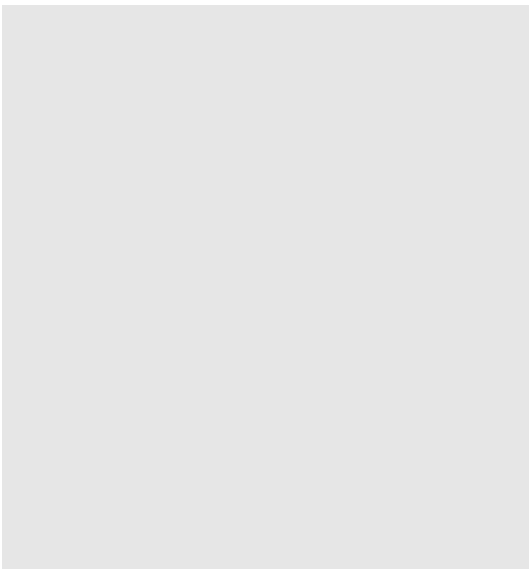
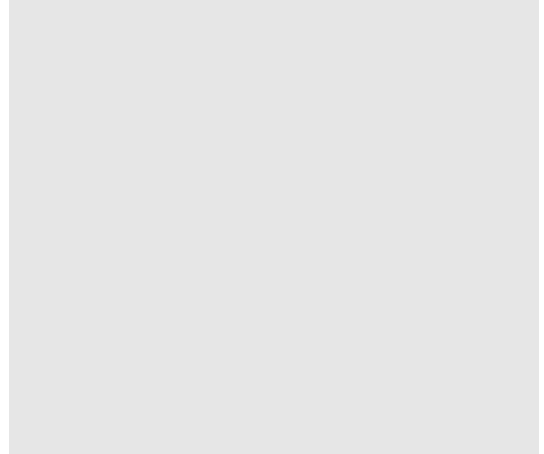
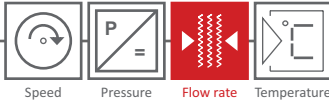


## FLOW COMPUTER/ VOLUME CORRECTOR GDR 1560

Gas volume in cubic meters or liters with optional standardization for third party gas flow meter with open collector, reed relay, mA and Namur output or Fluidistor gas flow meter



Rev. no.: GDR\_1560-DS\_337 E-V1.0 2024-05-28



## General Description

The 1-channel volume corrector GDR 1560 is used to calculate the current gas volume of gas flow meters with different signal outputs.

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.

Inputs: Gas flow meter

1. Connection of third-party products to the pulse input via open collector and reed relay
2. Connection of third-party products with Namur output (2-fold)
3. Connection of third-party products with mA output

- 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

4. Connection of the platinum wire sensor (GD 300/ GD 500, NON-ATEX)
5. Connection of the HB 300 Ex to the pulse input (GD 300 Ex/ GD 500 ex, ATEX area)

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.

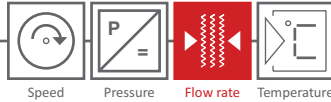
Output and bus system

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.

- 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 m<sup>3</sup> per pulse)
- Optional data transmission via Modbus RTU and Modbus TCP



## Technical details

### INPUT

The devices can process one input signal of the flow rate. The following alternatives are available for the input signal:

FLOW THIRD-PARTY PRODUCTS	<ul style="list-style-type: none"> <li>- Gas flow meter with open collector, input frequency: 0 Hz ... 500 Hz</li> <li>- Gas flow meter with reed relay, input frequency: 0 Hz ... 2 Hz</li> <li>- Gas flow meter with Namur output (2-fold) (max. frequency 5kHz, supply voltage 8.2 V, switching points approx. 1.2/2.1 mA) or</li> <li>- Gas flow meter with 1 x mA output or</li> </ul> <p>It is possible to define a minimum threshold to differentiate between gas flow and standstill (min. flow volume suppression).</p>
FLOW FLUIDISTOR GAS FLOW METER	<ul style="list-style-type: none"> <li>- Input for direct connection of the platinum wire sensor (GD 300 / GD 500) <sup>1)</sup> or</li> <li>- Impulse input for HB 300 / HB 300 Ex (GD 300 (Ex)/ GD 500 (Ex)) or</li> </ul>
START-STOP INPUT	1 x start-stop input for control via PLC using 2 potential-free contacts
TEMPERATURE	<ul style="list-style-type: none"> <li>- 4 - 20 mA, 2/3 wire, meas. range: -100 °C - +800 °C (17 bit) <sup>1)</sup> or</li> <li>- pt100, 3/4 wire, meas. range: -100 °C - +800 °C (17 bit) <sup>1)</sup></li> </ul>
PRESSURE	4 - 20 mA, 2/3 wire, meas. range: -500 mbar - +1.000 bar (17 bit), (rel. or abs.) <sup>1)</sup>
BAROMETRIC SENSOR	Integrated barometric sensor for recording the atmospheric pressure

