



# MK1000A

## Features

- Microprocessor based numerical relay
- Current measurement based on fundamental frequency
- Three-phase, low-set overcurrent
- Three-phase, high-set overcurrent
- Low-set earth-fault
- High-set earth-fault
- Definite time for low-set and high-set
- Five selectable IDMT characteristic curves
- Local display of measured and set values
- Programmable relay outputs
- Non-volatile fault values recording
- Complies with IEC 60255-26 standard
- ANSI Code : 50P, 50G, 51P, 51G

## 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

### AUXILIARY SUPPLY

Model MK1000A-240A(6)	: 198 ~ 265 V AC
Model MK1000A-240AD(6)	: 85 ~ 265 V AC 110 V DC ~ 340 V DC
Model MK1000A-150D(6)	: 24 ~ 150 V DC
Supply frequency	: 50 or 60 Hz
V A rating	: 3 VA typical

### ACCURACY

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

### OUTPUT CONTACTS

Trip Contacts (R1 & R2)	
Rated voltage	: 250V AC / DC
Contact rating	: 5 A
Expected electrical life	: 100,000 operations at rated current
Expected mechanical life	: $5 \times 10^6$ operations

### SETTING RANGES

#### i) Overcurrent elements

Low-set ( $I >$ )	: 0.5 A to 10.0 A, step 0.05 A
Low-set time multiplier ( $kt >$ )	: 0.05 to 1.0, step 0.01
Low-set definite time ( $t >$ )	: 0.05 to 99s
High-set ( $I >>$ )	: 0.5 A to 99.9 A, step 0.10 A or disable
	: 10% to 1998%, step 2%
High-set delay time ( $t >>$ )	: 0.05 sec to 2.5 sec, step 0.01

#### ii) Earth-fault element

Low-set ( $I_o >$ )	: 0.10 A to 5.0 A, step 0.05 A
	: 2% to 100%
Low-set time multiplier ( $kt_o >$ )	: 0.05 to 1.0, step 0.01
Low-set definite time ( $t_o >$ )	: 0.05 to 99s
High-set ( $I_o >>$ )	: 0.10 A to 50 A, step 0.10 A or disable
	: 2% to 1000%, step 2%
High-set delay time ( $t_o >>$ )	: 0.05 sec to 2.5 sec, step 0.01

### INDICATORS

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

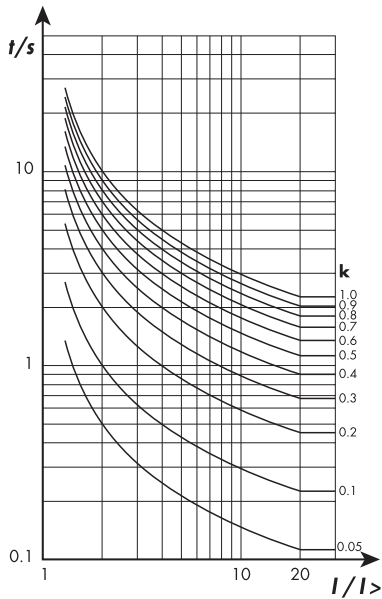
### ENVIRONMENTAL CONDITIONS

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

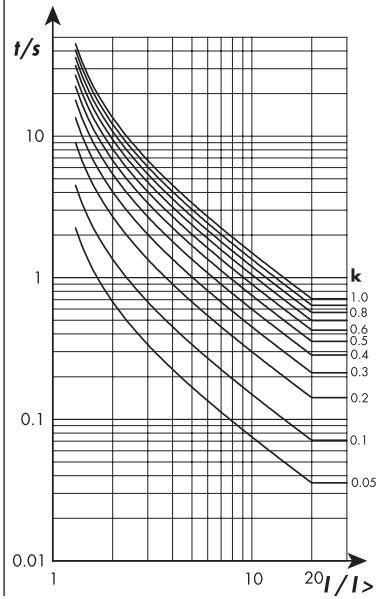
### MECHANICAL

Mounting	: Panel mounting
Dimension (mm)	: 96(w) x 96(h) x 110(d)
Enclosure protection	: IP54 at the panel
Approximate weight	: 0.8 kg

