

Steam flowrate calculator and universal controller **SPECTORcontrol FLOW**

Function

The SPECTORcontrol Flow can be used in combination with various sensors for recording, processing and storing steam flowrate values. The steam flowrate calculator compensates a volumetric flowrate of steam with the aid of a pressure and/or temperature sensor. The data can be stored in the device and exported for further processing. Via the connected sensors, additional limit values can be generated and the controller freely configured for various uses, e.g:

- Continuous and pump controllers
- Valve and stepping controllers

Digital and analogue logic operations and calculation functions offer further features for use as a universal controller.

Analogue and digital inputs and outputs:

The necessary analogue and digital inputs and outputs are on the rear of the equipment

- 20 x digital inputs 24 V (maximum input frequency > 20 Hz, ≥ 50 ms)
- 12 x digital outputs 24 V
- 4 x analogue inputs (4..20 mA, 0..20 mA, 0..10 V, Pt 100)
- 4 x analogue outputs (4..20 mA, 0..20 mA, 0..10 V)

The input signals can be switched directly to the regulators or further processed by the logic and calculation functions, for example. They are then output once again via a digital or analogue output (IPO model). A great variety of switch-specific tasks can therefore be accomplished with these signals.

The following functions can be achieved:

- 2 x steam flowrate calculators for mass flowrate and output (with pressure/temperature compensation) or
 - 1 x steam flowrate calculator with pressure and temperature compensation
 - 3 x 3 trend logs for freely selectable input signals
 - 4 x day/month accumulated flowrate logs
 - 4 x calculations, e.g. for switching value, limit value and setpoint multiplication
 - 5 x logic operations, e.g. for enabling regulators
 - 2 x time switches
 - Fault log
 - 4 integrated regulators that can be optimised as desired, featuring:
 - ◆ Continuous controller *
 - ◆ 3-point stepping controller *
 - ◆ 2-point controller *
- * With P, PI or PID characteristic, dead zone or soft start, depending on the valve/pump regulator

Technical data

Supply voltage

- 24 V DC (---) (10 V - 32 V)

Power consumption

- max. 15 VA

Analogue inputs CH1 - CH4

- 0 - 20 mA Input impedance 200 Ω
- 4 - 20 mA Input impedance 200 Ω
- 0 - 10 V Input impedance 10 MΩ
- Pt 100 3-conductor connection

Analogue outputs CH1 to CH4

- 0 - 20 mA Input impedance max. 470 Ω
- 4 - 20 mA Input impedance max. 470 Ω
- 0 - 10 V Input impedance min. 1 kΩ

Digital inputs 1 to 20 (2-conductor connection)

- Input voltage range 12 V - 30 V DC (---)

Digital outputs 1 to 12

- 0.5 A (protected against overcurrent and excess temperature)

Data transmission interfaces

- 2 x Ethernet 10/100 Mbit switched (Modbus TCP/IP)
- 1 x USB host port (versions 2.0 and 1.1)

Indicators and controls

- Capacitive 5" touchscreen with LED backlight
- Resolution 800 x 480 pixels (WVGA)
- Installation space 136 x 96 mm

IP rating

- Front IP 66
- Rear IP 20

Admissible ambient conditions

- Service temperature: 0 °C - 50 °C
- Storage temperature: - 20 °C - 70 °C
- Air humidity: 5 % - 85 % relative humidity, non-condensing

Housing

- Material: Front (metal/glass)
Rear (metal electronics housing)
- Housing attachment with the supplied fastening elements
- Intended for installation in a control cabinet or switch-board

Weight

- approx. 1 kg

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SPECTORcontrol FLOW

Applicable directives:

The SPECTORcontrol Flow has been tested and approved for use in the scope governed by the following directives:

Directives:

- Directive 2014/30/EU EMC Directive
- Directive 2014/34/EU ATEX Directive

Marking:

- DEMKO 16 ATEX 1683 X
- II 3G Ex nA IIC T4 Gc -20 °C < Tamb < +60 °C
- II 3D Ex tc IIIC T105 °C

How to specify:

SPECTORcontrol Flow

Stock code: 393114

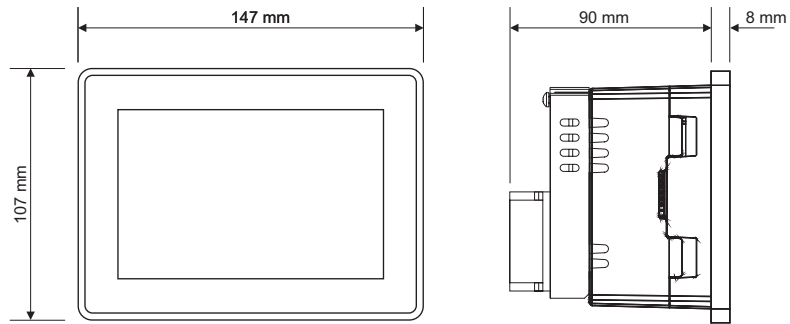
- Capacitive 5" touchscreen, 800 x 480
- IP rating of front IP 66
- 2 x Ethernet 10/100 Mbit switched (Modbus TCP/IP)
- SD/USB ports
- 20 digital inputs 24 V, 2-conductor
- 12 digital outputs 24 V
- 4 analogue inputs (4..20 mA, 0..20 mA, 0..10 V, Pt 100)
- 4 analogue outputs (4..20 mA, 0..20 mA, 0..10 V)

Including software for the functions:

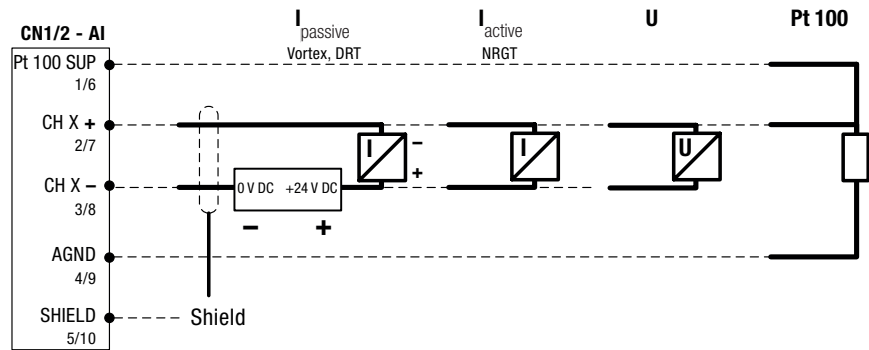
- 2 steam flowrate measurements (with pressure and temperature compensation)
- 3 x 3 trend logs for freely selectable input signals
- 4 day/month accumulated flowrate logs
- 4 calculations, e.g. for switching value, limit value and setpoint multiplication
- 5 logic operations, e.g. for enabling regulators
- 2 time switches
- Fault log
- 4 integrated regulators that can be optimised as desired, featuring:
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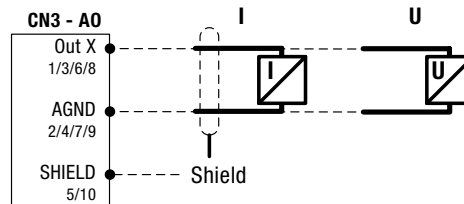
Dimensions of the SPECTORcontrol Flow



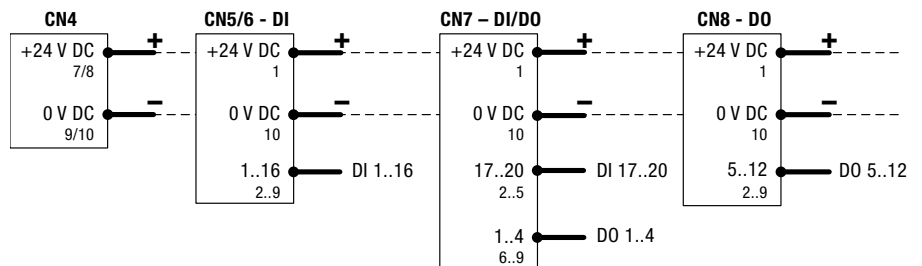
Analogue inputs (AI)



Analogue outputs (AO)



Digital inputs (DI)/outputs (DO)



Each +24 V and 0 V connection is bridged internally.

Please note our terms of sale and delivery.

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