

TEST CERTIFICATE - EARTH FAULT RELAY

Serial No : DEFR-

DATE:

- 1. Input Voltage : 230V AC , SINGLE PHASE
- 2. Leakage Current Settings : 10% (minimum)
: 80% (maximum)
- 3. Time Delay settings : 0.3 to 3 Secs
- 4. Repeat Accuracy : 10%
- 5. Relay Condition : Relay energizes on fault.
- 6. Indications : RED LED glows when fault occurs and relay energizes
GREEN LED glows to indicate Auxiliary supply
- 7. Output Contacts : 1NO + 1NC provided.

CONNECTIONS - Connect Input supply of 230V AC, single phase, 50Hz to the backside of the ELR marked L&N. Connect the terminals CT1 and CT2 to the CBCT terminals marked CT1 and CT2.

Set off contacts : NO for terminals marked N/O and NC for the terminals marked C and N/C.
Setting : Set the current setting to the required range from 10% to 80% and set the time setting range to the required time delay i.e. From 0.3 to 3 secs (it is preferable to keep the current setting to minimum i.e., 1A and the time delay setting to minimum i.e., 0.3sec's).

Test Results

(When passing required current)
(With the time delay setting at 0.3secs)

| Current setting on Relay | Actual Current tripping when measured with Multimeter |
|--------------------------|---|
| 10% | |
| 80% | |

At the time of tripping the GREEN LED remains and the RED LED glows, N/O of the relay close and the N/C of the Relay opens.

- Time delay at minimum (0.3 sec) : Relay energizes immediately.
- Indication** : RED LED glows when relay energizes
- Insulation** : 20 Meg Ohms and above with 500V megger between body and terminals.
- Setting** : Current set at 10% . Time set at 0.3 sec.
- Tested By** : _____ **Passed By** : _____ **Checked By** : _____

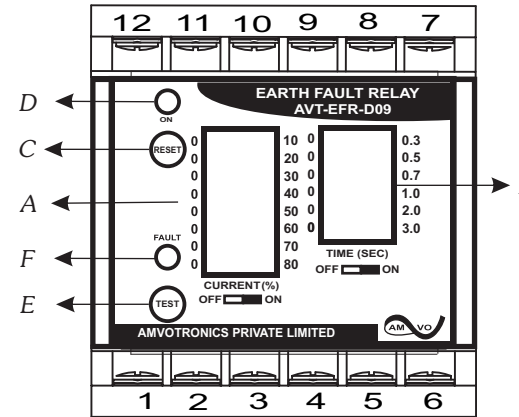


MANUFACTURERS OF ELECTRICAL RELAY

EARTH FAULT RELAY

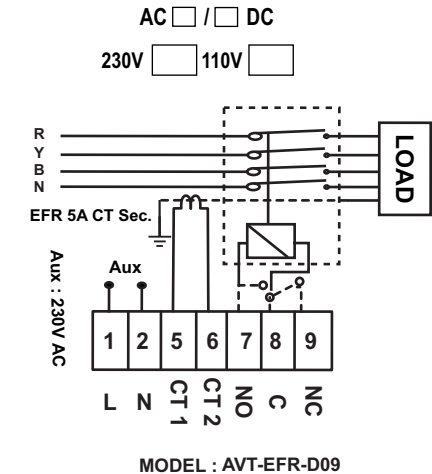
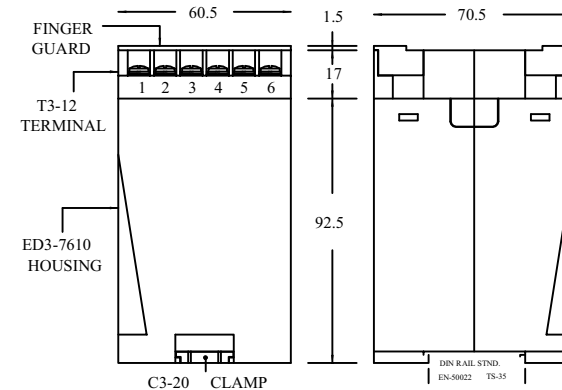
10% - 80%

USER MANUAL



- A - DIP Switches for Current setting
- B - DIP Switches for Delay setting
- C - Reset button
- D - Power ON Indication
- E - Test button for testing the healthy of relay
- F - Fault indication LED

Casing Dimensions Connection Diagram



1. Settings

1a. Current Setting

| % | DIP Switch Selection |
|----|----------------------|
| 10 | 1 |
| 20 | 2 |
| ⋮ | ⋮ |
| 70 | 7 |
| 80 | 8 |

This is for setting the minimum Earth Leakage current

This can be varied from 10% - 80%.

Select any one required value for current, keep the other switch in OFF position

1b. Delay Setting

| Secs | DIP Switch Selection |
|------|----------------------|
| 0.3 | 1 |
| 0.5 | 2 |
| ⋮ | ⋮ |
| 2.0 | 5 |
| 3.0 | 6 |

This time delay setting is for setting the delay time from the start of fault to actual tripping of the relay contact.

This can be varied from 0.3 to 3 Secs .

Select any one required value for Delay, keep the other switch in OFF position.

2. Light Indicators

The light indicators display the status of the system.

| Indicator | | Status |
|-----------|------|---------------------------|
| AUX | TRIP | |
| Off | Off | No auxiliary power supply |
| On | Off | System Healthy |
| On | On | Trip due to Earth Leakage |

3. Push Buttons

3a. Reset Button

The reset button is for resetting the relay and light indicators after an earth-leakage tripping has occurred.

To reset, press the reset button once.

3b. Test Button

Test button is for checking the relay operation.

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

4. Electrical Specifications

Auxiliary Supply

| | | |
|------------------|---|--------------|
| AVT-EFR-D09 | - | 185-250 VAC |
| Supply frequency | - | 50Hz |
| VA Rating | - | 3 VA typical |

Trip Contact

| | | |
|--------------------------|---|----------------------|
| Rated Voltage | - | 250 VAC |
| Continuous carry | - | 5A(cos ϕ = 1.0) |
| Expected electrical life | - | 100,000 operations |
| Expected mechanical life | - | 5 million operations |

Indicators

| | | |
|------------------|---|---------------------|
| Auxiliary supply | - | Green LED indicator |
| Trip | - | Red LED indicator |

Setting Ranges

| | | |
|------------------------------|---|--------------------|
| Current (I _{>}) | - | 10% - 80% |
| delay time (DELAY) | - | 0.3 sec to 3.0 sec |

Mechanical

| | | |
|----------|---|-------------------|
| Mounting | - | Din-Rail mounting |
|----------|---|-------------------|

| | | |
|--------------------|---|------------|
| Approximate weight | - | 170 Grams. |
|--------------------|---|------------|

For further Sales and technical queries please contact:

AMVOTRONICS PRIVATE LIMITED, CHENNAI

CERTIFIED BY : CSIR



MADE IN INDIA