

The LO-ORCT-XX Rectangular Series Residual Current Transformer (RCT) is primarily used in 380V, 660V low-voltage distribution cabinets, or densely packed cabinets, to continuously detect and monitor residual currents at corresponding circuit installation nodes.

The enclosure of this series is made from environmentally friendly flame-retardant ABS engineering plastic, high-permeability nanocrystalline soft magnetic material, offering high precision, good balance performance, compact size, high insulation strength, strong impact resistance, and ease of installation. It operates reliably and stably in indoor environments.

The LO-ORCT-XX Rectangular Series includes five specifications suitable for circuits with busbar widths up to 300mm, meeting the needs of detecting residual currents in distribution circuits up to 1000A.

This series adopts an optimized magnetic circuit design, setting the coil winding process based on magnetic circuit characteristics, and combining it with a compact shielding structure. This allows the product to meet requirements for accuracy, sensitivity, and balance performance while maintaining a compact size. The product's fixing feet feature a rotary structure design, which not only minimizes costs during packaging and transportation but also provides good protection for the fixing structure.

For larger specifications of the product installed in copper bar circuits, due to the relatively heavy weight of the product, it is recommended to use a flat mounting bracket to increase the stability of the installation. To achieve better monitoring results, it is best to position the busbar in the middle of the transformer's rectangular through-hole, avoiding placing the busbar too close to the inner wall side of the product’s straight edge.

The terminal positions of this series also adopt a standard rail structure design, allowing the signal processing unit's housing to be clamped on its top. This gives the product greater expansion capabilities.

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Features:

- Resin casting process, excellent waterproof and moisture-proof performance
- It has strong overload capability and can be overloaded 20 times the rated current for a long time if necessary.
- Excellent balance characteristics, small size products meet the detector alarm threshold requirement of 50mA
- High precision: precision level 0.5/1.0/3, optional compact design, small size

Normal use and installation conditions:

- Installation location: indoor/outdoor. Ambient temperature -40℃ ~ +45℃
- It is recommended that the relative humidity of the environment should not be greater than 80%
- The altitude does not exceed 3000m
- Atmospheric conditions: There are no seriously polluted, corrosive and explosive media in the atmosphere
- An environment without significant frequent vibration and shock. Storage temperature ： ---

