IMMERSION TEMPERATURE SENSORS

N 140
18.05.07 MC
REV 01

SIH - STH - SIR Eng.

STH 001

SIR 010

SIH 010

- **NTC or Pt temperature sensing element**
- **Installation:**
  – immersion in pipe
- **Range; min. e max.:**
  – SIH / SIR 010 (0... 100 °C) NTC
  – STH 001 (0... 300 °C) Pt

CE

1. APPLICATION

For measuring the temperature of fluid circulating in a pipe.The sensing element is housed in a brass sheath enclosed in a threaded pocket for insertion in the pipe.
Should a very rapid response to a change in temperature be required, the sensors are supplied together with a small package of silicon-based paste which, when inserted inside the pocket, makes the response very much faster (see Time Constant under TECHNICAL DATA)

2. MODELS AVAILABLE

Code	Description	Range	Sensing element	Max. length cables: 1mm²	1.5 mm²	2.5 mm²
SIH 010	Immersion with brass sheath.	0... 100 °C	NTC 10 kΩ	700 m	1,000 m	2,000 m
SIH 010/inox	Immersion with stainless steel sheath.	0... 100 °C	NTC 10 kΩ	700 m	1,000 m	2,000 m
SIR 010	Rapid direct immersion.	0... 100 °C	NTC 10 kΩ	700 m	1,000 m	2,000 m
STH 001	Immersion with stainless steel sheath.	0... 300 °C	Pt 1 kΩ	70 m	100 m	200 m

3. ACCESSORIES

Code	Description
APV 100	Adaptor for installing the new sensors on old-type Coster sheaths.

4. TECHNICAL DATA

Temperature sensing element:
- Type: see table in 2 above
- **Temperature constant: 1 min**
- **Temperature constant with silicon: 15 s**
- Measurement range: see table in 2 above

Sensing element sheath: ø 6 mm
Materials:
- Pocket: brass or stainless steel
- Enclosure: NYLON

Dimensions:
- Pocket: ø 9 x 90 mm x 1/2"
- Enclosure: 45 x 80 x 35 mm

Installation: immersion in pipe
Cable entry: PG 11
Construction standards: Italian Electrotech. Committee (CEI)
Weight: 190 g (SIH)
410 g (STH)

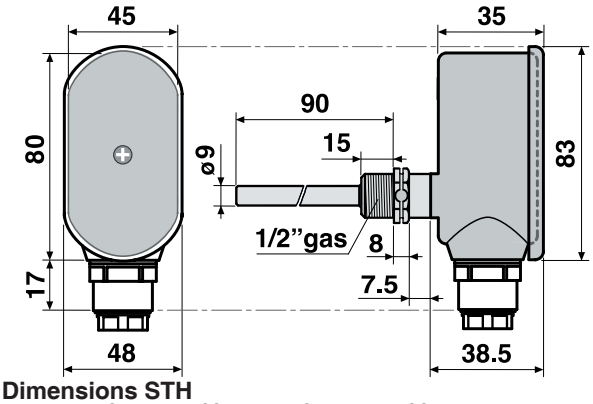
5. INSTALLATION

Remove the cover from the container after having loosened the securing screw.
Separate the container along with the sensing element protective tube from the pocket (supplied with sensor) by loosening the screws holding them together (fig. 7.5).
Install the pocket on the pipework (1/2" threading), re-insert the sensing element protective tube together with the container and secure it by tightening up the relative screws (see fig. 7.5).
- Carry out the electric wiring in strict accordance with the diagram and with the safety regulations in force, using cables of the appropriate diameter (**NOT telephone or similar cables**); see table in 2 above.
- Replace the cover on the enclosure and tighten up the screw holding the two components together..

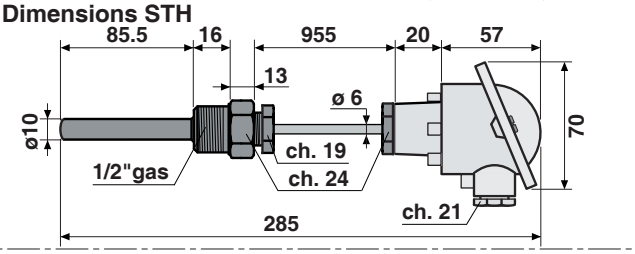
WARNING:
- **If the sensors are connected using bipolar cables, the distances shown in the table under 2 above must be strictly observed for correct operation.**
- **If several sensors are connected using a single multicore cable, ALL the sensors must of COSTER manufacture.**
- **For correct data measurement, the above installation instructions must be followed to the letter.**

