

Technical Specifications

SENSX EXTREME READER

RFID Reader Specifications

Feature	Specification
Product Name	SensX Extreme
Reader Protocol	EPC Class 1 Gen 2 and 18000 – 6C
Operating Frequency	902.75 MHz – 927.25 MHz
Hopping Channels	50
Channel Spacing	500 KHz
Channel Dwell Time	< 0.4 seconds
RF Transmitter	< 30 dBm
Modulation Methods	Phase Reversal – Amplitude Shift Keying (PR-ASK) Double Side Band – Amplitude Shift Keying (DB-ASK)
20 dB Modulation Bandwidth	< 100 KHz

Sensors Specifications

Feature	Specification
UHF RFID	EPC Class 1 Gen 2 and 18000- 6C

Interfaces Specifications

Feature	Specification
Ethernet – Data and Power	TCP/IP; Ethernet Rugged IP67 (RJ-45) accepting Class 4 PoE, with dust cap
Antenna RF	33 dBm RF Transmit power; Rugged IP67 4 x RP-TNC with cap and chain
GPIO	2 input, 2 output, optically isolated; +5 to +24 VDC input and gnd; Rugged IP67 6-pin circular male pin connector with dust cap

Physical and Environmental Specifications

Feature	Specification
Dimensions (l-w-h) including interfaces	(mm) 240 x 55 x 125 / (in) 9.4 x 4.9 x 2.1
Weight	Approximately 1120 g (2.46 lbs)
Operating Temperature	-40°C to +50°C
Operating Environment	100% humidity
Compliance Certifications	IP67 – rating (enclosure) FCC Part 15; FCC ID: pending IC: pending UL: Safety tested to UL 60950-1 (pending)

Power Specifications

Feature	Specification
Input Power (PoE)	802.3at PoE (25.5 - 30W) <ul style="list-style-type: none"> RJ-45, Class 4 PD (receive power) 802.3at Power Injector (P/N SPOE29WC4)
Input Power (VDC)	+5-24 VDC via GPIO connector
Software Support	SensThys Console, SDKs (VB.Net, C# and Java)
Power Consumption (33dBm)	Power into Extreme: 13 to 15W typical

Part Numbers

	Extreme
North America	SX11480F
Europe	SX11480E



Physical Connections

Extreme Reader with Cap and Chains, Dust covers.



RF Antenna Connectors

The Extreme provides four (4) RP-TNC connectors (pins) on the unit for connecting up to four (4) UHF RF antennas. The connectors are labeled “ANT1”, “ANT2”, “ANT3” and “ANT4” from right to left on the unit.

The RP-TNC connectors are covered by cap and chain when not in use.

For most applications standard RF cabling is suggested. However, in extreme conditions, IP-67 compliant RF cables must be used.



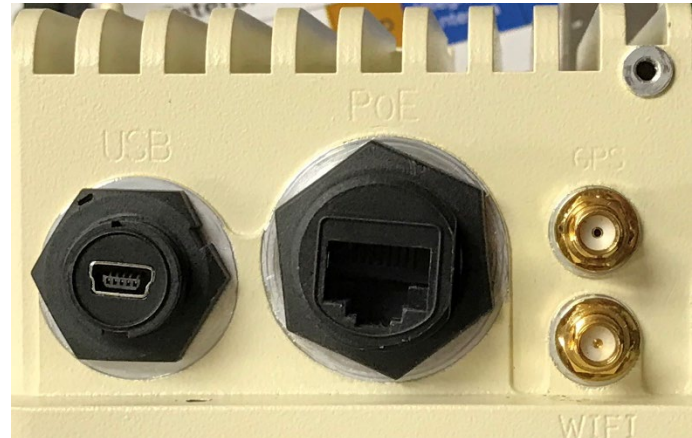
Ethernet Connector (labeled “PoE”)

The Extreme provides a ruggedized RJ-45 connector for standard Ethernet and PoE+ connectivity. The connector is labeled “PoE”.

The Ethernet connection is not crossover.

The Extreme accepts for 802.3at or Class 4 PoE. (25.5 -30W)

The RJ-45 connector should be covered by the duct cap when not in use.



GPIO (General Purpose Input/Output) Connector

The SensX Extreme GPIO port provides two control inputs and two control outputs, as well as input pins for +5 to +24 VDC to power the Extreme unit.

To use the GPIO, the Extreme should be connected to external ground via pins 6.

