

Phasefale MP15/ MP15D Automatic Single & Three Phase* Motor Protector

Now with adjustable sensitivity!

*standard model is 3 Phase

The MP15 is a solid state motor protector for three Φ phase (default) and single Φ motors with adjustable start delay, anti short cycle timer and fault memory. It is suitable for all sizes and types of single & 3 phase motors. The MP15 now incorporates advanced individual phase monitoring and adjustable sensitivity for superior motor protection and reliability.

The MP15 indicates the condition of the motor control circuit as follows;

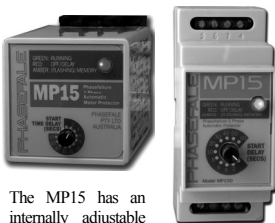
- Green** : Motor Running
- Green/Amber** : Motor running + previous memory fault
- Red** : Motor not running
- Red/Amber** : Motor not running + previous memory fault

When power is initially applied to active (P7), the MP15 has a start delay which can be adjusted from approximately 1~60 seconds, or fixed 1 sec. for economy models. Where more than one motor is supplied from a single supply, a staggered start at regular intervals is possible.

Once set, the memory condition remains until reset by turning off power to Control In (P7).

An internal 5A replaceable fuse protects the MP15 relay from external electrical faults such as contactor coil failures.

Adjustable Sensitivity



The MP15 has an internally adjustable potentiometer: mid position is 180VAC nominal sensitivity. Sensitivity can be increased to 160VAC (c/w) or decreased to 200VAC (cw).

The MP15 protects against these common causes of motor failure :

- Voltage imbalances of more than 25% :180 (nominal) between phases, adjustable from 160 ~200VAC.
- Blown fuses causing single phasing.
- Chattering or poor making motor starting contacts.
- Faulty 415V isolating switchgear
- Loose or poor connections simulating a phase loss.
- Overloading. Motor starters which automatically reset can cause windings failure. The MP15's 15 minute delay prevents this.
- Power trip/fail caused by multiple motors starting at the same time. The MP15 Start Delay prevents this.
- Adjustable Under voltage. If the

voltage drops to approximately 180 volts (160-200 adj.) to neutral on any phase, the MP15 automatically trips and actuates a 15 minute delay.

Mounting The MP15 plugs into a standard octal base (optional - separately supplied) or MP15D is DIN Rail mount.

Pin 1: Line 1 of the motor supply. For maximum protection the connection should be made on the load side of the motor starter close to the motor.

Pin 2, 3: Line 2, 3 as for line 1, ignored in single phase mode.

Pin 4: Neutral.

Pin 5 ~: Fault/Memory input. A 240 VAC signal applied to this pin will open the internal control relay for 15 minutes and illuminate the amber memory indicator. Typically used with overload trip, high pressure cut-out, oil level etc.

Pin 6: 5A Control Out. This is a 240 VAC via internal relay and P7 power.

Pin 7: Active. The Start Delay starts timing when power is applied.

Pin 8 ~: Off Time. 240 VAC applied to this pin sets 15 minute Off Time. Same function as P5 except no memory indication. Use P8 for normally open side of pressure, temp. etc controls to ensure a minimum 15 minute Off Time to prevent motor short cycling.

~ **Economy Versions:** Models MP15E and MP15DE have no P5 Memory or P8 off time inputs and have a fixed 1 second start delay without front trippot.

Single Phase Versions: In single phase mode, MP15/MP15D monitors the incoming supply P7 and also the motor Voltage on P1 during operation. P2 & P3 are ignored. An under-voltage on either will trip MP15 for 15 minutes. Factory or users can convert to single phase model by applying an internal link across B-B. Mark the side wiring drawing in the IØ check box to denote single phase mode employed.

Interactive Online Animation; visit mp15.info to see operation of the MP15-its educational and fun!

