IMMERSION TEMPERATURE SENSORS
KTW* SERIES

KTWNB3   KTWNB3-LT

KTW3   KTW3-W

DESCRIPTION

The Kele **KTW* Immersion Sensors** are designed to be cost-effective with accuracies of ±0.5°F (±0.28°C). Each sensor 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 100Ω and 1000Ω versions. All sensors come with a three-year warranty.
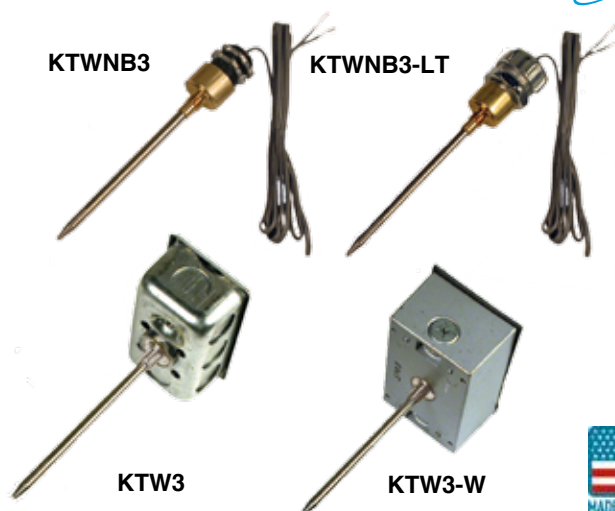
FEATURES

- *Economical*
- *Metal enclosures with stainless steel probes*
- *Three-year warranty*
- *±0.5°F (±0.28°C) accuracy*
- *Thermistor or RTD sensor selections*

APPLICATION

The **KTW Series** sensors are waterproof and feature a 304 stainless steel probe and brass fitting. The fitting has 1/2" NPSM female threads to accept the standard Greenfield fitting. It also has 1/8" NPSM male threads for installing into a furnished Model WEL-B thermowell.

The thermowells are designed with close tolerances, eliminating the need for thermal grease under normal conditions. Each well is designed so that the sensor assembly can be easily removed after installation. The well screws into a 1/2" FNPT saddle (or Thredolet® fitting) furnished by the installing contractor.

OPTIONS

- *304 stainless steel well, maximum temperature 900°F (482°C), maximum pressure 3000 psig (20,685 kPa)*
- *Handy-box enclosure*
- *Custom lengths (wells available)*
- *1/2" LB conduit fitting*
- *Liquid-tight fitting*
- *Weatherproof box*
- *Matched pairs used for BTU measurement*
- *NIST Traceable*

SPECIFICATIONS

Accuracy			**Connections**	8', 24 AWG wire leads
Thermistor	±0.50°F (±0.28°C)			
RTD	±0.60°F (±0.33°C)		**Mounting**	1/2" conduit fittings
Sensor types			**Enclosure**	Metal NEMA 1,
Thermistor @ 77°F	2.252 kΩ, 3 kΩ, 10 kΩ, 20 kΩ, 100 kΩ			Optional weatherproof
RTD @ 32°F	Platinum 100Ω, 1000Ω, 385 curve		**Probe**	Seamless 304 stainless steel tube,
	Platinum 1000Ω, 375 curve			1/4" OD
Temperature range				
Thermistor	10° to 230°F (-12° to 110°C)		**Weight**	1.2 lb (0.54 kg)
RTD	-67° to 240°F (-55° to 115°C)			
			Warranty	3 years
Temperature response	NTC - Thermistors, PTC - RTDs			
Stability				
Thermistor	0.24°F (0.13°C) over five years			
RTD	100% (no drift platinum)			

