RTD/TC – USB Smart Sensor Connectivity Kit

SENSING INCREDIBLE THINGS

OMEGA™ a spectris company

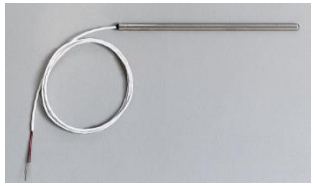
RTD/TC Sensors

What is a Thermocouple

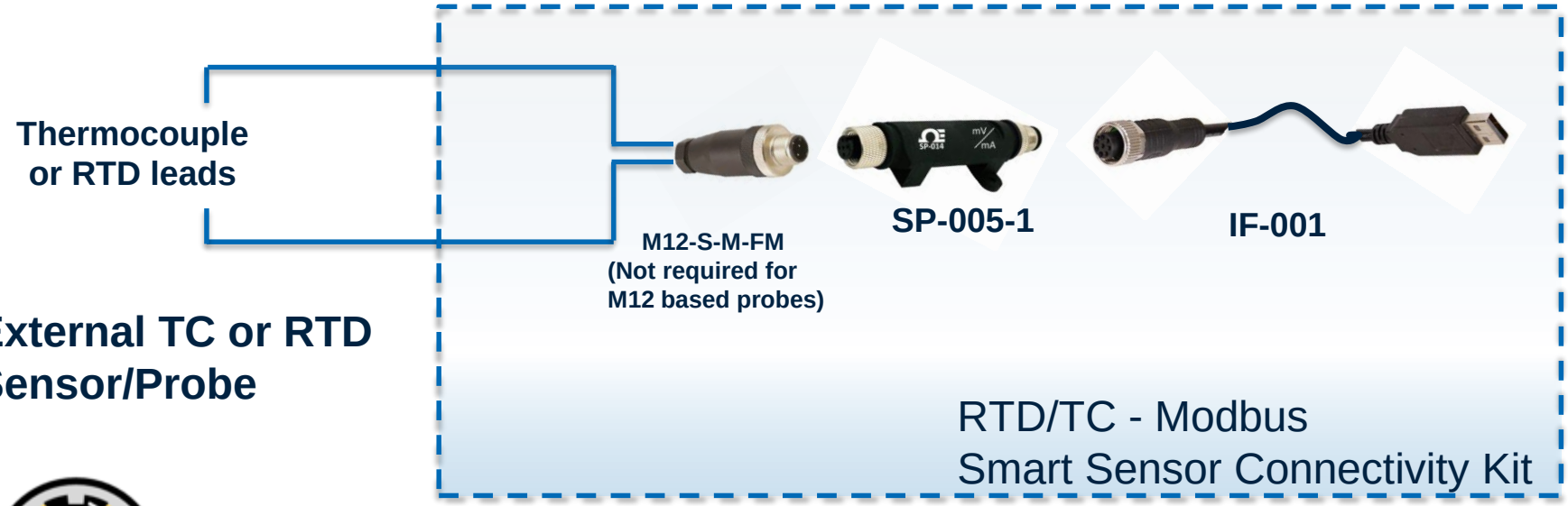
- Two different metals, connected together, generate an electromagnetic force (voltage) that varies with temperature
- Requires multi-term polynomial linearization and ‘cold junction compensation’ where ‘thermocouple’ wires are connected to measuring device
- Probes available with integrated M12 connector 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



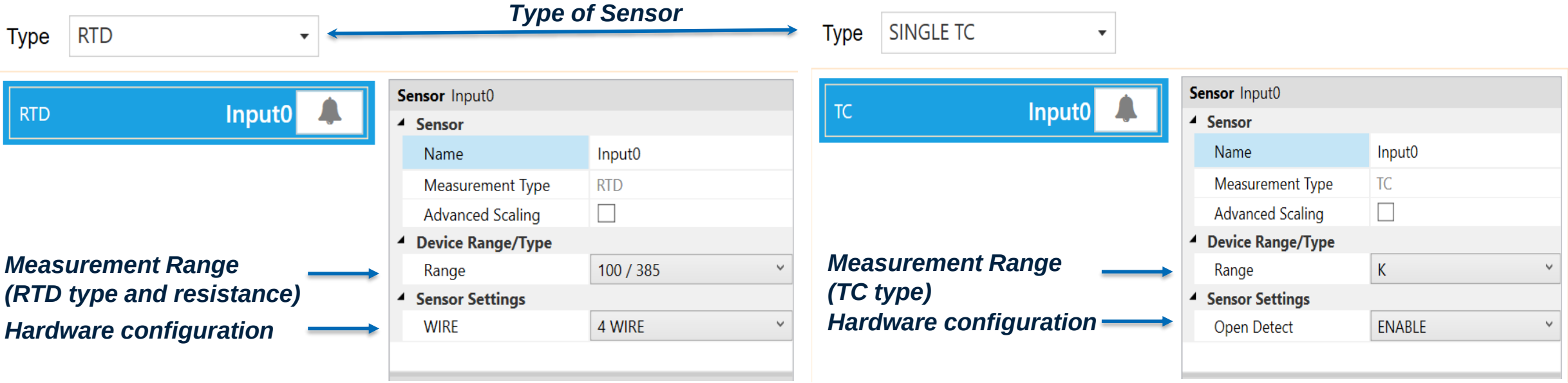
SmartEdge Gateway

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)
- **SP-005-1** converts TC or RTD signals to Smart Sensor digital interface
- **IF-001** provides Smart Sensor to USB conversion

- SP-005 supports up to 2 Thermocouple Sensors or 1 RTD Sensor

RTD/TC–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

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