

T7415A / KTF20 / DKF20

CABLE-TYPE BULB TEMPERATURE SENSORS

PRODUCT DATA



Fig. 1. The KTF20

GENERAL

The T7415A//KTF2/DKF20 Cable-type Bulb Temperature Sensor can be used as

- immersion sensors
- return air sensors

The sensors can be employed for hot and cold water installations 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 PT1000 or NTC 20k Ω temperature sensing elements.

FEATURES

- PT1000 or NTC 20k Ω temperature sensing element
- Wide sensing range
- High accuracy

Models

OS no.	Description	Sensing range
T7415A1007	Cable-type Bulb PT1000 Temperature Sensor	-20...+100 °C (-4...+212 °F)
T7415A1015	Cable-type Bulb PT1000 Temperature Sensor	-20...+300 °C (-4...+572 °F)
KTF20	Cable-type Bulb NTC20k Ω Temperature Sensor	-20...+100 °C (-4...+212 °F)
DKF20	Cable-type Bulb NTC20k Ω Mean value Sensor	-20...+100 °C (-4...+212 °F)
KTF20-B	Bulk shipment of 50 KTF20	see above

SPECIFICATION

Nominal value

PT1000	1000 Ω at 0 °C
NTC20k Ω	20 k Ω at 25 °C

Accuracy

PT1000	IEC751 Class B 0.3 K +0.5% • t (t in °C)
NTC20k Ω	0.3 K +1% • t - 25 °C (t in °C)

Sensitivity

PT1000	\approx 3.85 Ω / K
NTC20k Ω	\approx -934.5 Ω / K at 25 °C (non-linear)

Response time

immersion well app.	$\tau_{0.5} \approx$ 10 s
duct application	$\tau_{0.5} \approx$ 2 min at air velocity of 1 m/s (3.3 ft/s)

Electrical connection

T7415A/KTF20	2 m cable, 2-core
DKF20	2 m cable, 3-core

Ambient Limits (wiring box)

Storage temperature	-25...+70 °C (-13...+158 °F)
Humidity	5...95% rh, non-condensing

Safety

IP64 as per EN 60529

Dimensions

see Fig. 2 on page 2

DIMENSIONS

Cable-Type Bulb Sensor

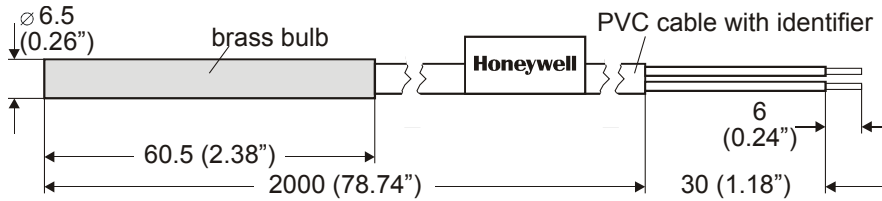


Fig. 2. Dimensions of the cable-type bulb sensor in mm (inches)

INSTALLATION

Wiring run	Maximum 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 T7415A (PT100):

Type of wire	Temperature offset PT100
0.5 mm ² (AWG20)	0.18 °C (0.324 °F)
1.0 mm ² (AWG17)	0.09 °C (0.162 °F)
1.5 mm ² (AWG15)	0.06 °C (0.108 °F)

INSTALLATION OF KTF20/DKF20

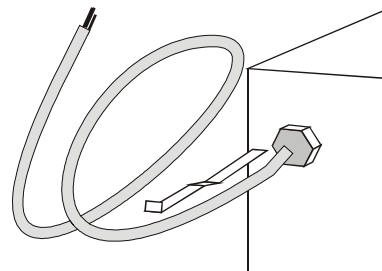


Fig. 3. KTF20 / DKF20 mounting into the immersion well

WIRING OF DKF20

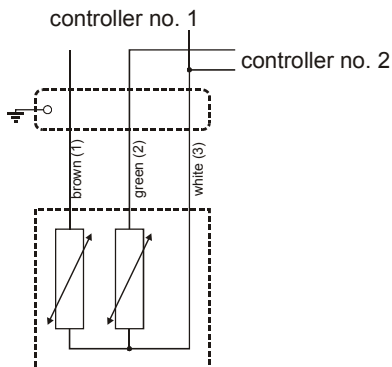


Fig. 4. Sensor branching for two separate controllers with DKF20

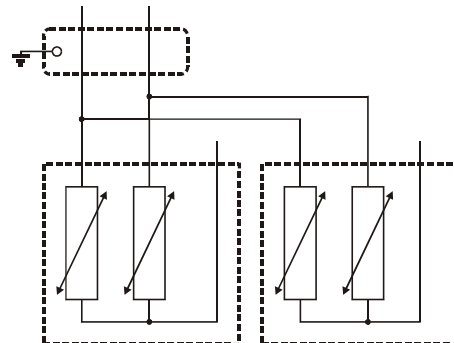


Fig. 5. Averaging with 2 x DKF20

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

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