



Flow-X

GAS FLOW COMPUTER FOR CUSTODY METERING SOLUTIONS

Flow computer

SICK
Sensor Intelligence.

THE PERFECT COMBINATION – Flow-X AND FLOWSIC600-XT

The ultrasonic gas flow meters in the FLOWSIC600-XT series have been setting standards in terms of design, usability, and reliability for many years.

The Flow-X flow computer complements the FLOWSIC product series perfectly. It offers next generation technology, both in hardware and software, and also promotes an intuitive user interface.

The Flow-X series is based on powerful, single-stream modules that can be combined in various housings depending on the application.



Flow-X – FLOW COMPUTING EXCELLENCE

The perfect combination

To ensure the commissioning process runs quickly and smoothly, the flow computers in the Flow-X family come complete with predefined parameterization settings for standard gas measurement applications in combination with FLOWSIC600-XT ultrasonic gas flow measuring devices.

Sophisticated user interface

The Flow-X offers a compelling user interface that can be operated using the touchscreen on the device or even via the integrated web server. The colored icons and menu texts create an entirely intuitive user experience to make operation and configuration of the Flow-X remarkably simple.

Reliable gas volume conversion

The Flow-X offers gas volume conversion in accordance with MID requirements and is based on leading edge hardware with its 64-bit double-precision processor. Conversion cycles of no more than 250 ms ensure that volumes are calculated with the utmost precision.

Outstanding versatility

Each module offers advanced measurement technology in combination with a high storage capacity and data communication functions. Even the process of adding a new measuring stream is straightforward: Simply install the module and update the parameterization settings for the Flow-X – that's all there is to it.

Data logging

Every Flow-X module has a large internal memory (1 GB) for logging operations, events, and primary data.

Remote access

It is as easy to access the device via the integrated web server (support for secure protocols) as it is via the touchscreen on the device itself. This means the Flow-X can be operated in exactly the same way no matter whether the user is in the control room or standing in front of the device.



Flow-X/P4

- The Flow-X/P flow computer is installed in the instrument panel and allows the integration of up to four measuring streams. Flow-X/P offers an additional module with a 7-inch color touchscreen and multi-language support as well as a further three serial interfaces and two Ethernet interfaces.



Flow-X/C

- The Flow-X/C flow computer is the ideal solution for single measuring streams. It can be installed in the instrument panel with ease. Flow-X/C offers a 7-inch color touchscreen with multi-language support, three serial and two Ethernet interfaces, and analog and digital ports for field devices. The integrated web server makes it possible to view, operate, and configure the Flow-X/C via a web browser – including via a secure connection in the case of remote access.



Flow-X/S

- The Flow-X/S is designed for the integration of a single measuring stream and is housed in a DIN-rail enclosure. It features direct screw terminals for field connections in addition to two Ethernet interfaces with an integrated web server via RJ45 connection technology. The LCD screen displays the measured and calculated data in various languages over 4 lines.

THE IDEAL FLOW COMPUTER FOR GAS METERING WITH SICK ULTRASONIC GAS FLOW METERS



Product description

The Flow-X flow computer provides gas volume conversion, event logging, parameter logging, and reports using state-of-the-art technology. Identical modules are combined in different housings, offering a multi-stream version Flow-X/P for 1–4 measuring distances with a local touch screen, or the Flow-X/S version for smaller installations with one measuring distance. Each module combines high-precision measurement technology,

fast digital signal processing, abundant processing power, versatile data communication, and high storage capacity in a fully equipped flow computer. The Flow-X flow computer meets the requirements of even the most demanding applications and is the ideal partner for custody transfer gas measurements using the FLOWSIC600-XT ultrasonic gas flow meter.

At a glance

- MID-approved configuration for gas measuring distances with FLOWSIC600-XT
- Powerful modules for demanding applications
- Each module features CPU, memory, and standardized inputs/outputs
- Appealing 7" graphics display with touch operation
- Intuitive user interface for graphics display and in web browser
- True remote access via Ethernet
- Station computer for multiple measuring distances

Your benefits

- Reduced planning and installation costs thanks to standard configurations
- Very exact flow conversion due to several calculation cycles per second
- High reliability thanks to independent modules with their own volume conversion and storage of measured values, counter readings, and events
- Systems are easy to extend thanks to modules with standardized inputs/outputs that are fully configurable via software
- Very simple operation thanks to intuitive user interface featuring identical menus and displays on the device and in the control room
- Reduced service and maintenance costs with tamper-proof remote maintenance
- Cost-efficient and flexible system integration of multiple measuring distances

Fields of application

- Custody transfer gas measurement with FLOWSIC600-XT gas flow meters
- Demanding natural gas and process gas applications
- Standard values for gas volume, mass, and energy
- For natural gas, special gases, and steam
- Gas measurement with advanced diagnostics with FLOWSIC600-XT 2plex
- Redundant gas measurement with FLOWSIC600-XT Quatro



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→ www.mysick.com/de/Flow-X

For more information, simply visit the above link to obtain direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

Detailed technical data

The precise device specifications and product performance data may vary and are dependent on the respective application and customer specifications.

