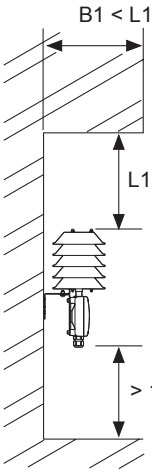

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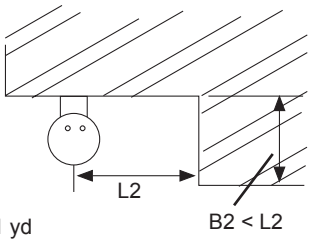
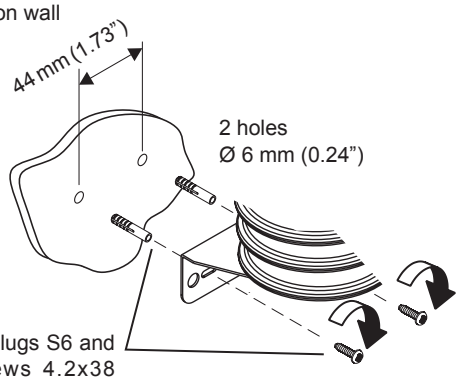
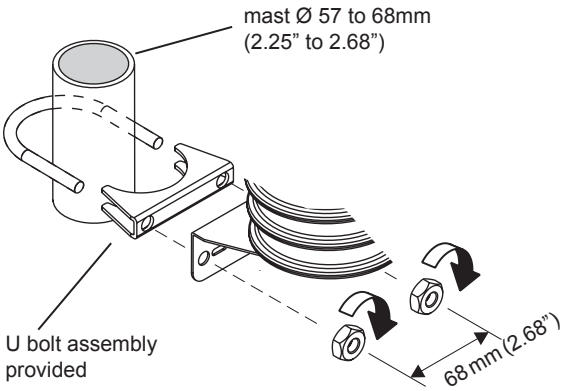


3 Mount Radiation Shield

Either on wall

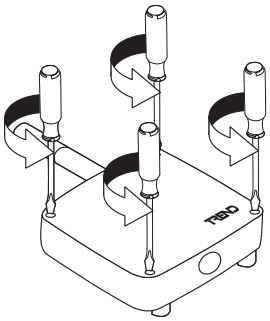


Or on mast



4 Remove Cover

a



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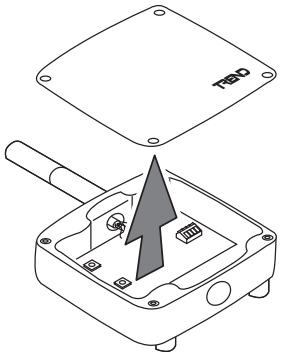
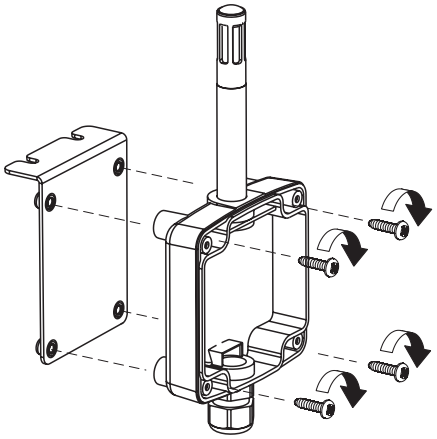


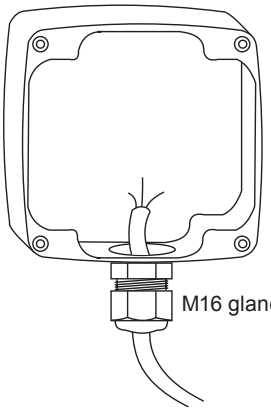
Caution: This unit contains static sensitive devices. Suitable anti-static precautions should be taken throughout the operation to prevent damage to the units. BS EN100015/1 Basic Specification: protection of electrostatic sensitive devices.

