

1 or 2-channel passive barrier

RB223



€ 101.-
11-35 pcs.

Complete product information:
www.e-direct.endress.com/rb223

- Space-saving single/dual channel version
- Can be used up to SIL3
- Bidirectional HART® transmission

Specs at a glance:

- **Certificates:**
ATEX II (1) GD EEx ia IIC/IIB
ATEX II (1) GD EEx ib IIC/IIB
- **HART® communication:**
Built-in resistance for HART® communication 232 Ω
- **Version:**
Optional dual-channel version
- **Signal transmission:**
 - From non-Ex to Ex-areas
 - From Ex to non-Ex areas

Application The RB223 isolator can be used to galvanically isolate active signal circuits (0 to 20 mA) in three applications:

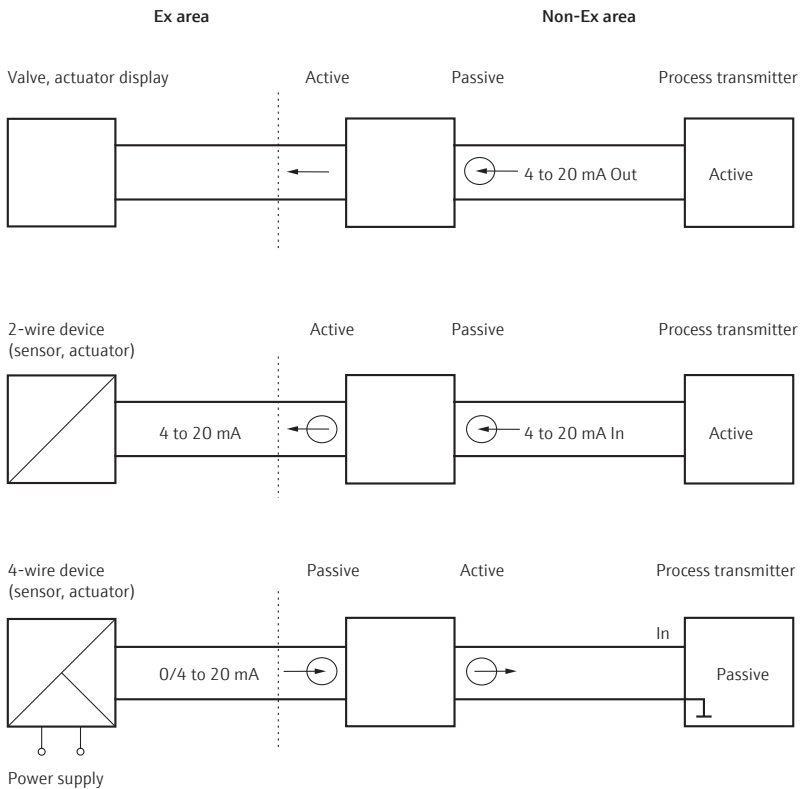
Transmission from non-Ex to Ex areas e.g for active adjusters, controllers or indicators

Transmission from Ex to non-Ex areas for connection of active, intrinsically safe circuits to the PLC

Transmission from Ex to non-Ex areas for supply of intrinsically safe transmitters with non-intrinsically safe transmitter power supply

Function The passive isolator transmits signal circuits from the input to the output by galvanic isolation. A HART® signal is also transmitted. The device is optionally available with intrinsically safe input/output. The device is loop-powered and does not need any additional supply voltage of its own.

Application example



Technical data

Current transmission direction Non-Ex → Ex; Input

Function range	0 to 40 mA (to 22 mA for specified accuracy)
Effective voltage	Max. <26 V for specified accuracy
Short circuit current	$I_{max} = 100$ mA
Limiting voltage	$U_{max} = 30$ V

Current transmission direction Non-Ex → Ex; Output

Function range	0 to 40 mA (to 22 mA for specified accuracy), max. current depends on load
Load	Load resistance max. 0 to 600 Ω
Type of protection	Intrinsically safe according to ATEX: Max. voltage: $U_o \leq 28$ V Max. current: $I_o \leq 93$ mA Max. power: $P_o \leq 660$ mW

Current transmission direction Ex → Non-Ex; Input

Function range	0 to 40 mA (to 22 mA for specified accuracy)
Type of protection	Intrinsically safe according to ATEX: Max. voltage: $U_i \leq 30$ V Max. current: $I_i \leq 100$ mA Max. power: $P_i \leq 750$ mW

Current transmission direction Ex → Non-Ex; Output

Function range	0 to 40 mA (to 22 mA for specified accuracy), max. current depends on load
Load	Load resistance max. 0 to 600 Ω

Galvanic isolation

Test voltage	>1.5 kV AC between input and output >1.5 kV AC between the channels
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Power supply

Starting current	Own consumption < 50 μA
Voltage drop	<(1.9 V + 400 Ω × current loop) for nonEx → Ex <(3.9 V + 120 Ω × current loop) for Ex → nonEx
Power loss	<0.2 W at 20 mA (per channel) without HART® <0.3 W at 20 mA (per channel) with HART®

Accuracy

Current transmission	< ± 10 μA + 0.15 % from measured value
Temperature drift	≤ ± 0.01 %/ 10 K

Operating conditions

Ambient temp.	-20 to +60 °C (-4 to +140 °F)
Storage temperature	-20 to +80 °C (-4 to +176 °F)
Climate class	To IEC 60 654-1 class B2
Relative humidity	<95 % without condensation
EMC	Interference immunity to IEC 61 326 (industry) and NAMUR NE21

Mechanical construction

Dimens. (W×H×D)	22.5 × 96 × 112 (0.89" × 3.78" × 4.33") for DIN rail to IEC 60 715 TH35
Weight	Approx. 150 g (5.29 oz.)

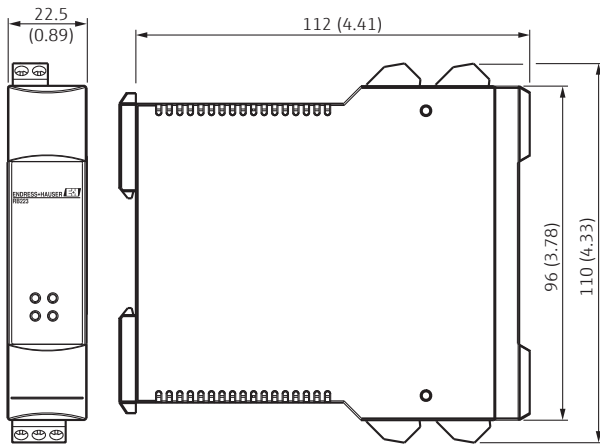
General

Communication	HART® protocol: bi-directional possible
Frequency response	650 Hz for 500 Ω load for nonEx → Ex 1300 Hz for 500 Ω load for Ex → nonEx

Approvals

Ex approvals	ATEX II (1) GD [EEx ia] IIC/IIB ATEX II (1) GD [EEx ib] IIC/IIB
SIL	Can be used up to SIL3

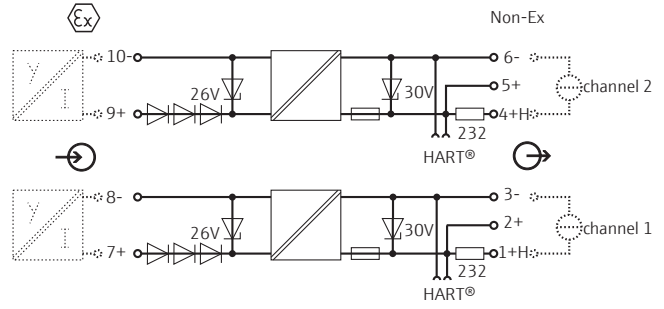
Dimensions in mm (inches)



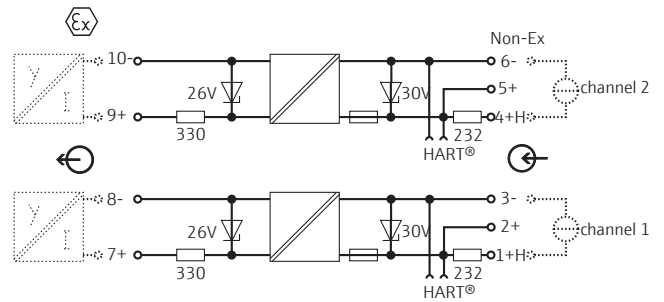
Installation according to instruction manual.

Electrical connection

Ex → Non-Ex 2 channel



Non-Ex → Ex 2 channel



Price table

RB223			Order no.	Price/pcs. in €		
Approval	Channel	Transmission direction		1 to 3	4 to 10	11 to 35
Non-hazardous area	1 ×	In-/Output	RB223-A1A	114.-	106.-	101.-
	2 ×	In-/Output	RB223-A2A	166.-	154.-	146.-
ATEX II(1)GD(Ex ia)IIC	1 ×	Ex → nonEx	RB223-B1A	126.-	117.-	111.-
		nonEx → Ex	RB223-B1B	126.-	117.-	111.-
	2 ×	Ex → nonEx	RB223-B2A	178.-	165.-	156.-
		nonEx → Ex	RB223-B2B	178.-	165.-	156.-

Accessories	Order no.	Price/pcs. in €
Protective housing IP 66 for max. 2 RTA421 (182 × 180 × 165 mm)	52010132	74.96

Prices are applicable for Malta until 30/06/2020, in euro per unit, net excluding value added tax (VAT), cost of packing and dispatch. Endress+Hauser retains the right to change or modify pricing at any time. The terms of sales and delivery of Endress+Hauser are applicable. Current prices and delivery times can be verified prior to ordering on www.e-direct.endress.com.

Complete product information:
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More products to complete your measuring point ...

