EnergyMetering

Gas Meters

Wide range diaphragm gas meters

Diaphragm gas meters

IC-card diaphragm gas meters

AMR technology

Commercial diaphragm gas meters

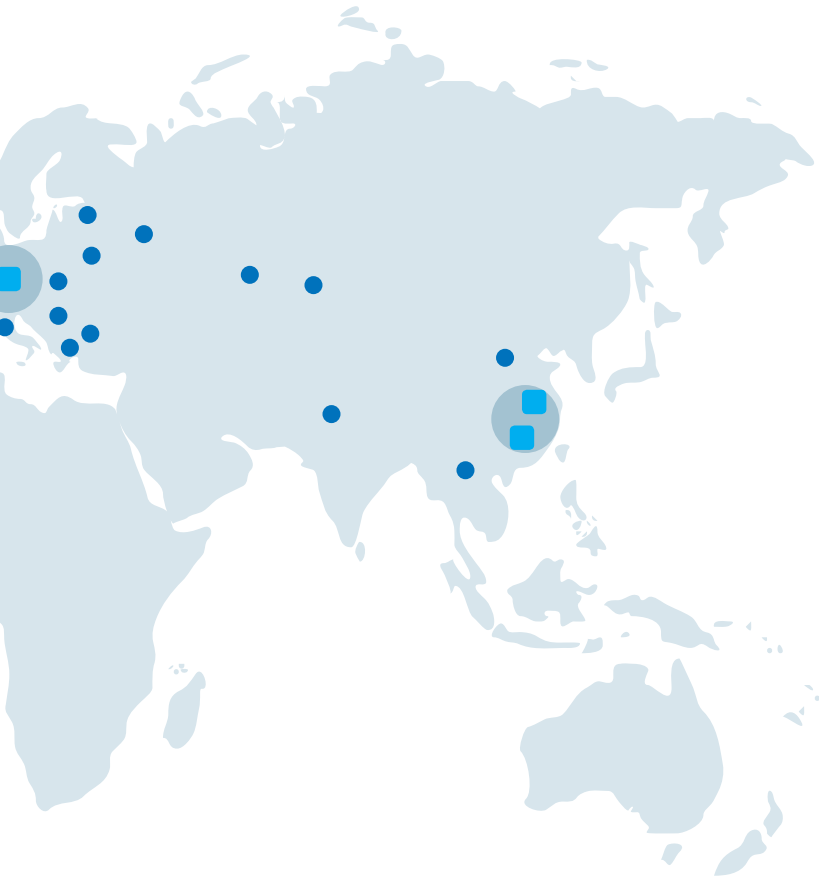
ZENNER
All that counts.

3,200
employees on 4 continents stand for
quality, precision and innovation.

Locations in Europe

- Germany:
Saarbrücken, Mulda, Mannheim
- **Bulgaria: Sofia**
- France: Limoges
- **Italy: Bologna**
- Kasakhstan: Aktobe
- Poland: Warsaw
- Romania: Bucharest
- Russia:
St. Petersburg, Moscow, Tjumen
- Spain: Madrid
- **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
- Paraguay: Asunsion
- China: Fuzhou, Beijing, Shanghai
- Vietnam: Hanoi
- India: Faridabad
- USA: Banning, CA, Addison, TX

Innovative measuring equipment for global markets for over

110

years. Est. in 1903.

About ZENNER

COMPANY NAME

ZENNER International GmbH & Co. KG

HEADQUARTERS

Saarbrucken, Germany

YEAR OF FOUNDATION

1903 under the name KEUTH & ZENNER Engineering Agency

BUSINESS ACTIVITY

Production and marketing of measurement equipment:

- Gas meters
- Water meters
- Heat meters
- Heat cost allocators
- Systems technology
- AMR Solutions

WORLDWIDE SALES FIGURES

Gas meters:	approximately 5 million units annually worldwide
Water meters:	approximately 3.5 million units annually worldwide
Heat meters:	approximately 300,000 units annually worldwide
Heat cost allocators:	approximately 2 million units annually worldwide

Approvals for Domestic Gas Meter

MID Module B

EU-type examination certificate

Number **T10551** revision 1
Project number 16200714
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 17 of Directive 2014/32/EU (MID), after having established that the Measuring instrument meets the applicable requirements of Directive 2014/32/EU, 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 xx5 / Atmos HP xxA (xx is G1.6, G2.5, G4 or WG2.5)
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 1
– Documentation folder T10551-2

Valid until: 19 October 2025

Remarks: This revision replaces the earlier version(s), including its documentation folder.

Issuing Authority: **NMi Certin B.V., Notified Body number 0122**
22 June 2017

C. Oosterman
Head Certification Board

NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands
T +31 78 6332332
certin@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 liability.

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INSPECTION RvA I 122

MID Module D

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

CE-242

C. Oosterman
Head Certification Board

NMi Certin B.V.
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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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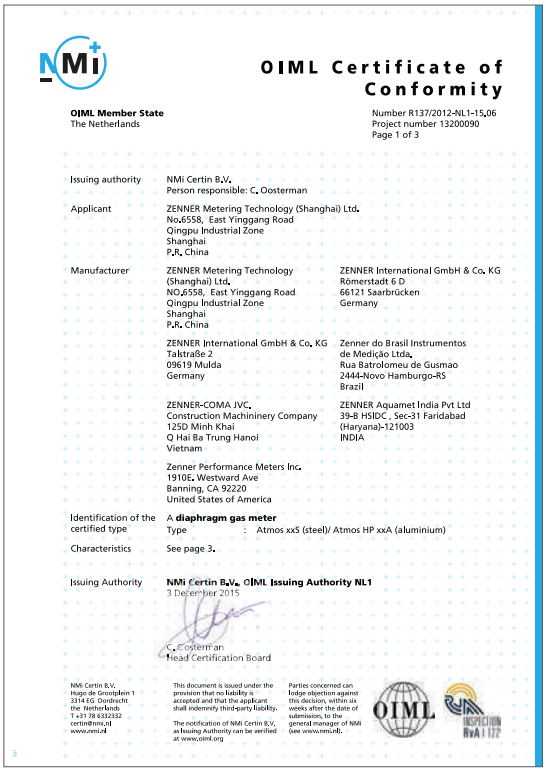
MODULE D/E RvA C 081

OIML R137



OIML Certificate of Conformity

OIML Member State
The Netherlands

Number R137/2012-NL1-15.06
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

Zenner do Brasil Instrumentos de Medição Ltda.
Rua Batrolomeu de Gusmao
2444-Novo Hamburgo-RS
Brazil

ZENNER-COMA JVC.
Construction Machininery Company
125D Minh Khai
Q Hai Ba Trung Hanoi
Vietnam

ZENNER Aquamet India Pvt Ltd
39-B HSIDC , Sec-31 Faridabad
(Haryana)-121003
INDIA

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

NMi Certin B.V.
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www.nmi.nl

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The notification of NMi Certin B.V. as Issuing Authority can be verified at www.oiml.org

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).

OIML

INSPECTION RvA I 122

EN1359

Certificate of Conformity

No. CoC-16200714-01
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 xx5 / Atmos HP xxA**
(xx is G1.6, G2.5, G4 or WG2.5)

Characteristics :

		G1.6	G2.5	G4	WG2.5
Q_{max} [m³/h]	:	2,5	4	6	6
Q_{min} [m³/h]	:	0,016	0,025	0,04	0,016
Q_t [m³/h]	:	0,25	0,4	0,6	0,2
Class	:	1,5			
V [dm³]	:	1,2			
P_{max} [bar]	:	0,5	Atmos xx5		
		1,5	Atmos HP xxA		

destined for the measurement of : Gas volume

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

The described products are tested according to the above mentioned product standards and meet the essential requirements, based on a non-recurrent examination. The appertaining test data is presented in type evaluation report no. NMi-13200090-03 and no. NMi-16200714-01, granted by NMi.

Dordrecht, 22 June 2017
NMi Certin B.V.

C. Oosterman
Head Certification Board

NMi Certin B.V.
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INSPECTION RvA I 122

Approvals for Commercial & Industrial Gas Meter

MID Module B

EU-type examination certificate

Number **T11271** revision 1
Project number 1901275
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 17 of Directive 2014/32/EU (MID), after having established that the Measuring instrument meets the applicable requirements of Directive 2014/32/EU, to:

Manufacturer: ZENNER Metering Technology (Shanghai) Ltd.
NO.6558, East Yinggang Road
Qingpu Industrial Zone
Shanghai 602030
P.R. China

Measuring instrument: A **Diaphragm Gas Meter**
Type : Atmos xxS / Atmos HP xxA (xx is G6, G10, G16, G25, WG6, WG10, WG16 or WG25)
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 T11271 revision 1;
- Documentation folder T11271-2.

