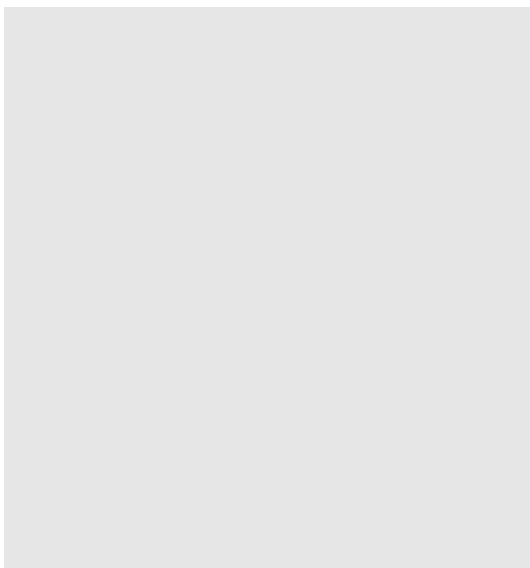
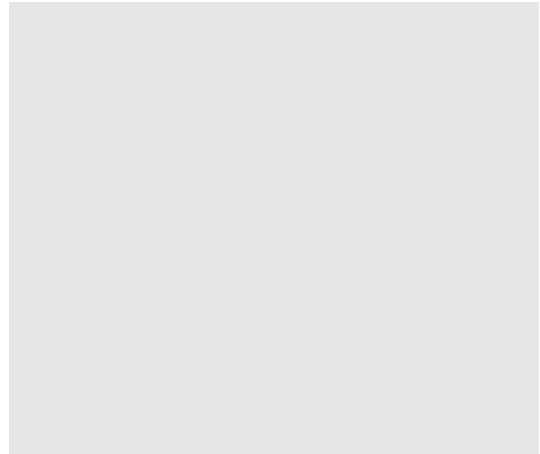
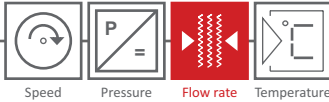


CHP FLOW COMPUTER GDR 1534

Calculation of CHP efficiency; gas volume in cubic meters or liters using optional standardization for Fluidistor gas flow meters GD 300 (Ex) / GD 500 (Ex) and third-party models with open-collector or reed relay outputs



Rev. no.: GDR 1534-DS 338 E-V2.0 2026-08-07



General Description

The GDR 1534 1-channel volume flow computer is used to precisely calculate the current gas volume based on readings from gas flow meters with different signal outputs. In addition, the device enables the determination of the efficiency of combined heat and power (CHP) plants.

Display and Counter

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.

Inputs: Gas flow meter

1. Connection of the platinum wire sensor (Esters Fluidistor GD 300/ GD 500, NON ATEX)
2. Connection of the HB 300 Ex to the pulse input (Esters Fluidistor GD 300 Ex/ GD 500 ex, ATEX)
3. Connection of gas flow meters to the pulse input via open collector
4. Connection of gas flow meters to the pulse input via reed relay

Inputs: Pressure and temperature

Pressure and temperature sensors can be connected via mA inputs. Alternatively, a Pt100 input is available for temperature measurement.

- 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
- Optional LAN interface for integration into the plant network
- Security code to protect configuration

The integrated barometric sensor measures atmospheric pressure.

Inputs: Methane Content (CH₄) and Electrical Output of the CHP Unit

To determine the efficiency, the relevant values for methane content and electrical output can each be transmitted to the device via an mA input.

Calculation of the Standard Volume

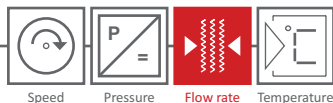
Based on the operating volume determined by the connected gas flow meter and the measured values for pressure and temperature, the volume corrector calculates the standardized volume. The calculation of the standardization can be done according to the standards DIN 1343, DIN 6358, DIN ISO 2533 or DIN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

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.

