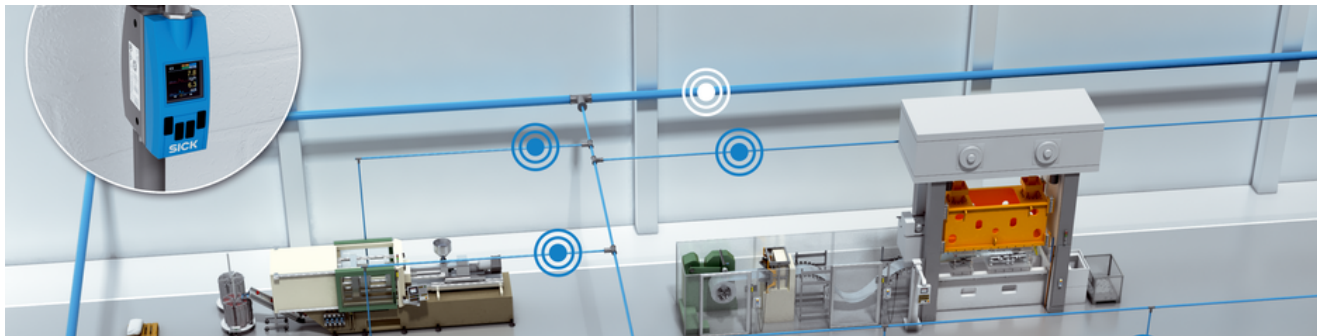# FTMg

Flow sensor with energy measurement

SICK
Sensor Intelligence.

Advantages

Saving costs effectively with data transparency

Compressed air is one of the most expensive types of energy, which is why energy efficiency and energy transparency are playing an increasingly important role in factory automation. The investment costs, for example for procuring powerful compressors, are enormous. To save on follow-up costs, you must ensure loss-free operation of compressed air systems. The FTMg (Flow Thermal Meter for gases) thermal flow sensor stands for efficient energy management in accordance with DIN EN ISO 50001. It helps system operators to detect leaks in the compressed air system early on and plan maintenance work.

The FTMg offers an integrated data monitoring function and automatically saves the measurement data of the last seven days. This allows changes and fluctuations in energy consumption to be reliably detected. With its data transparency, the sensor provides efficient assistance in finding leaks in compressed air systems and helps minimize energy loss as well as save money.

For intelligent, automated monitoring and analysis of compressed air consumption, SICK has a complete digital solution with the combination of the FTMg sensor, the Monitoring Box FTMg digital service and the Telematic Data Collector (TDC) gateway.

More information on the topic of "compressed air monitoring" can be found here
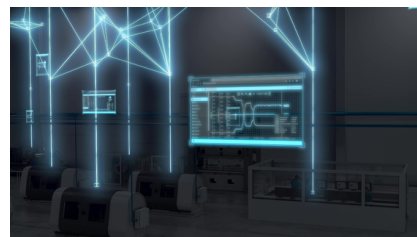
Reliable flow monitoring in compressed air systems and pneumatic applications

Measurement of 8 parameters in one sensor, including energy in kWh

Easy operation thanks to integrated web server

Ready for Industry 4.0 – MQTT and OPC UA ensure optimal cloud connectivity

Optimize energy efficiency and increase cost efficiency by detecting and preventing unnecessary input of energy and leaks

Countless mounting options and simple handling

The FTMg is characterized by its light and compact construction. This makes installation easy, even with limited space. The display, which can be rotated in 90° increments, means that reading measured values is always convenient, regardless of the installation position of the sensor in the pipeline. Various reference standards according to DIN or ISO can be easily selected

via the FTMg menu. Even individually defined reference values are easy to set using the device. Configurable outputs also allow for simple adaptation to the desired application.

Flexible configuration – setting of different reference standards according to DIN or ISO possible
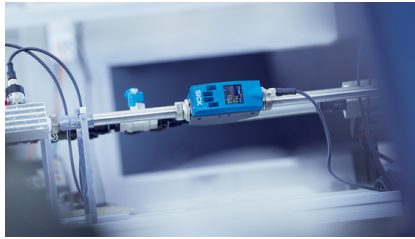
Flexible installation thanks to light and compact construction

Intuitive operation via large, contrast-rich OLED display with plain text

Support operational efficiency with quick, easy installation and intuitive operation

Continuously monitor and efficiently control compressed air systems – using the FTMg Monitoring Box from SICK

Compressed air systems consume large quantities of energy. It is therefore crucial for companies to monitor and analyze these systems in order to sustainably optimize their compressed air usage – whether it be by regulating the switch-on/switch-off operations, controlling the compressor, or regulating the peak load. To assist companies with containing their costs, SICK offers a digital solution. Comprising the FTMg flow sensor, the TDC gateway, and the digital Service Monitoring Box. This solution indicates deviations from normal operation, thereby making it easier to quickly identify leaks or excessive consumption.

