Earth Leakage Relay

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PRODUCT OVERVIEW

Microprocessor based digital 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 (IΔn).

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

FEATURES

- Fascia mount
- Digital auto-reclosing earth leakage relay
- Incorporated positive safety trip contact
- One programmable contact for flexibility
- Detection of missing ZCT
- Relay trip / alarm indicator
- Real-time leakage current display
- Leakage fault current recording
- Remote reset function
- Standard DIN 96 x 96mm panel mounting
- Protected against nuisance tripping

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
ME-ELR-DFSR-24D	For 50Hz system, auxiliary voltage 21~28V DC
ME-ELR-DFSR-110A	For 50Hz system, auxiliary voltage 94~127V AC

TECHNICAL DATA

AUXILIARY SUPPLY

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

PERFORMANCE

Current accuracy : -15% to +0%
Timing accuracy : ±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

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

OUTPUTS

Trip contact : Activated during leakage trip, manual test trip or ZCT connection error
Positive safety contact : Activated when powerup and relay function correctly
Alarm contact : Activated when measured leakage current exceeded 50% of IΔn.

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 x 10^6 operations

ZERO - PHASE CURRENT TRANSFORMER

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

SETTING

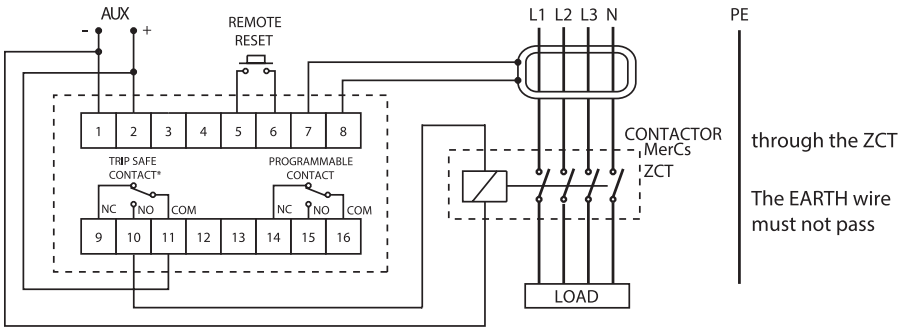
Sensitivity adjustment : 30mA, 50mA, 0.10~1.00A (Step=50mA) 1.00~10.0A (Step=1.00A)
Time delay adjustment : Instantaneous, 0.1~3.0sec (Step=0.1s)
Number of shots : 0~30 (Step=1, 0=Disable auto re-close function)
Dead time : 1~500sec (Step=1sec)
Persistent fault time : 0~500sec (Step=1sec, 0=Disable function)
Reclaim time : 0~500min (Step=1min, 0=Disable function)
Lockout auto reset time : 0~200hour (Step=1Hr, 0=Disable function)

Programmable contact:
Option 0 = Disable
Option 1 = All(Option 2 to 6)
Option 2 = ZCT error
Option 3 = Leakage trip, test trip, re-close lockout
Option 4 = Re-close lockout
Option 5 = Pre-fault alarm, leakage trip, test trip, re-close lockout
Option 6 = Re-close lockout, ZCT error

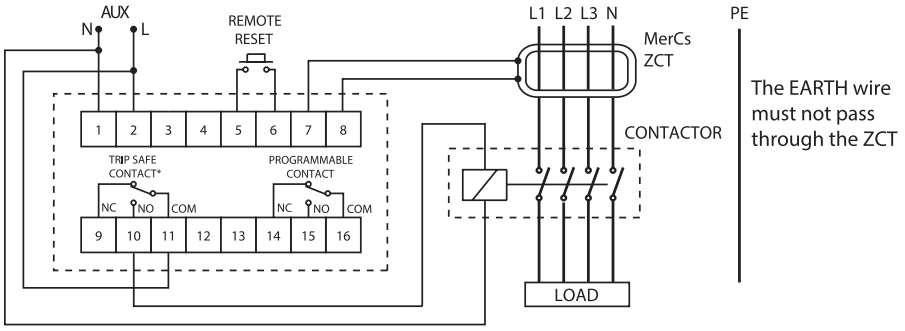
MECHANICAL

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 ME-ELR-DFSR-24D

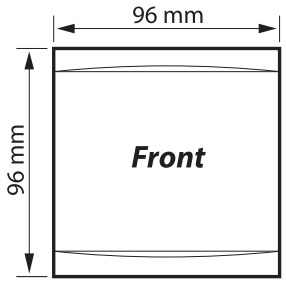


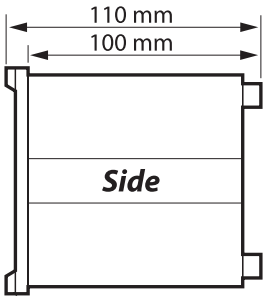
TYPICAL APPLICATIONS DIAGRAM ME-ELR-DFSR-110A

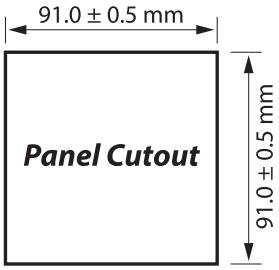


* The trip safe contact is activated (terminal 10-11 closed) when the relay is in normal power-up condition with the measured leakage current less than 0.85 IΔn.

CASE DIMENSIONS







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