C7085A1006 / C7085A1014

Averaging Temperature Sensors

PRODUCT DATA AND INSTALLATION INSTRUCTIONS

GENERAL

The C7085A Averaging Temperature Sensors are designed for monitoring temperatures in a variety of applications, and are available in two different versions:

- the C7085A1006, with four PT1000 sensors;
- the C7085A1014, with four NTC20K sensors.

Each unit comes complete with a wall socket, a flexible rod, a 0.5-meter-long connector cable, four rod clips (with screws), and an attachment flange (with self-tapping screws).

The C7085A Mean Temperature Sensors are very easy to mount: All you have to do is insert the short connector cable through the mounted flange.

FEATURES

Four sensors (PT1000 or NTC20k) are positioned along the length of the flexible rod.

The 0.5-m-long connector cable permits fast and easy insertion of the wall socket into the mounted flange.

APPLICATIONS

These sensors are designed for use as air supply sensors / dew-point thimbles in ducts where large temperature gradients can occur, for example

- in outdoor air inlets,
- downstream from mist collectors,
- in mixing chambers,
- downstream from humidifiers / cooling units, and
- in warm/cool air conduits.

They are used to prevent freezing or to compensate for possible large temperature differences prevailing over the duct's cross section. The four sensors distributed along the length of the flexible rod measure the temperature throughout the entire cross section of the ducts and determine the average temperature.

COMMON SPECIFICATIONS

Temperature range	-30 °C to +70 °C
Electrical connection	Screw clips, wires: 2 x 1.5 mm^2
Electrical protection class	III

CE

MOUNTING

1. Use the template (see Fig. 1) to drill holes and then mount the flange.
2. Attach and secure the rod clips. To guarantee that the average temperature is measured, ensure that the rod clips are evenly spaced over the entire cross section of the duct.
3. Attach and secure the wall socket using the self-tapping screws (included in the shipment) approx. 10 to 15 cm from the flange (see Fig. 2).
4. Pull the connector cable out through the flange until it reaches the middle of the sleeve joint. Then tighten up the flange screw.
5. Secure the flexible rod to the rod clips. The flexible rod should not touch the duct walls, but should rather maintain a distance of about 50 mm from them.
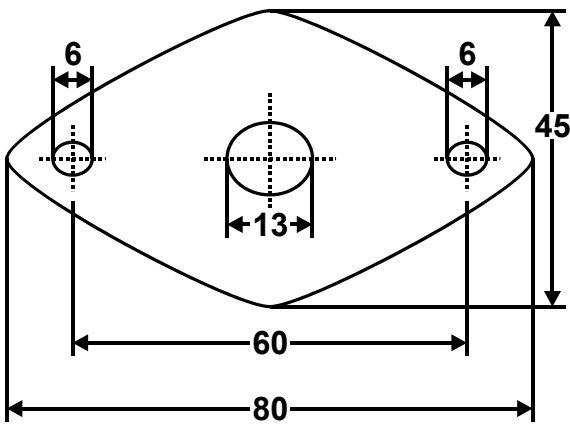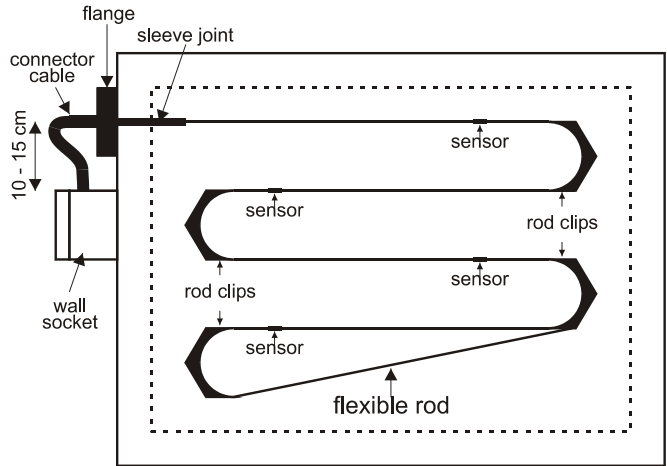
Fig. 2. Mounting the C7085A Temperature Sensor

NOTE: The four PT1000 / NTC20k sensors are positioned at the thicker parts of the flexible rod. It is therefore important that you be careful when bending the rod at these points. Do not compress or kink the rod at these points!

Fig. 1. Flange for fixing the duct (dimensions in mm)

SENSOR CHARACTERISTICS

Table 1. Sensor characteristics

specification		value		
measurement range		-30 °C ... +70 °C		
nominal resistance	PT1000	1000 ohm at 0 °C		
	NTC20K	20 kohm at 25 °C		
accuracy (in K)		**-30 °C**	**+25 °C**	**+70 °C**
	PT1000	±0.45	±0.4	±0.65
	NTC20K	±0.85	±0.3	±0.75
permissible electrical power		1 mA for <0.1 K		
sensor time constant		3 minutes at 1 m/s		
electrical connection		2 x 1.5 mm^2		

SHIPMENT CONTENTS

The following articles are included in the shipment:

*   Cardboard box (190 x 135 x 80 mm)
*   Flexible rod (3 meters long)
*   Wall socket
*   Connector cable (0.5 meters long)
*   Attachment flange (and self-tapping screws)
*   Four rod clips (and screws)

Honeywell