

IoTa 2DL 12V LTE-M/NB-IoT Sensor Node

Internet of Things | Data Acquisition

General Description

The KISTERS IoTa 2DL 12V sensor node acquires and logs sensor data locally, ensuring no data loss, and transmits it through TLS-protected wireless connectivity using MQTTS for seamless integration with your data-management systems.

The IoTa 2DL 12V integrates easily into existing data-acquisition systems and operates for extended periods from nominal 12 V DC, including solar setups. It supports SDI-12 and counter inputs and reduces power consumption through processor hibernation and on-demand SDI-12 sensor powering.

The IoTa 2DL 12V is equipped with an integrated LTE CAT M1 (LTE-M) modem for remote data transmission and an internal stubby antenna.

Configuration is possible locally using the free KISTERS HyComm Windows software.

Easy installation

Thanks to its compact form factor, the IoTa 2DL 12V fits easily into existing cabinets. Input signals are connected through external push-terminal blocks – no need to open the housing. Ideal to build inobtrusive monitoring stations

Monitoring Networks

Each IoTa 2DL 12V sensor node adds IoT connectivity to set-ups with up to six SDI-12 sensors plus one pulse-output sensor.

IoTa 2DL 12V – Bare bone data logger

System integrators can purchase the IoTa 2DL 12V as a standalone sensor node. Requires installation in a cabinet (or similar).

iBOX IoTa 2DL 12V –

Ready-to-Install Cabinet

A fully pre-cabled outdoor cabinet including:

- Thermoplast double-wall housing
- IoTa 2DL 12V Sensor Node
- Solar charger and pre-cabling for 12 V: 7.2 Ah SLA battery
- 3x 8-pin male SDI-12 connectors
- 1x 4-pin male pulse-input connector
- 1x XLR solar panel connector
- Option: wall-mount or pole mount brackets.

KISTERS engineers and field practitioners can support you in designing a tailored IoT monitoring solution using our portfolio of compatible digital sensors.

Applications

Ideal for modernization or densification of monitoring networks, including:

- Hydrometeorological Monitoring
- Environmental Monitoring
- Smart City and Smart Village
- Smart Farming and Precision Agriculture

Features

- User configurable sampling, logging and data transmission
- Dynamic data transmission mode (alarm situations)
- Wireless Data Transmission using standard technology: LTE-M or NB-IoT
- Secure TLS-protected data transmission via MQTTS standard with JSON payload
- Internal Logger Memory: no data loss
- Digital low-power inputs only: SDI-12 and Counter
- KISTERS' free-of-charge HyComm software for configuration and local data downloading



Technical Specifications

Inputs	<ul style="list-style-type: none">- SDI-12: up to 6 devices/parameters; max. 500 mA @ 12 VDC- Counter/Pulse: 1 input, pull-to-GND
Data Transmission	<ul style="list-style-type: none">- LTE CAT M1 (4G LTE-M) or LTE CAT NB2 (NB-IoT); both requiring Nano SIM- Protocol: MQTTS 3.1 with JSON payload- Fixed and dynamic transmission intervals
IT/Data Security	<ul style="list-style-type: none">- TLS 1.3- Supports client- and server-side certificates- Unique Client-Site certificate for communication to KISTERS datasphere included
Local Communication	USB-B connector protected by screw-cap – no need to open the housing.
Memory	8 MB flash memory
Internal Parameters	Temperature, Supply Voltage, RSSI
Supply Power	<ul style="list-style-type: none">- Operating Voltage: 10 V ... 16V DC, external power- Power consumption:<ul style="list-style-type: none">- Sleep mode: 40 mW- Transmission peak: 1000 mW
Operating Temperature	-20 °C ... +70 °C (-4 °F ... 158 °F)
Housing	<ul style="list-style-type: none">- Polycarbonate- LxWxH 166 x 86.5 x 55 mm (~ 6.5 in x 3.35 in x 2.17 in)- Ingress Protection: IP20- Stainless steel mounting ears
Compliance	CE, RoHS

Accessories



datasphere:

KISTERS datasphere is a cloud-based platform for sensor data visualization, alarming, and integration – ideal for applications ranging from sensor networks to environmental monitoring, infrastructure, smart cities, and data-driven business models.

[Learn more at **datasphere.online**.](#)



Tipping Bucket Rain Gauges:

KISTERS offers wide selection of high-quality, accurate tipping bucket rain gauges for hydro-meteorological, environmental, agrometeorological or urban monitoring. The IoTa 2DL 12V counter input supports traditional pulse-output gauges.

SDI-12 Sensors: KISTERS provides SDI-12 sensors such as shaft encoders, soil-moisture probes, vented hydrostatic pressure sen-

sors, radar level/velocity sensors, bubblers, weighing rain gauges, etc. The IoTa 2DL 12V supports SDI-12 1.3 compliant sensor.

HyComm software: User-friendly, free, and available for Windows and Android. Supports configuration and local data download.

[Please ask for details.](#)

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