Valid until: 25 January 2028

Remarks: This revision replaces the earlier version(s), except for its documentation folder.

Issuing Authority: **NMi Certin B.V., Notified Body number 0122**
8 February 2018

C. Oosterman
Head Certification Board

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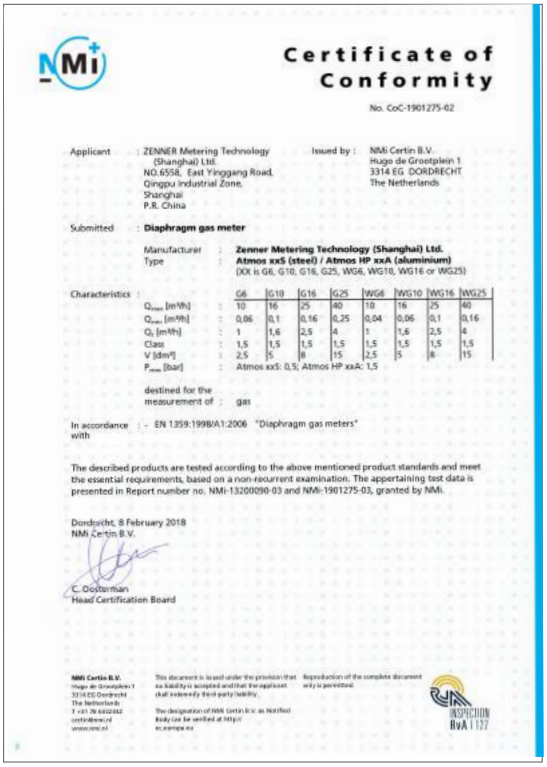
INSPECTION RvA I 177

EN 1359



Certificate of Conformity

No. CoC-1901275-02

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)**
(XX is G6, G10, G16, G25, WG6, WG10, WG16 or WG25)

Characteristics :

		G6	G10	G16	G25	WG6	WG10	WG16	WG25
Q_{max} [m³/h]	:	10	16	25	40	10	16	25	40
Q_{min} [m³/h]	:	0,06	0,1	0,16	0,25	0,04	0,06	0,1	0,16
Q_t [m³/h]	:	1	1,6	2,5	4	1	1,6	2,5	4
Class	:	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
V [dm³]	:	2,5	5	8	15	2,5	5	8	15
P_{max} [bar]	:	Atmos xxS: 0,5; Atmos HP xxA: 1,5							

destined for the measurement of : gas

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

The described products are tested according to the above mentioned product standards and meet the essential requirements, based on a non-recurrent examination. The appertaining test data is presented in Report number no. NMi-13200090-03 and NMi-1901275-03, granted by NMi.

Dordrecht, 8 February 2018
NMi Certin B.V.

C. Oosterman
Head Certification Board

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INSPECTION RvA I 177

OIML R137

OIML Certificate

OIML Member State
The Netherlands

Number R 137/2012-B-NL1-18.02 revision 1
Project number 1901275
Page 1 of 3

Issuing authority: NMi Certin B.V.
Person responsible: C. Oosterman

Applicant and Manufacturer: 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

Zenner do Brasil Instrumentos de Medição Ltda.
Rua Batrolomeu de Guemao
2444-Novo Hamburgo-RS
Brazil

ZENNER-COMA JVC.
Construction Machininery Company
125D Minh Khai
Q Hai Ba Trung Hanoi
Vietnam

ZENNER Aquamet India Pvt Ltd
39-B HSIDC , Sec-31 Faridabad
(Haryana)-121003
INDIA

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

Issuing Authority: **NMi Certin B.V., OIML Issuing Authority NL1**
20 April 2018

C. Oosterman
Head Certification Board

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OIML CERTIFICATE

INSPECTION RvA I 177

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)

Meter with cubic meter display

Meter with cubic feet display

Atmos ® Wide range gas meters

Two-pipe wide-range diaphragm gas meter WG2.5S

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

Performance characteristics

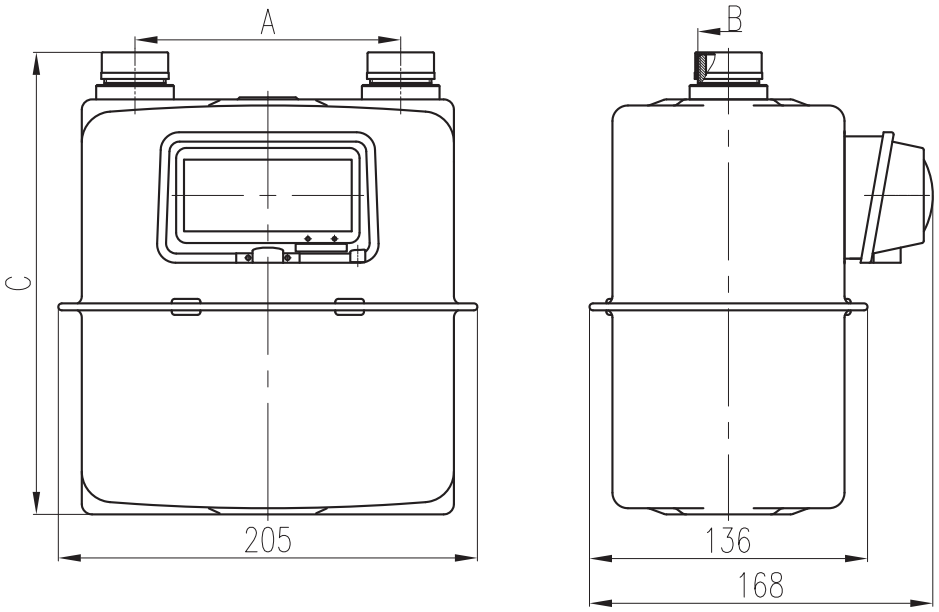
- Approved in accordance with MID by NMi
- Wide measuring range for flow rates of 0.016 m³/h to 6 m³/h
- Galvanized steel powder-coated housing for maximum corrosion
- resistance
- Fire resistant (HTB) up to 0.1 bar according to EN1359
- Maximum pressure loss: < 160 Pa at flowrates of 6 m³/h
- Starting flow < 1 dm³/h
- Integrated system to adjust the error curve
- 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

Size:
WG2.5S 0.016 m³/h to 6 m³/h

Gas media:
- Natural gas
- Town gas
- Biogas
- Liquid gas
- Methane gas

Housing material:
Galvanized steel sheet or die-cast aluminum

Technical data Atmos® WG2.5S			
Type			WG2.5S
Nominal flowrate	Q_n	m³/h	2.5
Maximum flowrate	Q_{max}	m³/h	6
Minimum flowrate	Q_{min}	m³/h	0.016
Maximum operating pressure		bar	0.5
Maximum permissible errors	$Q_t \leq Q \leq 0.1\ Q_{max}$ $Q_{min} \leq Q < Q_t$		± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2
Display range max.		m³/h	99999.9998
Display range min.		m³/h	0.0002
Accuracy class	class		1.5
Cyclic volume		dm³	1.2
Pulse value		m³/pulse	0.01
Weight		kg	1.8



Dimensions Diaphragm gas meter Atmos® WG 2.5S							
A	[mm]	90 ± 0.50	110 ± 0.50	130 ± 0.50			
B		M30 x 2 - 6 g	G¾B	G7⁄8B	G1B	NPT ¾″	BS746 1″
C	[mm]	226		218			

Atmos ® - Diaphragm gas meter

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

Center distance 110 mm

Center distance 152.4 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 Qmin value remains stable and the gas meter is resistant to contamination

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

Sizes:

G1.6S : 0.016 m^3/h to 2.5 m^3/h

G2.5S : 0.025 m^3/h to 4 m^3/h

G4S : 0.04 m^3/h to 6 m^3/h

Gas media:

