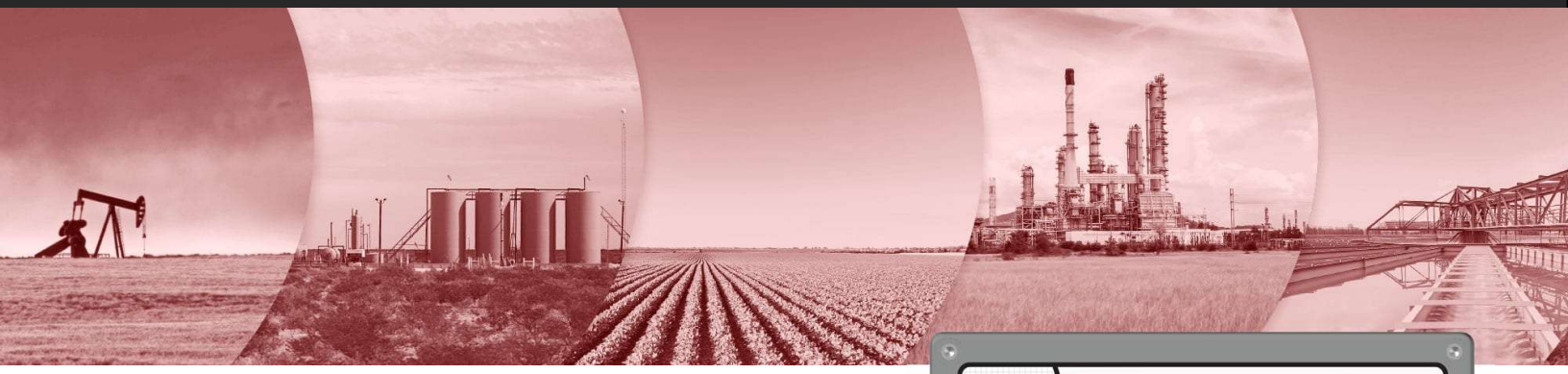
VolleyBoast

Draft



VoBo XB

Universal LoRaWAN® Bridge Endpoint for General Purpose and Hazardous Area Use

The VoBo XB™ is a second generation, industrial grade, multiple input, universal LoRaWAN® bridge from Volley Boast. It converts wired process instrumentation into LoRaWAN® enabled instrumentation. It's range of analog, discrete, and serial inputs enable customers to enhance their data collection and automation efforts using their preferred, qualified, and legacy sensors. The VoBo XB is battery operated and can supply power to connected sensors from its analog terminals. Typical battery life is 3+ years and is user replaceable. The VoBo XB can be configured locally through a serial connection or over the air with downlinks. Its rugged enclosure and internal antenna allow installation almost anywhere, the VoBo XB is available for general purpose or with hazardous area certification. The LoRa® radio technology and LoRaWAN® protocol provide dependable long-range communication and economical scaling.

With the addition of optional features VoBoSync*, and/or VoBoAnalytics, the VoBo XB is ideal for enhancing your Industry 4.0 data collection, edge analytics, and insights. *Patent Pending

Applications

- Temperature, Pressure, Flow
- Tank Level
- Wellhead Production
- Heat Trace Controller
- Motor Condition
- Emissions
- Weather Station
- Water Quality
- Compliance
- Safety

Features

- 3 Analog Inputs
- 3 Wired HART®/4-20mA Inputs *Optional*
- 3 Digital Inputs
- 1 Wake-up Digital Interrupt Input
- RS485 Modbus RTU Channel
- Multiple Modbus Device Read/Write *Optional*
- VoBoSync* *Optional*
- VoBoAnalytics *Optional*
- Data Logging
- Battery Powered
- LoRaWAN® Compliant
- US915, EU868, and Other Channel Plans
- General Purpose and Hazardous Area Models
- IP66 / NEMA 4X

LoRa Alliance Member

Specifications

Analog Input

Analog Inputs		3 Inputs*
Analog Input Types		2, 3, or 4 wire 4-20mA, 0-5V, 0-10V HART®/4-20mA 0-5mA NAMUR proximity
Analog Input Impedance	4-20mA	250 ohm
	0-5V	500 Kohm
	0-10V	375 Kohm
	NAMUR	1000 ohm
Measurement Resolution		16 bit
Measurement Units		Engineering units or ADC counts

** Per channel, type selectable*

Digital Input

Digital Inputs	3 Inputs*
Digital Input Types	Dry contact, voltage PNP, NPN proximity
Digital Interrupt (WKUP)	1 input
Digital Interrupt Type	Dry contact

** Per channel, type selectable*

Serial Input/Output

Serial Input	1 Input
Serial Interface	RS485 or RS232
Serial Protocol	Modbus RTU
Number of Slave Devices	1 Standard >1 Optional*
Serial I/O Port**	RS-232

** Daisy chained slave devices*

*** For configuration, monitoring, and data recovery*

Functionality

LoRaWAN® Class	A
Modbus RTU Write Capability	Yes
Data Logging	Sensor data, events, configuration changes
Data Logging Capacity	~5000 sensor payloads
Logged Data Access	Serial port downlink/uplink
Operation Modes	Online* / Offline**
Sample Cycle Time	1 to 2880 minutes
Wakeup by External Magnet	Yes
Heartbeat Cycle	24 hours
Heartbeat Data	Battery voltage, signal strength, node status
VoBoSync (pat pending)	Optional
VoBo Analytics	Optional

** Transmits on LoRaWAN® plus local data logging*

*** Local data logging only*

Radio

Protocol	LoRaWAN® 1.0.4
Antenna	Internal, 1.4 dBi
Range	Up to 6 miles LOS
Frequency	US915, EU868, and other channel plans available
Data Encryption	AES 128
Conformance	FCC ID: AU792U13A16857 IC:125A-0054
Compatibility	All LoRaWAN® compliant devices

Power

Battery*	LSH20 (D size)
Battery Type	Li-$SOCl_2$
Battery Access	User replaceable
Battery Voltage	3.6 V nominal
Battery Capacity	13.0 Ah nominal
Power Supply Output V+	5 to 24 Vdc
Maximum Power Output**	750mW

** As delivered from Volley Boast*

*** With the Saft LSH20 battery*

Physical

Enclosure Material	GRP
Enclosure Dimensions*	8.3" 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	2.75 lbs
Cover Fasteners	Captive, 316 stainless
Direct Mount Spacing	8.03 x 3.23"

** Excluding cord grips*

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

Environmental

Temperature	-40 to 80 °C
ATEX / IECEx Certification*	Ⓔx II 3G 3D ec nC T4 Ex ec nC IIC IIIA T4 Gc
USA & Canada Certification*	Class I,Division 2,Groups A-D, T4 Class I,Division 2,Groups F,G,T135°C Class I Zone 2 EX ec nC IIC IIIA T4 Gc
Ingress Rating	IP66 / NEMA 4X
Complies With	UL 62368-1, CSA C22.2 No. 62368-1 CE European Community Directives

** Model with Hazardous Area Certification*