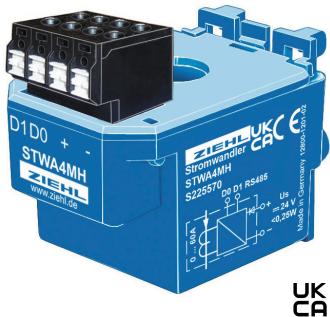


# AC-Electronic Current Tranducer Type STWA4MH

## AC 0 - 60 A, with interface RS485

### STWA4MH

Electronic Current Transformer 0 - 60 A, with interface RS485



Part number: **S225570**

STWA4MH is a measuring transducer. It measures AC up to 60A and has an RS485 interface (Modbus RTU). The measured analog current value is made available as a digital signal and can be read by a PLC, an IPC or a master computer.

The conductor to be measured is passed through an opening ( $\varnothing 11$  mm). In case of small currents, the sensitivity of the current transducer can be increased by looping through the current-carrying conductor several times, e.g. double looping doubles the sensitivity. The measuring range of the STWA4MH is reduced by multiple looping. To measure currents of any size, the STWA4MH is simply looped into the secondary circuit of a large current transformer with a secondary output of 5A (lead the cable through STWA4MH several times).

#### Application:

The STWA4MH enables the space-saving and cost-effective measurement of the actual value of an alternating current. Compared to transducers with analog output, the bus technology significantly reduces the effort for the hardware

(inputs) and the wiring. Applications are e.g. the recording of the current consumption of electrical motors in processing machines. Here the feed can be regulated depending on the load on the motor. Another example is the monitoring of consumers, e.g. heating elements, for failure.

- Current measurement AC 0...60 A (RMS - Root Mean Square), resolution 1mA
  - Actual value
  - Average over 200 ms
  - Average over 1 s
  - Measured values from the last 50 periods
- Frequency measurement 40...70 Hz (sinus-shaped signals)
- RS485 interface (Modbus RTU)
- Addressable up to 246 participants
- Baud rates 4800, 9600, 19200, 57600, 115200
- Wiring effort minimized through bus technology
- Supply voltage DC 24 V (10...30V)
- Connection via plug in spring type terminals
- Lockable housing on mounting rail or screw fastening
- Plug in current transformer ( $\varnothing 11$  mm)

Now compatible with UR420IP/UR840IP via Modbus RTU thanks to new UR series firmware feature:

- Data visualization in web interface (UR840IP only)
- Precise current and frequency measurement with STWA4MH via Modbus

### Technical Data

#### Rated supply voltage Us:

Nominal voltage	DC 24 V
Tolerance	DC 10,0 ... 30,0 V
Power consumption	< 0,25 W

#### Measuring input: current

Nominal current ( $I_{\text{nom}}$ )	AC 60 A, sine
Measuring range	AC 0 ... 60 A
Measuring principle	RMS
Tolerance (from 1% / $I_{\text{nom}}$ )	$\pm 0,1 \pm 200 \text{ mA}$
Temperature coefficient	$\leq 0,1 \text{ % / K}$
Resolution	1 mA
Measurement time	1 period (40 ... 70 Hz)
Overload constantly	$I_{\text{nom}} + 20 \text{ %}$
Overload 10s	AC 200 A

#### Measuring input: frequency

Nominal frequency	50 Hz
Measuring range	40 ... 70 Hz
Tolerance (ab 1% / $I_{\text{nom}}$ )	$\leq 0,1 \text{ Hz}$
Temperature coefficient	$\leq 0,001 \text{ Hz / K}$
Resolution	0,01 Hz

## Measuring output: RS485 - Interface

Baud rate	4800, 9600, 19200, 57600, 115200 Baud
Address	1 - 247
Data bits	8 bits
Stop bits	1, 2 bits
Parity	Even, odd, no
Terminating resistor	120 Ohm (included)

## Test conditions

Rated impulse voltage	4000 V
Overtoltage category	III
Pollution degree	2
Rated insulation voltage $U_i$	300 V
On-period	100 %
Insulation test voltage	3 kV, $U_{eff}$ , 50 Hz, 1 min

## EMC-tests

Emission	EN 61326-1; CISPR 11 class B
Immunity	EN 61326-1 - industrial environment
Fast transient disturbances (Burst)	EN 61000-4-4 $\pm 4$ kV Pulse 5/50 ns, $f = 5$ kHz, $t = 15$ ms, $T = 300$ ms
Surge immunity test	IEC 61000-4-5 $\pm 2$ kV
Electrostatic discharge immunity test	IEC 61000-4-2 $\pm 4$ kV contact discharge, $\pm 8$ kV air discharge
Measuring transducer EMC	IEC 61326-2-3:2013

## Installation conditions

Permissible ambient temperature	-20 °C ... +55 °C
Permissible storage temperature	-20 °C ... +70 °C
Installation height	< 2000 m above N.N.
Climatic conditions	5-85% rel. h., no condensation
Permissible wiring temperature	-5 °C ... +70 °C
Vibration resistance EN 60068-2-6	2 ... 13,2 Hz $\pm 1,0$ mm      13,2 ... 100 Hz 1 g 2 ... 25 Hz $\pm 1,6$ mm      25,0 ... 150 Hz 5 g
Impact resistance	5 g, 11 ms

## Gehäuse

Abmessungen (H x B x T)	53 x 36 x 56 mm
Max. Ø Conductor	11 mm
Terminals	Spring-type terminal, pluggable
Line connection solid wire	1 x 0,2 – 2,5 mm <sup>2</sup> / AWG 24 – 14
Stranded wire with insulated ferrules	1 x 0,2 – 2,5 mm <sup>2</sup> / AWG 24 – 12
Stripping length	9 mm
Protection class housing / terminals	IP 54 / IP20
Mounting	Snap mounting on 35 mm standard rail EN60715 or M4 screws
Mounting position	any
Weight	approx. 90 g

Subject to technical changes

Dimension illustrations/  
wiring scheme

Dimensions in mm