- Timestamped logging of important actions in the system logbook (device start, sensor failure, overrange, etc.)
- 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
- Freely scalable current output for output of actual flow rate
- Adjustable pulse weighting (0.1, 1 or 10 or 100 m³ per pulse)



Technical details

INPUT

The devices can process an input signal for gas flow. The options are listed below:

FLOW FLUIDISTOR GAS FLOW METER	- Input for direct connection of the platinum wire sensor (GD 300 / GD 500) ¹⁾ or - Impulse input for HB 300 Ex-R000000 (GD 300 (Ex)/ GD 500 (Ex)) ²⁾ or
FLOW THIRD-PARTY PRODUCTS IMPULSE INPUT	- Gas flow meter with open collector, input frequency: 0 Hz ... 500 Hz - Gas flow meter with reed relay, input frequency: 0 Hz ... 2 Hz It is possible to define a minimum threshold to differentiate between gas flow and standstill (min. flow volume suppression).
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	- 4 - 20 mA, 2/3 wire, meas. range: -100 °C - +800 °C (17 bit) ³⁾ or - pt100, 3/4 wire, meas. range: -100 °C - +800 °C (17 bit) ³⁾
PRESSURE	4 - 20 mA, 2/3 wire, meas. range: -500 mbar - +1.000 bar (17 bit), (rel. or abs.) ³⁾
BAROMETRIC SENSOR	Integrated barometric sensor for recording the atmospheric pressure

Inputs for measured values that are relevant for determining the efficiency:

METHANE CONTENT CH ₄	4 - 20 mA, 2 / 3 wire (input 3) ³⁾
ELECTRICAL EFFICIENCY OF CHP UNITS	4 - 20 mA, 2 / 3 wire (input 4) ³⁾

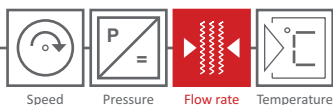
¹⁾ NON ATEX applications, ²⁾ ATEX application, ³⁾ If no measurement source is connected, a fixed value can be defined.

OUTPUT

CURRENT	0(4) - 20 mA, resolution 14 bit Flow: 0 - 100.000 m ³ /h, resolution 0,1 m ³ /h
RELAY K1, K2	2 x relay (NO) freely programmable - Pulse output (0,1, 1 or 10 or 100 m ³ per impulse, - Counter output quantity or - Limit value or - Device status

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 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. 99.999.999.999.999.999.999 m ³ (<1*10 ¹⁵) resolution 0,1 cm ³ Display: 99.999.999.999.999,9 m ³ or Nm ³ (In the event of a counter overflow, the counter starts at zero.)



INTERFACES & ADDITIONAL FUNCTIONS

WLAN	- 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
LAN (OPTIONAL) ¹⁾	- Integration of the flow computer into the plant LAN network. - The device can be operated via web browser.
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

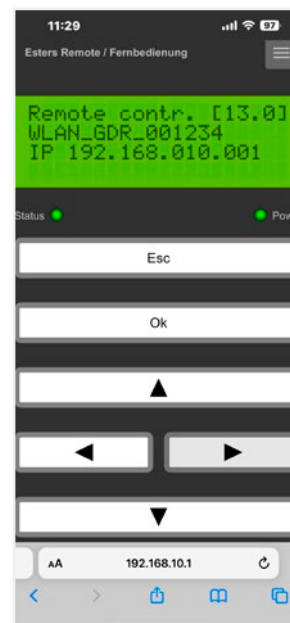
ACCURACY	$\pm 0,05 \% \text{ EW} \pm 1 \text{ digit at } 23^\circ\text{C}$
POWER SUPPLY	- 24 V, DC $\pm 3 \text{ V}$, max. 200 mA - 100 - 240 V, AC, 0,33 - 0,14 A, max. 47 - 63 Hz (optional, retrofit kit)