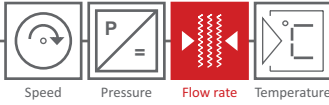
1) If no sensor is connected, a fixed value can be defined.

### OUTPUT

CURRENT	0(4) - 20 mA, resolution 14 bit Flow: 0 - 100.000 m <sup>3</sup> /h, resolution 0,1 m <sup>3</sup> /h
RELAY K1, K2	<ul style="list-style-type: none"> <li>2 x relay (NO) freely programmable</li> <li>- Pulse output (0,1, 1 or 10 or 100 m<sup>3</sup> per impulse,</li> <li>- Counter output quantity or</li> <li>- Limit value or</li> <li>- Device status</li> </ul>

### DISPLAY & RANGES OF VALUES

LCD DISPLAY	4 lines of 20 characters each Size: 66 x 40mm, font size 4,8 mm Color: black on white
DATE	Acc. to ISO8601/EN28601
COUNTER PULSES	Max. 999.999.999.999.999.999 Pulse (1*10 <sup>18</sup> - 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 <sup>3</sup> /pulse, resolution 1l/pulse Max. 10 pulses/s for Bm <sup>3</sup> or Nm <sup>3</sup>
FLOW „OPERATIONAL“	Max. 100 Bm <sup>3</sup> /s, 360.000 Bm <sup>3</sup> /h
FLOW „STANDARDIZED“	Max. 1.000 Nm <sup>3</sup> /s, 3.600.000 Nm <sup>3</sup> /h
COUNTER OPERATING QUANTITY STANDARDIZED QUANTITY	Max. 99.999.999.999.999.999.999.999 m <sup>3</sup> (<1*10 <sup>15</sup> ) resolution 0,1 cm <sup>3</sup> Display: 99.999.999.999.999,9 m <sup>3</sup> or Nm <sup>3</sup> (In the event of a counter overflow, the counter starts at zero.)



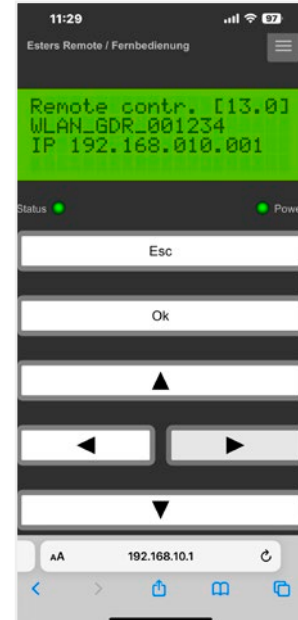
INTERFACES & ADDITIONAL FUNCTIONS	
WLAN	<ul style="list-style-type: none"> <li>- Integrated WLAN hotspot for direct connection with the device. The operation of the device can be performed via web browser.</li> <li>- Integration of the flow computer into the WLAN network on the plant side</li> </ul>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

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

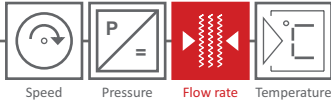
ENVIRONMENTAL INFLUENCES	
AMBIENT TEMPERATURE	-10 to +55°C
STORAGE TEMPERATURE	-20 to +85°C
TEST VOLTAGE	3 kV
HUMIDITY CLASS	E-DIN 40040
ELECTROMAGNETIC COMPATIBILITY	acc. to EN 61000

CASING & MOUNTING OPTIONS	
STANDARD CASE	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
DIN RAIL (OPTIONAL)	Mounting parts for DIN rail mounting



