



RCM[®]-LRW

LoRaWAN[™] 868 MHz, GWFcoder[®] Radio module



Your benefits

- Backwards compatible:
No meter change required when migrating water and gas meters with GWFcoder[®] interface into a Low Power Wide Area Network (LPWAN)
- Performance driven design:
Range up to several km
- Plug & Play:
Easy and fast on-site installation with auto interface-detection and activation in LoRaWAN (no programming required)
- LoRa Alliance Certified:
Interoperable with different LoRaWAN network providers
- Integrated monitoring of connectivity and reconnecting mechanisms:
Robust operation with automatic repair options, e.g. with gateway failures
- Custom-tailored RF Mode:
Up to 15 years battery lifetime

Properties

- Battery powered, LoRaWAN radio module
- Radio transmission in license free 868 MHz frequency band
- Water proof design for pit installations (protection class IP68)
- Transmission of latest register value and further information
- For all meter types with GWFcoder[®] / GWFcoder[®] MP register with SCR(IEC) or ECO interface (gas / water, domestic and industrial meters)
- Split-connection (cable) to the meter – remote installation
- Data transmission in accordance with LoRaWAN specification
- Data security via AES-128-bit end-to-end encryption over 2 independent security layers
- ADR (adaptive data rate) support gives higher transmission intervals with consistent battery life
- Real-time clock synchronization with the LoRaWAN-Network (Radio module version ≥1.4.0 and acc. LoRaWAN spec. ≥1.0.3 – DeviceTimeReq)
- Infrared configuration interface
- CE Approval

Applications

- Simple readout of water and gas meters with GWFcoder[®] registers without necessity to access buildings
- Migration of installed meters with GWFcoder[®] registers to a smart metering system via LoRaWAN
- Energy monitoring, energy reporting and consumption accounting with the GWF MEA cloud solution
- Integration of water and gas meters with GWFcoder[®] registers in smart city projects

Options

	Configuration 1: Fixed transmission interval	Configuration 2: Dynamic transmission interval
Transmission interval	daily	Up to 15 min., depending on meter interface and LoRaWAN network quality

Configurable parameters

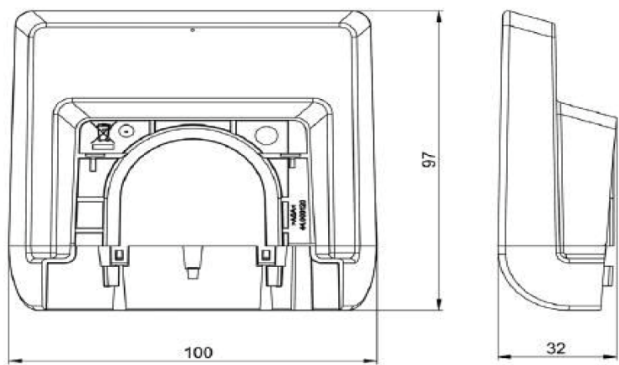
Configuration (fixed or dynamic transmission interval)

Warnings, all enabled or all disabled (Radio module version $\geq 1.4.0$):

- Continuous flow / Leak¹⁾ (only medium water)
- Backflow¹⁾ (has to be reset on site)
- Pipe burst¹⁾ (meter size has to be configured on site)
- No usage over a period of 30 days

1) Available for GWFcoder® registers with ECO or SCR+ interface

Dimension Diagram



Radio-Start behaviour

3 minutes after the connection of the GWFcoder®-meter

Technical data

Specifications	Radio module RCM®-LRW10
Meter interface	Meter with GWFcoder® or GWFcoder® MP register with SCR(IEC) or ECO interface
Frequency band	868 MHz (EU)
Transfer protocol	GWf specific
Radiated power	max. 14 dBm (25 mW)
LoRaWAN class	A
ADR	Yes
Activation type	OTAA
Range	Up to 15 km (depending on environment)
Compliance with standard	EN 300 220
Approval	
Certifications	LoRa Alliance Certified™ (V1.0.1)
Protection class	IP68
Cable length	Standard 1,4 m
Cable extension	max. 25 m
Weight	approx. 300 g

Power supply	
Battery	2 x Lithium 3,6 V (not replaceable)
Typical battery lifetime	Up to 15 years (depending on environment and configuration conditions)

Ambient conditions	
Operational temperature	-15 to +55 °C
Storage temperature	-15 to +55 °C
Relative humidity	0 to 100% (submersible)

Information data package	Data (example) MTKcoder® MP
DevEUI RCM®-LRW10	70B3D538700000AB
Meter manufacturer ¹⁾	GWF
Medium ¹⁾	Water
Meter number ¹⁾	18215678
Absolute meter reading ¹⁾ (up to 15 min. values)	359,768 m³
Remaining battery life	Semester
Warnings	Battery, LoRaWANTM link error, continuous flow, backflow, pipe burst, no usage
Status ¹⁾	Manipulation

1) This data is read directly from the GWFcoder® register

Dynamic transmission interval	
SF7	15 minutes, 60 minutes or daily
SF8 - SF11	60 minutes or daily
SF12	Daily