

SenseCAP Sensor Hub - 4G Data Logger
4G-SH-03





PRODUCT DESCRIPTION

SenseCAP Sensor Hub is a powerful 4G data logger that can connect to a maximum of 32 RS-485 sensors. It is designed with industry standards, robust and stable. IP66 rated, waterproof and dustproof, it is highly suitable for long-term remote environmental monitoring in outdoor application scenarios. Sensor Hub Data Logger is an easy-to-deploy 4G cellular station. It uses the MODBUS-RTU RS485 protocol to communicate with sensors and is able to collect various sensor data simultaneously.

Sensor Hub consists of 4 RS485 data channels. With extension hubs / RS485 splitters, it can connect with a maximum of 32 sensors at one time. The data is collected and sent to the cloud (either to the SenseCAP server or the client's private server) via 4G/3G/2G (as shown in the system architecture below). Designed with industry standards and IP66 rated, Sensor Hub is suitable for outdoor and harsh environments, resistant from UV, rain, and dust, etc. GNSS is embedded for location tracking.

SenseCAP Sensor Hub 4G Data Logger can work with any sensors that support MODBUS-RTU RS485 protocols and 5V/12V power supply. And we also provide a wide range of industrial-grade RS485 sensors for your selections. These sensors all come with waterproof aviation connectors, you can plug them into Sensor Hub within seconds to make it work.

FEATURES

- Collection of various environmental data
- Support offline caching
- Support using with standard Modbus-RTU RS485 sensors
- Support uploading to any server (SenseCAP Server/ User's Server)
- Support 4G/3G/2G communication, supporting global LTE frequency band
- Built-in GPS positioning function
- Two power supply options available: DC only, Solar Power
- Easy to install and deploy
- Industry standards, suitable for harsh outdoor environments

APPLICATION

- Smart Agriculture
- Smart City
- Smart Buildings
- Smart Industry
- Environmental Monitoring
- Other Wireless Sensing Applications



SPECIFICATIONS

PRODUCT MODEL

Model	4G-SH-03
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GENERAL PARAMETER

Power Supply for Sensor	5V/12V (depending on sensor types)
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Number of Sensor Connections	4 interfaces on device, can connect up to 32 sensors with extension hubs
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Communication Protocol for Sensor	Modbus-RTU RS485
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Maximum Sensor Load	12V/1A, 5V/2A
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Data Upload	SenseCAP Portal (default) User's Server (MQTT Server)
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APN	Supports configuring APN
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Switch/ LED Indicator	Switching power supply Red LED indicates equipment status
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Grounding	Reserved 1 screw hole for GND
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IP Rating	IP66
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UV Resistance	Anti-aging (from rain/sun exposure): UL746C F1
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Enclosure Material	PC
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Operating Temperature	4G-SH-03: -20 °C ~ +60 °C 4G-SH-04: -40 °C ~ +70 °C
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Operating Humidity	0 to 100 %RH (non-condensing)
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GENERAL PARAMETER

Installation Method	Wall or pole mounting
Device Weight (NW)	876g
4G Features	<p>4G Band: LTE-FDD: B1/B3/B7/B8/B20/B28A LTE-TDD: B38/B40/B41 WCDMA: B1/B8 GSM/EDGE: B3/B8</p> <p>Transmission Rate: LTE-FDD (Mbps) : 150 (DL) /50 (UL) LTE-TDD (Mbps) : 130 (DL) /30 (UL) DC-HSPA+ (Mbps) : 42 (DL) /5.76 (UL) WCDMA (Kpbs) : 384 (DL) /384 (UL) EDGE (Kbps) : 296 (DL) /236.8 (UL) GPRS (Kbps) : 107 (DL) /85.6 (UL)</p>
GPS	<p>Channel: 33 (Tracking)/ 99 (Acquisition)/ 210 (PRN) C/A Code SBAS: WAAS, EGNOS, MSAS, GAGAN Horizontal Position Accuracy: Autonomous: <2.5m CEP Velocity Accuracy: Without Aid: <0.1m/s</p>
4G Antenna	<p>0-4 dBi gain / Linear polarization / Omnidirectional / SMA-J connector</p>
Power Consumption	It depends on the combination of sensors



GENERAL PARAMETER

Wall Power	DC 12V/2A
Battery (4G-SH-03 Built-in)	Voltage: 7.4V Capacity: 6000mAh (rechargeable) Operating temperature: 0 °C ~ +45 °C (charge) -20 °C ~ +60 °C (discharge)
Solar Power (optional)	Maximum power: 12wp size: 340*255mm