More information on the topic of "compressed air monitoring" can be found here

Cut costs

Identify overconsumption and inefficiencies in compressed air systems and boost overall profitability. Data-driven profitability calculations make it possible to measure and indicate potential cost savings.
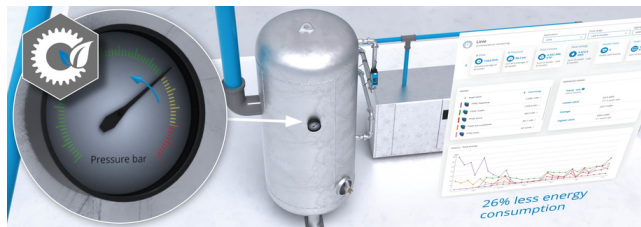

Green production

By monitoring compressed air, companies reduce their carbon emissions and energy consumption, resulting in a positive impact on the environment and contributing to production sustainability.

Raise production efficiency

Decentralized, continuous monitoring of compressed air enables companies to identify deviations and cost drivers. This allows them to reduce unnecessary energy costs and increase production efficiency. Data-driven decision-making supports companies in sustainably improving efficiency.
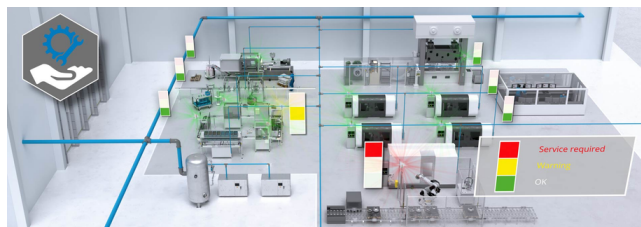
Reduce service effort

Need-based maintenance saves companies time, effort and therewith money. Alerts and dashboards tailored to the application provide transparency and the opportunity to exclude unplanned maintenance.

Sustainably reduce energy consumption through intelligent, automated monitoring and analysis of compressed air consumption.

Technical data overview

Measurement principle	Calorimetric (flow, temperature), piezoresistive (pressure)
Medium	Compressed air (air quality ISO 8573-1:2010 [3:4:4]), Argon, nitrogen, carbon dioxide
Output signal	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud) / OPC UA, MQTT, integrated web server (depending on type)
Nominal width measuring tube	DN 15 DN 20 DN 25 DN 40 DN 50 (depending on type)

Product description

The FTMg energy consumption flow meter measures gas flow and temperature as well as the process pressure, making it a cost-saving multi-talent. With high measurement dynamics and low pressure loss, it measures non-corrosive gases with extreme efficiency. The contrast-rich color display enables easy operation of the FTMg and allows for representation of several measured values as a process diagram. Internal data logging over seven days and integrated static evaluation help detect even the smallest leaks in a pneumatic system. PoE also enables simple web-based connection to a PC or a cloud to make energy consumption more transparent. All measurement data can be transmitted via IO-Link or with switching and analog signals.

At a glance

- Measures compressed air and non-corrosive gases such as argon, carbon dioxide and nitrogen
- Visualization of compressed air consumption via the Monitoring Box FTMg from SICK
- Measurement of gas flow and temperature as well as process pressure and energy consumption with only one sensor
- Low pressure loss
- High measurement dynamics for cylinder and leakage monitoring

