



# TEMPERATURE

## DUCT THERMISTOR AND RTD SENSORS

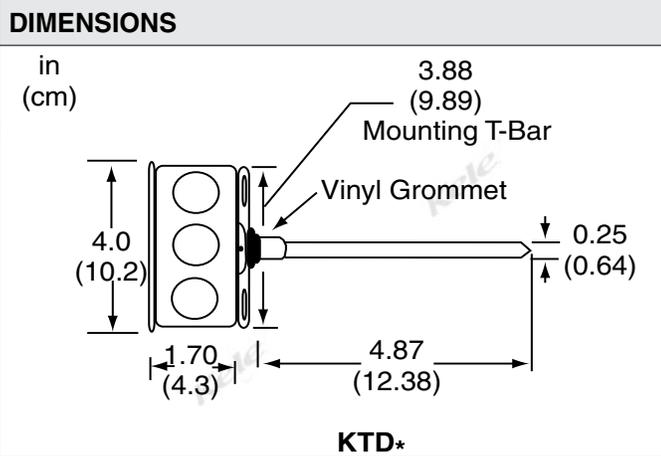
### KTD\* SERIES

#### DESCRIPTION

The Kele KTD\* Duct Thermistor and RTD Sensors are designed to be cost effective with accuracies of  $\pm 0.5^\circ\text{F}$  ( $\pm 0.28^\circ\text{C}$ ). Each uses metal enclosures and is constructed for easy installation with any building automation system (BAS). The thermistor is made of a very stable, pre-aged material that offers long-life reliability for HVAC control. The platinum RTD comes in 100 $\Omega$  and 1000 $\Omega$  versions. All sensors come with a three-year warranty.

#### FEATURES

- Economical
- Metal enclosures with stainless steel probes
- Three-year warranty
- Thermistor or RTD sensor selections



#### APPLICATION

The KTD\* Series sensors are designed for direct mounting on sheet metal duct systems. Where conduit is required, the duct sensors have a universal nylon mounting connector that adapts to a 1/2" knockout in a standard handy box. The nylon fitting has a 1/2" NPT female conduit fitting.

The duct temperature sensors are waterproof and can be used in high humidity and condensing air. The sensors are point-sensitive and come standard with 4 7/8" (12.4 cm) insertion depth. The XL option provides custom lengths.

#### SPECIFICATIONS

<b>Accuracy</b>		<b>RTD</b>	Positive temperature coefficient
<b>Thermistor</b>	$\pm 0.50^\circ\text{F}$ (0.28 $^\circ\text{C}$ )	<b>Temperature Range</b>	-40 $^\circ$ to 221 $^\circ\text{F}$ (-40 $^\circ$ to 105 $^\circ\text{C}$ )
<b>RTD</b>	$\pm 0.60^\circ\text{F}$ (0.33 $^\circ\text{C}$ )	<b>Thermistor/RTD</b>	
<b>Temperature Stability</b>		<b>Enclosure Rating</b>	Depends on model
<b>Thermistor</b>	0.24 $^\circ\text{F}$ (0.13 $^\circ\text{C}$ ) over five years	<b>Mounting</b>	Directly to duct, wall or single gang box
<b>RTD</b>	Max 0.04% after 1k hours @ 500 $^\circ\text{C}$	<b>Wiring Terminations</b>	8' (2.4m), 24 AWG gray wire leads, type 71 & 81 sensors have 18" (0.45m) leads
<b>Heat Dissipation</b>	2.7 mW/ $^\circ\text{C}$ (power needed to raise the temperature 1 $^\circ\text{C}$ )	<b>Probe</b>	Seamless 304 stainless steel tube, 1/4" OD
<b>Sensor Type</b>		<b>Weight</b>	
<b>Thermistor</b>	2.252 k $\Omega$ , 3 k $\Omega$ , 10 k $\Omega$ , Type II, III & III w/11K shunt, 20 k $\Omega$ , 100 k $\Omega$	<b>KTD</b>	0.72 lb (0.33 Kg)
<b>RTD</b>		<b>KTDNB</b>	0.2 lb (0.09 Kg)
<b>Type 71, 81</b>	100 $\Omega$ Pt 385 Curve	<b>Approvals</b>	CE
<b>Type 85</b>	1000 $\Omega$ Pt 385 Curve	<b>Warranty</b>	3 years
<b>Type 91</b>	1000 $\Omega$ Pt 375 Curve		
<b>Temperature Coefficient</b>			
<b>Thermistor</b>	Negative temperature coefficient		

