

SMARTebox nanoIO

Remotely monitor counting pulses and alarm signals

The SMARTebox nano IO is an IoT solution for remote meter reading and the connection of potential-free alarm contacts for remote monitoring, fault reporting, and anomaly detection.

The data logger is battery-powered, waterproof, and compatible with all meters that have a pulse output. Thanks to cellular connectivity via LTE-M and NB-IoT, the SMARTebox nanoIO enables monitoring of decentralized and underground installations. If the signal is heavily attenuated in shafts, an external antenna can optionally be used.

Data transmission and integrity are ensured via the Telekom PSA-certified communication path to the IoT platform. The open REST API of the IoT platform allows data to be accessed by any operator system.



Keyfeatures

- Battery-powered using 5 standard AA cells in a replaceable battery pack
- 4 inputs for counting pulses or alarm contacts
- Waterproof housing
- Remote configuration via IoT platform
- REST API for integration with operator systems
- Web app for sensor commissioning
- Mounting options – magnet, wall, pipe





Radio

NB-IOT / LTE-M	B1 B2 B3 B4 B5 B8 B12 B13 B18 B19 B20 B25 B28 B66 B71 B85 B103
2G	B2 B3 B5 B8
Regionen	WorldWide
4G LTE(optional)	optional LTE Cat 1 B1(2100) B3(1800) B7(2600) B8(900) B20(800)
Bluetooth (Optional)	v5.0 (Bluetooth low energy) -94 dBm (1 Mbit/s)

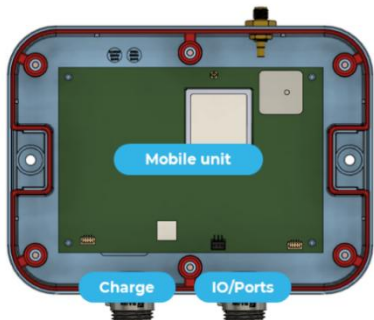
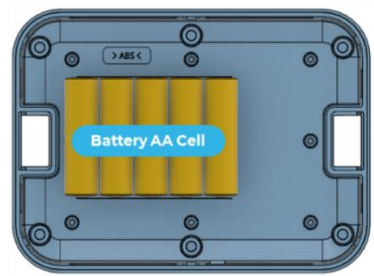


Location Service

GPS	GPS, GLONASS, BeiDou, Galileo, and QZSS
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SENSOR AND DATA ACQUISITION

Layout	Interior view	 	
Sensors	Sensor inputs (IO ports)	4 potential-free inputs Pulse counting or alarm signaling (configurable) Minimum pulse duration: 2 ms	
	Cable entry	6 x M22 cable glands	
	Wiring diagram	Charge port (IP67)	I/O Port (IP67)
Synchronization IoT platform		 PIN1: 5V Charge (USB) PIN2: GND PIN3: Reserve PIN4: Reserve	 PIN1: GND PIN2: Puls/Alarm1 PIN3: Puls/Alarm2 PIN4: Puls/Alarm3 PIN5: Puls/Alarm4 PIN6: Puls/Alarm5
	Counter and sensor inputs	Adjustable measurement interval cycle: 30–65,535 seconds. The current states of the sensor inputs can be buffered (max. 90 recordings) or synchronized live directly with the IoT platform. In the case of live synchronization, the minimum measurement interval must be set to 15 minutes.	
	Event control	For the pulse counters, a start and stop event (configurable number of pulses within a configurable time frame) can be set. This allows determination of periods during which, for example, water flow is detected. When the alarm input is triggered, the alarm event is immediately synchronized with the IoT platform. Additionally, all current measurement values are transmitted during the alarm.	
IOT Platform	REST-API	All raw and processed measurement values and events provided in the IoT platform are available to the operator systems via the standardized REST API.	
	SMS Alerting	The IoT platform additionally offers the option of SMS alerting when threshold values are exceeded.	



COMMISSIONING AND MAINTENANCE

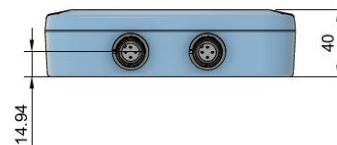
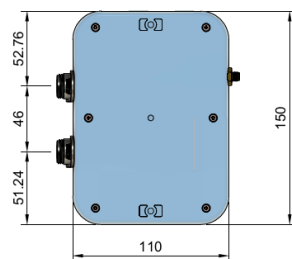
Battery replacement	The SMARTbox nanoIO offers 2 options: rechargeable battery / primary cell using a 5 x AA battery pack. Rechargeable battery: The SMARTbox nanoIO can be recharged externally via a standard USB power adapter using an adapter cable. Charging takes up to 8 hours. The device does not need to be opened for this. Primary cell: To replace the batteries, the device must be opened. After replacing the battery pack, switch the device back on. Ensure that the sealing rubber inside the housing is correctly positioned when closing it again.
Battery (rechargeable)	· Rechargeable NiMH LSD 5500 / 6000mAh · >7 months @ 1 message per day
Battery (primary cell)	· 6000mAh LiFES2 primary battery · 5 years @ 1 message per day
Power on and off	Power on: Hold the magnet against the marked spot for 4–6 seconds. The LED will flash briefly at the beginning. Remove the magnet for at least 5–7 seconds. The LED will blink during the 5 seconds and then stay on briefly at the end. The device is now powered on. Power off: Hold the magnet against the marked spot for 4–6 seconds. Remove the magnet for at least 5 seconds. The LED will blink during the 5 seconds and then flash rapidly at the end. The device is now powered off.
Service life	The service life strongly depends on the selected measurement and synchronization settings. For custom cycles, please contact your sales partner.

GENERAL



Power supply	6 x C cell 1,5V, 7000mAh.
Power consumption	Sleep mode: 50µA Idle mode: 12mA Operating mode: 150mA
Operating temperature / humidity	-40°C....60°C / Max. 85%
Storage temperature	-40°C....60°C / Max. 85%
IP rating	IP65
Weight	840g

Dimensions



Mounting

Wall mounting via 4 mounting holes

Approval	CE
Compliance	2014/53/EU (Radio Equipment Directive) Radio EN301511 v12.5.1 EN301908 v13.1.1 EMC (Electromagnetic Compatibility) EN 301489-1 v2.2.0 General Part EN 301489-52 v1.1.0 DIN EN 61326-1 - 2018-09 DIN EN 61010-1:2020-03;VDE 0411-1:2020-03 Cybersecurity EN 18031:2024
Warranty	1 year

Remote Manager

Fleetmanagement:

Activate, monitor and diagnose your devices from a single point – on your desktop or mobile app
 Monitor the health of your connected facility by taking graphs from different widgets. A large selection of evaluation and diagram types are available.

Cockpit:

Creating threshold monitoring, events, critical alarms, warnings and reports.

Open API:

Create Notifications or simply use the REST API from the Cloud platform to feed your third party system with all the data.

Third Party IoT-Platforms



Telia | A¹ Digital...and more

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