System technology

RCM®-LRW10

LoRaWAN™ 868MHz, GWFcoder® Radio module
Low Power Wide Area Network (LPWAN)

LoRa Alliance Certified™

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

Application

- 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

Features

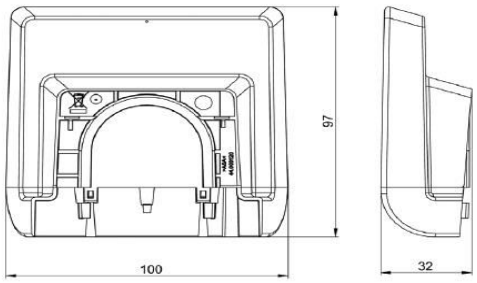
- Battery powered, LoRaWAN radio module
- Radio transmission in license free 868MHz frequency band
- Water proof design for pit installations (protection class IP68)
- Transmission of latest register value and further information
- For all meter types with GWFcoder® / GWFcoder® MP register with SCR(IEC) 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
- Infrared configuration interface
- CE Approval

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
Activation type (OTAA or ABP)
Configuration (fixed or dynamic transmission interval)

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. 14dBm (25mW)
LoRaWAN class	A
ADR	Yes
Activation type	Optional OTAA or ABP
Range	Up to several km (depending on environment and network)
Compliance with standard	EN 300 220
Approval	CE
Certifications	LoRa Alliance Certified™
Protection class	IP68
Cable length	Standard 1,4m
Cable extension	max. 5 m
Weight	approx. 300g

Power supply	
Battery	2 x Lithium 3,6V (not replacable)
Typical battery lifetime	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*	GWF
Medium*	Water
Meter number*	18215678
Absolute meter reading* (up to 15 min. values)	359,768m³
Remaining battery life	Semester
Warnings	Battery, LoRaWAN™ link error
Status*	Manipulation

* 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

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printed in switzerland

Subject to modification, 04.10.2018 – EPe40261