

ADS-700 & ADS-710

LwM2M IoT Gateway & BLE Sensor Node

Smart Cities



ADS-700

BLE Wireless Sensor Node

Next-Generation IoT Data Logger



Bluetooth Low Energy

Connects to BLE sensors with ultra-low power



Battery Powered

Long-lasting performance designed for the field



Edge Data Logging

Stores data locally and syncs when connected



Multi-Network Connectivity

Supports NB-IoT, LTE-M, SDI-12, RS-485, Analog, Digital I/O

Ideal For



Smart Cities



Water & Wastewater



Environmental Monitoring



Industrial Automation



Remote Infrastructure

Introduction

The ADS-700 is an ultra-low-power NB-IoT/LTE-M RTU and BLE gateway for remote monitoring. It acquires data from wired sensors and wirelessly collects measurements from ADS-710 end nodes and REye-210-BLE radar sensors.

The ADS-710 extends monitoring coverage by connecting wired sensors to the ADS-700 over Bluetooth Low Energy, reducing installation wiring.

LwM2M provides the ADS-700 with cloud connectivity for data reporting and firmware-over-the-air updates (FOTA). MQTT is also supported, with secure SSL/TLS communications using TLS 1.2.

Applications

- Smart cities and remote infrastructure
- Water and wastewater monitoring
- River, tank and flood level monitoring
- Environmental and industrial sensing

Features

- LwM2M with SenML JSON RFC 8428
- ADS-700 NB-IoT / LTE-M connectivity
- BLE links to ADS-710 and REye-210
- SDI-12 and RS-485 MODBUS sensors
- Analog input and digital inputs/counter
- Battery powered with sensor excitation
- IP66 / IP68 outdoor enclosure

Technical characteristics

Common to ADS-700 and ADS-710

Power supply: internal 13.0 Ah lithium-thionyl battery; external 5 V USB

Low-power consumption: 20 µA max

Digital inputs: 3 × 0–30 VDC or potential-free; one counter up to 1 kHz

Analog input: 1 × 0–1 V, 12-bit

Internal measurements: battery, temperature and gyroscope accelerometer

RS-485 MODBUS: up to 15 channels

Sensor excitation: 5 VDC / 200 mA or 12 VDC / 200 mA max

Operating temperature: -40°C to +70°C

Enclosure: PC, IP66 / IP68 for indoor and outdoor installations.

Dimensions: 124 × 79.5 × 70 mm, including cable gland

Weight: 0.3 kg without battery

Model specific sensor capacity

ADS-700 SDI-12: up to 15 channels

ADS-710 SDI-12: up to 48 channels

LwM2M and BLE connectivity

ADS-700 cellular gateway

LTE Cat-M1 / NB-IoT, 2G fallback and GNSS; Bluetooth Low Energy

Cloud protocols: LwM2M and MQTT

Data representation: SenML JSON, RFC 8428. Security: TLS 1.2.

Local and BLE measurements can be collected by the ADS-700 for cloud telemetry.

ADS-710 BLE end node

BLE advertising with multiple sensor support; up to 100 m line of sight

Collects wired sensor measurements and sends them over BLE to the ADS-700.

REye-210 BLE compatibility

24 GHz water level radar; 0.3–10 m range and 1 mm resolution

Advertises measured level in mm every 5 minutes; up to 100 m BLE line of sight

Ordering information

ADS-700 - cellular RTU and BLE gateway

ADS-710 BLE - sensor end node

REye-210 BLE - radar level sensor

Setup and data acquisition

Configure the ADS-700 locally via USB or BLE, or remotely.

User-defined sampling and send intervals support local logging.



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