

Classic Line - Current transformers

General Characteristics

Current transformers convert an alternating current, usually high value, into a proportional lower one. Depending on their use, the current transformers are classified as:

- **Measuring transformers:** For measuring of current, power, power factor or energy connected to measuring instruments. They are characterized by their accuracy and for saturating at moderate overcurrents (normally, at less than 5 times the nominal current). Thus the effect of these possible overcurrents on the measuring instruments is minimized.
- **Protective transformers:** These are generally connected to protective relays, in which proportionality between the primary and secondary current has to be kept, even in overloaded conditions (normally, more than 5 times the nominal current). Thus, quick operation of the relays is guaranteed.

CURRENT TRANSFORMERS

The current transformers convert an alternating current of high value into a proportional, lower one, which is easily measurable by standard instruments (ammeters, wattmeters, varmeters, power factor meters, relays, measuring transducers, ...) of rated 5 or 1A. They are suitable for indoor use in low-voltage networks, and they are built according to IEC and UNE-EN 61869-2. The split core permits their installation in already constructed networks without need to cut conductors.

Constructive Characteristics

Cases of self-extinguishing polycarbonate UL-94 V0. Double secondary terminals, for short circuiting the secondary winding before opening the measuring circuit.

The current transformers are bus bar type, excepto IBO and IBO-50, which are wound primary transformers.

Electrical Data (according to UNE-EN and IEC 61869-2)

Rated secondary current: 5 or 1 A

Frequency range: 50 - 60 Hz

Highest voltage for equipment: 720 V

Rated insulation level: 3 kV, 50 Hz during 1 minute

Rated continuous thermal current I_{cth} : 1.2 times rated current

Rated short-time thermal current (I_{th}): 60 times rated current

Rated dynamic current (I_{dyn}): 2.5 times I_{th}

Security factor (FS): less than 5 (depends on model and range)

Thermal class of insulation: according to IEC 60085: E (120°C)

Accuracy (according to IEC y UNE-EN 61869-2)

These current transformers fulfil the specifications of the accuracy classes 0.5, 1 and 3, for the rated outputs indicated in the table, in the same instrument. For measuring transformers, the current error and phase displacement at rated frequency must not exceed the values given in the below table, when the secondary burden is any value from 25% to 100% of the rated burden. For class 3 transformers, the limits are 50% and 100% of the rated burden. The test burden shall have a power-factor of 0.8 lagging, except when it less than 5VA, in which case the power-factor shall be 1. In no case shall the test burden be less than 1VA.

Accuracy classes						
Class	+/- Percentage current error at percentage of rated current					
	1%	5%	20%	50%	100	120%
0,2 S	0,75	0,35	0,2	-	0,2	0,2
0,2	-	0,75	0,35	-	0,2	0,2
0,5 S	1,5	0,75	0,5	-	0,5	0,5
0,5	-	1,5	0,75	-	0,5	0,5
1	-	3	1,5	-	1	1
3	-	-	-	3	-	3

Class	+/- Phase displacement in minutes at percentage of rated current				
	1%	5%	20%	100	120%
0,2 S	30	15	10	10	10
0,2	-	30	15	10	10
0,5 S	90	45	30	30	30
0,5	-	90	45	30	30
1	-	180	90	60	60
3	-	-	-	-	-

Installation

Fixing systems:

- Primary busbar fixing clamps
- Mounting brackets for fixing screws on a surface
- DIN rail fixing, easy and fast.