

Flow-X flow computer

The ideal flow computer for gas metering with ultrasonic gas meters



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
- Reduced service and maintenance costs with tamper-proof remote maintenance
- Cost-efficient and flexible system integration of multiple streams

More information and current pricing:

www.endress.com/IFLOWX

Specs at a glance

- **Number of applications** Support up to 4 gas runs or 2 liquid runs per module (Flow-X/M, Flow-X/C)
- **Inputs** 6x analog transmitter input, high accuracy Input types are 4 to 20 mA, 0 to 20 mA, 0 to 5 V, 1 to 5 V Accuracy mA inputs; 0.002% FS at 21 °C, 0.008% at full ambient range of 0-60 °C, long-term stability 0.01% per year Resolution: 24 bits. Analog inputs have the same earthing relative to all other electronic devices. 16x digital status inputs. Resolution 100ns (10MHz)
- **Outputs** 4x analog output for process outputs and flow / pressure control. Resolution 14 bits, 0.075% FS. Analog outputs share same ground floating in relation to all other electronics. 16x digital output, open collector. Rating 100mA @24V

Field of application: 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. It is the ideal partner for custody transfer gas metering solutions in installations with FLOWSIC600 ultrasonic gas flowmeters.

Features and specifications

Gas

Measuring principle

flow computer

Measuring variables

gas volume conversion, event logging, parameter logging, and reports

Number of applications

Support up to 4 gas runs or 2 liquid runs per module (Flow-X/M, Flow-X/C)

Calculations

Gas property calculations:

AGA 5, AGA 8 Part 1, AGA 8 Part 2 (GERG-2008), AGA 10

AGA NX-19

GERG-2008

GERG91mod (GOST 30319.2-1996)

GOST 30319.2-2015

GSSSD MR-113

ISO 6976, ISO 12213 Parts 2 and 3

S-GERG

Flow rate calculations:

AGA 3, AGA 7, AGA 9, AGA 11

Gas

Electrical connection

Voltage

24 V DC ($\pm 10\%$), with redundant connections

Current consumption:

Flow-X/P0, X/M, X/S: ≤ 0.4 A nominal; ≤ 0.8 A maximal

Flow-X/C: ≤ 0.6 A nominal; ≤ 1.0 A maximal

Ambient temperature range

Flow-X/S: $-40\text{ }^{\circ}\text{C} \dots +75\text{ }^{\circ}\text{C}$

Flow-X/C, Flow-X/P, Flow-X/R: $0\text{ }^{\circ}\text{C} \dots +60\text{ }^{\circ}\text{C}$

System

CPU and memory: 800 MHz, 512 MB RAM, 1 GB flash memory

Clock: Real-time clock, accuracy better than 1 sec/day

Gold cap for date and time retention

Watchdog: Hardware and software watchdog timer

Tamper switch: Mechanical tamper switch to prevent changing of the application and vital parameters within that application

Supported gas chromatographs

Supports all common gas chromatographs (including ABB NGC8200 series, ABB BTU8100,

Danalyser, Yamatake HGC, Encal 3000, Angus GOA, Siemens Maxum and Sitrans)

Gas**Conformities**

2014/32/EU Measuring Instruments Directive (MID)

Directive 2014/30 / EC relating to electromagnetic compatibility

2012/19/EU WEEE Directive (WEEE 2)

2011/65/EU RoHS

OIML R117-1

WELMEC 7.2, 8.3, 8.8

API 21.1

Hazardous area approvals

Applies for FlowX/M and X/S only

Class I, Division 2, Groups A, B, C, and D, T4

Class I, Zone 2, Group IIC, T4

IECEX Ex ec IIC Gc

ATEX II 3 G Ex ec IIC Gc

Inputs

6x analog transmitter input, high accuracy

Input types are 4 to 20 mA, 0 to 20 mA, 0 to 5 V, 1 to 5 V

Accuracy mA inputs; 0.002% FS at 21 °C, 0.008% at full ambient range of 0-60 °C, long-term

stability 0.01% per year

Resolution: 24 bits. Analog inputs have the same earthing relative to all other electronic devices.

16x digital status inputs. Resolution 100ns (10MHz)

Gas

Outputs

4x analog output for process outputs and flow / pressure control.

Resolution 14 bits, 0.075% FS.

Analog outputs share same ground floating in relation to all other electronics.

16x digital output, open collector. Rating 100mA @24V

More information www.endress.com/IFLOWX