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TW2X

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Veris Industries
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United Kingdom

TW2X Series
Wall Mounted Temperature Sensors

Product Overview

TW2x Series Living Space Resistive Temperature Sensors are available in several RTD/thermistor types with the same look and feel as Veris CW2, HW2 and TW2 sensors. The TW2X Series sensors provide a low cost option for measuring temperature in a room.
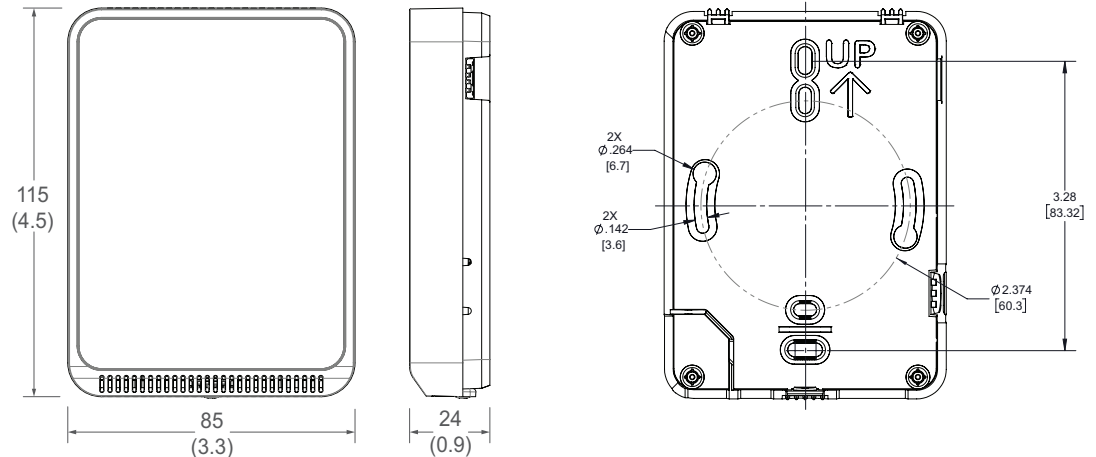
Product Identification

Sensor Type

TW2XAX ☐

C = 1000 PT RTD
D = 10K T2 Thermistor
H = 10K T3 Thermistor
K = 10K Curve G/11K Shunt
M = 20K NTC Thermistor
N = 1.8K TAC Thermistor

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

• Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462.
• This equipment must only be installed and serviced by qualified electrical personnel.
• Turn off all power supplying this equipment before working on or inside equipment.
• Always use a properly rated voltage sensing device to confirm power is off.
• Replace all devices, doors and covers before turning on power to this equipment.

Failure to follow these instructions can result in death, serious injury or equipment damage.

This product is intended for use in HVAC and building environmental control applications.
It is not intended for direct medical monitoring of patients.
Read and understand these instructions before installing this product.
The installer is responsible for all applicable codes.
If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired. No responsibility is assumed by the manufacturer for any consequences arising out of the use of this material.

Specifications

TEMPERATURE SENSOR	
Type	RTD/thermistor
OPERATING ENVIRONMENT	
Operating Temperature	0 to 50 °C (32 to 122 °F)
Operating Humidity Range	0 to 95% RH, non-condensing
Housing Material	High impact ABS plastic, flammability rating UL 94 V-0
Mounting Location	Not suitable for wet locations. For indoor use only.
IP Rating	IP 30
Mounting Location	For indoor use only. Not suitable for wet locations.
Surface Mount	The device can be surface mounted on Single Gang J-Box, British Standard and CE60 wall boxes
WIRING	
Two Screw Terminals	18-22 AWG, two-wire thermistor
REGULATORY INFORMATION	
Agency Approvals	UL 916 European Conformance CE: EN 60730-1, EN 60730-2-9, EN 60730-2-13, EN 61000-6-2, EN 61000-6-3, EN 61000 Series - Industrial Immunity, EN 61326-1 FCC Part 15 Class B, REACH, RoHS, RCM (Australia), ICES-003 (Canada), UKCA (UK)

