



iTrapSensor[®]

MONITORING SENSOR

MODEL iT5-IS-TPN

TEMPERATURE AND PRESSURE MEASUREMENT BASED ON ISA 100.11A


Benefits

Sensor with wireless communication for high frequency monitoring of crucial steam-using equipment such as heat exchangers, pumps and turbines and equipment with the possibility of air present in steam piping.

1. Simultaneous temperature and pressure measurement.
2. High frequency monitoring: measurement cycles configurable between 1 second and 1 hour.
3. Line-of-sight communication distance of 437 yd between sensor and repeater or between repeaters.
4. Powered by a long-life battery pack, replaceable in hazardous locations.
5. Temperature measurement up to 752 °F.
6. Intrinsically safe construction for use in hazardous and non-hazardous locations.
7. Optional extended antenna type for remote antenna mounting.



Specifications

Model			iT5-IS-TPN
Maximum Measurement Temperature (°F)			752
Measurable Temperature Range (°F)			-40 to +752
Measurable Temperature Accuracy (°F)			±1
Minimum Ambient Temperature (°F)			-40
Maximum Ambient Temperature (°F)	Maximum Measurement Temperature	-40 to < 257	176
		257 to < 392	167
		392 to < 572	154
		572 to < 752	147
Measurable Pressure Range			0 to 290 psig, 0 to 725 psig
Measurable Pressure Accuracy			±0.5% of full-scale
Maximum Allowable Pressure			Rated pressure × 2
Applicable Fluids			Steam, water, air, nitrogen
Wireless Frequency Band			2.4 GHz
Maximum No. of Connections			500 devices per gateway ¹⁾
Maximum No. of Hops			4 (from access point to sensor)
Measurement Cycle ²⁾			1 second to 1 hour
Power Source			Non-rechargeable lithium-thionyl chloride battery pack ³⁾ (Rated Voltage: 3.6 V, Rated Capacity: 38 Ah)
Battery Life ⁴⁾			10 years for regular operation (60 s measurement cycle)
Intrinsic Safety Specifications			ATEX:  II 1G Ex ia op is IIC T4 Ga UL/cUL: Class I, Division 1, Groups ABCD IECEx: Ex ia op is IIC T4 Ga Class I, Zone 0, AEx ia op is IIC T4, Ex ia op is IIC T4 UKEX: Ex ia op is IIC T4 Ga
Connection Type			Compression Fitting: Screwed Rc(PT) ½ in; Thermowell: Flanged 1 in
Wireless Module	Communication Protocol	ISA 100.11a, based on IEEE 802.15.4	
	Regulatory Compliance	FCC, IC, CE compliant	
	Frequency Bandwidth	2.405 to 2.480 GHz	
	Transmitter Power Output	7.0 mW/MHz	
	Communication Distance	Approx. 400 m ⁵⁾ (with a clear line of sight)	
Protection Class			IP66 and IP67 (evaluation for intrinsic safety is performed at IP20)
Material	Body, Cover	Aluminium Alloy Die Castings (ADC3, SG100A)	
	Sensor Tip	Stainless Steel (SUS304)	
	Thermowell	Stainless Steel (A182 F316)	
Options			Extended antenna type: Sensor with 55/16 in antenna and 9.8 ft or 42.7 ft cable (intrinsically safe)

¹⁾ When using TLV-recommended system (Yokogawa Electric Corporation: YFGW410) ²⁾ Measurement cycle can be configured per sensor.

Configurable cycle varies depending on gateway used. ³⁾ Battery pack can be replaced in hazardous locations.

⁴⁾ Battery life is given for an ambient temperature of 77 °F and may vary depending on environmental conditions such as gateway used, transmission status and ambient temperature. ⁵⁾ Depends on environmental conditions and installation location.

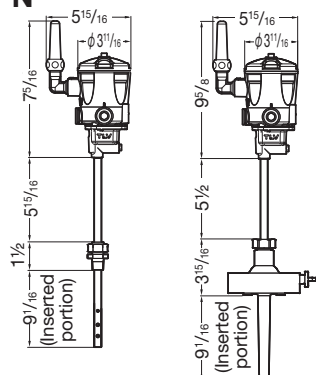


CAUTION

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

Dimensions

• iT5-IS-TPN



Units: in

iT5-IS-TPN Screwed* (Compression Fitting) (in)

Size	Weight (lb)
1/2	4.4

* Rc(PT), other standards available

iT5-IS-TPN Flanged (Thermowell) (in)

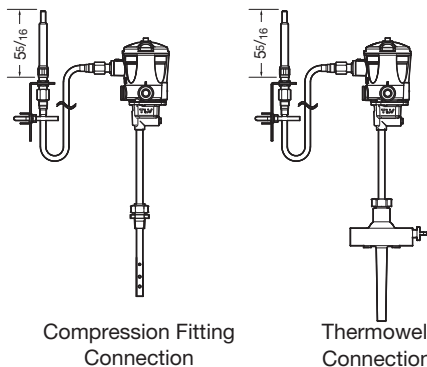
Size	Connect to ASME Class	Weight (lb)
1	300RF 600RF	13.2 [13.7]

Other standards available. Contact TLV for details.

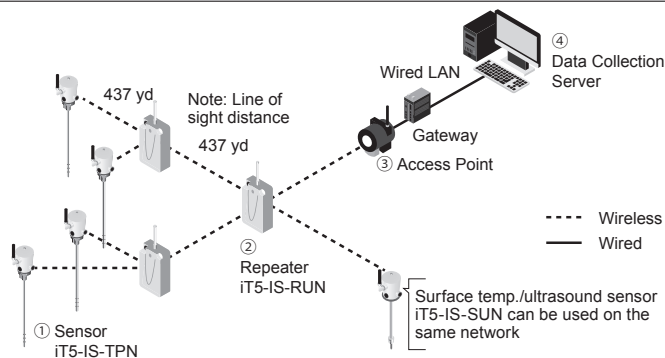
[] 600RF

Options

Antenna Extension



System Configuration Example



No.	Model	Function
①	Sensor: iT5-IS-TPN	Measurement of temperature and pressure, wireless transmission of information
②	Repeater: iT5-IS-RUN	Wireless relay of information
③	Access Point/Gateway	Relay of information via intranet
④	Data Collection Server	Importing collected data

Refer to individual specification data sheets (SDS) for full details.



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE.
Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001

