



MK2200

Features

- Multifunction numerical relay
- Three-phase, low-set and high-set phase overcurrent
- Two sets of low-set and high-set setting for phase overcurrent
- Low-set and high-set earth fault
- Two sets of low-set and high-set setting for earth fault
- Circuit breaker failure protection
- Four selectable IDMT characteristic curves
- Definite time for low-set and high-set
- Numeric display of phase and earth fault currents
- Display of relay settings
- 9 non-volatile records of previous tripping currents
- Recording of relay start time
- Highly flexible programmable relay outputs
- Multifunction external digital input
- Isolated RS485 Modbus - RTU communication
- Selectable 50 Hz / 60 Hz
- ANSI code : 50P, 50G, 51P, 51G, 50BF

Technical Data

INPUTS

Measuring input:

Rated current I_n : 1 A or 5 A
 Rated frequency : 50 or 60 Hz
 Thermal withstand : $4 \times I_n$ continuous
 $25 \times I_n$ for less than 10 sec
 $100 \times I_n$ for less than 1 sec
 Burden : $< 0.3VA$ at I_n

Rated auxiliary voltage:

Model MK2200-150D : 24~150 V DC
 Model MK2200-240A : 198~265 V AC
 Model MK2200-240AD : 85~265 V AC
 110~340 V DC

Power consumption:

AC auxiliary voltage : 6 ~ 10 VA typical
 DC auxiliary voltage : 5 ~ 9 W typical

Binary Input:

External binary input : 18 ~ 265 V DC
 85 ~ 265 V AC

OUTPUT CONTACTS

5 programmable contacts + 1 IRF contact:

Rated voltage : 250 V AC / DC
 Continuous carry : 5 A

Contact specification:

Expected electrical life : 100,000 operations
 at rated current
 Expected mechanical life : 5×10^6 operations

ACCURACY

Protection thresholds : $\pm 3\%$
 Time delay : $\pm 2\%$ with a minimum
 of 30 ms
 Measurements : $\pm 3\%$
 Reset ratio : 95% typical
 Overshoot time : less than 30 ms typical

EARTH-FAULT ELEMENT

Low-set setting $I_{O>}$: $0.05 \sim 1.0 \times I_n$,
 step 0.01

High-set setting $I_{O>>}$: $0.05 \sim 10.0 \times I_n$,
 step 0.05

Time multiplier $k_{tO>}$: $0.02 \sim 1.0$,
 step 0.01

Low set definite time $t_{O>}$, 0 ~ 300 s:
 0 ~ 10.0s : step 0.01
 10.0 ~ 100s : step 0.1
 100 ~ 300s : step 1

High set definite time $t_{O>>}$, 0 ~ 300 s:
 0 ~ 10.0s : step 0.01
 10.0 ~ 100s : step 0.1
 100 ~ 300s : step 1

OVERCURRENT ELEMENT

Low-set setting $I_{>}$: $0.10 \sim 2.50 \times I_n$,
 step 0.01

High-set setting $I_{>>}$: $0.10 \sim 40 \times I_n$,
 $0.1 \sim 10 I_n$: step 0.05
 $10 \sim 40 I_n$: step 0.1

Time multiplier $k_{t>}$: $0.02 \sim 1.0$,
 step 0.01

Low set definite time $t_{>}$, 0 ~ 300 s:
 0 ~ 10.0s : step 0.01
 10.0 ~ 100s : step 0.1
 100 ~ 300s : step 1

High set definite time $t_{>>}$, 0 ~ 300 s:
 0 ~ 10.0s : step 0.01
 10.0 ~ 100s : step 0.1
 100 ~ 300s : step 1

ENVIRONMENTAL CONDITIONS

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

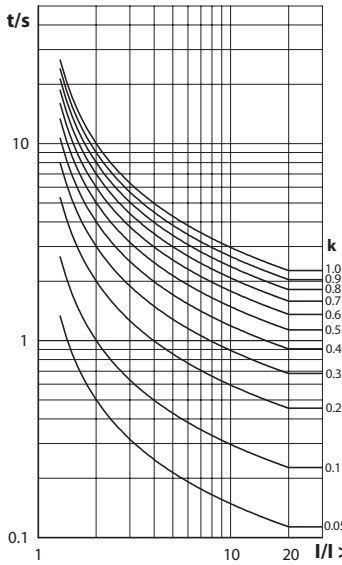
MECHANICAL

Mounting : Panel mounting
 Dimension (mm) : 142(w) x 165(h) x 198(d)
 Enclosure protection : IP54 at the panel
 Approximate weight : 2.9 kg