2 INSTALLATION (continued)

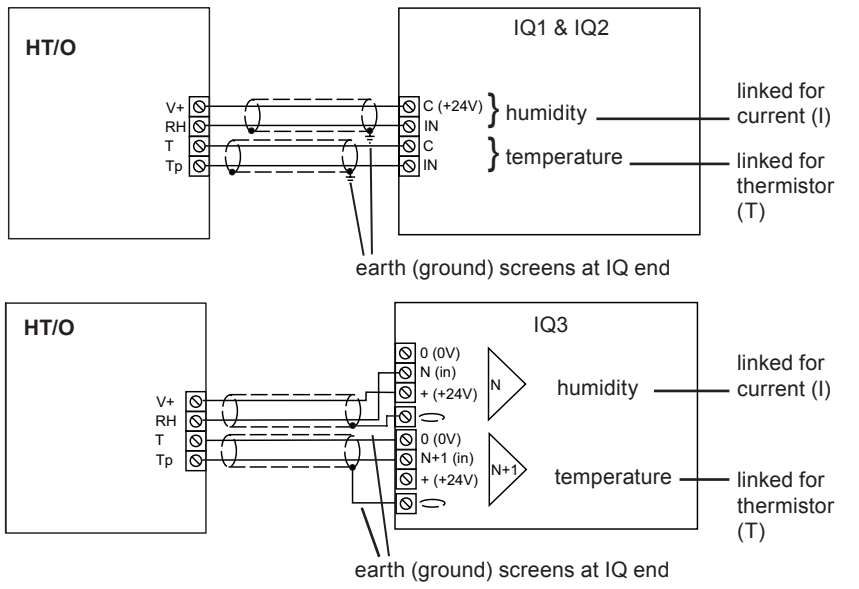
5 Attach Sensor to Backplate



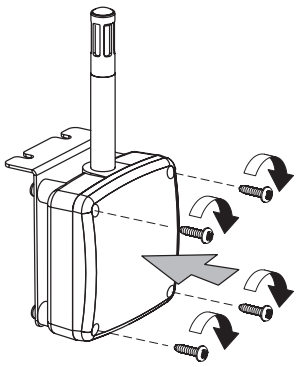
6 Insert Cable through Gland



7 Wire to Controller

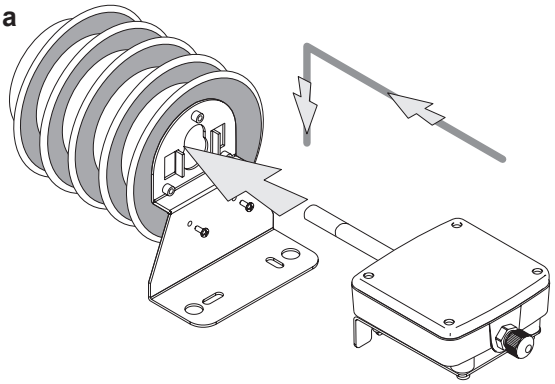


8 Fit Cover



9 Fit Sensor Assembly to Shield

a



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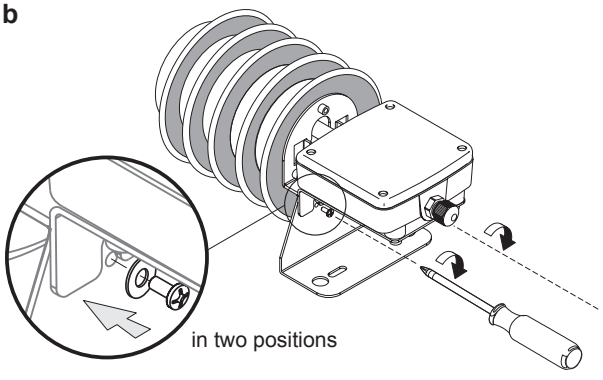
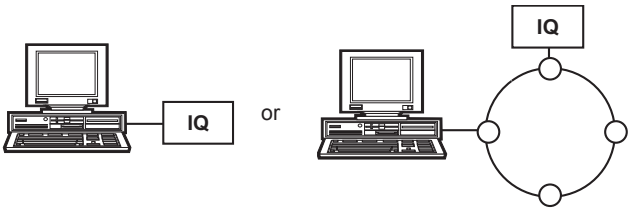
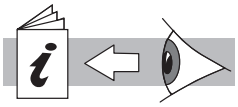


