

T7411A / LF20 / LF10 / C7068 DUCT TEMPERATURE SENSORS

PRODUCT DATA



FEATURES

- PT100, PT1000, NTC20k Ω or NTC10k Ω temperature sensing element
- Wide sensing range
- High accuracy
- Stainless steel probe

SPECIFICATION

Nominal value

PT100	100 Ω at 0 °C
PT1000	1000 Ω at 0 °C
NTC20k Ω	20 k Ω at 25 °C
NTC10k Ω	10 k Ω at 25 °C

Accuracy

NTC	0.3 K at 25 °C
PT100 / PT1000	IEC751 Class B 0.3 K +0.5% • t (t in °C)

Sensitivity

NTC	non-linear
PT100	\approx 0.385 Ω / K
PT1000	\approx 3.85 Ω / K

Response time (at air velocity of 5 m/s [16.4 ft/s])

LF20, LF20-C, LF10	$\tau_{0.5} \approx$ 42 s
T7411	$\tau_{0.5} \approx$ 45 s
C7068	$\tau_{0.5} \approx$ 4 min (at 1 m/s [3.3 ft/s])

Electrical connection

T7411A/LF20/LF10	terminals for 2 x 1.5 mm ² cable
LF20-C	5 m cable, 2-core, seawater-resistant, conduit M16x1,5
C7068	1.5-m cable, 2-core
C7068-5m	5-m cable, 2-core

Ambient Limits

Storage temperature	-35...+70 °C (-31...+158 °F)
Humidity (T7411, LF)	5...95% rh, non-condensing

Safety (terminal box)

Protection standard	See table on page 2
Flame retardant	V1 as per UL94 Plastic (PC)

Dimensions

See Fig. 1 on page 2

GENERAL

The T7411A/LF20/LF20-C/LF10/C7068 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 T7411A is available with two different probe lengths.

These sensors are used in the following control systems:

- Excel 5000
- MicroniK 200
- MicroniK 100
- Excel Classic
- Excel Plus
- High Performance Excel Plus
- Excel EMC

or other systems using PT100, PT1000, or NTC 20k Ω temperature sensing elements.

Further, the C7068 is also suitable for installation in fancoil units or at air outlets.

Models

OS number	Protection standard	sensor type	sensing range	length in mm (inches)	
				L1	T1
LF20	IP30	NTC20k Ω	-40...+80 °C	338 (13.30)	305 (12.00)
LF20-C	IP65	NTC20k Ω	-40...+80 °C	305 (12.00)	--
LF10	IP54	NTC10k Ω	-40...+80 °C	338 (13.30)	305 (12.00)
T7411A1001	IP54	PT1000	-40...+80 °C	185 (7.28)	152 (5.98)
T7411A1019	IP54	PT1000	-40...+80 °C	338 (13.30)	305 (12.00)
T7411A1043	IP54	PT100	-40...+80 °C	185 (7.28)	152 (5.98)
C7068A1007	IP54	NTC20k Ω	0...+70 °C	cable length: 1.5 m	
C7068A1007-5m	IP54	NTC20k Ω	0...+70 °C	cable length: 5 m	
C7068A1030	IP54	NTC10k Ω	0...+70 °C	cable length: 1.5 m	

