AERINOS™

ADS-310 NBIoT/LTE-M RTU

infinite

Features

- Power network independent NBIoT/LTE-M End Node
- Up to 10 years maintenance free operation
- Quick and easy installation
- Several excitation options for external sensors

Applications

- Security systems
- Power network, Cable fault monitoring
- Building Management & Home Automation
- Oil & Gas distribution
- Asset management
- Greenhouse controls & irrigation systems
- M2M systems

Introduction

ADS-310 is an ultra low power NBIoT/LTE-M End Node with multiple sensor support. The unit incorporates a built in modem, a USB serial port, 4 digital inputs (2 counter) an analog input, a 3-axis digital accelerometer, a Coulomb meter, built in temperature sensor and multiple excitation options for powering and measuring transducers. The device supports acquisition for all measurement digital and analogue channels. An ultra low power microcontroller is utilized for data sampling, subsystem activation and overall system control. The unit incorporates a Lithium Thionyl battery supplying system operation for up to 10 years.

Modes of operation

Modes of operation include autonomous battery operation or power supply through the USB port for unit configuration. During battery supplied operation, only the low power microntroller is awake. The microcontroller activates the modem during data transfer, as well as other subsystems for sampling and logging.

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Technical characteristics

Power supply	
Battery	Internal 13.0 Ah Lithium Thionyl
External	5V (USB power)
Consumption	20µA max (Low power operation) 2 mA (AI sampling w/o sensors) ~50mA (Alarm messaging)
Digital inputs	4, 0-30VDC or potential free contact inputs
Analog inputs	1, 0-1V, 12 bit resolution
	Built in temperature sensor
Counters	2, 1 kHz max
Accelerometer	3-axis digital
Battery monitor	built in
Transducer Excitation	5VDC/200mA or 12VDC/200mA max.
Serial port	USB serial, 9600 to 115200 bps
Modem	LTE Cat-M1/NBIoT with 2G fallback, Sierra Wireless HL Series 78xx with GPS GNSS
Antenna	internal or external, LTE
Indications	2 LED, network status, device status
Temperature	-40°C…+70°C operating
Protection	IP66/68
Dimensions	124 x 79.5 x 70 mm, (with cable gland)
Weight	0.3 kg (w/o Battery)

Data Acquisition

Sampling period and data send rate are user definable. Ultra low power standby mode followed by frequent data recording and transmission can be selected to fit the application needs, while maximizing the battery life.

Transducer excitation

A user adjustable 5V/12VDC excitation output is available for powering low power external sensors.

Tilt Sensing

The unit has a built accelerometer which is used for measuring angle declination.

Coulomb Meter

A user enabled Coulomb Meter allows for the monitoring of the battery's consumption.

Setup and programming

The unit can be programmed locally through the serial by using simple ASCII configuration commands. The command set features commands for configuring scaling and timing parameters. The unit can be remotely configured and controlled.

Enclosure

Plastic enclosure (IP66/68) for in- and outdoor use.

Firmware features

Digital input alarm state	Transition alarming
Analog input	Scale, gain selection
Accelerometer	Tilt Sensing
Sampling interval	1-65535 minutes
Sensor warm-up time	1-255 sec
Transmission rate	0-65535 minutes
Communication	MQTT messages
Security	TLS1.2 support with user defined SSL certificates
Programming	ASCII command set, remote configuration and operation capability
Local setup	via USB serial port

Ordering information

Code	ADS-310

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