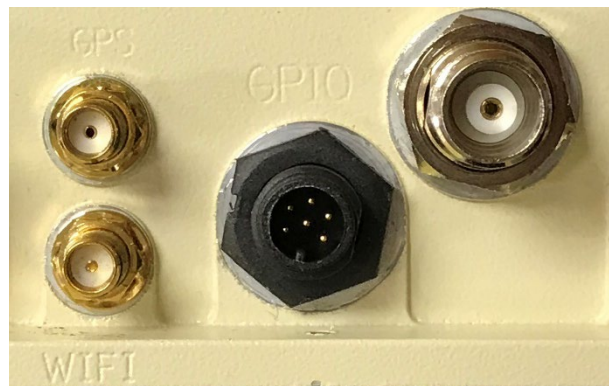
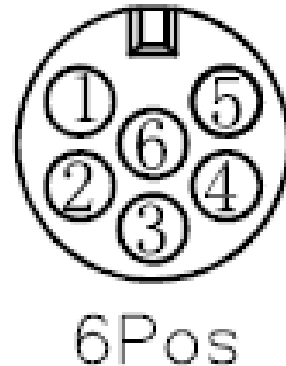
Two pairs of input/output pins are provided by the GPIO connector. Pinout assignments are below.

Toggling the external outputs opens or closes an internal transistor switch that allows/prevents current to flow from the voltage applied to the external output pin to ground. (Please see the *Extreme GPIO Deployment Guide* for more information and example circuits.)

The Extreme unit can be powered by connecting +5 to +24VDC to pin 5.

Extreme GPIO Pin-out Specifications

Pin Number	Assignment
1	External Input 1
2	External Output 1
3	External Input 2
4	External Output 2
5	VCC Input (+5 to +24 VDC)
6	External Ground



Drawings

The Extreme reader dimensions are presented below (in mm):

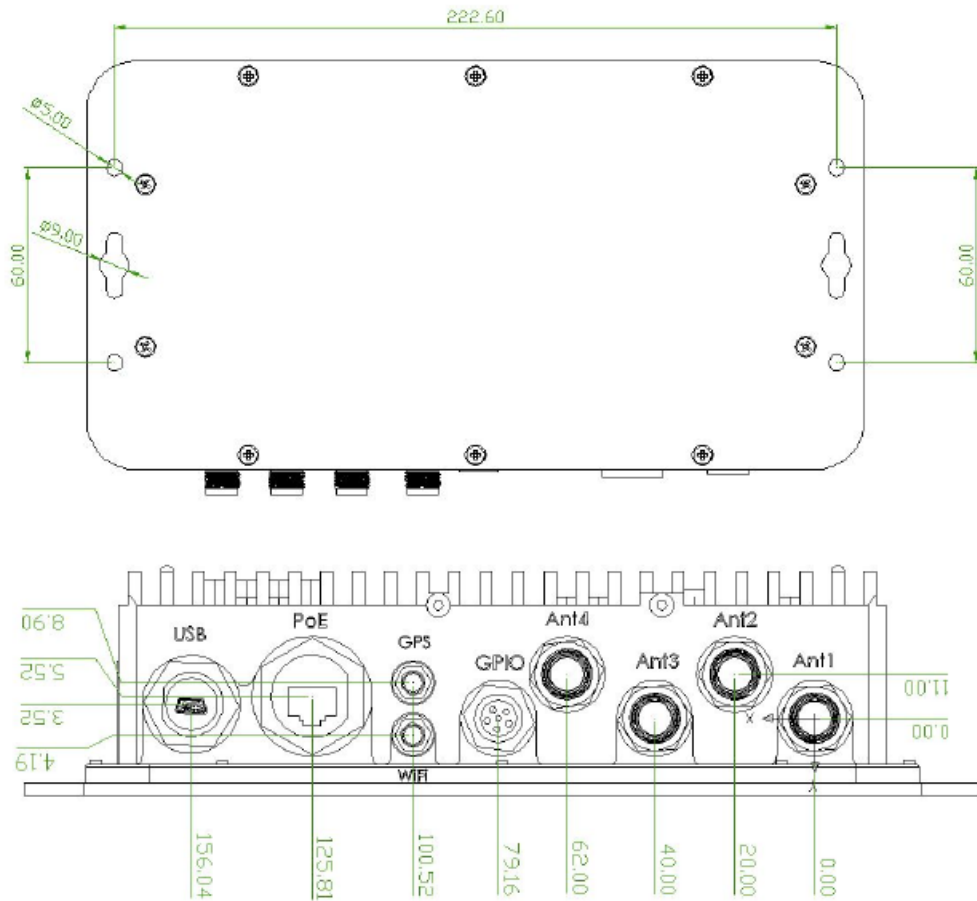


Figure 1: Dimensions of the Extreme

Coming Features

The hardware and operating system of the Enterprise supports many additional functions and sensors, including GPS (location), WiFi, Bluetooth, BLE Beacon detection, gyroscope and 3-axis accelerometer.

These sensors will be formally introduced in future revisions for Extreme.