THN

Digital Thermocouple connector conditioner
0…5V or 0…10V analog output + serial output

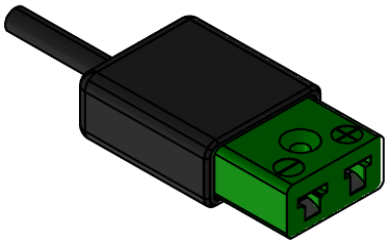
Texense sensors are designed for data logging. Should the users want to include this sensor in a closed loop system, they must undertake total responsibility from doing so.

Measurement features				
Range		-100°C min to +1800 max (refer to §Available ranges)		°C
Type		J, K, R or T		
Calibrator		Fluke 714B or 753		
Sampling frequency		5		Hz
Cold junction error		±0.7		°C
Analog output	Voltage Accuracy	±0.25		%FS
	Drift vs Ambient temperature	±0.25		%FS
	Sensitivity	Refer to §Available ranges		
	Output voltage	5V code	0…5	V
		10V code	0…10(1)	
	Impedance	47		Ω
Digital output	Accuracy	0.5		°C
	Frequency	50		Hz
	Serial link(2)	ASCII coding, 9600 Bauds		
Electrical features				
Supply Voltage		12V version	6 to 16	V
		24V version	12 to 33	
Supply Current		3		mA
Mechanical features				
Dimension		PET version	34.7x20x10	mm
		Aluminum version	32.5x18.7x10	mm
Weight (without cable)		15		g
Environment				
Protection		IP53		
Vibration test		20Gpp5'		
Shock		500		G
Operating Temp		-40 to +125		°C
Storage Temp		-40 to +125		°C

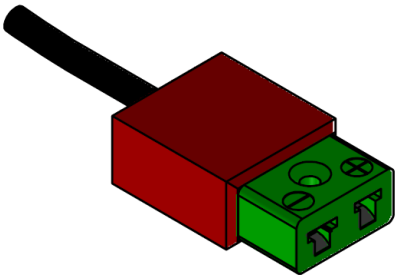
(1) Only available with 24V supply version.
(2) Compatible with Texense USB Connect 1Wire 5V or tSIB

Cable		
4x26 AWG FEP tinned copper braided cable 250V 200°C Length: 1000mm Tubing: …… Connector: ……		
Color	Function	Pin
Red	Supply input	
Black	0V	
White	Analog output	
Green	Digital output	
Braid		

The Thermocouple probe wires must be isolated from supply ground



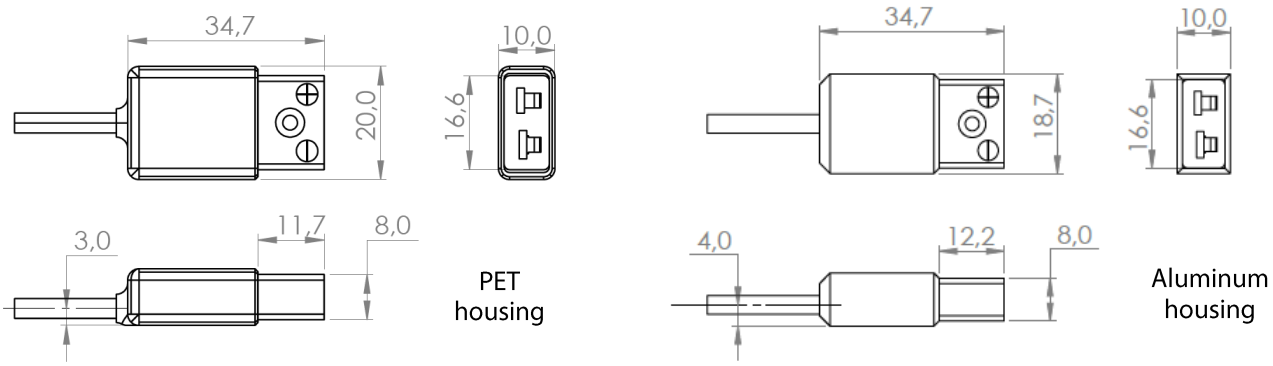
PET housing



Aluminum housing

Available Types and Connector Color		
Type	Standard	Color
K	IEC	Green
	ANSI	Yellow
R	IEC	Orange
J	IEC	Black
	ANSI	
T	IEC	Brown