System

Ambient temperature	+5 °C ... +55 °C
Storage temperature	-20 °C ... +70 °C
Ambient humidity	≤ 90% Relative humidity; non-condensing
Conformities	MID API 21.1 EN 12405
Analog outputs	Flow-X/P: 4x ... 16x Flow-X/C, Flow-X/S: 4x 0/4 mA ... 20 mA or 1 V ... 5 V Resolution 14 bits; 0.075% full scale.
Analog inputs	Flow-X/P: 6x ... 24x Flow-X/C, Flow-X/S: 6x Configurable as: 0/4 mA ... 20 mA / 0 V ... 5 V Transmitter inputs with high accuracy: error < 0.008% full scale, resolution 24 bits
Digital inputs/outputs	Flow-X/P: 16x ... 64x Flow-X/C, Flow-X/S: 16x Software configured as status inputs or outputs
Additional inputs	Flow-X/P: 2x ... 8x PT100 temperature sensors Flow-X/C, Flow-X/S: 2x PT100-temperature sensors Resolution: 0.02 °C (-220 °C ... +220 °C) Maximum error: 0.05 °C (0 ... +50 °C) 0.5 °C (-220 ... +220 °C)
Ethernet	✓
Type of fieldbus integration	Modbus TCP, HTTP, XML (2x)
Modbus	✓
Type of fieldbus integration	Flow-X/P: RS485(ASCII/RTU) / RS232 (4x ... 10x) Flow-X/C: RS485(ASCII/RTU) / RS232 (2x) Flow-X/S: RS485(ASCII/RTU) / RS232 (2x)
Serial	✓
Type of fieldbus integration	Flow-X/P, Flow-X/C: RS232 (1x)
HART	✓
Type of fieldbus integration	Flow-X/P: 4x ... 16x Flow-X/C, Flow-X/S: 4x
Notes	Current loop input for HART-compatible transmitters
Correction method	PTZ
Compressibility	SGERG AGA NX-19 AGA 8 Gross methods AGA 8 (detailed) MR-113 GERG91mod (GOST 30319.2-1996) GOST 30319.2-2015
Supported gas chromatographs	Supports all common gas chromatographs (including ABB, Daniel, Elster and Siemens)
CPU card components	Flow-X/P, FLOW-X/S: 400 MHz i.MX processor with math coprocessor and FPGA 128 MB RAM 1,024 MB flash memory Real time clock with internal lithium battery, accuracy better than 1 s/day Flow-X/C: 800 MHz i.MX processor with math coprocessor and FPGA 512 MB RAM 1,024 MB flash memory
Dimensions (W x H x D)	See dimensional drawings

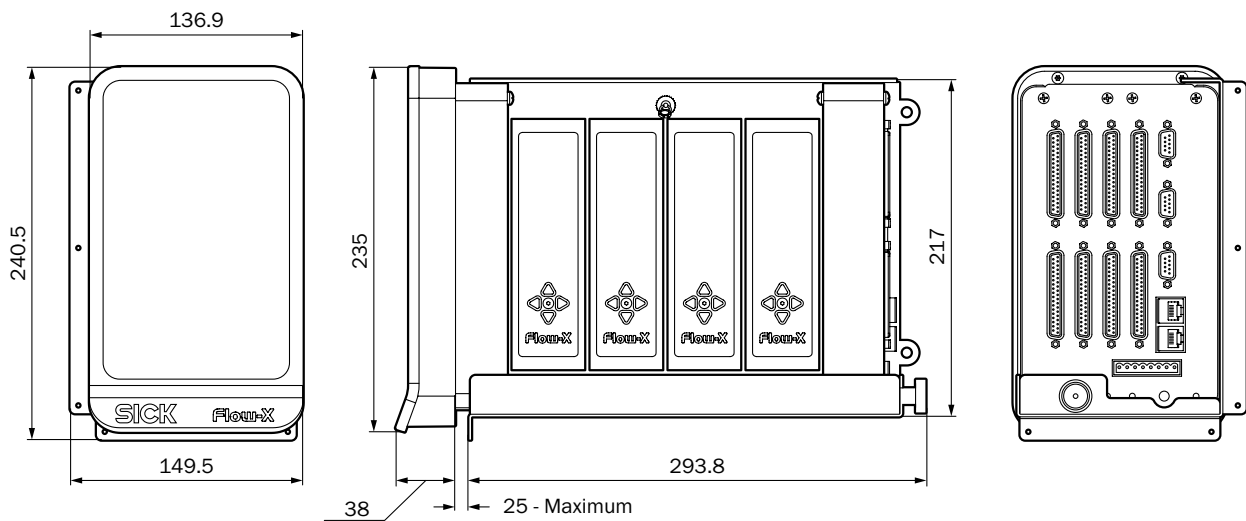
Weight	Flow-X/P1:	≤ 4.4 kg
	Flow-X/P2:	≤ 5.2 kg
	Flow-X/P3:	≤ 6 kg
	Flow-X/P4:	≤ 6.8 kg
	Flow-X/S:	≤ 2.4 kg
Flow-X/C:	≤ 2.7 kg	
Electrical connection	Voltage	24 V DC
	Current consumption	Flow-X/P (per module), Flow-X/S: ≤ 0.3 A nominal / ≤ 0.8 A maximal
		Flow-X/C: ≤ 0.5 A nominal / ≤ 1.0 A maximal

