

Gas Meters

Wide range diaphragm gas meters

Diaphragm gas meters

IC-card diaphragm gas meters

AMR technology

Commercial diaphragm gas meters



BELL
Flow Systems

ZENNER
All that counts.

1,700

employees on 4 continents stand for quality, precision and innovation.

Locations in Europe

- Germany:
Saarbrücken, Mulda, Mannheim
- Bulgaria: Sofia
- France: Limoges
- Italy: Bologna
- Kazakhstan: Aktobe
- Poland: Warsaw
- Romania: Bucharest
- Russia:
St. Petersburg, Moscow, Tjumen
- Spain: Madrid
- Turkey: Ankara
- Hungary: Budapest
- Belarus: Minsk

We export our products in

90

countries.





20

locations worldwide with four production sites in Europe, Asia and the US.

Locations worldwide

- Brazil: Novo Hamburgo
- China: Fuzhou, Beijing, Shanghai
 - India: Faridabad
 - Myanmar: Yangoon
 - Paraguay: Asunsion
- USA: Banning, CA, Addison, TX
 - Vietnam: Hanoi

Innovative measuring equipment for global markets for over

110

years. Est. in 1903.

CERTIFICATES

Environmental management: certified in accordance with ISO 14001

Quality management: certified in accordance with DIN ISO 9001:2008

INTERNATIONAL WEBSITE

www.zenner.com

ZENNER International GmbH & Co. KG, with headquarters in Saarbrücken, develops, produces and sells measurement technology for the global market. The product line includes apartment, household and bulk water meters and modern system technology such as remote-controlled and M-Bus systems. Zenner customers primarily include power suppliers and public utilities, but also industrial companies, wholesalers and measurement service providers. ZENNER has production facilities in Europe, Asia and the USA and is globally present with 20 local sites. Founded in 1903, the company has been a member of the family-managed corporate group Minol-ZENNER since 2005. Worldwide around 1700 employees work for ZENNER.

Approvals

MID Module B

NMi **EC type-examination Certificate**

Number **T10551** revision 0
Project number 13200090
Page 1 of 1

Issued by: NMI Certin B.V., designated and notified by the Netherlands to perform tasks with respect to conformity modules mentioned in article 9 of Directive 2004/22/EC (MID), after having established that the Measuring instrument meets the applicable requirements of Directive 2004/22/EC, to:

Manufacturer: ZENNER Metering Technology (Shanghai) Ltd.
NO.6558, East Yinggang Road,
Qingpu Industrial Zone,
Shanghai
P.R. China

Measuring instrument: **A Diaphragm Gas Meter**
Type: Atmos xxS / Atmos HP xxA
Destined for the measurement of: Gas volume
Accuracy class: Class 1.5
Environment classes: M1 / E1
Temperature range: -25 °C / +55 °C
Location: Closed

Further properties are described in the annexes
- Description T10551 revision 0
- Documentation folder T10551-1

Valid until: 19 October 2025

Issuing Authority: **NMI Certin B.V., Notified Body number 0122**
19 October 2015
C. Oosterman
Head Certification Board

NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands
T +31 78 6332332
certificaten@nmi.nl
www.nmi.nl

This document is issued under the provision that no liability is accepted and that the manufacturer shall indemnify third-party damages, to the general manager of NMI (see www.nmi.nl).

The designation of NMI Certin B.V. as Notified Body can be verified at <http://ec.europa.eu/conformity/assessment/approach/index.html>

Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMI (see www.nmi.nl).

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INSPECTION RVA 1122

MID Module D

NMi **EC quality system Approval**

Certificate: CE-242

NMI Certin B.V., designated and notified by the Netherlands to perform tasks with respect to conformity modules mentioned in article 9 of Directive 2004/22/EC, declares that the quality system of:

ZENNER Metering Technology (Shanghai) LTD
NO. 6558, East Yinggang Road
Qingpu Industrial Zone
SHANGHAI
P.R. China

meets the applicable requirements of annex D of Directive 2004/22/EU for the conformity assessment of instrument category:

Diaphragm Gas Meter
Scope of the certificate is described in the annex of CE-242.

The certificate is initially granted on 1 April 2016.

This certificate remains valid until **1 April 2019**, under the condition that the quality system is maintained satisfactory.

