TLV®

iTrapSensor®
REPEATER
MODEL iT5-ZB-RUN

REPEATER FOR ITRAPSENSOR MONITORING SYSTEM VIA TLV'S IEEE 802.15.4-BASED PROTOCOL

Features

Repeater for iTrapSensor wireless monitoring sensors. Relays data between monitoring sensors and access point and extends communication distance.

1. Utilizes the TLV original, IEEE 802.15.4-based communication network.
2. Suitable for monitoring of many devices: up to 250 sensors can be connected to one repeater.
3. Line-of-sight communication distance of 600 m between repeater and data station or other repeaters.*
4. Powered by a long-life battery pack (replaceable in hazardous locations).
5. Intrinsically safe construction for use in hazardous and non-hazardous locations.
6. Optional extended antenna type for remote antenna mounting.

* Wireless module power output is set to conform to the applicable regulations per country. As a result, the communication distance may be shorter than expected. Contact TLV for further information.

Patented

Specifications

Model	iT5-ZB-RUN
Type	Battery-powered
Wireless Frequency Band	2.4 GHz
Maximum No. of Connections	100 repeaters and 8000 sensors[1] per data station
Maximum No. of Hops	20 (from sensor to data station)
Communication Cycle[2]	Automatic
Power Source	Non-rechargeable lithium-thionyl chloride battery pack[3] × 2 Rated voltage: 3.6 V Rated capacity: 76 Ah per pack
Battery Life[4]	10 years for regular operation (50 sensors with 30 min measurement cycle), or 5 years (50 sensors with 15 min measurement cycle)
Intrinsic Safety Specifications	ATEX: (Ex) II 1G Ex ia IIC T4 Ga UL/cUL: Class I, Division 1, Groups ABCD IECEx: Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4, Ex ia IIC T4 UKEX: Ex ia IIC T4 Ga
Ambient Temperature (°C)	-40 to +80

Wireless Module[5]	Communication Protocol	TLV original, based on IEEE 802.15.4
	Regulatory Compliance	FCC, IC, CE compliant
	Frequency Bandwidth	2.405 to 2.480 GHz
	Transmitter Power Output	10.0 mW/MHz
	Communication Distance	Between repeaters: approx. 600 m (with a clear line of sight) Between repeater and sensor: approx. 200 m (with a clear line of sight) Between repeater and data station: approx. 600 m (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)
Options		Antenna extension: 150 mm antenna and 3 m or 13 m cable (intrinsically safe)
Accessory		Mounting bracket

[1] When measurement and communication cycles are set to 1 hour. Up to 250 sensors can be connected to 1 repeater.
[2] Automatically set according to the sensor communication cycle settings. [3] Battery pack can be replaced in hazardous locations.
[4] Battery life is given for an ambient temperature of 25 °C with 1 repeater and may vary depending on environmental conditions such as network configuration, transmission status and ambient temperature. Battery life may decrease more quickly as the number of relaying repeaters increases.
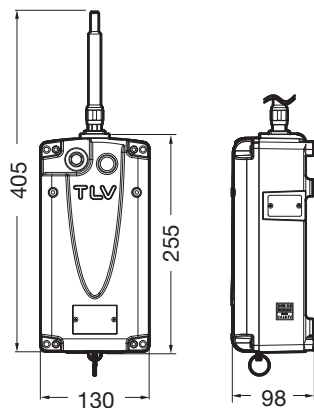[5] Wireless module power output is set to conform to the applicable regulations per country. As a result, the communication distance depends on environmental conditions and installation location, and may be shorter than expected. Contact TLV for further information.

⚠ **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.
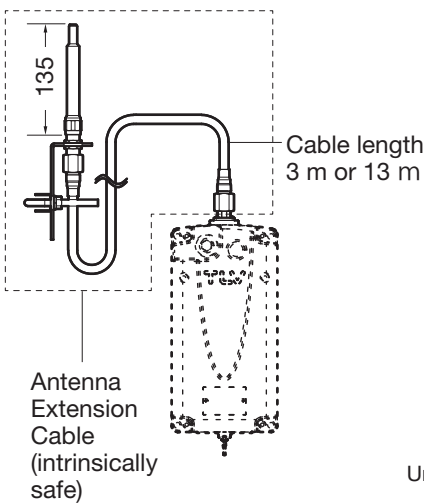
Dimensions

● **iT5-ZB-RUN**

405
255
130
98

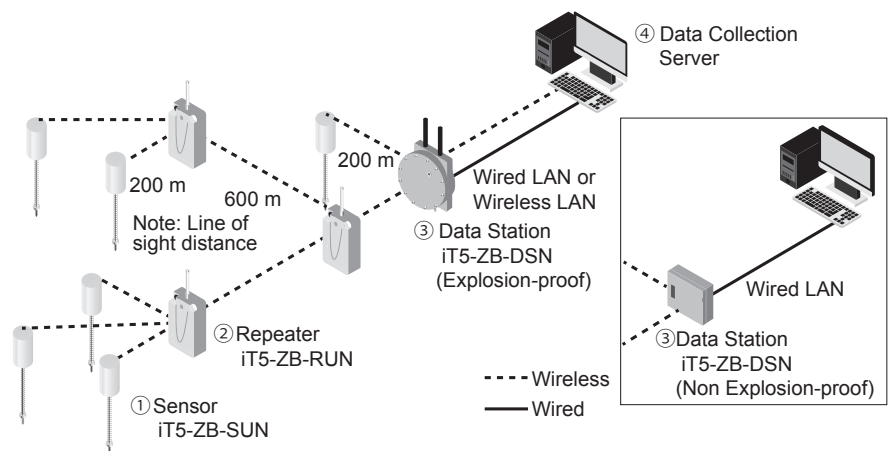Units: mm
Approx. Weight (kg): 3.0 (incl. battery pack)

Option

Antenna Extension

135

Cable length
3 m or 13 m

Antenna
Extension
Cable
(intrinsically
safe)

Units: mm

System Configuration Example

④ Data Collection
Server

200 m

200 m

Wired LAN or
Wireless LAN

600 m

④ Data Station
iT5-ZB-DSN
(Explosion-proof)

Wired LAN

③ Data Station
iT5-ZB-DSN
(Non Explosion-proof)

400 m
Note: Line of
sight distance

② Repeater
iT5-ZB-RUN

- - - - Wireless
——— Wired

① Sensor
iT5-ZB-SUN

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.

Manufacturer

ISO 9001
ISO 14001

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

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ISO 9001 · ISO 14001

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