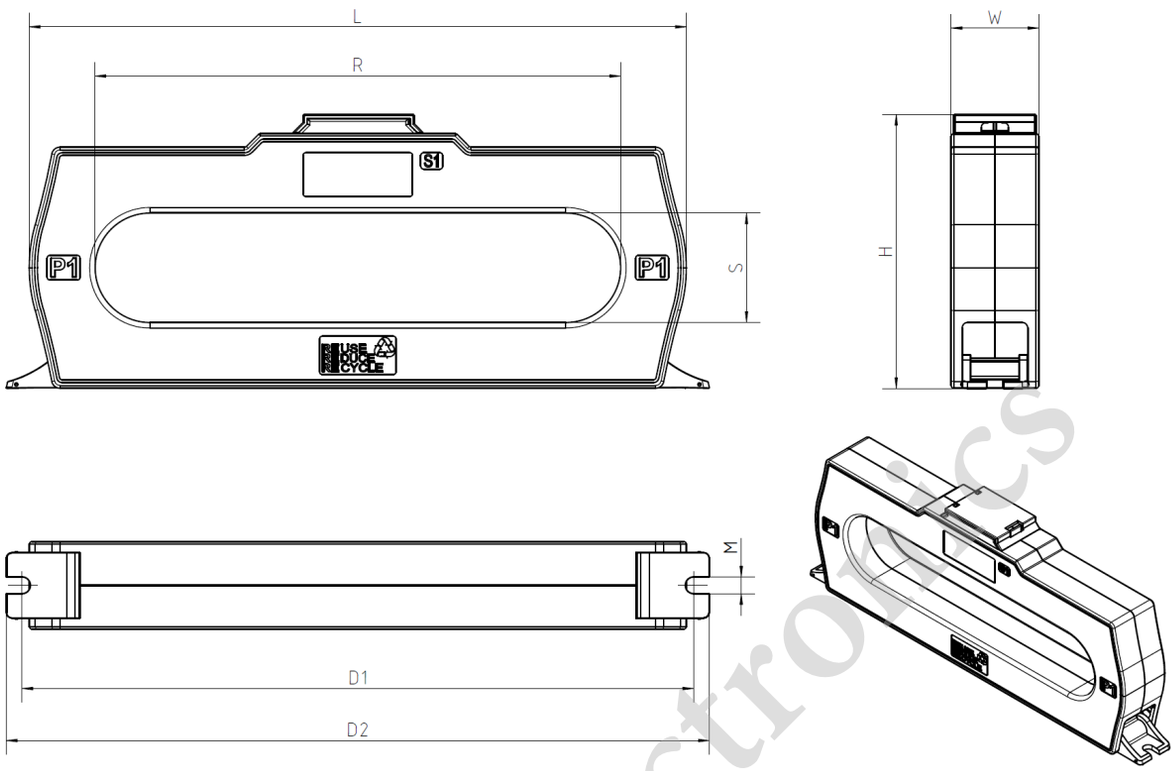
  -20℃ ~ 75℃

Balance performance:

P/N	Main circuit rated operating current	Test current	Conductor diameter	Conductor insulation thickness	Unbalance current
LO-ORCT-25	0≤In≤100A	100A	6mm	0.5mm	≤5mA@100A
LO-ORCT-35	0≤In≤250A	315A	10mm	1.5mm	≤10mA@315A
LO-ORCT-40	0≤In≤400A	630A	14mm	2.0mm	≤20mA@630A
LO-ORCT-45	0≤In≤630A	630A	14mm	2.0mm	≤20mA@630A
LO-ORCT-60	0≤In≤1000A	1000A	20mm	2.0mm	≤30mA@1000A

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Dimensions:



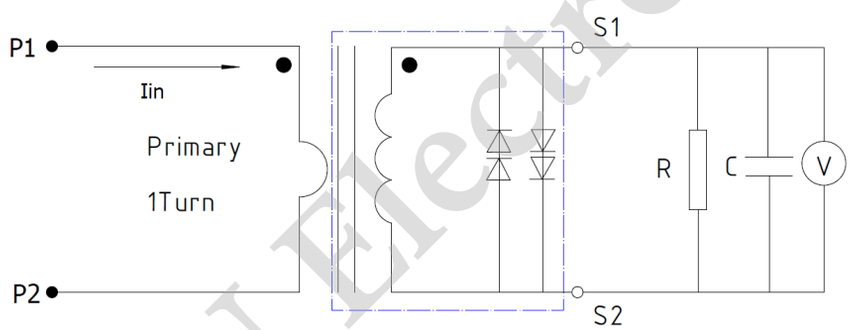
Model specifications	Main circuit current (A)	Overall dimensions (mm)					Dimensions (mm)		
		L	**W**	**H**	**R**	**S**	**D1**	**D2**	**M**
LO-ORCT-25	≤100A	152	32	77	112	25	153.5	163.5	6
LO-ORCT-35	≤250A	186	32	91	142	35	185	198.5	6
LO-ORCT-40	≤400A	240	32	100	192	40	245.5	257	6
LO-ORCT-45	≤630A	282	32	107	232	45	284.5	298	6
LO-ORCT-60	≤1000A	368	45	140	300	60	368	388	6

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General technical specs:

Technical Spec	Electrical specs				
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 class	Equal or above Class 0.5				
Operating voltage	<=660V				
Flame retardant class	UL94V-0				
Insulation resistance	>= 1M Ohms @500VDC				
Dielectric strength	AC3KV/2mA/60s/50Hz				
Thermal Class	Class B				

When the corresponding AC current passes the residual current transformer, the output sampling voltage should meet the requirements listed in the table below



R=1000Ω C=0.022uF Current source frequency:50-60Hz, accuracy class better than 0.1%, the voltage meter accuracy class of mV testing range is better than 0.1%

Detection current value(mA)	Current range (mA)	Load resistor	Testing terminals	Sampling voltage range (mV)
50	49.75-50.25	1000Ω/0.022uF	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

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