Technical Specifications

SensArray One, One Pro, Pro and Enterprise

POWER and DATA Specifications

	SensArray			
	One	**One Pro**	**Pro**	**Enterprise**
Data Interface	TCP/IP (1 x RJ-45)	TCP/IP (1 x RJ-45)	TCP/IP (3 x RJ-45)	TCP/IP (4 x RJ-45)
Input Power via POE, POE+	802.3at PoE Class 4[1] PD (receive power) PoE+ power supply, P/N SPOE29WC4	802.3bt PoE+ Class 8[2] PD (receive power) PoE+ power supply, P/N POE 90U-1BT	802.3at PoE Class 4[1] PD (receive power on) on Port 0 RJ-45, Class 4 PSE on Port 1 and 2 PoE+ power supply, P/N SPOE29WC4	802.3bt PoE+ Class 8[2] PD (receive power on) on Port 0 RJ-45, Class 4 PSE on Port 1, 2 and 3 PoE+ power supply, P/N POE 90U-1BT
DC power input	N/A	N/A	56 VDC input DC power supply, P/N SPS75W56VDC	N/A
LED Status Indicator	Flashes RED during booting, flashes GREEn when operational. Toggles between RED and GREEN when the “Locate” function is active			
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/Idle	15W, excluding GPIO and PoE output			
Maximum supported RFID read zones, w/one zone at 33 dBm	N/A	N/A	16, with SensThys power Injector Max length of Cat6 at 100 meters	100, with SensThys power Injector Max length of Cat6 at 100 meters

[1]Class 4 (25.5-30W) [2]Class 8 (71.3-90W)

READER Specifications

	SensArray			
	One	**One Pro**	**Pro**	**Enterprise**
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	33 dBm		
Modulation Methods	Phase Reversal – Amplitude Shift Keying (PR-ASK) Double Side Band – Amplitude Shift Keying (DB-ASK)			
20 db Modulation Bandwidth	< 100 KHz			
Read Architecture	Impinj R2000 chip, M Power			

ANTENNA Specifications

	SensArray			
	One	**One Pro**	**Pro**	**Enterprise**
External RF Antenna Ports	N/A	3 x RP-SMA	3 x RP-SMA	3 x RP-SMA
RF Transmit Power (dBm)	N/A	+33 dBm	+33 dBm	+33 dBm
Operating Frequency	902.75 MHz – 927.25 MHz (Region code is field assignable via software) Other regions: https://www.gs1.org/docs/epcglobal/UHF_Regulations.pdf			
Integrated Antenna	30W at antenna			N/A
Polarization	Right-hand Circular			N/A
Gain	8.5 dBiC			N/A

PHYSICAL and ENVIRONMENTAL Specifications

	SensArray			
	One	**One Pro**	**Pro**	**Enterprise**
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	0°C to +50°C			
Compliance Certifications	FCC Part 15; FCC ID: pending IC: Pending Safety tested to unified 60950-1 (CB Report): Pending	FCC Part 15; FCC ID: pending IC: Pending Safety tested to unified 60950-1 (CB Report): Pending	FCC Part 15; FCC ID: 2ANPR-M-PWRSENS IC: Pending Safety tested to unified 60950-1 (CB Report): Pending	FCC Part 15; FCC ID: pending IC: Pending Safety tested to unified 60950-1 (CB Report): Pending

PART NUMBERS

	SensArray			
	One	**One Pro**	**Pro**	**Enterprise**
North America Flat Mounting	SO21000FF	SO21330FF	SP13350FF	SE24370FF
North America VESA Mounting	SO21000FV	SO21330FV	SP13350FV	SE24370FV
Europe Flat Mounting	SO21000EF	SO21330EF	SP13350EF	SE24370EF
Europe VESA Mounting	SO21000EV	SO21330EV	SP13350EV	SE24370EV

GPIO (General Purpose Input/Output) Connector

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.

The SensThys One Pro and Enterprise offer optically isolated GPIO functionality, with four inputs and four outputs.

- The Outputs behave as relays that are open when "off" and closed when "on". Specifically, the pin is tied to ground when “on”, and is open when “off”.
- The Inputs translate high voltages as digital "1" that can be used in the control logic of the sensor.
- The One Pro and Enterprise also provide a switchable 24V, 1.2A power source to drive 24V accessories.
- The One and Pro models provide 24v, 600 mA power source to drive 24v accessories.

Background

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 (Pro model only). This power can be delivered to the external device via pin 11, which provides 24 VDC to a maximum of 1200 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

Pin Number	SensArray One, One Pro, Pro, Enterprise
Pin 1	+24VDC Internal, max sourcing current: 1.2 A for One Pro and Enterprise 600 mA for One and Pro
Pin 2	External ground
Pin 3	Output 1
Pin 4	Output 2
Pin 5	Output 3
Pin 6	Output 4
Pin 7	Input 1 (5-24VDC)
Pin 8	Input 2 (5-24VDC)
Pin 9	Input 3 (5-24VDC)
Pin 10	Input 4 (5-24VDC)
Pin 11	+24VDC Internal, max sourcing current: 1.2A for One Pro and Enterprise 600 mA for One and Pro
Pin 12	External ground

Figure 1 GPIO PinOut

Product Images

SensArray One

SensArray One-Pro

SensArray Pro

SensArray Enterprise

Drawings

The SensArray models share many common features and are identical in physical size. The SensArray can have up to four (4) PoE Ethernet ports. The unit can also include a GPIO port and 3 RP-SMA antenna ports for external UHF antennas. The SensArray One unit does not include a GPIO port nor any RF ports for external antennas.

The dimensions shown below are the same for all four models of SensArray.

