



MPS-3000
Motor Protection and Control Relay



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The MPS 3000-P monitors three phase ground currents, voltage and temperature inputs to provide the most comprehensive motor protection package. With 10 temperature inputs, the MPS 3000-P provides many programmable protection functions. It is ideal for high voltage motors, large low voltage motors and applications where full protection, advance warning and external overload bias is essential, such as in the process and chemical industries.



Measured values (R.M.S. at 0.5mSec.)

- Three phase voltage (phase to phase)
- Three phase voltage (phase to neutral)
- Current, each phase
- Ground current
- Temperature / Resistance, each sensor
- Energy with programmable pulse output
- Power, Reactive power, Power factor
- Min & Max RMS Average V, A & Hz

Protection

- Max. Start Time (48)
- Too Many Starts Pre-alarm
- Too Many Starts (66)
- Undercurrent Level 1 & 2 (37)
- Load Increase - Alarm (51L)
- Over Current Level 1 - Jam (51R)
- Over Current Level 2 - Short (50)
- Thermal Overload Level 1 & 2 (49/51)
- Current Unbalance Level 1 & 2 (46) (Positive / Negative Sequence)
- Under-voltage (27)
- Over-voltage Level 1 & 2 (59)
- Phase loss (47)
- Phase sequence (47)
- Ground Fault Level during starting (50G)
- Ground Fault Level 1 & 2 (50G) & (50N)
- Communication failure (3)
- Internal failure (3)
- External Fault 1, 2 & 3 - interlock (86 or 94)
- High Temp. Level 1 & 2, 10 sensors (49R)
- Under Power Level 1 & 2 (32L) & (32R)
- Low Power Factor (55)
- Welded contactor status relay

Protection function

Each protection can be designated as:

- Alarm Fail-safe
- Trip (or Trip Fail-safe)
- Auto Reset
- Panel Reset
- Remote Reset

Inputs

- Control supply 120-230VAC and VDC or optional 19-60VDC
- 3 phase voltage, directly up to 690V, Above 690V through PT
- Three phase currents (1 and 5A)
- Ground Current (1 and 5A)
- 10 temperature sensors, with two types:
 - 10 RTD-Pt100 (or CU)
 - 6 RTD-Pt100 (or CU) and Thermistors (Programmable as NTC or PTC)
- 4 Programmable discrete inputs
- 4 Programmable analogue inputs 0/4-20mA (0-1mA by special order) Selectable between 20 parameters

Outputs

- Four Programmable Relays
- Four Programmable Analogue Outputs:
 - I1, I2, I3, T1, T2 or T3 values
 - Motor Load Current
 - Maximum of I1, I2 and I3 values
 - Ground Fault Current
 - Minimum of T1, T2 and T3 values
 - Maximum of T1, T2 and T3 values
 - Thermal Capacity
- Programmable analogue output: 0-20mA or 4-20 mA

Simulation

Simulation of voltage, current and temperature inputs enables relay learning and testing



MPS 3000-C

Same as MPS 3000-P with advanced control capabilities for all types of starting methods, including soft starters. Specifically designed for integration into motor management systems in chemical, petrochemical and process systems.



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