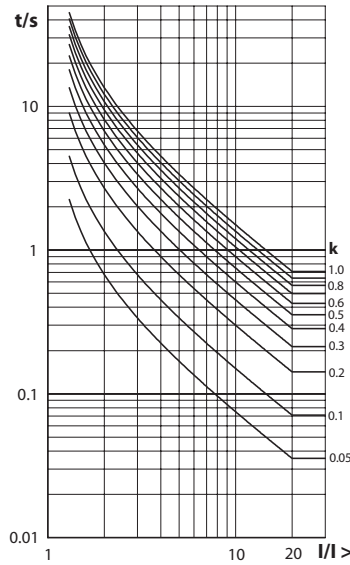
COMMUNICATION

RS485 Modbus - RTU

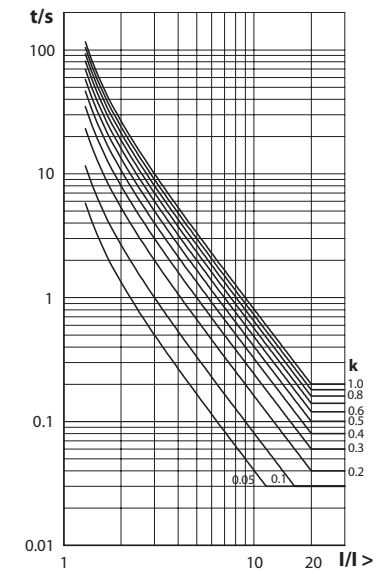
Normal Inverse



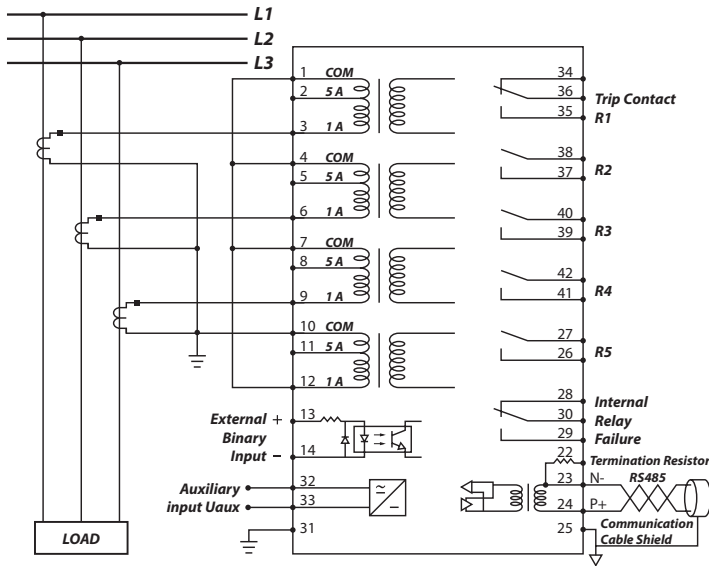
Very Inverse



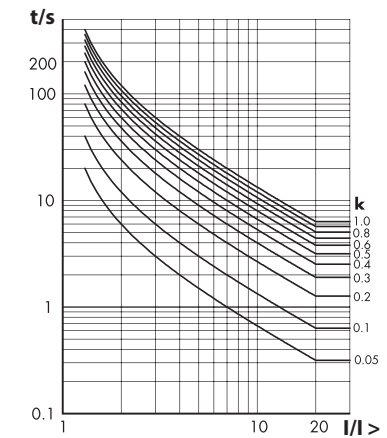
Extremely Inverse



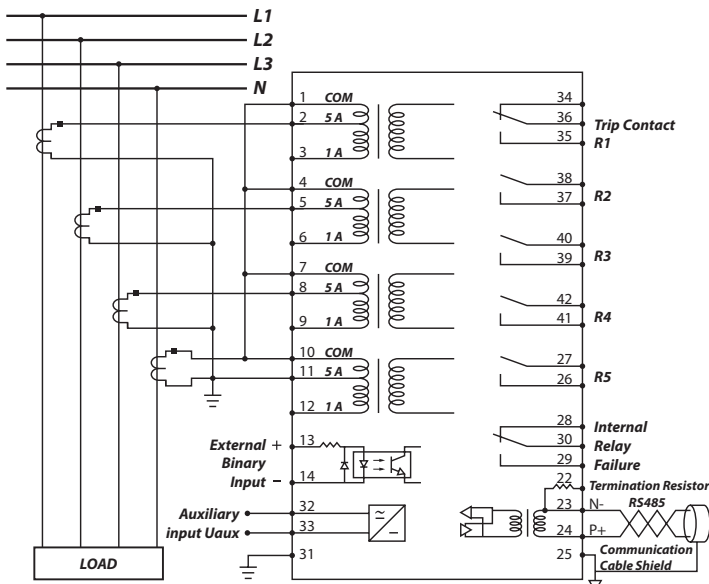
Typical Application Diagrams 1



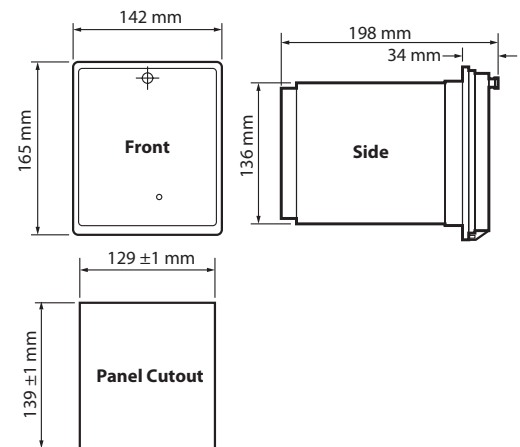
Long Time Inverse



Typical Application Diagrams 2



Case Dimensions



Ordering Information

MODEL

MK2200 - 150D
MK2200 - 240A
MK2200 - 240AD

DESCRIPTION

For 50/60 Hz system, auxiliary voltage 24 ~ 150 V DC
For 50/60 Hz system, auxiliary voltage 198 ~ 265 V AC
For 50/60 Hz system, auxiliary voltage 84 ~ 265 V AC or 110 ~ 340 V DC