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AC Current transformer TT 100-SD

Split core transducer for the electronic measurement of AC waveform currents, with galvanic isolation between the primary circuit (power) and the secondary circuit (measurement).



$I_{PN} = 100\text{ A}$



Electrical data

I_{PN}	Primary nominal current rms	100	At
I_{OUT}	Output current	33.33	mA
V_{SZ}	Output clamping voltage	7.5	V
\hat{I}_p	Overload capability - continuous	300	A
	- 1 min	4000	A

Performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	$< \pm 1$	%
\mathcal{E}_L	Linearity error	0.1	%
TCI_{OUT}	Temperature coefficient of I_{OUT}	60	ppm/K
$\Delta\varphi$	Phase shift	$1.5^\circ \pm 1^\circ$	
BW	Frequency bandwidth ($\pm 1\text{dB}$)	50/60	Hz

General data

T_A	Ambient operating temperature	- 25 .. + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 30 .. + 90	$^\circ\text{C}$
m	Mass	100	g
IPxx	Protection degree	IP40	

Isolation characteristics

V_b	Rated isolation voltage rms ¹⁾ with IEC 61010-1 standards and following conditions : - Reinforced isolation - Over voltage category CAT III - Pollution degree PD2 - Heterogeneous field	300	V
V_d	Rms voltage for AC isolation test ²⁾ , 50Hz, 1min	3.5	kV
\hat{V}_w	Impulse withstand voltage 1.2/50 μs	6.5	kV
dCp	Creepage distance	6	mm
dCl	Clearance distance	6	mm
CTI	Comparative tracking index (Group I)	600	

Features

- Split core type
- \varnothing 16 mm sensing aperture for non-contact measurement
- Cable output (1m)
- Isolated plastic case recognized according to UL 94-V0.

Advantages

- High accuracy and low phase shift
- High isolation between primary and secondary circuits
- Compact case
- Cost-effective solution
- Easy installation.

Applications

- **Power meters**
Current measurement for active power calculation
- **Energy sub-meters**
For energy efficiency monitoring, consumption analysis and costs allocation
- **Power quality monitoring**
- **Condition monitoring**
(e.g. motor loads such as conveyers, pumps or HVAC)
- **Distributed measurement systems**

Application domain

- Energy and Automation

Notes : ¹⁾ If insulated cable is used for the primary circuit, the voltage category could be improved according to the primary cable insulation category (please refer to the cable manufacturer's indications)
²⁾ between primary (completely filling the hole) and secondary.



Current transformer TT 100-SD

Safety and warning notes

In order to guarantee safe operation of the transducer and to be able to make proper use of all features and functions, please read these instructions thoroughly!

Safe operation can only be guaranteed if the transducer is used for the purpose it has been designed for and within the limits of the technical specifications.

Ensure you get up-to-date technical information that can be found in the latest associated datasheet under www.lem.com.



Caution! Risk of danger

Ignoring the warnings can lead to serious injury and/or cause damage!

The electric measuring transducer may only be installed and put into operation by qualified personnel that have received an appropriate training.

The corresponding national regulations shall be observed during installation and operation of the transducer and any electrical conductor.

The transducer shall be used in electric/electronic equipment with respect to applicable standards and safety requirements and in accordance with all the related systems and components manufacturers' operating instructions.



Caution! Risk of electrical shock

When operating the transducer, certain parts of the module may carry hazardous live voltage (e.g. primary conductor, power supply).

The user shall ensure to take all measures necessary to protect against electrical shock.

The transducer is a built-in device containing conducting parts that shall not be accessible after installation.

A protective enclosure or additional insulation barrier may be necessary.

