

PROFIBUS-PA Display *RID 261 PROFIBUS-PA*

Display of process values and set point alarms
on PROFIBUS-PA systems



Applications

- Direct connection to any point in a PROFIBUS-PA network according to IEC 1158-2
- Display of process values and alarm set point infringements
- Passive display of the cyclic data transfer (input or output data)
- ATEX certification for application in hazardous areas

Features and benefits

- Measured value display in accessible areas
- 7 digit LC display
- Simple addressing using DIP switches
- Power supply from the PROFIBUS-PA
- Maximum current consumption 11 mA
- Wall or stand pipe mounting
- Ingress protection classification IP 66



Operation and system construction

Measurement principle	Display of process information (e.g. measured value and alarm condition), for the field bus user (e.g. sensor or actuator) connected to the PROFIBUS-PA network. Process value is displayed as a 7 digit number, process condition is displayed using set point markers.
System construction	Microcontrolled front end display with PROFIBUS-PA interface and LC display.
Block diagram	

Input

Protocol	PROFIBUS-PA in accordance to EN 50170 Volume 2, Transmission to IEC 1158-2
Data	5 Byte, input or output data (process value and alarm condition display)
Process value	4 Byte, 32-Bit floating point number (IEEE-754)
Alarm display	1 Byte, status PROFIBUS-PA profile V3.0
PA function	Listener
Transmission rate of PROFIBUS-PA	31.25 kBit/s
Physical level	IEC 1158-2

Power supply

Electrical connections	<p>Attention: Connect the shield with the PG glands conductively.</p>
------------------------	--

Power supply	Powered from PROFIBUS-PA non-EEEx: 9...32 V _{DC} Powered from PROFIBUS-PA EEx: 9...15 V _{DC}
Power consumption	< 1 W _{DC}
Current consumption	10 mA ±1 mA Attention: The current consumption of max. 11 mA by the RID 261 PROFIBUS-PA Display must be taken into account when planning the PROFIBUS-PA network!

Application conditions

Installation conditions

Installation angle	No limit
--------------------	----------

Ambient conditions

Ambient temperature	-25...+60 °C (for EEx area see Ex protection)
Storage temperature	-25...+70 °C
Climatic class	To EN 60 654-1, Class C1
Ingress protection	IP 66
Vibration protection	IEC 60 654-3, v<3 mm/s, 1<f<150 Hz

EMC immunity

EMC	Interference immunity and emission according to EN 61 326-1
-----	---

Mechanical construction

Dimensions	
Weight	Approx. 0.6 kg
Materials	Housing in die cast aluminium, surface cintered Wall/stand pipe brackets: St. St. 1.4301 Tension strip: St. St. 1.4301
Terminals (screw terminals)	≤ 2.5 mm ²
Cable entries	Bus cable: PG 13.5 cable gland (for 5...9 mm cable diameter) or NPT 1/2 " cable gland or Field bus connector (WDM) 150 mm

Operating elements

DIP switches	Description
<p>S2 ON</p>	<p>S2/8: Off=Input data, On=Output data, Factory default: Input data</p>
<p>S1 ON</p>	<p>S2/1-7: Binary coded Bus address [0...126], Factory default: Bus address 4 (S2/3 = on)</p>
	<p>S1/1-8: Binary coded Offset in Byte [0...244], Factory default: No offset</p>
<p>The 7 lower pins (PIN1 to PIN7) of the address DIP switch (S2) specify the user field bus address, from which the process value is to be read. The range on PROFIBUS-PA is 0...125. PIN8 of the address DIP switch (S2) sets if the values to be displayed are output data (PIN8=1, e.g. control actuator) or input data (PIN8=0, e.g. sensor process value). Using the 8 pins of the offset DIP switch (S1) the offset is set up. The offset indicates the point in the data telegram (on sensors with a process value = 0 e.g. temperature sensor) where the process value to be displayed (4 Byte process value, 1 Byte status) starts. The range on PROFIBUS-PA is 0...245 Byte.</p>	
Factory default	1. sensor process value in address 4

Display elements LC display

Display	7digit LC display, 7.5 mm character height
---------	---

Display	Description
	Start: Display after Reset
	Process value: Number (poss. with negative prefix) with maximum 3 decimal points and OK marks indicating process value status is OK
	Process value with alarm markings: Process value status OK or UNCERTAIN alarm condition (from PROFIBUS-PA profile V3.0)
	Error: Process value status contains status BAD, no defined value or no valid process value
	No process value: Process value transmission is interrupted, no valid process value
	no Co: 10 s no valid process value

Display range	Value range	Display	Comments
	0...9,999.999	1234.567	
	10,000...99,999.99	12345.67	
	100000...999,999.9	123456.7	
	1,000,000...9,999,999	1234567	
	> 9,999.999	9999999	Flashes at 1 Hz
Up-date	< 1 / s		

Certification

CE mark	This unit complies with the legal requirements laid out within the EU regulations.
---------	--

Certificate number	DMT 99 ATEX 062
--------------------	-----------------

Max. ambient temperature	T5 = +60°C
--------------------------	------------

Peak values in fault condition	
---------------------------------------	--

Input voltage	15 V
---------------	------

Short circuit current	31 mA
-----------------------	-------

Capacitance	$C_i \leq 0 \mu\text{F}$
-------------	--------------------------

Inductance	$L_i \leq 2 \mu\text{H}$
------------	--------------------------

How to order

RID 261 PROFIBUS-PA

Display of process values and alarm conditions.
PROFIBUS-PA interface to IEC 1158-2.
7 digit LC display. Set up using DIP switches

Certification

- A - Version for non-Ex areas
- B - DMT 99 ATEX 062

Cable entry

- 1 - PG 13.5 cable glands
- 2 - NPT 1/2 inch cable gland
- 3 - Fieldbus unit connector (WDM) 150 mm

Accessories

- 1 - No accessories required
- 2 - Wall fitting bracket
- 3 - Stand pipe fitting bracket

RID261-

← Order code

Accessories

Wall fitting bracket	51000946
Stand pipe fitting bracket	51000924
Fieldbus unit connector (WDM) 150 mm	51000400

Additional documentation

Operating manual	BA 098/R/09/
ATEX Safety instructions	XA 002R/09/

United Kingdom

Endress+Hauser Ltd.
Floats Road
Manchester
M23 9NF

Tel. (01 61) 2 86 - 50 00
Fax (01 61) 9 98 - 18 41
<http://www.endress.com>

Export Division

Endress+Hauser GmbH + Co
Instrument International
P.O. Box 2222
D-79574 Weil am Rhein
Germany

Tel. 49-76 21-9 75-02
Fax 49-76 21-9 75-3 45
<http://www.endress.com>

Environmentally friendly
Bleached without chlorine



Endress + Hauser
The Power of Know How

