FLOWSIC30

GAS FLOW METERS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
FLOWSIC30	On request

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

Our regional sales organization will help you to select the optimum device configuration.

Other models and accessories ➔ www.sick.com/FLOWSIC30

Product description

Ultrasonic gas flow meter FLOWSIC30 is designed for use in natural gas production applications such as coal seam gas. The dual-path meter comes with a robust carbon steel meter body and full-titanium transducers. The ultrasonic measurement technology has no moving parts and is virtually maintenance free. The rugged design with integrated wires protects the meter from harsh ambient conditions while the large turn-down ratio typically covers all flow rates from a gas production well. FLOWSIC30 is equipped with integrated diagnostics that monitor the meter status and indicate the presence of liquids in the gas stream. With integrated pressure- and temperature measurement and volume conversion according AGA 8 it provides standard flow readings and reduces installation efforts. Power consumption of only 65 mW and the two-wire loop powered concept make integration easy while HART® and Modbus communication provide versatility in data transfer.

At a glance

- High turndown ratio
- Designed for wet gas applications
- Intelligent meter diagnostics incl. wet-gas detection
- Possibility for remote monitoring thanks to digital interfaces
- Two-wire-transmitter with digital HART® interface
- Full integration of pressure- and temperature measurement, volume conversion and energy flow rate calculation

Your benefits

- No plate changes required - one gas flow meter for the complete well lifetime
- No pressure loss - due to ultrasonic measurement principle
- Optimum availability - almost wearfree operation, no liquid build up in the meter and the possibility of remote monitoring
- Highly reliable - continuous measurement even under challenging process conditions
- Long service life - wet gas capable ultrasonic sensors made of titanium
- Full process control and predictable service - due to intelligent meter diagnostics
- Low installation efforts - integration of pressure- and temperature measurement, HART®-interface and commissioning assistant

Fields of application

- Wellhead metering in coal seam gas production
- Natural gas measurement up- and downstream of separators
- Replacement of orifice measurements

Detailed technical data

System

Measured values	Gas volume s. c., gas volume a. c., volumetric flow s. c., volumetric flow a. c., gas pressure, gas temperature, sound velocity, methane content, energy flow rate
Number of measuring paths	2
Measurement principle	Ultrasonic transit time difference measurement
Measuring medium	Coal seam gas, natural gas, methane
Measuring ranges	
4" - operational volume flow: Q_{min} ... Q_{max}:	20 ... 1,600 m³/h
4" - operational volume flow: Q_t:	100 m³/h
Repeatability	≤ 0.5 % of the measured value
Uncertainty of measurement	
Wet-gas tolerant: Operational volume flow, Q_t ... Q_{max}:	≤ ± 1.5 %
Wet-gas tolerant: Operational volume flow, Q_{min} ... Q_t:	≤ ± 3 %
 :	
Wet-gas robust: Operational volume flow, Q_t ... Q_{max}:	≤ ± 2 %
Wet-gas robust: Operational volume flow, Q_{min} ... Q_t:	≤ ± 4 % Reference conditions: Dry air at ambient pressure and ambient temperature Verified with pipe configurations according to OIML R-137:2012 Annex B (mild)
Diagnostics functions	Integrated device diagnosis Wet gas detection
Gas temperature	–10 °C ... +80 °C
Operating pressure	0 bar (g) ... 19.6 bar (g)
Nominal pipe size	DN100 / 4", schedule STD
Ambient temperature	–25 °C ... +60 °C
Storage temperature	–25 °C ... +70 °C
Ambient humidity	≤ 95 % Relative humidity
Ex-approvals	
IECEx	Ex db eb ia [ia] IIA T4 Gb
ATEX	II 2G Ex db eb ia [ia] IIA T4 Gb
Enclosure rating	IP66 / IP67

Analog outputs	1 output: 4 … 20 mA
Modbus	✔
Remark	Option
Type of fieldbus integration	RTU RS-485
HART	✔
Remark	Compatible
Dimensions (W x H x D)	See dimensional drawings
Weight	4": 32 kg
Material	Meter body: LTCS (ASTM A352 Gr. LCC or ASTM 350 LF2 or equivalent)
Electrical connection	
Voltage	18 … 30 V DC
	Via analog loop, 2-conductor concept
Power consumption	< 65 mW
Process connections	Connection flanges: 4″ ANSI B16.5, Class 150 RF

Volume correction

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Accuracy	≤ ± 0.5 % Depending on the measurement accuracy of the pressure measurement
Correction method	PTZ (option) TZ (option)
Compressibility	AGA 8 Gross method 1 AGA 8 Gross method 2

Integrated temperature sensor

Description	Digital sensor, mounted into thermowell
Measuring ranges	
Temperature	−10 … +80 °C
Uncertainty of measurement	≤ ± 0.3 % Of the measured value in K

Integrated pressure sensor

Description	Digital sensor gauge pressure (option)
Measuring ranges	
Pressure	0 … 2,000 kPa
Uncertainty of measurement	≤ ± 0.1 % Relative to measuring range end value

Dimensional drawings (Dimensions in mm (inch))

FLOWSIC30
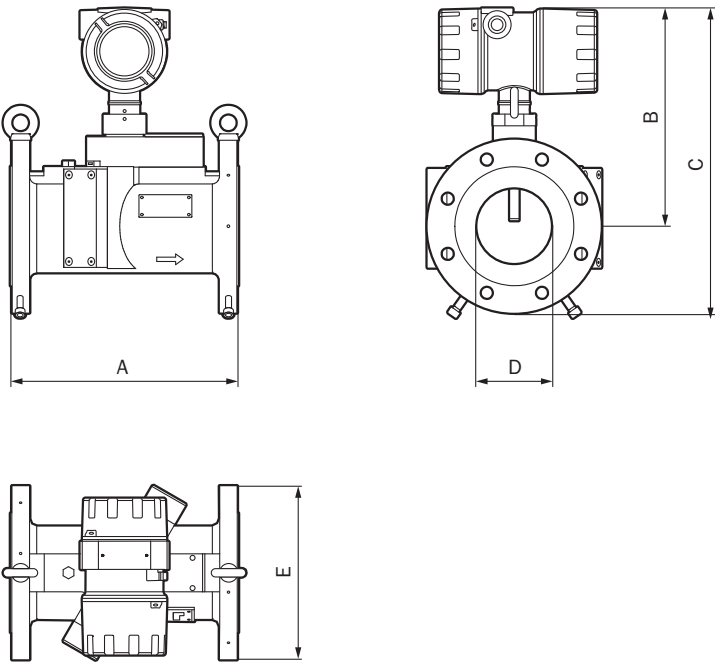
Nominal pipe size	Dimensions				
	A	B	C	D	E
4"	300	293	407	102	229
All dimensions in mm.					

FLOWSIC30 installation for unidirectional use
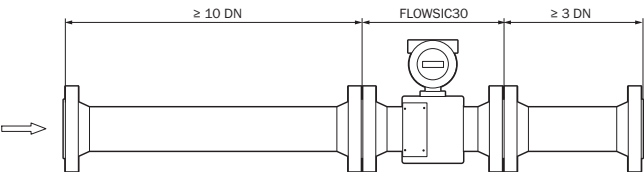
SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

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