2 INSTALLATION (continued)

10 Configure IQ





IQ Configuration Manual 90-1533
IQ3 Configuration Manual TE200768

11 Set up IQ Sensor Types

It is recommended to use SET (Software Tool) for the setting of the sensor type module. For all IQ2 series controllers with firmware version 2.1 or greater, or IQ3 series controllers, the following SET Unique Sensor References should be used:

Humidity :**Humidity I**
Temperature :**Thermistor HTOT** (°C)
Thermistor HTOT F (°F)

Alternatively enter scaling manually as defined in tables below.
For all other IQ contriollers see Sensor Scaling Reference Card TB100521A

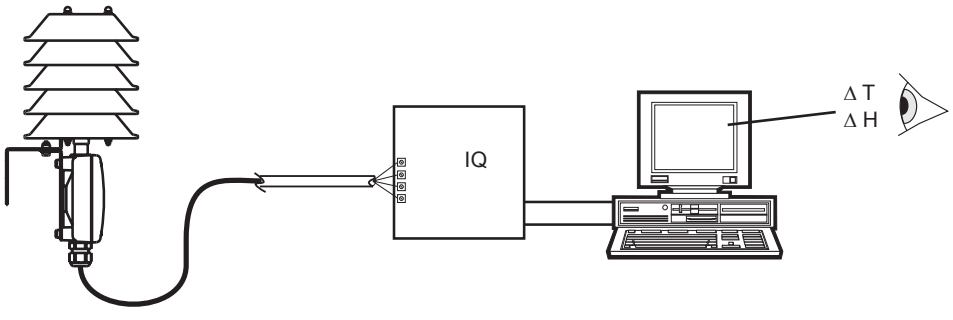
Temperature (thermistor)
(-30 to +50 °C, -22 t0 122 °F)

Units:		°C	°F
Y	Input type	1 (therm V)	
E	Exponent	3	
U	Upper	55	131
L	Lower	-35	-31
P	Points	11	
x	**Ix**	**Ox**	
1	2.641	50	122
2	3.470	40	104
3	4.460	30	86
4	6.663	10	50
5	7.668	0	32
6	8.102	-5	23
7	8.482	-10	14
8	8.807	-15	5
9	9.078	-20	-4
10	9.299	-25	-1
11	9.476	-30	-22

Humidity (current)
(0 to 100 %RH)

Y	Input type	2 (curr mA)
E	Exponent	3
U	Upper	100
	Lower	0
P	Points	2
x	**Ix**	**Ox**
1	4	0
2	20	100

