



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

Technical information

RNS221

Transmitter supply
for two 2 wire sensors or transmitters



Your benefits

- Galvanic isolation between all circuits
- Sockets and built in 250 Ω resistor for HART[®] communication
- Wide-range power supply 20...250 V DC/V AC, 50/60 Hz
- Top hat DIN rail mounted housing to IEC 60715

Application areas

The unit supplies two 2 wire sensors or transmitters galvanically isolated. This is only valid for non-Ex areas. Using the HART[®] communication sockets bi-directional communication to SMART transmitters, (for setting up etc.).



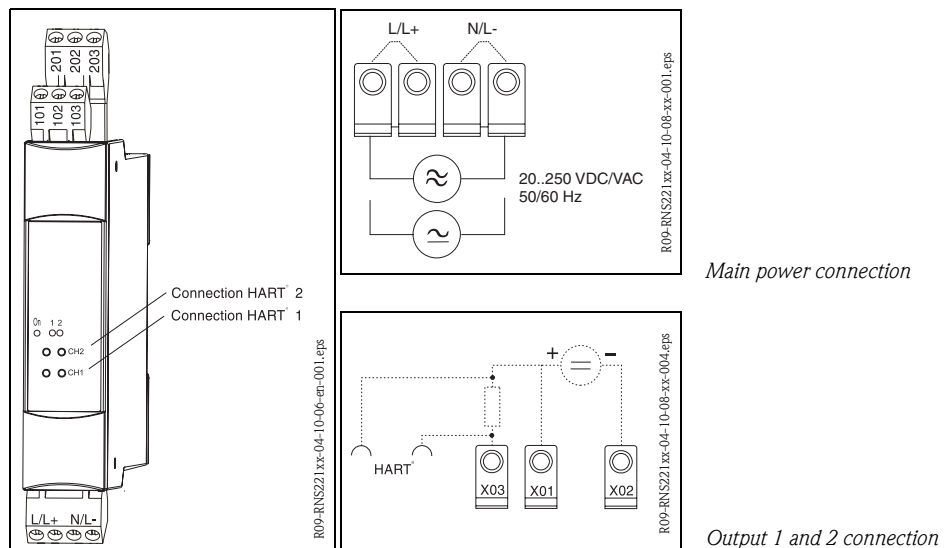
Function and system design

Measurement principle	The transmitter supply has two galvanically isolated outputs for supplying voltage to sensors and transmitters. A built-in communication resistance ($R = 250 \Omega$) enables bi-directional HART [®] communication with SMART sensors and transmitters.
Measurement system	2 channel transmitter supply 24 V DC, 30 mA, with LED status display for electrical supply of sensors and transmitters. All circuits are galvanically isolated from each other. The unit is constructed in a housing for 35 mm top hat DIN rail mounting.
Output signal	Two channels for transmitter power supply, open circuit voltage $24 \text{ V} \pm 10\%$, with integrated HART [®] communication resistance $R = 250 \Omega$ for each output.
Output current circuit	Max. 30 mA Short circuit current: Both channels are continuous short circuit protected.
Failure signal	LEDs do not illuminate
Galvanic isolation	Between all circuits

Output values

Power supply

Electrical connections



RNS221 terminal layout

Power supply	Wide range power supply 20...250 V DC/V AC, 50/60 Hz
Power consumption	$P \leq 5 \text{ W}$
Input current limit	$I_{\text{max}}/I_n < 15$
Power failure	To IEC 61000-4-11

Installation conditions

Installation hints

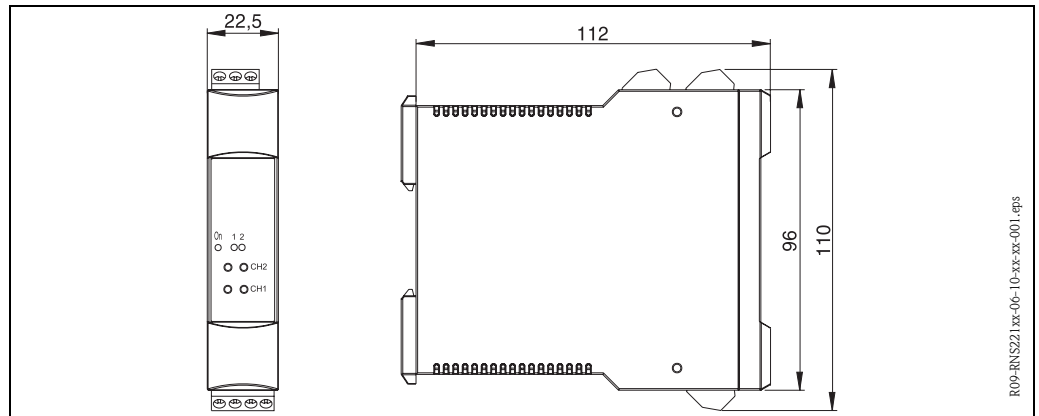
- The installation area must be vibration-free
- Keep within the permitted ambient temperature range of -20...+60 °C
- Protect the unit from external heat sources

Environmental conditions

Ambient temperature range	- 20 °C ... + 60 °C
Storage temperature range	- 30 °C ... + 70 °C
Climatic classification	To IEC 60 654-1 Class B2
Electrical safety	To IEC 61010-1: Altitude < 2000 m above sea level
Ingress protection	IP 20
EMC/immunity	To IEC 61 326, transmission Class A, Immunity to IEC 61 326 industrial environment
Over voltage protection	To IEC 61 010-1, Category II, Installation protection fuse ≤ 10 A

Mechanical construction

Design/dimensions



Construction of the transmitter supply - dimensions in mm

Housing for top hat rail mounting according to IEC 60715

Weight

Approx. 140 g

Materials

Housing:
– Plastic PC/ABS, UL 94V0

Terminals

Power and signal connections:
– Keyed plug-on screw terminal, core range 1.5 mm² solid, 1.0 mm² stranded with ferrule
Communication connection:
– Communication sockets (2 mm) on the front of the unit

Human interface

Display elements

- 2 yellow illuminated LEDs with connected outputs
- 1 green illuminated LED with main power connection

Certificates & approvals

CE-Mark

The device meets the legal requirements of the EC directives. Endress+Hauser confirms that the device has been successfully tested by applying the CE mark.

Ship building approval

GL (Germanischer Lloyd)

UL

Recognized component to UL 3111-1

Ordering information

Product structure

Transmitter supply RNS221			
	Approval:		
	A	Non-hazardous area	
	Power supply:		
	K	North American region, 20...250 V DC/AC, 50/60 Hz	
	1	20...250 V DC/AC	
RNS221-	A		← Ordercode

Accessories

- Field housing
51002468

Further documentation

- Brief operating manual KA110R/09/c4

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