

Arrow NB-IoT



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ARROW NB-IOT RADIO MODULE

NB-IoT Radio Module available in a compact version with inductive sensor for direct mounting on the meter, or in a separate version with pulse input to upgrade any compatible pulse-output meter to a smart device. Data communication uses a low-latency UDP protocol with wM-Bus application layer compliant with EN 13757-8:2023, ensuring interoperability and reliability.

NB-IoT connectivity provides long-range coverage via the 4G cellular network, both in urban and suburban environments. Battery-powered operation ensures up to 13 years of autonomy, depending on configuration and transmission frequency.

Activation and configuration are performed via NFC interface using a dedicated Android app or through OTA (Over-The-Air) mode.

COMPACT VERSION

The module is designed for direct installation and sealing on Maddalena MVM meters DN 15÷40; the front cover allows visual access to the totalizer and the dial markings.

SEPARATE VERSION

Five-wire pulse input with the option for installation and sealing on a bracket for pipe, wall, or fixed mounting on Maddalena E-BULK meters.

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GENERAL FEATURES

- NB-IoT communication technology (LTE Cat-NB2)
- Communication protocol compliant with MBAL M-Bus adaptation layer standard (EN13757-8:2023)
- Antenna optimized for bands: B3, B5, B8, B20, B28
- Integrated MFF2 SIM (sim-on-chip)
- NFC interface for installation, configuration, and verification (Android app)
- Estimated lifetime of 13 years (depending on configuration type)
- Integrated static memory even in case of depleted battery
- Manual or automatic activation of the radio module



TECHNICAL FEATURES

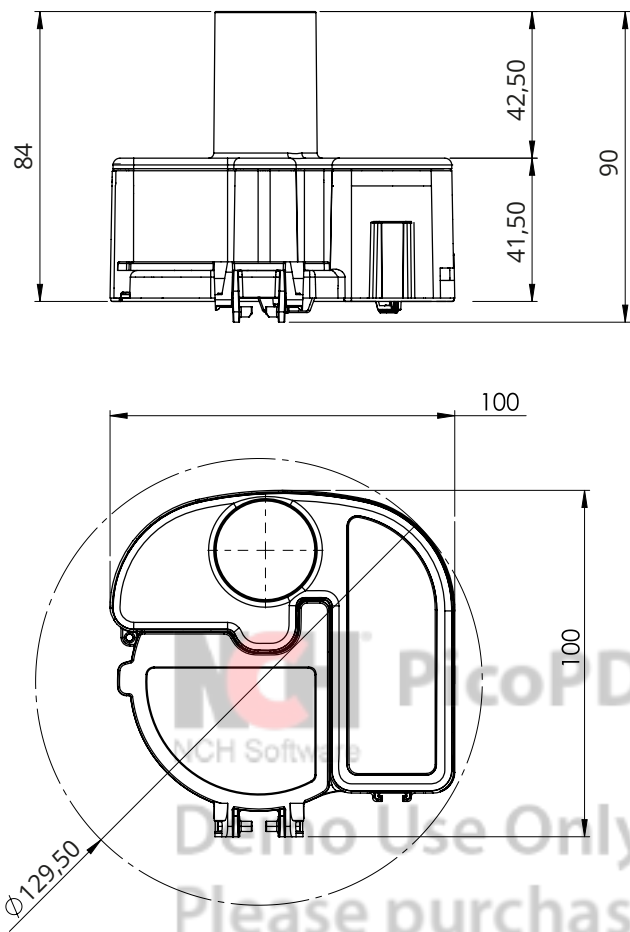
Integrated radio interface	NB-IoT LTE Cat-NB2
TRP (Total Radiated Power)	23 dBm
TIS (Total Isotropic Sensitivity)	-116 dBm
Transmission distance	3-25 km (depending on the frequency band and the network cell load)
Configuration	Factory default or customer-specific
Alarms	Consumption threshold exceeded, no consumption, reversed meter, reverse flow, suspected leak, low battery, magnetic fraud, mechanical fraud
Available data frames	Reading indexes with the following periods: 1 day (hourly consumption delta) 3 days (6-hour consumption delta) 15 days (daily consumption delta)
Operating temperature range	from -10 °C to +55 °C
Grado di protezione	IP68
User interfaces	NFC interface (installation and configuration) Standard contactless interface: ISO 15693 (frequency: 13.56 MHz)
Meter interfaces	Bidirectional inductive sensor (compact version) Open-drain pulse input (split version)
Battery lifetime	Up to 13 years (depending on configuration)

STANDARDS COMPLIANCE

ETSI EN 301 489-1	IEC 62368-1 :2018+COR1 :2020
ETSI EN 301 489-52	EN IEC 62368-1 :2020+A11 :2020+AC :2020
ETSI EN 301 908-13	EN 62479:2010
Directive RoSH2 2011/65/EU	EN 62311
Directive RED 2014/53/EU	Directive EMC 2014/30/EU

DIMENSIONAL FEATURES

Compact version



Split version