12 Test System



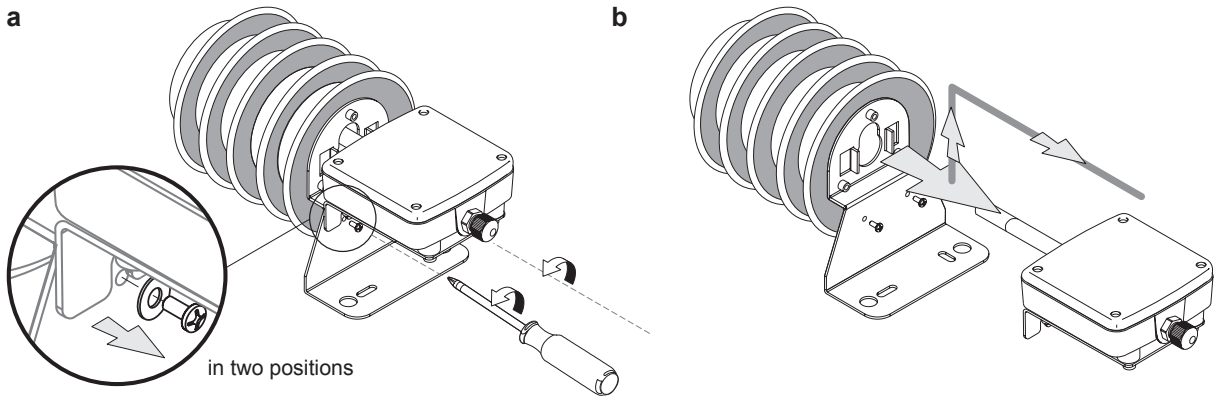
3 Fault Finding

Faults	Possible Causes	Remedies
Long response time	Filter polluted	Replace filter
Complete failure	No power supply	Check power supply and cable
Humidity reading too high	Condensation on sensor probe	Dry probe and replace filter if necessary

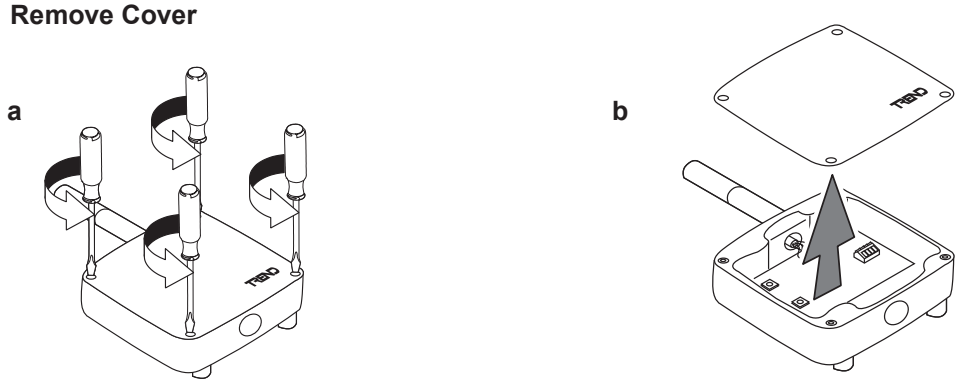
4 MAINTENANCE

Over time, the sensing element may become covered in dust. The dust can be removed using compressed air. Under no circumstances should water or cleansing agents be used on the sensing elements.
It is recommended that the accuracy of the sensor is verified every 12 months. If the sensor falls outside the quoted accuracy, replace the filter and recalibrate as shown below. The calibration chamber and calibration liquids will need to be purchased from a specialist calibration equipment supplier.

