



## *Measuring Transducer MT4xx series*

### AC Current Transducer MT408

- Sinusoidal AC current measurements
- Current range measurements up to 6 A
- Galvanic insulation between input and output
- Accuracy class 0.5
- Self powered
- Housing for DIN rail mounting



## PROPERTIES

- Sinusoidal AC current measurements
- Current range measurements up to 6 A
- Galvanic insulation between input and output
- Accuracy class 0.5 (EN 60688)
- Self powered
- Housing for DIN rail mounting

## DESCRIPTION

MT408 is intended for measuring and monitoring single-phase electrical power network. Current input is electrically insulated from the system by means of current transformer. The signal is rectified, smoothed and amplified into an independent DC current output.

## APPLICATION

The MT408 current transducer is used for a permanent monitoring of a single-phase current value. PLCs, PCs, microprocessor control, indicators, alarms units etc. can be operated by the output signal.

Current input can be connected either directly to low-voltage network or shall be connected to network via a corresponding current transformer (with standard 1 A or 5 A output).

## COMPLIANCE WITH STANDARDS:

Standard EN	Description
61010	Safety requirements for electrical equipment for measurement, control and laboratory use
60688	Electrical measuring transducers for converting AC electrical variables into analogue and digital signals
61326-1	EMC requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements
60529	Degrees of protection provided by enclosures (IP code)
60068-2-1/-2/-6/-27/-30	Environmental testing (-1 Cold, -2 Dry heat, -30 Damp heat, -6 Vibration, -27 Shock)
UL 94	Tests for flammability of plastic materials for parts in devices and appliances

## TECHNICAL DATA

### Measurement input

Nominal frequency ( $f_N$ )	50 / 60 Hz
Measuring frequency range	45 ... 65 Hz

### CURRENT MEASUREMENTS

Standard nominal input current ( $I_N$ )	1 A, 5 A or 6 A
Measuring range limit values	0 ... 0.5 A to 0 ... 6 A
Overload capacity	acc. to EN 60688
Max. measured value (cont.)	$1.2 \times I_N$
Max. allowed value	$20 \times I_N$ ; 1 s, 10 times, 300 s interval
Consumption	< 2 VA

### Measuring output

Standard ranges $I_{AN}$ :	0 ... 1 mA, 0 ... 5 mA, 0 ... 10 mA 0 ... 20 mA
Burden voltage:	10 V
External resistance:	$R_{B \max} = 10 \text{ V} / I_{AN}$
Maximal output voltage (open circuit current output)	< 25 V
Maximal output current	$3 \times I_{AN}$
Residual ripple	< 1 % p.p.
Response time	< 300 ms

The output may be either short or open-circuited. It is electrically insulated from all other circuits.

### Accuracy (according to EN 60688)

Reference value:	Output end value
Basic accuracy:	Class 0.5

### REFERENCE CONDITIONS

Current	0 % ... 100 % $\times I_N$
Ambient temperature range	15 ... 30 °C
Frequency	$f_N \pm 2 \text{ Hz}$
Output burden	$R_{B \max} / 2$

### ADDITIONAL ERROR

Temp influence:	max. $\pm 0.2 \%$ / 10 K
Frequency influence:	0.5 % / ( $\Delta 10 \text{ Hz}$ )
Burden influence:	0.1 % / ( $\Delta R_{B \max} / 2$ )

## Safety

	acc. to EN 61010-1
Protection class	II
Pollution degree	2
Installation category	CAT III 300 V
Test voltage	50 Hz, 1 min. 5200 V, measuring input versus measuring output and other surface
Enclosure material	PC / ABS (acc. to UL 94 V-0)
Enclosure protection	IP 20 (acc to EN 60529)

## Environmental conditions

Nominal temperature range	- 10 ... <u>15</u> ... <u>30</u> ... 55 °C
Operating temp. range	- 20 to + 70 °C
Storage temperature range	- 40 to + 70 °C
Average annual humidity	≤ 93 % r.h.
Altitude	≤ 2000 m
Indoor use only	

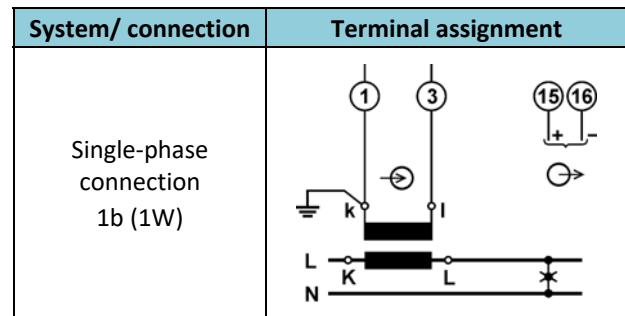
## Mechanical data

Dimensions	W45 × H75 × D105 mm
Mounting	Rail mounting 35 × 15 mm (acc. to EN 50022)
Enclosure material	PC / ABS
Flammability	Acc. to UL 94 V-0
Connection terminals	≤ 4.0 mm <sup>2</sup> solid wire ≤ 2.5 mm <sup>2</sup> stranded wire
Weight	approx. 280 g

## Ambient test

Vibration withstand	0.7 g, 3 ... 100 Hz, 1 oct / min 10 cycles in each of three axes
Shock withstand	300 g, 8 ms pulse 6 shocks in each of three axes

## CONNECTION



## CONNECTION TABLE

Function			Connection	
Measuring input	AC current	I ⊖	1/3	
Analogue output			+ ⊕	15
			- ⊖	16

## DATA FOR ORDERING

When ordering MT408, all required specifications should be stated in compliance with the ordering code. Default settings will be applied if no requests are submitted.

### EXAMPLE OF ORDERING

Example of ordering code for MT408: Nominal current 1 A; Output 1 mA; Overload rating 0 %; Nominal frequency 50Hz; Standard finish.

**MT408 1A0 1M0 0 50 A**

### General ordering code

All specifications are obligatory except function of analogue output(s), which should be stated in a form of description.

Type	Nominal current	Output IO1	Overload Rating	Nominal Frequency	Finish
MT408	X	X	X	X	X
					A Standard *
					H HVE (Tropical Seal)
				50	50 Hz *
				60	60 Hz
			0	0 % *	
			5	50 % (only for 1 A/10 mA, 5 A/10 mA and 6 A/10 mA)	
	1M0	1 mA			
	2M5	2.5 mA			
	5M0	5 mA			
	10M	10 mA			
	20M	20 mA			
	1A0	1 A			
	1A2	1.2 A			
	1A3	1.3 A			
	5A0	5 A			
	6A0	6 A			
	6A5	6.5 A			

\* - standard

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