tekSolve

senseIQ

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Version 1.2 Last Revised: 21-Oct-19

Description

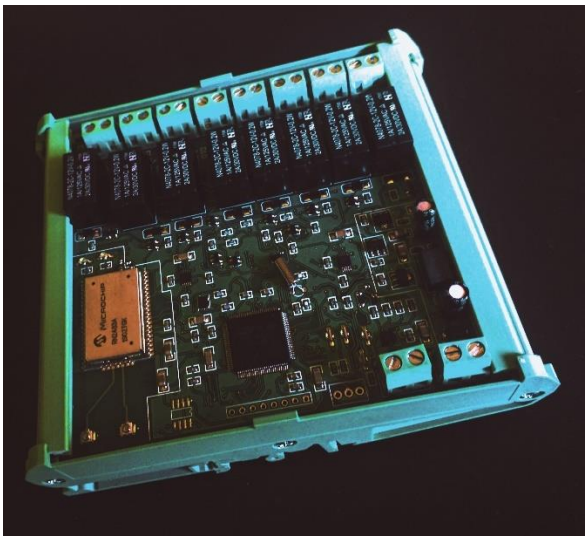
senseIQ is a sensor aggregator that takes readings from existing, often-times legacy wired systems and transmits them over the air using LoRa technology. It supports the 2 dominant industrial protocols, Modbus over RS485 and the 4-20mA standard. These are robust standards that are designed for electrically noisy environments. Data is transmitted using the LoRa® standard. It interfaces to a gateway via the LoRaWAN® specification. Both technologies/specifications are supported globally by the LoRa Alliance.

In the mining sector there is a move towards digitisation and automation. senseIQ allows:

- easy migration of assets to the digital domain.
- quick and easy installation in harsh and changing physical environments.
- standards compliant interface.
- remote monitoring of large areas and high density of assets.

Features

- 4-8 analogue 4-20 mA inputs.
- 2-wire interface for RS485-Modbus.
- 24V power supply.
- Connector for external antenna.
- Holders and brackets suitable for DIN rail mounting.
- LoRaWAN compatible.
- UART based user interface allows for device configuration.
- Easy to connect probes/sensors.
- Radios available: LoRa using the 863-870 and 915-923MHz spectrum.



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Variants

4 analogue channel input (4A)

8 analogue channel input (8A)

4 analogue channel input and RS485 interface using Modbus-Master/Slave configuration (M-M/M-S)

Radio interface

Technology

LoRa® Technology Modulation using Adaptive Data Rate (ADR).

Class

Class A protocol supported.

Frequency

Supports EU 863-870 and US 902-928 regions:

Europe 868
US 915

Transmit power

Transmitter power: +14dBm 868 MHz band, +18.5dBm 915 MHz band

Sensitivity

-146dBm

Range

Up to 15 km Coverage at Suburban and up to 5 km Coverage at Urban areas.

Hardware

Specifications

Dimensions	100 x 103 x 45 mm, 35 mm DIN rail
Enclosure	Polycarbonate
External antenna	Yes
Temperature Range	-20ºC, 85ºC
Inputs	4-20mA outputs channels RS485 channels

Electrical Characteristics

Board Power Voltages	24V DC
Board max current	150 mA