

MP15P Automatic Motor Protection Relay

Installation, Wiring and Operation

The MP15P 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 MP15P now incorporates advanced individual phase monitoring and adjustable sensitivity for superior motor protection and reliability.

MP15P Status Indication

Green: Motor Running

Green/Amber: Motor running + previous. memory fault

Red: Motor not running

Red/off: Motor not running, re-start delay timer 5 minutes active

Red/Amber: Motor not running + previous memory fault

MP15P Diagnostic Modes

Press the diagnostic button to display last fault.

Green: no fault logged

Redx1: Phase 1 Low or Loss

Redx2: Phase 2 Low or Loss

Redx3: Phase 3 Low or Loss

Redx4: Phase Imbalance

Amberx5: O'load/ Fault Memory

Redx6: Load-side Undervoltage

Redx7: Load-side Overvoltage

Redx8: Supply-side Undervoltage

MP15P Reset – Press & hold the Diagnostic button for 5 seconds to **clear logged faults** and **RESTART** the MP15P.

When power is initially applied to active (P7), the MP15P has a start delay which can be adjusted from approximately 1~60 seconds. Where more than one motor is supplied from a single supply, a staggered start at regular intervals is possible.

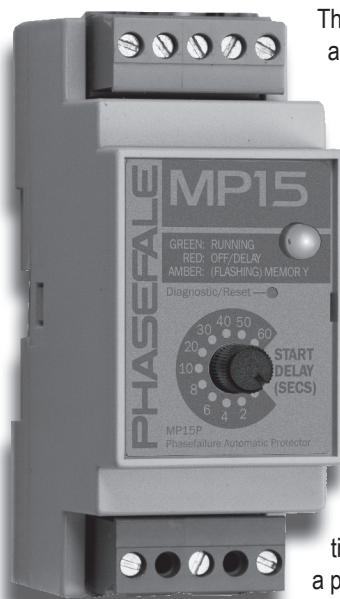
Once set, the memory condition remains until reset by turning off power to Control In (P7). An internal 5A replaceable fuse protects the MP15P relay from external electrical faults such as contactor coil failures.

Adjustable Sensitivity

The MP15P has an internally adjustable potentiometer: mid position is 180VAC nominal sensitivity. Sensitivity can be increased to 160VAC (c/cw) or decreased to 200VAC (cw).

MP15P Single Phase Mode

To operate MP15P in single phase mode, link 1,2 &3 together.



The MP15P 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.

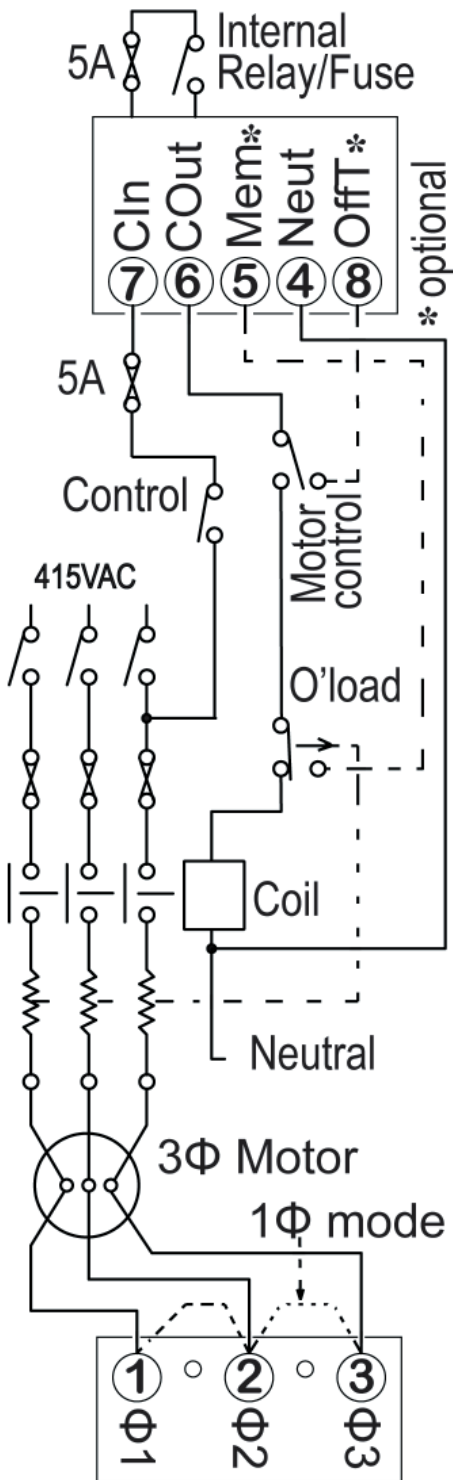
- Overloading. Motor starters which automatically reset can

cause windings failure. The MP15P's 15 minute delay prevents this.

- Power trip/fail caused by multiple motors starting at the same time. The MP15P Start Delay prevents this.

- Adjustable Under voltage. If the voltage drops to approximately 180 volts (160-200 adj.) to neutral on any phase, the MP15P automatically trips and actuates a 15 minute delay.

Mounting The MP15P mounts directly on DIN rail and has a standard circuit breaker profile.



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

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 5 minute Off Time. Use P8 for normally open side of pressure, temp. etc controls to ensure a minimum **5 minute Off Time** to prevent motor short cycling.

Other Models: MP15P is the premium model and offers the most features. Check the Phasefale website for other less featured models.

Interactive Online **Animation**; visit http://www.phasefale.com.au/product_mp15.html to see operation of the MP15P- its educational and fun!

The MP15P is proudly designed and Manufactured in Australia.



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Phasefale Controls Pty Ltd

www.phasefale.com.au

+6139584 5590

Phasefale MP15 Automatic Three Phase* Motor Protector

Now with adjustable sensitivity!
*standard model covers single & 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. 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/cw) 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: MP15 plugs into a octal base (optional - separately supplied).

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, bridge 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 set 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 5 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 5 minute Off Time to prevent motor short cycling.

Single Phase Operation: To use in single phase mode, bridge Phase 1 Phase2 and Phase 3 together. Connect the bridged phase inputs to the load side of the single phase contactor or relay supplying the load.

Interactive Online Animation; To understand how the MP15 protects motors visit www.phasefale.com.au

and click the **mp15 simulation** link at the top right of the page- its educational and fun!
 QR code for brochure;



New Model: MP15P
 Din Rail mounting with diagnostics!

