Operating Manual / Installation Guide

Low Voltage-Current Transformer

Model range CTB, ECTB

Measurement ranges:

Primary current: CTB 50 up to 2500A AC
ECTB 100 up to 2000A AC
Secondary current: 1A or 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**.

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Functional description

Current transformers of the CTB 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.

In order to avoid personal and material damage the following assembling steps must be performed by qualified and trained personnel only.

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:	50 … 2500 A AC
Secondary rated current:	5A or 1A
Accuracy class:	0,2s, 0,2, 0,5s, 0,5, 1
Over current limiting factor: (see name plate)	FS5 / FS10
Rated frequency:	50 / 60Hz
Rated thermal continuous current Id:	1.2 x In (> 2000A :1,0 x In)
Rated thermal short-time current Ith:	60 x In, (max. 100 kA), 1 s
Operating temperature range:	-5°C ≤ ϑ ≤ +50°C (0…95% relative humidity, **non condensing!**
Storage temperature range:	-25°C ≤ ϑ ≤ +70°C
Connection clamps:	WAGO Cage-Clamp max. 4.0 mm²
Insulation stripping length:	9…10 mm /0.37 in
Applied standard:	IEC 61869
File no. of UL-approval:	E336996 (2010)

Insulation characteristics

Maximum voltage for electrical utilities: 1.2 kV, Ueff
(maximum phase-phase-voltage)
in accordance with IEC 61010-1 under condition of:

- Overvoltage category III
- Pollution degree 2
- Heterogeneous electrical field

Rated power frequency withstand voltage (Isolation test voltage primary conductor against measuring output: 6 kV, Ueff, 50 Hz, 1 min.
Impulse voltage withstand tested in accordance with IEC 61439-1:2011 12 kV (1,2/50µs)
UL-housing classification: UL94-V0

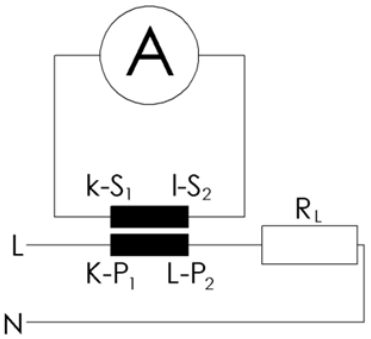
Accessory: Quick-fix

Environmental instruction

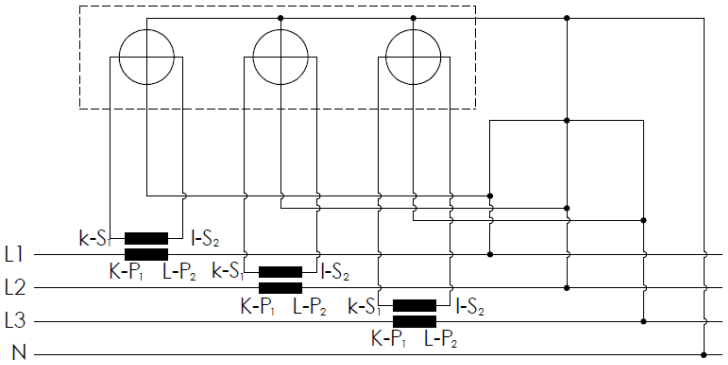
When the product has reached its “end of life“, it must be recycled. Please pass it to an electrical waste disposal. Do not dispose as unsorted municipal waste!

CE

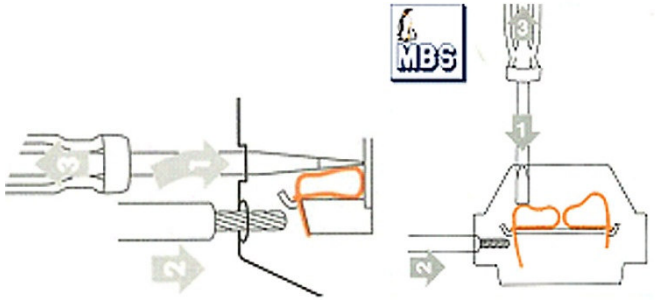
This product was developed and manufactured in accordance with the applicable regulations (IEC 61010, IEC 61869) and meets the requirements of the low voltage guideline 2006/95/EG



counter circuit single phase



counter circuit multiple phase



Assembly

1. Mount the current transformer on the primary conductor by directing the primary conductor (copper bus bar respectively round conductor) through the window opening of the current transformer housing.
2. The device can be fixed either directly on the primary conductor or on a ground plate. A mounting kit is part of the delivery. It contains plastite-screws, red isolation covers and foot angles.
3. The device can be fixed directly on the bus bars by using the plastite-screws or the quick-fix. If the device is to be mounted on a ground plate, the foot angles are to be used.
4. Current transformer types CTB31.35 and 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).
5. Connect the conductors according to the drawings .
6. Please see the pictograph on the bottom of the next page (Cage-Clamp) for the correct mounting of the secondary terminal clamps.

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.