Operating Manual / Installation Guide

ECTB-V003-2017

Low Voltage-Current Transformer

Model range: ECTB

Measurement ranges:

Primärstrom: 100 bis 2000A AC

Sekundärstrom: 1A oder 5A

Indication

Before initial operation we ask you to pay full attention to these assembling instructions in order to guarantee the reliability and to ensure the performance of the device.
Please see an updated version of this datasheet on our homepage **www.mbs-ag.com.**

Functional Description

Current transformers of the ECTB model range are inductive, single-conductor current transformers operating according to the transformer principle. Due to the applied measuring principle, current transformers of this type may only be installed in alternating current (AC) networks.

MBS AG
Eisbachstraße 51
74429 Sulzbach-Laufen
Tel. +49 7976 9851-0
Fax. +49 7976 9851- 90

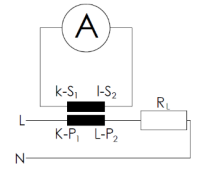
Safety instructions

To prevent personal injury and damage to property, installation and commissioning may only be carried out by instructed, competent personnel. The design of the devices is intended for indoor use only.
The current transformer may only be installed when the primary circuit is de-energized!

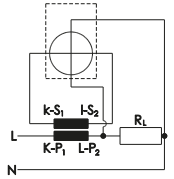
Danger of an electric shock!
If the secondary circuit is operated without a burden/load (open) high voltages may appear. These voltage values are dangerous for persons as well as for the functional reliability of the current transformer.
It is forbidden to operate the current transformer without a secondary circuit (open)!

Technical Parameters

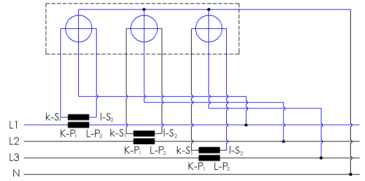
Primary rated current:	100 … 2000 A AC
Secondary rated current:	5A oder 1A
Accuracy class:	0,2s, 0,2, 0,5s, 0,5
Over current limiting factor: (see name plate)	FS5 bzw. FS10
Rated frequency:	50Hz
Rated thermal continuous current Id:	1,2 x I_{pr}
Rated thermal short-time current Ith:	60 x I_{pr} ,1 s
Operating temperature range: (0…95% relative humidity),	-5°C ≤ ϑ ≤ +50°C; **non condensing!**
Storage temperature range:	-25°C ≤ ϑ ≤ +70°C
Connection clamps:	WAGO Cage-Clamp
Connection cross sections:	max. 4,0mm2
Stripping length:	9…10 mm
Applied standards:	DIN EN 61869-1 (4/2010) DIN EN 61869-2 (7/2013)
Insulation class:	E



Measuring circuit



Meter circuit, single-phase



Meter circuit, three-phase

Isolation Characteristics

Maximum voltage for electrical utilities Um: (maximum phase-phase-voltage)	Um ≤ 1,2 kV, Ueff
In accordance with IEC 61010-1 under condition of:	- Overvoltage category III - Pollution degree 2 - Heterogeneous electr. field

Rated power frequency withstand voltage	
Isolation test voltage primary conductor against measuring output:	6 kV, Ueff, 50 Hz, 1 min.
Surge voltage strength acc. to	DIN EN 61439-1: 2012-06: 12 kV (1,2/50 µs)
UL-housing classification:	UL-94-V0

MBS ID: 8.6.0462/1000/10/2021

Recycling

- When the product has reached its “end of life“, it must be recycled. Please pass it to an electrical waste disposal. Do not dispose as unsorted municipal waste!
- If necessary, ask a waste consultant!

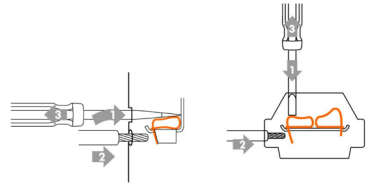
Accessory: Quick-fix (optional)

CE **This product was developed and manufactured in accordance with the applicable regulations (IEC 61010, IEC 61869) and meets the requirements of the low voltage guideline 2006/95/EG**

Installation / Assembly

1. Ensure a safe working environment during assembly, maintenance and installation work. Disconnect the power supply to the primary conductors and secure them against unintentional reconnection.
2. Install the current transformer on the primary conductor.
3. For this purpose, lead the primary conductor (Cu-rai or round conductor) through the window opening of the current transformer housing.
4. The device can be mounted either directly on the primary conductor or on a mounting plate. For this purpose, use the fasteners included in the fasteners included in the scope of delivery. The direct mounting on the primary conductor is done by screwing the plastite screws included in the accessory pack into the screw domes attached to the housing (see photo overleaf), or with the optionally available Quick-fix. The mounting on a base plate by means of the foot mounting brackets also included in the accessory pack.
5. Current transformer types (E)CTB31.35 and (E)CTB 41.35 can also be mounted on a 35mm-DIN-hat rail by using a snap-on mounting (accessory, article-no.: 50.2.8095).
6. Make the electrical connections. Please refer to the connection diagrams.
7. For correct operation of the secondary connection clamps (cage clamp), please observe the pictogram.

Pictogram (Cage Clamp)



Additional requirements for the assembly of metering CT´s (ECTB)

At primary rated current > 1500 A, a minimum distance of the return conductor is observed to the centrically arranged primary conductor of the current transformer of at least 0.15 m (5,91 in).
If it is ensured in the installed system by a safety circuit or via a traceable metrological examination that the current in the return conductor does not exceed of 10% of the rated primary current of the current transformer, a minimum distance need not to be respected. By the operator of the measuring device a corresponding evidence is to be included in the system documentation and kept for the duration of the use of measuring devices.

Primary conductor(s) have to be arranged concentrically in the openings of the current transformers.

www.mbs-ag.com