

# CBT-94F Core Balanced Current Transformers



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.

## Features

- Leakage measurement range 0-10 Amps
- 6 models available
- Integral wire sealable terminal cover
- Flame retardant high impact molded case

## Benefits

- Reduction of high currents for ease of metering
- Wide operating temperature  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Steel mounting feet supplied
- Long product life

## Applications

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

## Approvals

- IEC 185
- VDE 0414

## 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 minimize signal noise. For best results, use screened cable, with the screen grounded at the protector.

## Specification

System Voltage	720V maximum
Test Voltage	3kV AC for 1 minute
System Frequency	50Hz or 60Hz
Primary Ratings	From 30mA to 10A
Secondary Terminals	Protected to IP20
Operating Temperature	$-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Enclosure	UL94V0 flame retardant plastic
Compliant With	IEC185, VDE 0414
Mounting Hardware	Steel mounting feet for wall or base mounting

## Product Codes and Dimensions

Aperture Dim E	Dim A	Dim B	Dim C	Dim D	Catalog No.
35mm	100mm	79mm	26mm	48.5mm	CBT-94F-035
70mm	130mm	110mm	32mm	66mm	CBT-94F-070
105mm	170mm	146mm	38mm	94mm	CBT-94F-105
140mm	220mm	196mm	49mm	123mm	CBT-94F-140
210mm	299mm	284mm	69mm	161mm	CBT-94F-210
300mm	400mm	380mm	-	-	CBT-94F-300

