

Connecting diagram

Flow Computer GDR 1501 (E8166c)

Content

Installation instructions	1
Device code: GDR 1501	2
Connecting diagram and terminal allocation	3
Bus dataset for PROFIBUS DP, Profinet, Modbus TCP, Modbus RTU	4

Installation instructions

Please check the board version of the connection board and select the connection diagram accordingly. This plan is valid for version E8166c.

Many thanks for your understanding, that we do not enclose a full installation manual to each device for environmental reasons. You have the opportunity to download all relevant information from our homepage (www.esters.de).

To start-up the devices, no additional software is required, the device can be completely set up over the display and the keypad.

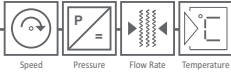
Download

Device specific connecting diagram and installation instruction

Download under Download >> Instruction manuals
(<https://www.esters.de/en/download-instruction-manuals/>).

The designation of the device is defined on the nameplate.





Device code: GDR 1501

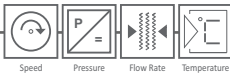
	BASIC	ECO	PRO			
GDR 1501-XXXX-XYZ0	0000	0048	0049	1049	2049	3049
INPUT						
1: Flow rate: input for platinum wire sensor (GD 300/GD 500) (only NON-ATEX) <u>oder</u>	•	•	•	•	•	•
1: Flow rate: impulse input for HB 300-R000000/ HB 300 Ex-R000000 (GD 300 (Ex)/GD 500 (Ex))* , <u>or</u>	•	•	•	•	•	•
1: Flow rate: Third party devices with Open-Collector, Reed-Relay, input frequency up to 1 kHz	•	•	•	•	•	•
2: Temperaturr: 4 - 20 mA, 2 wire = -100 - 999 °C (12 bit) <u>or</u>		v	•	•	•	•
2: Temperature (Pt100): 3 wire (12 bit)		v	•	•	•	•
3: Pressure: 4 - 20 mA, 2 wire = 0 - 1000 bar (12 bit)		v	•	•	•	•
OUTPUT						
1: 4 - 20 mA = 0 - (x) Bm ³ /h, l/h, Bm ³ /min, l/min (only Eco and Pro: Nm ³ /h, NL/h, Nm ³ /min, NL/min) Flow rate (freely programmable), input resistance 500 Ohm	•	•	•	•	•	•
RELAY OUTPUT						
K1: Relay (NO) freely programmable - pulse output (0,1, 1 or 10 or 100 m ³ per impulse, freely programmable), counter output quantity <u>or</u> - limit value <u>or</u> - device status	•	•	•	•	•	•
K2: Relay (NO) freely programmable acc.to K1	•	•	•	•	•	•
BUS INTERFACES						
Modbus TCP				•		
Profinet					•	
PROFIBUS DP						•

* Older models of pulse amplifiers as the UNI 100 and SC 300 series can be connected.


v = virtual input for freely definable fixed values


GDR 1501-xxxx-XYZ0	X	Y	Z	
	1			Housing made of polycarbonate for wall mounting (standard)
	2			Housing made of aluminum for wall mounting
		0		24 V, DC ± 3 V max. 200 mA (standard)
		1		- 100 - 240 V, AC 144 mA max. 50/60 Hz <u>or</u> - 24 V, DC ± 3 V, max. 200 mA (ATTENTION: Only connect one kind of power supply!)
			1	Interface Modbus RTU

