

# AERIUS

microthermal gas meter

**DIEHL**  
Gas Metering



## APPLICATION

The electronic gas meter AERIUS detects the standard volume of natural gas due to the microthermal measuring principle. It can be used for domestic and industrial applications.

## CHARACTERISTICS

- ▶ CMOS Sensor Technology
- ▶ MID approval requested (PTB)
- ▶ Pressure independent
- ▶ Temperature correcting
- ▶ Very low starting flow
- ▶ Differentiation between natural gas and air
- ▶ Interfaces M-Bus and Radio 868 MHz according to OMS®
- ▶ Noiseless
- ▶ Wear-free
- ▶ Compact design

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## FUNCTIONAL PRINCIPLE

The electronic gas meter AERIUS utilises a CMOS semiconductor sensor, which is placed in the bypass channel. The sensor is based upon a microthermal measuring principle and contains a heating element, which is flanked by two temperature sensors. The heating element is used to heat the gas; a uniform temperature distribution is formed, which is deferred through a gas flow. Therefore a temperature difference is generated between the two temperature sensors. The resulting measuring signal is processed by a microprocessor into a flow rate and therefore generated into standard volume (m<sup>3</sup>).

## GENERAL / TECHNICAL DATA

AERIUS		
<b>Measuring principle</b>		microthermal - pressure independent and temperature corrected
<b>Measuring range</b>	m <sup>3</sup> /h	0.04 ... 6.0
<b>Standard temperature for volume output</b>	°C	0, 15 or 20
<b>Operating temperature</b>	°C	-25 ... +55*
<b>Storage temperature</b>	°C	-25 ... +70*
<b>Standard pressure for volume output</b>	mbar	1013.25
<b>Max. operating pressure</b> P <sub>max</sub>	mbar	100*
<b>Measuring accuracy</b> Q <sub>t</sub> ... Q <sub>max</sub>	%	±1.5
<b>Measuring accuracy</b> Q <sub>min</sub> ... Q <sub>t</sub>	%	±3.0
<b>Accuracy class</b>		1.5
<b>Battery supply</b>		1 x 3.6 VDC (C-cell)
<b>Battery lifetime</b>		up to 16 years
<b>Data backup interval</b>		1 h (non volatile memory)
<b>Max. accumulated volume</b>	m <sup>3</sup>	99'999
<b>Starting flow rate</b>	m <sup>3</sup> /h	0.005
<b>Heat resistance</b>		HTB 650 °C according to EN 1359*
<b>Protection class</b>		IP 54*
<b>Approval</b>		MID (OIML 137-1)*, DVGW*, ATEX*
<b>Application</b>		natural gas type H, air
<b>Display</b>		1-line LCD 8-digit

\* meter in approval phase

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## MECHANICAL DATA

AERIUS		
nominal Diameter DN	mm	25
Overall length - concentric	mm	230
Connecting nut - concentric	inch	G2B
Connection thread with screw joint - concentric	inch	G2B
Height	mm	125
Depth	mm	125
Weight	kg	2,2

## INTERFACES

AERIUS	
Optical	IRDA interface for communication and testing
M-Bus	Telegram according to EN 13757-3, data reading and parametrization via two wires with polarity reversal protection
Radio	868 MHz according to OMS®, unidirectional, transmission interval 10 sec. up to 1 hour



## DIEHL Gas Metering

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