

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 connexion 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 dipswitches 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 ($\pm 1\%$).

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.

$\pm 20\%$ 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	24 VDC $\pm 20\%$
Universal supply voltage	24...230 VAC $\pm 10\%$, 50...60 Hz
	24...250 VDC $\pm 20\%$
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	< $\pm 0.01\%$ of span/ $^{\circ}$ C
Linearity error	< $\pm 1\%$ of span
Effect of supply voltage change	< $\pm 0.005\%$ of span / V
EMC immunity influence	< $\pm 0.5\%$ of span
Relative air humidity	< 95% RH (non-cond.)
Dimensions (HxWxD) (D is without pins)	80.5 x 35.5 x 84.5 mm
Tightness	IP50
Weight DC / universally supplied	100 g / 160 g

Input / current:

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

Input / voltage:

Measurement range	0...250 VRMS / 40...400 Hz
Min. measurement range (span)	0.5 VRMS
Max. offset	50% of max. value
Input resistance	> 1 M Ω

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	< $\pm 0.01\%$ 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 , $\pm 0.1\%$
Load (min.)	500 k Ω

Observed authority requirements: Standard:

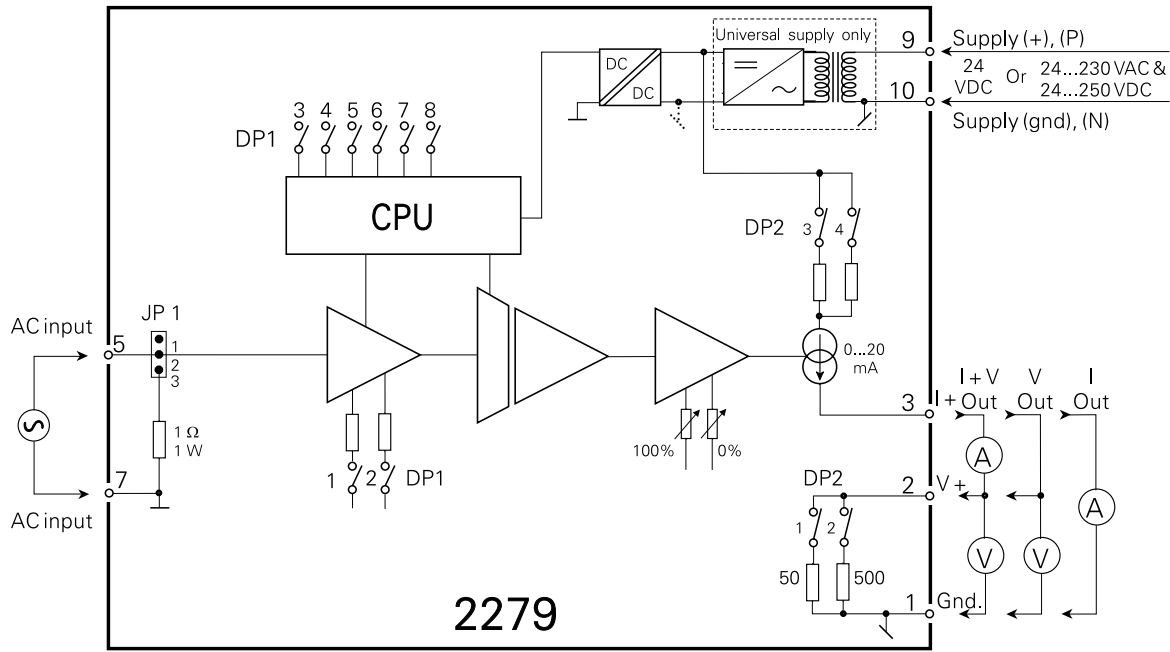
EMC 89/336/EEC, Emission	EN 50 081-1, EN 50 081-2
Immunity	EN 50 082-2, EN 50 082-1
Emission and immunity	EN 61 326
LVD 73/23/EEC	EN 61 010-1
PELV/SELV	IEC 364-4-41 and EN 60 742

Of span = Of the presently selected range

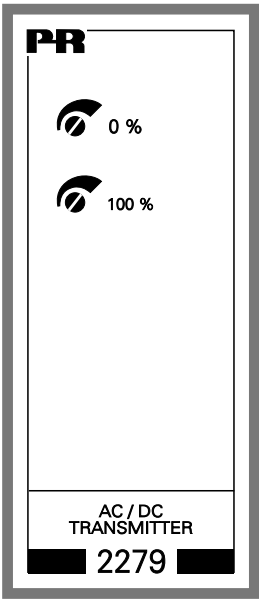
Order: 2279

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 &
	0...2.83 VRMS : C	4...20 mA : 2	24...250 VDC : P
	(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.