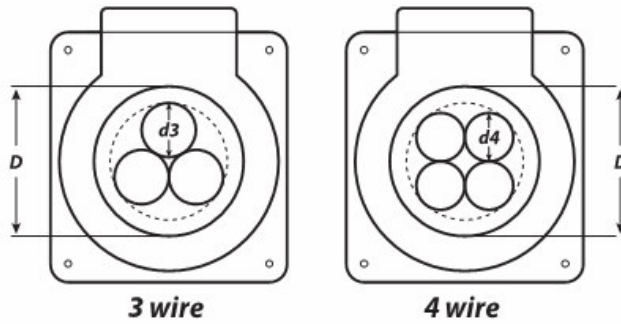


Specification and Rating of Earth Leakage Relay

27th November 2012

1. Mikro's earth leakage relay is typically sold as a complete set that includes the earth leakage relay and the ZCT (zero sequence current transformer). The accuracy of the earth leakage relay together with the ZCT is stated in Mikro's product catalogue which are
 - a. Current setting accuracy : -15% to +0%
 - b. Timing setting accuracy : +/-5%
2. As for the voltage limit, bus bar or copper wire typically pass through the inner diameter of the ZCT. The insulation voltage resistance between the outer casing of the ZCT to the wire of the ZCT has been tested at 5000Vrms without any breakdown in insulation.
3. The general guideline of using ELR is for load current less than 100A. For currents above it and for earth fault protection, we use Earth fault relay.
4. For your convenience, we've included a wire selection chart to size the ZCT based on the cable (see below).

Calculation to determine Inner Diameter of ZCT required



MODEL	D ZCT inner diameter (mm)	d3, 3 wire Up till wire diameter (mm)	d4, 4 wire Up till wire diameter (mm)
ZCT 40S	40	14	12
ZCT 60S	60	23	21
ZCT 80S	80	32	29
ZCT 120S	120	51	46

Example:

For a single core CU / PVC insulated, non-sheathed 450 / 750V 50mm² conductor, its nominal overall diameter is 11.7mm. To pass 4 wires through the ZCT, we can use ZCT40S as the maximum diameter it can support is up till 12mm.

Mr. SH Tay
 Technical Sales Manager
 27th November 2012