



VoBo XP

Externally Powered LoRaWAN® Endpoint for Continuous Monitoring

The VoBo XP™ is an externally powered, industrial grade, 7 input, 4 output, LoRaWAN® bridge certified for Class 1 Division 2 (pending) hazardous areas. It can operate as a LoRaWAN® Class A (sleep/wake monitoring) or Class C (continuous monitoring) device with the ability to perform control functions through load driver outputs. The VoBo XP can operate on solar power where an external power source is a challenge. It's wide range of analog and digital inputs enable customers to enhance their automation efforts using favored or legacy sensors. It can be configured locally through a serial connection or over the air with downlinks. Its rugged enclosure and internal antenna permit it to be installed almost anywhere. The LoRaWAN® radio technology provides for economical scaling.

With the addition of Volley Boast's proprietary VoBoSync* technology, which synchronizes data collection across any number of VoBoSync* enabled devices, the VoBo XP is ideal for enhancing your Industry 4.0 edge compute and analytics program.

Applications

- Applications for continuous or high data rate monitoring
- Control functions for latching or non-latching relays
- Power switch for 12 and 24 Vdc applications.
- Loads with a high in-rush current such as motors and lamps.
- Resistive, inductive, and capacitive loads in switching applications.

Features

- Externally Powered
- Solar Power Ready
- LoRaWAN® Class A or C
- 3 Analog Inputs
- 2 Digital Inputs
- RS485 Modbus RTU Input
- Wake Up Input
- 4 Load Driver Outputs
- Data Logging
- Analytics Plug-In Capable
- LoRaWAN® Compliant
- Available with VoBoSync*
- Class 1, Division 2 (Pending)
- IP66 / NEMA 4X

Specifications

Analog Input

Analog Inputs	3 Inputs*
Analog Input Types	2, 3, and 4 wire 4-20mA, 0-5V, 0-10V
Analog Input Impedance	
4-20mA	250 ohm
0-5V	50 Kohm
0-10V	37.5 Kohm
Measurement Resolution	16 bit
Measurement Units	Engineering units or ADC counts
Measurement Numerical Format	FP32

* Per channel type selectable

Analog Output

Outputs	4 Outputs
Output Control	Command, event or analytics driven
Output Type	Low Side MOSFET Gate Driver (open drain)
Continuous Drain Current	0.9 A maximum
Static Drain-Source On-State Resistance	400 mOhm typical 600 mOhm maximum
Clamp Voltage	60 V minimum
Short Circuit Protection	Yes, with auto reset
Over Voltage Protection	Yes, active clamp
Over Current Protection	Yes
Thermal Shutdown Protection	Yes, with auto reset

Power

Input Voltage	12 to 24 Vdc
Voltage Supply to Terminal	4 to 24 Vdc
Current Supply to Terminal	TBD
Sleep Current	TBD

Digital Input/Output

Digital Inputs	2 Inputs*
Digital Input Types	voltage or dry contact
RS485 Port	1
RS485 Protocol	Modbus RTU
Modbus Payload Capacity	41 registers (16 bit)
Digital Interrupt (WKUP)	1 input
Digital Interrupt Type	Dry contact
Configuration Port	RS-232

* Per channel type selectable

Functionality

LoRaWAN® Class	A or C
Data Logging	Sensor data, events, configuration changes
Data Logging Capacity	~5000 sensor payloads
Data Logging Access	Serial or downlink/uplink
Output Control	Command, event or analytics driven
Operation Modes	Online* / Offline**
Sample Cycle Time	
Class A Function	1 to 2880 minutes***
Class C Function	Continuous
Wakeup by External Magnet	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



Specifications

Radio

Protocol	LoRaWAN® 1.0.4
Antenna	Internal
Range	Up to 6 miles LOS
Frequency	ISM band, US 915 MHz
Data Encryption	AES 128
FCC/IC Conformance	FCC ID: AU792U13A16857 IC:125A-0054
Compatibility	Backward compatible with LoRaWAN® compliant devices

Environmental

Temperature	-40 to 80 °C
NTRL Listed	TBD
Certified Use	Class I, Division 2, (Pending) IP66 / NEMA 4X

Physical

Enclosure Material	TBD
Enclosure Dimensions*	8.75" x 5" x 3.5" approx.
Cord Grip Holes**	3 holes, 0.875" diameter
Cord Grip Capacity	0.18 to 0.4" diameter
Input Terminals	24 to 12 AWG
Weight	TBD
Cover Fasteners	Captive, 316 stainless

*Excluding cord grips

** Will accommodate a 1/2" conduit fitting

Mounting

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

* Contact Volley Boast for available mounts