2011

TEMPERATURE
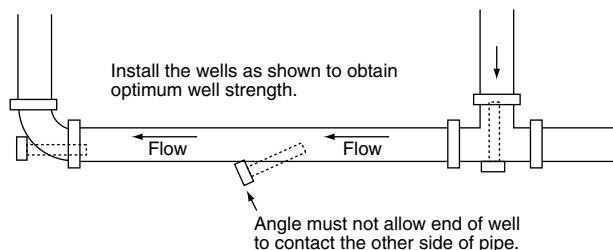
MOUNTING/WIRING

Mounting
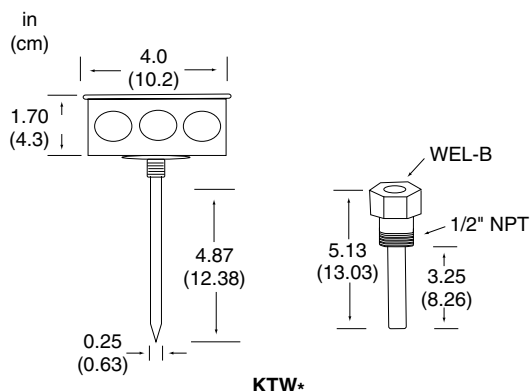Install well into customer-supplied 1/2" FNPTsaddle (or Thredolet®). Screw sensor into the well via the 1/8" NPSM brass fitting.

Wiring
Terminate with butt splice or soldering. Wire nuts are not recommended.

Install the wells as shown to obtain optimum well strength.

Flow

Flow

Angle must not allow end of well to contact the other side of pipe.

DIMENSIONS

in (cm)

4.0 (10.2)

1.70 (4.3)

WEL-B

1/2" NPT

4.87 (12.38)

5.13 (13.03)

3.25 (8.26)

0.25 (0.63)

KTW*

ORDERING INFORMATION

MODEL	DESCRIPTION		
KTW	Well immersion temperature sensor		
KTWNB	Well immersion temperature sensor with no box		
	SENSOR SELECTION		
	3	10,000Ω thermistor @ 77°F (25°C), Type III	
	21	2252Ω thermistor @ 77°F (25°C), Type II	
	22	3000Ω thermistor @ 77°F (25°C), Type II	
	24	10,000Ω thermistor @ 77°F (25°C), Type II	
	27	100,000Ω thermistor @ 77°F (25°C), Type II	
	42	20,000Ω thermistor @ 77°F (25°C), Type IV	
	81	100Ω RTD @ 32°F (0°C), 385 platinum curve (yellow leads)	
	85	1000Ω RTD @ 32°F (0°C), 385 platinum curve (blue leads)	
	91	1000Ω RTD @ 32°F (0°C), 375 platinum curve (green leads)	
		OPTIONS (List options in alphabetical order with dashes)	
		B	WEL-B brass well included
		CP5	Plenum rated cable, 5 feet
		D	Dual sensors in one probe
		GF	Greenfield fitting (factory installed - box included except KTWNB)
		LT	Liquid-tight fitting (factory installed)
		N	NIST certificate of conformance
		N1	NIST certificate, one reference point 32°F(0°C)
		N2	NIST certificate, two reference points 32°F/158°F(0°C/70°C)
		N3	NIST certificate, three reference points 32°F/77°F/158°F(0°C/25°C/70°C)
		QD¼	Nylon insulated quick disconnect ¼"
		S	WEL-S 304 stainless steel well included
		W	Weather resistant housing (factory installed)
		X25	25' (7.6m) lead length 24 AWG
		XC25	25' (7.6m) lead length 24 AWG jacketed cable
		XCP25	25' (7.6m) non-shielded 22AWG plenum cable
		XHP	Non-metallic handy box housing (factory installed)
		XL	Custom length insertion probes 1" to 60"
		XL2 in	Custom length insertion probe, 2"(5.08 cm)
		XL9	Custom length insertion probe, 9"(22.86 cm)
		XP	Matched sensor pair, matched to ±0.1°F, 0.05°C (must order two sensors)
		XZ	Three wire RTD connections(Type 81 only) (Not with XC25, XCP25)

KTW — **3** – **B**   *Example:* **KTW-3-B** Immersion sensor with 10,000Ω thermistor and brass well

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