HRE

High Resolution Encoder

Your benefits

- Revolutionary all-in-one design:
  1 product, multiple interfaces
  - Wired M-Bus
  - ECO (for radio module LoRaWAN)
- Real Plug & Play:
  Easy and fast on-site installation with automatic interface detection
- 8 Encoded Rollers:
  High resolution (0.1 US gallons) for Smart Metering applications

Applications

- Automated mobile or fixed network readout of relevant billing data
- Wired or wireless readout of hard to access metering installations (e.g. meter pits, commercial and industrial metering, reservoirs, etc.)
- Individual properties and multiple properties as well as combined properties, commercial buildings and industrial applications

Properties

- Proven mechanical roller register with multiple interfaces
- Wired M-Bus according EN 13757-2/3
- LoRaWAN according 1.0.4 specification in combination with RCM®-H200 radio
- Greater level of information and readout accuracy compared to meters with pulse output
- Exact correlation between electronic readout and register reading
- Frictionless readout of the data set via the GWF patented opto-electronic GWFcoder® technology
- Enhanced data for network and customer management (Smart Metering)
- Simplified system integration with no need for programming when commissioning the meter in a readout system (auto detection of M-Bus and RCM®-H200 radio)
- Batteryless register – no service life restriction (remote power supply)
- Optimized energy consumption supports longer lifetime of read-out device
- Standard: IP67 Protection class

Options

- Flood proof: IP68 protection class (glass/copper) for pit installations where flooding of the meter may occur
- LoRaWAN: Combine the HRE with the RCM®-H200 module for remote meter readout
  Documentation: RCM®-H200 - EPeus40264
- Available on the following meters:
  Documentation: UNICOcoder® NTEP - EPe10129
  Documentation: MT cold NTEP - EPe1013
  Documentation: MT hot NTEP - EPe20138

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Technical Data

Functional specifications	
Operating temperature	+14 °F to +158 °F
Storage temperature	-4 °F to +176 °F
Protection categories	IP67 (Standard) or IP68 (flood proof)
EMC standards	CEN EN 13321-1, EN 300 220, EN 60950 and Cenelec
Conformity	CE, ENa
M-Bus	EN 13757
M-Bus baud rate	2400 baud (optional 300 baud)

Connection

Wired M-Bus	2 wire (red and black); polarities interchangable
RCM®-H200 for LoRaWAN	3 wire (brown, green, white); green wire must be connected correctly

GWFcoder®-Technology

The 2nd generation – even more flexible

The well-established GWFcoder®-system reads the absolute mechanical register value precisely and reliably and provides the data through standardized interfaces. The number wheels with three various long, asymmetrically arranged slots are being scanned through light pipes which are connected to five light emitting diodes (LED). Thus, the exact position of each number wheel can be detected and the encoded absolute register read can be transmitted as part of the protocol by the GWFcoder®-interface. This GWF patented functional principle is being used in millions of installations worldwide since more than 15 years. The GWFcoder®-interface guarantees absolute correlation between the electronic readout and the register reading and provides an incomparably higher level of information compared to meters with pulse output. Meters with GWFcoder®-technology do not contain a battery which, in turn, does not compromise existing revision cycles. The readout device supplies the power for the readout.

GWF enhanced the reliable Smart Metering technology in its 2nd generation, so that 8 instead of 5 number wheels are being scanned and therefore a resolution of 0.1 US gallons is possible. Moreover, all products with multi-protocol functionality provide the flexibility to switch between wired M-Bus and LoRaWAN with the RCM®-H200 radio module which leads to an easy and fast «Plug & Play» installation on site.