nano sensorics

Description

The AMPSENSE is advanced technology sensor applied for measurement of the magnitude of the electric current through easily installed split core current transformers and used indoors. Sensor is one phase or three phase with integrated advanced intelligent (AI) computational algorithm enables reliable capability of the measurement the magnitude current. The data transmitted from the sensor is based on Class A LoRaWAN® wireless network. AMPSENSE is powered with 3.6V batteries and able to operate up to 13 years depending on the configuration. The AMPSENSE sensor is easily configured and connected to the LoRaWAN® wireless network. The calibration is not needed for the AMPSENSE.

Applications

- Smart buildings
- Government buildings
- Public buildings
- Industrial facilities
- Factories
- Warehouses

Product features

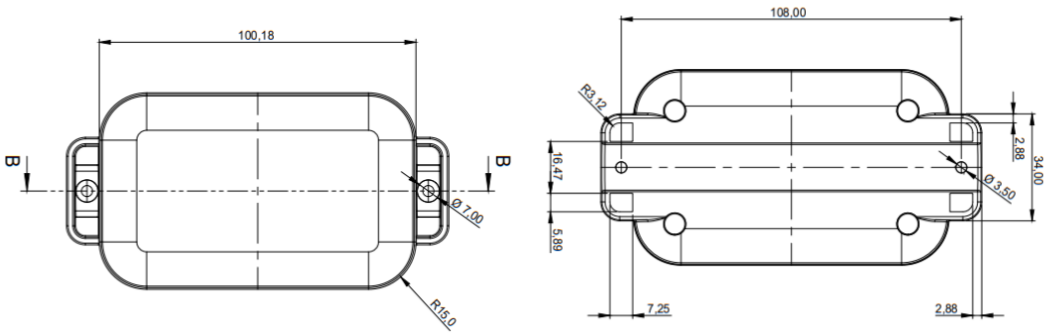
- LoRaWAN communication
- Computational AI algorithm
- Indoor electric current sensor
- Configuration over the air
- Robust enclosure
- Auto self-calibration
- Split core current transformers

Sensing characteristics	
Current	1A to 30A / 1A to 75A / 1A to 150A
Current Measurement Accuracy	<+-1%
Phase number	One phase / three phase (in accordance of clients choice)
Mechanical specification	
Weight	80 g without battery
Dimensions	121 x 62 x 26 mm
Enclosure	Plastic ASA+PC-FR
Storage Temperature	-10 to 70 °C
Sensor Power Supply	
Battery Type and voltage	2x3.6 V AA Lithium Battery ER14505 AA lithium batteries (3.6V2400mAh/section)
Expected Battery Life	<13 years (Depending on configurations and environment)

UAB " Nano sensorics"
Pakaunės g. 70, LT-47243 Kaunas
www.nanosensorics.com
info@nanosensorics.com

Sensor logging Function		
Sampling Interval	Configurable via downlink, NFC configuration is optional	
Data Upload Interval	Configurable via downlink, NFC configuration is optional	
Radio / Wireless specification		
Wireless Technology	LoRaWAN® 1.0.3	
Wireless Security	LoRaWAN® End-to-End encryption (AES)	
LoRaWAN Device Type	Class A End-device	
Supported LoRaWAN® features	OTAA, ABP, ADR, Adaptive Channel Setup	
Supported LoRaWAN® regions	EU863 – 870 Optional: US902 – 928, EU863 – 870, AU915 – 928, EU433, RU864, IN865	
Link Budget	137 dB (SF7) to 151 dB (SF12)	
TX Power	14dBm±1dBm (Region specific)	
Rx Sensitivity	132 dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -118 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)	
Communication range	10 km (line-of-sight, actual transmission distance depends on the environment)	
Data sizes		
Measurement	Data size	Elaboration
Current I phase	2	MSB byte A, LSB byte, one digit after decimal point expressed as unsigned 2 byte value
Current II phase	2	MSB byte A, LSB byte, one digit after decimal point expressed as unsigned 2 byte value
Current III phase	2	MSB byte A, LSB byte, one digit after decimal point expressed as unsigned 2 byte value
Battery	2	MSB byte represent Volts before decimal point , LSB byte represents two digits after decimal point expressed as unsigned 2 byte value, first byte – integer Volts, second byte – Volts (two digits after decimal point).

Sensor dimensions:



UAB " Nano sensorics"
Pakaunės g. 70, LT-47243 Kaunas
www.nanosensorics.com
info@nanosensorics.com