

AC / DC TRANSMITTER



- Input galvanically separated from output and supply
- AC current measurement
- AC voltage measurement
- Current and voltage output
- 24 VDC or universally supplied
- Applicable in PELV/SELV circuits



Application:

AC current measurement e.g. in connection with a current transformer or a current clamp. • Direct AC voltage measurement.

Description:

The 2279 uses microprocessor technology for the selection of gain and zero offset, yet the signal processing is analogue.

Technical characteristics:

In standard ranges, the 2279 is programmable by use of internal DIP-switches within the input and output ranges of the programming table. Provided that front adjustments are still sealed, the unit needs no re-adjustment after programming.

Universally supplied units have a 3-port galvanic separation between input, supply, and output.

Input:

Signals in the ranges 0.5...250 VRMS sinusoidal voltage can be connected directly to the input.

Measurement transformers or current measurements of up to 1 ARMS can be connected directly to the input by use of an internal 1 Ω shunt. At higher currents, an external shunt must be applied.

Input frequency ranges: 40...400 Hz (±1%).

Input voltage: 8 internally programmable standard ranges (see table) or in special version within the measurement range. Time suppression: Approx. 1.5 s.

Output:

The output can be ordered acc. to standard or special currents and voltages within the signal range.

Signal reversal e.g. 20...4 mA is possible in a special version.

Standard current output (pin 3) 0/4...20 mA acc. to order form.

Current limitation: 23...28 mA.

Standard voltage output (pin 2) is achieved by short-circuiting pins 2 and 3.

The current signal is available between pins 2 and 1.

For voltage signals in the ranges 0...1 VDC, a 50 Ω shunt (DP 2-1) is applied. In the ranges 0...10 VDC, a 500 Ω shunt (DP 2-2) is applied.

Using both signals simultaneously, the mA loop to ground must go through the internal shunt.

±20% adjustment of the 0 and the 100% measurement range is possible at the front, but please note that all ranges are influenced.

Electrical specifications:

Specifications range:

-20°C to +60°C

Common specifications:

Supply voltage DC 19.2...28.8 VDC
 Universal supply voltage 21.6...253 VAC, 50...60 Hz
 19.2...300 VDC

Max. consumption 2279--D, (24 VDC) ≤ 1.3 W

Max. consumption 2279--P, uni. sup.) ≤ 2.2 W

Isolation, test / operation 3.75 kVAC / 250 VAC

Signal / noise ratio Min. 60 dB

Response time (0...90%) < 1.5 s

Temperature coefficient < ±0.01% of span/°C

Linerity error < ±1% of span

Effect of supply voltage change < ±0.005% of span / V

EMC immunity influence < ±0.5% of span

Relative air humidity < 95% RH (non-cond.)

Dimen. (HxWxD) (D is without pins)... 80.5 x 35.5 x 84.5 mm

Protection degree IP50

Weight DC / universally supplied 100 g / 160 g

Current input:

Measurement range 0...1 ARMS / 40...400 Hz

Min. measurement range (span) 500 mARMS

Max. offset 50% of max. value

Input resistance Nom. 1 Ω

Voltage input:

Measurement range 0...250 VRMS / 40...400 Hz

Min. measurement range (span) 0.5 VRMS

Max. offset 50% of max. value

Input resistance > 1 MΩ

Current output:

Signal ranges 0...5 mA / 0...20 mA

Min. signal range (span) 4 mA / 16 mA

Max. offset 20% of max. value

Load (max.) 20 mA / 600 Ω / 12 VDC

Load stability < ±0.01% of span / 100 Ω

Current limit 23...28 mA

Voltage output through internal shunt:

Signal ranges 0...0.25V/0...1V/0...2.5V/0...10 V

Min. signal range (span) 0.2 V / 0.8 V / 2.0 V / 8.0 V

Max. offset 20% of max. value

Output resistance Nom. 50 / 500 Ω, ±0.1%

Load (min.) 500 kΩ

GOST R approval:

VNIIM, Cert. no. See www.prelectronics.com

Observed authority requirements: Standard:

EMC 2004/108/EC EN 61326-1

LVD 2006/95/EC EN 61010-1

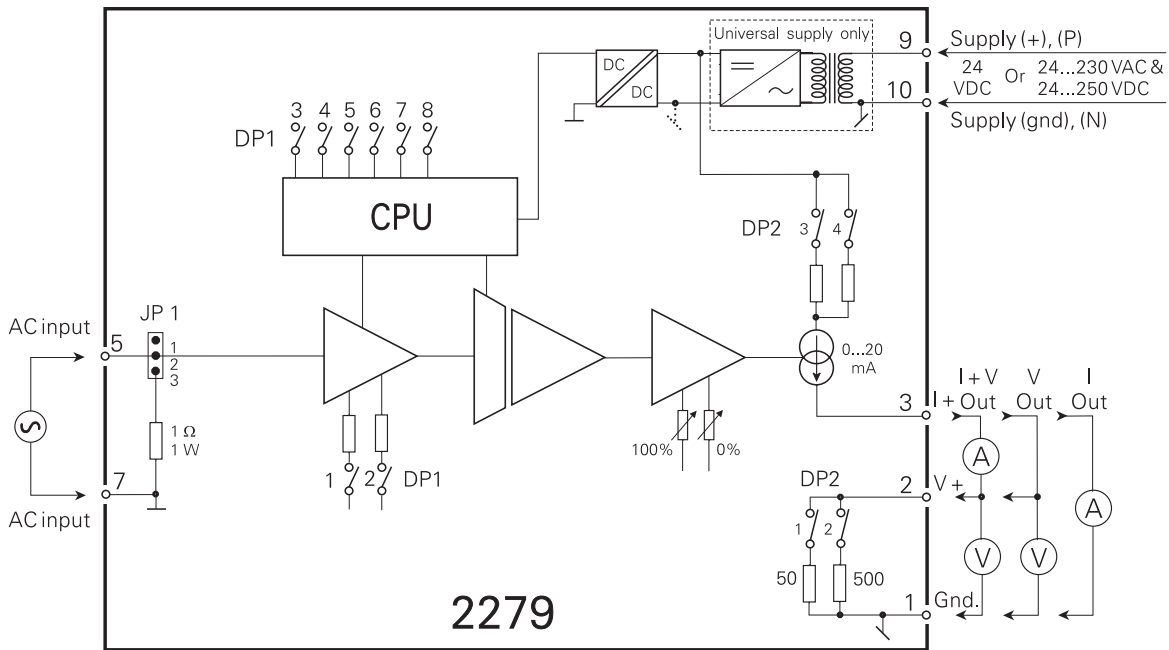
PELV/SELV IEC 364-4-41 and EN 60742

Of span = Of the presently selected range

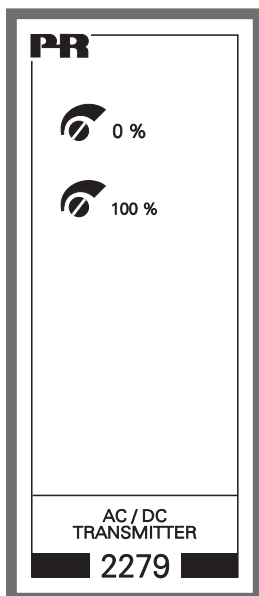
Order: 2279

Type	Input	Output	Supply
2279	0...0.5 VRMS : A	Special : 0	24 VDC : D
	0...1 VRMS : B	0...20 mA : 1	24...230 VAC & : P
	0...2.83 VRMS : C	4...20 mA : 2	24...250 VDC
	(0...4 Vpeak)	0...1 V : 4	
	0...5 VRMS : D	0.2...1 V : 5	
	0...120 VRMS : E	0...10 V : 6	
	0...230 VRMS : F	2...10 V : 7	
	0...0.5 ARMS : G		
	0...1 ARMS : H		
	Special : X		

Block diagram:



Front layout:



Programming:

INPUT PROGRAMMING	DP1 (8-pole) SW 1, 2, 3, 4, 5		JP1 POSITION	
	SW ON	SW OFF	1 - 2	2 - 3
0...0,5 VRMS	-	1, 2, 3, 4, 5	X	
0...1 VRMS	5	1, 2, 3, 4	X	
0...2.83 VRMS	4	1, 2, 3, 5	X	
0...5 VRMS	2, 4, 5	1, 3	X	
0...120 VRMS	1, 2, 3	4, 5	X	
0...230 VRMS	1, 2, 3, 5	4	X	
0...0.5 ARMS	3, 4	1, 2, 5		X
0...1 ARMS	3, 4, 5	1, 2		X

OUTPUT PROGRAMMING	DP2 (4-pole) SW 1 - 4		DP1 (8-pole) SW 6, 7, 8	
	SW ON	SW OFF	ON	OFF
0...20 mA	3	1, 2, 4	6	7, 8
0...1 V	1, 3	2, 4	7	6, 8
0...10 V	2, 3	1, 4	6, 7	8
For 20% offset on output, set DP1 sw. 8 ON, e.g. output 4...20 mA	3	1, 2, 4	6, 8	7

Note: At other spans than the above-mentioned, DP1, DP2, and JP1 have a different setting which applies to the delivered special range.