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

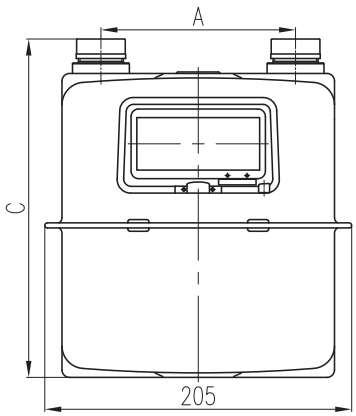
Housing material:

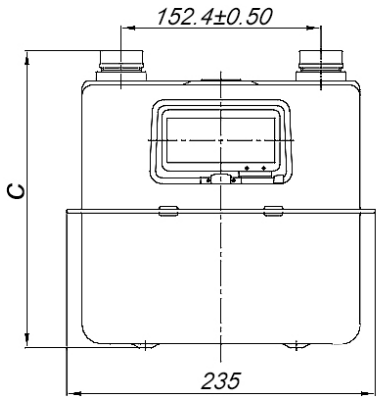
Galvanized steel sheet

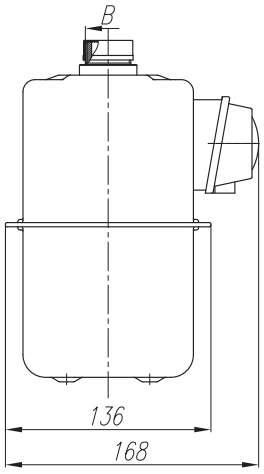
Performance characteristics

- 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 dm^3/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

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	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 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	110/130 mm	kg	1.8	1.8	1.8
	152.4 mm		2.0	2.0	2.0







Dimensions Diaphragm gas meter Atmos® G1.6S | G2.5S | G4S							
A	[mm]	90 ± 0.50	110 ± 0.50	130 ± 0.50	152.4 ± 0.50		
B		M30 x 2 - 6 g	G¾ B	G⅞B	G1B	NPT ¾″	BS746 1″
C	[mm]	226		218			

Atmos ® - Compact type gas meter

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

Center distance 110mm

Center distance 130mm

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 and G2.5. 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 Qmin value remains stable and the gas meter is resistant to contamination.

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

Sizes:

G1.6MS : 0.016 m^3/h to 2.5 m^3/h

G2.5MS : 0.025 m^3/h to 4 m^3/h

Gas media:

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

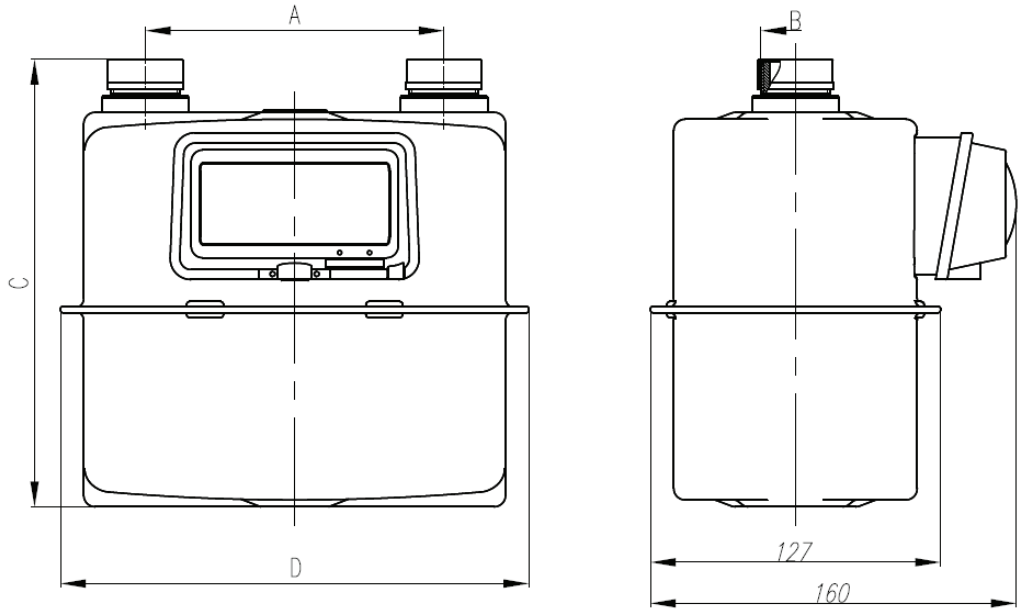
Housing material:

Galvanized steel sheet

Performance characteristics

- Approved in accordance with MID by NMi
- Integrated system to adjust the error curve
- 0.8dm³ cyclic volume, suitable for the demand of G1.6 and G2.5
- Long-term accurate measurement
- Galvanized steel powder-coated housing for maximum corrosion resistance
- Fire resistant (HTB) up to 0.1 bar according to EN1359
- Working temperature range: -25 °C to +55 °C
- Anti-corrosion performance
- Starting flow ≤ 1 dm3/h
- Retrofittable with pulser

Technical data Atmos® G1.6MS | G2.5MS				
Type			G1.6MS	G2.5MS
Nominal flowrate	Q_n	m³/h	1.6	2.5
Maximum flowrate	Q_{max}	m³/h	2.5	4
Minimum flowrate	Q_{min}	m³/h	0.016	0.025
Maximum operating pressure		bar	0.5	0.5
Maximum permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2	≤ 2
Display range max.		m³/h	99999.9998	99999.9998
Display range min.		m³/h	0.0002	0.0002
Accuracy class	class		1.5	1.5
Cyclic volume		dm³	0.8	0.8
Pulse value		m³/pulse	0.01	0.01
Weight		kg	1.55	1.55



Dimensions Diaphragm gas meter Atmos® G1.6MS | G2.5MS						
A	[mm]		110 ± 0.50	130 ± 0.50		
B		M30 x 2 - 6 g	M26 x 1.5 - 6 g	G¾B	G⅞B	NPT¾″
C	[mm]		189	195		
D	[mm]		184 @ A=110	204 @ A=130		

Atmos ® - Compact type gas meter

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

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 and G2.5. 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 Qmin value remains stable and the gas meter is resistant to contamination.

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

Sizes:

G1.6MA : 0.016 m^3/h to 2.5 m^3/h

G2.5MA : 0.025 m^3/h to 4 m^3/h

Gas media:

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

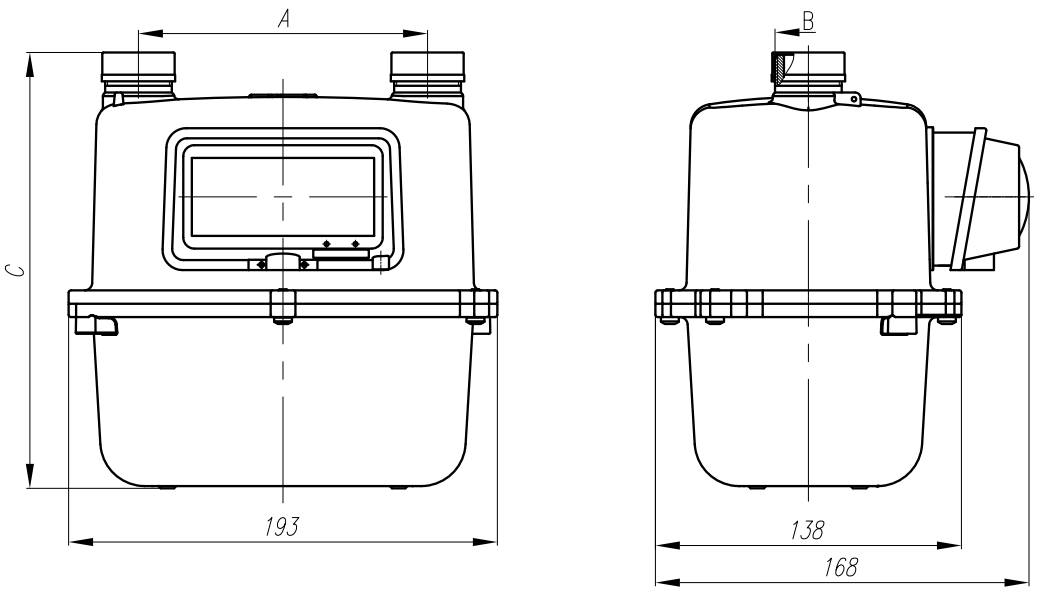
Housing material:

Die-cast aluminum

Performance characteristics

- Approved in accordance with MID by NMi
- Integrated system to adjust the error curve
- 0.8dm³ cyclic volume, suitable for the demand of G1.6 & G2.5
- Long-term accurate measurement
- Working temperature range: -25 °C to +55 °C
- Anti-corrosion performance
- Starting flow ≤ 1 dm3/h
- Retrofittable with pulser

Technical data Atmos® G1.6MA | G2.5MA				
Type			G1.6MA	G2.5MA
Nominal flowrate	Q_n	m³/h	1.6	2.5
Maximum flowrate	Q_{max}	m³/h	2.5	4
Minimum flowrate	Q_{min}	m³/h	0.016	0.025
Maximum operating pressure		bar	0.5	0.5
Maximum permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2	≤ 2
Display range max.		m³/h	99999.9998	99999.9998
Display range min.		m³/h	0.0002	0.0002
Accuracy class	class		1.5	1.5
Cyclic volume		dm³	0.8	0.8
Pulse value		m³/pulse	0.01	0.01
Weight		kg	1.55	1.55



Dimensions Diaphragm gas meter Atmos® G1.6MA | G2.5MA				
A	[mm]	110 ± 0.50	130 ± 0.50	
B		M30 x 2 - 6 g	M26 x 1.5- 6 g	NPT ¾"
C	[mm]	196		

Atmos ® - Diaphragm gas meter with temperature compensation

Two-pipe Diaphragm gas meter G1.6-T | G2.5-T | G4-T

The gas meters G1.6-T | G2.5-T | G4-T are equipped with a temperature compensation mechanism. When the temperature of the gas flow changes, a synthetic bi-metal with different thermal expansion coefficients on the compensation mechanism will be triggered. The deformation is bended, so the length of the crank will be changed to adjust the movement of the diaphragm. Thereby the cyclic volume is changed. Its special design will counteract the volume differences which caused by the thermal expansion and contraction of gas. This kind of meter could improve environmental adaptability of diaphragm gas meter, and greatly improve the measurement accuracy.

Performance characteristics

- Temperature compensation for correcting meter readings
- Integrated system to adjust the error curve
- Galvanized steel powder-coated housing for maximum corrosion resistance
- Operating pressure: 0.5 bar
- Working temperature range: -25 °C to +55 °C
- Long-term stability due to usage of high-quality diaphragms
- Fire resistant (HTB) up to 0.1 bar according to EN1359
- Anti-corrosion performance
- Starting flow ≤ 1 dm3/h
- Retrofittable with pulser

Sizes:

G1.6-T : 0.016 m^3/h to 2.5 m^3/h

G2.5-T : 0.025 m^3/h to 4 m^3/h

G4-T : 0.04 m^3/h to 6 m^3/h

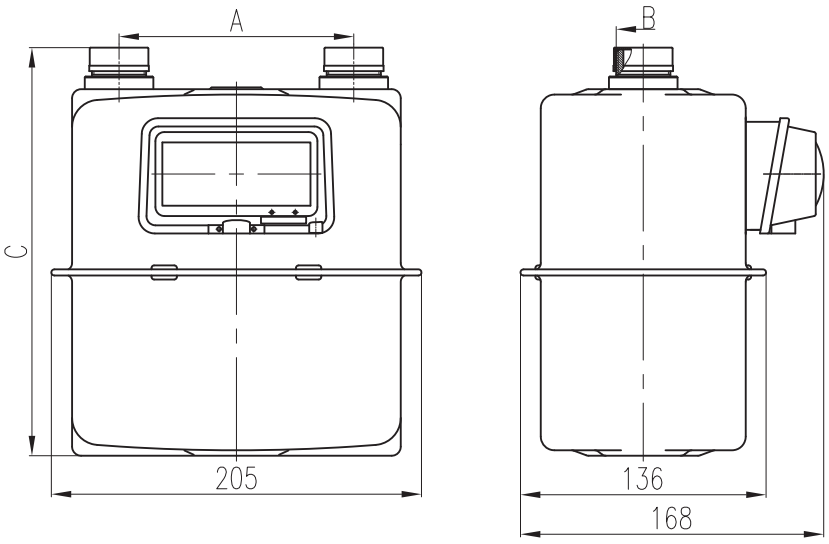
Gas media:

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

Housing material:

Galvanized steel sheet

Technical data Atmos® G1.6-T | G2.5-T | G4-T					
Type			G1.6-T	G2.5-T	G4-T
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	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 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	2.0	2.0	2.0



Dimensions Diaphragm gas meter Atmos® G1.6-T | G2.5-T | G4-T							
A	[mm]	110 ± 0.50	130 ± 0.50				
B		M30 x 2 - 6 g	G¾B	G⅞B	G1B	G1¼B	NPT ¾″
C	[mm]	230	238				

Atmos ® HP - Diaphragm gas meter

Two-pipe Diaphragm gas meter HP G1.6A | HP G2.5A | HP G4A

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

Sizes:

HP G1.6A : 0.016 m³/h to 2.5 m³/h

HP G2.5A : 0.025 m³/h to 4 m³/h

HP G4A : 0.04 m³/h to 6 m³/h

Gas media:

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

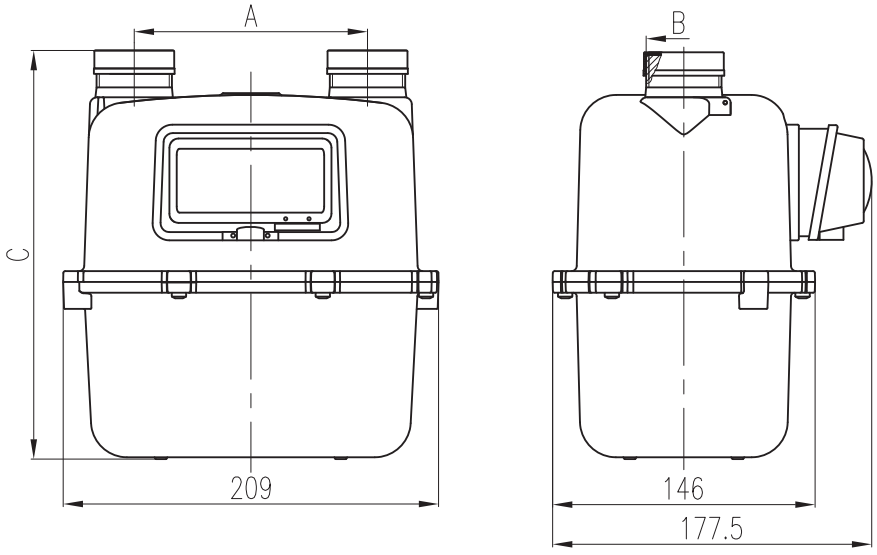
Housing material:

Die-cast aluminum

Performance characteristics

- Approved in accordance with MID by NMi
- Integrated system to adjust the error curve
- Die-cast aluminum housing for maximum corrosion resistance
- Starting flow < 1 dm³/h
- Working temperature range: -25 °C to +55°C
- Operating pressure: 1.5 bar
- Long-term stability due to usage of high-quality diaphragms
- Retrofittable with pulser
- Optional: reverse flow preventer

Technical data Atmos® HP G1.6A | HP G2.5A | HP G4A					
Type			HP G1.6A	HP G2.5A	HP G4A
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	1.5	1.5	1.5
Maximum permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 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	2.2	2.2	2.2



Dimensions Diaphragm gas meter Atmos® HP G1.6A | HP G2.5A | HP G4A						
A	[mm]	130 ± 0.50	152.4 ± 0.50			
B		M30 x 2 - 6 g	G¾B	G⅞B	NPT ¾″	NPT 1″
C	[mm]	227				

Atmos ® HP - Diaphragm gas meter

Two-pipe Diaphragm gas meter HP G6A

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 size G6. 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 Atmos® HP-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
- Die-cast aluminum housing for maximum corrosion resistance
- Starting flow < 3 dm³/h
- Working temperature range: -25 °C to +55°C
- Operating pressure: 1.5 bar
- Long-term stability due to usage of high-quality diaphragms
- Retrofittable with pulser
- Optional: reverse flow preventer

Sizes:

