ENERGY SECTOR





AC CURRENT TRANSDUCER **iMT408**

- 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**.



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PROPERTIES

- Sinusoidal AC current measurements
- $\circ \quad \ \ Current\ range\ measurements\ up\ to\ 6\ A$
- $\circ \quad \mbox{Galvanic insulation between input and output}$
- Accuracy class 0.5 (EN 60688)
- $\circ \quad \text{Self powered} \quad$
- $\circ \quad \text{Housing for DIN rail mounting} \\$

APPLICATION

The iMT408 current transducer 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.

The iMT408 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 lowvoltage 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		
61010-1	Safety requirements for electrica 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 x I _N
Max. allowed value	$20\times I_N$; 1 s, 10 times, 300 s
	interval
Consumption	< 2 VA

Measuring output

Standard ranges IAN	0 1 mA,
	0 5 mA,
	0 10 mA
	0 20 mA
Burden voltage	10 V
External resistance	$R_{B max} = 10 V / I_{AN}$
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: Basic accuracy:	Output end value Class 0.5
REFERENCE CONDITIONS	
Current	0 % 100 % x I _N
Ambient temperature range	15 30 °C
Frequency	f _N ± 2 Hz
Output burden	R _{B max} / 2
ADDITIONAL ERROR	
Temp influence:	max. ± 0.2 % / 10 K
Frequency influence:	0.5 % / (Δ 10 Hz)
Burden influence:	0.1 % / (Δ R _{B max} / 2)

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Safety

	acc. to EN 61010-1
Protection class	Ш
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)

Environmental conditions

Nominal temperature range	- 10 <u>15 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 (WxHxD)	45 × 75 × 105 mm
Mounting	Rail mounting 35 × 15 mm
	(acc. to EN 50022)
Enclosure material	PC / ABS
Flammability	Acc. to UL 94 V-0
Connection terminals	\leq 4.0 mm ² solid wire
	\leq 2.5 mm ² 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

10 cycles in each of three axes 300 g, 8 ms pulse 6 shocks in each of three axes

CONNECTION

System/ connection	Terminal assignment		
Single-phase connection 1b (1W)			

CONNECTION TABLE

Function			Connection
Measuring input	AC current	ı 🕒	1/3
Analogue output		+⊖>	15
		- O >	16

DATA FOR ORDERING

When ordering iMT408, 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

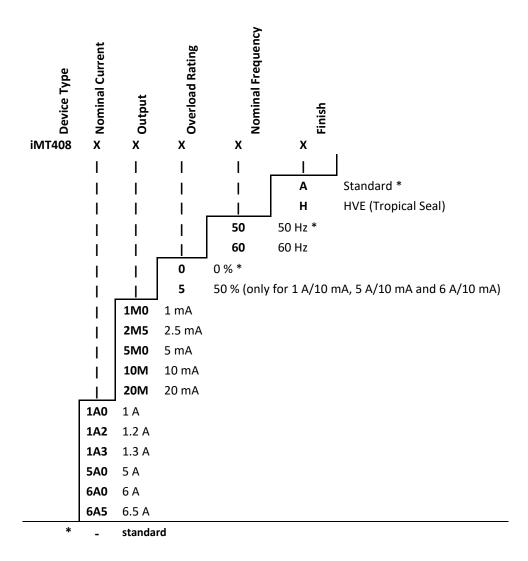
Example of ordering code for iMT408: Nominal current 1 A; Output 1 mA; Overload rating 0 %; Nominal frequency 50Hz; Standard finish.

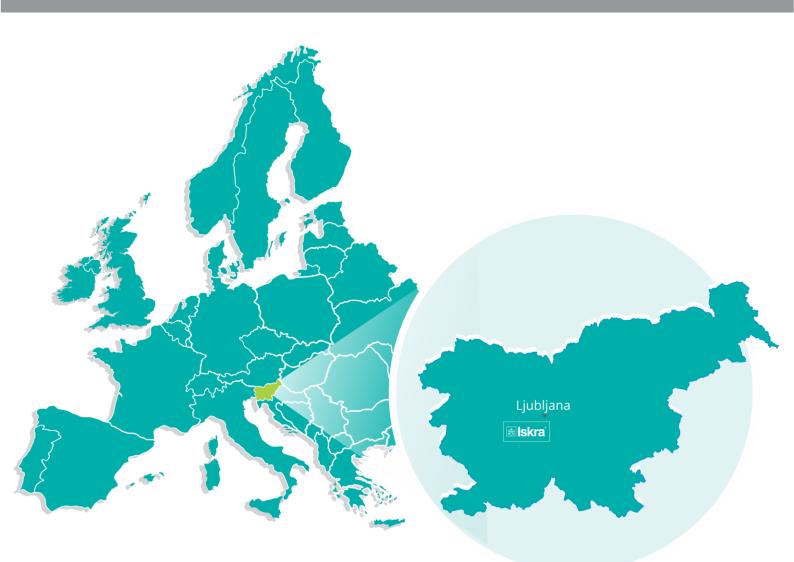
iMT408 1A0 1M0 0 50 A



General ordering code

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





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