



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

Active IS Barrier RN221N

E-direct

www.e-direct.us



- Loop power supply and IS barrier in one device
- Communication sockets for HART®
- Compact DIN rail housing
- With FM AIS intrinsically safe input
- Galvanic isolation

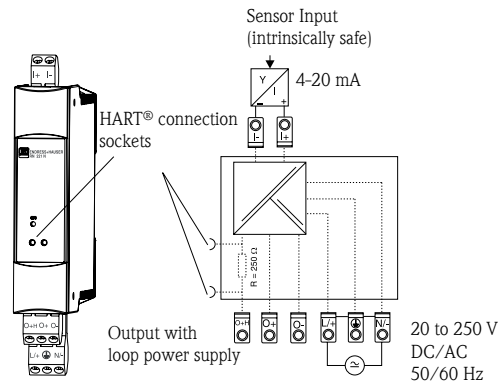
Application

The RN221N barrier with power supply is used for the galvanic isolation of 4 to 20 mA signal current circuits. It is also used to power 2-wire transmitters and to eliminate ground loops.

Measurement principle

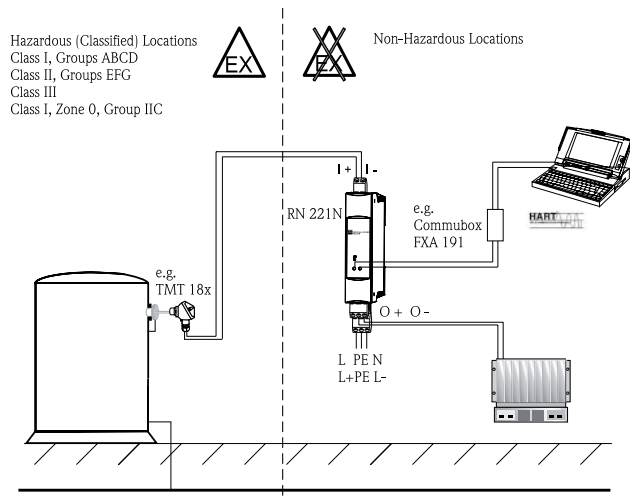
The active barrier RN221N supplies the sensor with power and transmits the measuring signal to the output. Bi-directional HART® communication is possible with SMART transmitters. The intrinsically safe input circuit, conforms to FM AIS requirements.

Electrical connection



Approval: FM AIS	Diagnostics: via HART® status bit
HART® signal: bidirectional	Relay output: optional for HART® diagnostics

Application example



HART® is a registered trademark of HART Communication Foundation, Austin, USA

RN221N

Technical data

Intrinsically safe input

- Open circuit voltage 27.3 V
- Short circuit current 87.6 mA
- Power consumption 576 mW
- Capacitance 86 nF Cl. I, Div. 1, Gr. A, B
683 nF Cl. I, Div. 1, Gr. C, D
- Inductance 5.5 mH Cl. I, Div. 1, Gr. A, B,
18.9 mH Cl. I, Div. 1, Gr. C, D

Certification

- FM approval FM AIS Cl. I, II, III; Div. 1, Gr. A-G

Output

- Number 1
- Open circuit voltage 26 V ± 5%
- Over range 10%
- Load (impedance) 0 to 700 Ω (without communication resistance)
- Galvanic isolation To all other current circuits

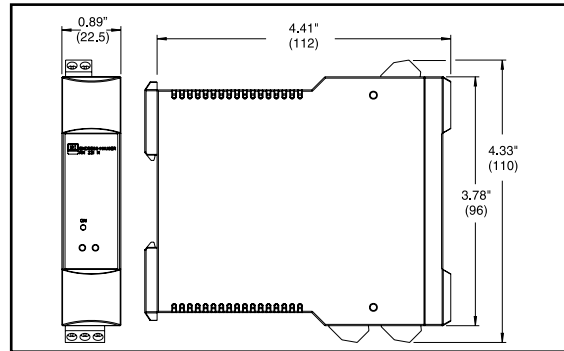
Power supply

- Supply voltage 20 to 250 V AC/DC, 50/60 Hz
- Power consumption Max. 2.5 W without HART® diagnostics,
Max. 5.0 W with HART® diagnostics
- Current requirement (Input current limitation) $I_{max} / I_n < 15$
- Electrical safety To EN 61 010-1, Protection class I,
Over voltage category II, Over current protection at installation (fuse) ≤ 10A

Accuracy

- Reference conditions Calibration temperature at 77 °F
- Linearity ≤ 0.15 %
- Load influence ≤ 0.1 %
- Ambient temperature influence ≤ 0.1 % in range 32 to 120 °F
≤ 0.2 %/10 K in range 0 to +32 °F

Dimensions [in inches (mm)]



Ambient conditions

- Ambient temperature -4 to +122°F (-20 to +50°C)
- Storage temperature -4 to +158°F (-20 to +70°C)
- Climatic class To EN 60 654-1 Class B2
- Ingress protection NEMA 1
- EMC Immunity To EN 61 326, Class A (industrial)

Mechanical construction

- Mounting for std. 35mm DIN rail to EN 50 022-35
- Housing PC/ABS, UL 94V0
- Terminals Keyed plug-on screw terminals, core size 14 AWG solid, or stranded with ferrules.

Display and operating level

- Display elements LED yellow in series to current output:
Illuminates, when output current circuit is closed
- LED Current > 2mA
- Remote communication HART® Communication signals are transmitted bi-directionally.
Resistance for HART® communication. 250 Ω built in. 2mm sockets for jack plugs. Please take note of voltage drop!

Many other models, versions and options are available. Please contact Endress+Hauser for more information.

Product	Version	Order no.	Price/piece in \$			we hereby order:	total price:
			1 to 5	6 to 15	16 to 35		
RN221N	FM AIS version	RN221N-C1	\$192.00	\$173.00	\$156.00	pcs	\$
Accessories	NEMA 4X protective housing	51002468	\$114.00			pcs	\$

Net excluding cost of shipping and taxes.
Acceptance per our Standard Terms and Conditions (find at www.e-direct.us).

Total price:
FOB Greenwood, IN; shipped pre-paid; shipping charges and applicable taxes added to invoice. \$ _____

E-direct catalog (free)

Shipping method Ground Priority One Day Priority Two Day



(For customers in the USA only)
Online Shop www.e-direct.us
Order: by phone 888-EH DIRECT (343-4732)
by fax 800-321-7754
For special requests, e-mail us: e-direct@us.endress.com

E-direct
Endress+Hauser, Inc.
2350 Endress Place
Greenwood, IN 46143

Warranty Should an instrument fail during the 1 year warranty period, a replacement unit will be provided.
Delivery Shipment from receipt of order for quantities 1-3 within 2 business days.



People for Process Automation