

RCD'S

Residual Current Devices (RCD's)

An RCD is the term that describes a device that opens the protected circuit when the detected residual current exceeds that of the preset value of the RCD. Under normal 'healthy' circuit conditions with all conductors passing through the current transformer (built into RCD, 2 & 4 Pole) the vector sum of the current values will be zero. When a fault occurs between any phase or neutral and earth regardless of load, this will give rise to a residual current which will be detected by the RCD. When this residual current exceeds the 'Tripping Current' (aka: sensitivity of the RCD) the RCD will operate and open the circuit. It is most important to connect all Line and Neutral conductors through the RCD as one of the most common causes of nuisance operation is not connecting all the conductors through and RCD.

Three types of RCD are produced. Each with a specific use:

Type AC - Tripping is ensured for residual sinusoidal alternating currents, whether the fault is suddenly applied or is a slowly rising fault.

Type A - Tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents whether the fault is suddenly applied or is a slowly rising fault.

Type S - Tripping Devices with built in 'Time Delay' for selectivity within circuits having more than one RCD in line.