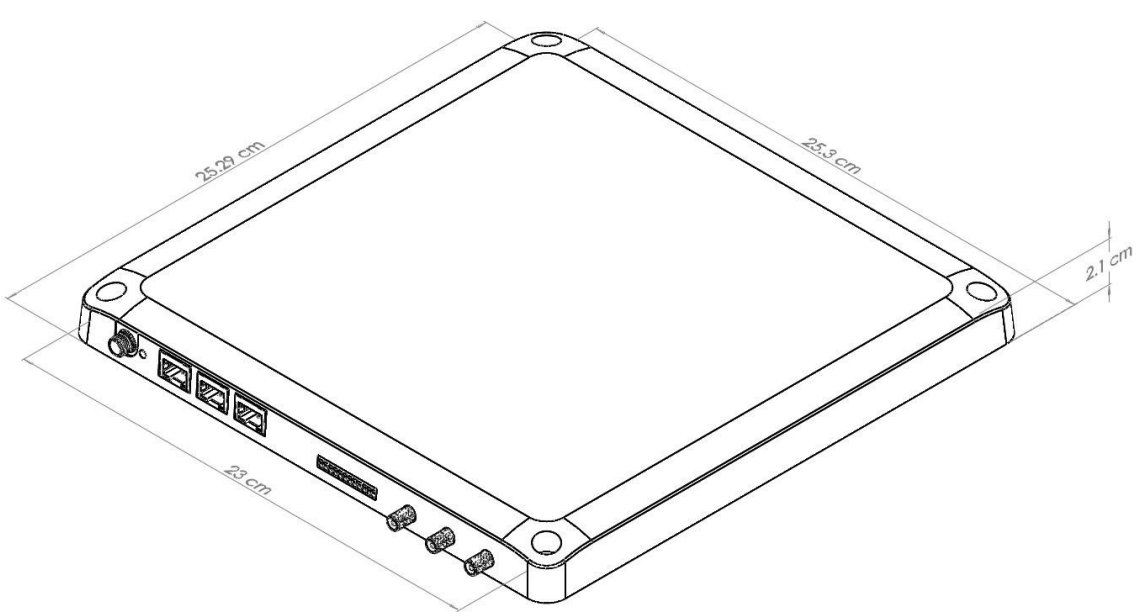

Figure 2 Perspective view of the SensArray

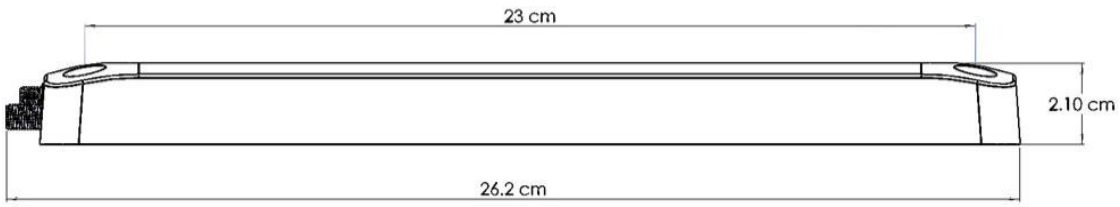

Figure 3 Side view of the SensArray

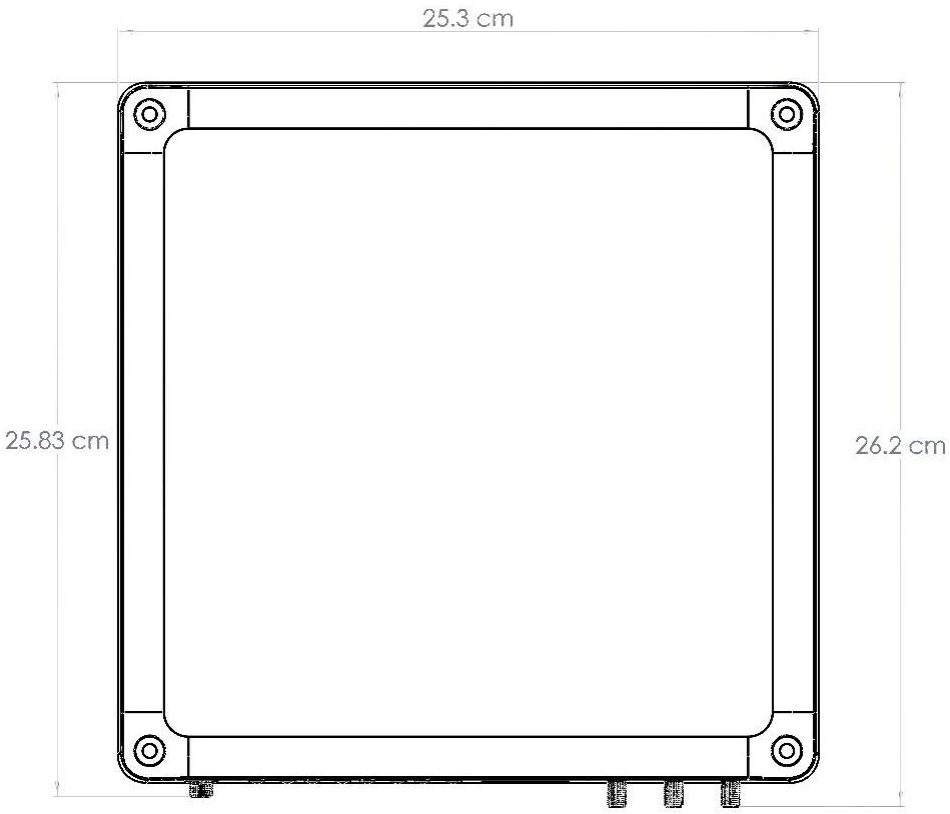

Figure 4 Plan view of the SensArray