

Sensor Node

Internet of Things | Data Acquisition

General Description

In an Internet of Things (IoT) network, a sensor node collects data from one or several sensors. KISTERS IoTa sensor nodes interconnects sensors with data management software by means of adding modern wireless connectivity to digital sensors.

IoTa low power sensor nodes are available in two variants, one for LTE-M and LoRaWAN each.

IoTa sensor nodes are battery-powered and **operate autonomously for several years on a single battery charge**. They collect data from sensors connected via SDI-12 and counter input. Between readings of the input channels, the integrated low-power microprocessor falls into hibernation. To further reduce power consumption, SDI-12 sensors are powered only to make a reading and then switched off.

The IoTa Stand-Alone can be configured locally or remotely using KISTERS Hy-Communicator Windows software (free of charge).

Easy installation

IoTa sensor nodes are equipped with a removable pole mount bracket and mounting holes for wall mount applications. UV-proof cable ties (included) allow for quick installation on vertical poles and horizontal rods. The IoTa sensor node can be installed in portrait or landscape position.

Monitoring Networks

IoTa sensor nodes can be purchased individually to bring IoT interconnectivity to your existing set of SDI-12 sensors and sensors with a pulse output. If desired, KISTERS engineers and field practitioners help you design the best-fit IoT monitoring solution for your application built from our vast portfolio of digital sensors compatible with the IoTa sensor node.

Applications

- Smart Farming and Precision Agriculture
- Smart City and Smart Village
- Inobtrusive Monitoring Stations
- Hydrometeorological Monitoring

Features

- LPWAN data logger using LTE-M or LoRaWAN
- Battery powered
- Digital inputs
 - SDI-12
 - Counter



Technical Specifications

Inputs	<ul style="list-style-type: none">- SDI-12: max. 8 devices or parameters; max. power drain: 50 mA@12 VDC via external M12 8-pin connector- Counter/Pulse: pull to GND; max.: 200 Hz; pulse width > 1 ms via external M12 4-pin connector
Data Transmission	<ul style="list-style-type: none">- Iota LTE-M: 4G LTE-M – requires Nano SIM (frequency plans available on demand)- Iota LoRa: LoRaWAN- External SMA antenna connector
Local Communication	USB accessible via internal Micro-B port for data downloads, configuration and firmware upgrades
Memory	8 MB data flash
Real-Time Clock	Precision: 3 ppm
Housing	<ul style="list-style-type: none">- ASA LURAN UV- Dimension (L x W x H): 160 x 110 x 70 mm (6.3 x 4.33 x 2.76 inch)
Supply Power	3.6 ... 3.7 VDC, 1x D-size LiSOCL2 Lithium Battery (non-rechargeable), ~17000 mAh capacity
Operating Temperature	-10 °C ... +50 °C (+14 °F ... +122 °F)
Ingress Protection	IP 66/EN 60529
Compliance	CE, RoHS, WEEE pending

Accessories



datasphere:

KISTERSdatasphere is a global all-in-one solution for sensor data. The cloud-based solution with easy-to-use viewing, alarming and integration features is the perfect basis for a range of applications - from simple sensor network management to environmental monitoring, infrastructure/asset monitoring, smart cities, internet of things, through to new data-based business models. More information on the web: datasphere.online



Tipping Bucket Rain Gauges:

KISTERS offers a broad range of tipping bucket rain gauges for measuring rainfall and precipitation in urban and rural locations. The gauges deliver high levels of accuracy across a broad range of rainfall intensities. They are robust, built for harsh environmental conditions and require hardly any maintenance. KISTERS rain gauges are used worldwide in meteorology, climatology, hydrological monitoring stations, environmental monitoring, water treatment plants, dams, reservoirs, etc.

HyCommunicator config software: Free-of-charge software (Windows) for configuration of IoTa sensor nodes

External Antenna: Various antennas available from KISTERS, SMA connectors allow for their connection

SDI-12 Sensors: Various sensors available from KISTERS: soil moisture probes, vented hydrostatic pressure sensors, Hydra-Pulse water level radar, or any other low-power SDI-12 sensor

[Please ask for details.](#)

Reseller

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