

# Current AC Transducer

MT408



**Self  
powered**

**CLASS  
0.5**

- ***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 mountin***



## 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 a 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).

## TECHNICAL DATA

### MEASURING INPUT

Standard nominal input current ( $I_N$ )	1A, 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
Nominal frequency ( $f_N$ )	50, 60 Hz
Measuring frequency range	45 ... 65 Hz
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 600 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)



## COMPLIANCE WITH STANDARDS:

Standard EN	Description
61010-1:2001	Safety requirements for electrical equipment for measurement, control and laboratory use
60688:1995/A2:2001	Electrical measuring transducers for converting AC electrical variables into analogue and digital signals
61326-1:2006	EMC requirements for electrical for measurements, control and laboratory use- Part 1:General requirements
60529:1997/A1:2000	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

## ENVIRONMENTAL CONDITIONS:

Nominal temperature range	-10 ... 15 ... 30 ... 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	

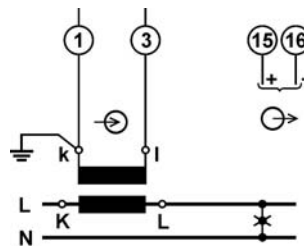
## MECHANICAL DATA

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
Weight	≤ 2.5 mm <sup>2</sup> stranded wire approx. 280 g

## AMBIENT TESTS

Vibration withstand	7g, 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



## ORDERING

For ordering it is necessary to declare type of the transducer (MT408), measuring range and output range.  
Ordering code: MT408 - ab

MT408		Value	Code
a	Measuring range:	0 ... 1 A	1
		0 ... 1.2 A	2
		0 ... 5 A	3
		0 ... 6 A	4
		Non – standard versions	0 ... X A
b	Output signal:	0 ... 1 mA	1
		0 ... 5 mA	2
		0 ... 10 mA	3
		0 ... 20 mA	4

Non - standard ratings are available on request.

## ORDERING EXAMPLE

Measuring transducer MT408, with measuring range 0 ... 5 A and output range 0 ... 5 mA:  
MT408 - 32



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