

FlexSensor-045AR™

LoRa Flexible Communication End Point

The LoRa FlexSensor-045AR™ is an Arduino board designed to bring LoRa connectivity to industrial devices and easily transform them into a LoRa endpoint. Fully compatible with LoRaWAN™ standard, supported by Expemb LoRa FlexGate™ and associated software, FlexSensor-045AR™ makes wireless monitoring of industrial equipment a transparent operation.

Flexible system

FlexSensor-045AR™ is an open platform designed to make transparent wireless data transfer between PLC and customer control server by taking advantage of LoRaWAN protocol. FlexSensor-045AR™ brings communication capabilities to industrial equipment without costly wiring. Taking advantage of LoRa communication performances, it is possible to monitor hundreds of equipment within an industrial plant. FlexSensor-045AR™ is fully compatible with the FlexGate™ LoRa Gateway product family for an easy and coherent configuration and deployment on the field.

Flexible platform

FlexSensor-045AR™ is an Arduino shield designed for easy integration on any PLC with an Arduino slot. Communication between PLC is achieved through the Arduino connector serial TTL. The PLC pushes the monitoring data to the FlexSensor-045AR™ that transforms it in the LoRaWAN format before sending them to the LoRa FlexGate™ in respect with the LoRaWAN protocol limitation. The FlexGate™ collects the data through the Embedded LoRaWAN server that reassembles the monitoring data file and stores it on a local FTP.

Flexible device

FlexSensor-045AR™ is powered through Arduino slot and is equipped with a SMA connector for local or remote antenna. FlexSensor-045AR™ can be programmed to handle short messages in respect of the LoRaWAN protocol up to 64KB data file every 12 hours. FlexSensor™ internal protocol has also the ability to handle “High Priority Short Alert Messages” sent by PLC to Customer Control Server.

Open to customization

FlexSensor-045AR™ is equipped with an embedded microcontroller that locally processes data in the appropriate format. On demand, it is possible to develop custom code running on FlexSensor and FlexGate to address different use cases.

Key features

- Arduino form factor
- Microcontroller STM32F103
- Programming connector
- Certified LoRaWAN radio module on board
- LoRa modulation technology
- 2 control bi-color LEDs
- SMA connector for antenna
- No subscription communication on 868MHz ISM band
- Extended temperature range: -30°C/+65°C

Applications

- IIoT
- Smart Factory
- Smart Building
- Industrial automation
- Telemetry
- Wireless Alarm and Security Systems
- ...