Ordering information

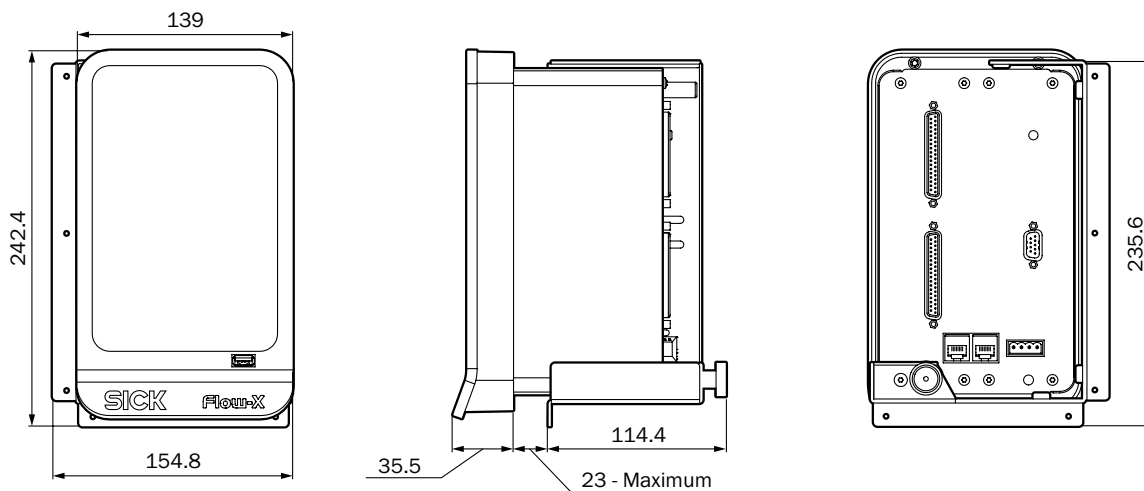
Our regional sales organization will be glad to advise you on which device configuration is best for you.

Dimensional drawings (dimensions in mm)

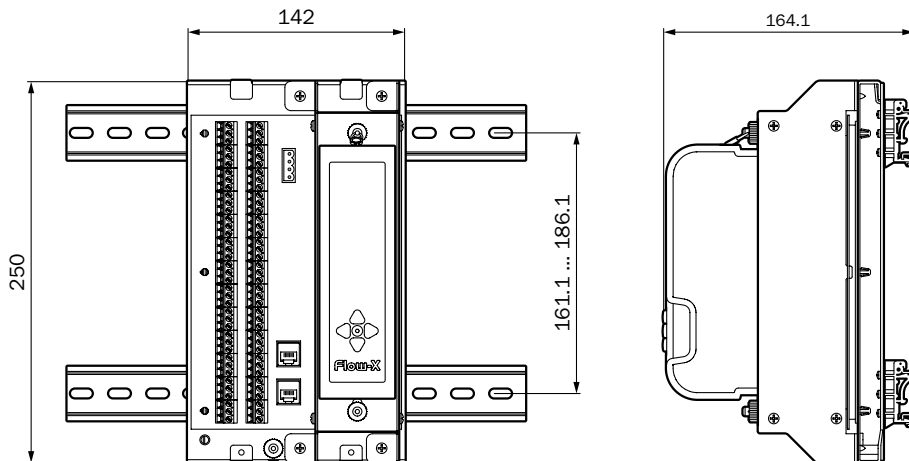
Flow-X/P



Flow-X/C

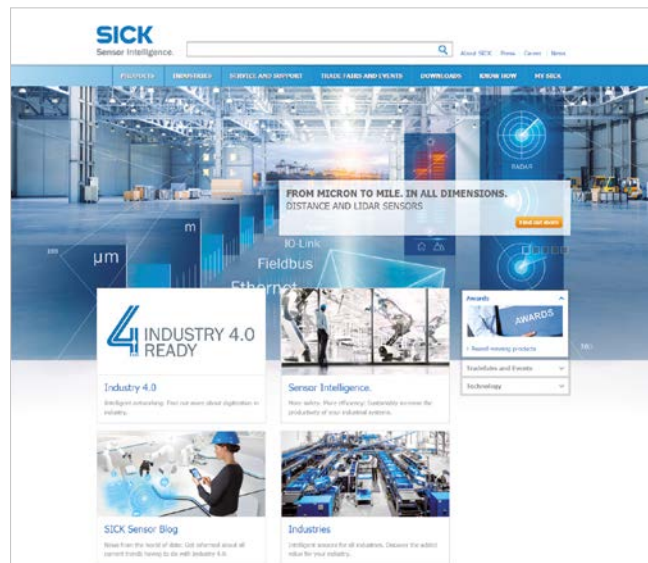


Flow-X/S



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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the 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 SICK a reliable supplier and development partner.

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

That is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com