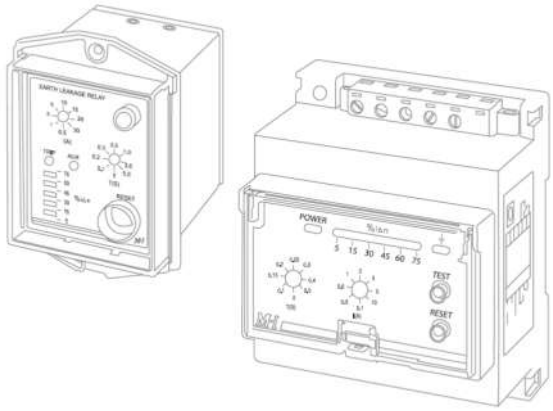
MH Protection Relays

# *ELxx / ELxxP series Earth Leakage Relay*

## *Operating Instructions*



### Features

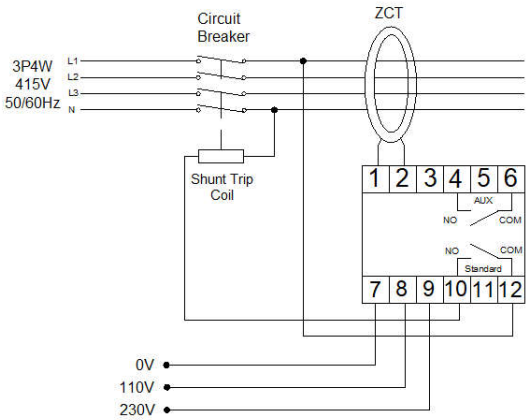
- Manual test button for relay functional check
- Real time monitoring of leakage current (%)
- Detection of 'No-connection' of ZCT (Zero Phase Current Transformer)
- Tamper-Proof design for setting protection
- Manufactured in accordance with IEC 60255 Series

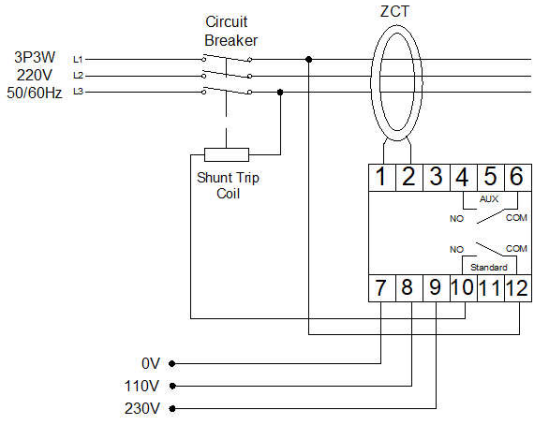
### Technical Data

| | | |
|---|---|---|
| **Power supply** | | AC110/230V (ELxx) ± 15%<br>AC 230V (ELxxP) ± 15%<br>(other voltages available upon request) |
| **Operating frequency** | | 50/60Hz |
| **Current setting** | | EL 03/03P: 0.03/0.1/0.3/0.5/1/1.5/2/3<br>EL 10/10P: 0.1/0.3/0.5/1/2/3/5/10<br>EL 30/30P: 0.5/1/3/5/10/15/20/30 |
| **Delay Time setting** | | 0-0.5 sec |
| **Pick-up current** | | 80% of the setting current |
| **Operating and storage temperature range** | | Operating -10°C to 55°C<br>Storage and transit -20°C to 65°C |
| **Relative humidity (IEC 60068-2-30)** | | 95% at +40°C |
| **Degree of protection (IEC 60529)** | | IP31 (Front), IP20 (Back) |
| **Output contact** | Relay Output | 2 x N/O (Normally Open) |
| | Contact Rating | 5A at 250V |
| | Electrical Life | 1 x $10^5$ |
| | Mechanical Life | 1 x $10^6$ |
| **Indication** | | Red LED (relay tripped/ZCT Link Fault(Blink)) |
| | | Green LED (Power ON) |
| **Housing material** | | ABS resin complying with UL94VO |
| **Unit Weight** | | Approximately 300g |
| **Power consumption** | | ≤ 2.5VA |

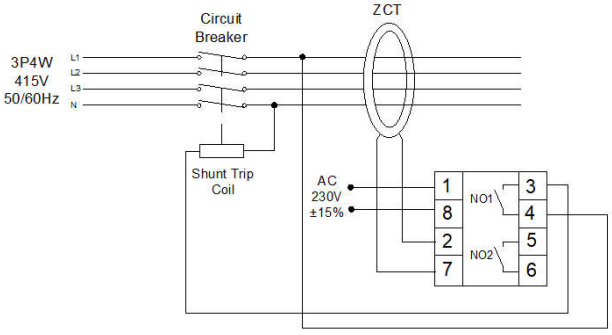
### Connection Diagram

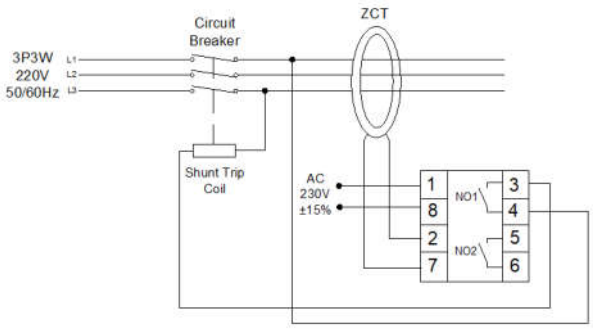
EL xx



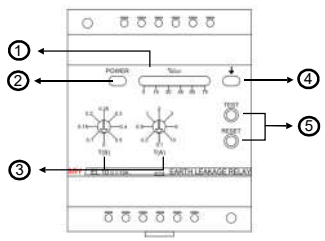




EL xxP

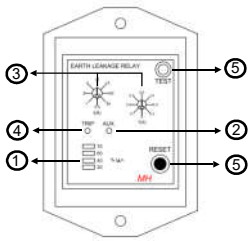


## Overview




EL xx




EL xxP

(1) Real Time Current Reading (%)
(2) Power ON LED
(3) Current and Time Setting knob
(4) Trip Indicator
(5) Test and Reset Button

## Operation Description

Contact

The relay is equipped with 2 sets of NO contact relay. The contact will energise after the delay time lapse during a fault.

Current Setting

- This is to set the threshold of the earth leakage current, the pick up current is About 80% of the set current, the relay pick up and trips when delay time Lapse, the voltage free contact will close which in turn trip the breaker.

Time Setting

- This is to set the time delay for the relay is trip after detecting a fault
- Time setting range: 0 - 0.5 sec

Button

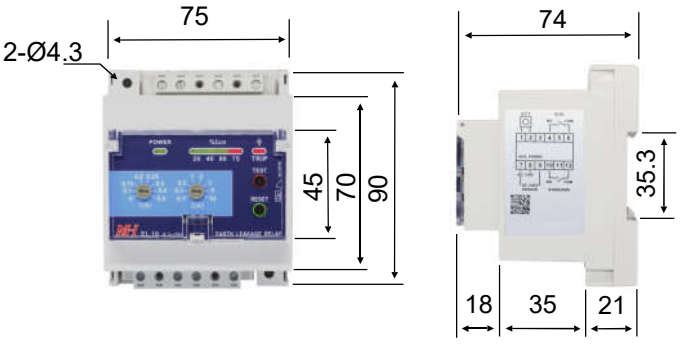
- Test Button: This is to check the functionality of the relay
  Press to simulate a Earth leakage to trip the relay.
- Reset Button: This is to reset the relay after tripping
  Press on to reset the relay to resume operation

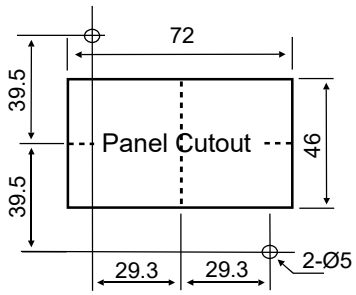
## Standards Compliances

| | |
|---|---|
| **Product Standard** | IEC 60755, IEC 60255 Series |
| **Product Safety Requirements** | IEC 60255-27 |
| **Electromagnetic Compatibility** | CISPR11/22 (IEC 60255-26) |
| | IEC 61000-4-2 (IEC 60255-26) |
| | IEC 61000-4-3 (IEC 60255-26) |
| | IEC 61000-4-4 (IEC 60255-26) |
| | IEC 61000-4-5 (IEC 60255-26) |
| | IEC 61000-4-6 (IEC 60255-26) |
| | IEC 61000-4-8 (IEC 60255-26) |
| | IEC 61000-4-11 (IEC 60255-26) |
| **Vibration, Shock and Bump** | IEC 60255-21-1 |
| | IEC 60255-21-2 |
| **Dry Heat, Damp Heat, Steady State, Cyclic Temperature with Humidity** | IEC 60068-2-2 (IEC 60255-1) |
| | IEC 60068-2-78 (IEC 60255-1) |
| | IEC 60068-2-30 (IEC 60255-1) |

## Dimension & Cut Out (in mm)

EL xx




EL xxP