NMI Certin B.V., Notified Body number 0122
1 April 2016
C. Oosterman
Head Certification Board

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INSPECTION RVA 1122

OIML R137

NMi **OIML Certificate of Conformity**

OIML Member State
The Netherlands

Number R137/2012-AL1-15,06
Project number 13200090
Page 1 of 3

Issuing authority: NMI Certin B.V., Person responsible: C. Oosterman

Applicant: ZENNER Metering Technology (Shanghai) Ltd.
NO.6558, East Yinggang Road
Qingpu Industrial Zone
Shanghai
P.R. China

Manufacturer: ZENNER Metering Technology (Shanghai) Ltd.
NO.6558, East Yinggang Road
Qingpu Industrial Zone
Shanghai
P.R. China

ZENNER International GmbH & Co. KG
Römerstadt 6 D
66121 Saarbrücken
Germany

ZENNER International GmbH & Co. KG
Talstraße 2
09619 Mulda
Germany

Zenno do Brasil Instrumentos de Medição Ltda.
Rua Bateloume de Guimao
2444-Novo Hamburgo-RS
Brazil

ZENNER-COMA JVC,
Construction Machinery Company
1250 Minh Khai
Q Hai Ba Trung Hanoi
Vietnam

Zenner Performance Meters Inc.
1910E, Westward Ave
Banning, CA 92220
United States of America

Identification of the certified type: **A diaphragm gas meter**
Type: Atmos xxS (steel) / Atmos HP xxA (aluminium)

Characteristics: See page 3.

Issuing Authority: **NMI Certin B.V., OIML Issuing Authority NL1**
3 December 2015
C. Oosterman
Head Certification Board

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OIML INSPECTION RVA 1122

EN1359

NMi **Certificate of Conformity**

No. CoC-13200090-01 revision 1
Page 1 of 1

Applicant: ZENNER Metering Technology (Shanghai) Ltd.
NO.6558, East Yinggang Road,
Qingpu Industrial Zone,
Shanghai
P.R. China

Issued by: NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Submitted: **Diaphragm gas meter**
Manufacturer: ZENNER Metering Technology (Shanghai) Ltd.
Type: Atmos xxS (steel) / Atmos HP xxA (aluminium)

Characteristics: Q_{max} [m³/h] : 6 V [dm³] : 1.2
 Q_{min} [m³/h] : 0.016 P_{max} [bar] : Atmos xxS: 0.5 bar
 Q_0 [m³/h] : 0.200 Atmos HP xxA: 1.5 bar
Class : 1.5
destined for the measurement of : Gas volume

In accordance: - EN 1359-1998/A1:2006 "Diaphragm gas meters" with

The described products are tested according to the above mentioned product standards and meet the essential requirements, based on a non-recurrent examination. The appointing test data is presented in type evaluation report no. NMI-13200090-03, granted by NMI.

* The flow rate range of the meter covers the G1.6, G2.5 and G4 meter sizes.

Dordrecht, 13 May 2016
NMI Certin B.V.
C. Oosterman
Head Certification Board

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INSPECTION RVA 1122

ZENNER gas meters

ZENNER gas meters impress by the solid processing of high-quality materials combined with a large number of technical details. In the manufacturing process we purely use materials of the highest quality that meet the requirements for product lifetime, security and technical precision.

For example, the housing of our diaphragm gas meters are made of high quality steel or aluminum. The raw material of the essential parts are imported from Europe.

In addition we purely use tested component connections to guarantee that the meters are solid, safe and leakproof. The corrosion resistance is ensured by the use of galvanized steel and die-casting aluminum. In addition to the widely used residential diaphragm gas meters, customers can also find commercial gas meters for higher flow rates in our product range. These meters are mainly used in residential, commercial and industrial settings.

All ZENNER gas meters are built in compliance with the following regulations, directives and recommendations:

- EN1359:1998/A1:2006
- MID (2014/32/EU)
- OIML R137-1 (2012)



Atmos[®] - diaphragm gas meter

Two-pipe Diaphragm gas meter G1.6S | G2.5S | G4S



Centre distance 130 mm



Centre distance 152 mm

Solid build quality, high accuracy, safety and a series of advanced technical details make the Atmos[®] diaphragm gas meter a high-grade measuring instrument. The Diaphragm gas meter is available in sizes G1.6, G2.5 and G4. The meter is characterized by precise measurements, a constant measuring stability, a long life and high reliability. Thanks to the use of high-grade materials, the diaphragm gas meter is resistant to corrosion.

The gas meter is suitable for various gas media. The integrated calibration system coordinates the movement of the valves in relation to the optimum gas flow. The excellent linearity of the error curve is guaranteed even at low flow rates. Due to the optimum sliding characteristics of the valves the Q_{\min} value remains stable and the gas meter is resistant to contamination. The high measuring range enables precise metering for flow rates from 0,016 m³/h to 6 m³/h.

The Atmos[®] diaphragm gas meter meets the requirements of the EN1359:1998/A1:2006 and OIML R137-1 (2012) standards.

