

# Core Balanced Current Transformer

The CBT-94F series of core balanced current transformers are exclusively for use with our 373-ELR earth leakage protection relay. The extremely sensitive toroidal core and secondary winding are encapsulated by a self extinguishing case providing excellent mechanical strength, protection from damage, and electrical insulation

## Description

Residual current devices are used to detect potentially dangerous earth fault currents before damage is caused. An undetected fault current may lead to cables overheating, which could start a fire. If high fault currents are involved, hazardous voltages may also appear on earthed equipment, putting lives at risk. An earth leakage protection relay is intended to provide a high degree of protection and monitoring for any electrical equipment, specifically motors and their control gear, generator sets and transformers. The leakage current is determined by passing the phase conductors (and neutral if present) through a core balanced current transformer.

## Operation

Primary conductors should be grouped together and fed through the current transformer aperture. It is essential that each conductor passes through the device in the same direction. Each phase conductor (and neutral if present) must pass through the current transformer. The current transformers sum the currents flowing into and back from the load. Ideally, the load will have no leakage current, so current flow through the CT will completely cancel out. For example, 100 Amps flowing into load and 97 Amps flowing back provides an output of 3 Amps.

The equipment grounding conductor must always bypass the current transformer. The connections between the current transformer and protector should be kept as short as possible to minimise signal noise. For best results, use screened cable, with the screen grounded at the protector.

## FEATURES

- Leakage measurement range 0-10 Amps
- Flame retardant high impact moulded case

## BENEFITS

- Reduction of high currents for ease of metering
- Wide operating temperature
- Steel mounting feet supplied
- Long product life

## APPLICATIONS

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Motor protection
- Transformer protection
- Overload protection

## Specifications

System Voltage	720V maximum
Test Voltage	3kV AC for 1 minute
System Frequency	50 or 60 Hz
Primary Ratings	From 30mA to 10A
Secondary Terminals	Protected to IP20
Operating Temperature	-10 to +50 °C
Enclosure	UL94V0 flame retardant plastic
Compliant with	IEC 185, VDE 0414
Mounting Hardware	Steel mounting feet for wall of base mounting

## Part Numbers

Catalogue Code	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim J
CBT-94F-035	35	64	32	64	74	40	31	4
CBT-94F-070	70	64	52	105	117	40	31	4
CBT-94F-120	120	94	80	155	170	40	31	4
CBT-94F-160	160	150	120	241§	254	93*	80*	11*
CBT-94F-210	210	152	146	290	304	93*	80*	11*

\* Dimension with metal feet fitted to CTB160 and CTB210

