

Motor Protection Relay - Digital Fascia



PRODUCT OVERVIEW

Motor protection relay that combines thermal overload, short circuit, undercurrent, unbalance, phase loss, phase sequence, lock/stall rotor and earth fault protections. It incorporates a 4-digit LED indicator which allows direct numerical readout of set values, actual measured value and system indication.

It has 2 relay outputs (R1 and R2) with R1 being "On" under normal operating conditions to allow the motor to run, and "off" during tripping, whilst R2 is programmable to signal various conditions.

A programmable binary input is provided to perform various operations upon input triggering.

FEATURES

- Fascia mount
- Microprocessor based numerical relay
- Thermal overload
- Overcurrent
- Undercurrent
- Unbalance
- Phase loss
- Phase sequence
- Earth fault
- Prolonged starting/stalled rotor
- 2 voltage-free output contacts

ORDERING INFORMATION

PART NUMBER
ME-MPR-DF-110AD

DESCRIPTION
For 50/60Hz system, auxiliary voltage 85~265V AC or 110~370V DC

*See Price List for CT's to suit MPR

TECHNICAL DATA

CT RATINGS

Rated current : 2-10A
 Rated frequency : 50 Hz or 60 Hz
 Burden : <0.3 VA at rated current
 Thermal withstand :
 Continuous : 2x max rated
 30s : 6x max rated
 1s : 10x max rated

BINARY INPUT

Rated input voltage : 12V (Supplied internally)

AUXILIARY SUPPLY

Model ME-MPR-DF-110AD : 85~265V AC or 110~370V DC
 Supply frequency : 50 or 60Hz
 Maximum power consumption : 3 VA typical

OUTPUT CONTACTS

Rated voltage : 250V AC
 Contact rating : 5 A
 Expected electrical life : 100,000 operations at rated current
 Expected mechanical life : 5 x 10⁶ operations

ACCURACY

Thermal Overload time constant, t_{6X} : 1 – 40s.
 Step 0.1s for 1-10s,
 step 1s for 10-40s.
Short circuit, I_{>>} : off, 2 – 12 x I_B.
 Step 1 x I_B
Short circuit delay time, t_{>>} : 0 – 25s.
 Step 0.1s for 1-10s,
 step 1s for 10-25s.
Undercurrent, I_{<<} : off, 20 – 90% I_B.
 Step 1%
Undercurrent delay time, t_{<<} : 0 – 60s.
 Step 0.1s for 1-10s,
 step 1s for 10-60s.
Unbalance, : off, 10 – 50%.
 Step 1%
Unbalance delay time, t : 0 – 25s.
 Step 0.1s for 1-10s,
 Step 1s for 10-25s.
Earth fault, I₀ : off, 10 – 60% I_B.
 Step 1%
Earth fault delay time, t₀ : 0 – 25s.
 Step 0.1s for 1-10s,
 step 1s for 10-25s.
Phass loss : <120ms
Phase sequence : <120ms

Prolonged starting/stalled rotor, I_s : off, 2 – 12 x I_B
 Step 0.1 x I_B

Prolonged starting time delay, t_{Start} : 0 – 60s.
 Step 0.1s for 1-10s,
 step 1s for 10-60s.

Stalled rotor delay time, t_{Stall} : 0 – 60s.
 Step 0.1s for 1-10s,
 step 1s for 10-60s.

ENVIRONMENTAL CONDITIONS

Temperature : -5°C to +55°C
Humidity : 56 days at 93% RH and 40°C non-condensing

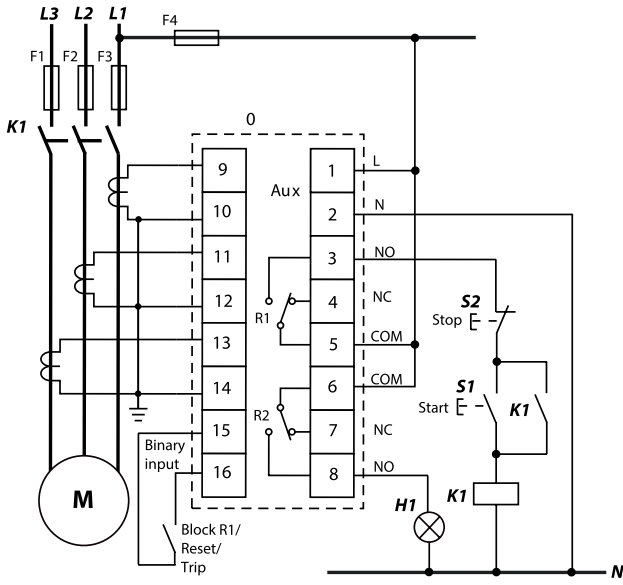
MECHANICAL

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

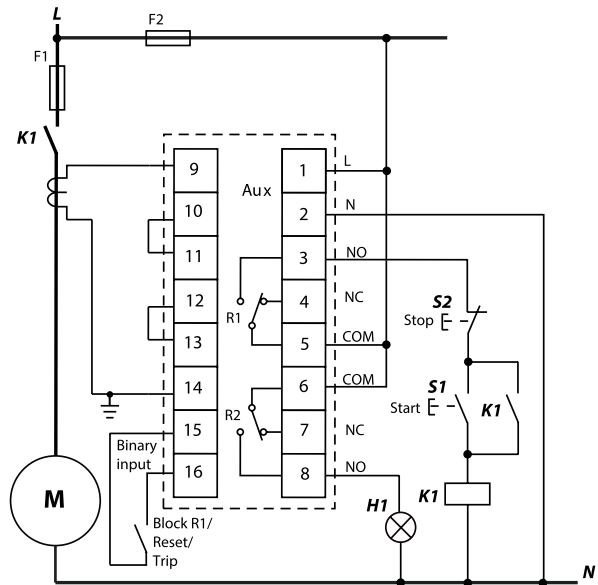
INDICATORS

Run : Green indicator
Trip/Pickup : 7-segment display and red indicator
Thermal : Yellow indicator

TYPICAL APPLICATIONS DIAGRAMS

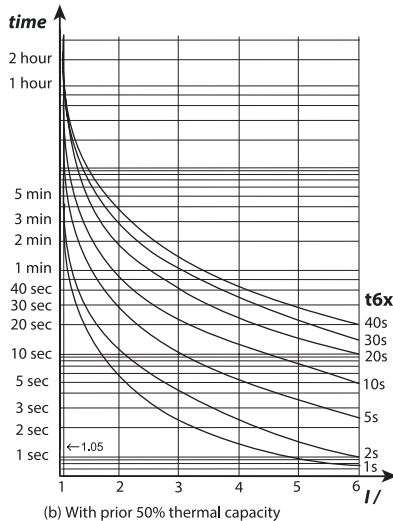
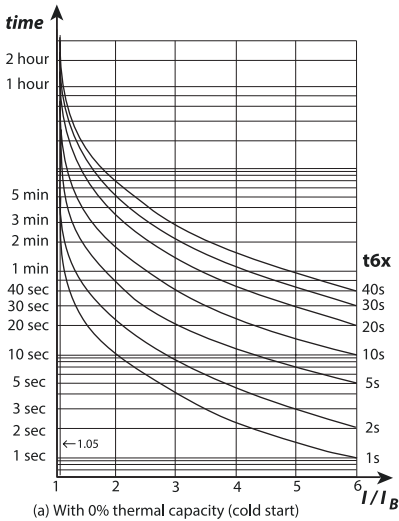


Three-Phase Motor with higher full load current using external CT



Single-Phase Motor (Earth fault, phase sequence and phase loss detection off)

THERMAL TRIPPING CURVE



CASE DIMENSIONS

