

CONTACT TEMPERATURE PROBE TYPE ST11N



ST11N F



ST11N F48



ST11N L

APPLICATION

This temperature probe is suitable to equip temperature adjustment systems installed in hot water generators for heating and domestic use, such as:

- Wall-hung boilers;
- Floor-standing boilers;
- Water heaters;
- Instantaneous water heaters;

FEATURES

It is called a “contact probe” simply because it is placed in contact with the pipe or the container of the fluid to be controlled.

The probe type ST11 is provided with the following features:

- The reaction time of a contact probe is comparable to the time of an immersion probe (see technical data);
- Easiness of installation;

TECHNICAL DATA

- Class III (rif. EN 60730-1)
- Operating temperature -20°C ÷ +105°C
- Reaction time < 2 seconds
- Average reaction time 1,5 seconds (approx.)
(The reaction time is reduced of about 30% if conductive silicone paste is placed in the contact area between the probe and the pipe)
- Sensor NTC thermistor
- Resistance value at 25°C (R₂₅) 10 kΩ ± 1%
- β coefficient (25°C-85°C) (*) 3435k ± 1%
3977k ± 1 opt Z
- Insulation voltage 500 V

(*)Possible versions with different NTC upon request.

FORMULAS

The following formulas allow to calculate the resistance value of the NTC sensor at a T temperature expressed in Kelvin degrees:

NTC β (25°C-85°C) 3435K ± 1%

$$R_T = R_{25} \cdot e^{[\beta(\frac{1}{T} - \frac{1}{T_{25}})]}$$

Example: calculation of the probe resistance value at a temperature of 60°C:

$$R_{60} = 10000 \cdot e^{[3435(\frac{1}{(60+273.15)} - \frac{1}{(25+273.15)})]} = 2980\Omega$$

CONSTRUCTION

The probe is made of a copper body placed in direct contact with the pipe; the thermistor is perfectly fixed to the metal body by means of an epoxy resin with high thermal conductivity.

Two terminals make available the measurement of a resistance value inversely proportional to the temperature detected.

CONNECTIONS

The ST11N probe can be supplied in different versions. The available connections are the following:

- 2,8x0,5mm fast-on terminals (see Fig. 1);
- 4,8x0,8 mm fast-on terminals (see Fig. 2);
- Connector type Lumberg MSF p.2,5 (see Fig. 3).

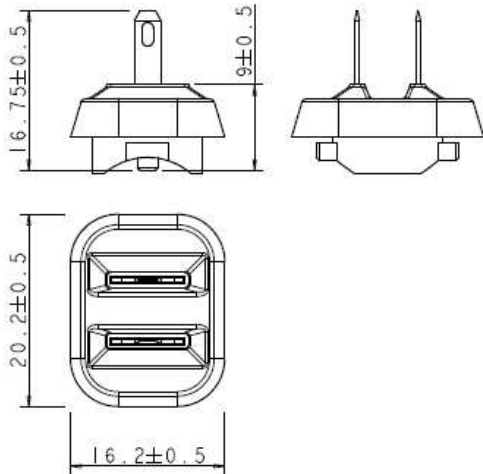
ASSEMBLY

Depending on the fixing clip (see Fig. 4 and Fig. 5) ST11N can be applied to pipes with a diameter of 14mm or pipes between 16 to 18mm.

In order to improve the thermal contact, conductive paste can be placed between the probe and the pipe.

OVERALL DIMENSIONS (mm)

ST11N F



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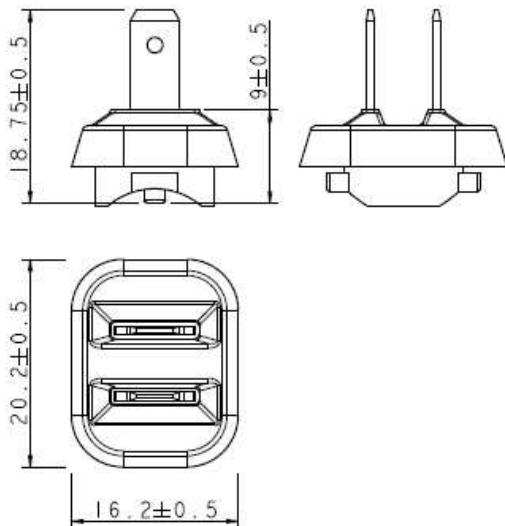


Fig. 1

Fig. 2

ST11N L

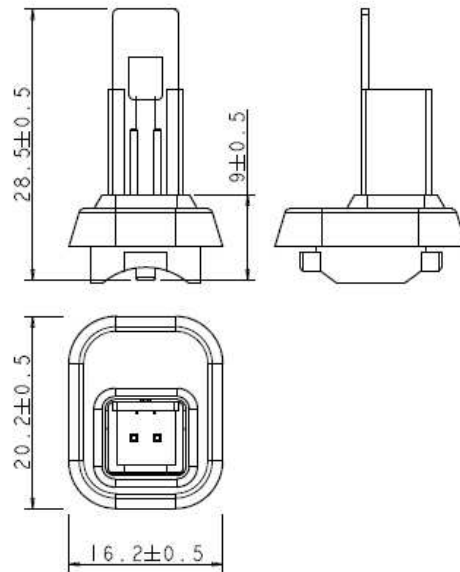


Fig. 3

ACCESSORIES

Fixing clip

Are available two different clips: one for pipes 14mm (see Fig. 4), the other for pipes 16-18mm (see Fig. 5)

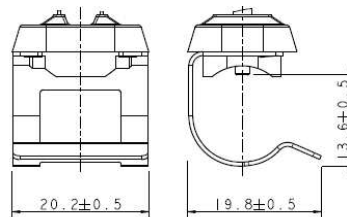


Fig. 4

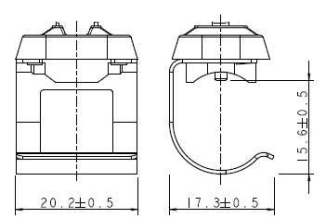


Fig. 5

PART REFERENCES

Sonda Temp. ST11N X₁ X₂ X₃

▶ No letter:	Without clip
C14:	Mounting Clip for pipes 14mm
C18:	Mounting Clip for pipes 16÷18mm
▶ F:	2,8X0,5mm fast-on terminals
▶ F48:	4,8x0,8 mm fast-on terminals
▶ L:	Connector type Lumberg MSF p.2,5
▶ No letter:	NTC 10K β 3435
Z:	NTC 10K β 3977

Example:

- **SONDA TEMP.ST11N L C14**
SONDA TEMP.ST11N Temperature probe type ST11N
 With 10K NTC having β 3435
 With connector type Lumberg MSF p.2,5
 With mounting clips for pipes with a diameter of 14mm



NOTES ABOUT PRODUCT DISPOSAL

The device contains electronic components and cannot therefore be disposed of as normal household waste. For the disposal procedure, please refer to the local rules in force for special waste.

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ATTENTION:

Company Brahma S.p.A. takes no responsibility for any damage resulting from Customer tampering with the product.

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