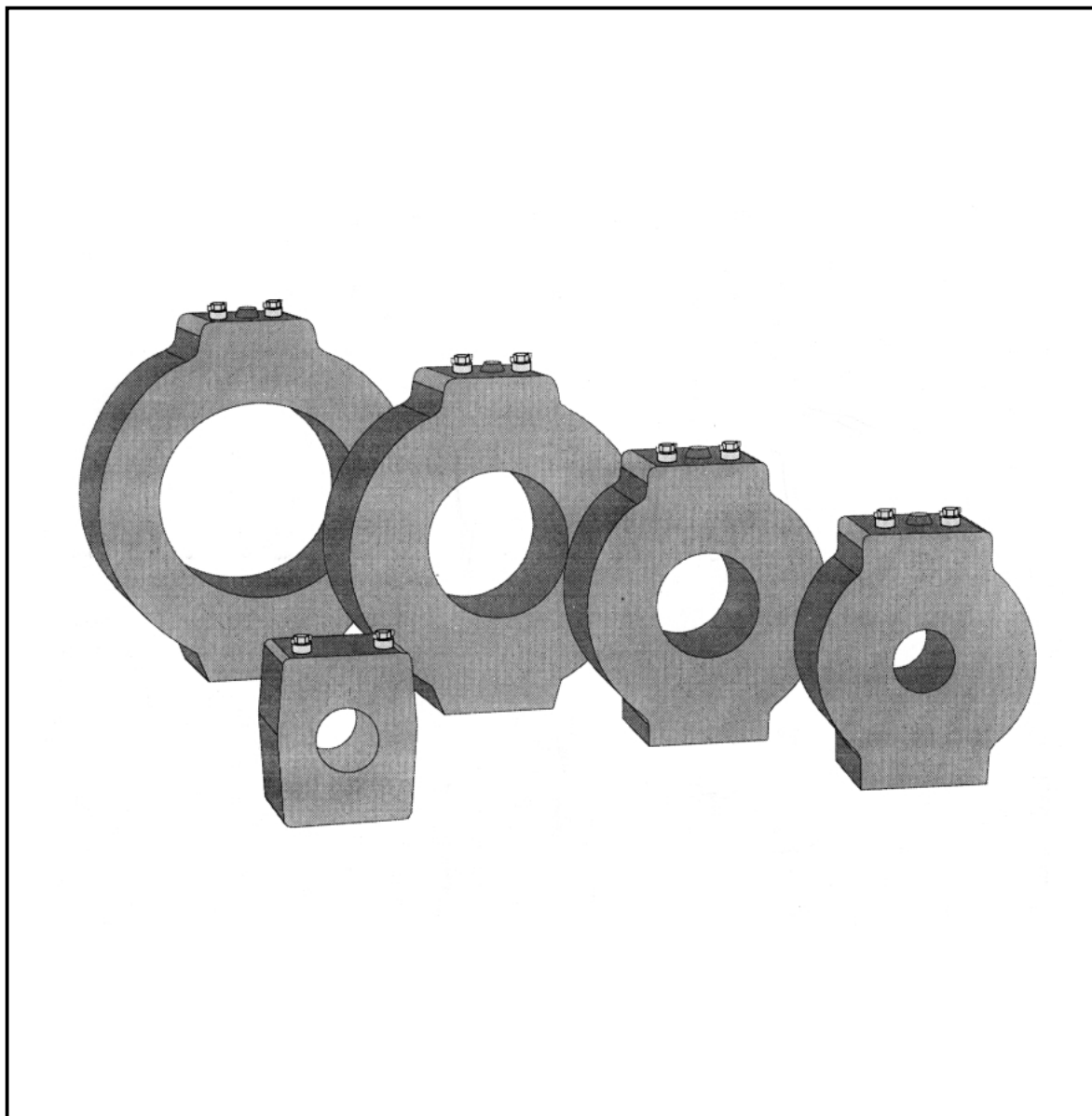


CURRENT TRANSFORMER IHDA_

Instalation, Operating and maintence instructions 34 IHDA_



1. TECHNICAL DATA

Rated voltage	0,72 kV 1) (0,5...1,2kV)
Frequency	50 and 60 Hz
Rated primary currents	100.....3000 A
Rated secondary currents	1 and 5 A
Short time withstand current I_{th}, I_s	60 x p_n
Peak withstand current I_{dyn}	2,5 x I_{th}
Insulation test voltage	50 Hz, 1 min 3 kV (IEC 185)
Operating temperature range	-25°C. .+ 40°C
Storage temperature	-40°C...+ 55°C

- 1) The insulation level of the primary conductor determines the maximum operating voltage.

Dimensions for transformers and accessories are shown in enclosed dimensions drawings.

2. GENERAL PRODUCT DESCRIPTION

Current transformer series IHDA 05_ is suitable for indoor use. An uninsulated low voltage busbar or fully insulated cable drawn through cable window serves as the primary conductor. With operating voltages greater than 1,2 kV the insulation level of the primary conductor must fulfil the respective standards for the operating voltage.

