

# Measuring current transformers of the W15BS series



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W15BS measuring current transformer

### Device features

- Suitable for AC/DC sensitive type B residual current measurement acc. to IEC 60755
- Shield to prevent interferences caused by high load currents and external magnetic fields
- Integrated connecting cable
- Pluggable connector

### Approvals and certifications



### Product description

The measuring current transformers of the W15BS series detect AC and DC residual currents. The recorded currents are evaluated by the evaluators connected via the measuring current transformer connecting cable. The connection to the respective devices is made via a six-core cable. The CTs can be used in DC, AC, and 3(N)AC systems.

The measuring current transformers feature an integrated mu-metal shield to prevent interferences from external magnetic fields.

### Intended use

The W15BS measuring current transformers are suitable for AC/DC sensitive residual current measurement in power supply systems up to a rated voltage of 600 V and a rated current of 48 A, where DC fault currents can occur due to the existing converters. The rated residual current is 1000 mA.

A cable must be used as primary conductor which at least fulfils the requirements for basic insulation with regard to the area of application.

### Standards

W15BS series measuring current transformers comply with the device standard:

- IEC 61869-1

### Safety instructions



Only **qualified personnel** are permitted to carry out the work necessary to install, commission and run a device or system. The current transformer may only be mounted or dismantled when disconnected.



### Risk of fatal injury due to electric shock!

Touching live parts of the system carries the risk of:

- An electric shock
- Damage to the electrical installation
- Destruction of the device

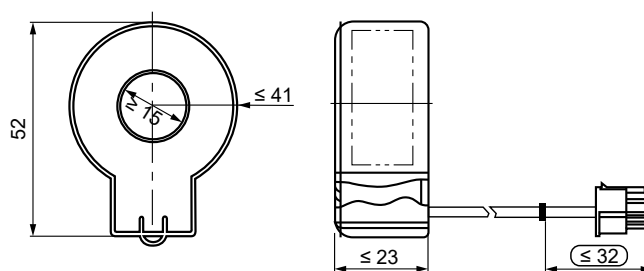
Before installing and connecting the device, make sure that the installation has been de-energised. The rules for working on electrical systems must be observed.

### Ordering details

Connector length (mm)	Type	Art. No.
1470 ±30	W15BS	B98080065
180 ±25	W15BS-02	B98080067
250 ±25	W15BS-03	B98080068

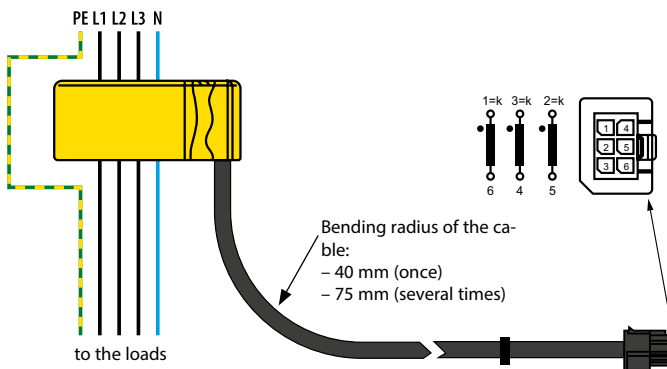
### Dimension diagram

Dimensions in mm





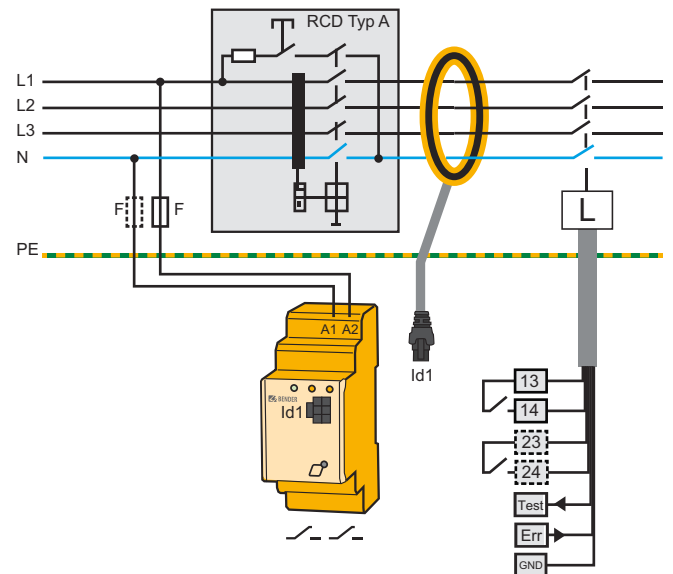
**Wiring diagram**



- Do not bend the cable excessively, observe bending radius
- Do not subject the cable to mechanical stress
- Fasten the cable with remaining length according to bending radius

Pin no.	Pin name	Description
2, 5	3S1, 3S2	Test winding
3, 4	2S1, 2S2	Measurement winding
1, 6	1S1, 1S2	Measurement winding

**Connection example**



**Technical data**

**Insulation coordination acc. to IEC 60664-1**

Definitions:		
Insulated primary conductor for rated voltage	(IC1)	
CT cable feed-through opening on primary side	(IC2)	
Measuring circuit; CT on secondary side	(IC3)	
Connecting cable measuring circuit	(IC4)	

Operating altitude	(≤ 5000 m)	≤ 2000 m
Rated voltage	(300 V)	600 V
Overvoltage category		III

Rated impulse voltage:		
IC1/IC2	(4 kV)	6 kV
IC1/IC3	(6 kV)	8 kV
IC2/IC3	(4 kV)	6 kV
IC4		4 kV

Rated insulation voltage		
IC1/IC2	(300 V)	600 V
IC2/IC3	(300 V)	600 V
IC4		300 V
Pollution degree outside		3

Safe separation (double insulation) between		
IC1/IC3	(OVC III/300 V)	OVC III/600 V

Measuring current transformer circuit		
Diameter cable feed-through opening		15 mm
Rated load current		48 A
Rated primary residual current		1000 mA
Rated continuous thermal current $I_{cth}$		48 A
Rated short-time thermal current $I_{th}$		2400 A
Rated dynamic current $I_{dyn}$		6000 A

**Environment**

Operating temperature		-30...+80 °C
Temperature in the cable feed-through opening		max. 100 °C
Classification of climatic conditions acc. to IEC 60721		
Stationary use (IEC 60721-3-3)	3k5 (except condensation and formation of ice)	
Transport (IEC 60721-3-2)	2k3 (except condensation and formation of ice)	
Long-term storage (IEC60721-3-1)	1k4 (except condensation and formation of ice)	
Classification of mechanical conditions acc. to IEC 60721		
Stationary use (IEC 60721-3-3)		3M4
Transport (IEC 60721-3-2)		2M3
Long-term storage (IEC 60721-3-1)		1M3

**Connection**

Connecting cable with plug-in connector		6 poles
Cable length		refer to ordering details
Suitable PCB connector	Molex Micro Fit 3.0 Header (Art No. 43045-0607)	
Connecting cable		UL Style 2464
External diameter of the cable (Da)		typ. 5 mm

**Bending radius**

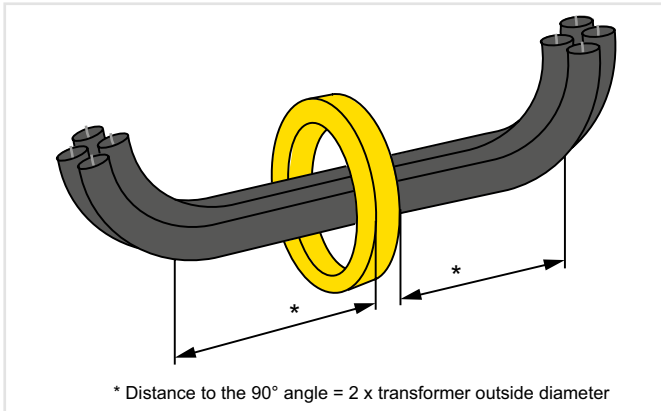
Once		8x Da
Several times		15x Da

**Other**

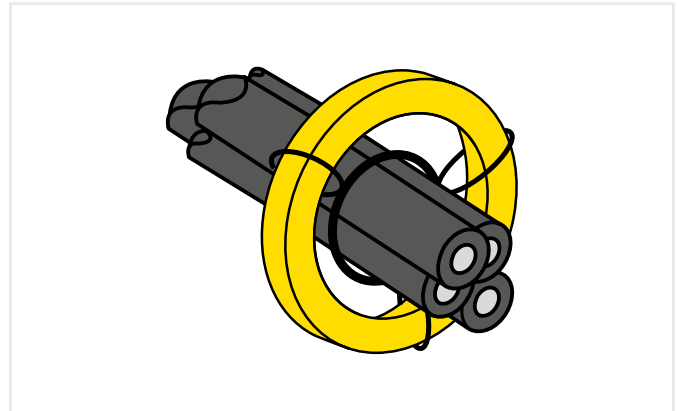
Degree of protection (DIN EN 60529)		IP54
Degree of protection, connection (DIN EN 60529)		IP20
Fastening		cable ties
Flammability class		UL94V-0
Documentation number		D00371

## Installation instructions

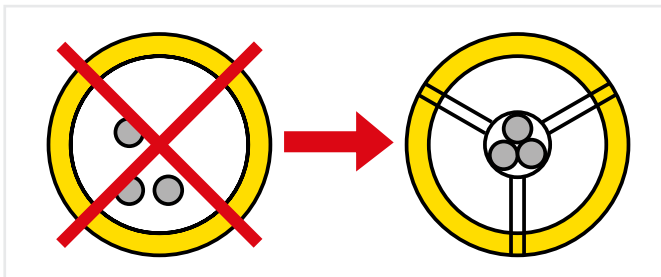
- Do not route any shielded cables through the measuring current transformer.
- Existing protective conductors and low-resistance conductor loops must not be routed through the measuring current transformer!



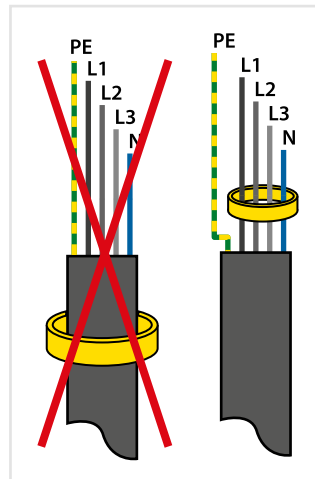
The cables may only be bent at a certain distance from the measuring current transformer.



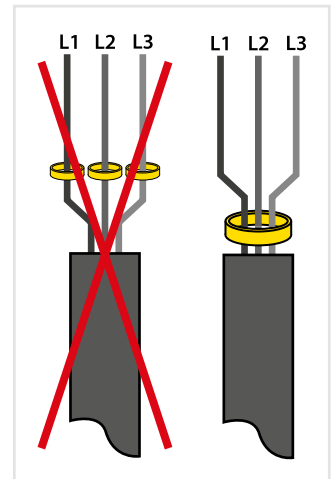
Route the conductors as symmetrically as possible through the measuring current transformer and fasten them.



The cables must be aligned with the centre of the measuring current transformer.



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



Make sure that all current-carrying cables are routed through the measuring current transformer.



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