

# LINETRAXX® CTBS25

AC/DC sensitive measuring current transformer





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### Product description

The AC/DC sensitive CTBS25 (type B) measuring current transformers convert system leakage and fault currents into an evaluable measurement signal. The devices are suitable for detecting fault currents with smooth DC components. The measuring current transformers can be used in DC, AC, and 3(N)AC systems. The measurement signal is evaluated using devices of the RCMS460/490 or EDS440 series, to which the measuring current transformers are connected.

### Standards

The CTBS25 measuring current transformer complies with the device standard:

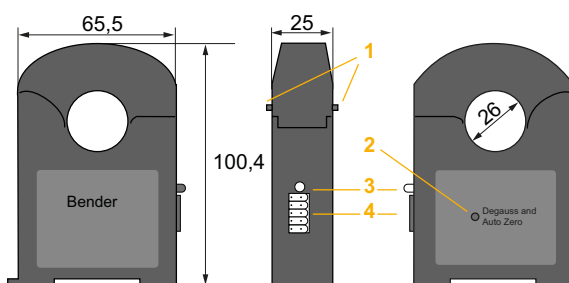
- IEC 62020:2003-11 in combination with a residual current monitor/monitoring system (RCMS460/490 or RCMA420/423)
- IEC 61557-9 in combination with an insulation fault locator (EDS440)

### Device features

- Divisible measuring current transformer for easy retrofitting without disconnecting the primary conductors
- Suitable for AC/DC sensitive type B residual current measurement
- Can be combined with RCMS460/490 residual current monitoring systems
- Can be combined with EDS440 insulation fault locators
- Supply voltage DC 24 V

### Dimension diagram

Dimensions in mm



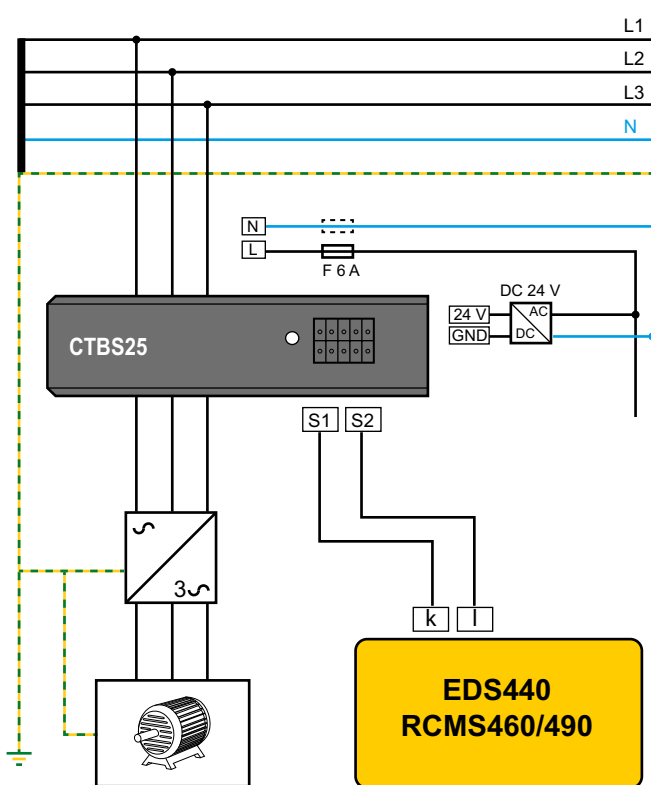
### Certifications



No.	Element	Description																														
1	Unlock current transformer core	Press both elements together at the same time and flip the CTBS25 open.																														
2	Push button	Degaussing and offset measurement (use pointed object to press).																														
3	 LED	(A) Device is ready for operation (lights green). (B) Degaussing/offset measurement active (flashes red quickly). (C) Compensation range of the measurement technology has been exceeded (> 100 A) (flashes red slowly). Degaussing/offset measurement must be carried out.																														
4	Terminal block 1	<table border="1"> <thead> <tr> <th>Note</th> <th>Terminal</th> <th>Pin</th> <th>Terminal</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>–</td> <td>–</td> <td>5</td> <td>6</td> <td>–</td> </tr> <tr> <td>–</td> <td>–</td> <td>4</td> <td>7</td> <td>S2 (l) RCMS...</td> </tr> <tr> <td>–</td> <td>–</td> <td>3</td> <td>8</td> <td>S1 (k) EDS...</td> </tr> <tr> <td rowspan="2"><math>U_s</math></td> <td>GND</td> <td>2</td> <td>9</td> <td>GND</td> <td rowspan="2"><math>U_s</math></td> </tr> <tr> <td>+24 V</td> <td>1</td> <td>10</td> <td>+24 V</td> </tr> </tbody> </table>	Note	Terminal	Pin	Terminal	Note	–	–	5	6	–	–	–	4	7	S2 (l) RCMS...	–	–	3	8	S1 (k) EDS...	$U_s$	GND	2	9	GND	$U_s$	+24 V	1	10	+24 V
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Wiring diagram



Ordering information

Supply voltage $U_s$	Type	Art. No.
DC 24 V	CTBS25	B98120060

Technical data

Values only apply to closed measuring current transformer.

Insulation coordination acc. to IEC 60664-1/IEC 60664-3

Definitions

Measuring circuit (IC1) Primary conductors routed through the current transformer  
 Secondary (IC2) Terminal block 1 (24 V, GND, S1, S2)

Rated voltage	300 V
Overvoltage category	III
Operating altitude	≤ 2000 m AMSL
Rated impulse voltage IC1/IC2	4 kV
Rated insulation voltage IC1/IC2	300 V
Pollution degree	2
Basic insulation between IC1/IC2	300 V

Supply voltage

Supply voltage $U_s$	DC 24 V
Operating range of $U_s$	±5 %
Ripple $U_s$	≤ 2 %
Inrush current	10 A for 25 μs
Power consumption	≤ 0.25 W typ. (2.5 W max.)

Measuring circuit

Measuring current transformer, internal diameter	25 mm
Characteristics according to IEC 62020 and IEC/TR 60755	AC/DC sensitive, type B
Frequency bandwidth	DC ... 100 kHz
Measuring range $I_{\Delta n}$	
DC/AC (< 100 kHz)	10 ... 500 mA
Rated current $I_n$	100 A
Rated continuous thermal current $I_{cth}$	68 A
Operating uncertainty	±1 % ± 1 mA
Cable length between (S1, S2) and (k, l)	10 m

Displays

Multicolour LED	red, green
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Environment/EMC

EMC	IEC 62020:1998+A1:2003
Operating temperature	-25 ... 75 °C

Classification of climatic conditions acc. to IEC 60721

(except condensation and formation of ice)

Stationary use (IEC 60721-3-3)	3K23
Transport (IEC 60721-3-2)	2K11
Long-term storage (IEC 60721-3-1)	1K22

Classification of mechanical conditions acc. to IEC 60721

Stationary use (IEC 60721-3-3)	3M11
Transport (IEC 60721-3-2)	2M4
Long-term storage (IEC 60721-3-1)	1M12

Terminal block 1, reverse polarity protection

Required terminals are included in the scope of delivery.

The connection conditions of the manufacturer apply.

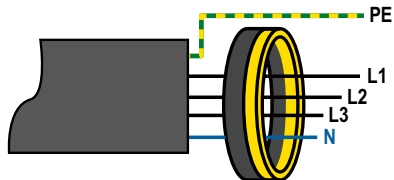
Manufacturer	Phoenix Contact
Type	PCB plug-in connector - DFMC 0.5/ 5-ST-2.54
Connection properties	
rigid	0.14 ... 0.5 mm <sup>2</sup> (AWG 26 ... 20)
flexible	0.14 ... 0.5 mm <sup>2</sup> (AWG 26 ... 20)
with ferrule	0.25 ... 0.34 mm <sup>2</sup> (AWG 24 ... 22)

Other

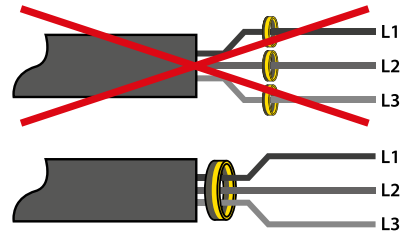
Operating mode	continuous operation
Mounting	any position
Degree of protection (DIN EN 60529)	IP30
Flammability class	UL94 V-0
Documentation number	D00388
Weight	≤ 165 g

## Installation instructions

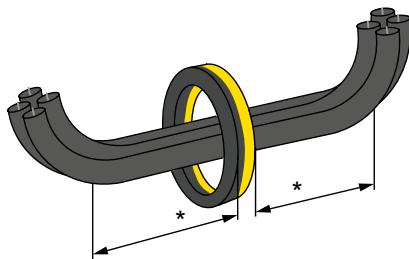
- Do not route any shielded cables through the measuring current transformer.
- Existing protective conductors and low-resistance conductor loops must not be routed through the measuring current transformer!



Never route an existing protective conductor through the measuring current transformer.

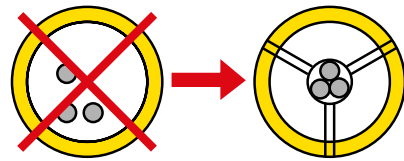


All current-carrying cables must be routed together through the measuring current transformer.



\* Distance to 90° angle:  
2x current transformer external diameter

The primary conductors may only be bent from the specified minimum distance. The minimum bending radius specified by the manufacturers must be observed.



The cables must be centred in the measuring current transformer.



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