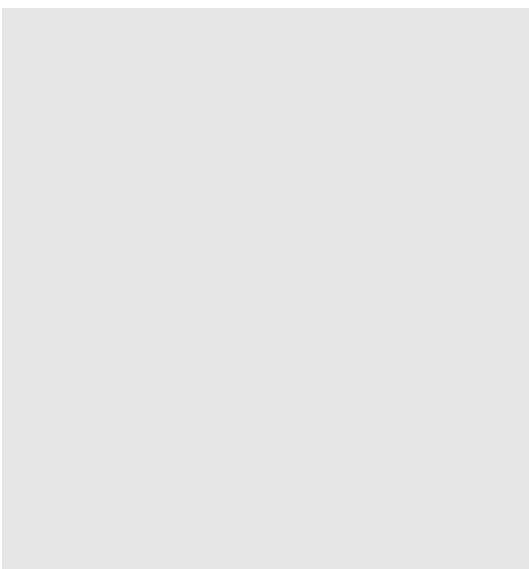
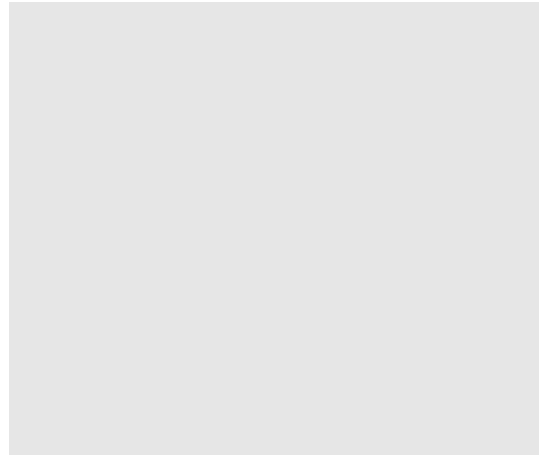
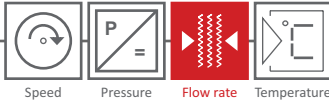


FLOW COMPUTER/ VOLUME CORRECTOR GDR 1540

Gas volume in cubic meters or liters with optional standardization
for gas flow meters with Namur output



Rev. no.: GDR_1540-DS_330 E-V1.4 2024-05-28



General Description

The 1-channel flow computer GDR 1540 is used to calculate the current gas volume of gas flow meters with a Namur output.

On an hourly or minutely basis, the current gas quantity can be displayed in cubic meters or liters. The total counter reading can be displayed in cubic meters or liters. The counter can have 9 digits up to 999 million cubic meters. The resolution is 0.1 liters.

Based on the operating volume determined by the connected gas flow meter and the measured values for pressure and temperature, the volume corrector calculates the standardized volume. The calculation of the standardization can be done according to the standards DIN 1343, DIN 6358, DIN ISO 2533 or DIN 102/ ISO 1-1975.



- 4-line display with 20 characters per line
- Multilingual menu (English, German, French, Spanish, Italian, Bulgarian, Polish, ...)
- Complete device configuration via keypad, no additional software required
- Integrated WLAN hotspot with full device access via web browser
- Security code to protect configuration
- Timestamped logging of important actions in the system logbook (device start, sensor failure, overrange, etc.)
- Easy and fast cable connection with tool-free connectors
- UV-resistant polycarbonate housing material, protection class IP 65
- Persistent counter readings for up to 5 years
- Integrated real-time clock, battery buffered for 5 years
- Standardization according to DIN 1343, DIN 6358, DIN ISO 2533, DIN 102/ISO 1-1975
- Freely scalable current output for output of actual flow rate
- Adjustable pulse weighting (0.1, 1 or 10 or 100 m³ per pulse)
- Optional data transmission via Modbus RTU and Modbus TCP

Inputs: Gas flow meter

1. Namur input (2-fold)

Inputs: Pressure and temperature

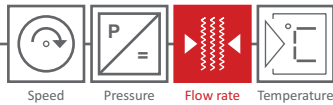
In addition to a pt100 input, the devices also have mA inputs for pressure and temperature sensors as well as an integrated barometric sensor for recording atmospheric pressure.

Output and bus system

The 0(4) - 20 mA current output provides the current flow rate in the form of operating or standard cubic meters. Via 2 solid state relays, flow rates, device status, error messages or limit values can be transmitted to higher-level systems for further processing.

The Modbus RTU and Modbus TCP bus systems are available as an option for data transmission.

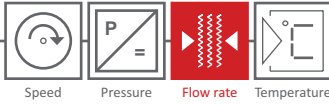
All parameter settings/configurations can be carried out using the keys and the display or with a web browser via the integrated WLAN hotspot.



Technical details

INPUT	
FLOW	<p>2 x Namur input max. frequency 5kHz, supply voltage 8.2 V, switching points approx. 1.2/2.1 mA</p> <p>It is possible to define a minimum threshold to differentiate between gas flow and standstill (min. flow volume suppression).</p>
START-STOP INPUT	1 x start-stop input for control via PLC using 2 potential-free contacts
The following inputs are integrated for connecting external sensors for pressure and temperature:	
TEMPERATURE	<p>- 4 - 20 mA, 2/3 wire, meas. range: -100 °C - +800 °C (17 bit)¹⁾ or - pt100, 3/4 wire, meas. range: -100 °C - +800 °C (17 bit)¹⁾</p>
PRESSURE	4 - 20 mA, 2/3 wire, meas. range: -500 mbar - +1.000 bar (17 bit), (rel. or abs.) ¹⁾
BAROMETRIC SENSOR	Integrated barometric sensor for recording the atmospheric pressure
1) If no sensor is connected, a fixed value can be defined.	
OUTPUT	
CURRENT	<p>0(4) - 20 mA, resolution 14 bit Flow: 0 - 100.000 m³/h, resolution 0,1 m³/h</p>
RELAY K1, K2	<p>2 x relay (NO) freely programmable</p> <ul style="list-style-type: none"> - Pulse output (0,1, 1 or 10 or 100 m³ per impulse, - Counter output quantity or - Limit value or - Device status
DISPLAY & RANGES OF VALUES	
LCD DISPLAY	<p>4 lines of 20 characters each Size: 66 x 40mm, font size 4,8 mm Color: black on white</p>
DATE	Acc. to ISO8601/EN28601
COUNTER PULSES	Max. 999.999.999.999.999 Pulse (1*10 ¹⁸ - 1 pulse), resolution 1 pulse (In the event of a counter overflow, the counter starts at zero.)
PULSE OUTPUT	0,001 - 1.000.000 m ³ /pulse, resolution 1l/pulse Max. 10 pulses/s for Bm ³ or Nm ³
FLOW „OPERATIONAL“	Max. 100 Bm ³ /s, 360.000 Bm ³ /h
FLOW „STANDARDIZED“	Max. 1.000 Nm ³ /s, 3.600.000 Nm ³ /h
COUNTER OPERATING QUANTITY STANDARDIZED QUANTITY	Max. 99.999.999.999.999,99999999 m ³ (<1*10 ¹⁵) resolution 0,1 m ³ Display: 99.999.999.999,9 m ³ or Nm ³ (In the event of a counter overflow, the counter starts at zero.)

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INTERFACES & ADDITIONAL FUNCTIONS

WLAN	<ul style="list-style-type: none"> - Integrated WLAN hotspot for direct connection with the device. The operation of the device can be performed via web browser. - Integration of the flow computer into the WLAN network on the plant side
MODBUS RTU ¹⁾ (OPTIONAL)	Data transmission via Modbus RTU interface
MODBUS RTU & TCP ¹⁾ (OPTIONAL)	Data transmission via Modbus RTU or TCP-interface

¹⁾ The function is activated ex works when a flow computer is ordered. The upgrade can also be activated at a later date by purchasing an activation code.

ELECTRICAL VALUES

ACCURACY	$\pm 0,05 \% \text{ EW} \pm 1 \text{ digit at } 23^\circ\text{C}$
POWER SUPPLY	<ul style="list-style-type: none"> - 24 V, DC $\pm 3 \text{ V}$, max. 200 mA - 100 - 240 V, AC, 0,33 - 0,14 A, max. 47 - 63 Hz (optional, retrofit kit)

ENVIRONMENTAL INFLUENCES

AMBIENT TEMPERATURE	-10 to +55°C
STORAGE TEMPERATURE	-20 to +85°C
TEST VOLTAGE	3 kV
HUMIDITY CLASS	E-DIN 40040
ELECTROMAGNETIC COMPATIBILITY	acc. to EN 61000

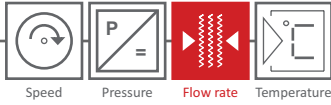
CASING & MOUNTING OPTIONS

STANDARD CASE	<p>Polycarbonate case for wall mounting Material: polycarbonate UL 94 V0 Color: graphite gray (similar to RAL 7024), red (similar to RAL 3000) Dimensions: 151 mm (W) x 125 mm (H) x 90 mm (D) Protection class: IP 65 Net weight: approx. 650 g</p>
DIN RAIL (OPTIONAL)	Mounting parts for DIN rail mounting



Remote access via browser

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Order code

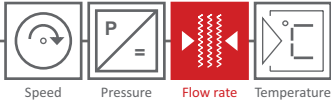
	GDR 1540
INPUT	
1: Gas flow A: Open collector, input frequency: 0 Hz ... 500 Hz <u>or</u>	•
1: Gas flow A1: Namur	
1: Gas flow A2: Namur	•
2: Temperature ¹⁾ : 4 - 20 mA, 2/3 wire = -100 - 800 °C <u>or</u>	•
2: Temperature (Pt100) ¹⁾ : , 3/4 wire, -100 - 800 °C	•
3: Pressure ¹⁾ : 4 - 20 mA, 2/3 wire = -500 mbar - 1.000 bar	•
MA OUTPUT	
Flow: (0) 4 - 20 mA = 0 - (x) Bm ³ /h, l/h, Bm ³ /min, l/min, Nm ³ /h, NL/h, Nm ³ /min, NL/min	•
RELAY OUTPUT	
K1: Relay (NO) freely programmable	•
K2: Relay (NO) freely programmable	•
MORE FUNCTIONS	
Limit value monitoring (2 limit values)	•
Integrated barometric sensor	•
Remote control using a web browser via integrated WLAN hotspot	•
OPTIONAL FUNCTIONS	
LAN connection	•
Modbus RTU	•
Modbus RTU & Modbus TCP ²⁾	•

¹⁾ A fixed values can be defined without a connected sensor.

²⁾ LAN option is prerequisite for Modbus TCP. LAN network and Modbus TCP can be used parallel.

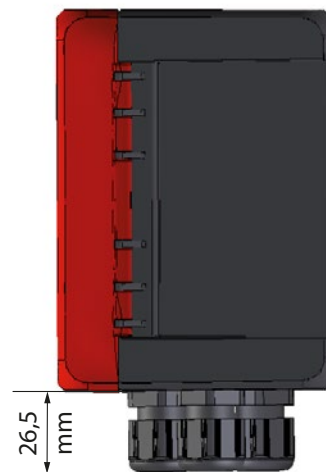
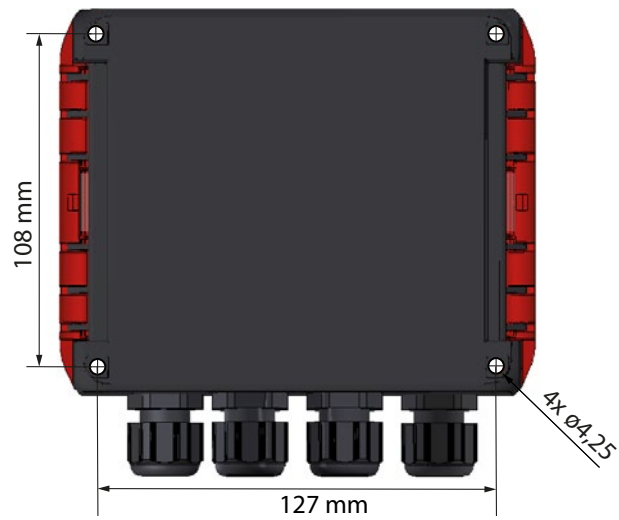
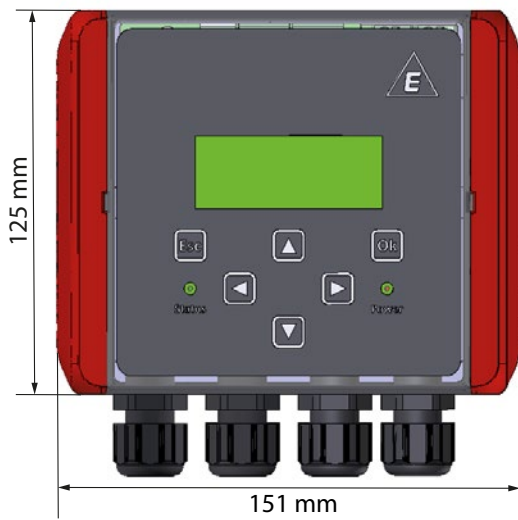


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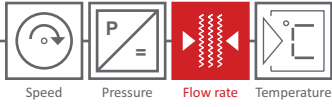


Dimensions

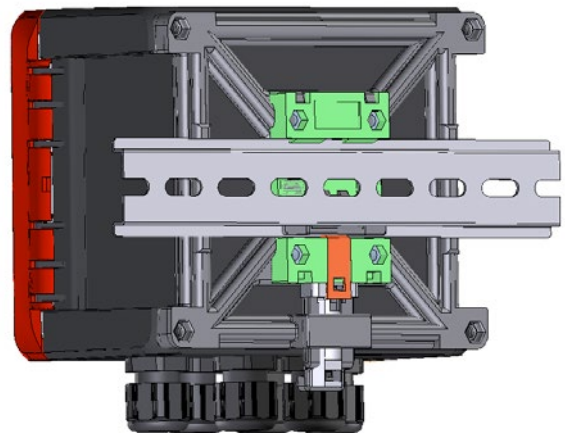
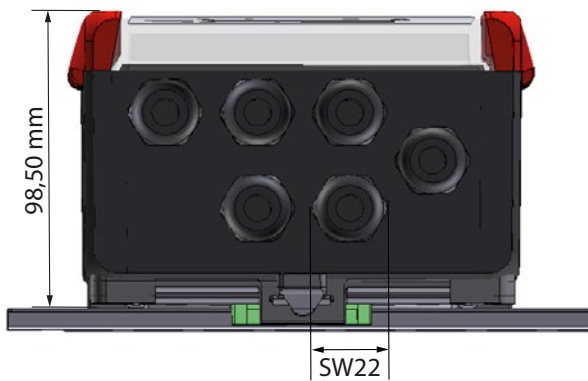
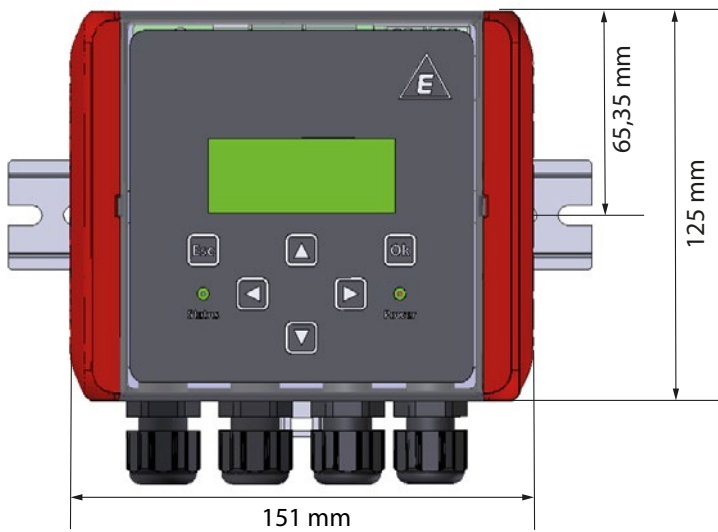
Standard case for GDR 1540 - wall mounting



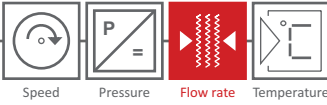
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Standard case for GDR 1540 - DIN rail mounting (option HT)



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Fluidistor Gas Flow Meter GD 300 Ex

The Fluidistor Gas flow meter measures all technical and medical gases with a nominal width of DN 25 to DN 400 and a measurement range of 0,2 ... 20 ... 16.000 m³/h. Process connection: Wafer/ sandwich of flange
 Pressure: PN 10 - PN 25 - PN 40
 Accuracy: ± 1,5 %

For further information see datasheet DS 312 E.



Flow Computer GDR 1530 G2

The 1-channel volume corrector GDR 1530 G2 is used to calculate the current gas volume of the Fluidistor gas flow meter GD 300 (ex) / GD 500 (Ex) as well as gas flow meters with a reed relay or open collector output.

For further information see datasheet DS 329 E.

Your local contact:

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