



511 rectangular series residual current transformers are mainly used in low-voltage distribution cabinets such as 380V and 660V to continuously detect and monitor the residual current at the installation nodes of the corresponding circuits.

The shell of this series of products is made of environmentally friendly flame-retardant ABS engineering plastics, or flame-retardant PC/ABS combined materials, high magnetic conductivity nanocrystalline soft magnetic materials, and epoxy resin encapsulation technology. It has the characteristics of high precision, good balance characteristics, small size, high insulation strength, strong impact resistance, and easy installation. It can work reliably and stably in indoor environments. Under special design, it can also work reliably in harsh outdoor environments.

The 511 rectangular series includes 5 specifications, which are suitable for circuits with a total busbar width of less than 300mm, and can basically meet the detection of all residual currents in distribution circuits below 1000A.

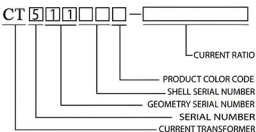
This series of products adopts the most optimized magnetic circuit design, sets the coil winding process according to the magnetic circuit characteristics, and combines a compact shielding structure, so that the product meets the requirements of product accuracy, sensitivity, balance characteristics, etc. under the premise of small size. And it is performed using epoxy resin encapsulation technology, with good overall performance and excellent insulation performance. Even when installed in a very compact environment, it will not affect the existing insulation gap.

When larger specifications are installed on the copper busbar loop, due to the heavy weight of the product, it is recommended to use a flat-mount bracket to increase its installation stability. And in order to obtain better monitoring results, the busbar should be located in the middle of the rectangular through-hole of the transformer as needed.

This series of products can be equipped with special structures on the upper part of the product as needed. Customers can install the signal processing unit on the top of the transformer as needed to expand product functions and reduce costs.

- Epoxy resin encapsulation, waterproof, excellent insulation performance;
Strong overload capacity, can be overloaded for a long time at 20 times the rated current as needed;
- Excellent balance characteristics, small-size products meet the detector alarm threshold 50mA requirements;
- High detection accuracy: 0.5/1.0/3 levels of accuracy are optional;
- Compact design, small size, beautiful appearance;
- Good consistency and excellent interchangeability;

NAMING



Color code:
0: black; 2 red 8 grey 9 white
The shell color specified by the customer is coded and classified according to the main color of the color system;

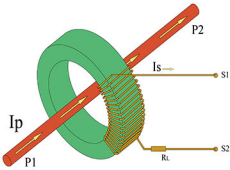
Normal use and installation conditions

- Installation location: Indoor/outdoor.
- Ambient temperature: -10℃~+40℃.
- Ambient humidity: It is recommended that the relative humidity should not exceed 80%.
- The altitude shall not exceed 3000m.
- Atmospheric conditions: There is no serious pollution, corrosive and explosive media in the atmosphere.
- Environment without significant frequent vibration and shock.
- Storage temperature: -20℃~+75℃.

General technical indicators

Technical indicators	Electrical parameters				
Rated primary current	1000mA	5A	5A	10A	10A
Rated secondary current	0.5mA	2.5mA	5mA	5mA	10mA
Rated continuous thermal current	2000mA	10A	10A	50A	50A
Operating frequency	50~60Hz				
Rated accuracy grade	Equal to or better than 0.5				
Operating voltage	≤660V				
Product flame retardant grade	UL94-V0				
Insulation resistance	≥1M ohms@500Vdc				
Power frequency withstand voltage	3KV@2mA\1min\50Hz				
Insulation heat resistance grade	E-Class				

Electrical Schematic

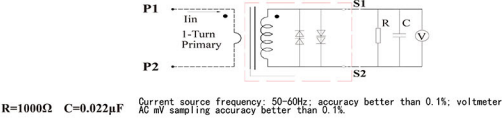


code	Code Description
IP	Measured current/input current
IS	Secondary output current
P1/P2	Measured current input/output terminal
S1/S2	Secondary current output/input terminal
RL	Secondary internal resistance of transformer

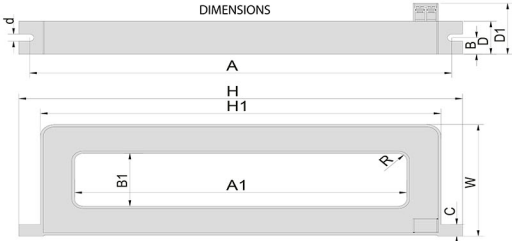
- The primary current IP flows in from the P1 terminal and out from the P2 terminal; the secondary current flows out from the S1 terminal and flows in from the S2 terminal.
- Generally, current transformers use the same-name relationship of the reduced pole, that is, the secondary output terminal and the primary input terminal are the same-name terminals to indicate the primary and secondary current relationship.
- The output current signal of the secondary side of the residual current transformer is generally small. It is recommended to use the current output method to improve the anti-interference ability as much as possible.
- IP*N1=IS*N2, the general primary rated current is 1A, the secondary rated current is 0.5mA, or other parameters are specified according to the equation; Ip is the vector sum of the currents of each cable in the residual current transformer window loop, and has no great correlation with the current size of the loop cable.
- The product contains a voltage clamping circuit, and the effective value of the clamping voltage is 1.4V, which can be changed according to the customer design during production.

Balance characteristic parameters

Specifications	Main circuit rated working current	Test current	Conductor diameter	Conductor insulation thickness	Residual current characteristics
CT511003	0≤In≤100A	100A	6mm	0.5mm	≤5mA@100A
CT511103	0≤In≤250A	315A	10mm	1.5mm	≤10mA@315A
CT511203	0≤In≤400A	630A	14mm	2.0mm	≤20mA@630A
CT511303	0≤In≤630A	630A	14mm	2.0mm	≤20mA@630A
CT519803A	0≤In≤1000A	1000A	20mm	2.0mm	≤30mA@1000A



measured current (mA)	current range (mA)	load	terminals	Sampling voltage range (mV)
50	49.75-50.25	1000Ω //0.022μF	S1、S2	24.64-25.64
200	199-201			97.18~101.14
500	498-502			243.01~253.01
800	796-804			388.7~404.7
1000	995-1005			486.25~506.26



MODEL	Main circuit current	Aperture MM	DIMENSIONS (mm)							MOUNTING (mm)		
			D	W	H	H1	A	R	D1	B	C	d
CT511003	≤100A	112*25	28	70	186	156	171	/	43.3	14	10	6
CT511103	≤315A	142*35	28	81	214	186	199	/	43.3	14	10	6
CT511203	≤400A	192*35	28	85	270	240	255	6	43.3	14	10	6
CT511303	≤630A	232*45	28	95	310	295	280	6	43.3	14	10	6
CT519803A	≤1000A	300*60	45	127	426	366	392	25	60.3	22.5	15	8