**Features**

- Multifunction numerical relay
- Three-phase, three stages setting for phase overcurrent
- Two stages setting for earth fault
- IDMT and definite time
- Thermal overload protection
- Two groups of protection settings
- Trip circuit supervision
- Circuit breaker failure protection
- RS232 and RS485 MODBUS-RTU communication
- Fault, alarm and tripping records with timestamp
- Multifunction programmable outputs
- Multifunction digital inputs
- Complies with IEC 60255 standard

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**Technical Data**

**AUXILIARY SUPPLY**

Model MK2200L-150D
- Rated voltage: 30 ~ 120 V DC
- Operating voltage: 24 ~ 150 V DC

Model MK2200L-240AD
- Rated voltage: 100 ~ 240 V AC or 140 ~ 340 V DC
- Operating voltage: 85 ~ 265 V AC or 110 ~ 370 V DC
- Rated frequency: 50 or 60 Hz
- Operating frequency: 45 ~ 65 Hz

**CURRENT INPUTS**

- Rated current: I_n = 1 or 5 A by connection
- Frequency: 50 or 60 Hz nominal
- Burden: < 0.025 VA (1 A)
- < 0.3 VA (5 A)
- Thermal withstand: 4 x I_n continuous
- 40 x I_n for 2s
- 100 x I_n for 1s

**DIGITAL INPUTS**

- Input type: Optically isolated
- Rated voltage: 20 ~ 380 V DC
- 50 ~ 270 V AC

**OUTPUT CONTACTS**

- Trip Contact Relay: R1, R2, R3, R4, IRF Relay
- Rated voltage: 250 V AC / DC
- Continuous carry: 5 A
- Expected electrical life: 100,000 operations at rated load
- Expected mechanical life: 5 x 10^6 operations

**RECORDS**

- Fault Record: Up to 50 records
- Event Record: Up to 250 records
- Alarm Record: Up to 30 records

**SETTING RANGES**

**GENERAL**
- Line CT primary: 1 to 10,000 A
- Earth CT primary: 1 to 10,000 A
- Frequency: 50 or 60 Hz

**PHASE OVERCURRENT**

- I> : 0.1 to 25 x I_n (Recommended up to 2 x I_n for IDMT delay)
- tI> : 0 to 100 s (Variable Steps)
- kI> : 0.01 to 1.00 (Step 0.01)
- I>> : 0.5 to 40 x I_n (Variable Steps)
- tI>> : 0 to 100 s (Variable Steps)
- I>>> : 0.5 to 40 x I_n (Variable Steps)
- tI>>> : 0 to 100 s (Variable Steps)

**THERMAL OVERLOAD**

- Iθ> : 0.1 to 3 x I_n (Variable Steps)
- Tθ : 1 to 200 minutes (Step 1)
- kθ : 1 to 1.5 (Step 0.01)
- Trip : 50 to 200% (Step 1%)
- Alarm : 50 to 200% (Step 1%)

**MEASUREMENT RANGES**

- Phase Current Secondary:
  - 5 A input: 0 to 200 A
  - 1 A input: 0 to 40 A

- Earth Current Secondary:
  - 5 A input: 0 to 50 A
  - 1 A input: 0 to 10 A

**ENVIRONMENTAL CONDITIONS**

- Temperature: -10°C to 55°C
- Humidity: 5% to 95%, non-condensing

**MECHANICAL**

- Mounting: Panel mounting
- Dimension (mm): 142(w) x 165(h) x 198(d)
- Enclosure protection: IP54 at the panel
- Approximate weight: 2.2 kg

**ACCURACY**

- Current accuracy: ± 3% of the set value or 20mA secondary
- Timing accuracy: ± 5% or ± 30ms

**COMMUNICATION**

- RS232 (front): MODBUS-RTU
- RS485 (back): MODBUS-RTU
MK2200L - 150D For 50/60 Hz, auxiliary voltage 24 ~ 150 V DC
MK2200L - 240AD For 50/60 Hz, auxiliary voltage 85 ~ 265 V A or 110 ~ 370 V DC

**Typical Application Diagram 1**

**Typical Application Diagram 2**

**Ordering Information**

**MODEL**
MK2200L - 150D
MK2200L - 240AD

**DESCRIPTION**
For 50/60 Hz, auxiliary voltage 24 ~ 150 V DC
For 50/60 Hz, auxiliary voltage 85 ~ 265 V A or 110 ~ 370 V DC

*Series resistor 16Ω, 2W required for +170 Vac / 240 Vdc to 270Vac / 330Vdc*