



517/517A circular through-hole current transformer is mainly used in cable circuit environment. It has simple structure, small size and flexible application. There are 8 specifications of through-hole diameters corresponding to the cable specifications used in the main circuit. The through-hole diameter ranges from 30mm to 200mm, which is suitable for 100A-1500A main circuit cables. The minimum leakage current value can be detected below 5mA, and the accuracy reaches and exceeds the national standard requirements of GB14287.2. The balance characteristics can be designed according to the use requirements.

The shell of this series of products is made of environmentally friendly flame-retardant ABS engineering plastics or flame-retardant PC/ABS alloy materials, and uses high magnetic conductivity nanocrystalline soft magnetic materials, combined with reasonable structural design and rigorous production 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 harsh environments.

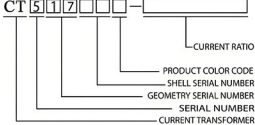
The product is produced by epoxy resin full casting process, which completely seals the secondary winding and shielding structure, has excellent waterproof and moisture-proof capabilities, and adopts wire direct output or waterproof plug wiring method, which can work reliably in humid environments. According to the requirements, special materials can also work reliably outdoors. The two series of products, 517 and 517A, have basically the same appearance and electrical parameters. The 517A series improves the output method based on the 517 and adopts the top terminal output method. It is more convenient to wire during installation, and its appearance is beautiful and generous. According to the needs, different products can be selected to achieve the purpose of convenient application.

The product color can be produced according to the customer's specified color to meet different color schemes.

FEATURES

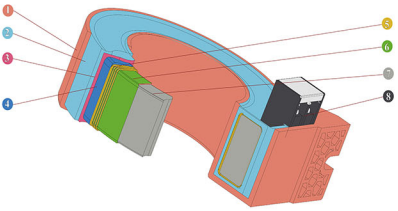
- Resin casting process, excellent waterproof and moisture-proof performance
- Strong overload capacity, can be overloaded for a long time at 20 times the rated current as needed.
- Excellent balance characteristics, small-size products meet the detector alarm threshold 30mA requirements
- High precision: 0.5/1.0/3 levels of precision are optional
- Compact design, small size, beautiful appearance
- Strong versatility and good interchangeability

NAMING



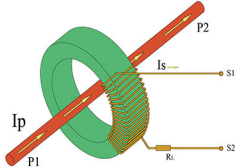
Color code:
0 black 2 red 6 blue 8 grey
The shell color specified by the customer is coded and classified according to the main color of the color system;

Structure and composition



code	name	key features
1	Product housing	Flame retardant ABS plastic or PC/ABS alloy plastic, high temperature resistance, high strength, good flame retardant performance
2	Resin packaging material	A material specially used for electronic packaging, which is mixed with epoxy resin and other insulating and thermally conductive materials.
3	Shielding	Made of high magnetic silicon steel or other magnetic materials to ensure excellent balance characteristics
4	Insulation protective film	Polyester film/PVC film/crepe paper, etc., used to protect the enameled wire from damage
5	Secondary winding wire	Oxygen-free copper material production, direct welding polyurethane paint film, temperature resistance up to 155 degrees Celsius
6	Insulation protective film	Polyester film/PVC film/crepe paper, etc., used to protect the enameled wire from damage
7	Ring core	Oriented 0.22mm thick silicon steel coil or amorphous strip coil
8	Secondary terminal	High-quality terminal blocks, current up to 10A/torque up to 8kgf.cm

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 a reduced-pole same-name relationship, that is, the secondary output terminal and the primary input terminal are same-name terminals to indicate the primary-secondary current relationship.
- The output current signal of the secondary side of the residual current transformer is generally small. It is recommended to use current output to improve the anti-interference ability as much as possible.
- IP*N1=IS*N2, generally the 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 the cables passing through the residual current transformer window loop, and has no significant correlation with the current size of the loop cable.
- The standard product does not contain voltage clamping circuits. The secondary circuit of the output current product is not allowed to be open-circuited. The built-in voltage clamping circuit can be designed according to the customer's design.

Normal use and installation conditions

- Installation location: Indoor/outdoor.
- Ambient temperature: -10°C~+40°C.
- 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°C~+75°C.

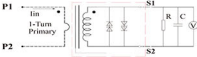
General technical indicators

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					

Balance characteristic parameters

Specifications	Main circuit rated working current	Test current	Conductor diameter	Conductor insulation thickness	Residual current characteristics
CT517103	0≤In≤100A	100A	6mm	1.0mm	≤3mA@100A
CT517203	0≤In≤160A	315A	10mm	1.5mm	≤5mA@315A
CT517303	0≤In≤225A	315A	10mm	1.5mm	≤10mA@315A
CT517403	0≤In≤400A	630A	14mm	2.0mm	≤10mA@630A
CT517503	0≤In≤630A	630A	14mm	2.0mm	≤10mA@630A
CT517603	0≤In≤1000A	1000A	20mm	2.0mm	≤30mA@1000A
CT517703	0≤In≤1250A	2000A	50mm	2.0mm	≤30mA@2000A
CT517803	0≤In≤1500A	2000A	50mm	2.0mm	≤30mA@2000A

When the residual current transformer passes the corresponding sinusoidal AC current, its output sampling value voltage should meet the requirements in the following table.



R=1000Ω C=0.022μF Current source frequency: 50~60Hz; accuracy better than 0.1%; voltmeter AC mV sampling accuracy better than 0.1%.

"Current Sense" value (mA)	Corresponding current range (mA)	Connecting load	Measuring end	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