



- ❑ For use in conjunction with Broyce "Type A" Earth Leakage Relays
- ❑ Designed to detect leakage current and transmit a proportional signal to an Earth Leakage Relay
- ❑ Surface mounting with 4 fixing slots (BZCT160 and 210 supplied with separate mounting feet)
- ❑ Slim design
- ❑ DIN Rail fixing clip available for 35mm Ø toroid (Part no. BZCT035/CP)



DIN Rail clip fitted to BZCT035



ISO 9001:2015

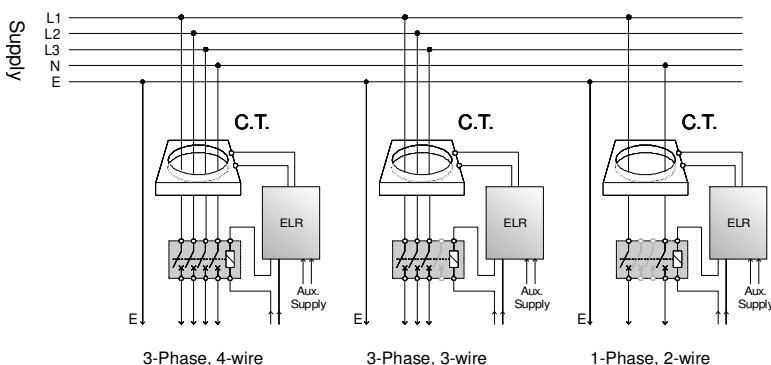
### • INSTALLATION

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY TO THE CABLES THAT ARE TO BE PASSED THROUGH THE TOROID.
- Installation of the toroid, along with the Earth Leakage Relay must be carried out in accordance with the latest wiring practices and regulations.

### • CONNECTION DIAGRAM

Typical connection examples are shown below.



### • TECHNICAL SPECIFICATION

|   |  |  |
|---|--|--|
| Size availability* and part number:   | 35mm Ø (BZCT035)<br>50mm Ø (BZCT050)<br>* internal diameter  | 120mm Ø (BZCT120)<br>160mm Ø (BZCT160)<br>210mm Ø (BZCT210)  |
| Rated system voltage:   | 720V AC<br>3kV AC  |  |
| Current ratio:  | 1/1000   |  |
| Rated operational current (I.e.):   | BZCT035 – 65A (25mm <sup>2</sup> )<br>BZCT050 – 85A (50mm <sup>2</sup> )<br>BZCT070 – 160A (95mm <sup>2</sup> )    | BZCT120 – 250A (240mm <sup>2</sup> )<br>BZCT160 – 320A (400mm <sup>2</sup> )<br>BZCT210 – 400A (500mm <sup>2</sup> ) |
| <i>Max. cross-section/phase cable size shown in brackets and assumes 3P + N copper cables</i> |  |  |
| Max. permissible current:   | 1kA cont., 5kA for 1.5s, 100kA for 0.05s   |  |
| Minimum IΔn setting on ELR for each size of toroid:   | 0.03A – 35, 50 and 70mm Ø<br>0.1A – 120mm Ø<br>0.3A – 160 and 210mm Ø  |  |
| Max. Distance   | 50m (max.) <i>Between toroid and ELR</i>   |  |
| Ambient temperature:  | -20 to +60°C   |  |
| Relative humidity:  | +95%   |  |
| Housing:  | Grey ABS   |  |
| Mounting option:  | Surface mount only using fixing slots provided (BZCT160 and 210 require separate mounting feet which are included) |  |
| Terminal conductor size:  | ≤ 2.5mm <sup>2</sup> solid<br>≤ 1.5mm <sup>2</sup> stranded  |  |
| Approvals:  | CE Compliant.<br>Conforms to: IEC44-1, IEC185 & BS7676   |  |

### • INSTALLATION DO'S AND DON'T'S

Correct installation of the Earth Leakage Relay and toroid should ensure trouble free operation, in particular, if this document is followed.

1. Always ensure the Earth conductor DOES NOT pass through the toroid. If it is unavoidable, the Earth must be routed back through the toroid again and around, as shown in Fig.1.
2. As a rule, select a toroid that has an inside diameter which is twice that or greater than the outside diameter of the cable(s) to be passed through.
3. Ensure the cable is central in the toroid.
4. Place the toroid on a straight section of cable, not near a bend
5. Keep the cable and toroid away from intense magnetic fields from nearby equipment.
6. **DO NOT** pass individual conductors through separate toroids, as shown in Fig. 3.

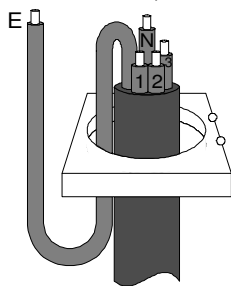


Fig. 1

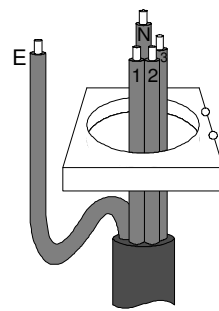


Fig. 2

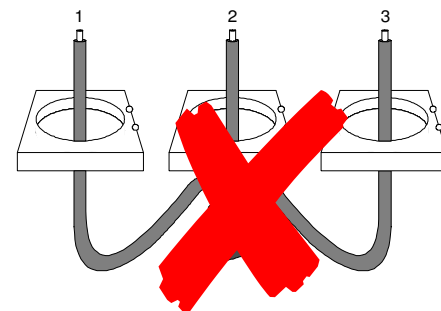
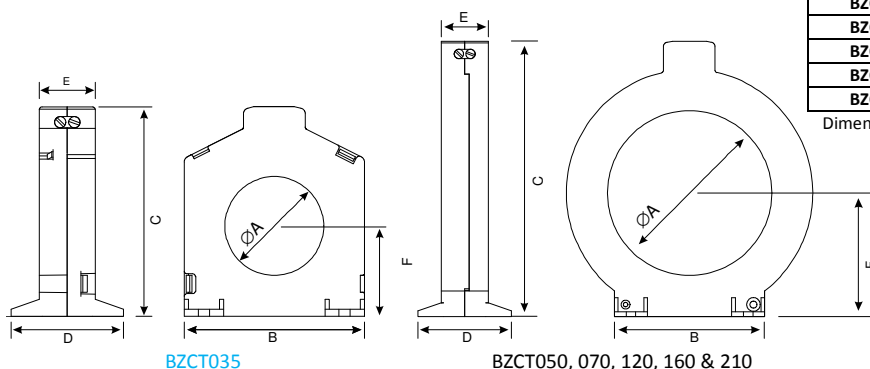


Fig. 3

### • DIMENSIONS



| Toroid Type: | AØ  | B   | C   | D               | E  | F   | Weight |
|--------------|-----|-----|-----|-----------------|----|-----|--------|
| BZCT035      | 35  | 64  | 74  | 40              | 20 | 32  | 77g    |
| BZCT050      | 50  | 63  | 98  | 40              | 20 | 42  | 88g    |
| BZCT070      | 70  | 105 | 117 | 40              | 20 | 53  | 135g   |
| BZCT120      | 120 | 155 | 170 | 40              | 20 | 80  | 265g   |
| BZCT160      | 160 | 150 | 253 | 60 <sup>A</sup> | 33 | 120 | 1075g  |
| BZCT210      | 210 | 149 | 304 | 60 <sup>A</sup> | 33 | 145 | 1300g  |

Dimensions in mm

<sup>A</sup> exc. mounting feet

