Rayleigh Instruments
EST. 1964

Telephone : +44 (0) 1245 428500
Email : sales@rayleigh.com

RI-CBCT Series

Toroid Circular Core Balanced Current Transformer

- Compact design (shallow depth).
- Available in many common aperture sizes (35…310mm).
- Single and Three Phase system compatible.
- Surface mounted using integral moulded fixing feet.
- Designed to detect residual leakage current in earth leakage applications.
- High sensitivity and accurate.

Product Description

The RI-CBCT are a range of core balanced current transformers. They are designed to detect and transmit a proportional signal to the RI-ELR range of earth leakage protection relays. Housed in robust Polycarbonate self extinguishing case, providing excellent insulation and mechanical strength.

Five versions are available with cable apertures of 35mm, 70mm, 120mm, 210mm and 310mm diameter. All models are provided with base mounting fixing feet.

Parameters

Current Transformer Type : Closed Toroid Core Balanced

Transformation ratio 1000:1

Connection

Transformer to Relay Connection

For best results it is recommended to use shielded cable for the connection between the transformer and the earth leakage relay; this is even more important at lower IΔN settings (≤0.1A). The distance between the transformer and the relay should be kept as short as possible. Care should be taken to route the cabling away from sources of noise and magnetic fields (power conductors, transformers, relays etc.).

If shielded cable cannot be used, we recommend the use of twisted cable as a bare minimum.

Wiring Notes

- Installation of the transformer, along with the associated earth leakage relay must be performed in accordance with the latest wiring practices and regulations.
- Always ensure the earth conductor DOES NOT pass through the transformer aperture. If this is unavailable, the earth must be passed back through the aperture and around the transformer.
- Ensure the cable is mounted centrally within the transformer.
- Always position the transformer on a straight section of cable away from any bends.

Input

Connection type	Single or 3 phase (3 wire and 4 wire)
Rated system voltage	720Vac
Rated insulation level	3kV 50Hz for 1 minute
Rated impulse voltage	8kV 1,2/50µS
Transformation ratio	1000:1
Maximum continuous current	RI-CBCT35 : 100A RI-CBCT70 : 200A RI-CBCT120 : 600A (250A without screening tube) RI-CBCT210 : 1600A (400A without screening tube) RI-CBCT310 : 2000A (630A without screening tube)
Rated frequency	47…63Hz
Minimum IΔN relay setting to avoid nuisance tripping	See table - page 3

Environment

Reference temperature	23°C ±2°C
Max distance between toroid and relay	50 metres (Max.)
Ambient temperature	–10°C…+55°C
Storage temperature	–20°C…+75°C
Relative humidity	0…95%, non condensing

Mechanical

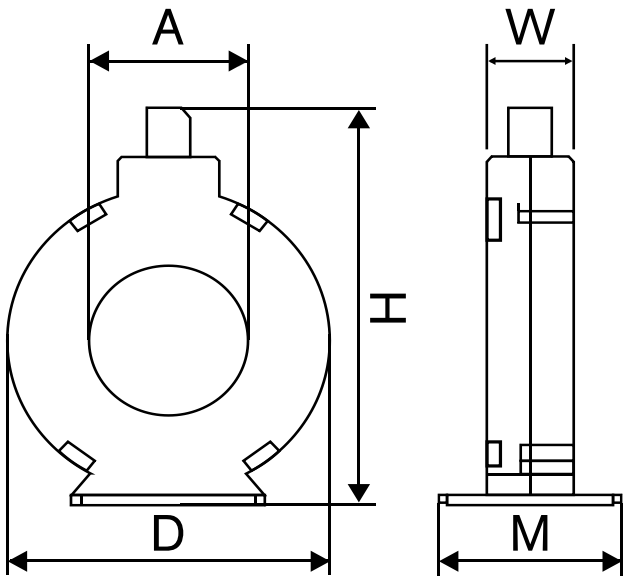
Housing	
Housing material	Self-extinguishing polycarbonate (UL94-0)
Mounting	4 x Integral mounting feet
Tamper sealing	None
Termination	
Secondary current connection	Screw type - rising clamp
Max wire size	0.2…3.0mm^2
Max tightening torque	0.4 N.m.

Minimum IΔN relay setting to avoid nuisance tripping

Model	Aperture Ø (mm)	Without screening tube			With screening tube		
		In (A)	IΔ n Min (A)	Imax (A)	In (A)	IΔ n Min (A)	Imax (A)
RI-CBCT35	35	100	0.03	600	N/A	N/A	N/A
RI-CBCT70	70	200	0.03	1200	N/A	N/A	N/A
RI-CBCT120	120	250	0.1	1500	600	0.03	4200
RI-CBCT210	210	400	0.3	2400	1600	0.03	9600
RI-CBCT310	310	630	1	3780	2000	0.03	12000

Dimensions

Model	Dimensions in mm				
	D	A	H	W	M
RI-CBCT35	70	35	96	20	40
RI-CBCT70	107	70	131	25	40
RI-CBCT120	157	120	184	25	40
RI-CBCT210	268	210	270	25	55
RI-CBCT310	337	310	380	25	65



Model Selection Table

Inner Diameter	Turns Ratio	Model
35mm	1000:1	RI-CBCT35
70mm	1000:1	RI-CBCT70
120mm	1000:1	RI-CBCT120
210mm	1000:1	RI-CBCT210
310mm	1000:1	RI-CBCT310

E&OE. Please check critical parameters at time of order. ISSUE : 2018061