



## PRODUCT OVERVIEW

Microprocessor based digital earth leakage relays measuring low-level leakage or unbalanced currents due to insulation loss in conductors or equipment to be protected. A zero phase current transformer (toroid) is used to sense the leakage current with all protected conductors passing through the toroid.

Pre-fault alarm contact and a positive safety contact provide better fault prevention control of the system or equipment. The pre-fault alarm contact is energised whenever the leakage current exceeds 50% of the sensitivity setting ( $I_{\Delta n}$ ).

The positive safety contact will become energised when the relay is powered up and healthy.

## FEATURES

- Fascia mount
- Digital earth leakage relay
- Programmable current sensitivity and time delay
- Detection of missing ZCT
- Relay trip indicator
- Relay alarm indicator
- Real-time leakage current display
- 50% pre-fault indicator
- Leakage fault current recording
- Standard DIN 96x96mm panel mounting
- Protected against nuisance tripping
- Positive safety output contact
- Pre-fault alarm contact
- Remote reset function

## ORDERING INFORMATION

**PART NUMBER**  
ME-ELR-DF-24D  
ME-ELR-DF-110A

**DESCRIPTION**  
For 50Hz system, auxiliary voltage 21~28V DC  
For 50Hz system, auxiliary voltage 94~127V AC

## TECHNICAL DATA

### AUXILIARY SUPPLY

Model ME-ELR-DF-24D : 21~28V DC  
Model ME-ELR-DF-110A : 94~127V AC  
Rated frequency : 50Hz  
VA Rating : 3 VA typical

### SETTING

**Sensitivity setting** : 30mA, 50mA, 0.1A to 1.0A (step=50mA), 1.0A to 5.0A (step=1.0A)  
**Time delay setting** : 0.05s to 0.50s (step=0.05s)

### PERFORMANCE

**Current accuracy** : -15% to +0%  
**Timing accuracy** :  $\pm 5\%$

### RECORD

**Fault record** : 3 latest tripped fault currents or "tSt" for manual test trip  
**Storage** : Non-volatile memory

### INPUT

**Remote Test / Reset Inputs** : N.O. dry contact

### OUTPUTS

**Trip contact** : Activated during leakage trip, manual test trip or ZCT connection error  
**Positive safety contact** : Activated when powered on and relay healthy  
**Alarm contact** : Activated when measured leakage current exceeds 50% of  $I_{\Delta n}$ .

### OUTPUT CONTACTS

**Rated voltage** : 250 V AC  
**Contact rating** : 5 A (NO), 3 A (NC)  
**Expected electrical life** : 100,000 operations at rated current  
**Expected mechanical life** :  $5 \times 10^6$  operations

### INDICATORS

**Pre-fault alarm** : Red indicator (Normal blink)  
**Time delay** : Red indicator (Fast blink)  
**Leakage trip** : 7-segment display and red indicator  
**ZCT connection error** : 7-segment display and red indicator  
**Real-time leakage current** : 7-segment display

## ZERO - PHASE CURRENT TRANSFORMER

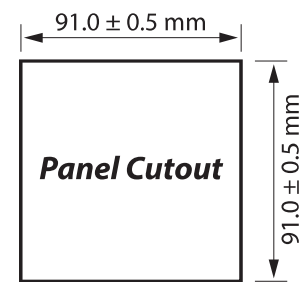
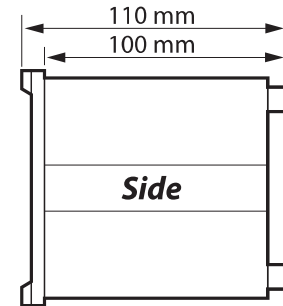
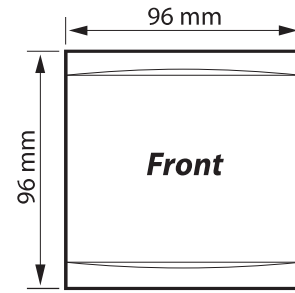
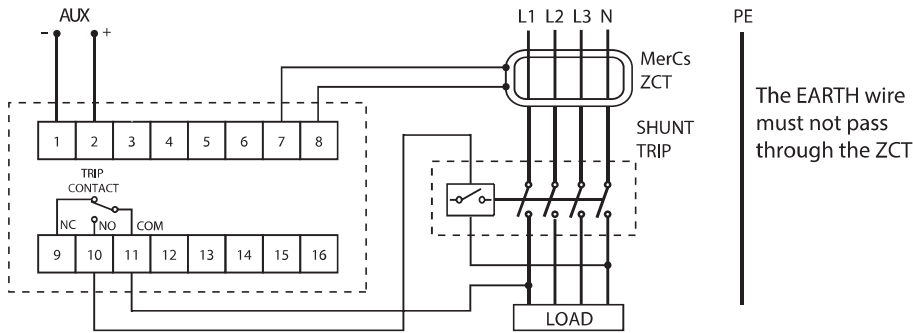
To operate with MerCs' ME-T series of current transformers

### MECHANICAL

**Mounting** : Panel mounting  
**Dimension (mm)** : 96(w) x 96(h) x 110(d)  
**Enclosure protection** : IP54 at the panel  
**Approximate weight** : 0.4 kg (excluding ZCT)

TYPICAL APPLICATIONS DIAGRAM FOR ME-ELR-DF-24D

CASE DIMENSIONS



TYPICAL APPLICATIONS DIAGRAM FOR ME-ELR-DF-110A

