DIN300 / DIN300E Earth Leakage Relay User's Guide

Sensitivity Adjustment

The DIN300/DIN300E features 2 rotary selector switches for sensitivity (IΔn) 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 IΔn = 100mA
Step 1: Set sensitivity selector = 100mA
Step 2: Set sensitivity multiplier selector = 1x
IΔn = 100mA × 1 = 100mA

Example 2: To set IΔn = 25A
Step 1: Set sensitivity selector = 250mA
Step 2: Set sensitivity multiplier selector = 100x
IΔn = 250mA × 100 = 25A

Light Indicators

(i) Status indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUX Off</td>
<td>Off</td>
</tr>
<tr>
<td>TRIP Off</td>
<td>Off</td>
</tr>
<tr>
<td>DELAY Off</td>
<td>Off</td>
</tr>
<tr>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td></td>
<td>System normal, no tripping</td>
</tr>
<tr>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Trip start, time delay countdown started</td>
</tr>
<tr>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td></td>
<td>Earth leakage tripped</td>
</tr>
</tbody>
</table>

(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

[Diagram of the connection between terminals and contacts]

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

Case Dimensions

[Diagram showing the dimensions and layout of the relay]

Mechanical
Mounting method : Din rail mounted
Approximate weight : 0.3 kg

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