Flow-X

DIGITAL FLOW SOLUTIONS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
Flow-X	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/Flow-X

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 version Flow-X/S 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 metering solutions in installations with FLOWSIC600 ultrasonic gas flow meters.

At a glance

- MID approved configuration for gas metering streams with FLOWSIC600
- Powerful modules for demanding applications
- Each module features CPU, memory and equal in/outputs
- Compelling 7" graphic display with touch operation
- Intuitive user interface for graphics display and web browser
- True remote access via Ethernet
- Station computer for multiple streams

Your benefits

- Reduced planning and installation costs through standard configurations
- Very accurate volume conversion with multiple calculation cycles per second
- High reliability through independent modules with their own volume conversion and storage of measured values, counter readings and events
- Easy extension of installations with modules featuring equal in/outputs and 100% software configuration
- Very simple operation through 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 streams

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Fields of application

- Custody gas metering with FLOWSIC600 gas meters
- Demanding natural gas and process gas applications
- Totals at base conditions for gas volume, mass and energy
- For natural gas, special gases and steam
- Gas metering with advanced diagnostics with FLOWSIC600 2plex
- Redundant gas metering with FLOWSIC600 Quatro

Detailed technical data

System

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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 ... 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 Can be configured as: 0/4 ... 20 mA 0 ... 5 V Transmitter inputs with high accuracy: error < 0.008% full scale, resolution 24 bits
Digital inputs and outputs	Flow-X/P: 16x ... 64x Flow-X/P: 16x ... 64x Flow-X/C, Flow-X/S: 16x Flow-X/C, Flow-X/S: 16x Software configured as status inputs or outputs 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 ... +50 °C: +0.05 °C -220 ... +220 °C: +0.5 °C
Ethernet	✓
Type of fieldbus integration	Modbus TCP, HTTP, XML (2x)
Modbus **Modbus** **Modbus**	✓, ✓, ✓
Type of fieldbus integration	Flow-X/P: RS485(ASCII/RTU) / RS232 (4x ... 10x) Flow-X/C: RS485(ASCII/RTU) / RS232 (3x ... 4x) Flow-X/S: RS485(ASCII/RTU) / RS232 (2x)
Serial	✓
Type of fieldbus integration	Flow-X/P, Flow-X/C: RS232 (1x)
HART **HART**	✓, ✓, ✓

HART	
Type of fieldbus integration	Flow-X/P: 4x … 16x Flow-X/C, Flow-X/S: 4x Note: 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 major gas chromatographs (e.g. ABB, Daniel, Elster, Siemens)
Components CPU board	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
Current consumption	Flow-X/P (per module), Flow-X/S: ≤ 0.3 A Nominal

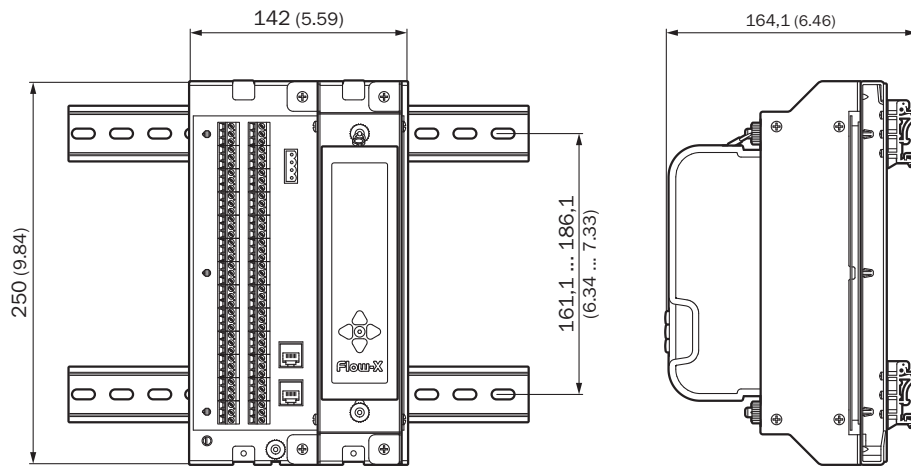## Dimensional drawings (Dimensions in mm (inch))