1 Remove Sensor Assembly from Radiation Shield

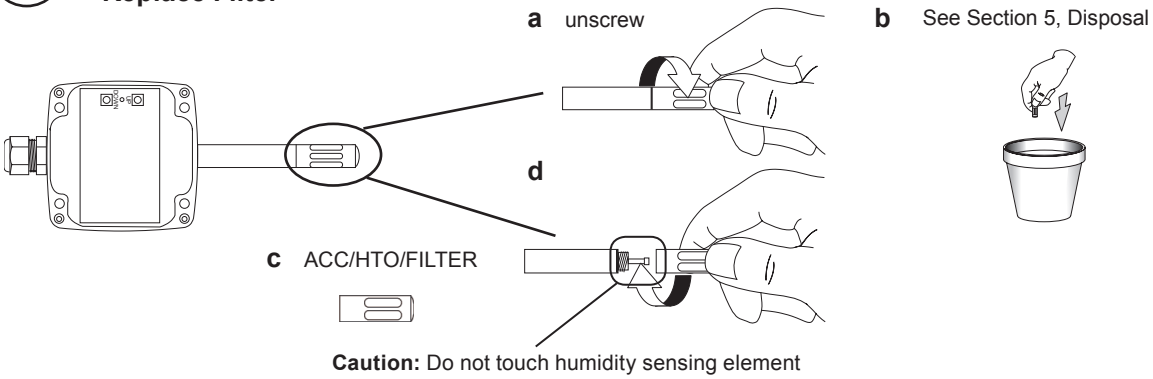


2 Remove Cover



Caution: This unit contains static sensitive devices. Suitable anti-static precautions should be taken throughout the operation to prevent damage to the units. BS EN100015/1 Basic Specification: protection of electrostatic sensitive devices.

3 Replace Filter



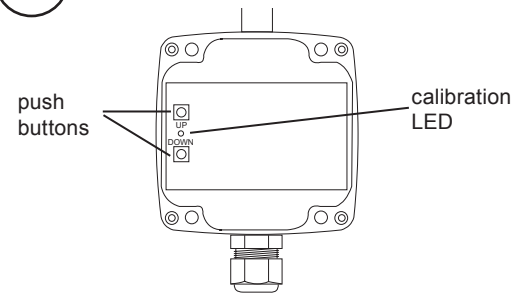
Caution: Do not touch humidity sensing element

4 MAINTENANCE (continued))

4 Preparation

- Keep sensor and humidity chamber in same room for 4 hours before.
- Place probe in humidity chamber 30 mins before.
- Keep temperature constant during calibration.

5 Locate Buttons



6 Two Point Calibration

For calibration over whole working range

- Start calibration at lower humidity point.
- Difference between the two points should be >30%RH

Low Humidity Calibration

1. Remove lid from the calibration chamber and clean chamber thoroughly.
2. Insert one of the cloths provided with the calibrating liquid. Pour calibrating liquid (35%RH) onto the fabric. Refit lid and screw tightly.
3. Insert probe into sensor aperture of chamber and tighten collar to provide air tight seal around the probe. Wait 30 min.
4. Press Down pushbutton for 3 s to start. LED will illuminate.
5. Press Up or Down pushbutton to adjust measured value in 0.1% steps.
6. **Either**: Press Up pushbutton for 3 s to stop. Calibrated value is stored. LED is extinguished. **Or**: Press Down pushbutton for 3 s to exit calibration without storing value. LED is extinguished.

High Humidity calibration

7. Remove lid from the calibration chamber and clean chamber thoroughly.
8. Insert one of the cloths provided with the calibrating liquid. Pour calibrating liquid (80%RH) onto the fabric. Refit lid and screw tightly.
9. Insert probe into sensor aperture of chamber and tighten collar to provide air tight seal around the probe. Wait 30 min.
10. Press Up pushbutton for 3 s to start. LED will illuminate.
11. Press Up or Down pushbutton to adjust measured value in 0.1% steps
12. **Either:** Press Up pushbutton for 3 s to stop. Calibrated value is stored. LED is extinguished. **Or:** Press Down pushbutton for 3 s to exit calibration without storing value. LED is extinguished.

7 One Point Calibration

For calibration over limited range about single point

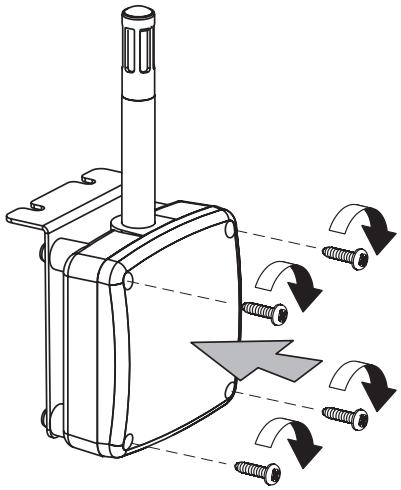
- This calibration gives decreased accuracy over remainder of working range