Remote access via browser

Rev.-Nr.: GDR 1560-DS 337 E-V1.0 2024-05-28



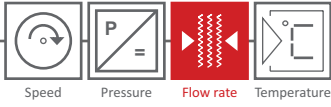
## Order code

	GDR 1560
<b>INPUT</b>	
1: Gas flow A: Third-party products with open collector or reed relay output <u>or</u>	•
1: Gas flow A: Third-party products with reed relay output <u>or</u>	•
1: Gas flow A: Third-party products with mA output <u>or</u>	•
1: Gas flow A1: Namur	•
1: Gas flow A2: Namur <u>or</u>	•
1: Gas flow A: Input for platinum wire sensor (GD 300/GD 500) (NON-ATEX only) <u>or</u>	•
1: Gas flow A: Pulse input for HB 300 / HB 300 Ex (GD 300 (Ex)/ GD 500 (Ex))	•
2: Temperature <sup>1)</sup> : 4 - 20 mA, 2/3 wire = -100 - 800 °C <u>or</u>	•
2: Temperature (Pt100) <sup>1)</sup> : , 3/4 wire, -100 - 800 °C	•
3: Pressure <sup>1)</sup> : 4 - 20 mA, 2/3 wire = -500 mbar - 1.000 bar	•
<b>MA OUTPUT</b>	
Flow: (0) 4 - 20 mA = 0 - (x) Bm <sup>3</sup> /h, l/h, Bm <sup>3</sup> /min, l/min, Nm <sup>3</sup> /h, NL/h, Nm <sup>3</sup> /min, NL/min	•
<b>RELAY OUTPUT</b>	
K1: Relay (NO) freely programmable	•
K2: Relay (NO) freely programmable	•
<b>MORE FUNCTIONS</b>	
Limit value monitoring (2 limit values)	•
Integrated barometric sensor	•
Remote control using a web browser via integrated WLAN hotspot	•
<b>OPTIONAL FUNCTIONS</b>	
LAN connection	•
Modbus RTU	•
Modbus RTU & Modbus TCP <sup>2)</sup>	•

<sup>1)</sup> A fixed values can be defined without a connected sensor.

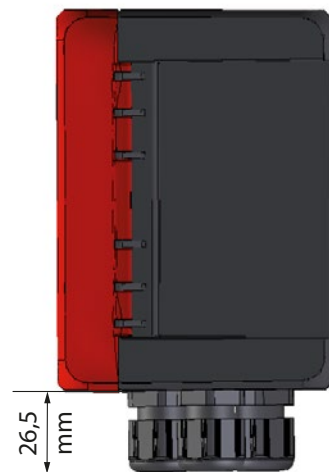
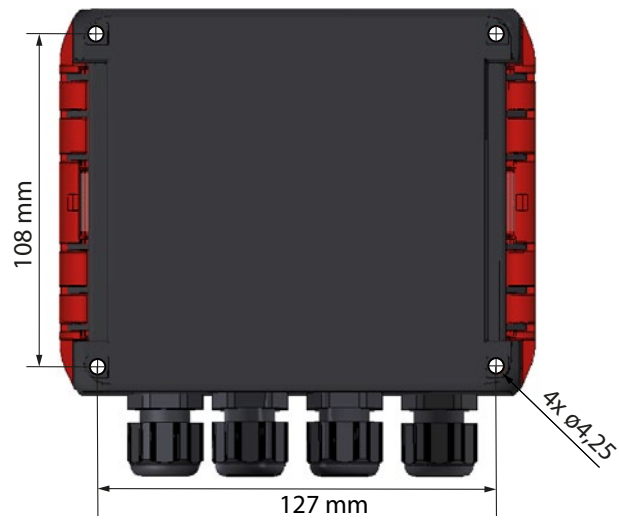
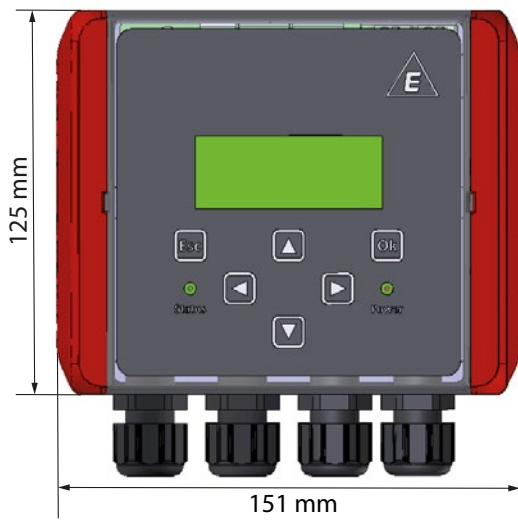
<sup>2)</sup> LAN option is prerequisite for Modbus TCP. LAN network and Modbus TCP can be used parallel.



