Technical Specifications

SensArray (32000) and SensArray+ (33111)

POWER and DATA

Data Interface	TCP/IP (RJ-45) , 2 ports on 32000, 3 ports on 33111
POE+	RJ-45, Class 4 PD (receive power) on Port 0 RJ-45, Class 4 PSE (deliver power) on Port 1 and Port 2 (model 33111) PoE+ power supply, part number SPOE29WC4
DC power input	56VDC input on 33111 DC power supply, part number SPS75W56VDC
LED Status Indicator	Flashes RED during booting, flashes green when operational
RJ45 Status Indicators	Green indicates full duplex when lit, half duplex when dark, Yellow indicates 100 MBS when lit, 10 MBS when dark
Software Support	APIs, DLL, sample code, RFID Console
Power Consumption (30dBm)	Power into SensArray – 9W typical
Power Consumption (Idle)	Power into SensArray – 3W typical
Maximum powered chain length, with one unit at 30 dBm	4, with the SensThys power injector Maximum length of Cat6 is 100 meters. 5, with the SensThys DC power supply

READER Specifications

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
External Antenna Connections	3 individually addressable (SensArray+, 33111) RP SMA connectors
Read Architecture	Impinj R2000 platform

INTERNAL ANTENNA Specifications

Operating Frequency	902.75 MHz – 927.25 MHz (FCC, other regions are different)
Polarization	Right-hand Circular
Gain	8.5 dBiC

PHYSICAL and ENVIRONMENTAL Specifications

Dimensions	(cm) 25.4 x 25.4 x 2.0 • (in) 10 x 10 x 0.8
Weight	Approximately 0.79 kg (1.73 lbs)
Operating Temperature	0C to +50C (for 20% average duty cycle)
Maximum Duty Cycle (30dBm)	50% at 35C, 30% at 45C, 20% at 50C
Operating Environment	0 to 45C, non-condensing
Compliance Certifications	FCC Part 15; FCCID: 2ANPR-SENSARRAY IC: 23135-SENSARRAY Safety tested to unified 60950-1 (CB Report)

GPIO (General Purpose Input/Output)

The SensArray+ GPIO port provides for four control inputs and four outputs. To use the GPIO, the SensArray+ should be connected to external ground via pins 2 and/or 12.

Power to energize external devices can be sourced in two different ways.

First, external devices can be powered from the SensArray+ powered either through POE input, or the external 56VDC. This power can be delivered to the external device via pin 11, which provides 24 VDC to a maximum of 600 mA. Users should bear in mind that using GPIO power from the SensArray+ decreases the amount of power that can be provided to other POE devices connected to the SensArray+.

Alternatively, power for devices controlled by the SensArray+ can be provided externally, by connecting +24VDC to pin 1. Provided that the power source connected to pin 1 can meet the power needs of external devices, the power that can be provided to other POE devices connected is not reduced. Note, though, power provided by the +24VDC input does not provide power to the POE system, i.e., providing power to the GPIO can reduce or eliminate the load of the external devices from the POE power system, but cannot extend the POE power delivery capabilities.

GPIO Pin-out Specifications

Product Name	SensArray+
Pin 1	24VDC External
Pin 2	External ground
Pin 3	External Output 1
Pin 4	External Output 2
Pin 5	External Output 3
Pin 6	External Output 4
Pin 7	External Input 1 (5-24VDC)
Pin 8	External Input 2 (5-24VDC)
Pin 9	External Input 3 (5-24VDC)
Pin 10	External Input 4 (5-24VDC)
Pin 11	+24V Internal (maximum sourcing current 600 mA)
Pin 12	External ground

Drawings and Block Diagrams

The SensArray and SensArray+ models share many common features and are identical in physical size. The SensArray has two PoE Ethernet ports. The SensArray+ has more input/output capability. The following discussion is therefore predominantly applicable to the SensArray+.