Flow-X/P
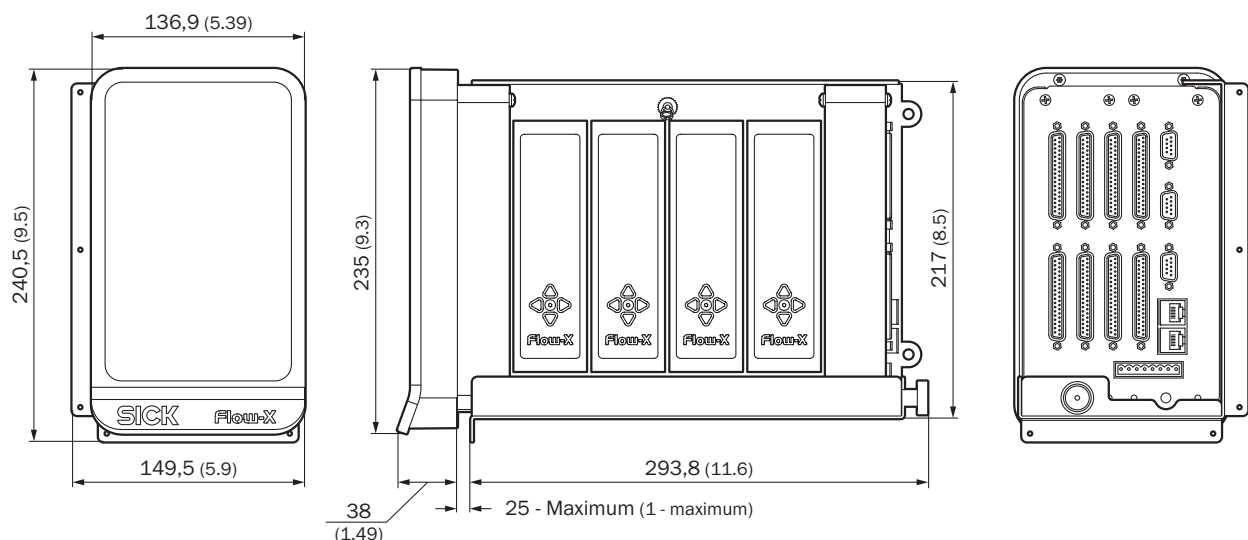
Flow-X/C
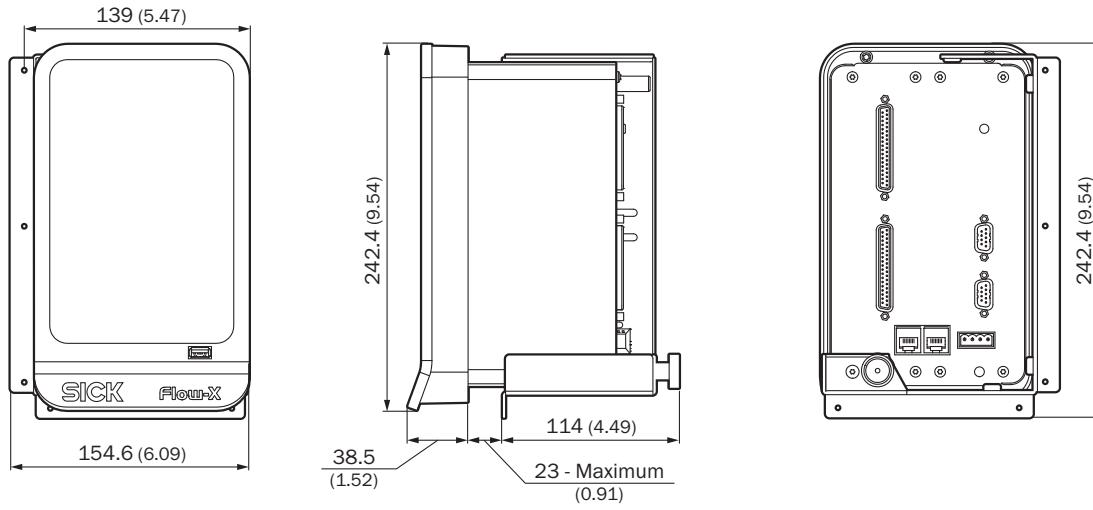
Flow-X/S

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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