6. OVERALL DIMENSIONS

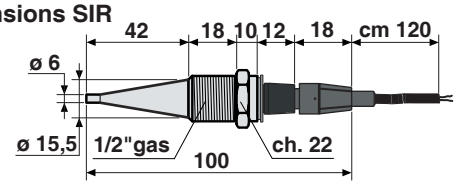
6.1 Dimensions SIH



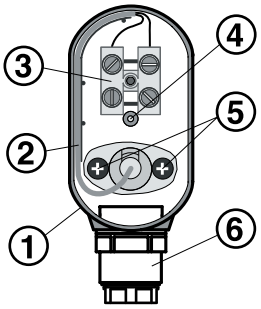
6.2 Dimensions STH



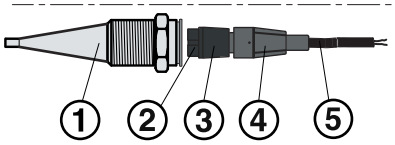
6.3 Dimensions SIR



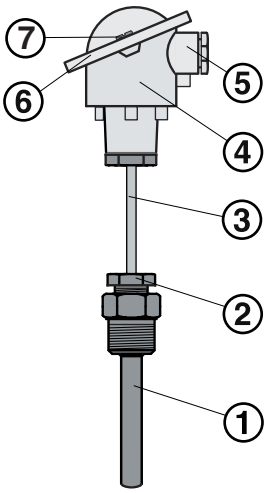
7. ENCLOSURE (description)



1 – Enclosure
2 – Sensing element cable
3 – Connections terminals
4 – Cover securing screw
5 – Sheath securing screws
6 – PG 11 cable entry



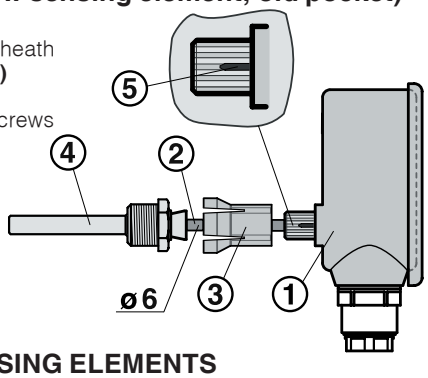
1 – Pocket
2 – Connector
3 – Ring nut
4 – Plug
5 – 2 x 0.50 cable



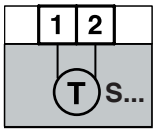
1 – Pocket
2 – Spindle locking nut
3 – Sensor protection spindle
4 – Enclosure
5 – "PG11" cable entry gland
6 – Protective cover
7 – Cover securing screws

8. ADAPTOR (new sensing element; old pocket)

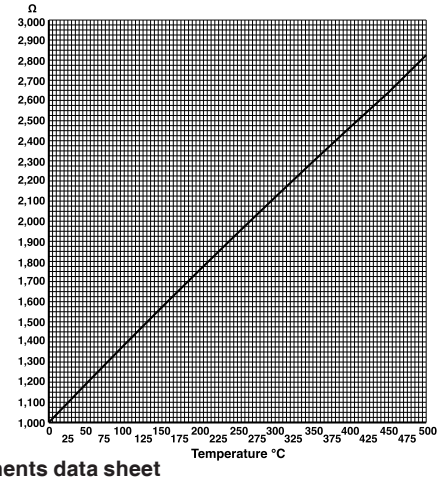
1 – Enclosure
2 – Sensing element sheath
3 – Adaptor **(APV 100)**
4 – Old pocket
5 – Sheath securing screws



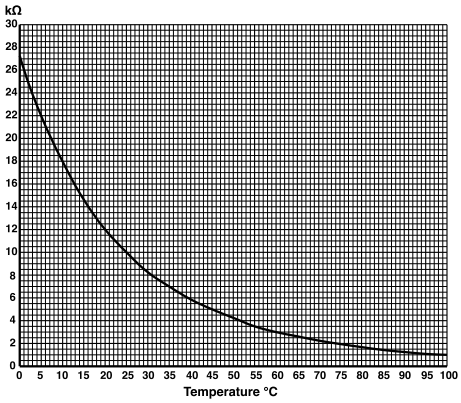
9. WIRING DIAGRAM



10. NTC 10 KΩ SENSING ELEMENTS



11. PT 1 KΩ SENSING ELEMENTS



Amendments data sheet

Data	Revision No.	Page	Section	Amendments description
21.02.05 MC		1	General	New photographs.
			2 - Models available	Eliminated SIH 001.
			3 - Accessories	Addition adaptor.
			5-Installation	Amendment text (see connections section).
		2	6-7-8-9-Various	Amendments diagrams.
			10-11-Diagrams	Replacement graphs (formerly unclear)
01.09.05 MC		1	5-Installation	Amendment description of installation.
		2	8-Adaptor	Installation new sensor/old pocket.
18.05.06 MC		1	1-Application	Text added regarding possibility of using silicon paste with sensors.
			4-Technical data	Added Time Constant using silicon paste.
18.05.07 MC	01	2	6-Dimensions - 7. Enclosure	Add overall dimensions of SIH - SIR detector

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