

# LOOP-POWERED ISOLATOR



- Galvanically isolated input-output
- 1:1 conversion
- No separate supply
- 3.75 kVAC/1.4 kVAC isolation voltage
- 1 or 2 channels
- Standard 11-pole relay socket



## Application:

Galvanic separation of analogue current signals. • For elimination of ground loops and measurement of floating signals. • Especially useful in applications where an external power supply is not readily available, since the unit is powered by the measured signal. • The unit loads the loop with max. 1.8 V (90 Ω) at 20 mA.

## Technical characteristics:

**Input:** DC current signal in the range 0...20 mA. The input is protected against overvoltage and polarity error. Voltage limit: 15 VDC.  
The drop voltage for the system can be calculated according to the following expression:  $V_{drop} = 1.8 + (I_{out} \times R_{load})$ .

## Output:

The current output (pin 3) tracks the input current 1:1. Current limit: typ. 50 mA.  
Output voltage: 0/0.2...1 V, or 0/2...10 VDC (programmable through internal jumpers) is established by short-circuiting (pins 3 and 2) or (pins 11 and 10). The built-in shunt resistor (50 Ω, 500 Ω) creates the desired output voltage between (pins 2 and 1) or (pins 10 and 9).  
Current and voltage signals refer to output gnd, but if both signals are used simultaneously, only the voltage signal refers to output gnd.

## Electrical specifications:

### Specifications range:

-20°C to +60°C

### Common specifications:

|  |                        |
|--|------------------------|
| Internal consumption.....                  | Max. 40 mW per channel |
| V <sub>drop</sub> internal.....            | < 1.8 V                |
| Isolation, 1 channel, test / operation ..  | 3.75 kVAC / 250 VAC    |
| Isolation, 2 channels, test / operation .. | 1.4 kVAC / 150 VAC     |
| Warm-up time.....                          | 5 min.                 |
| Signal / noise ratio.....                  | > 60 dB (0...100 kHz)  |
| Response time (0...90%/100...10%) ..       | ≤ 4 ms                 |
| Calibration temperature.....               | 20...28°C              |
| Temperature coefficient .....              | < ±0.01% of span /°C   |
| Linearity error .....                      | < ±0.1% of span        |
| EMC immunity influence .....               | < ±0.5% of span        |
| Humidity .....                             | < 95% RH (non-cond.)   |
| Dimensions (HxWxD), excl. pins .....       | 80.5 x 35.5 x 84.5 mm  |
| Tightness (enclosure) .....                | IP50                   |
| Weight 1 ch. / 2 ch. ....                  | 120 g / 240 g          |

### Input:

|                                 |                            |
|---------------------------------|----------------------------|
| Measurement range .....         | 0/4...20 mA                |
| Min. signal range .....         | 1:1                        |
| Input resistance at 20 mA ..... | ≈ 90 Ω + R <sub>load</sub> |

### Current output:

|                                |                         |
|--------------------------------|-------------------------|
| Signal range .....             | 0 / 4...20 mA           |
| Min. signal range (span) ..... | 1:1                     |
| Max. load .....                | 20 mA / 600 Ω / 12 VDC  |
| Load error on linearity .....  | < 0.03% of span / 100 Ω |

### Voltage output:

|                                |                            |
|--------------------------------|----------------------------|
| Signal range .....             | 0/0.2...1 V, or 0/2...10 V |
| Min. signal range (span) ..... | 1:1                        |
| Min. load resistance .....     | 500 kΩ                     |
| Voltage limit .....            | 15 VDC                     |

### GOST R approval:

VNIIM..... Cert. no. Ross DK.ME48.V01899

### Observed authority requirements: Standard:

|                    |                             |                           |
|--------------------|-----------------------------|---------------------------|
| EMC 2004/108/EC    | Emission and immunity ..... | EN 61326                  |
| LVD 73/23/EEC..... |                             | EN 61010-1                |
| PELV/SELV.....     |                             | IEC 364-4-41 and EN 60742 |

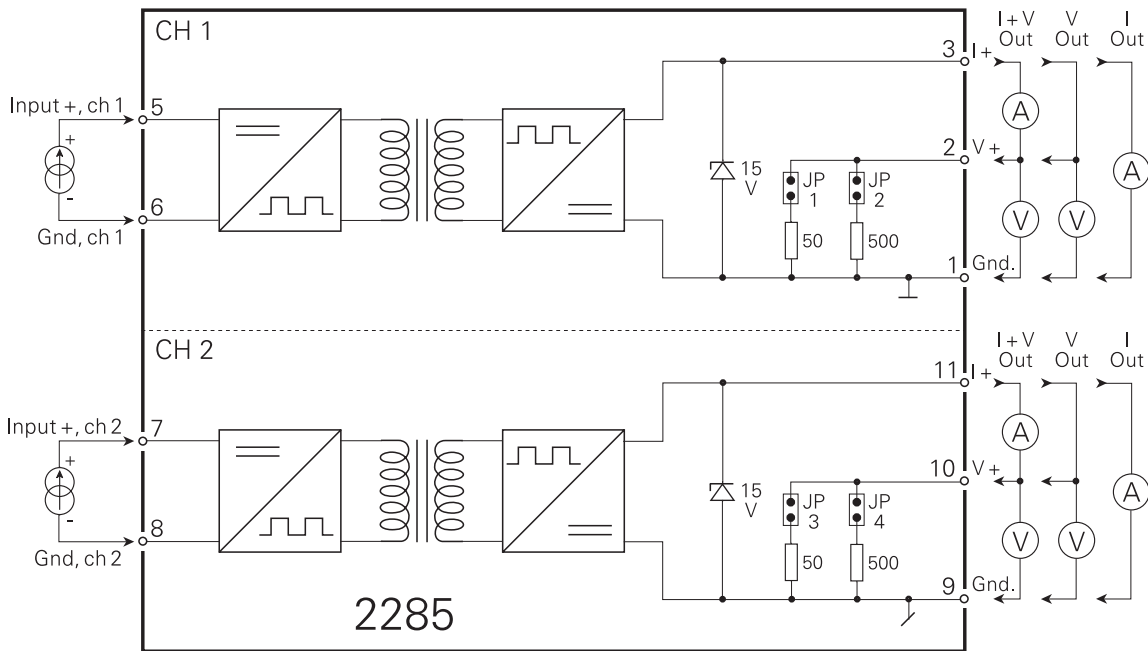
The 1-channel version can be installed as a PELV/SELV circuit.

**Of span** = Of the presently selected range

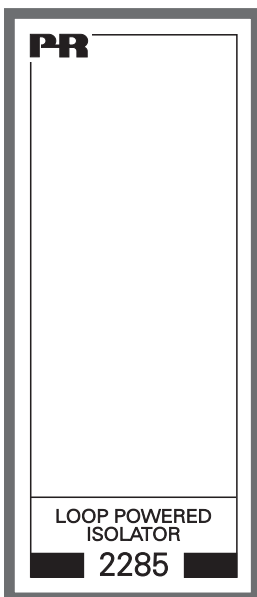
Order: 2285

| Type | Channels       |
|------|----------------|
| 2285 | 1 channel : A  |
|      | 2 channels : B |

**Block diagram:**



**Front layout:**



**Load schedule:**