Rev.-Nr.: CD 324 E-GDR 1501-E8166c-V05 - 2021-07-12



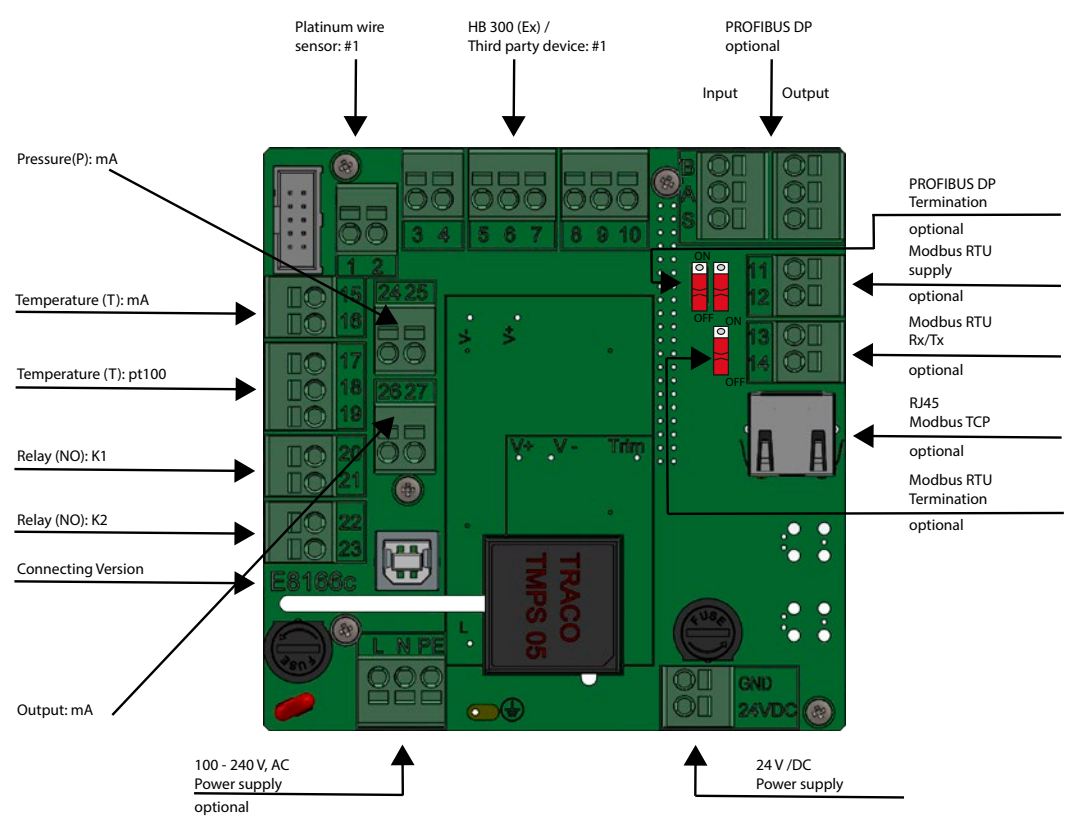
Connecting diagram and terminal allocation

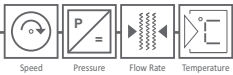
TERMINAL	No.	
PLATINUM WIRE SENSOR: #1	1	
	2	
	3	
N.D.	4	
	5	GND
HB 300-R000000/ HB 300 Ex-R000000/ THIRD PARTY DEVICE #1	6	P
	7	+24 V
N.D.	8	
	9	
	10	
PROFIBUS DP INPUT (LEFT)	B	
	A	
	S	
PROFIBUS DP OUTPUT (RIGHT)	B	
	A	
	S	
PROFIBUS DP TERMINATION		

TERMINAL	No.	
MODBUS RTU POWER SUPPLY (OPTIONAL)	11	GND
	12	+24 V
MODBUS RTU (OPTIONAL)	13	Rx
	14	Tx
MODBUS TERMINATION		
	15	+
TEMPERATURE (T): mA	16	GND
	17	GND
TEMPERATURE (T): pt100	18	U1
	19	U2
	20	
RELAY: K1 (NO)	21	
	22	
RELAY: K2 (NO)	23	
	24	GND
PRESSURE (P): mA	25	+
	26	GND
OUTPUT: mA	27	+

POWER SUPPLY			
POWER SUPPLY: 24 V, DC	GND 24 V DC	POWER SUPPLY: 100 - 240 V, AC (OPTIONAL)	L, N, PE

Rev-Nr.: CD 324 E-GDR 1501-E8166c-V05 - 2021-07-12





Bus dataset for PROFIBUS DP, Profinet, Modbus TCP, Modbus RTU

The following dataset is transmitted via the optional available bus interfaces (PROFIBUS DP, Profinet, Modbus TCP, Modbus RTU).

Data output: GDR 1501 → Fieldbus

OFFSET	FORMAT	CONTENT	UNIT
0x0000	U16	Counter ca. 10 Hz	-
0x0002	U16	Measuring point index	-
0x0004	U32	Operating quantity	0.1 cm ³
0x0008	U32	Operating quantity	m ³
0x000C	U32	Normalized quantity	0.1 Nm ³
0x0010	U32	Normalized quantity	Nm ³
0x0014	U32	Reserved	-
0x0018	U32	Reserved	-
0x001C	U32	Flow rate	0.1 l/h
0x0020	U32	Flow rate	l/h
0x0024	S32	Gas temperature	0.1 °C
0x0028	S32	Gas pressure	0.1 mbar
0x002C	U32	Atmospheric pressure	0.1 mbar

Data input: Fieldbus → GDR 1501

OFFSET	FORMAT	CONTENT	UNIT
0x0000	U16	Reserved	-
0x0002	U16	Reserved	-
0x0004	U32	Reserved	-

Rev.-Nr.: CD 324 E-GDR 1501-E8166c-V05 - 2021-07-12