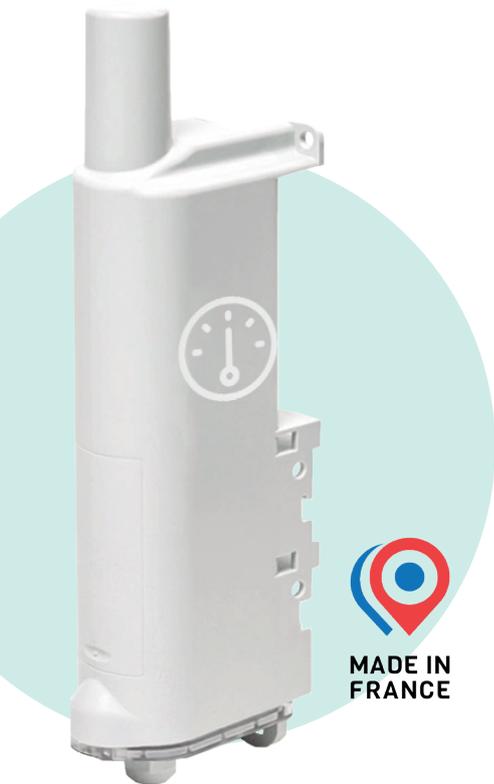adeunis
IOT PRODUCTS & SOLUTIONS

NB-IoT   LTE-M

PULSE

A rugged, battery-powered pulse counter for water, energy and industrial meters.

PULSE continuously counts pulses, periodically stores meter indexes, and sends data to your IoT platform using MQTT(S) or LwM2M.

MADE IN FRANCE

- **Global cellular compatibility**
  (NB-IoT, LTE-M) with excellent indoor coverage.

- **Multi-platform integration**
  via LwM2M 1.1 or MQTT/MQTTS.

- **2 configurable pulse inputs**:
  connect 1 or 2 meters / pulse output devices (dry contact, REED, S0, open collector).

- **Supports 2-wire / 3-wire / 4-wire / 5-wire metering**, including flow direction / reverse flow use cases.

- **Fraud/tamper wire cut detection**
  with configurable sampling and threshold.

- **Fast local setup & diagnostics**
  with the IoT Configurator NB-IoT/LTE-M mobile app via NFC (before or after deployment).

- **Historization & buffering:**
  batch transmissions for better battery life / lower data, plus data protection during outages (up to 800/400/300/400 stored values depending on meter type).

+

+ Reliable. Secure. Energy-optimized.

- **>15 years battery life** (depending on network & application configuration)
- **Acquisition time scheduling** (first sampling at a chosen UTC hh:mm)

- **Token-protected NFC access** (EN 18031-1) for controlled local operations
- **Made in France** (designed and manufactured)

Monitoring energy consumption in a building (water, electricity, etc.).

Count the number of cycles of an equipment to anticipate its maintenance.

ARF8428AAA	

Mechanical specifications	
Weight	175 g (battery included)
Dimensions	200 x 63,5 x 34 mm
Enclosure	IP68, EMERGE™ PC 8731HH grey resin (casing), EMERGE™ PC 8430-15 transparent resin (sole)
Mounting	DIN Rail, Pipe, Wall, Clamp
Operating conditions	
Operating temperature	-25°C / +70°C
Humidity	0 to 85% RH (non-condensing)
Device Power Supply	
Battery	Replaceable FANSO Li-SOCl$_2$ dual battery pack Capacity: 8000 mAh + 38 mAh
Expected Battery Life	For 24 messages per day > 15 years on NB-IoT > 15 years on LTE-M
Update	
Applicative configuration	Setup via NFC using "IoT Configurator NB-IoT/LTE-M" (Android/iOS), or remotely (LwM2M protocol)
Firmware	Locally via NFC, and remotely via FOTA with LwM2M
Networks and Protocols	
SIM card	Nano SIM 4FF | Class C (1.8V)
Module	Nordic nRF9151
Cellular standard	3GPP LTE Version 14
Cellular IoT networks	NB-IoT, LTE-Cat-M1
NB-IoT Frequency bands	B1–B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B65, B66, B85, B106
LTE-M Frequency bands	B1–B5, B8, B12, B13, B18, B19, B20, B25, B26, B28, B66, B85, B106
Data transfer protocol	LwM2M, MQTT/s

RF characteristics	NB-IoT	LTE-Cat-M1
Max. transmit power	+23 dBm	+23 dBm
Sensitivity	>-108 dBm -113 dBm typ	>-103 dBm -107 dBm typ

Regulations and certifications	
Standard	Directive 2014/53/UE (RED)

Pulse input	
Number of channels	2 configurable pulse inputs
Equivalent input resistance	47 kΩ
Input frequency	<100 Hz
Type of compatible pulse output	SO, Dry contact, Open collector, Reed switch