Honeywell
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themis^{uno} – GSM/GPRS

Electronic index for diaphragm gas meters
BK-G4 V1.2ETe

Applications

Smart electronic index for diaphragm gas meter BK-G4 V1.2 ETe for use in the residential sector

Brief information

The themis^{uno} index provides features which go well beyond simple remote reading. The existing options (Time of Use and Block tariffs, load profiles, communications interval control, data logging, electronic temperature compensation, etc.) can be combined in such a way as to suit the needs of individual customers. A secure, over the air software update guarantees that the technology is future-proof and can be updated to meet new requirements if necessary.

The themis^{uno} is available with GSM/GPRS WAN communication. This guarantees secure data exchange between the various communication partners. The method of secure authenticity and integrity of data and authorization of users is state of the art. Diaphragm gas meters BK-G4 V1.2 ETe with the themis^{uno} index meet the requirements of Italian specification UNI-TS 11291.

The integrated valve “Valve Ve” in the diaphragm gas meter allows the gas supply to be remotely connected and disconnected. This significantly reduces the costs and labour caused by local disconnection of the gas supply. To avoid gas being released in an unsafe installation, a smart test of the downstream installation is conducted before the valve is opened.

An integrated electronic temperature conversion system allows the volume to be converted to the base temperature (15°C) even for residential supplies. The meter shows the converted volume in the display and transfers it to the appropriate data collection system.



The themis^{uno} index is part of the Elster smart meter solutions package. From mechanical meters and smart index technologies to complete meter data collection and meter data management systems, Elster can supply everything required for an efficient, coordinated all-in smart metering solution. The index is interoperable and interchangeable according to UNI-TS 11291 and can be read and controlled using the Elster meter data collection system OPC. If desired, Elster can therefore not only supply the gas meter but also the complete meter data collection system perfectly tailored to the themis^{uno}.



Main features

- Integrated concept:
  – Cost-efficient solution delivering a high level of reliability
- WAN communication
  – GSM/GPRS (DLMS-UNI-TS 11291)
  – Internal and external antenna available
- With electronic temperature compensation
- Supports “Valve Ve” WAN and local valve control
- Long battery life
  – Up to 15 years, dependent on GPRS requirements
- Extended smart metering functions
  – Load profiles
  – Time of Use and Block tariffs
  – Event and alarm signalling
  – Time synchronization
- State-of-the-art data security and data protection (AES-128 symmetric keys)
- Supports safe remote firmware updates to UNI-TS 11291
- Batteries can be replaced in the field without loss of data
- Easy operation and installation
  – Clearly legible matrix display (LCD)
  – Menu navigation using intuitive button control
  – Simple commissioning using pre-configured indexes

Technical data

Display and entry

– Intuitive menu navigation using 3 buttons



Languages

– Italian, English,
other languages available on request

Local communication

– Optical bidirectional IEC 62056-21 port (DLMS/COSEM)

Wide area network communication

– GSM/GPRS in accordance with UNI-TS 11291
– Protocol: DLMS/COSEM
– Supports SIM cards with 900/1800 MHz roaming

Temperature compensation

– Supports electronic temperature compensation

Application

– Residential gas meter BK-G4 V1.2 ETe
– Permitted gases: natural gas, propane, butane (gases to EN 437)

Enclosure

– IP 55

Gas/ambient conditions

– Base temperature: 288.15K (15°C)
– Gas temperature: -25°C to +55°C
– Ambient temperature: -25°C to +55°C
– Storage temperature: -25°C to +60°C

Data logging in the index

The integrated data logging function records the supplied gas volume in conjunction with the current time and the corresponding tariff.

Storage capacity

– Hourly consumption values: 4560 records (≙ 190 days)
– Daily consumption values: 190 records
– Monthly consumption values: 13 records
– Metrological log: 500 records
– Event log: 100 records
– Parameter monitor log: 50 records
– Supports daily transfer of hourly values
– Other intervals can be configured

Actuation of an integrated valve

– Safe switching of the valve (valve is not opened unless the installation is in a safe state)
– Local confirmation required by the press of a button
– Controlled opening and closing of the valve with feedback on result
– Designed lifetime: 3000 cycles
– Max. operating pressure for valve operation: 100 mbar
– Pressure loss of BK-G4 to EN 1359: < 2 mbar
– Maximum leakage rate in closed state: 1 l/h up to 100 mbar

Current approvals

– MID Class 1.5, EN 1359, ATEX: ⟨Ex⟩ II 3G Ex ic IIB T4 Gc, CE, EMC, R&TTE

Delivery

– Minimal installation work as the devices are pre-configured on delivery
– No programming unit or the like is required for installation depending on the pre-configuration settings
– Simple commissioning by “one-button” connection to the meter data collection system or alternatively via pre-configurable start date

Data security and data protection

– The themis^{uno} provides secure state-of-the-art end-to-end data encryption.
– Supports symmetric encryption using AES-128 (GCM) to UNI-TS 11291.
– Role-based access rights based on individual symmetric keys.
– Future-safe using secure firmware upgrade to UNI-TS 11291.
– Notification to the data collection system if a tamper attempt is detected.
– Daily transmission of status reports with the ability to read event logs remotely.

Your contacts

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