Performance characteristics

- Approved in accordance with MID by NMI
- Integrated system to adjust the error curve
- Galvanized steel powder-coated housing for maximum corrosion resistance
- Fire resistant (HTB) up to 0.1 bar according to EN1359
- Starting flow < 1 dm³/h
- Working temperature range: -25 °C to +55 °C
- Operating pressure: 0.5 bar
- Long-term stability due to usage of high-quality diaphragms
- Retrofittable with pulser
- Optional: reverse flow preventer

Sizes:

G1.6S : 0,016 m³/h to 2.5 m³/h

G2.5S : 0,025 m³/h to 4 m³/h

G4S : 0,04 m³/h to 6 m³/h

Gas media:

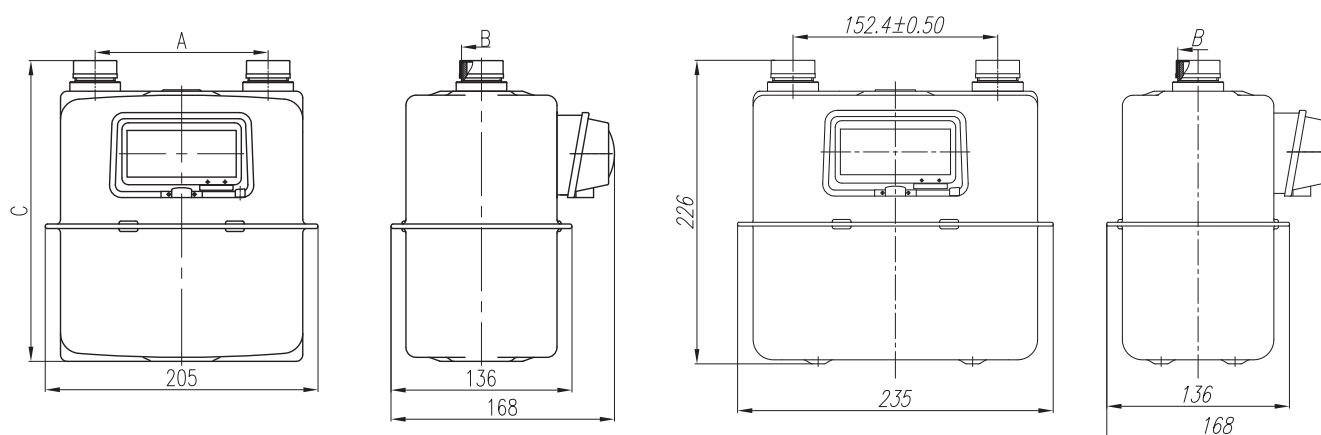
- Natural gas
- Town gas
- Biogas
- Liquid gas
- Methane gas

Housing material:

Galvanized steel sheet

Technical data Atmos® G1.6S | G2.5S | G4S

Type			G1.6S	G2.5S	G4S
Nominal flowrate	Q_n	m³/h	1.6	2.5	4
Maximum flowrate	Q_{max}	m³/h	2.5	4	6
Minimum flowrate	Q_{min}	m³/h	0.016	0.025	0.04
Maximum operating pressure		bar	0.5	0.5	0.5
Maximum permissible errors	$0,1 Q_{max} \leq Q \leq Q_{max}$ $Q_{min} \leq Q < 0,1 Q_{max}$		$\pm 1.5\%$ $\pm 3\%$	$\pm 1.5\%$ $\pm 3\%$	$\pm 1.5\%$ $\pm 3\%$
Max. pressure loss		mbar	≤ 2	≤ 2	≤ 2
Display range max.		m³/h	99999.9998	99999.9998	99999.9998
Display range min.		m³/h	0.0002	0.0002	0.0002
Accuracy class	class		1.5	1.5	1.5
Cyclic volume		dm³	1.2	1.2	1.2
Pulse value		m³/pulse	0.01	0.01	0.01
Weight		kg	1.8	1.8	1.8



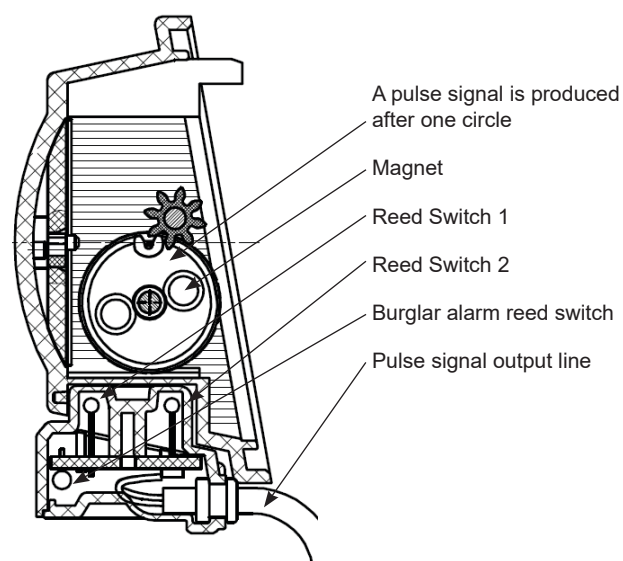
Dimensions Diaphragm gas meter Atmos® G1.6S | G2.5S | G4S

