



# TEMPERATURE

## ENCAPSULATED THERMISTOR AND RTD SENSOR

### KTM\*, KTMR\* SERIES

#### DESCRIPTION

The Kele KTM, KTMR Series Thermistor and RTD encapsulated sensors provide remote temperature sensing for building automation systems and mechanical equipment room instrumentation. The active sensing element is a highly stable thermistor material or platinum RTD.

The sensor is encapsulated with a low mass, high conductivity compound for good heat transfer characteristics. It is enclosed in a tough, miniature cylinder, 0.17" (0.43 cm) in diameter, which is small enough to be installed in most HVAC thermostat enclosures.

#### FEATURES

- Three-year warranty
- Wide selection of thermistor and RTD curves
- Adaptable miniature sensor
- High heat dissipation constant
- Easy to mount with clips
- Pre-aged, highly stable thermistor material

#### OPTIONS

- 25' (7.6m) of 24 AWG zipcord
- Matched sensor pairs
- Rugged sensor coating



KTM\*



KTM\*R



#### APPLICATION

##### KTM\*

The KTM\* Series Encapsulated Sensor (white) is intended for indoor use only, in areas not subject to moisture or condensation. The sensor may be installed under the cover of an existing pneumatic thermostat. Caution should be exercised when applying the sensor to existing electric thermostats. Heat is often generated by anticipators or other electronics that will affect the sensor reading. The sensor operating range is 35° to 140°F (2° to 60°C). Do not use in conditions below 35°F (2°C) or where condensation could occur.

##### KTM\*R

The KTM\*R Series Rugged Encapsulated Sensor (red) is suitable for temperature extremes and is immune to the effects of moisture and condensation. Precon uses a three-stage, rugged coating process to moistureproof any sensor which is to be used below ambient dewpoint. The sensor operating range is -30° to 230°F (-34° to 110°C). Vibration or wire stress below 32°F (0°C) can cause the rugged coating to crack.

#### SPECIFICATIONS

<b>Accuracy</b>		<b>Temperature Stability</b>	
Thermistor	±0.50°F (0.28°C)	Thermistor	0.24°F (0.13°C) over five years
RTD	±0.60°F (0.33°C)	RTD	100% (no drift platinum)
<b>Sensor Type</b>		<b>Heat Dissipation</b>	2.7 mW/°C (power needed to raise the temperature 1°C)
Thermistor	2.252 kΩ, 3 kΩ, 10 kΩ Type II, III & III w/11K shunt, 20 kΩ, 100 kΩ	<b>Mounting</b>	Directly to wall or customer supplied enclosure using customer-supplied clips
<b>RTD</b>		<b>Wiring Terminations</b>	8', 24 AWG gray wire leads, type 71 & 81 sensors have 18" leads
Type 71, 81	100Ω Pt 385 Curve	<b>Approvals</b>	CE
Type 85	1000Ω Pt 385 Curve	<b>Weight</b>	
Type 91	1000Ω Pt 375 Curve	KTM	0.01 lb (0.005 Kg)
<b>Temperature Range</b>		KTMR	0.05 lb (0.02 Kg)
Thermistor/RTD	-40° to 221°F (-40° to 105°C)	<b>Warranty</b>	3 years
<b>Temperature Coefficient</b>			
Thermistor	Negative temperature coefficient		
RTD	Positive temperature coefficient		

# TEMPERATURE

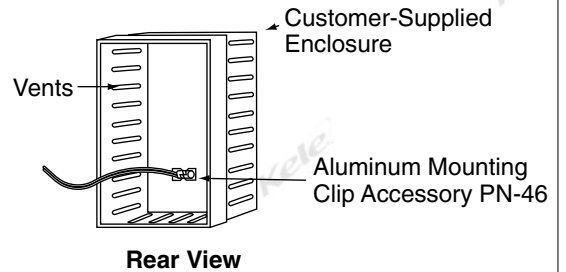
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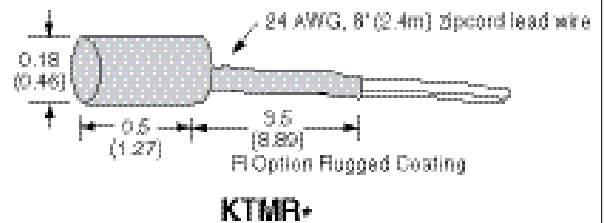
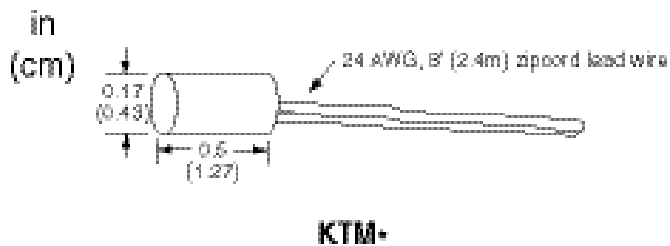
### MOUNTING

#### Mounting

Secure to enclosure or wall using cable ties, clips, or brackets. To obtain optimum performance, the sensor enclosure/assembly must be highly conductive. Any sensor element surrounded by insulating media will not perform properly at all temperatures or with the proper temperature response times. An accurate room sensor must have good ventilation and a high thermal-conducting metal which is in direct contact with the sensor. The enclosure must be insulated from the building mounting surface to limit wall temperature influence on the sensor.



### DIMENSIONS



### ORDERING INFORMATION

MODEL	DESCRIPTION
KTM3	10,000Ω encapsulated thermistor @ 77°F (25°C), Type III (gray leads)
KTM11K	10,000Ω encapsulated thermistor @ 77°F (25°C), Type III with 11K shunt (gray leads)
KTM21	2252Ω encapsulated thermistor @ 77°F (25°C), Type II (gray leads)
KTM22	3000Ω encapsulated thermistor @ 77°F (25°C), Type II (gray leads)
KTM24	10,000Ω encapsulated thermistor @ 77°F (25°C), Type II (gray leads)
KTM27	100,000Ω encapsulated thermistor @ 77°F (25°C), Type II (gray leads)
KTM42	20,000Ω encapsulated thermistor @ 77°F (25°C), Type IV (gray leads)
KTM71	100 ultra high accurat RTD @ 32°F (0°C), 385 platinum curve (gray leads)
KTM81	100Ω encapsulated RTD @ 32°F (0°C), 385 platinum curve (gray leads)
KTM85	1000Ω encapsulated RTD @ 32°F (0°C), 385 platinum curve (gray leads)
KTM91	1000Ω encapsulated RTD @ 32°F (0°C), 375 platinum curve (gray leads)

#### OPTIONS

R	Description
R	Rugged (3.5" moistureproof coating; adding a # following the R extends the coating in feet)
QD¼	Nylon insulated quick disconnect
X25	25' (7.6m) lead length 24 AWG
XN	Certificate of conformance
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)
XZ	Three wire RTD connections (Optional only on Type 81, standard on Type 71)

KTM3 - R - X25 Example: KTM3R-X25 10,000Ω Type III thermistor with 3.5" rugged coating and 25' (7.6m) cable length

### RELATED PRODUCTS

T81U-XR	100 ohm, Type 81 4-20 mA temperature transmitter, custom rangeable
T85U-XR	1000 ohm, Type 85 4-20 mA temperature transmitter, custom rangeable
T91U-XR	1000 ohm, Type 91 4-20 mA temperature transmitter, custom rangeable