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Dimensions

115
(4.5)

85
(3.3)

24
(0.9)

2X
∅.264
[6.7]

2X
∅.142
[3.6]

3.28
[83.32]

∅2.374
[60.3]

Functions

Installation

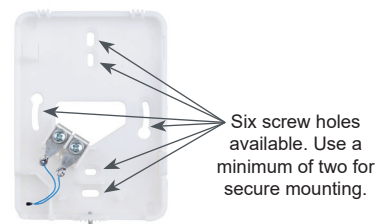The TW2X Series sensor measures the temperature in a room and provides resistive output to a controller.

1. Position the sensor vertically on the wall 4.5 ft. (1.35 m) above the floor with the 'UP' arrow facing upward. Locate away from windows, vents and other sources of draft. If possible, do not mount on an external wall, as this may cause inaccurate temperature readings.

2. Pull 18 or 22 AWG two-conductor cable(s) through the hole in the backplate.

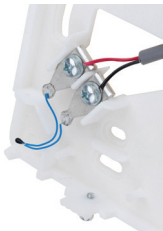3. Mount the backplate onto the wall using the screws provided.

Six screw holes available. Use a minimum of two for secure mounting.

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Installation (cont.)

4. Connect the wires to the thermistor terminals. Do not over-tighten the screws.

Note: For a more secure connection of the wires to the thermistor terminals, spade terminals (not supplied) can be used.

5. With sensor base fully installed, align top of cover to mounting tabs on top of sensor base. Swing cover downward until it latches at the bottom.

6. Install locking screw to secure cover in closed position.

Thermistor Table

Class	Pt RTD	THERMISTOR				
Type	1000 Ohm	10k Type 2	10k Type 3	10k/Shunt	20k	1.8k
Accuracy	±0.3℃	±1.0℃	±0.2℃	Consult	Consult	±0.3℃
	0.00385 curve	-50/150℃	0/70℃	Factory	Factory	@25℃
Temp. Response*	PTC	NTC	NTC	NTC	NTC	NTC

*PTC: Positive Temperature Coefficient   *NTC: Negative Temperature Coefficient

STANDARD RTD AND THERMISTOR VALUES (Ohms Ω)

°C	°F	1000 Ohm	10k Type 2	10k Type 3	10k/Shunt	20k NTC	1.8k
-50	-58	803.06	692,700	454,910	-	1,267,600	63,880
-40	-40	842.71	344,700	245,089	-	643,800	35,680
-30	-22	882.22	180,100	137,307	-	342,000	20,720
-20	-4	921.60	98,320	79,729	-	189,080	12,460
-10	14	960.86	55,790	47,843	-	108,380	7,733
0	32	1,000.00	32,770	29,588	7,480	64,160	4,940
10	50	1,039.03	19,930	18,813	6,541	39,440	3,240
20	68	1,077.94	12,500	12,272	5,530	24,920	2,177
25	77	1,097.35	10,000	10,000	5,025	20,000	1,800
30	86	1,116.73	8,055	8,195	4,534	16,144	1,496
40	104	1,155.41	5,323	5,593	3,627	10,696	1,049
50	122	1,193.97	3,599	3,894	2,854	7,234	750
60	140	1,232.42	2,486	2,763	-	4,992	545
70	158	1,270.75	1,753	1,994	-	3,512	403
80	176	1,308.97	1,258	1,462	-	2,516	303
90	194	1,347.07	919	1,088	-	1,833	230
100	212	1,385.06	682	821	-	1,356	178
110	230	1,422.93	513	628	-	1,016	139
120	248	1,460.68	392	486	-	770	110
130	266	1,498.32	303	380	-	591	87
Sensor Codes		C	D	H	K	M	N