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

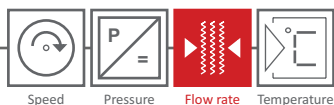
CASING & MOUNTING OPTIONS

STANDARD CASE	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
MOUNTING GAS FLOW METER (OPTIONAL)	- Fastening element for direct mounting on gas flow meter the GD 300 / GD 500 with flange connection (only NON ATEX applications) - Fastening element for direct mounting on gas flow meter the GD 300 / GD 500 with wafer connection (see image on page 5)



Remote access via browser

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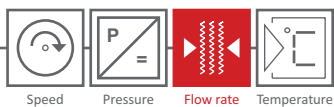
Order code

	GDR 1534
INPUT	
1: Gas flow A: Input for platinum wire sensor (Esters Fluidistor GD 300/GD 500) (NON ATEX) <u>or</u>	•
1: Gas flow A: Pulse input for HB 300 Ex-R000000 (Esters Fluidistor GD 300 (Ex)/ GD 500 (Ex)) (ATEX) <u>or</u>	•
1. Gas flow A: Third-party products with open collector or reed relay output	•
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	•
4: Methane content CH ₄ ¹⁾ : 4 - 20 mA, 2 /3 wire	•
5: Electrical efficiency – CHP unit ¹⁾ : 4 - 20 mA, 2 /3 wire	•
6: Start Stop	•
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⁾ If no measurement source is connected, a fixed value can be defined.

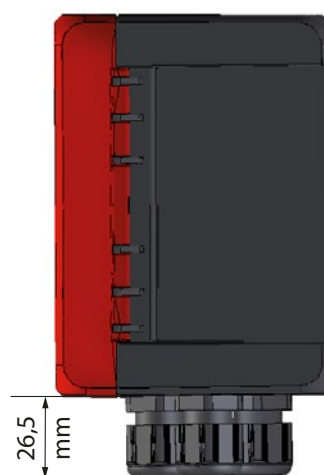
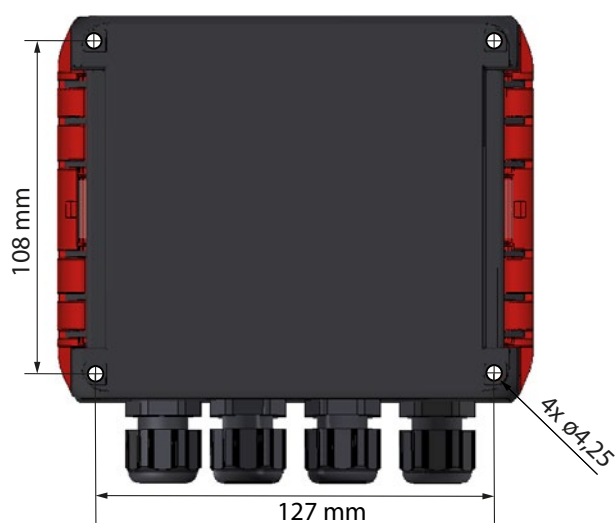
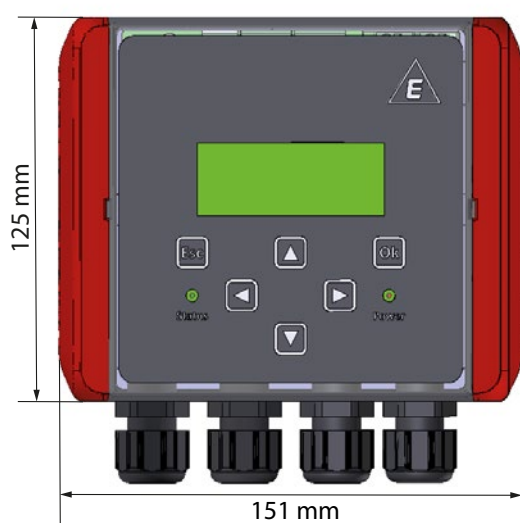
²⁾ LAN option is prerequisite for Modbus TCP. LAN network and Modbus TCP can be used parallel.



