

# 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:  $V_{drop} = 1.8 + (I_{out} \cdot R_{load})$ .

## 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 (pin 3 and 2) or (pin 11 and 10). The built-in shunt resistor (50 Ω, 500 Ω) creates the desired output voltage between (pin 2 and 1) or (pin 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:

**Specification range:**  
(@ -20°C to +60°C)

### Common specifications:

Internal consumption .....	Max. 40 mW per channel
$V_{drop}$ 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).....	80.5 x 35.5 x 84.5 mm (excl. pins)
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 + Rload

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

### Observed authority requirements:

EMC 89/336/EEC, Emission .....	EN 50 081-1, EN 50 081-2
Immunity.....	EN 50 082-2, EN 50 082-1
LVD 73/23/EEC.....	EN 61 010-1
PELV/SELV .....	IEC 364-4-41 and EN 60 742

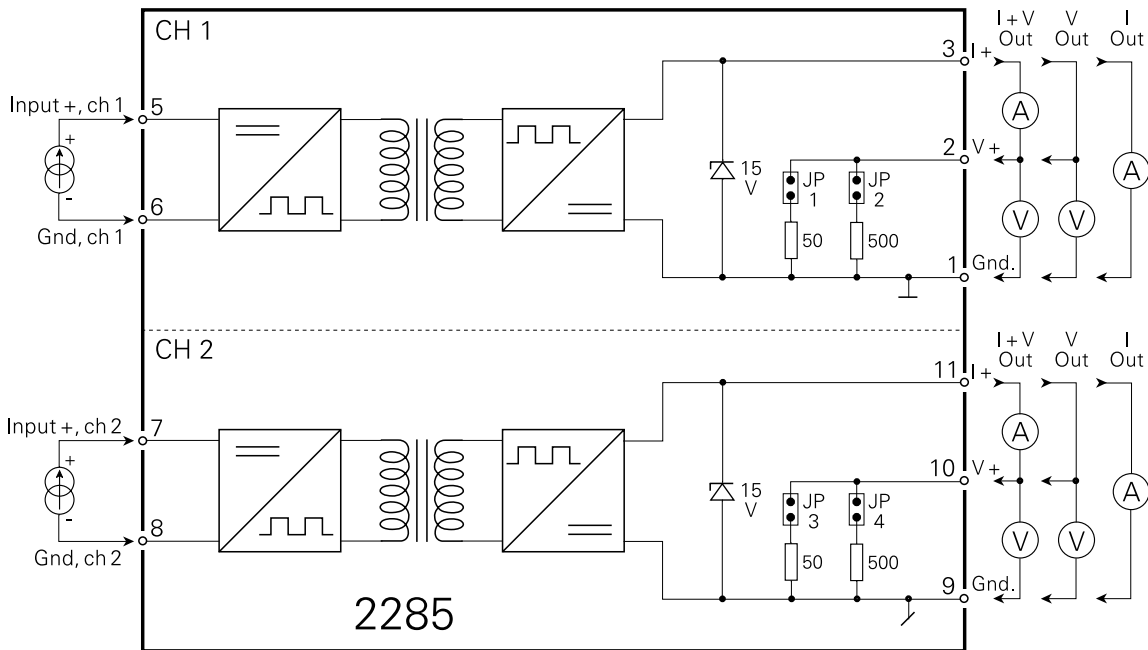
The 1-channel version can be installed as PELV/SELV circuit.

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

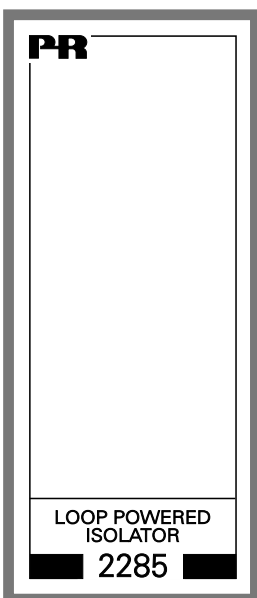
Order : 2285

Type	Channels
2285	1 channel : A
	2 channels : B

Block diagram:



Front layout:



Load schedule:

