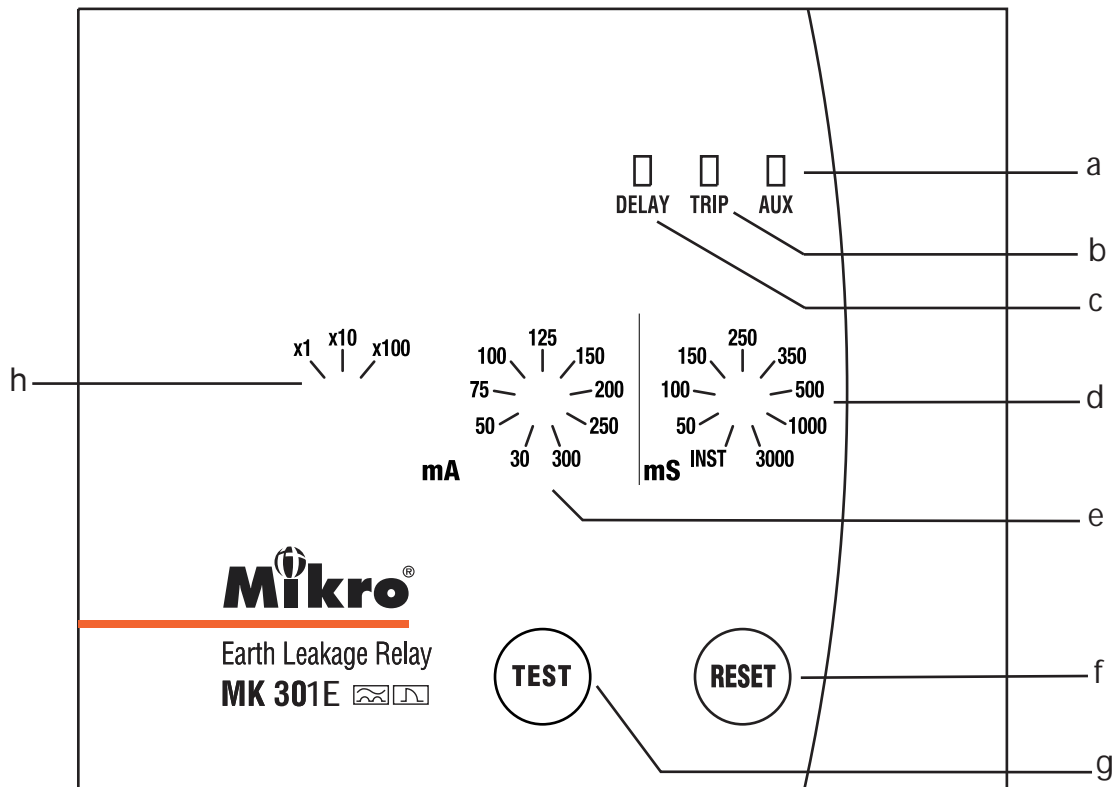


MK301E Earth Leakage Relay

User's Guide

A BRIEF OVERVIEW



a - Auxiliary power supply indicator

b - Trip status indicator

c - Trip start indicator

d - Time delay selector

e - Sensitivity selector

f - Reset button

g - Test button

h - Sensitivity multiplier switch

TECHNICAL DATA

1. Light Indicators

The light indicators display the status of the system.

Status indicators

Indicator			Status
AUX	TRIP	DELAY	
Off	Off	Off	No auxiliary power supply
On	Off	Off	System normal, no tripping
On	Off	On	Trip start, time delay countdown started
On	On	Off	Earth leakage tripped
On	On	Blink	ZCT not connected

2. Sensitivity Adjustment

The MK301E features 2 rotary selector switches for sensitivity ($I_{\Delta n}$) setting:

- (i) 9 position sensitivity selector(e) offer setting range of 30mA, 50mA, 75mA, 100mA, 125mA, 150mA, 200mA, 250mA and 300mA.
- (ii) 3 position sensitivity multiplier selector (h) switch offer selection of 1x, 10x and 100x.

3. Tripping Delay Time Adjustment

- The 9 position time delay selector (d) provides additional delay for fault discrimination.
- Selectable delays are: Instantaneous (no delay), 50ms, 100ms, 150ms, 250ms, 350ms, 500ms, 1s and 3s.

4. Push Button

Reset Button

- The reset button is for resetting the light indicator and the latching trip contact after a trip has occurred.
- To reset, press the reset button once.

Test Button

- Press the test button to simulate an earth leakage trip condition.

5. Output Contact

Trip Contact

- This is a latching type contact. It operates when tripped.

6. Settings

Sensitivity adjustment : 0.03 A to 30 A
Delay time adjustment : 0 sec to 3.0 sec

7. Contacts

Contact arrangement : 2 x latching type with manual reset
: NC and NO contacts available
Contact rating : 5A, 250VAC (cos ϕ =1) contact rating
Contact material : Silver alloy
Expected electrical life : 100,000 operations at rated current
Expected mechanical life : 5 million operations

8. Inputs

Remote Test/Reset Inputs*: N.O. dry input
Auxiliary supply
MK301E-240A : 198~265 VAC
MK301E-110A : 90~120 VAC
Rated frequency : 50 or 60 Hz
VA rating : 3VA typical
Setting accuracy : -15% to +0%
Timing accuracy : $\pm 5\%$

9. Indicators

Auxiliary supply : Green colour LED indicator
Time delay : Red colour LED indicator
Trip : Red colour LED indicator
Real time leakage current : Red colour LED indicator

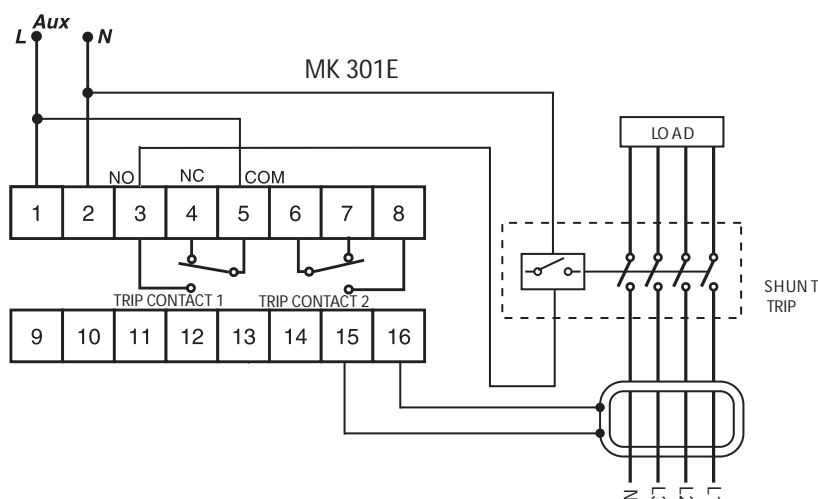
10. Zero-phase Current Transformer

To operate with ZCT series of current transformer

11. Mechanical

Mounting method : Panel mounting
Front panel : Standard DIN96mmx96mm
Approximate weight : 0.6kg (exclude ZCT)

12. Connection Diagram



13. Case Dimensions

