

# 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  $\Omega$  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  $\Omega$  shunt (DP 2-1) is applied. In the ranges 0...10 VDC, a 500  $\Omega$  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 ..... 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)  $\leq 1.3$  W  
 Max. consumption 2279--P, uni. sup.)  $\leq 2.2$  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/°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.)  
 Dimen. (HxWxD) (D is without pins)... 80.5 x 35.5 x 84.5 mm  
 Tightness ..... 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  $\Omega$

##### 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 .....  $> 1$  M $\Omega$

##### 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  $\Omega$  / 12 VDC  
 Load stability .....  $< \pm 0.01\%$  of span / 100  $\Omega$   
 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  $\Omega$ ,  $\pm 0.1\%$   
 Load (min.) ..... 500 k $\Omega$

##### GOST R approval:

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

##### Observed authority requirements: Standard:

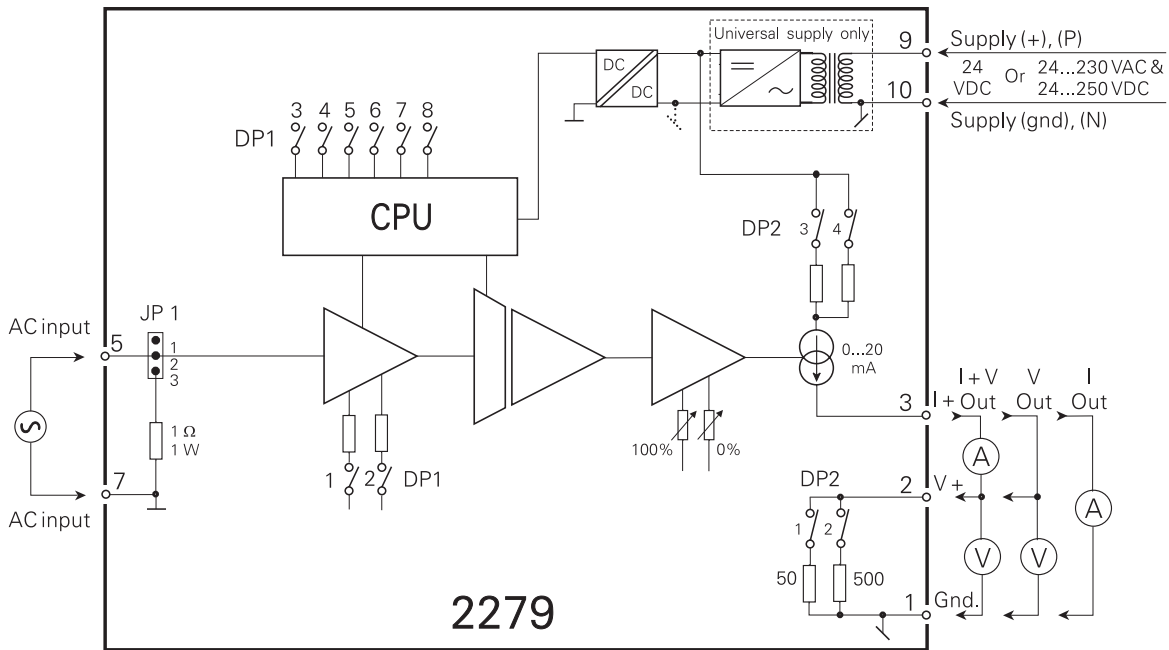
EMC 2004/108/EC  
 Emission and immunity ..... EN 61326  
 LVD 73/23/EEC ..... EN 61010-1  
 PELV/SELV ..... IEC 364-4-41 and EN 60742

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

Order: 2279

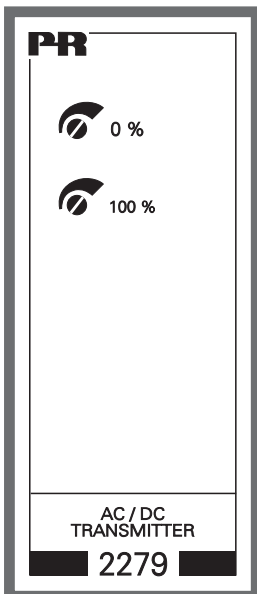
Type	Input	Output	Supply
2279	0...0.5 VRMS : A	Special : 0	24 VDC : D
	0...1 VRMS : B	0...20 mA : 1	24...230 VAC & : P
	0...2.83 VRMS : C	4...20 mA : 2	24...250 VDC
	(0...4 Vpeak)	0...1 V : 4	
	0...5 VRMS : D	0.2...1 V : 5	
	0...120 VRMS : E	0...10 V : 6	
	0...230 VRMS : F	2...10 V : 7	
	0...0.5 ARMS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

**Block diagram:**



2279

**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.