Your benefits

- Transparent compressed air consumption measurement according to DIN EN 50001
- Complete overview of the flow, pressure and temperature of gases increases system reliability
- IO-Link or Ethernet interfaces (communication with OPC UA) for simple system integration and data availability
- Cost savings thanks to reduced energy consumption and increase in production efficiency
- Intuitive configuration with large, contrast-rich OLED display saves time and money during commissioning
- Only one installation and commissioning process for the collection of flow, pressure and temperature data
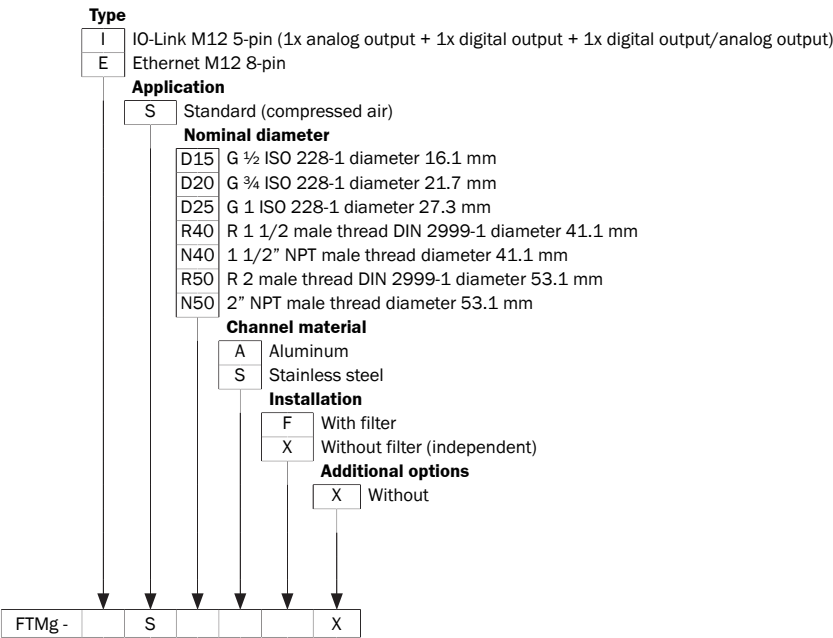
Fields of application

- Consumption and leakage monitoring in compressed air systems
- Monitoring of the energy consumption of compressed air in the supply network
- Measurement of inert gases in packaging with modified atmospheres in the food and beverage industry
- Flow measurement of non-corrosive gases such as Ar, He, CO_2, N_2

FTMg

Type code

Other models and accessories ➜ www.sick.com/FTMg

Type code

Type
| I | IO-Link M12 5-pin (1x analog output + 1x digital output + 1x digital output/analog output) |
| E | Ethernet M12 8-pin |

Application
| S | Standard (compressed air) |

Nominal diameter
D15	G ½ ISO 228-1 diameter 16.1 mm
D20	G ¾ ISO 228-1 diameter 21.7 mm
D25	G 1 ISO 228-1 diameter 27.3 mm
R40	R 1 1/2 male thread DIN 2999-1 diameter 41.1 mm
N40	1 1/2" NPT male thread diameter 41.1 mm
R50	R 2 male thread DIN 2999-1 diameter 53.1 mm
N50	2" NPT male thread diameter 53.1 mm

Channel material
| A | Aluminum |
| S | Stainless steel |

Installation
| F | With filter |
| X | Without filter (independent) |

Additional options
| X | Without |

```
FTMg -    S          X
```

Not all variants of the type code can be combined!

Ordering information

Other models and accessories ➜ www.sick.com/FTMg

- **Process temperature:** –20 °C ... +60 °C
- **Process pressure:** 0 bar ... 16 bar

Nominal width measuring tube	Wetted parts	Process connection	Output signal	Type	Part no.
DN 15	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: aluminum	G ½ (according to DIN ISO 228-1)	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISD15AXX	1100211
			OPC UA, MQTT, integrated web server	FTMG-ESD15AXX	1100214
DN 20	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: aluminum	G ¾ (according to DIN ISO 228-1)	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISD20AXX	1100212
			OPC UA, MQTT, integrated web server	FTMG-ESD20AXX	1100215
DN 25	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: aluminum	G 1 (according to DIN ISO 228-1)	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISD25AXX	1100213
			OPC UA, MQTT, integrated web server	FTMG-ESD25AXX	1100216

Nominal width measuring tube	Wetted parts	Process connection	Output signal	Type	Part no.
DN 40	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: stainless steel 1.4301	1 1/2" NPT male thread	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISN40SXX	1122523
			OPC UA, MQTT, integrated web server	FTMG-ESN40SXX	1122524
		R 1 ½ male thread	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISR40SXX	1120053
			OPC UA, MQTT, integrated web server	FTMG-ESR40SXX	1120114
DN 50	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: stainless steel 1.4301	2" NPT male thread	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISN50SXX	1122525
			OPC UA, MQTT, integrated web server	FTMG-ESN50SXX	1122526
		R 2 male thread	1x analog output 4 mA ... 20 mA + 1x digital/analog output (PNP, NPN, push-pull, 4 mA ... 20 mA / switchable), frequency pulse output + 1x digital output (PNP, NPN, push-pull, switchable), IO-Link V1.1 (COM3 / 230K4 baud)	FTMG-ISR50SXX	1120115
			OPC UA, MQTT, integrated web server	FTMG-ESR50SXX	1120116

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:

Contacts and other locations –**www.sick.com**

SICK AG | Waldkirch | Germany | www.sick.com

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