A	[mm]	90 ± 0.50	110 ± 0.50	130 ± 0.50		
B		M30 x 2 - 6 g	G¾B	G7/8B	G1B	G1¼B
C	[mm]	226		218		

Zenner Gas Meter Supporting Index Assembly Reed Switch Pulse transmitter

Type PT-B-1.5

ZENNER gas meter supporting index assembly (reed switch) is a key part which offers counting pulse signal and burglar alarm signal to the control board. The function will be finished through plastic housing which fixes board, reed switch which is installed on the board and magnet inside of drum. Closed reed switch on the board has function of burglar alarm. It transmits pulse signal and burglar alarm by the outlet cable on the board to the control board.



Application

Retrofittable pulse transmission from a mechanical index.

Operating principle:

- Counting: when the magnet of the drum on the index moves within the range of reed switch, a pulse signal emerges. When the drum of index moves one circle, an open and close signal is produced periodically in reed switches of the sampler.
- Burglar alarm: when outer magnet approaches reed switch (or connecting line breaks), an open and close signal is produced.

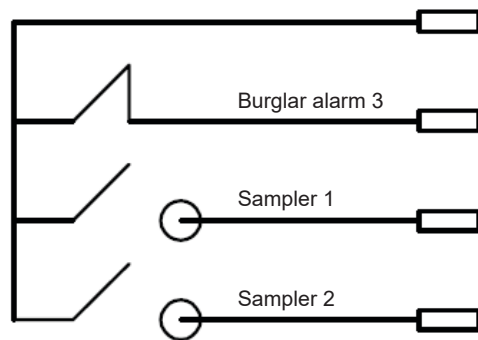


Diaphragm gas meter with pulse transmitter

Technical data

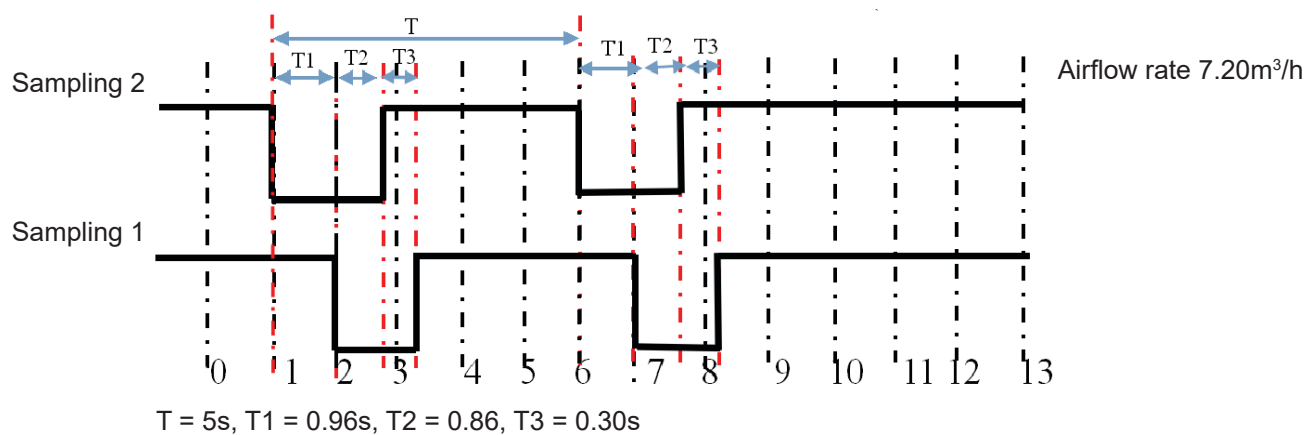
Lifetime	1x10 ⁷ (Lifetime)
Voltage	0-30V
Current	Max. 0.2A
Contact Resistance	100m Ω
Isolation Resistance	10 ⁹ Ω

Output interface



Sampler 1, sampler 2 periodically open; burglar alarm 3 periodically close.

Sampling Sequence Chart



Remarks

T1	Total time when the sampling digit roller moves one circle (sampling cycle time)
T1	The time that reed switch J1 breaks while J2 is closed
T2	The time that both reed switch J1 and J2 are closed
T3	The time that reed switch J1 is closed while J2 breaks

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