AC Isolation Converter

Current Transformer Transmitter TRMS

AD-SWT 50 SO-TRMS
AD-SWT 100 SO-TRMS
AD-SWT 200 SO

Description

The SWT-TRMS series of devices (AD-SWT 50 SO-TRMS, AD-SWT 100 SO-TRMS and AD-SWT 200 SO-TRMS) serves the measuring of large AC currents and simultaneous conversion to 4...20 mA transmitter signal. Because of the RMS measurement, the current consumption of non-linear consumers can be measured. Even strong distortions of the sinusoidal signal are easily measurable through the high sampling rate. The devices are designed in two-wire technology and can be operated in a wide range of voltages. Dependent on the amount of the primary current, the devices sink a proportional 4...20 mA signal from the connected supply voltage. Due to the integral protection against polarization error and over-voltage, the transmitter are also protected against erroneous applications or transient over-voltages. The housing is designed in external clamp-on transformer format and therefore can be easily integrated into existing units.

Application

Measurement of large alternating currents, of linear or non-linear loads.

Attention: when fitting, it must be ensured that the ferrite surfaces of the SWT are free from dirt or fat residues through contact. Otherwise measuring value deviations or even error measurings are possible.

Specific characteristics

- Clamp-on transformer technology
- TRMS measurement
- Extended supply voltage range
- 4 ... 20 mA transmitter signal
- Easy installation

Business data

Order number

AD-SWT 50 SO-TRMS	50 A AC primary current
AD-SWT 100 SO-TRMS	100 A AC primary current
AD-SWT 200 SO-TRMS	200 A AC primary current

Accessory

DIN rail holder	35 mm DIN rail 35mm

Technical specifications

Primary current

Measurement method	inductive
Sample rate	1 kHz (20 measurements / mains period)
Max. measurable harmonic	10 (500 Hz)
Calculation method	root mean square TRMS
Short-term overload (1 s)	twenty times of the nominal value
Permanent overload (24 h)	120 % of the nominal value
Measuring range	0 ... 50/100/200 A AC (50 Hz)
Max. conductor diameter	23 mm

Transmitter output

Output range	4 ... 20 mA
Residual ripple	30 µAss

Transmitter-supply

Voltage range DC	10 ... 30 V DC
Nominal voltage DC	24 V DC

Transmission behaviour

Basic accuracy	< 0,5 % (at fundamental 50 Hz)
Temperature influence	100 ppm/K
Response time	< 1 s (10...90 %)

Housing

Dimensions (WxHxD)	50x42x82 mm
Type of protection	IP 20
Connection method	screw clamp
Terminals, wire cross section	1,5 mm² flex wire / 2,5 mm² one wire
Bolting torque terminals	0,5 Nm
Weight	~ 200 g
Manner of fastening	Folding transducer housing

Environmental conditions

Ambient temperature	-10 ... 50 °C
Storage and transport	-10 ... 70 °C (no condensation)

EMC

Product family standard	EN 61326-1 [1]
Emitted interference	EN 55011, CISPR11 Cl. B, Gr. 1

Electrical safety requirements

Product family standard	EN 61010-1
Overvoltage category	II
Pollution degree	2
Safety measurement	61010-2-030
Measurement category	CAT III

Galvanic isolation, test voltages

Input / output	4 kV, 50 Hz (1 min.) + insulation of the primary wire

Protection circuits

Output	electrical surge and reverse current protection

[1] During checking, slight signal deviations are possible.

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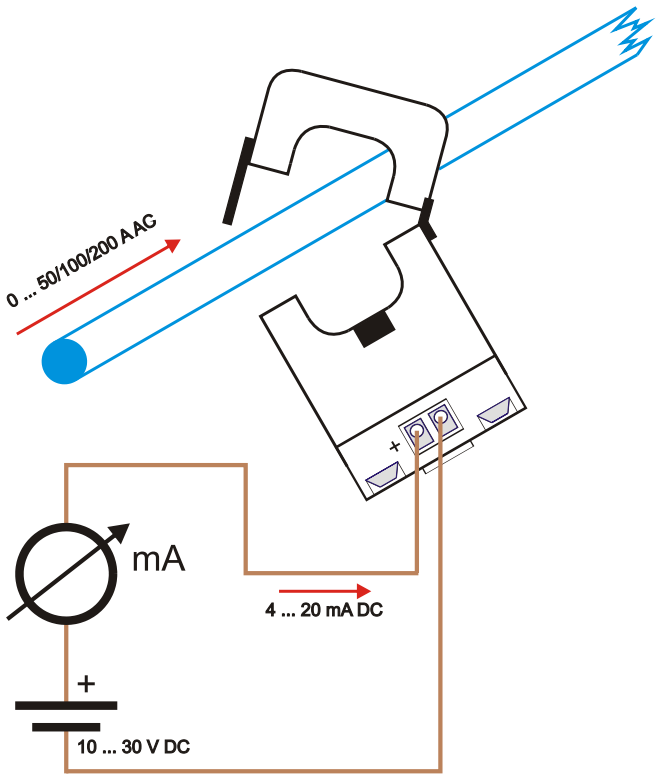
Block and wiring diagram



Dimensions