



# Input Module Family Datasheet

## IM-Series



### Overview

Samsara's input modules connect to a wide variety of 3rd party industrial sensors and equipment, streaming operational data wirelessly to the Samsara cloud in real time.

Samsara IMs bring modern cloud capabilities to traditional sensors, from centralized visibility to interactive graphs, real-time alerts, mobile apps, and modern APIs. Samsara IMs scale from small single-site deployments to large installations with thousands of endpoints.

### HIGHLIGHTS

- Wirelessly streams data from 3rd party industrial sensors and equipment to the Samsara Cloud
- Easy to install with all-wireless, self-powered form factor
- Analog current, analog voltage, and discrete inputs offer compatibility with thousands of pressure transducers, flow meters, tank level meters, gas sensors, limit switches, etc.
- Brings the benefits of the Samsara cloud to legacy environments

# Instant Over-The-Air Visibility of Industrial Sensors

## Wirelessly Monitor Industrial Sensors

Samsara analog input modules sense analog current from 4-20mA current loops, analog voltage, and discrete voltage inputs, connecting thousands of third party sensors into the Samsara platform. Connect IMs to flow meters, pressure transducers, gas sensor, temperature sensors, tank level sensors, airflow sensors, and more.

## Easy to Deploy

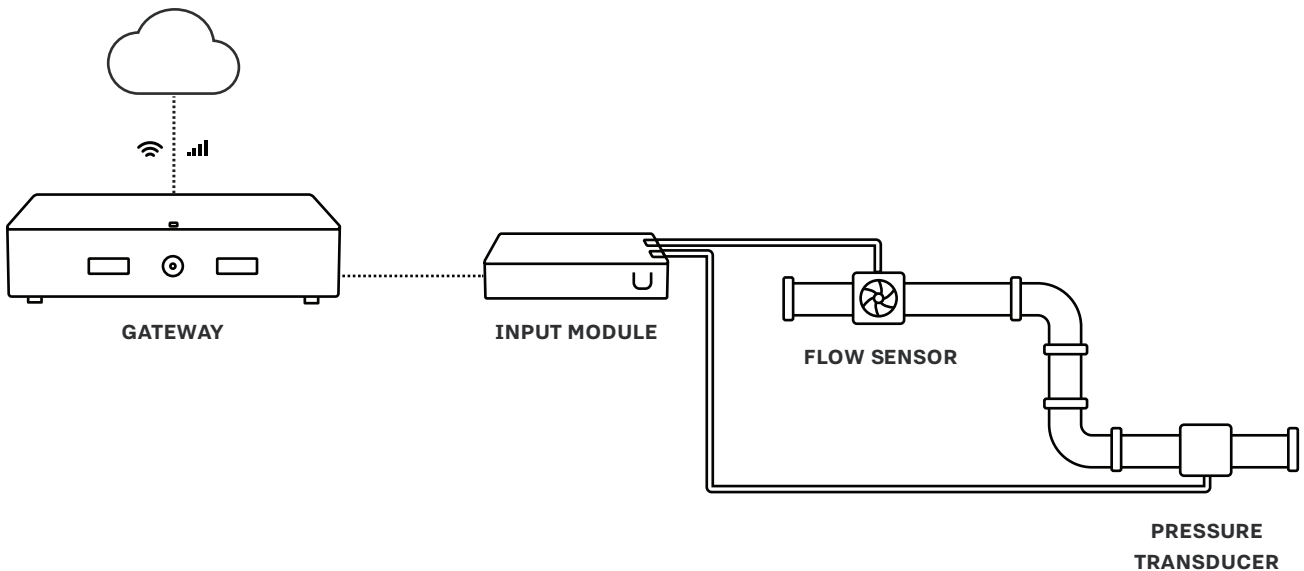
All-wireless and self-powered, input modules enable deployment without complex engineering or integration. Deploy in new facilities, or use IMs to bring remote visibility to existing industrial sensors. The IM family can be deployed stand alone or in line with PLCs and RTUs.

## Designed for Security

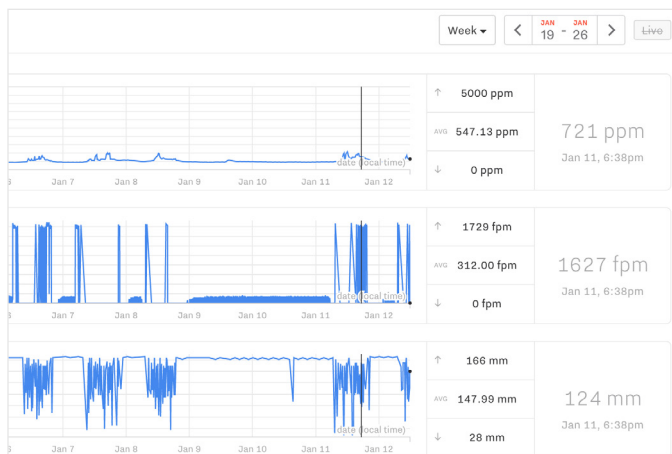
Input modules are designed for use in security-conscious environments. IMs are read-only and the entire Samsara system is isolated from control systems. Enterprise-grade encryption and robust security tools provide best-in-class data security.

## 1/10th the Cost

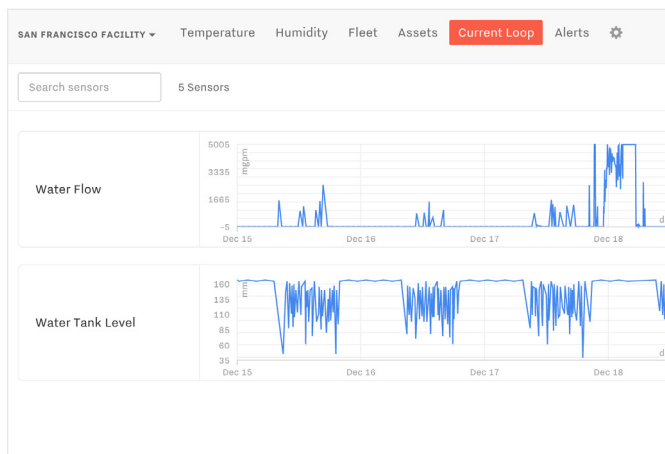
When combined with Samsara IoT gateways, the IM family brings remote connectivity to industrial sensors at 1/10th the cost of traditional SCADA infrastructure. Samsara eliminates the need for proprietary networks, databases, historians, and complex engineering and implementation.



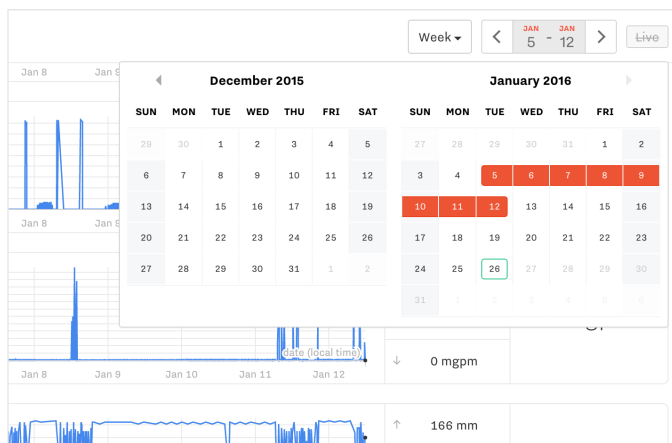
# Deep Visibility into a Wide Variety of Sensors



Monitor a wide variety of 3rd party sensors



Understand anomalies by monitoring an environment over time



Easily view historical data and compare trends

The figure shows an 'Edit Sensor' modal form for 'Water Flow'. It includes the following fields and options:

- Name:** Water Flow
- Channel 1 Sensor Mapping:** FPR204P-PC
- Channel 2 Sensor Mapping:** Disabled
- Buttons:** Remove, Cancel, Save

Easy setup for a variety of sensors.

# Technical Specifications

## Analog Inputs

<b>IM31 Analog Current-Sensing Input Module, 4-20mA</b>	2 x analog DC current-sensing inputs Logical range: 4-20mA Full scale: 0-20.48mA Resolution: 12 bit Loop Resistance: 100 ohms
<b>IM32 Analog Voltage-Sensing Input Module, 0-30V</b>	2x analog DC voltage-sensing inputs Range: 0-30V (user-configurable logical range, e.g. to capture data from sensors with 0-5V and 0-10V analog output) Resolution: 18 bit
<b>IM33 Discrete Voltage-Sensing Input Module</b>	2x discrete DC voltage-sensing inputs "Off" range: 0-3.3V. "On" range: 3.3-30V.

## Wireless Connectivity

Wireless connectivity to Samsara GW and VG series gateways (2.4 Ghz)

<b>Real-time</b>	Delivers new data within seconds
<b>Auto-discovery</b>	Automatically detects and connects to any sensor associated with the same account
<b>Range</b>	Up to 100' Actual range depends on RF interference, building materials, and physical obstacles

## Data Logging

Built-in storage logs data when gateway connectivity is unavailable

<b>Capacity</b>	1 month
<b>Data upload</b>	Automatic (zero-touch) wireless data upload via Samsara gateways

## Enclosure

<b>Dimensions</b>	5.5 x 3.9 x 2 cm (2.1 x 1.5 x 0.8 inches)
<b>Weight</b>	30 g
<b>Operating Temperature</b>	-5C to 60C
<b>Battery</b>	3 year battery life

## Software Features

<b>Logical mapping and unit selection</b>	Easily map sensors to desired ranges and units for simple, intuitive data visualization and alerting
<b>Visibility and management via Samsara cloud</b>	Real-time remote visibility, SMS and email alerts, interactive graphing and analytics, GDP- and GMP-compliant reports, mobile access via smartphone app

## Cloud License

<b>All-inclusive</b>	Includes maintenance and support, full dashboard access, unlimited sensor data storage, monthly feature updates, and continuous cellular connectivity
<b>Simple pricing</b>	No long-term contracts, early termination fees, or per-feature licenses

# Ordering information

## IM Series Environmental Monitors

<b>IM31-HW</b>	Analog Current-Sensing Input Module, 4-20mA
<b>IM32-HW</b>	Analog Voltage-Sensing Input Module, 0-30V
<b>IM33-HW</b>	Discrete Voltage-Sensing Input Module

## License

<b>LIC-IM-1YR</b>	1-year license for IM-series monitors
<b>LIC-IM-3YR</b>	3-year license for IM-series monitors