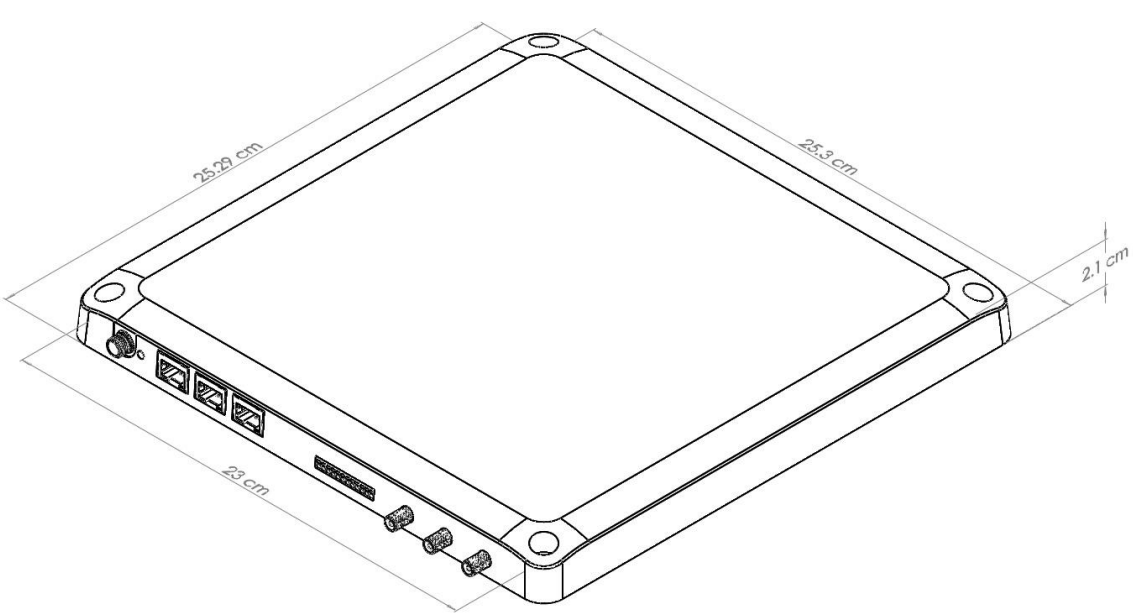

Figure 1 Perspective view of the SensArray+

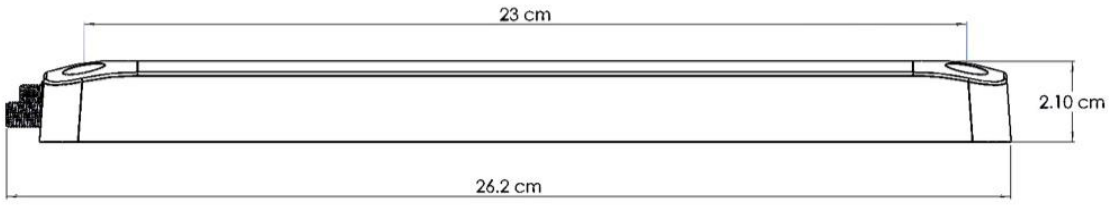

Figure 2 Side view of the SensArray+

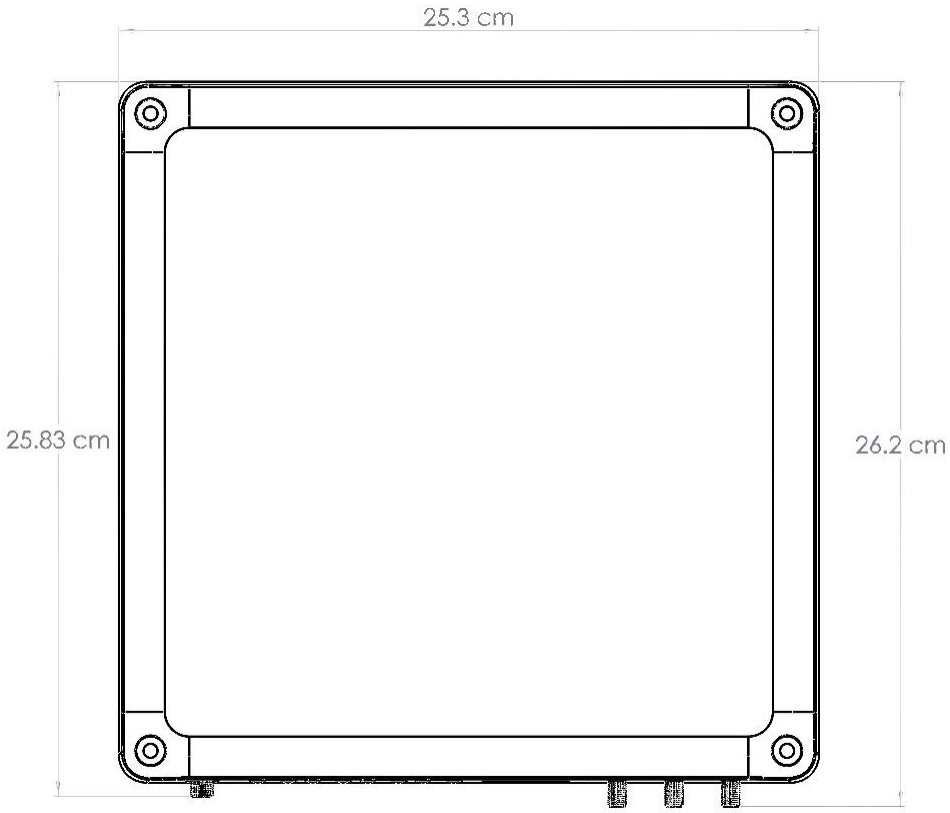

Figure 3 Plan view of the SensArray+