HP G6A : 0.06 m³/h to 10 m³/h

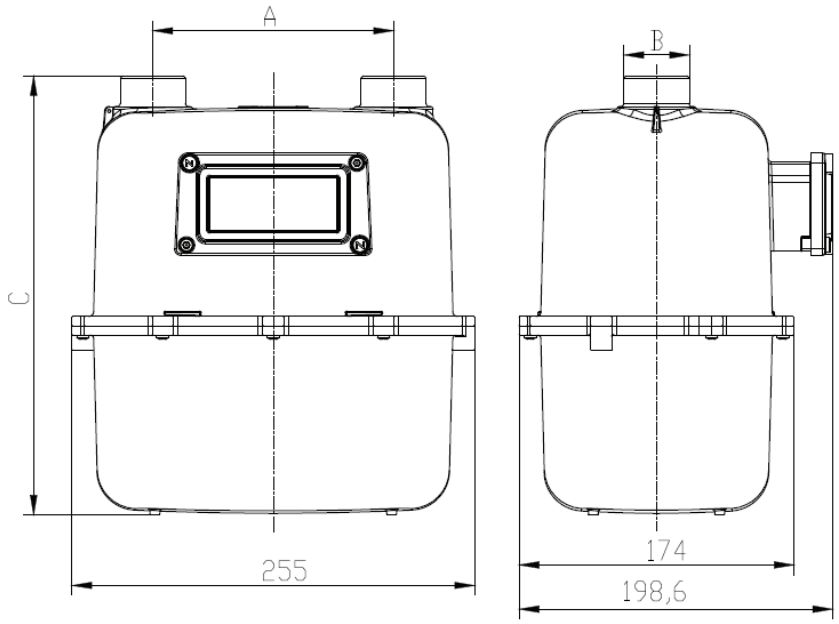
Gas media:

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

Housing material:

Die-cast aluminum

Technical data Atmos® HP G6A			
Type			HP G6A
Nominal flowrate	Q_n	m³/h	6
Maximum flowrate	Q_{max}	m³/h	10
Minimum flowrate	Q_{min}	m³/h	0.06
Maximum operating pressure		bar	1.5
Maximum permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2
Display range max.		m³/h	99999.9998
Display range min.		m³/h	0.0002
Accuracy class	class		1.5
Cyclic volume		dm³	1.2
Pulse value		m³/pulse	0.01
Weight		kg	4.1



Dimensions Diaphragm gas meter Atmos® HP G6A					
A	[mm]	152.4 ± 0.30			
B		G1B	G1¼B	NPT 1″	NPT 1¼″
C	[mm]	279			

Atmos ® - Diaphragm gas meter

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

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 and G2.5. 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.

Performance characteristics

- Integrated system to adjust the error curve
- Die-cast aluminum housing for maximum corrosion resistance
- Starting flow < 1 dm³/h
- Working temperature range: -10 °C to +40°C
- Operating pressure: 0.5 bar
- Long-term stability due to usage of high-quality diaphragms
- Optional: reverse flow preventer

Sizes:

G1.6A : 0.016 m³/h to 2.5 m³/h

G2.5A : 0.025 m³/h to 4 m³/h

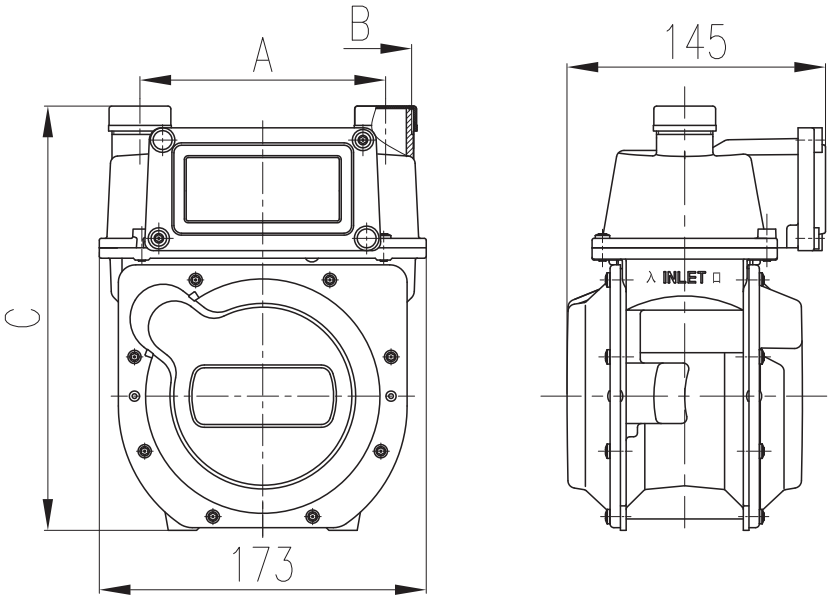
Gas media:

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

Housing material:

Die-cast aluminum

Technical data Atmos® G1.6A | G2.5A				
Type			G1.6A	G2.5A
Nominal flowrate	Q_n	m³/h	1.6	2.5
Maximum flowrate	Q_{max}	m³/h	2.5	4
Minimum flowrate	Q_{min}	m³/h	0.016	0.025
Maximum operating pressure		bar	0.5	0.5
Maximum permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $Q_{min} \le Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2	≤ 2
Display range max.		m³/h	99999.9998	99999.9998
Display range min.		m³/h	0.0002	0.0002
Accuracy class	class		1.5	1.5
Cyclic volume		dm³	1.2	1.2
Pulse value		m³/pulse	0.01	0.01
Weight		kg	1.8	1.8



Dimensions Diaphragm gas meter Atmos® G1.6A | G2.5A					
A	[mm]	110 ± 0.50	130 ± 0.50		
B		M26 x 1.5 - 6g	M30 x 2 - 6g	G¾B	G⅞B
C	[mm]	225			

Atmos® IC-Card prepaid diaphragm gas meter

Two-pipe IC-Card diaphragm gas meter IG1.6S | IG2.5S | IG4S

IGS series are credit gas meters and use an encrypted IC card as a data carrier. Our IGS system is optimally adapted to the needs of gas supply companies. Using the IC-card, information such as gas flow, meter status or unusual operating conditions of the meter are read. This allows the operator to get relevant data from the customer without on-site reading.

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

Sizes:

IG1.6S : 0.016 m^3/h to 2.5 m^3/h

IG2.5S : 0.025 m^3/h to 4m^3/h

IG4S : 0.04 m^3/h to 6 m^3/h

Gas media:

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

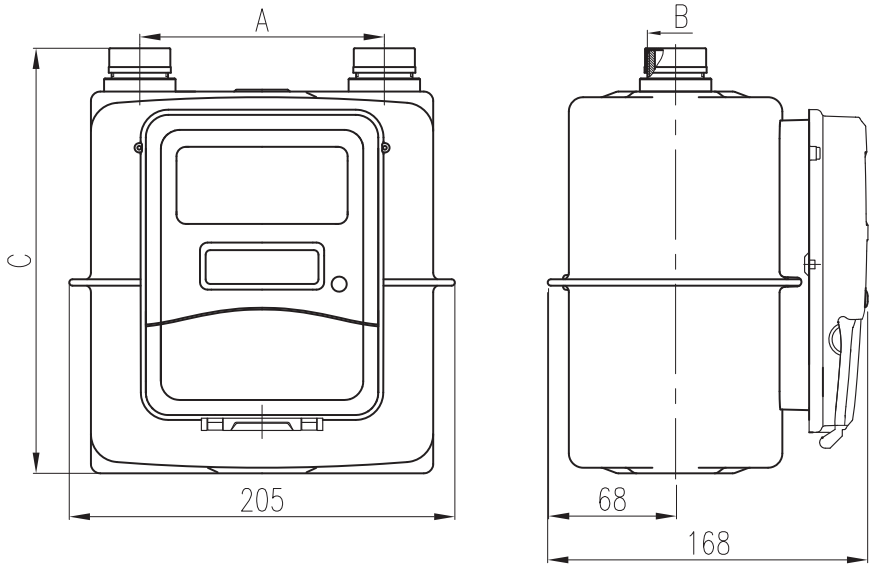
Housing material:

Galvanized steel sheet

Performance characteristics

- Prepaid function
- Overdrawing function
- Hint and warning function
- Built-in shut-off valve
- Anti magnetic interference
- Integrated system to adjust the error curve
- Starting flow < 1 dm^3/h
- Working temperature range: -25 °C to +55 °C
- Operating pressure: 0.5 bar
- Long-term stability due to usage of high-quality diaphragms
- Optional: stair gas price
- Temperature and pressure compensation

Technical data Atmos® IG1.6S | IG2.5S | IG4S					
Type			IG1.6S	IG2.5S	IG4S
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} ≤Q≤ Q_{max} Q_{min} ≤Q < 0,1Q_{max}		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 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
Cyclic volume		dm³	1.2	1.2	1.2
Accuracy class		class	1.5	1.5	1.5
Weight		kg	2.2	2.2	2.2
Working voltage		VDC	4.5 / 6	4.5 / 6	4.5 / 6
Battery life		year	1	1	1
Pulse value		m³/pulse	0.01 or 0.1	0.01 or 0.1	0.01 or 0.1
Quiescent current		µA	< 20	< 20	< 20
Maximum current		mA	< 300	< 300	< 300



Dimensions Diaphragm gas meter Atmos® IG1.6S | IG2.5S | IG4S							
A	[mm]	110 ± 0.50		130 ± 0.50			
B		M30 x 2 - 6 g	G¾B	G⅞B	G1B	G1¼B	NPT ¾"
C	[mm]	218		226			

Atmos ® - LoRa / LoRaWAN Smart Electronic Index for Gas Meter

Two-pipe diaphragm gas meter IG1.6S-W | IG2.5S-W|IG4S-W

The LoRa / LoRaWAN smart applications are growing rapidly with the Internet of Things deployment, it realized collecting data from the distances of many miles or kilometers, being perfect choice for suburban areas.
This smart index is meant to be attached to the existing Zenner gas meters, providing detailed energy consumption information in real-time. The sensor starts gathering data automatically to the server after the installation and may be configured according to each unit. It also helps to optimize usage of natural resources in the gas metering industry and gain substantial productivity.

Performance characteristics

- Pre-installed long-life battery
- Configurable reporting interval
- Long range wireless data transmission
- Maintenance free- install & forget
- Communication distance (Empty environment) > 5 kilometers
- Conform to LoRaWAN international standard protocol
- Automatic data upload, precise power consumption controlling
- Remote settable block pricing and valve control
- Daily and monthly billing data records available

Size:

IG1.6S-W : 0.016 m^3/h to 2.5 m^3/h

IG2.5S-W : 0.025 m^3/h to 4 m^3/h

IG4S-W : 0.04 m^3/h to 6 m^3/h

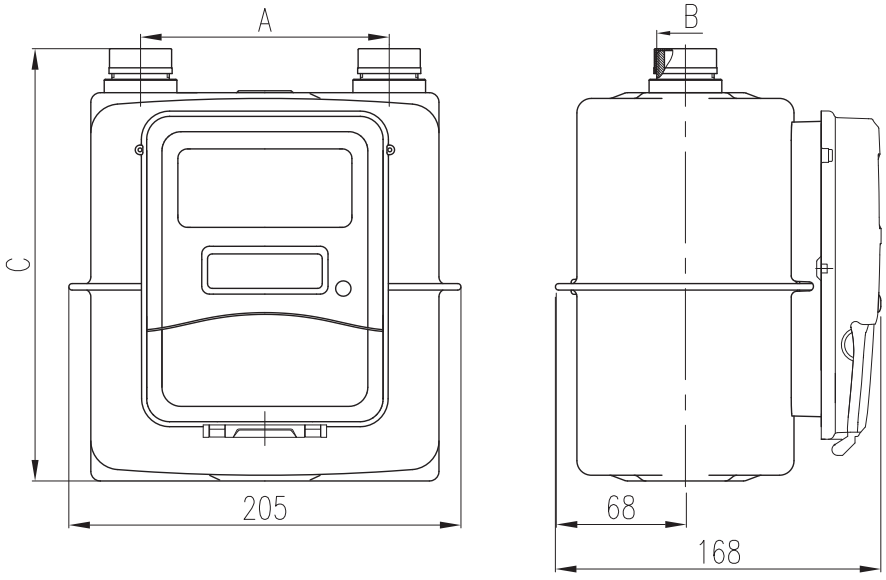
Gas media:

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

Housing material:

Galvanized steel sheet

Technical data Atmos® IG1.6S-W | IG2.5S-W | IG4S-W					
Type			IG1.6S-W	IG2.5S-W	IG4S-W
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	$0.1\ Q_{max} \leq Q \leq Q_{max}$ $Q_{min} \leq Q < 0.1\ Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2	≤ 2	≤ 2
Operating temperature		°C	-25 ~ +55		
IP degree			IP65		
Working pressure		V	4.8~6.5		
Average current		µA	≤ 25		
Battery life		years	≥10 years (one time upload a day)		
Battery type			Lithium battery		
Data storage		years	10		
Communication mode			LoRA/LoRaWAN		
The success rate of meter reading		%	95		
Single concentrator network scale		PCS	>2000		



Dimensions Diaphragm gas meter Atmos® IG1.6S-W | IG2.5S-W | IG4S-W								
A	[mm]	110 ± 0.50	130 ± 0.50		152.4 ± 0.50			
B		M30 x 2 - 6 g	G¾B	G⅞B	G1B	G1¼B	NPT ¾″	BS746 1″
C	[mm]	218	226					

Atmos ® - GPRS / NB-IoT Smart Diaphragm Gas Meter

G1.6S-GI | G2.5S-GI | G4S-GI | WG2.5S-GI

GPRS/NB IOT gas meter is a smart gas metering product based on ZENNER mechanical diaphragm gas meter,combined with a built-in shut-off valve basement and a smart controller with GPRS/NB-IoT communication module.

With the connection of GPRS/ NB-IoT wireless network, the following functions could be realized:

- Data transmitted to cloud platform for analyzing
- Block pricing
- Alarm: low balance and low battery alarm, temper alarm, leakage alarm, overflow alarm, etc.
- Remote monitoring, remote control
- Remote valve control
- Automatic shut-off valve
- Combined with new media channels to achieve remote charging and real time interaction

Performance characteristics

- GPRS/ NB-IoT communication technology
- Optical sampling
- Fast shut-off valve
- Lithium battery with more than 10 years life time

Size:

G1.6S-GI: 0.016 m^3/h to 2.5 m^3/h

G2.5S-GI : 0.025 m^3/h to 4m^3/h

G4S-GI : 0.04 m^3/h to 6m^3/h

WG2.5S-GI: 0.016m^3/h to 6m^3/h

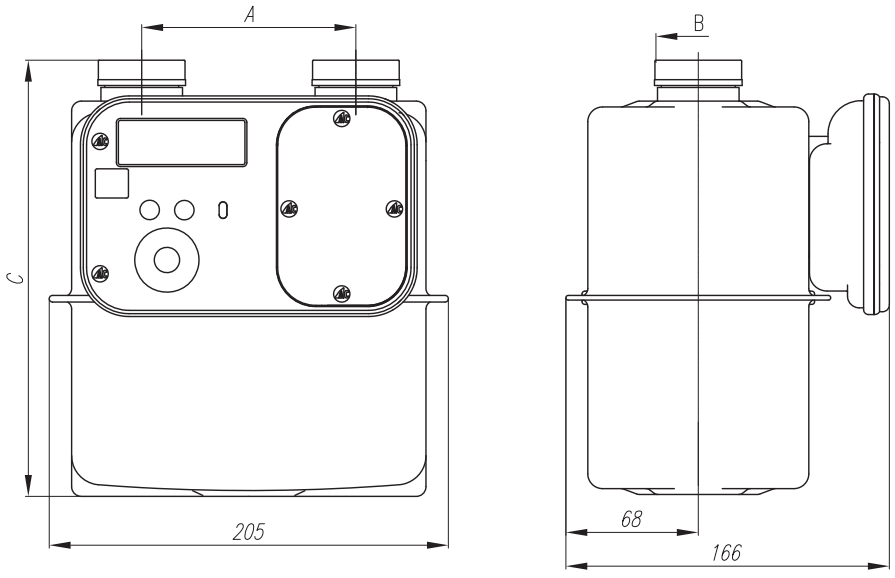
Gas media:

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

Housing material:

Galvanized steel sheet

Technical data Atmos® G1.6S-GI | G2.5S-GI | G4S-GI | WG2.5S-GI						
Type			G1.6S-GI	G2.5S-GI	G4S-GI	WG2.5S-GI
Nominal flowrate	Q_n	m³/h	1.6	2.5	4	2.5
Maximum flowrate	Q_{max}	m³/h	2.5	4	6	6
Minimum flowrate	Q_{min}	m³/h	0.016	0.025	0.04	0.016
Maximum operating pressure		bar	0.5	0.5	0.5	0.5
Maximum permissible errors	$0.1\ Q_{max} \leq Q \leq Q_{max}$ $Q_{min} \leq Q < 0{,}1Q_{max}$		± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 3%	± 1.5% ± 3%
Max. pressure loss		mbar	≤ 2	≤ 2	≤ 2	≤ 2
Display range max.		m³/h	99999.9998	99999.9998	99999.9998	99999.9998
Display range min.		m³/h	0.0002	0.0002	0.0002	0.0002
Cyclic volume		dm³	1.2	1.2	1.2	1.2
Accuracy class		class	1.5	1.5	1.5	1.5
Weight		kg	2.2	2.2	2.2	2.2
Data acquisition			Double pulse (0.1m3) or photoelectric direct			
Communication mode			GPRS / NB-IoT			
Communication cycle			hours, days, months.			
Battery life			Lithium battery ≥ 10 years (upload once a day)			
Meter reading success rate per time			≥ 99%			



Dimensions Diaphragm gas meter Atmos® G1.6S-GI | G2.5S-GI | G4S-GI | WG2.5S-GI								
A	[mm]	110 ± 0.50	130 ± 0.50					
B		M30 x 2 - 6 g	G¾B	G⅞B	G1B	G1¼B	NPT ¾″	BS746 1″
C	[mm]	218	226					

Atmos ® XL - Industrial & Commercial diaphragm gas meter

Commercial gas meters G6S | G10S | G16S | G25S

The Atmos® XL series of commercial gas meter is extremely suitable for the conditions of hotels, restaurants, factories and other commercial settings.

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 Atmos® XL industrial & commercial 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 powder-coated steel housing for maximum corrosion resistance
- Starting flow: G6 = 8 dm³/h; G10, G16 = 13 dm³/h; G25 = 20 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:

WG6S : 0.04 m³/h to 10 m³/h

WG10S : 0.06 m³/h to 16 m³/h

WG16S : 0.1 m³/h to 25 m³/h

WG25S : 0.16 m³/h to 40 m³/h

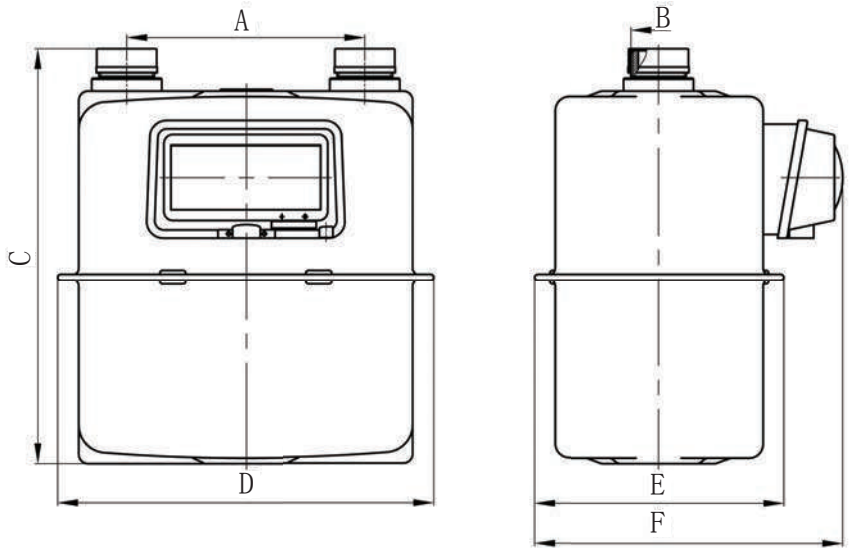
Gas media:

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

Housing material:

Galvanized steel sheet

Technical data Atmos® XL G6S | G10S | G16S | G25S						
			G6S	G10S	G16S	G25S
Nominal flowrate	Q_n	m³/h	6	10	16	25
Maximum flowrate	Q_{max}	m³/h	10	16	25	40
Minimum flowrate	Q_{min}	m³/h	0.04	0.06	0.10	0.16
Operating pressure range		KPa	0.5 ~ 50	0.5 ~ 50	0.5 ~ 50	0.5 ~ 50
Cyclic volume		dm³	2.5	5	8	15
Max. permissible errors	$0.1\ Q_{max} \le Q \le Q_{max}$ $0.1Q_{max} \le Q \le Q_{min}$				± 1.5% ± 3%	
Maximum pressure loss		mbar	≤ 2		≤ 3	
Display range max.		m³/h	99999.9998		999999.998	
Display range min.		m³/h	0.0002		0.002	
Accuracy class	class		1.5	1.5	1.5	1.5
Weight		kg	4.1	7.8	7.8	15.6



Dimensions Commercial gas meter Atmos® XL G6S | G10S | G16S | G25S					
		G6S	G10S	G16S	G25S
A	mm	160 ± 0.50	200 ± 0.50	240 ± 0.50	300 ± 0.50
B	mm	G1 ¼″	G2″	G2″	M80x3
C	mm	273.5	327.5	375.5	437
D	mm	254.5	316	355.5	438.8
E	mm	168.6	191	213	262.5
F	mm	192	216	238	285.5

AMR-system for gas meters

AMR-system for wired and wireless communications

The automated meter reading system is an optimal solution for all gas suppliers. It enables improved meter management and the implementation of a uniform pricing system. The AMR-system allows the gas supplier:

- Retrieval of customer data and analysis of consumption data
- Creating consumption statistics
- Remote control of gas valves
- Adaptation of the current gas prices and the available credit
- Upload of counter-operating situations to the central server

Performance characteristics

- Time and cost savings
- Collection of consumption data in real time
- Two methods for gas billing (gas or cash balance)
- Several possibilities of data collection:
  - Data collection with handheld / PDA
  - Data collection via network
  - Data collection by mobile data collectors
- No meter exchange when moving from handheld to GPRS
- Minimized losses caused by fluctuating gas prices
- Remote adjustment of the gas price to the current market price
- Multi-level data encryption
- Professional, easy-to-use software for managing and viewing of customer and meter data and sales figures

System Components

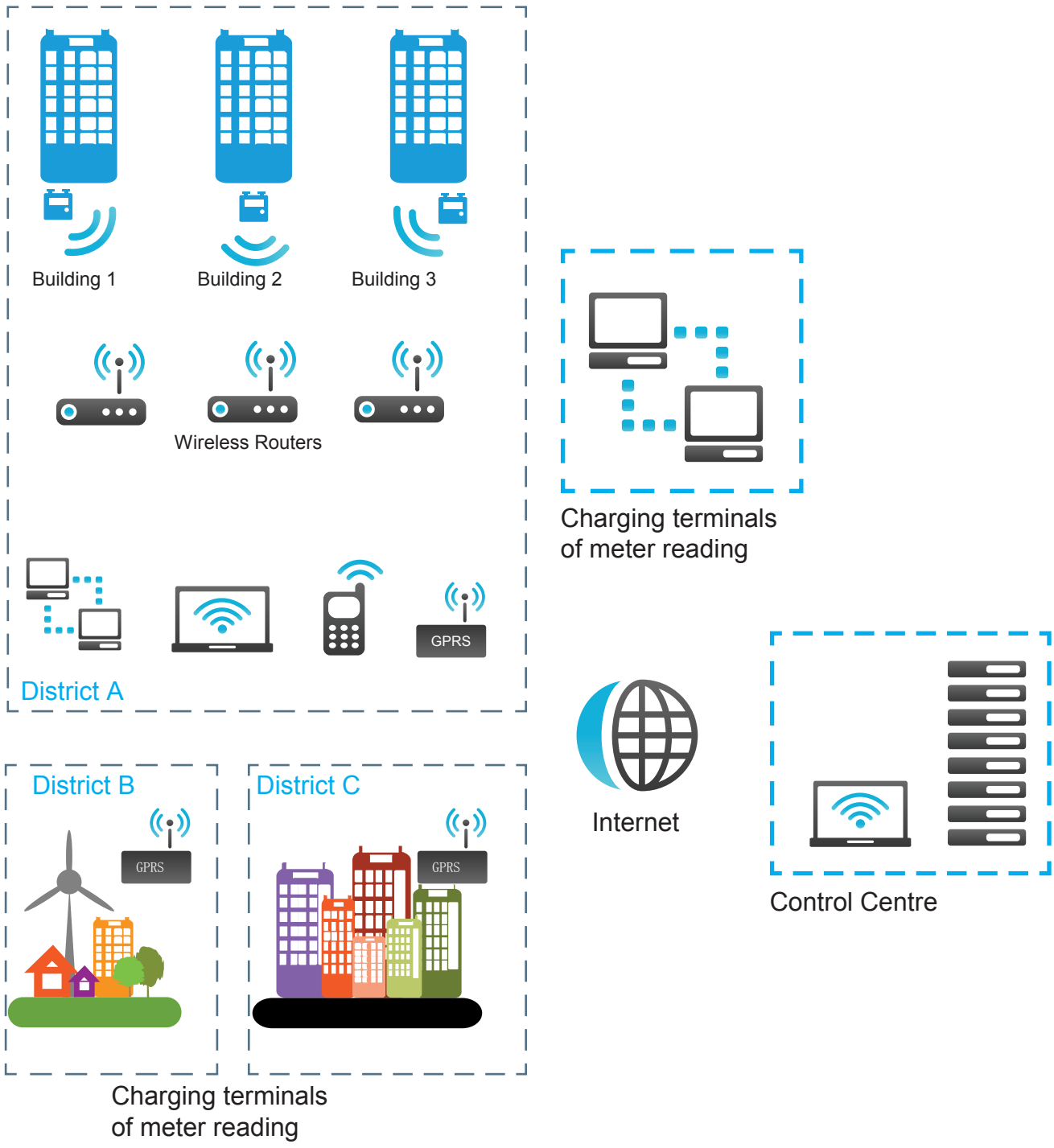
- Software for administration and remote-control
- Data collector
- Router
- PDA