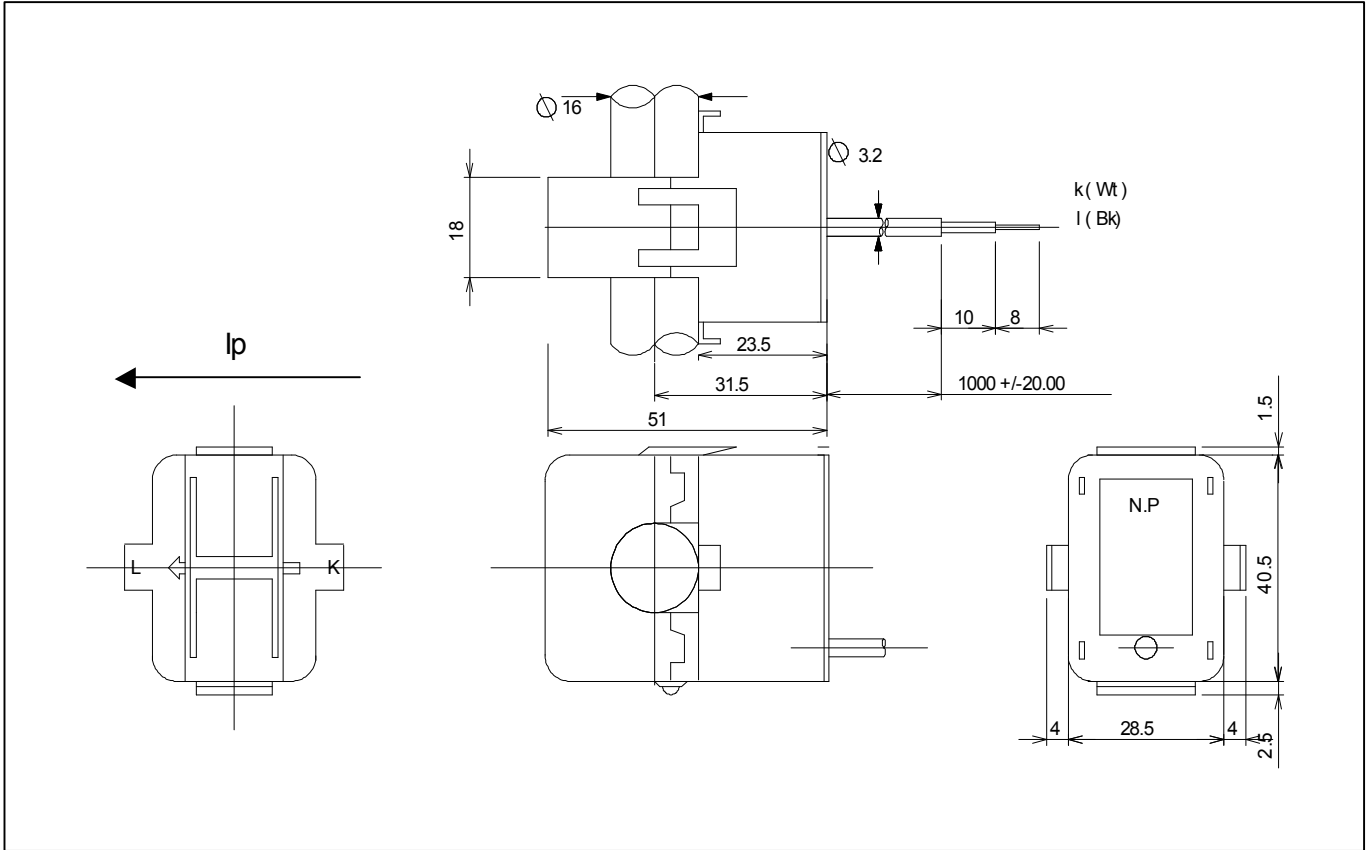
The transducer shall not be put into operation if the jaw opening is open (split core version) or the installation is not completed.

Installation and maintenance shall be done with the main power supply disconnected except if there are no hazardous live parts in or in close proximity to the system and if the applicable national regulations are fully observed.

Safe and trouble-free operation of this transducer can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out with care.



Dimensions TT 100-SD (in mm. 1 mm = 0.0394 inch)



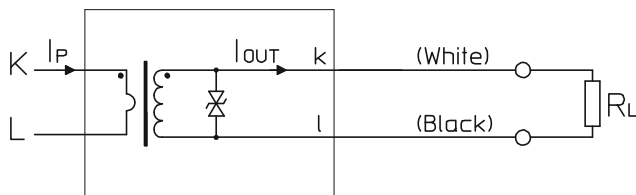
Mechanical characteristics

- General tolerance ± 1 mm
- Primary aperture $\varnothing 16$ mm
- Fastening Cable tie
- Output cable length 1000 mm

Remark

- ATTENTION: contact areas (air gap) must be kept clean (particle free) to ensure proper performance

Connections





Electrical output characteristics