DIMENSIONS OF T7411A / LF20 / LF10

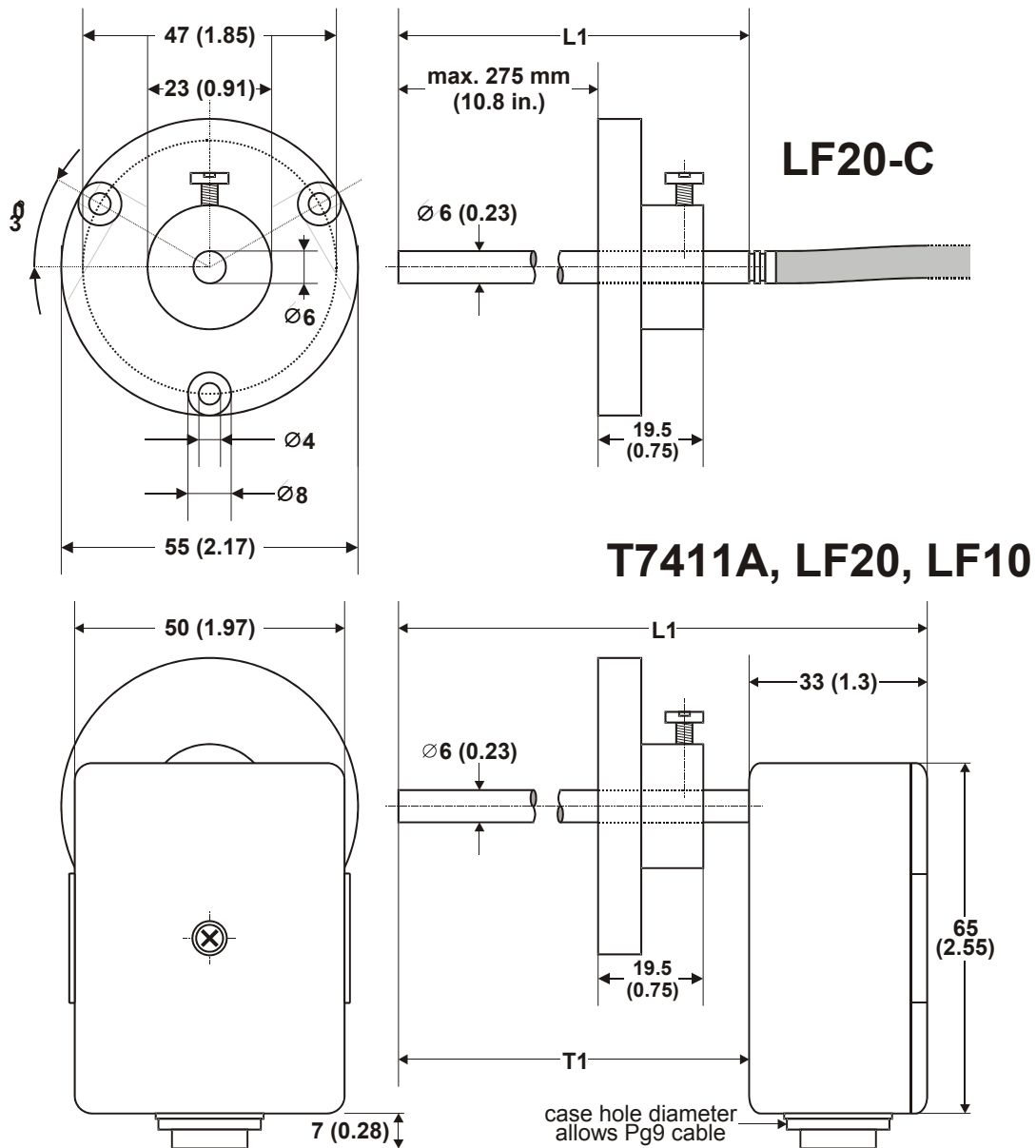


Fig. 1. Dimensions of T7411A / LF20 / LF10 and LF20-C in mm (inches)

INSTALLATION

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

The temperature offset due to wire resistance per 10 m distance from sensor to controller, when using the T7411A (PT100 / PT1000) is stated in the following table:

type of wire	PT1000	PT100
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. Maintain a minimum distance of 15 cm (5.9") between sensor lines and 230 Vac power lines.

INSTALLATION OF C7068

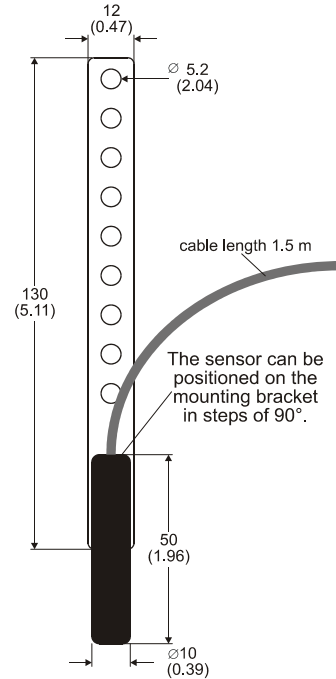


Fig. 2. Installation of the C7068 in mm (inches)

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