

LF0, LF00, LF01, LF10, LF20, PF20 DUCT TEMPERATURE SENSORS

PRODUCT DATA



GENERAL

The LF0, LF00, LF01, LF10, LF20, and PF20 Duct Temperature Sensors are used in ventilating and air conditioning systems to measure discharge, return, or outside air temperature. They are designed for duct mounting.

The sensors are suitable for use in systems using Pt 100, Ni 1000, Pt 1000, NTC 10k, or NTC 20k temperature sensing elements.

FEATURES

- Pt 100, Ni 1000, NTC 10k, NTC 20k, or Pt 1000 temperature sensing element
- Wide sensing range
- High accuracy

Models

OS no.	sensor type	IP rating	probe length, in mm (in.)	sensing range
LF0-1B54	Pt 100	54	150 (5.91)	-40...+110 °C (-40...+230 °F)
LF00-1B54	Pt 1000	54	150 (5.91)	
LF00-3B54	Pt 1000	54	300 (11.81)	
LF01-1B54	Ni 1000	54	150 (5.91)	
LF01-1B65	Ni 1000	65	150 (5.91)	
LF01-3B54	Ni 1000	54	300 (11.81)	
LF01-3B65	Ni 1000	65	300 (11.81)	
LF10-3B54	NTC 10k	54	300 (11.81)	
LF20-1B54	NTC 20k	54	150 (5.91)	
LF20-3B54	NTC 20k	54	300 (11.81)	
LF20-3B65	NTC 20k	65	300 (11.81)	-30...+80 °C (-22...+176 °F)
LF20-1P65-5M	NTC 20k	65	157 (6.18)	
LF20-3P65-5M	NTC 20k	65	307 mm (12.07)	-30...+70 °C (-22...+158 °F)
PF20-65-2M	NTC 20k	65	2-m cable	
PF20-65-5M	NTC 20k	65	5-m cable	
LF-MF	mounting flange; bulk pack of 10 flanges			

SPECIFICATION

Nominal value

Pt 100	100 Ω at 0 °C (32 °F)
Ni 1000	1000 Ω at 0 °C (32 °F)
Pt 1000	1000 Ω at 0 °C (32 °F)
NTC 10k	10 kΩ at 25 °C (77 °F)
NTC 20k	20 kΩ at 25 °C (77 °F)

Accuracy

Pt 100	±0.3 °C at 0 °C (32 °F)
Ni 1000	±0.4 °C at 0 °C (32 °F)
Pt 1000 (IEC751 Class B)	±0.3 °C at 0 °C (32 °F)
NTC 10k	±0.2 °C at 25 °C (77 °F)
NTC 20k	±0.2 °C at 25 °C (77 °F)

Sensitivity

Pt 100	≈ 3.85 Ω / K
Ni 1000	≈ 6.18 Ω / K
Pt 1000	≈ 3.85 Ω / K
NTC 10k	-440 Ω / K at 25 °C (non-linear)
NTC 20k	≈ -934.5 Ω / K at 25 °C (non-linear)

Time constant	< 30 s
Sensor sleeve material	stainless steel (1.4571)
Cable sheath material	PVC
Electrical connection	2-m or 5-m cable, 2x0.22 mm ²
Ambient Limits (wiring box)	
Storage temperature	-30...+70 °C (-22...+158 °F)
Humidity	5...95% rh, non-condensing
Protection class	IP54 / IP65 as per EN 60529
Dimensions	See below.

DIMENSIONS

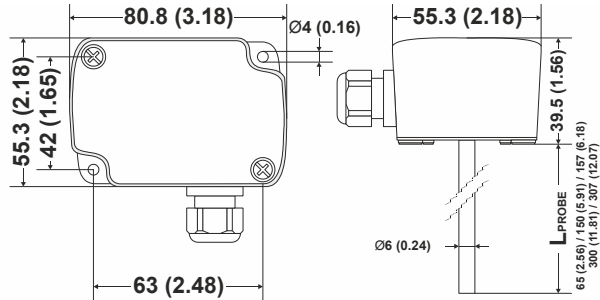


Fig. 1. Dimensions of the LFXx-xB duct sensor in mm (inches)

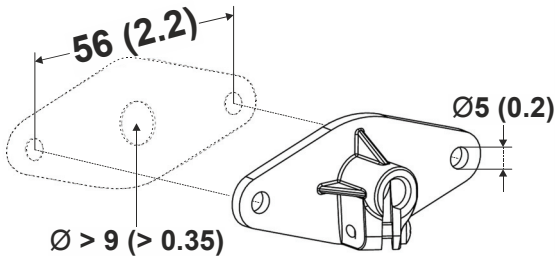


Fig. 2. Mounting flange LF-MF, dimensions in mm (inches)

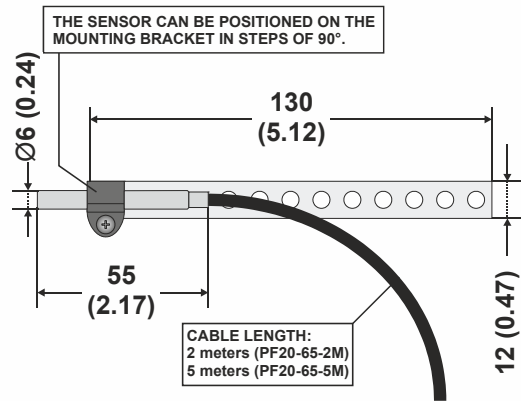


Fig. 3. Dimensions of the PF20 duct sensor in mm (inches)

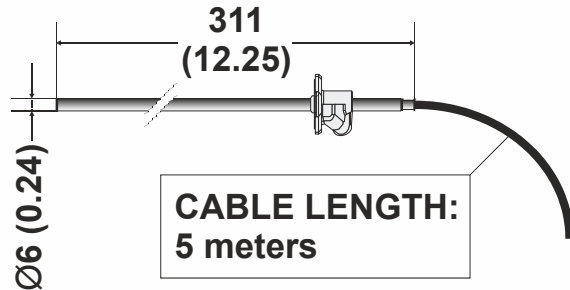


Fig. 4. Dimensions of the LF20-3P65-5M duct sensor in mm (inches)

WIRING

wiring run	max. length
sensor to controller	200 m (660 ft)

Offset due to wire resistance per 10 m of distance from sensor to controller, when using the LF00 (Pt 1000) or LF0 (Pt 100):

type of wire	Pt 1000	Pt 100
0.5 mm ² (AWG20)	0.18 °C (0.324 °F)	1.8 °C (3.24 °F)
1.0 mm ² (AWG17)	0.09 °C (0.162 °F)	0.9 °C (1.62 °F)
1.5 mm ² (AWG15)	0.06 °C (0.108 °F)	0.6 °C (1.08 °F)

NOTE: Use shielded wiring in areas with high EMI. Keep 15 cm (5.9") minimum distance between sensor lines and 230 Vac power lines.

Honeywell

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