To use with:

Intelligent gas meters of the IGS-W - series

Intelligent gas meters of the IGS-WI - series

AMR-system overview



PDC-Communication module

Gateway for the integration of meters with pulse outputs in remote reading systems

The PulseDataCapture module is optimal for the integration of measuring instruments with pulse output in radio reading systems.
The consumption data of water-, energy heat-, gas-, oil- and other electricity meters with pulse output can be transferred by means of this gateway wireless to a wM-bus receiver.
The gateway is battery powered. The battery lifetime is depending on the version, the transmission interval and the ambient conditions and can reach 15 years.

Model variant:

Our PDC module is available in two versions:

- wireless M-bus radio module according to OMS standard (868 MHz), EN 13757-4
- Radio via LPWAN (LoRaWAN™, SIGFOX)

Smart Metering Functions:

- Self-monitoring
- Leakage detection
- Meter stop detection
- Meter oversized detection
- Meter undersized respectively pipe burst detection

Typical applications:

- Radio reading of water meters with walk-by or drive-by system
- Remote reading of meters with pulse output via the stationary readout system Z.RTU from ZENNER.

Main features

- Plastic housing incl. wall bracket
- Infrared interface
- Pulse and Open-Collector signals processible
- Battery powered
- Protection class IP54 or IP68 as an option
- Versions with connected ZENNER Reed pulser (cable length 1,5m) for the model ranges ETKD-N/ETWD-N, MNK-N, MTKD-N/MTWD-N, RTKD-N available
- Version with lose cable end to be connected to an external meter with pulse output available
- Optionally: to be connected with 2 meters with pulse output

Technical data

General performance characteristics:	
Power supply	Long life battery up to 15 years battery lifetime (depending on the version)
Battery status monitoring	yes
Operating temperature	10°C…40°C; -15°C…60°C (temporarily)
Data logger:	
Annual due dates values:	max. 16
Monthly values max	max. 192, plus max. 192 semi-monthly values
Daily values	max. 96
Quarter hour values	max. 96

Technical data PDC-radio:	
Tranmission mode	wireless M-Bus unidirectional, Standard: T1; optionally S1, C1
Encryption	AES 128 according to OMS (device-specific), with factory key or not encrypted as an alternative
Data contents	current value, current date, due date, monthly value, historical monthly values for telegram type A, status information
Transmission interval	20-40 sec., depending on telegram type and number of inputs
Transmission power	25 mW

Data contents (wM-Bus)

The PDC module can be delivered with various data telegrams.

Data protocols	Type A*	Type B*	Type C**
Current value	✘	✘	✘
Current date	✘	✘	
Due date		✘	✘
Monthly value, previous month	✘	✘	✘
Further 11 monthly values	✘		
Status information 1	✘	✘	✘
Status information 2	✘	✘	✘

* Data telegram according OMS Spec., Transmission interval Type A: typical: 40 sec., Type B: typical 40 sec. ** wM-Bus, manufacturer specific data telegram, Transmission interval 20 sec

Set up:

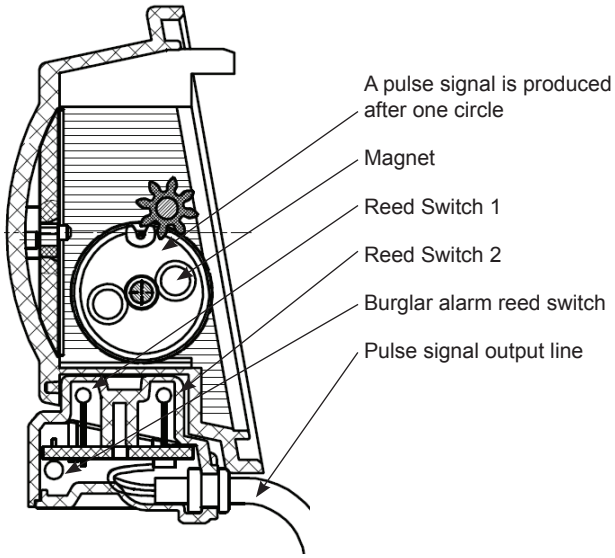
The configuration of the PDC-module is made via the optical interface with using of the ZENNER MinoConnect with ZENNER Optohead IrCombiHead and the right ZENNER software.

Other alternative Android-software solutions from our partners can be used.

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.

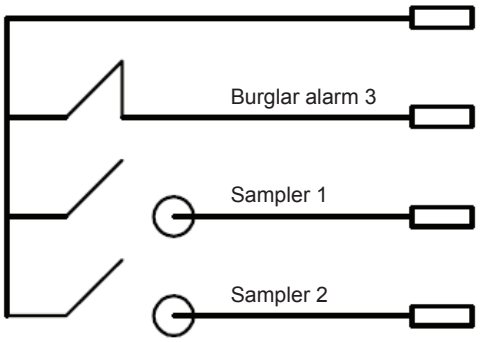
Operating principle:

- 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

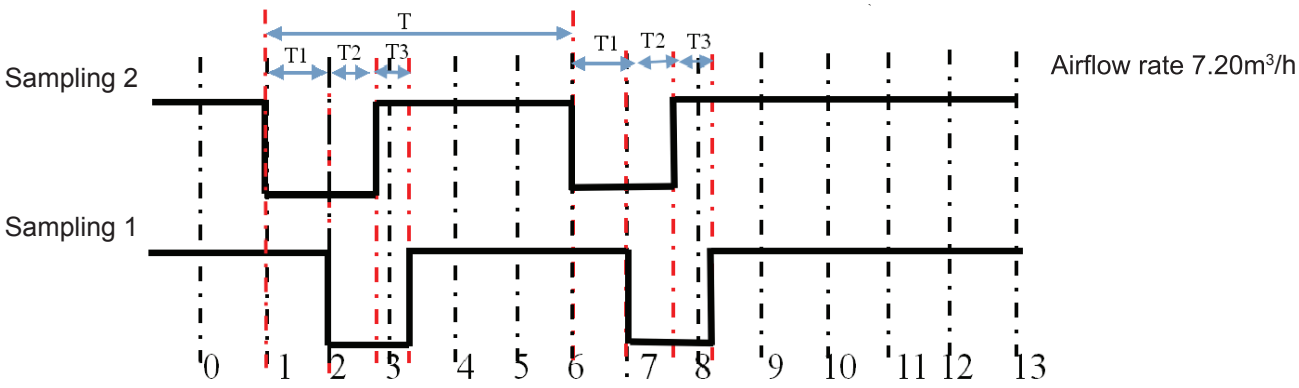
Technical data	
Lifetime	$1x10^7$ (Lifetime)
Voltage	0-30V
Current	Max. 0.2A
Contact Resistance	100m Ω
Isolation Resistance	10^9 Ω

Output interface



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

Sampling Sequence Chart



T = 5s, T1 = 0.96s, T2 = 0.86, T3 = 0.30s

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 J1is closed while J2 breaks

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