

# Sagemcom



## Siconia<sup>®</sup> ES4 EVO

Ultrasonic Gas Smart Meter  
for amr system

## Description

The Siconia® ES4 EVO meter is an ultrasonic measuring instrument for H, L, E families of gas, designed for residential use. It is designed and built according to the highest standards, in compliance with the EN14236 norm, EN 16314 norms 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 manufactured.

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 high precision ultrasonic sensor that is integrated into the electronic meter.

The ES4 EVO has an integrated electronic module with the following features and functions :

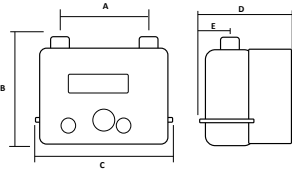
- LCD display with multilevel menu
- Logging of consumption values
- Remote transmission of the readings (compensated by temperature)
- Remote control valve for gas flow management.

The integrated valve with integral passage is positioned on the meter's inlet and inside the casing; it can be controlled remotely for both closing and re-opening (in this case, after remote enabling and on-site activation). The use of a full-bore valve eliminates the possibility of any additional pressure loss. The ES4 EVO 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 14236:2007 norm  
 EN 16314 norm  
 WELMEC 7.2  
 ITALIAN AUTHORITY FOR ELECTRICITY, GAS AND WATER'S RESOLUTION 631-15

## Product details

Model	ES4 EVO
Type	Smart
Class	G4
Max. operating pressure (mbar)	500
Min. flow rate (m <sup>3</sup> /h)	0,04
Max. flow rate (m <sup>3</sup> /h)	6
Standard connection (according to ISO 228-1)	7/8"
Operating temperature range	-25 °C / + 55 °C
Precision class	1.5
Maximum computable volume	99999.999 m <sup>3</sup>
Minimum reading value	0.001 m <sup>3</sup>
Base temperature conditions	15 °C (other temperatures upon request)
Protection rating	IP66
Dimensions	A: 110mm, B: 150mm, C: 182.5mm, D: 133mm, E: 54mm 
Weight	1,3 kg

## Characteristics

- Casing in galvanized sheet steel with polyester paint
- "H3" outdoor environments, in accordance with the EN1359: 2017 standard
- Class 1.5 High stability of measurement
- Gas temperature detection for base volume conversion
- Ability to compensate gas composition, including presence of Hydrogen
- 2 batteries for metrological unit and communication module (lifetime > 15 years)
- Equipped with a shut off valve meeting EN16314 standard with safe management software
- Measured or base volume, valve status and alarms indication
- Up to 3 tariff plans
- Internal data base for hourly and daily consumption profiles (up to 70 days), events and alarms (up to 1000)
- Alphanumeric LCD display
- Integrated tamper and electromagnetic interference protection
- User button for data reading and valve reset
- ATEX Zone 2-II 3G Ex ic IIA T3 Gc (- 25°C ≤ Tamb ≤ + 55°C)
- Metallic casing colour: RAL 9002 standard colours

### Data communication

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

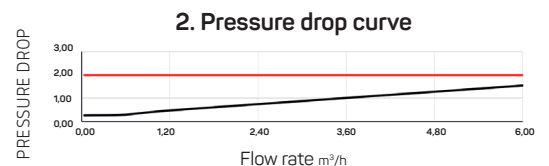
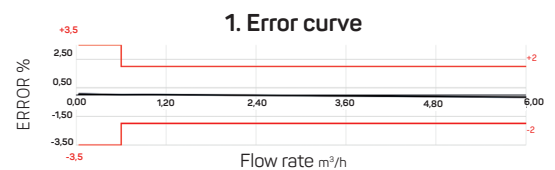
Point to Multipoint RF communication : WmBUS  
 169MHz, WmBUS 868MHz, LoRa 868 MHz

DLMS protocol, UNI TS 11291, OMS Primary  
 Communication V4.1.2

### Functionality

Ultrasonic gas meters calculate the volume flow of the gas by measuring the transit times of high-frequency sound waves. Transit times are measured for pulses propagating up and downstream across the gas flow at an angle with respect to the pipe axis. These transit times, together with the meter geometry, are used to calculate the average gas velocity.

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



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