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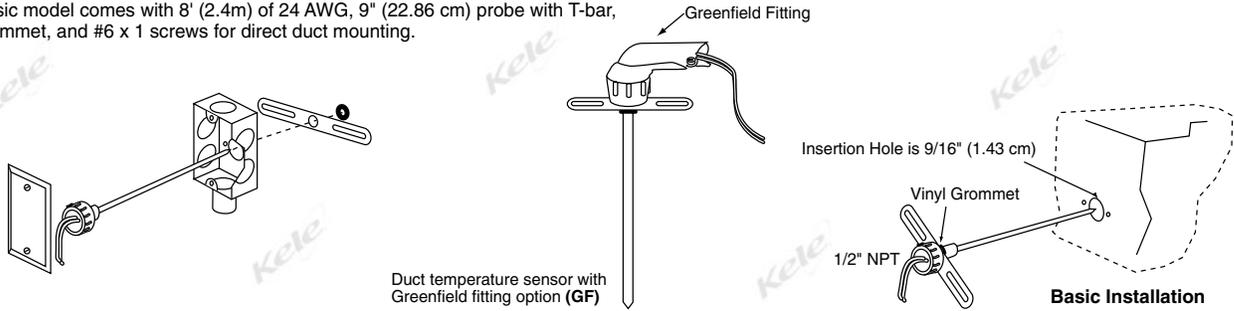
## DUCT THERMISTOR AND RTD SENSORS KTD\* SERIES



### MOUNTING

Direct duct-mount screws can be used where conduit is not required. Adapters are not required when mounting directly to outlet boxes. Install grommet in the 9/16" (1.43 cm) insertion hole.

Basic model comes with 8' (2.4m) of 24 AWG, 9" (22.86 cm) probe with T-bar, grommet, and #6 x 1 screws for direct duct mounting.



### ORDERING INFORMATION

MODEL	DESCRIPTION
KTD	Duct temperature sensor
KTDNB	Duct temperature sensor with no box
<b>SENSOR SELECTION</b>	
3	10,000Ω thermistor @ 77°F (25°C), Type III, (gray leads)
11K	10,000Ω thermistor @ 77°F (25°C), Type III with 11K shunt (gray leads)
21	2252Ω thermistor @ 77°F (25°C), Type II, (gray leads)
22	3000Ω thermistor @ 77°F (25°C), Type II, (gray leads)
24	10,000Ω thermistor @ 77°F (25°C), Type II, (gray leads)
27	100,000Ω thermistor @ 77°F (25°C), Type II, (gray leads)
42	20,000Ω thermistor @ 77°F (25°C), Type IV, (gray leads)
71	100 ultra high accurat RTD @ 32°F (0°C), 385 platinum curve (gray leads)
81	100Ω RTD @ 32°F (0°C), 385 platinum curve (gray leads)
85	1000Ω RTD @ 32°F (0°C), 385 platinum curve (gray leads)
91	1000Ω RTD @ 32°F (0°C), 375 platinum curve (gray leads)
<b>OPTIONS</b>	
QD¼	Nylon insulated Quick Disconnect 1/4"
X25	25' (7.6m) lead length 24 AWG
XC25	25' (7.6m) lead length jacketed cable
XCO	1/2" LB conduit fitting
XCP25	25' Non-shielded plenum cable
XD	Dual sensors in one probe
XG	Greenfield fitting
XHP	Non-metallic handy box housing ( factory installed)
XL	Custom length insertion probes 1" to 108"
XL2 in	Custom length insertion probe, 2"(5.08 cm)
XLT	Liquid-tight fitting (factory installed)
XN	Certificate of conformance
XNB	1/2" MNPT brass close nipple
XN1	NIST certificate, one reference point 32°F(0°C)
XN2	NIST certificate, two reference points 32°F/158°F(0°C/70°C)
XN3	NIST certificate, three reference points 32°F/77°F/158°F(0°C/25°C/70°C)
XP	Matched sensor pair, matched to ±0.1°F, 0.05°C (must order two sensors)
XPA	Ultra high accuracy, thermistors only, ±0.135°F (0.075°C)
XW	Weather resistant housing (factory installed)
XZ	Three wire RTD connections (optional only on Type 81)

**KTD** — **3** Example: KTD-3 Duct sensor with 10,000Ω thermistor

**T81U-XR**  
**T85U-XR**  
**T91U-XR**  
**UR**

#### RELATED PRODUCTS

100 ohm, Type 81 4-20 mA temperature transmitter, custom rangeable  
1000 ohm, Type 85 4-20 mA temperature transmitter, custom rangeable  
1000 ohm, Type 91 4-20 mA temperature transmitter, custom rangeable  
Moisture-resistant three-wire butt splice