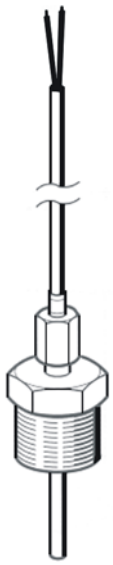
Honeywell

FEMA

STF

Fast Temperature Sensors for Industrial and HVAC Applications

PRODUCT DATA AND MOUNTING INSTRUCTIONS



FEATURES

- Cost-effective high-accuracy solution.
- Materials in contact with medium are made of stainless steel.
- Immersion length adjustable.
- Easy installation.
- Universal solution for industry and HVAC.

GENERAL

The temperature sensors of series STF are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area. Cost-effective and high-accuracy sensor technology allows usage in a wide field of applications where PT100 and PT1000 sensor technology is a standard. The STF 21 / 31 immersion Temperature Sensor can also be used in heating, cooling, or domestic hot water applications where fast-response temperature measurement is required. Material in contact with medium: stainless steel 1.4571.

SPECIFICATIONS

Nominal value	
STF21 (PT100)	100 Ω at 0 °C
STF31 (PT1000)	1000 Ω at 0 °C
Accuracy	
STF21/31	IEC751 Class A ±(0.15 K +0.2% • |t|) (t in °C)
Sensitivity	
STF21 (PT100)	≈ 0.385 Ω / K
STF31 (PT1000)	≈ 3.85 Ω / K
Response time	$\tau_{0.5}$ = 2.5 seconds
Well	
Pressure rating	PN16 (nominal)
Wiring	3-wire type
Maximum medium velocity	
75 mm length	20 m/s
220 mm length	10 m/s
Medium	Mineral and synthetic oil, glycol-water mixtures, domestic hot water, air, and media compatible with stainless steel 1.4571
Material	
Screw connection	Stainless steel 1.4571 (AISI 316 Ti)
Sensor well	Stainless steel 1.4571 (AISI 316 Ti)
Dimensions	∅ 4 mm, length ~ 75 and 220 mm
Outlet size	R1/2"
Cable length	2.5 m
Protection class	IP 65

CE

EN0B-0474GE51 R1105

MODELS

OS no.	sensor type / length	sensor temp. range
STF21-75	PT100 / 75 mm	-20...+260 °C (-4...+500 °F)
STF21-220	PT100 / 220 mm	
STF31-75	PT1000 / 75 mm	
STF31-220	PT1000 / 220 mm	

ELECTRICAL CONNECTION

Wire the temperature sensor in accordance with Fig. 1. The terminals are insensitive to polarity. STF sensors are 3-wire types; thus, if the controller is suitably equipped, the influence of cable lengths can be compensated for. However, if the controller does not support 3-wire connection, the sensors can also be used in a 2-wire manner (connect 1-3). In order to minimize the influence of EMC, keep wiring to the controller as short as possible.

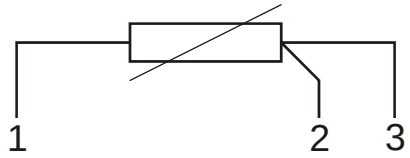


Fig. 1. 1 x 3-wire circuit

COMPATIBILITY

STF31 sensors can be used together with SmartTemp evaluation module TST...EPT1K.

STF21 and STF31 sensors can be used together with the APT600 and APT650 programmable temperature displays.

MOUNTING

1. Using a hexagonal wrench, screw the R1/2" screwing connection into the process line or the immersion well until snug. Use appropriate sealing material (e.g. hemp or Teflon tape.
2. With the nut still loose, slide the sensor to the desired depth.
3. Tighten the nut as tightly as possible by hand.
4. Now use an open-end wrench to rotate the nut another min. ¼ of a rotation / max. ½ of a rotation.

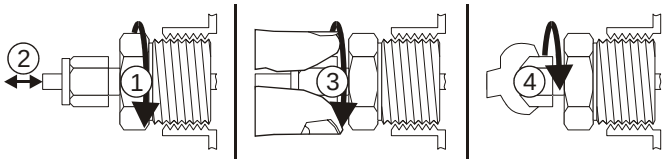


Fig. 2. Mounting steps 1-4

NOTE: Tightening the nut the minimum of ¼ of a rotation does not permanently deform the immersion well, thus permitting its depth to be subsequently re-adjusted, if desired. Tightening the nut the maximum of ½ of a rotation permanently deforms the immersion well, thus making subsequent re-adjustment of the depth impossible.

DIMENSIONS

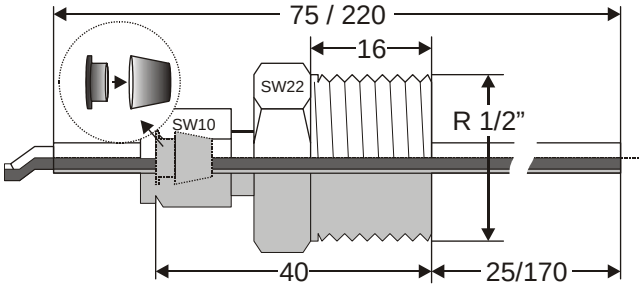


Fig. 3. STF21/31 dimensions (in mm)

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Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorized Representative:

Fema Controls

Honeywell GmbH

P.O. Box 1254
D-71099 Schönaich
Phone: (49) 7031-637-02
Fax: (49) 7031-637-850
http:/honeywell.de/fema

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