Mechanical drawing



Available ranges

Type	Ordering code	0...5V output version			0...10V output version		
		Output (V)		Sensitivity (mV/°C)	Output (V)		Sensitivity (mV/°C)
		at -FS	at +FS		at -FS	at +FS	
J	J0+100	0.250	4.750	45.0	0.500	9.500	90.0
	J-50+200	0.000	5.000	20.0	0.000	10.000	40.0
	J-100+400	0.000	5.000	10.0	0.000	10.000	20.0
K	K0+120	0.100	4.900	40.0	0.200	9.800	80.0
	K-50+200	0.000	5.000	20.0	0.000	10.000	40.0
	K0+1000	0.000	5.000	5.0	0.000	10.000	10.0
	K-100+400	0.000	5.000	10.0	0.000	10.000	20.0
	K0+1250	0.000	5.000	4.0	0.000	10.000	8.0
	K-100+1300	0.700	4.900	3.0	1.400	9.800	6.0
R	R0+1250	0.000	5.000	4.0	0.000	10.000	8.0
	R0+1800	0.200	4.880	2.6	0.400	9.760	5.2
T	T-20+150	0.000	4.750	25.0	0.000	9.500	50.0
	T-50+200	0.000	5.000	20.0	0.000	10.000	40.0
	T-100+300	0.000	5.000	12.5	0.000	10.000	25.0
	T-100+400	0.000	5.000	10.0	0.000	10.000	20.0

Ordering information

Ordering ref:

THN– *Type/Range* – *Supply* – *Output* – *Housing* - *Standard*

K0+120 : K type 0°C to +120°C
K-50+200 : K type -50°C to +200°C
…
T-100+400 : T type -100°C to +400°C

12: 6V to 16V supply
24: 12V to 33V supply

5 : 0…5V signal
10: 0…10V signal(1)

P: PET housing
A: Aluminum housing

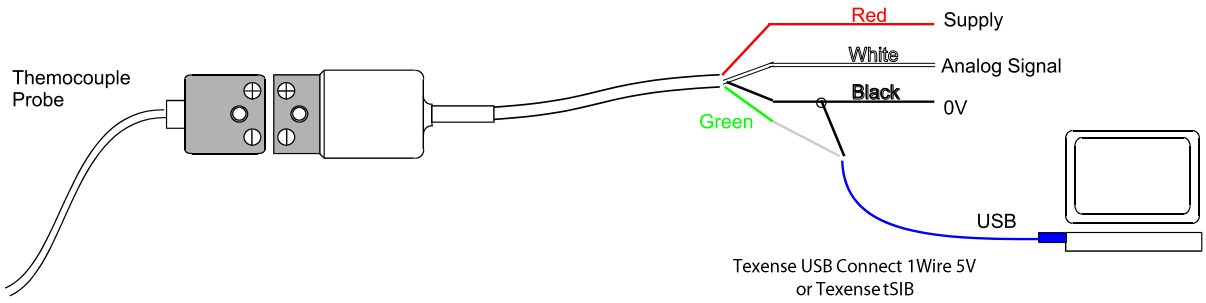
IEC: IEC standard
ANSI: ANSI standard

(1) Only available with 24V supply version

ex: THN-K-50+200-12-5-A-IEC

Digital Output

Connections



Drivers

It is necessary to download a VCP driver (Virtual Com Port) FTR232R to convert the USB port in Serial COM Port at the following address: https://ftdichip.com/drivers/vcp-drivers/ .See information at https://ftdichip.com/document/installation-guides/

Software

Use HyperTerminal (for Windows): www.hilgraeve.com/htpe/download.html or Teraterm: https://tera-term.en.softonic.com/ or any other COM port management software.

Settings

9600 bauds, 8 bits data, no parity, 1 bit stop, no flow control, recommended font Courrier New.

Operating Modes

At power up, the sensor sends the following header:

```
TEXYS(r) THN V1.0
Table K -100dC / 400dC
S/N: 12345678
```

Then the temperature data is sent at 5Hz.

Serial Output Format

0x0D (carriage return) + 0x0A (new line) + 5 ASCII characters for the temperature in tenths of degree

Example: **Temperature 145.6°**

```
01456
01456
01456
01456
...
```

Temperature -5.2°

```
-0052
-0052
-0052
-0052
...
```

For complete information, contact us at info@texense.com