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AC24,AC24/S, ACN,ACN/S

TRANSDUCER OF AC CURRENT AND VOLTAGE

AC24, AC24/S - loop powered (passive output 4-20mA)
ACN, ACN/S – wide range auxiliary power supply 19..300VDC and 90..250VAC (active output)

AC24, ACN - true RMS value

AC24/S, ACN/S - average value of sinus waveform

- **signal processing with crest factor of 10**
- **frequency range 40 to 1000Hz**
- **isolation input – output – power supply 4000Vef**
- **measuring range 0-120% of rated input**
- **conversion accuracy < 0,5%**
- **small size**
- **mounting on DIN rail 35**

Converters AC24 and ACN convert the true RMS value of AC signal into a unified DC voltage or current signal. The input signal to current converter separates the measuring transformer. After full-wave rectification, the calculation of RMS value and filtering signal converter create output DC signal. To isolate the voltage input is used optocoupler. The RMS value is calculated in a monolithic converter made by Analog Devices. Input and output circuit is protected against overload.

The converter is suitable for handling the highly distorted waveform input signáls. It can be used if there are frequency converters or other non-linear control elements in the regulation. When we use average value measuring transducers for the distorted waveforms, error can reach several tens of percent. The fallowing table show a comparison between the average and RMS value for various distorted waveforms.

Waveform	Crest Factor (Vpeak / V RMS)	True RMS Value	Average Value calibrated to RMS of Sine Wave	Error in % of reading
Sine Wave	1,414	0,707	0,707	0%
Symmetrical Square Wave	1,00	1,00	1,11	+11,0%
Triangle Wave	1,73	0,577	0,555	-3,8%
Gaussian Noise	3	0,333	0,295	-11,4%
Rectangular Pulse Train	2 10	0,5 0,1	0,278 0,011	-44% -89%

Converters **AC24/S** and **ACN/S** measure the average value of full-wave rectified input signal. They are calibrated in the effective value of the **sinusoidal input signal**.

Electrical specifications:

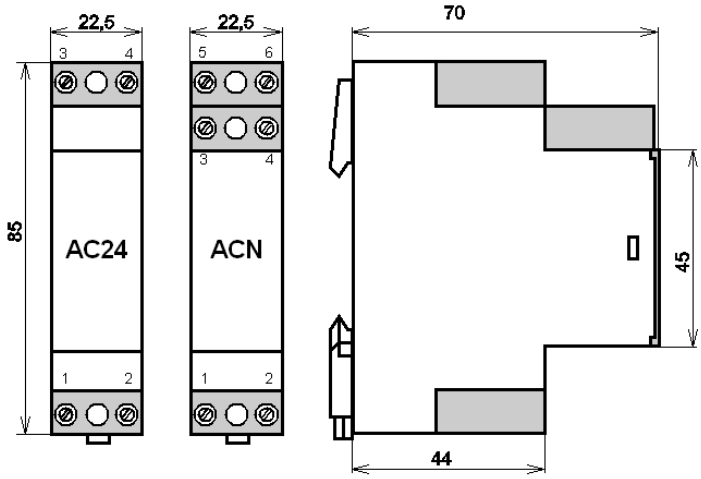
- operating temperature range:		-25...+ 70℃
- storage temperature range:		-40...+ 80℃
- auxiliary power supply:	AC	12..30V DC
	ACN	19..300VDC and 90..250VAC
		20..60VAC on request
- fuse:		resetable thermal fuse in the primary circuit
- rated inputs:		1A, 2,5A, 5A AC
		57,7V,100V,110V,230V,380V,400V,500V AC
		65V,115V,127V,265V,440V,460V,600V AC, other to ask
- voltage input current:		0,5mA
- current input consumption:		<0,015VA
- input overload	voltage:	2 Ujm – 1s
	current:	2 Ijm - 1min, 20 Ijm - 1s
- standard measuring range:		0…1Ijm (Ujm), another on order
- maximum measuring range:		0…1,2Ijm (Ujm)
- output signal:		4-20mA, 0-20mA, 0-10V
- output current limit:		typ. 28mA (electronic cut-out)
- max. output burden:		min.15V / (Rz <750 Ohm on 20mA)
- voltage output load:		10mA
- transfer:		linear
- transfer function maximum error for crest factor< 10:		0,5%
- temperature error:		< 0,02%/℃
- test voltage:		4000Vef
- time response:		300ms
- weight:		120g
- enclosure	casing:	IP40
	terminals:	IP20
- environment:		pollution degree 2, overvoltage category installation III

Terminal connection:

AC24,AC24/S
1,2…input
3,4…output 4-20mA (plus is 4)

ACN,ACN/S
1,2… input
3,4… output (plus is 4)
5,6… auxiliary power supply
without polarity

Dimension:



Type test:

Standard type test:	to ČSN EN 60688
EMC:	to ČSN EN 61326-1
Safety:	assessed acc. to ČSN EN61010-1

Connections: The terminals accept wires with 1,5mm2. We recommend using a cable with a minimal cross 0,5mm2. In the interfering environments use shielded or twisted cable.

Ordering instructions:

Your order should include:
- converter type
- rated input
- rated output
- unstandard requirements (other power supply, measuring range, frequency for setting …)
- quantity

Likvidaci po ukončení životnosti provést odděleným sběrem.
Rawet s.r.o. je členem sdružení RETELA www.retela.cz

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