



# MK233A

## Features

- Microprocessor based numerical relay
- Current measurement based on fundamental frequency
- Three-phase, low-set overcurrent
- Three-phase, high-set overcurrent
- 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
- ANSI Code : 50P, 51P

## 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 MK233A-240A (6): 198 ~ 265 V AC  
 Model MK233A-110A (6): 94 ~ 127 V AC  
 Supply frequency : 50 or 60 Hz  
 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:  $5 \times 10^6$  operations

### 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

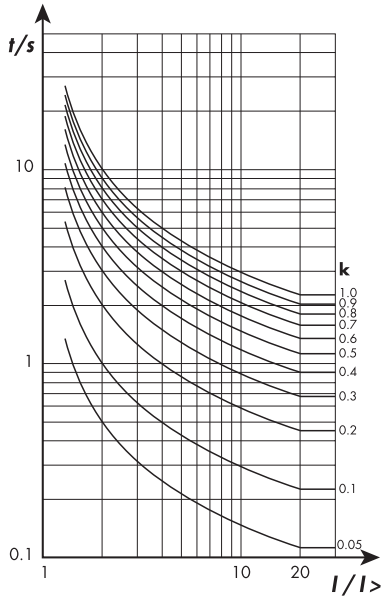
### SETTING RANGES

Low-set ( $I >$ ) : 0.5 A to 6.0 A, step 0.05 A / 10% to 120%, 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 ( $I >>$ ) : 0.5 A to 99.9 A or disable, step 0.10 A / 10% to 1998%, step 2%  
 High-set delay time (t >>) : 0.05 sec to 2.5 sec, step 0.01

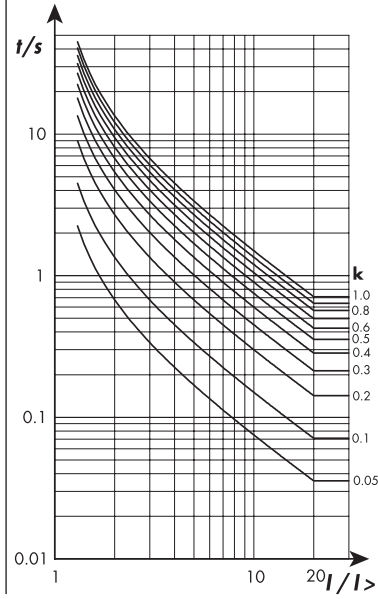
### MECHANICAL

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

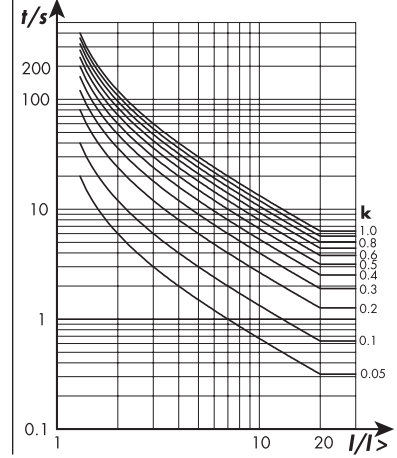
### Normal Inverse



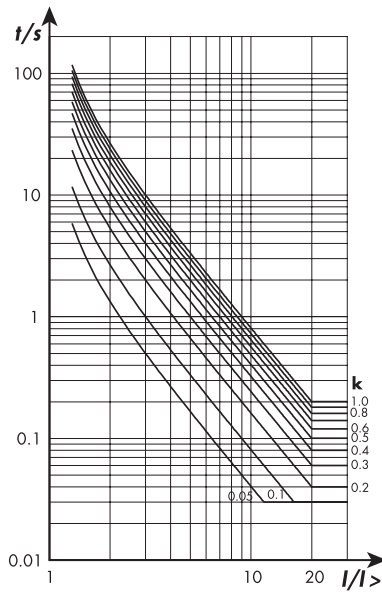
### Very Inverse



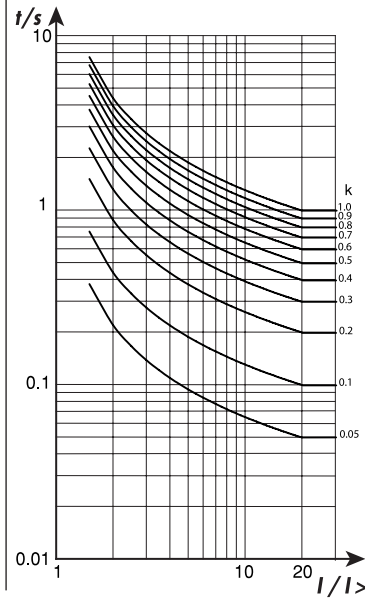
### Long Time Inverse



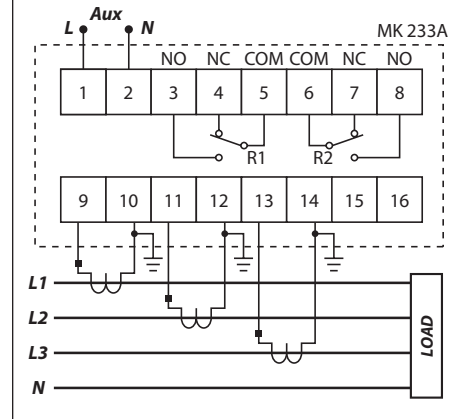
### Extremely Inverse



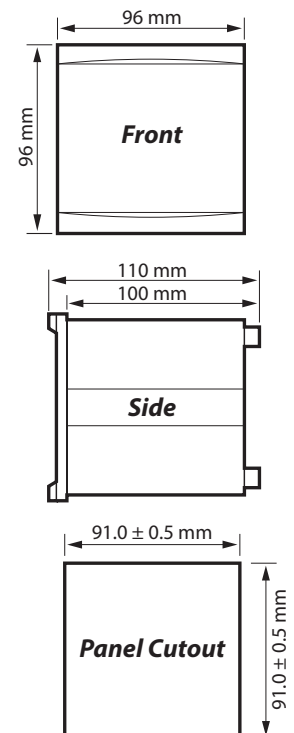
### Normal Inverse 1.3/10



### Typical Application Diagram



### Case Dimensions



### Ordering Information

MODEL	DESCRIPTION
MK233A - 240A	For 50 Hz system, auxiliary voltage 198 ~ 265 V AC
MK233A - 110A	For 50 Hz system, auxiliary voltage 94 ~ 127 V AC
MK233A - 240A6	For 60 Hz system, auxiliary voltage 198 ~ 265 V AC
MK233A - 110A6	For 60 Hz system, auxiliary voltage 94 ~ 127 V AC