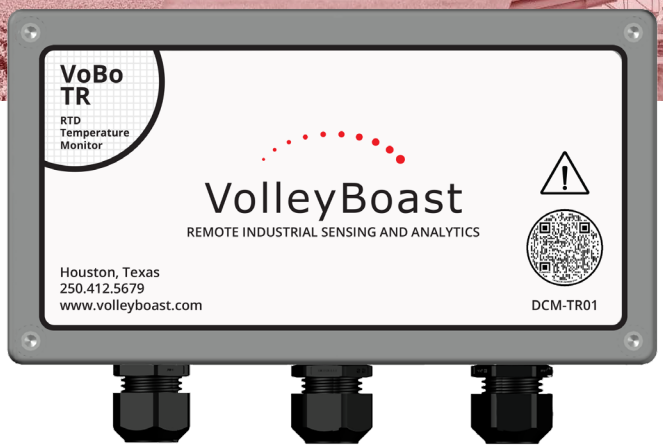
VolleyBoast

Draft



VoBo TR

LoRaWAN® 6 Channel RTD Temperature Monitor

The VoBo TR™ is an industrial grade, battery powered, LoRaWAN Class A bridge endpoint with 6 RTD temperature channels for accurate temperature monitoring. It is certified safe and hazardous areas. Each RTD channel can be independently configured and calibrated. The VoBo TR can be configured locally with a terminal application, VoBoConfig Tool GUI interface, or over the air with downlinks. Its rugged enclosure and internal antenna permit it to be installed almost anywhere without concern for the elements. The LoRaWAN® radio technology provides for economical scaling and years of battery life.

With the addition of Volley Boast's proprietary VoBoSync* technology, which synchronizes data collection across any number of VoBoSync* enabled devices, the VoBo TR is ideal for enhancing your edge compute and analytics program.

Applications

Motor Condition Monitoring
Process Temperature Monitoring
Detecting Vessel Hotspots
Heat Exchanger Fouling
Thermal Profiling
Downhole Temperature Monitoring
Food and Beverage Processing Quality Control

Features

- 6 RTD Temperature Channels
- 2, 3, and 4 Wire RTDs
- PT100 and PT1000
- Open Circuit / Short Circuit Detection
- Reports in °F, °C, or ohms
- Wake Up Input
- Battery Powered, 3+ years
- Datalogging
- Analytics Plug-In Capable
- LoRaWAN® Compliant
- US915, EU868 and Other Channel Plans
- Available with VoBoSync*
- Hazardous Area Certification
- IP66 / Type 4X

LoRa Alliance Member

*Patent Pending

Specifications

Input / Output

RTD Inputs	6 Channels
RTD Types*	Pt100, Pt1000
RTD Wiring Configurations	2, 3, and 4 Wire
RTD Construction Type	All
Measurement Units*	°F, °C, or ohms
Measurement Numerical Format	FP32
Digital Interrupt (WKUP)	1 Input
Digital Interrupt (WKUP) Type	Dry Contact
Configuration Port	RS-232

** Per bank (3 channels) selectable*

*** Per channel selectable*

Functionality

LoRaWAN Class	A
Data Logging	Sensor data, events, configuration changes
Sensor Data Logging Capacity	~5000 payloads
Data Logging Access	Serial or downlink/uplink
Operation Modes	Online* / Offline**
Sample Cycle Time	1 to 2880 minutes***
Wakeup by External Magnet	Yes
Open/Short Circuit Detection	Yes
Heartbeat Cycle	24 hours
Heartbeat Data	Battery voltage, signal strength, node status

** Transmits on LoRaWAN® plus local data logging*

*** Local data logging only*

**** On demand when digital interrupt (WKUP) is triggered*

Accuracy

Measurement Resolution	16 bit, +/-0.0321°C
Temperature Transformation	IEC 60751

Note: consult manufacturer specifications for RTD accuracy

Mounting

Direct Mount Spacing	8.03 x 3.23"
Optional Mounts*	Rubber mounting feet Pole mount

** Contact Volley Boast for available mounts*

Radio

Protocol	LoRaWAN® 1.0.4
Antenna	Internal
Range	Up to 6 miles LOS
Frequency	US915, EU868 and other Channel Plans available
Data Encryption	AES 128
FCC/IC Conformance	FCC ID: AU792U13A16857 IC:125A-0054
Compatibility	Backward compatible with LoRaWAN® compliant devices

Power

Battery Size	LSH20 (D size)
Battery Type	Li-$SOCl_2$
Battery Access	User replaceable
Battery Voltage	3.6 V nominal
Battery Capacity	13.0 Ah nominal
Battery Life*	3+ years
Sleep Current	~68 uA

** Battery life based on 30 min. cycle time @70 °F*

Environmental

Temperature	-40 to 80 °C
NRTL Listed	Listing # E115256 UL-62368-1, CSA C22.2 No. 62368-1 UL 121201 and CAN/CSA C22.2 No.213
Certified Use	Class I, Division 2, Groups B,C,D T4 Class II, Division 2, Groups F,G T135 °C Class III, Division 1
Ingress	IP66 / Type 4X

Physical

Enclosure Material	GRP
Enclosure Dimensions*	8.63" x 4.69" x 3.5"
Cord Grip Holes**	3 holes, 0.875" diameter
Cord Grip Capacity	0.18 to 0.4" diameter
Input Terminals	24 to 12 AWG
Weight	3.3 lbs
Cover Fasteners	Captive, 316 stainless

** Excluding cord grips*

*** Will accommodate a 1/2" conduit fitting*