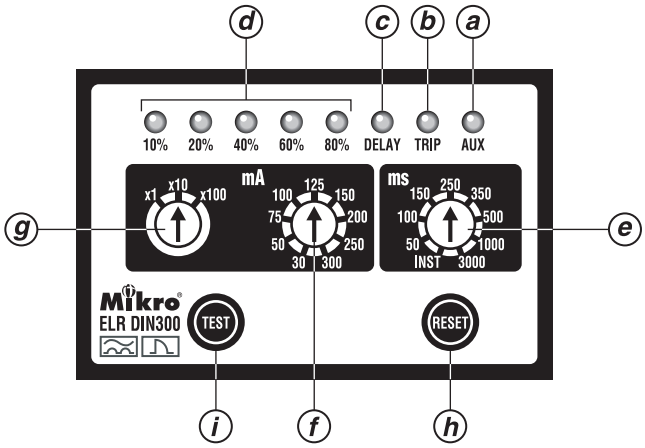
DIN300 / DIN300E Earth Leakage Relay User's Guide



a – Auxiliary power supply
b – Trip status indicator
c – Trip start indicator
d – Leakage current indicator
e – Time delay selector
f – Sensitivity selector
g – Sensitivity multiplier switch
h – Reset button
i – Test button

Sensitivity Adjustment

The DIN300/DIN300E features 2 rotary selector switches for sensitivity ($I_{\Delta n}$) setting:

(i) 9-position sensitivity selector ⓕ offers setting range of 30mA, 50mA, 75mA, 100mA, 125mA, 150mA, 200mA, 250mA and 300mA.

(ii) 3-position sensitivity multiplier selector ⓖ switch offers selection of 1x, 10x and 100x.

Example 1: To set $I_{\Delta n}$ = 100mA
Step 1: Set sensitivity selector = 100mA
Step 2: Set sensitivity multiplier selector = 1x
$I_{\Delta n}$ = 100mA x 1 = 100mA

Example 2: To set $I_{\Delta n}$ = 25A
Step 1: Set sensitivity selector = 250mA
Step 2: Set sensitivity multiplier selector = 100x
$I_{\Delta n}$ = 250mA x 100 = 25A

Light Indicators

(i) Status indicators

Indicator			Status
AUX ⓐ	TRIP ⓑ	DELAY ⓒ	
Off	Off	Off	No auxiliary power
On	Off	Off	System normal, no tripping
On	Off	On	Trip start, time delay countdown started
On	On	Off	Earth leakage tripped

(ii) Leakage Indicators ⓓ

a) The earth leakage indicators indicate the amount of leakage current detected and are expressed as percentage of the set current.
- 10% - leakage current ≥ 10% of set current
- 20% - leakage current ≥ 20% of set current
- 40% - leakage current ≥ 40% of set current
- 60% - leakage current ≥ 60% of set current
- 80% - leakage current ≥ 80% of set current

b) When the DIN300/DIN300E detects absence of zero-phase current transformer (ZCT) connection, it will blink the leakage indicators.

Tripping Delay Time Adjustment

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

Push Button Operations

a) Reset Button ⓗ
- The reset button is for resetting the light indicator and the trip contact after an earth leakage tripped.
- To reset, press the reset button once.

b) Test Button ⓘ
- Press the test button to simulate an earth leakage trip condition.

Remote Control Input*

a) Remote Test Input

This digital input is similar to the TEST push-button. To remotely test the relay, make a connection between terminals 3 and 5 of the relay.

b) Remote Reset Input

This digital input is to remotely reset the relay when tripped. To reset the relay, make a connection between terminals 3 and 5 of the relay.

Output Contacts

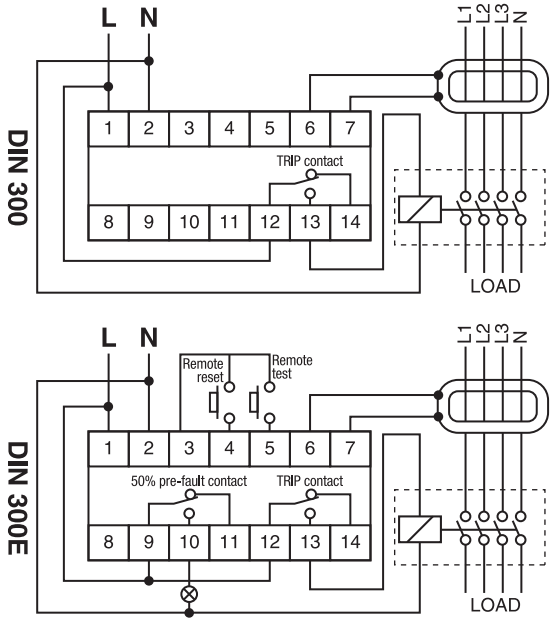
a) Trip Contact

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

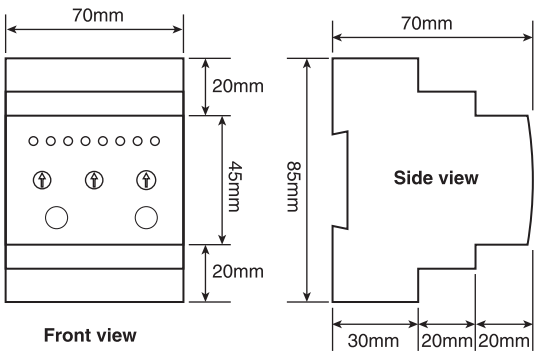
b) 50% Pre-fault Contact*

Operates when leakage current reaches 50% of the sensitivity setting.

Connection Diagrams



Case Dimensions



Technical Data

Auxiliary Supply

Supply Voltage	:	110 VAC +/- 10% or 240 VAC +/- 10%
Frequency	:	50 Hz or 60 Hz
VA rating	:	Less than 3VA

Setting

Sensitivity setting	:	30mA, 50mA, 75mA, 100mA, 125mA, 150mA, 200mA, 250mA, 300mA, 500mA, 750mA, 1A, 1.25A, 1.5A, 2A, 2.5A, 3A, 5A, 7.5A, 10A, 12.5A, 15A, 20A, 25A, 30A.
Time delay setting	:	Instantaneous, 50ms, 100ms, 150ms, 250ms, 350ms, 500ms, 1s, 3s.

Inputs

Remote test / reset inputs	:	N.O. dry contacts*
Sensor	:	ZCT**

Outputs

Contacts (Trip / 50% pre-fault*)

Contact arrangement	:	Change over
Contact rating	:	6A, 250 VAC (cosφ = 1)
Contact material	:	Silver alloy
Operating time	:	15ms max
Expected electrical life	:	100000 operations at rated current
Expected mechanical life	:	5 million operations
Approval	:	UL / CSA, VDE, TUV, SEMKO

Indicators

Auxiliary supply	:	Green light indicator
Time delay	:	Red light indicator
Trip	:	Red light indicator
Leakage current	:	5 red lights for leakage levels

Mechanical

Mounting method	:	Din rail mounted
Approximate weight	:	0.3 kg

* Applicable to DIN300E model only
** Use only Mikro S-series ZCT