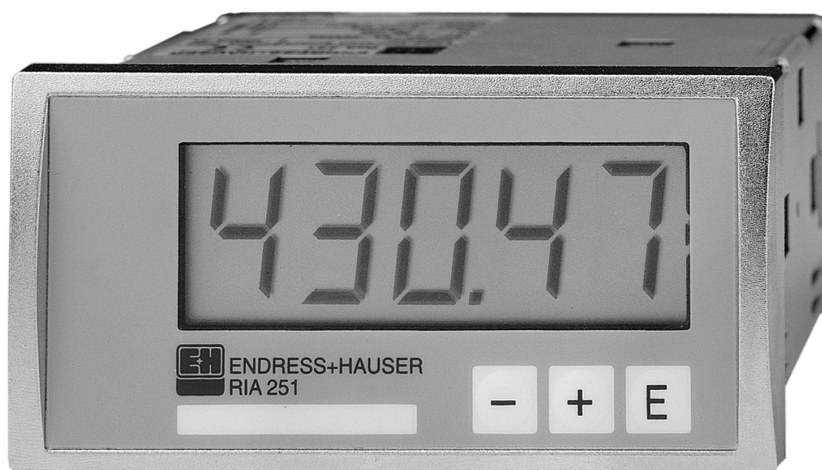


Process display *RIA 251*

Digital loop powered display
for 4...20 mA current loops



Application areas

- Plant and machine construction
- Control panels
- Laboratory fittings
- Process display, monitoring
- Suitable for Ex applications

Features and benefits

- 5 Digit LC display with 17 mm character height
- Loop powered display, no additional power supply cabling required
- Measurement range - 19999 to 99999
- Flexible measurement range set up using 3 push buttons

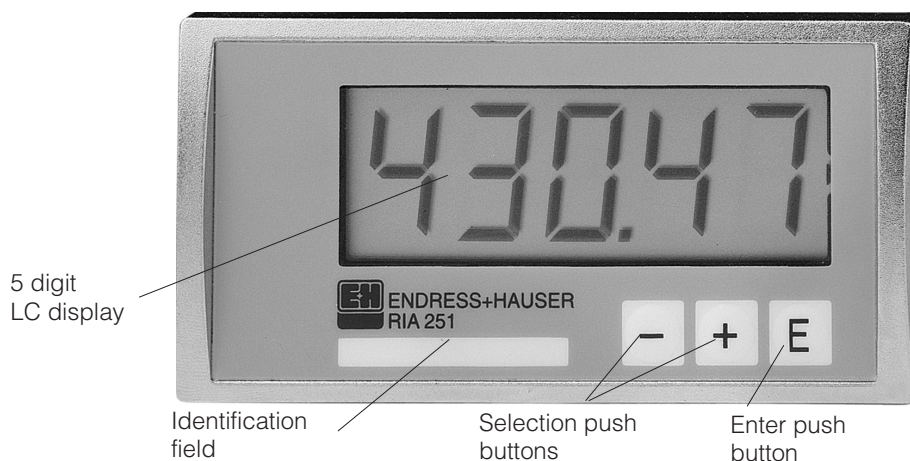


Function

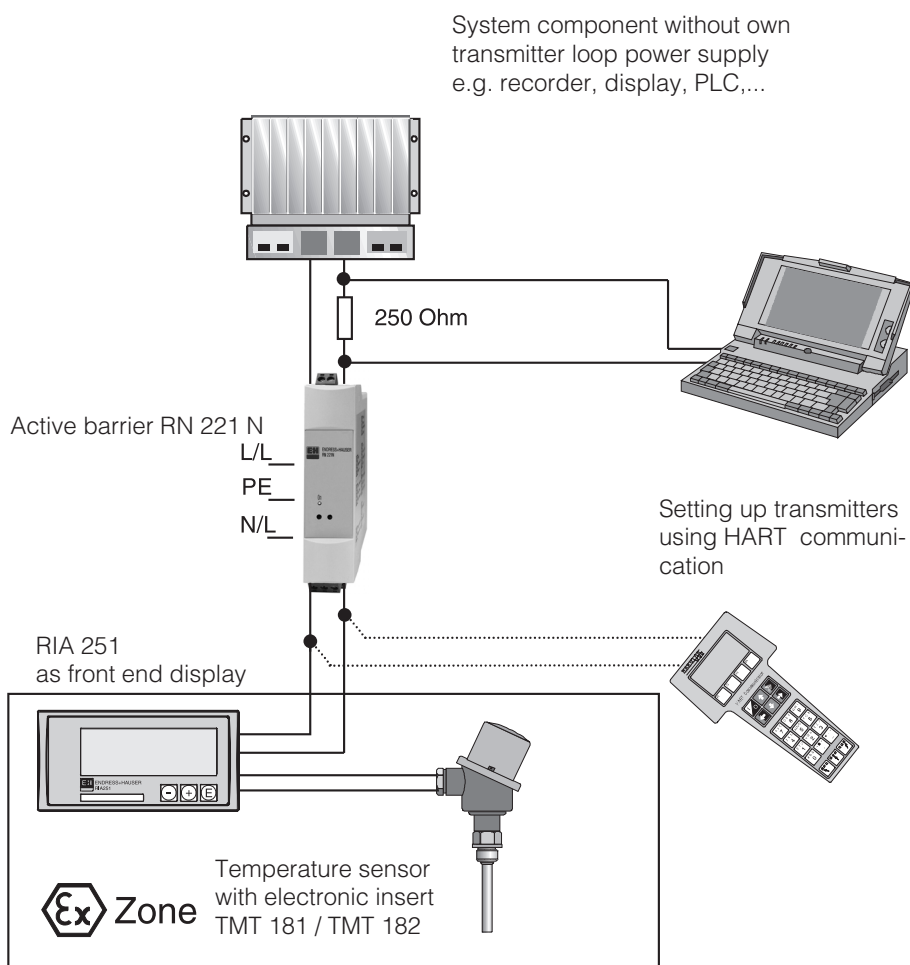
The RIA 251 process display is connected directly into the 4 ... 20 mA measurement loop. The power required is taken from the current loop. The voltage drop of <2 V has no significant influence on the measurement circuit. Setting up the measurement range, decimal point and offset is easily done using the 3 front mounted push buttons.

Setting up can also take place whilst the unit is operational, which means that later changes can be easily made. The unit can be obtained with Ex certification to ATEX II 1 G EEx ia IIC T6, FM and CSA (Option). Therefore special applications where the display is required directly in the hazardous area can now be realised.

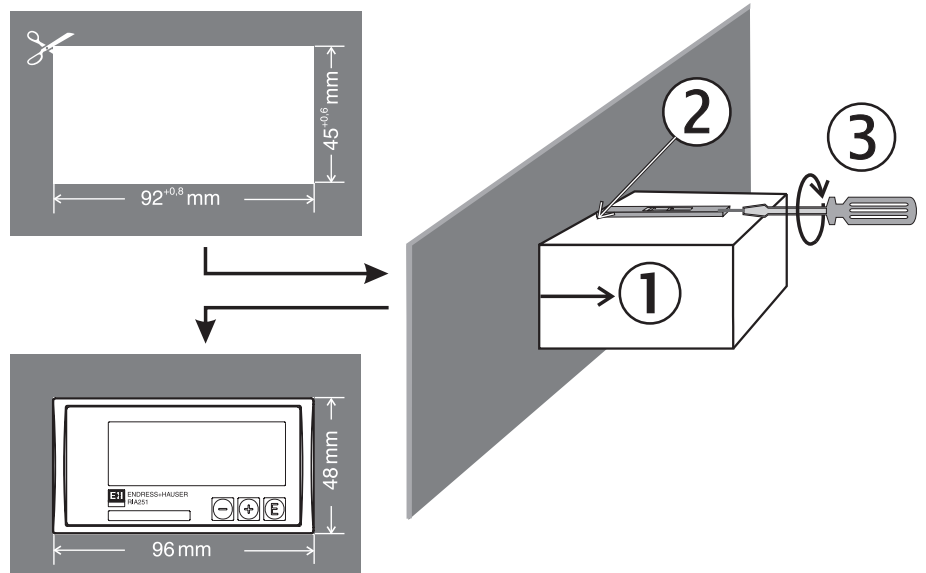
Display



Application



Dimensions

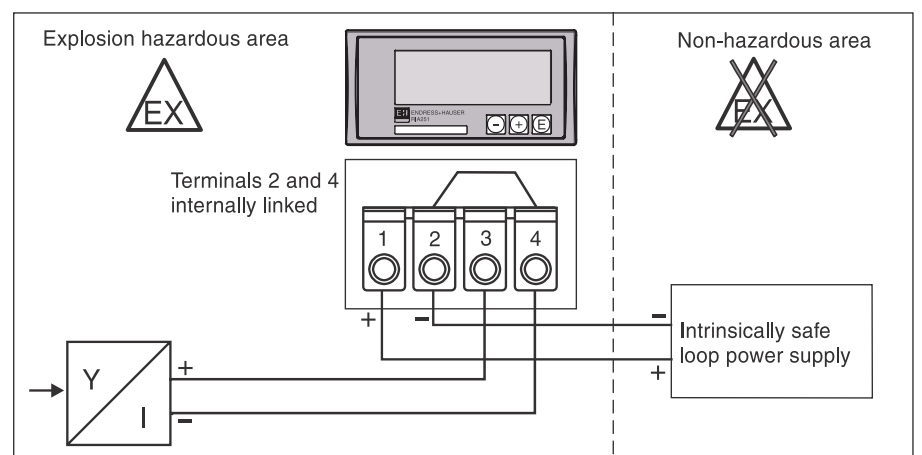
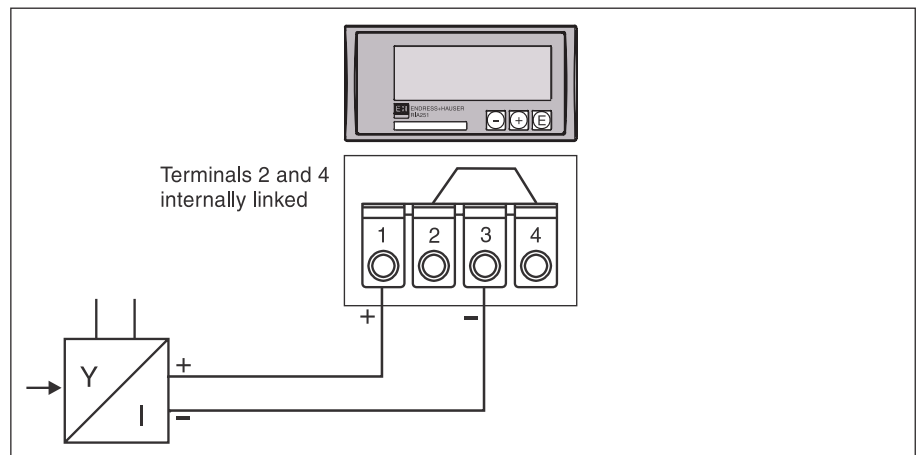


Electrical connection

Both the terminals and the connection values of the display correspond to the Ex requirements.

Note:
The display can be placed into the explosion hazardous area if a suitable barrier is used.

Connection of an active current source
e.g. Transmitter with its own power
source and an active current output.



When using an Ex certified display it can be applied as a front end display in the non-explosion hazardous area.

Technical data

General information

Application

Operation and system construction

Input

Accuracy

Application conditions

Manufacturer	Endress+Hauser
Description	RIA 251
Unit function	Panel mounting process display
Process display	The display receives an analogue signal and shows the corresponding value on the display. The unit is connected in the 4 ... 20 mA circuit and also receives the required power from this circuit.
Measurement principle	The analogue signal connected is digitalised, analysed and indicated in the LC display.
Measurement system	Microcontroller controlled display with LC display.
Input type	Current
Measurement range	4...20 mA (polarity protected)
Max. input current	150 mA (short circuit current)
Voltage drop	< 2 V
HART - Protocol	The display is suitable for transmitting the HART protocol.
Current	Accuracy < 0.1% of FSD Temperature drift: < 0.01% / 10 k
Installation conditions	
Installation angle	No limit
Ambient conditions	
Ambient temperature	-10 °C...+60 °C
Storage temperature	-25 °C...+70 °C
Climate classification	To IEC 60654-1 Class B2
Ingress protection	Between base and panel: IP 65 Terminals: IP 20
EMC immunity	
RF protection	To EN 55011 Group 1, Class A
Interference safety	
ESD	To IEC 61000-4-2, 6/8 kV
Electro magnetic fields	To IEC 61000-4-3, 10 V/m
Burst (Power supply)	To IEC 61000-4-4, 2 kV
Cable high frequency	To IEC 61000-4-6, 10 V

Mechanical construction

Dimensions	H: 48 mm, W: 96 mm, D: 90 mm
Weight	Approx. 300 g.
Materials	Housing front: Die cast aluminium Housing casing: Galvanised sheet steel Housing rear panel: Plastic ABS
Electrical connection	Plug on screw terminals (securable), Terminal size 1.5 mm ² solid, 1.0 mm ² strands with ferrule

Display and operating level

Display	5 digit LC display, 17 mm character height
Range	-19999 to +99999
Offset	-19999 to +32767
Operation	3 push button operation (-/+ /E)

Power supply

Power supply	From 4...20 mA current loop
Voltage drop	< 2 Volt

Certification

CE Mark	89/336/EWG guide lines
Ex certification	ATEX II 1 G EEx ia IIC T6 to DIN EN 50014 and DIN EN 50020, FM IS, Class I, Div. 1+2, Group A,B,C,D to FM 3600 and FM 3610, CSA IS, Class I, Div. 1+2, Group A,B,C,D to C22.2 No 157
GL-Marine approval	Germanischer Lloyd / marine approval

How to order

RIA 251 process display		
<p>Certification</p> <p>A Version for non-Ex areas</p> <p>B ATEX II 1 G EEx ia IIC T6</p> <p>C FM IS, Class I, Div. 1+2, Group A,B,C,D</p> <p>D CSA IS, Class I, Div. 1+2, Group A,B,C,D</p>		
<p>Model</p> <p>1 Panel mounting 96x48 mm, depth 90 mm</p> <p>2 Panel mounting 96x48 mm, depth 90 mm with works calibration certificate</p>		
RIA251-		- Order code

United Kingdom	Export division
Endress+Hauser Ltd. Floats Road Manchester M23 9NF Tel. (0161) 286 - 5000 Fax. (0161) 998 - 1841 http://www.endress.com	Endress+Hauser GmbH+Co. Instruments International P.O. Box 2222 D-79574 Weil am Rhein Germany Tel. (07621) 975-02 Fax (07621) 975-345 http://www.endress.com