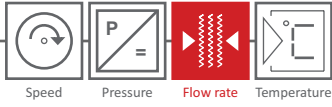


## Dimensions

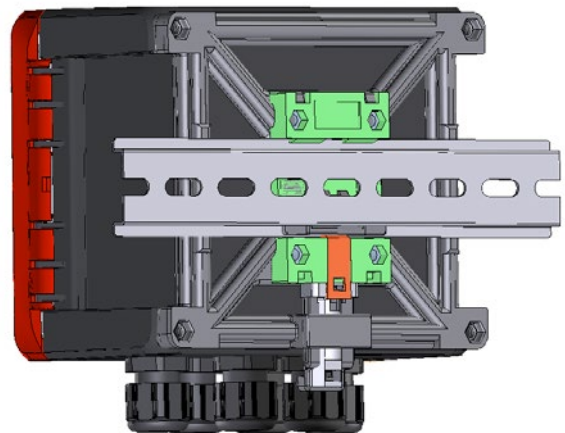
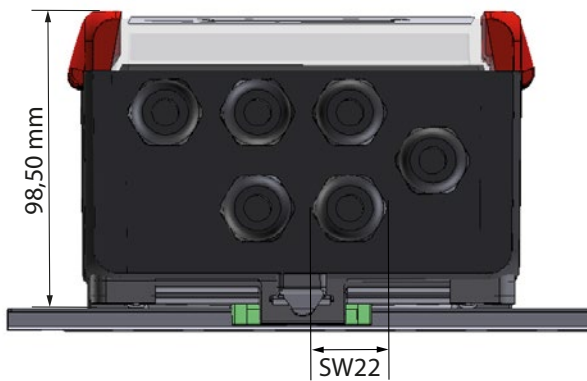
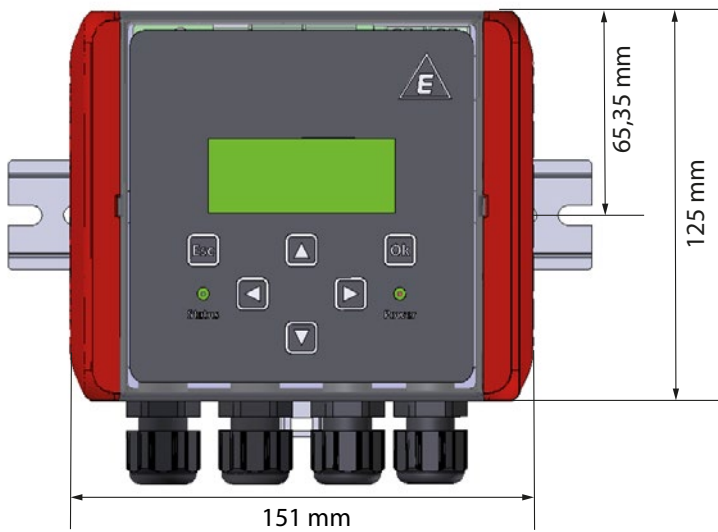
Standard case for GDR 1560 - wall mounting



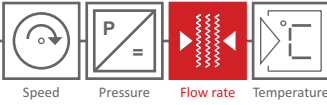
Rev.-Nr.: GDR 1560-DS 337 E-V1.0 2024-05-28



Standard case for GDR 1560 - DIN rail mounting (option HT)



Rev. no.: GDR\_1560-DS\_337 E-V1.0 2024-05-28



Speed Pressure **Flow rate** Temperature

## 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 m<sup>3</sup>/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: