

Isolation Amplifier RN 2000

Isolation And Conversion Of Standard Signals

The Isolation Amplifier RN 2000 is used for isolation and conversion of 0 ... 20 mA, 4 ... 20 mA and 0 ... 10 V standard signals. Due to the calibrated selection of the input and output ranges, the new universal power supply and the ultra-small housing the Isolation Amplifier is suitable for flexible use. The high reliability and the protective separation are further features, which ensure a safe system operation.

The desired input and output range can be easily set by using DIP switch and due to the calibrated range selection no further adjustment is necessary. Also the cut-off frequency can be adapted to the measurement task by using the DIP Switch. Alternatively, all signal combinations are also available in the form of fixed range units.

The slim housing with 12.5 mm width saves space in the switch cabinet and facilitates by the practical plug-in screw terminal blocks the assembly. A simple housing latch has been provided for range setting purposes to make all the operating elements, including those on the DIN-rail, easily accessible.

The new universal power pack for 20 ... 253 V AC/DC means the RN 2000 can be used anywhere in the world, with all mains power supplies. The unit's high efficiency contributes significantly to reducing the unit's own heat generation. This is reflected in extremely high reliability and long-term stability. A green LED on the front of the unit has been provided to monitor the power supply.

- **Calibrated signal setting**

Input and output range can be set by using DIP switch - without any further adjustment

- **Universal Power Supply for 20 ... 253 V AC/DC**

Applicable world-wide for all common supply voltages

- **3-port isolation**

Protection against erroneous measurements due to parasitic voltages or ground loops

- **Ultra-small-sized housing**

12.5 mm housing with plug-in screw terminal blocks

- **High accuracy**

No falsification of measured signal

- **Protective Separation**

Protects service personnel and downstream devices against impermissibly high voltage

- **Maximum reliability**

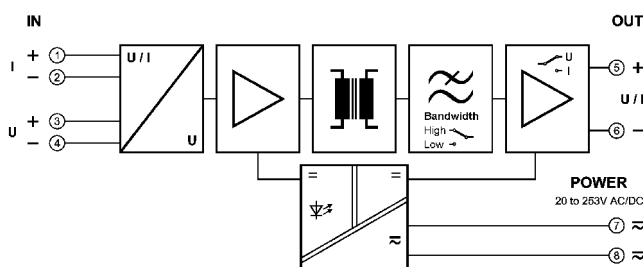
No maintenance costs

5 Years Warranty

Defects occurring within 5 years from delivery are remedied free of charge at our plant (carriage and insurance paid by sender)



Block diagram



Technical Data

Input			
Input signals	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V	terminal/switch selectable	
Input resistance	Current input	22 Ω	
	Voltage input	1 MΩ	
Input capacitance	Approx. 1 nF		
Overload	Current input	≤ 200 mA	
	Voltage input	Voltage limitation via 30 V Z-Diode, max. continuous current 30 mA	
Output			
Output signals	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V	switch selectable	
Load	Current output	≤ 12 V (600 Ω at 20 mA)	
	Voltage output	≤ 10 mA (1 kΩ at 10V)	
Linear transmission range	- 2 ... + 110 %		
Ripple	< 10 mV _{rms}		
General Data			
Transmission error	0.1 % of final value		
Temperature coefficient ¹⁾	50 ppm/K of finale value		
Cut-off frequency (-3 dB)	> 1 kHz	RN 2000 switchable to < 30 Hz	
Test voltage	4 kV, 50 Hz	Input against output against power supply	
Working voltage ²⁾ (Basic Insulation)	Up to 600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1 between all circuits.		
Protection against electrical shock ²⁾	Protective separation according to EN 61140 by reinforced insulation in accordance with EN 61010-1 up to 300 V AC/DC for overvoltage category II and pollution degree 2 between all circuits.		
Ambient temperature	Operation	- 20 °C bis + 70 °C	
	Transport and storage	- 35 °C bis + 85 °C	
Power supply	20 ... 253 V AC/DC	AC: 48 ... 62 Hz, approx. 2 VA DC: approx. 1.0 W	
EMC ³⁾	EN 61326-1		
Construction	12.5 mm housing, protection class: IP 20		
Weight	Approx. 100 g		

1) Average TC in specified operating temperature range.

2) As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipments. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.

3) Minor deviation possible during interference.

Bold: factory setting for RN 2000

Product line

Devices		Order No.	
Isolation Amplifier	calibrated range selection	RN 2000	
Isolation Amplifier	Fixed setting		
	Input	Output	
	0 ... 20 mA	0 ... 20 mA	RN 2012
	4 ... 20 mA	0 ... 20 mA	RN 2032
	0 ... 10 V	0 ... 20 mA	RN 2052
	0 ... 20 mA	4 ... 20 mA	RN 2014
	4 ... 20 mA	4 ... 20 mA	RN 2012
	0 ... 10 V	4 ... 20 mA	RN 2054
	0 ... 20 mA	0 ... 10 V	RN 2016
	4 ... 20 mA	0 ... 10 V	RN 2036
	0 ... 10 V	0 ... 10 V	RN 2056

Dimensions

