



PRODUCT OVERVIEW

Microprocessor based digital earth-fault relay using fundamental frequency current measurement for excellent harmonic current rejection.

The relay consists of independent low-set and high-set elements. The high-set element can be disabled by the user. The time current characteristics of the low set element are definite time or five selectable IDMT curves. The high-set element is a definite time or instantaneous relay.

The 4-digit panel displays the present load current; recorded fault current for the last trip; and all settings for the relay.

FEATURES

- Fascia mount
- Microprocessor based digital relay
- Current measurement based on fundamental frequency
- Low-set earth-fault
- High-set earth-fault
- Local display of measured and set values
- Definite time for low-set and high-set
- Non-volatile fault value recording
- Programmable relay outputs
- Five selectable IDMT characteristic curves
- Complies with IEC 60255-26 standard

ORDERING INFORMATION

PART NUMBER
ME-EFR-DF-110A

DESCRIPTION

For 50Hz system, auxiliary voltage 94~127V AC

*See Price List for CT's to suit EFR

TECHNICAL DATA

RATINGS

Rated current (I_n) : 5 A
 Rated frequency : 50 or 60 Hz
 Burden : < 0.3 VA at I_n
 Thermal withstand : 4 x I_n continuous

ACCURACY

Protection thresholds : $\pm 5\%$
 Time delay : $\pm 5\%$ with a
 minimum of 50 ms

INDICATORS

Auxiliary supply : Green indicator
 Pick-up : Red indicator
 Trip : 7-segment display and
 red indicators

AUXILIARY SUPPLY

Model ME-EFR-DF-110A : 94~127V AC
 Supply frequency : 50Hz
 VA Rating : 3 VA typical

OUTPUT CONTACTS (R1 & R2)

Rated voltage : 250 V AC / DC
 Contact rating : 5 A
 Expected electrical life : 100,000
 operations at
 rated current
 Expected mechanical life : 5×10^6
 operations

ENVIRONMENTAL CONDITIONS

Temperature : -5°C to $+55^\circ\text{C}$
 Humidity : 56 days at 93% RH and
 40°C non-condensing

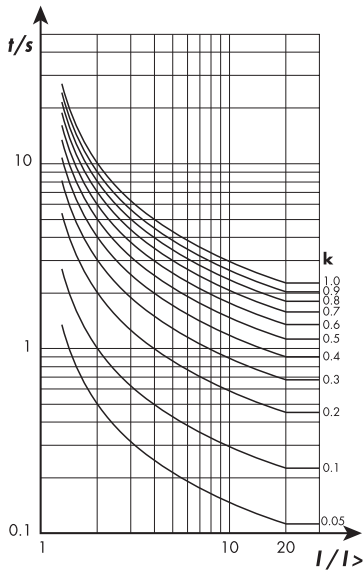
SETTING RANGES

Low-set ($I >$) : 0.1 A to 5.0 A, step 0.05 A / 2% to 100%, step 1%
 Low-set time multiplier ($kt >$) : 0.05 to 1.0, step 0.01
 Low-set definite time ($t >$) : 0.05 to 99 sec, step 0.01 (0.05 to 1.0) / 0.1 (1.1 to 99)
 High-set ($I >>$) : 0.1 A to 50 A or disable, step 0.1 A / 2% to 1000%, step 2%
 High-set delay time ($t >>$) : 0.05 sec to 2.5 sec, step 0.01

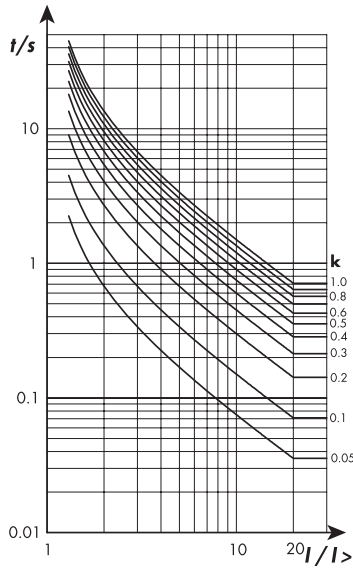
MECHANICAL

Mounting : Panel mounting
 Dimension (mm) : 96(w) x 96(h) x 110(d)
 Enclosure protection : IP54 at the panel
 Approximate weight : 0.7 kg

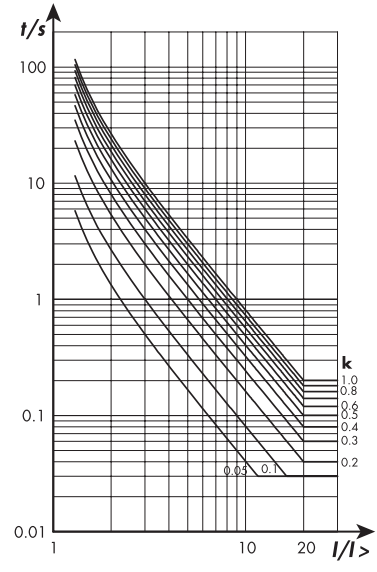
NORMAL INVERSE 3/10



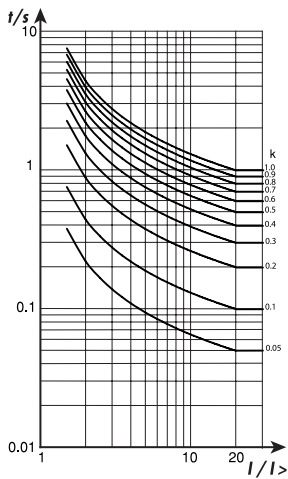
VERY INVERSE



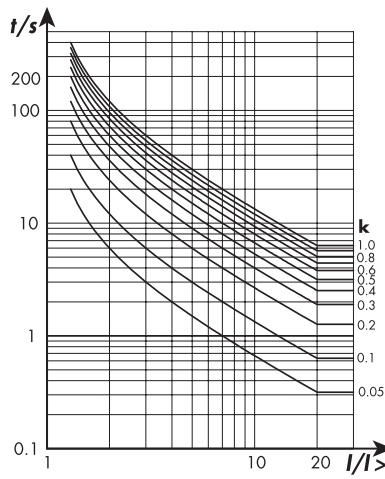
EXTREMELY INVERSE



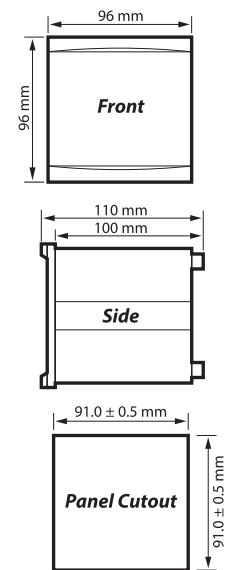
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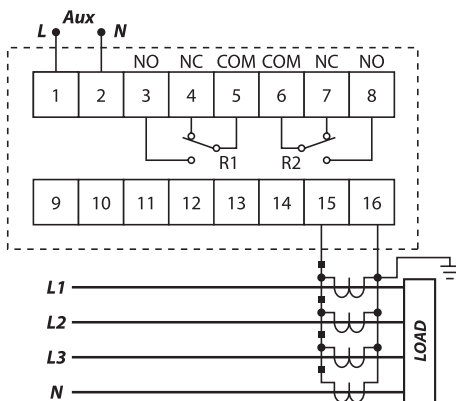
LONG TIME INVERSE



CASE DIMENSIONS



TYPICAL APPLICATIONS DIAGRAM 1



TYPICAL APPLICATIONS DIAGRAM 2

