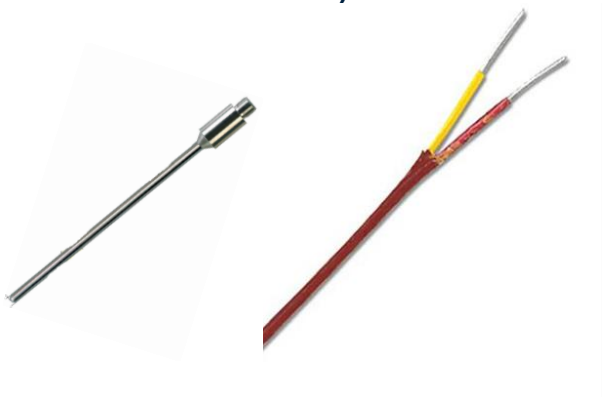


# RTD/TC – Wireless Smart Sensor Connectivity Kit

## What is a Thermocouple

- Two different metals, connected together, generate an electromagnetic force (voltage) that varies with temperature
- Requires multi-term polynomial linearization and 'cold junction compensation' where 'thermocouple' wires are connected to measuring device
- Probes available with integrated M12 connector or flying leads (will require M12 S-M-FM connector)



## What is an RTD

- Resistance of metal varies depending on temperature
- Requires multi-term polynomial linearization
- Platinum widely used due to consistency
- Typically provided as probe
- Probes available with integrated M12 connector or flying leads (will require M12 S-M-FM connector)



# RTD/TC– Wireless Smart Sensor Connectivity Kit



Pin	TC	RTD		
		4 wire	3 wire	2 wire
1	TC1 -ve	Source -		
2	TC2 +ve	Sense+	Src/Sns +	Src/Sns +
3	TC2 -ve	Sense -	Sense -	
4	TC1 +ve	Source -	Source -	Src/Sns -

- **M12-S-M-FM** provides 4 pin Screw Terminal connector (Not required for M12 based probes)
- **XW-EDA** converts TC or RTD signals to Smart Sensor digital interface and transmits wirelessly to **ZW-REC** receiver
- **ZW-REC** receiver provides *Ethernet* connection to SmartEdge gateway
- **XW-EDA** supports up to 2 Thermocouple Sensors or 1 RTD Sensor
- **ZW-REC** supports up to 128 XW-EDA transmitters

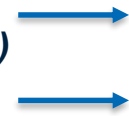
# RTD/TC-Configuration

Type  ← *Type of Sensor* → Type

RTD
Input0

Sensor Input0	
<div style="font-size: 10px;"> <span style="font-weight: bold;">Sensor</span> </div>	
Name	Input0
Measurement Type	RTD
Advanced Scaling	<input type="checkbox"/>
<div style="font-size: 10px;"> <span style="font-weight: bold;">Device Range/Type</span> </div>	
Range	100 / 385
<div style="font-size: 10px;"> <span style="font-weight: bold;">Sensor Settings</span> </div>	
WIRE	4 WIRE

*Measurement Range (RTD type and resistance)*  
*Hardware configuration*



Type	Range	Accuracy
385, 4 Wire	-200°C to 850°C	0.3°C
385, 3 Wire	-200°C to 850°C	0.3°C
385, 2 Wire	-200°C to 850°C	0.6°C
392, 4 Wire	-200°C to 660°C	0.3°C
392, 3 Wire	-200°C to 660°C	0.3°C
392, 2 Wire	-200°C to 660°C	0.6°C
3916, 4 Wire	-200°C to 660°C	0.3°C
3916, 3 Wire	-200°C to 660°C	0.3°C
3916, 2 Wire	-200°C to 660°C	0.6°C

TC
Input0

Sensor Input0	
<div style="font-size: 10px;"> <span style="font-weight: bold;">Sensor</span> </div>	
Name	Input0
Measurement Type	TC
Advanced Scaling	<input type="checkbox"/>
<div style="font-size: 10px;"> <span style="font-weight: bold;">Device Range/Type</span> </div>	
Range	K
<div style="font-size: 10px;"> <span style="font-weight: bold;">Sensor Settings</span> </div>	
Open Detect	ENABLE

*Measurement Range (TC type)*  
*Hardware configuration*



Type	Range	Accuracy
J	-210°C to 1200°C	0.4°C
K	160°C to 1372°C	0.4°C
T	190°C to 400°C	0.4°C
E	-220°C to 1000°C	0.4°C
N	-100°C to 1300°C	0.4°C
R	40°C to 1768°C	0.5°C
S	100°C to 1768°C	0.5°C
B	640°C to 1820°C	0.5°C
C	0°C to 2320°C	0.4°C