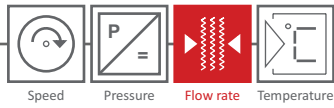


Dimensions

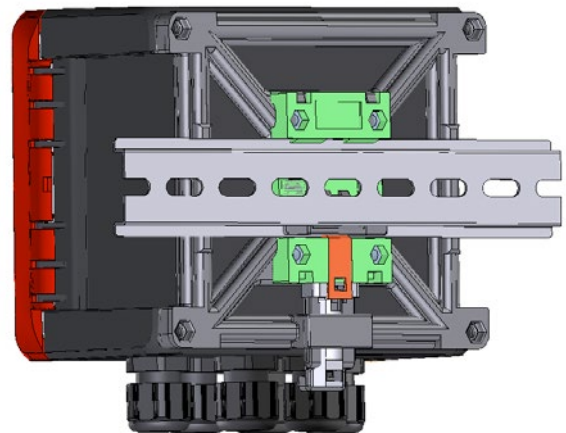
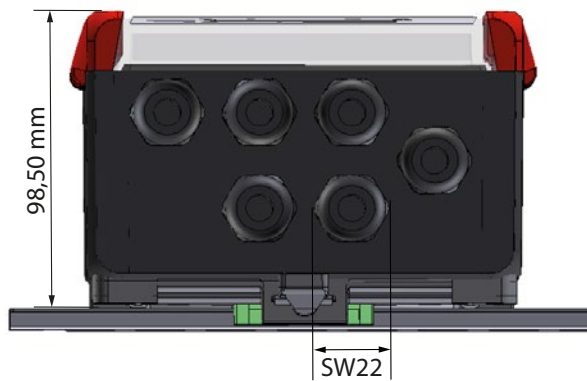
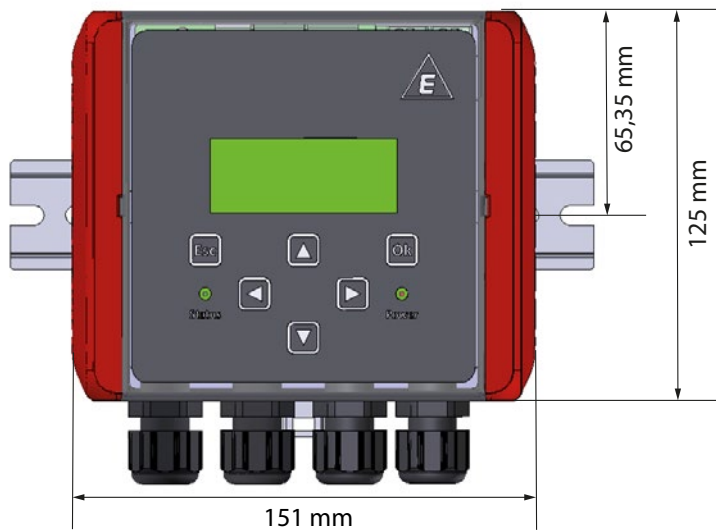
Standard case for GDR 1534 - wall mounting



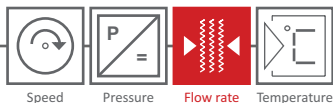
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Standard case for GDR 1534 - DIN rail mounting (option HT)



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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: $\pm 1,5 \%$

For further information see datasheet DS 312 E.



Compact Fluidistor Gas Flow meter GD 500 Ex

The Compact Fluidistor Gas Flow meter (stainless steel 1.4571) measures all technical and medical gases with a measurement range of 0,21 - 16,8 m³/h. Process connection G 1/2", G 1".
Pressure: PN 10 - PN 25 - PN 40
Accuracy: $\pm 1,5 \%$

For further information see datasheet DS 312 E.

Your local contact: