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Instromet



The domestic diaphragm gas meter in the field of smart metering

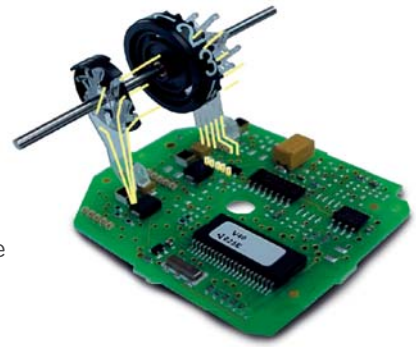
There is a lot going on in the energy sector: in many places the deregulation of metrology, as well as legal aspects have given rise to numerous requirements in respect of the acquisition and transmission of data, and these now have to be implemented.

This is just where smart metering comes in, with all of the new challenges it represents. Apart from the opportunity it offers for simplifying processes and making a significant contribution towards reducing CO₂ emissions, in the first instance it represents an element of uncertainty and risk. Quite simply, there is a lack of the required experience, for example, for dealing with the anticipated volumes of data and information, handling and installing meters with enhanced functions, and – as a point of particular importance – an element of uncertainty and risk in terms of the performance and safety of wireless solutions and the associated

installed service life. With smart metering, meter manufacturers are forced to convert existing and future requirements into real products and – as a basic requirement – to guarantee that products are future-proof. In terms of diaphragm gas meters, future proofing means more than just reaching the first recalibration period. The significant feature of a diaphragm gas meter, apart from measurement accuracy, reliability and robustness, is an extremely long service life, making it completely possible for a meter to be retained in the network for more than 20 years. In the implementation of smart metering, this proven technology encounters wireless

technologies with a very short installed service life, and is subject to a constant process of innovation.

Elster GmbH has made it possible to combine the wide variety of requirements imposed on the smart meter with the tried-and-tested measuring principle of the diaphragm gas meter. With the modular Absolute Encoder concept, use is made of various communication modules which can be selected as required. The basis for this concept is provided by the Absolute Encoder index – a combination of mechanical and electronic index – which transmits absolute meter readings.



The features

- Absolute Encoder index operates without a battery
- Power required for readout purposes is provided to the index from an external source
- Parts of the meter relevant to calibration technology remains unaffected
- No parameterisation on site necessary. Absolute Encoder comes fully programmed
- Highest flexibility: Encoder index can be equipped with a cable-based M-Bus module or a corresponding radio module
- Cost- and time-saving installation processes through Plug and Play communication modules
- Possible use of repeaters to amplify the radio signal
- Compatibility with devices such as data concentrators and electricity meters via dongle (radio transceiver)
- Absolute Encoder concept supports M-Bus (cable-based and wireless)
- Absolute Encoder concept is suitable for various RF technologies such as ZigBee, Wavenis
- Encryption according to AES 128

Absolute Encoder with wired or wireless communication modules (ACM M-Bus Wire/ ACM RF)

- Plug and Play installation
- Battery free index
- Metrological characteristics remains unaffected
- Supports M-Bus communication (wired/wireless)
 - EN 13757
 - P2 companion standard V2.2
 - Open metering
- Readout result is absolute
 - no pulse
 - no recreated index value
- Battery-powered RF module, battery life 15 years
- No on site parameterisation necessary: meter and communication module delivered fully programmed
- Architecture suitable for the integration of different communication standards

Absolute Encoder with dongle system (ACM wave system)

- Dongle module (ACM wave system) to combine wireless and wired communication
- Wireless communication is transferred to wired M-Bus communication
- Dongle module is powered by the M-Bus master (e.g. electricity meter)
- RF range extension by RF repeater available
- Designed for different installation locations (wall, pipe, top hat rail)

Absolute Encoder with wired or wireless communication modules



Absolute Encoder with dongle system

