DIEHL
Metering

IZAR RC IOT

RADIO MODULES



APPLICATION

The IZAR RC IoT radio module integrates LoRaWAN® technology for fixed network and wireless M-Bus for mobile reading. IZAR RC IoT can be easily clipped onto all modular Diehl Metering meters in the inductive range (Ha+Ti or Ti) equipped with a grey or red ring*. IZAR RC IoT has a built-in inductive sensor that makes it insensitive to magnetic fraud. Furthermore, it can be used with a pulse-emitting meter when combined with our IZAR BE PULSE interface for billing. IZAR RC IoT is integrated into IZAR LoRaWAN® solution with software and accessories.

FEATURES

- Compact radio module for mechanical water meter
- Designed for LoRaWAN® fixed network
- Wireless M-Bus fallback for mobile reading in parallel with the fixed network
- Ecodesigned
- Available in 868 MHz
- Main functions depending on the profile : Current index, Hourly consumptions, Minimum and maximum flow rate values, Backflow volume, Midnight Index
- Main alarms : Oversized meter, Overflow, Freezing risk, Magnetic fraud, Mechanical fraud, Backflow volume, No consumption, High impact leakage detection
- NFC as local Interface
- Data granularity (monthly, daily, hourly, 1/4-hourly)
- Data logger
- Insensitive to magnetic fraud
- Battery lifetime up to 15 years
- IP 68

*as well as our modular multijet CORONA MWi, and with the exception of our combined WESAN WPV G

OPERATING PRINCIPLE

IZAR RC IoT includes an electronic circuit that collects the data coming from a Diehl Metering modular water meter. It transmits the index and other operating information in fixed network and via mobile reading.

• Fixed network:
IZAR RC IoT operates in LoRaWAN® fixed network. The radio module complies with the LoRaWAN® Specification 1.0.4 in Class A, supporting Adaptive Data Rate (ADR) and Over The Air Activation (OTAA).
The radio module data are sent via a proprietary protocol over LoRaWAN® with meter data redundancy. A profile allows the radio module to send the current index and alarms according to the TR06 OMS Over LoRaWAN®.

• Mobile reading:
IZAR RC IoT sends wireless M-Bus frames for mobile reading. The radio module data are sent via wM-Bus C-Mode. The radio module can be configured locally via C2.
The modules logs can be retrieved on-demand:
- 1/4-hourly consumption values
- Hourly consumption values
- Midnight index values
- Monthly index values (midnight index of the last day of the month)

TECHNICAL DATA

	IZAR RC IoT
Communication Protocol for Fixed Network	OMS over LoRaWAN® (TR06) for current Index and Alarms. Proprietary protocol for extended data over LoRAWAN®
Sending interval in Fixed Network	Last midnight index sent every 12 hours - Last 16 hourly consumption values sent every 8 hours - Last nightline consumption values sent every 12 hours - Event frame triggered by one of the four major events immediately sent with 3 repetitions
Communication Protocol for Mobile Reading	Wireless M-Bus C-Mode
Sending interval in Mobile Reading	Current index and alarms sent every 60s (walk-by), accelerated to 15s allowing passive drive-by and drive-by depending on the status of the LoRaWAN connection. Datalogger on-demand
Frequency	863 ... 870 MHz
Encryption	Individual keys for NFC, wM-Bus and LoRaWAN®
Transmission power	Up to 16mW (12 dBm) EIRP
Radio range	Up to 500 m (Mobile Reading) and several km (Fixed Network) depending on network coverage
Standards	RoHS 2011/65/EU I RED 2014/53/EU I EN 13757-3/-4
Certification	LoRaWAN® 1.0.4
Power supply	2 Lithium batteries 3 V
Battery lifetime	Up to 15 years*

*Standard conditions of use and temperature. Theoretical life, with no guarantee.

AMBIENT CONDITIONS

		IZAR RC IoT
Ambiant operating temperature	°C	-10 ... +55
Storage temperature	°C	-20 ... +65
Ambient humidity	%	0 ... 100
Degree of protection		IP 68

CONFIGURATION

	IZAR RC IoT
Local interface	NFC and wireless M-Bus
Software	IZAR@Mobile for local reading and configuration. IZAR PLUS PORTAL for remote reading.

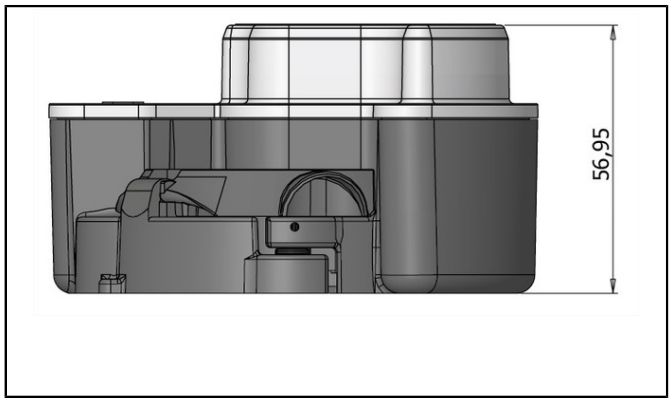
COMPATIBILITY

	IZAR RC IoT
Meters	Diehl Metering Ha+Ti or Ti inductive modular range as well as our modular multijet CORONA MWi, and with the exception of our combined WESAN WPV G. Pulse weight DN15 to DN40 (1 liter) I Pulse weight DN50 to DN125 (10 liters) I Pulse weight DN150 to DN300 (100 liters)

ACCESSORIES

- IZAR BE PULSE (interface for external radio module)
- IZAR PULSE i + IZAR BE PULSE KIT (pulse emitter + interface for external radio module)

DIMENSIONS



		IZAR RC IoT
Diameter	mm	106.1
Total Height	mm	56.95
Height over meter	mm	52.65
Total mass	g	161
EEE mass (2012/19/UE)	g	60.9
Battery & accumulator mass (2006/66/CE)	g	45.8
Lithium mass	g	1.6

Economic Actor Information

Applicable regulation and legal obligations for products may change.

DIEHL METERING monitors applicable regulation to ensure their products comply at the date of placing on the market.

Each economic actor making products available on the market thereafter must independently keep informed about the current applicable regulation.

For questions, please contact: metering-germany-info@diehl.com

Diehl Metering Sp. z o.o.
Bażanowice, ul. Cieszyńska 1A
43-440 Goleszów
Poland
Phone: +48 33 851 04 39
Fax: +48 33 852 16 75
metering-poland-info@diehl.com
www.diehl.com/metering

EMPOWER A SUSTAINABLE FUTURE