

AERINOS™

ADS-270 LoRaWAN End Node



Introduction

ADS-270 is an ultra low power, battery powered end node for the LoRa network. The unit is available for the 868 to 869 MHz and 902 to 928 MHz bands. It incorporates two inputs, one digital with pulse counter capability and one analog, as well as multiple excitation options for powering transducers. The device supports acquisition of up to 8 measurement channels, based on the popular SDI-12 communication protocol and 8 channels, based on the MODBUS protocol. ADS-270 can send an unlimited amount of messages per day. 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.

Features

- Autonomous LoRa End Node
- Up to 10 years maintenance free operation
- Quick and easy installation
- 1 digital input (counter), 1 analog input
- SDI-12 sensors support
- MODBUS sensors support

Applications

- Security systems
- Building Management & Home Automation
- Oil & Gas distribution
- Asset management
- Greenhouse controls & irrigation systems
- M2M systems

Technical characteristics

Power supply	
Battery	Internal 13.0 Ah Lithium Thionyl
External	5V (USB power)
Consumption	15µA max (Low power operation) 1mA (AI sampling w/o sensors) ~50mA (Uplink Messaging)
Digital inputs	1, 0-30VDC or potential free contact inputs
Analog inputs	1, 0-1VDC, 12bit resolution
Counters	1, 40Hz max., common with DI1
Transducer Excitation	12V/250mA, 5V/200mA
Serial port	USB serial, 115200 bps
RF Transceiver	Low-Power Long Range 863-870 MHz Frequency Band
Uplink data rate	up to 300Kbps with FSK modulation
Max output power	14dBm
Antenna	External 868 MHz
Indications	1 LED, status
Temperature	-40°C...+65°C operating
Protection	IP66
Dimensions	124 x 79.5 x 70 mm, (with cable gland)
Weight	0.3 kg

Data Acquisition

Data send rate and sensor warm-up time are user defineable.

The device supports acquisition of up to 8 measurement channels, based on the popular SDI-12 communication protocol and 8 channels, based on the MODBUS protocol.

Ultra low power standby mode followed by frequent data transmission can be selected to fit the application needs, while maximizing the battery life.

Transducer excitation

12VDC & 5VDC excitation outputs are available for powering low power external sensors.

Setup and programming

The unit can be programmed locally through the USB port by using simple ASCII configuration commands. The command set features commands for configuring scaling parameters & timing parameters.

Enclosure

ABS enclosure (IP66) for in- and outdoor use.

Firmware features

Uplink message rate	1-144 per day
Sensor Warm-up time	1-255 sec
LoRa Power Index	1-5
SDI-12	Compliant to SDI-12 Version 1.2
MODBUS	MODBUS RTU & ASCII protocol
Programming	ASCII command set
Local setup	via USB serial port

Ordering information

Code **ADS-270**

RoHS Compliant
Directive 2002/95/EC



Infinite Informatics, Ltd.

1, Valaoritou Street
GR-54626 Thessaloniki, Greece
Phone: +30-2310-553545,
Fax: +30-2310-552006
Email: sales@indinf.gr
URL: www.infinite.com.gr, www.indinf.gr

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