Single Point Humidity Calibration

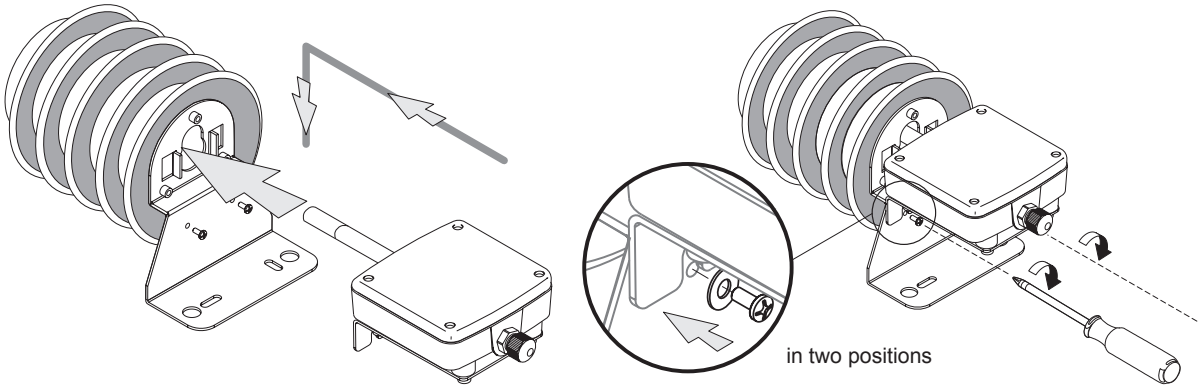
1. Remove lid from the calibration chamber and clean chamber thoroughly.
2. Insert one of the cloths provided with the calibrating liquid. Pour calibrating liquid (35%RH or 80%RH) onto the fabric. Refit lid and screw tightly.
3. Insert probe into sensor aperture of chamber and tighten collar to provide air tight seal around the probe. Wait 30 min.
4. **Either:** (If chamber humidity >50%RH.) Press Up pushbutto for 3 s to start. LED will illuminate. **Or:** (If chamber humidity <50%RH.) Press Down pushbutton for 3 s to start. LED will illuminate.
5. Press Up or Down pushbutton to adjust measured value in 0.1% steps
6. **Either:** Press Up pushbutton for 3 s to stop. Calibrated value is stored. LED is extinguished. **Or:** Press Down pushbutton for 3 s to exit calibration without storing value. LED is extinguished.

4 MAINTENANCE (continued

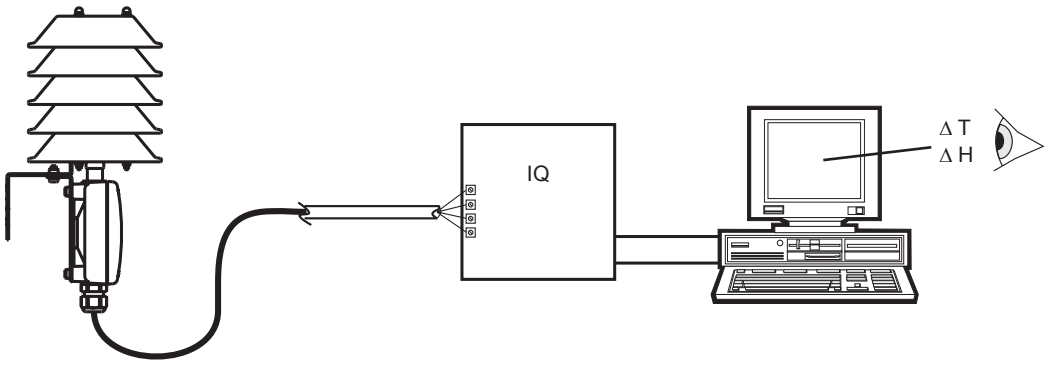
8 **Replace Cover**



9 **Fit Sensor Assembly to Shield**



10 **Test System**



5 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.

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