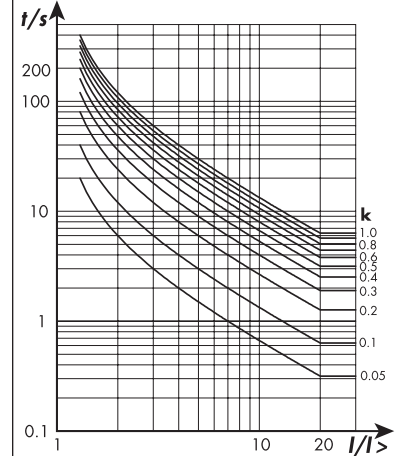
### Normal Inverse



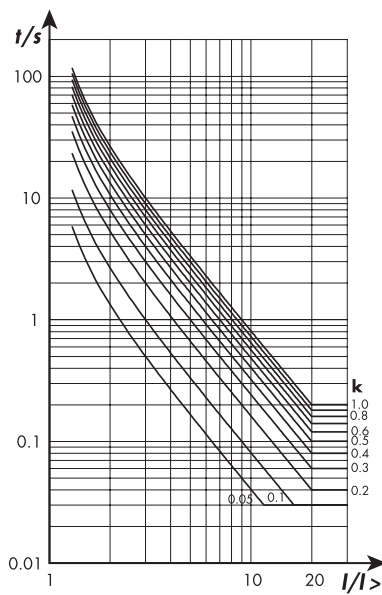
### Very Inverse



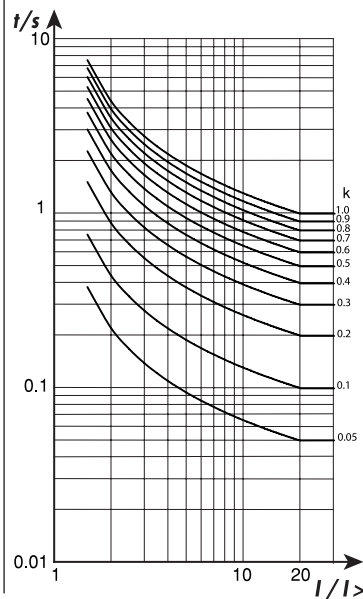
### Long Time Inverse



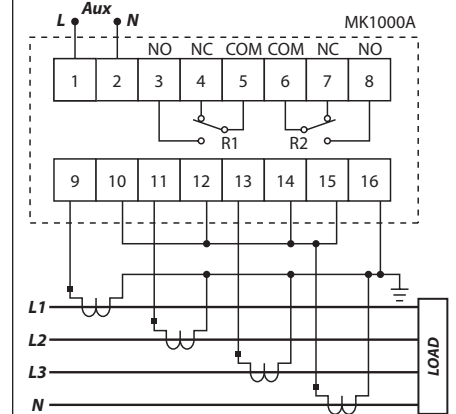
### Extremely Inverse



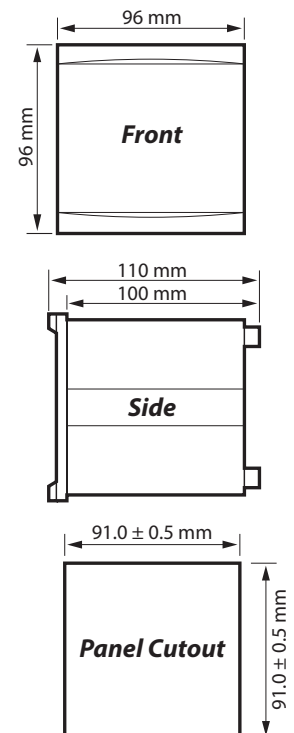
### Normal Inverse 1.3/10



### Typical Application Diagram



### Case Dimensions



### Ordering Information

**MODEL**

- MK1000A-240A
- MK1000A-240AD
- MK1000A-150D
- MK1000A-240AD6
- MK1000A-150D6

**DESCRIPTION**

- For 50Hz system, auxiliary voltage 198 ~ 265 V AC
- For 50Hz system, auxiliary voltage 85 ~ 265 V AC or 110~340 V DC
- For 50Hz system, auxiliary voltage 24 ~ 150 V DC
- For 60Hz system, auxiliary voltage 85 ~ 265 V AC or 110~340 V DC
- For 60Hz system, auxiliary voltage 24 ~ 150 V DC