

AC Current Transducer AK-C10

Transducer for the electronic measurement of AC sinusoidal waveforms, with galvanic separation between the primary circuit and the secondary circuit. Jumper selectable ranges and self powered transducers.



$$I_{PN} = 50 \dots 200 \text{ A}$$



Electrical data

| Primary nominal current I_{PN} (At RMS) | Analogue output voltage ¹⁾ U_{out} (V DC) | Types |
|--|---|-------------------|
| 10, 20, 50 | 10 | AK 50 C10 |
| 100, 150, 200 | 10 | AK 200 C10 |

| | | |
|------------------------------------|--------------|----|
| U_C Supply voltage | Self powered | |
| R_{Lmin} Minimum load resistance | 1 | MΩ |

Accuracy - Dynamic performance data

| | | |
|--|-------|----|
| ϵ_{tot} Total error @ $I_{PN}, T_A = 25 \text{ °C}$ | ±1 | % |
| t_{D90} Delay time to 90 % of the final output value for I_{PN} step < 100 | | ms |
| BW Frequency bandwidth | 50-60 | Hz |

General data

| | | |
|---|--|----|
| T_A Ambient operating temperature (0-95 % RH) | -20 ... + 50 | °C |
| T_{Ast} Ambient storage temperature | -20 ... + 85 | °C |
| m Mass | 120 | g |
| Standards | Safety IEC 61010-1: 2001 EMC EN 61326-1: 2005 | |

Note: ¹⁾ For 0-5 V output model, no saturation output up to 8.2 V and for 0-10 V output model, no saturation output up to 15 V.

Features

- AC sinusoidal measurement
- Average responding
- Self powered transducers
- Panel mounting
- Voltage output
- Jumper selectable ranges.

Advantages

- Large aperture
- High insulation between primary and secondary circuits
- Easy to mount.

Applications

- **Automation systems**
Analog current reading for remote monitoring (e.g. motor).
- **Data loggers**
Self-powered transducer does not drain data logger batteries.
- **Panel meters**
Simple connection displays power consumption.

Options on request

- DIN mounting.

Application domain

- Renewable Energies and Power Supplies.

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Insulation coordination

| | | | |
|----------|---|-----|-------|
| U_d | RMS voltage for AC insulation test ¹⁾ , 50 Hz, 1 min | 3 | kV AC |
| U_{Nm} | Rated insulation RMS voltage ²⁾ , reinforced or basic insulation, CAT III, PD2 | 150 | V AC |

Notes: ¹⁾ Between primary (completely filling the primary aperture) and secondary

²⁾ If insulated cable is used for the primary circuit, the voltage category could be improved according to the insulation coordination given by the cable manufacturer. For example:

| | |
|-----------------------------|----------------|
| Cable insulation (primary): | Category: |
| HAR 05 | 600 V CAT III |
| HAR 07 | 1000 V CAT III |

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 manufacturer's operating instructions.

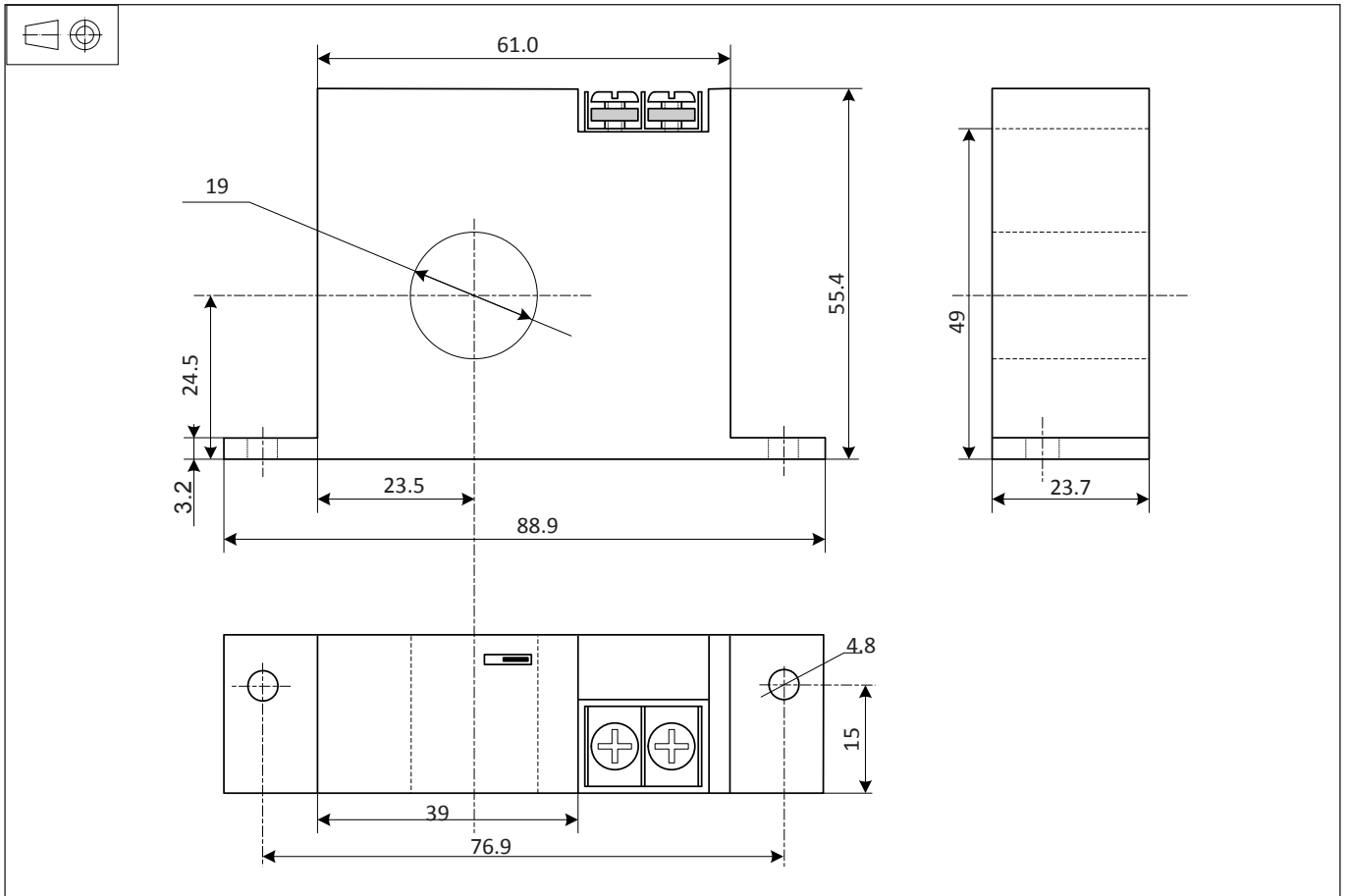


Caution, Risk of electrical shock

When operating the transducer, certain parts of the module may carry hazardous live voltage (eg. primary conductor, power supply). The user shall ensure to take all measures necessary to protect against electrical shock. The transducer is a build-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 AK-C10 (in mm)



Mechanical characteristics

- General tolerance ± 1 mm
- Primary aperture $\varnothing 19$ mm
- Panel mounting 2 holes $\varnothing 4.8$ mm
Distance between holes centers 76.9 mm

Remark

- Temperature of the primary conductor should not exceed 60° C.

Connections

- 2 \times UNC8 Cylindric head

