



# iTrapSensor<sup>®</sup>

## MONITORING SENSOR

### MODEL iT5-ZB-SUN

WIRELESS SURFACE TEMPERATURE AND ULTRASONIC MEASUREMENT VIA TLV'S IEEE 802.15.4-BASED PROTOCOL

### Benefits


**Sensor with wireless communication for monitoring a large quantity of crucial steam-using equipment such as heat exchangers, presses and turbines, equipment in difficult to reach locations, or steam traps\*.**

1. Suitable for monitoring of many devices: up to 8000 sensors can be connected to one data station.
2. Measurement cycles configurable between 5 minutes and 24 hours.
3. Low power consuming device powered by a long-life battery pack.
4. Surface temperature measurement up to 752 °F.
5. Intrinsically safe construction for use in hazardous and non-hazardous locations.

\* Steam trap diagnostic software required separately. Contact TLV for details.



### Specifications

Model			iT5-ZB-SUN	
Type			Low Temperature	High Temperature
Maximum Measurement Temperature (°F)			482	752
Measurable Temperature Range (°F)			-40 to +482	-40 to +400
Minimum Ambient Temperature (°F)			-40	
Maximum Ambient Temperature (°F)	Maximum Measurement Temperature	-40 to < 275	176	176
		275 to < 392	167	167
		392 to < 392	152	—
		392 to < 572	—	152
		572 to < 752	—	143
Wireless Frequency Band			2.4 GHz	
Maximum No. of Connections			100 repeaters and 8000 sensors <sup>1)</sup> per data station	
Maximum No. of Hops			20 (from sensor to data station)	
Measurement Cycle <sup>2)</sup>			5 minutes to 24 hours	
Power Source	Type	Non-rechargeable lithium-thionyl chloride battery pack <sup>3)</sup>		
	Rated Voltage	3.6 V		
	Rated Capacity	19 Ah		
Battery Life <sup>4)</sup>			10 years for regular operation (30 min measurement cycle), or 5 years (15 min measurement cycle)	
Intrinsic Safety Specifications			ATEX:  II 1G Ex ia IIC T4 Ga IECEx: Ex ia IIC T4 Ga UKEX: Ex ia IIC T4 Ga	UL/cUL: Class I, Division 1, Groups ABCD Class I, Zone 0, AEx ia IIC T4, Ex ia IIC T4
Connecting Pipe			Straight Pipe (Option: intrinsically safe flexible pipe <sup>5)</sup> )	
Wireless Module	Regulatory Compliance	FCC, IC, CE compliant		
	Frequency Bandwidth	2.405 to 2.480 GHz		
	Transmitter Power Output	3.5 mW/MHz		
	Communication Distance <sup>6)</sup>	Approx. 219 yd (with a clear line of sight)		
Protection Class			IP67 (evaluation for intrinsic safety is performed at IP20)	
Material	Base	Aluminium		
	Cap	Polyetherimide (PEI)		
	Sensor Tip	Stainless Steel (SUS304)		
Option			Sensor mounting method: Clamp or band type	

<sup>1)</sup> When measurement and communication cycles are set to 1 hour. Up to 250 sensors can be connected to 1 repeater.

<sup>2)</sup> Measurement cycle can be configured per sensor. Measurement cycle will be a multiple of the communication cycle.

<sup>3)</sup> Confirm location is non-hazardous before performing battery replacement.

<sup>4)</sup> Battery life is given for an ambient temperature of 77 °F and may vary depending on environmental conditions such as network configuration, transmission status and ambient temperature. <sup>5)</sup> Product failure due to the flexible pipe (vibrations etc.) is not covered by the warranty.

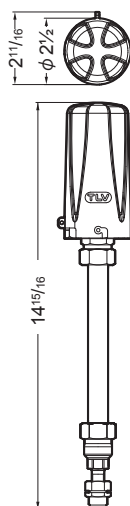
<sup>6)</sup> Wireless module power output is set to conform to the applicable regulations per country. As a result, the communication distance depends on environmental conditions and installation location, and may be shorter than expected. Contact TLV for further information.



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-ZB-SUN



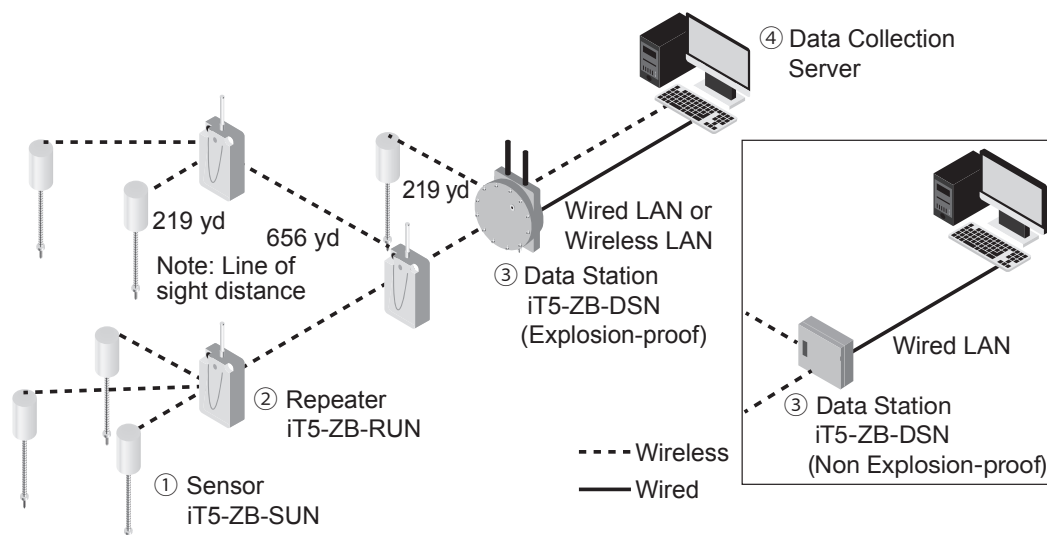
Units: in  
Weight: 1.7 lb  
(incl. battery pack)

## Option

### Flexible Pipe



## System Configuration Example



No.	Model	Function
①	Sensor: iT5-ZB-SUN	Measurement of ultrasound and surface temperature, wireless transmission of information
②	Repeater: iT5-ZB-RUN	Wireless relay of information
③	Data Station: iT5-ZB-DSN	Relay of information via intranet
④	Data Collection Server	Importing collected data

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



**CAUTION** 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.

## TLV CORPORATION

13901 South Lakes Drive, Charlotte, NC 28273-6790  
Tel: 704-597-9070 Fax: 704-583-1610  
E-mail: [tlv@tlvengineering.com](mailto:tlv@tlvengineering.com) <https://www.tlv.com>  
For Technical Service 1-800 "TLV TRAP"



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

ISO 9001  
ISO 14001