The secondary winding and ring shaped iron core is cast in resin which has good electrical and mechanical properties.

The current transformer has only one iron core and one secondary winding.

The cast resin used has the following fire safety characteristics:

Fire safety characteristic	Test standard	Epoxy resin	
		Bisphenol ¹⁾	Cycloaliphatic ²⁾
Deflection temperature under flexible load	ISO 75	85-95°C	100-110°C
Arc-resistance	ASTM D 495	185-190°C	185-190°C
Incandescent rod resistance	DIN 53459	II b	II b
Auto-ignition temperature		420°C	420°C
Horizontal burning-flammability classification	UL 95	94HB	94HB
Oxygen index	ANSI/ASTM D 2863-77	24%	24%

¹⁾ Bisphenol based epoxy resin is used for standard type indoor current transformers.

²⁾ Only by special order can current transformers be cast in cycloaliphatic epoxy resin, which is suitable for outdoor and humid indoor use.

3. PACKING

The current transformers are packed in cardboard boxes with dimensions 25x18,5x8 cm. Types IHDA 05 Cl...E1 are packed one current transformer in each package. Type IHDA 05 BI is packed one or two transformer in each package and type IHDA 05 AI three transformer in each package.

Accessories are packed in plastic bags attached to the current transformer packages.

4. INSTRUCTIONS FOR INSTALLATION

4.1 Mounting of the cable current transformers

The cable current transformer may be installed either in vertical or in horizontal position. It can be mounted either by using the two bottom inserts or by using a separate fixing base, which in turn is fixed to the bottom inserts.

When using the bottom inserts for mounting, the screws (M6) shall not be tightened in excess of the nominal torque; 3.3 Nm, otherwise damage may occur. Use a torque spanner if necessary.

The current transformer can be fastened to the primary conductor by means of busbar clamps. When, the transformer is fastened to a cable, check the capability of the cable to withstand the mechanical burden caused by the transformer, especially under vibration.

The secondary terminal screws, size M4, must not be tightened in excess of 1,0 Nm.

Two conductors of max. cross-section of 6 mm² can be connected to the secondary terminals. If conductors with a greater cross-section are to be connected, use cable lugs.

4.2 Accessories

Busbar clamps, fixing base and secondary terminals suitable for different types of current transformers are fastened as shown in the enclosed dimension drawings 13 KOK-Z 15 A... 19. A.

The fixing base shall be fixed to the bottom inserts of the current transformer by means of the screws fitted with spring washers, which are included in the package. The fixing base can be mounted either in line with the current transformer or transversely.

The secondary terminal cover shall be mounted over the secondary terminals of the current transformer. The cover includes a bushing sleeve. There are two alternative holes for the outgoing wiring.

5. OPERATING INSTRUCTIONS

The current transformer consists of one iron core and one secondary coil. When more secondary circuits are needed, e.g. for protection and measurement, one current transformer must be reserved for each purpose. When a greater burden than the rated burden is needed, two or more current transformers can be connected in series. In this case the burdens of the current transformers can be summarized.

Example!

Two series connected IHDA 05 BI 200/5 A, 15 VA cl. 1 current transformers give a burden of 30 VA in accuracy class 1 at current ratio 200/5 A.

When small currents are to be measured with IHDA 05_ current transformers, the accuracy of the transformer can be improved by passing the cable, serving as primary conductor, more than once through the cable window. The turns value will have to be chosen so that ampereturns values of current transformer remains unchanged.

Example!

25 A x 6 turns = 150 Ampereturns with current ratios of the transformer 150/5 A and 150/1 A.

*20 A x 5 turns = 100 Ampereturns
50 A x 4 turns = 200 Ampereturns.*

The following table shows the anpereturns values of current transformers IHDA 05 AI and BI by winding the primary conductor through the CT window.

CONDUCTOR CROSS- SECTION AREA (mm ²)	CONTINUOUS CURRENT I _{pn} max (A)	MAXIMUM. TURNS- VALUE
6	25	20
16	60	12
25	80	8
35	100	6

Note!

The secondary terminals of the current transformer should never be left open-circuited, because in that case hazardous high voltages will be induced between the secondary terminals.

6. MAINTANENCE INSTRUCTIONS

Current transformers type IHDA 05_ need no maintance.

However excessive dust and dirt shall be removed from the surfaces of the transformer. The cast resin surfaces may be cleaned using water, spirit, petrol or toluene.

Small scars in the surfaces caused by flashovers can be easily repaired by smoothing and cleaning the marks and rubbing a thin layer of silicone paste onto the surface.

Epoxy resin surfaces of the current transformer have also a high resistance to chemicals. The transformers can be used in areas, where the

atmosphere includes corrosive gases such as sulphuric and nitrogenous compounds provided that secondary terminals and fixing base of the transformers have been ordered to meet the demands of the operating atmosphere.

Repair instructions for large scars or cracks should be requested from the manufacturer.

7. STORAGE INSTRUCTIONS

For current transformers type IHDA 05, the allowed storage temperature is $-40^{\circ}\text{C} \dots +55^{\circ}\text{C}$. The transformers shall be protected against direct sun light.



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