Sagemcom

Siconia® EG16

Smart gas industrial meter
for amr system

Description

The Siconia® EG16 meter is a volumetric measuring instruments with deformable walls for natural gas, manufactured gas, LPG, and technical gases, designed for residential/industrial use. It is designed and built according to the highest standards, and in compliance with the EN1359 norm and the MID directive. Measurement precision and accuracy are guaranteed by the production and control process, and by an automated calibration system, which is used at the internal Metrological Laboratory upon 100% of the meters produced.

The quality of the plastic and metal components makes the meters highly sensitive, even with a minimal gas flow, and ensures excellent performance over time. The accuracy and reliability of the measurement over time is guaranteed by the consolidated mechanical principle of the measurement itself, which is performed using a membrane and spool valve system.
The EG10 and EG16 models are the "electronic" versions of Sagemcom's traditional mechanical meters, and have an integrated electronic module with the following features and functions:
- LCD display with multilevel menu
- Logging of consumption values
- Remote transmission of the readings (compensated by temperature and pressure)

The EG16 meter performs the PT type conversion of the volume under the standard reference conditions (base conditions). The protection of the data and the security of the programming parameters are ensured by sealable switches and programmable passwords. The meter is battery powered. The EG16 is part of Siconia® Smart Gas metering solution including central Head End System and Meter Data Management system.

REFERENCES
European Directive 2014/32/EU (MID) and 2014/34/EU (ATEX)
EN 1359:1998/A1:2006 Standard
OIML R137-1&2:2012
WELMEC 7.2

Product details

Model	EG16
Type	Smart
Class	G16
Max. operating pressure (mbar)	500
Min. flow rate (m³/h)	0,1
Max. flow rate (m³/h)	25
Standard connection (according to ISO 228-1)	2"
Operating temperature range	-25 °C / + 55 °C
Storage temperature	-25 °C / + 70 °C
Base temperature conditions	15 °C
Protection rating	IP66
Mechanical class	M2
Electromagnetic environment	E1
Cyclic volume	6 dm³
Dimensions 2"	A: 250-280mm, B: 307mm, C: 415mm, D: 302mm, E: 130mm
Dimensions 1 ¼"	A: 250mm, B: 314mm, C: 415mm, D: 302mm, E: 130mm
Weight	9 kg

Characteristics

- Casing in galvanized sheet steel with polyester paint
- Electronics housing in Polycarbonate and ABS
- Class 1.5 High stability of measurement
- Digital temperature sensor and high accuracy pressure sensor (0,8 to 1,5 bar)
- Setting of gas composition
- C factor calculation according to SGER88
- Base volume, valve status and alarms indication
- One battery for metrological unit and one battery for the communication module (15 years each)
- Alphanumeric LCD display
- Integrated tamper protection
- 6 user button keypad for parameter setting
- Internal data base for hourly and daily consumption profile (up to 70 days), events and alarms (up to 1000)
- ATEX Zone 1-II 2G Ex ib [Ex ia Ga] IIB T3 Gb (- 25°C ≤Tamb ≤ + 70°C)

Data communication

Point to Point cellular communication : GSM/GPRS, NB-IoT NB1/2

UNI TS 11291 Protocol, DLMS protocol

Pulse output for customer connection

Remote antenna option

Functionality

The pressure difference between the meter's intake and outlet results in the cyclic filling and emptying of the measuring chamber via the alternating movement of the deformable membrane.

The motion is converted into electrical pulse signals via the kinematic measuring system, which consists of spool valves with a connecting rod/crank coupling, and an electronic transducer module. These signals are then transmitted to the metrology card.

The temperature sensor for volume correction is installed on the transducer module, and is equipped with an effective fraud detection system.

A pressure sensor is also installed on the metal body in order to compensate for the measured volumes.

1. Error curve

2. Pressure drop curve
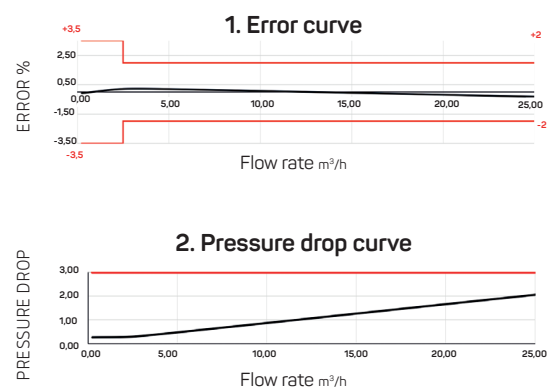
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