

HRL-C-SM4

RADIO MODULE



APPLICATION

The HRL-c-SM4 radio module integrates LoRaWAN® technology for fixed Network and wireless M-Bus for mobile reading.

HRL-c-SM4 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. HRL-c-SM4 has a built-in inductive sensor that makes it insensitive to magnetic fraud. Furthermore, it can be used with any pulse-emitting meter when combined with our IZAR BE PULSE interface.

FEATURES

- Compact radio module for mechanical water meter
- Designed for fixed Network via LoRaWAN®
- Designed for mobile reading in parallel via wMBus C2 Mode
- Ecodesigned
- Available in 868 MHz
- NFC as local Interface
- Insensitive to magnetic fraud
- Battery lifetime up to 15 years
- IP 68
- Main functions : Current index, Hourly indexes*, Minimum and maximum flow rate values*, Return flow volume* (*only in extended frames)
- Main alarms : Overflow, Fraud, Backflow, No consumption, Leakage, Oversized meter, Low temperature, Low battery

OPERATING PRINCIPLE

HRL-c-SM4 includes an electronic circuit that collects the data coming from a Diehl Metering Modular water meter. It transmits in real time the index and other operating information in 2 different modes:

- LoRaWAN® fixed network:

HRL-c-SM4 operates in LoRaWAN fixed network. The current index and alarms information are sent via a proprietary protocol over LoRaWAN. In parallel wMBus frames are sent as backup mobile reading possibility.

- Mobile reading:

If only mobile reading is required, HRL-c-SM4 sends wireless M-Bus frames to permit walk-by and drive-by.

TECHNICAL DATA

HRL-c-SM4	
Communication Protocol for Fixed Network	Proprietary protocol for extended frames over LoRAWAN®
Communication Protocol for Mobile Reading	WMBus C2 Mode
Frequency	863 ... 870 MHz
Encryption	Individual key - AES-128
Transmission power	Up to 20mW
Radio range	Up to 500 m (Mobile reading) and several km (LoRaWAN®) depending on network coverage
Standards	RoHS 2011/65/EU RED 2014/53/EU 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

HRL-c-SM4	
Ambiant operating temperature	°C -10 ... +55
Storage temperature	°C -20 ... +65
Ambient humidity	% 0 ... 100
Degree of protection	IP 68

CONFIGURATION

HRL-c-SM4	
Local interface	NFC
Remote interface	wMbus C2 Mode

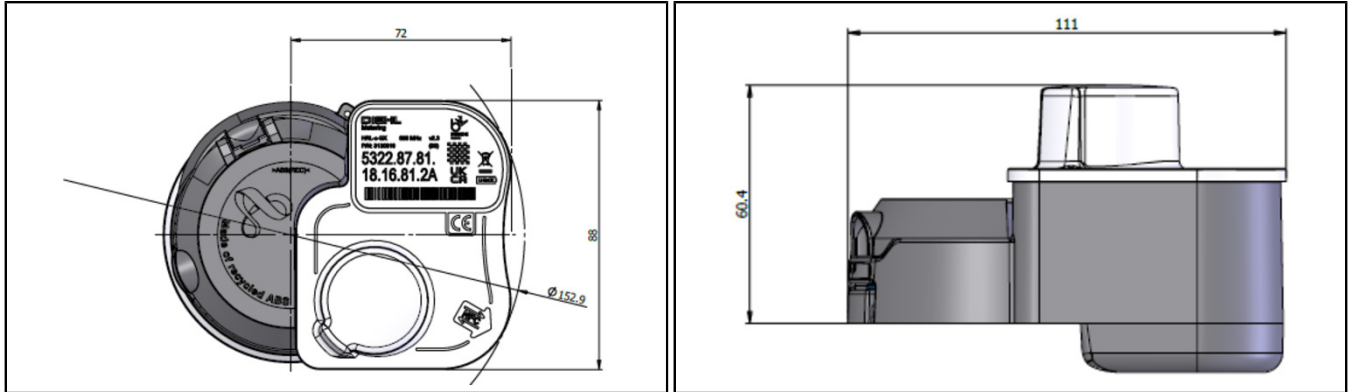
COMPATIBILITY

HRL-c-SM4	
Meters	Diehl Metering inductive modular range (Ha+Ti or Ti). Pulse weight DN15 to DN40 (1 liter) Pulse weight DN50 to DN125 (10 liters) 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



HRL-c-SM4

Length	mm	111
Total Height	mm	73
Height over meter	mm	56
Width	mm	88
Total mass	g	178.8
EEE mass (2012/19/UE)	g	61.9
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.

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