# MOTOR CIRCUIT PROTECTOR

(MANUAL STARTER)

SINGLE AND THREE PHASE

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## AEG COMPONENT CONTROLS

### MOTOR CIRCUIT PROTECTOR

**TYPE MBS 25**

- 25 Amp max. 600 Volt
- 1 Phase 115V 2HP
- 230V 3HP
- 3 Phase 230V 7HP
- 460V 15HP
- 600V 20HP

### TYPE MBS 25 GROUP MOUNTING SYSTEMS

- Bus Bar System
- 90 Amp
- 230 Amp
- Rail Mounting Contactors

### ENCLOSURES

- Type S4 SARLEX
  - Outdoor / Dust Tight
  - Water Tight (Hose Test) (IP55)

### ACCESSORIES

- Pilot Light
- Undervoltage
- Shunt Trip
- Extra Auxiliaries
- Indoor / Outdoor Enclosure
- Current Limiter

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MOTOR CIRCUIT PROTECTOR
(MANUAL STARTER)

TYPE MBS 25

APPLICATION FEATURES

- Used as a manual motor starter, with the high short-circuit breaking capacity of a circuit breaker, in accordance with VDE 0600, IEC 292, and IEC 157-1.
- Single phase sensitivity and ambient temperature compensated thermal overload trip. (NEMA Class 10)
- Main switch and emergency disconnect switch properties. (Emergency stop with mushroom head activator optional).
- Switch position indication with positive separation.
- Current limiter, type ID 50 option, add-on accessory. The rated breaking capacity with this combination, increases to 50 kA, 3 phase, 380 V.

Cost Effectiveness

- Economical and space saving, in a compact design with small dimensions (11" wide).
- Standardized cover sized for use in distribution applications for world wide use.

Safety

- High operational safety factor. Compliant to VDE 0160 T 100, finger touch safety, and general safety standards of handling.

Quality

- Reliable AEG standards of quality. Proven in the most difficult application conditions. Standard quality check includes 100% cycle test and heater calibration check.

Flexibility

- Modular field assembly systems with plug-on auxiliary contacts.
- Designed to include field plug-on shunt or undervoltage trip within the switch unit frame.

Mounting

- Panel mount or DIN rail mount standard.
- Terminals are in the vertical plane, readily accessible from the front for easy wiring. Designed for the power screwdriver application and finger touch safety.

Typical MBS Trip Curve B

MBS 25 with UV Trip

TYPE MBS 25
APPLICATION DATA

Manual Disconnect with Short Circuit Trip

MBS 25 A Manual Disconnect and Starter, Type MBS, can fulfill the function of a Breaker/Disconnect in a combination starter. In such applications, instantaneous short circuit trip is usually desired. Type MBS standard instantaneous short circuit trip has higher interruption capability. Combination units with MBS 25 were tested to IC5,000 Amp 600V.

MBS 25-S4 Enclosure

Dual Application Description UL Listed

Type MBS Circuit Protectors have two protective elements, one to provide magnetic instantaneous trip and the other to provide inverse time thermal trip. Because of this dual instantaneous and thermal trip, Type MBS Protectors have been successfully applied in protective circuits in thousands of applications throughout the world.

CONTINUOUS CURRENT RATINGS
Type MBS 25 to 25 Amp

Thermal Trip for Motor Protection

A Thermal Trip for motor protection is also included with each Type MBS. In a combination starter application, then, a duplicate overload is not necessary. (See Trip Curve B).

To apply, select the proper Type MBS to match the motor horse power, and set dial at exact motor full load current. Each Type MBS includes a three pole direct heated bimetallic overload which covers a wide range and is equivalent to many old style separate heaters. A key advantage is the ability to set at exact motor full load current and thereby provide more precision motor protection.

Mounting

Type MBS can be panel mounted or rail mounted (MBS 25). For external operation, cutouts can be made in panel doors. Additionally, through the door operating handles with door interlocks are available on certain units.

Type MBS 25 UL Listed/CSA.

MBS 25-S4F Flush Plate
## MBS-25 Three Phase 3 Pole 600 Volt MCP + Manual Starter

<table>
<thead>
<tr>
<th>Three Phase Horse Power</th>
<th>Thermal Overload Relay Adjustment Range (AMP)*</th>
<th>Basic Catalog No.</th>
<th>Outdoor Dust Tight Hose Test Water Tight</th>
<th>IC 5,000 AMP (480V) Group Fuse (UL) or Max CB Max Amps</th>
<th>High Fault Interrupting Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>200V</td>
<td>0.25-0.4</td>
<td>MBS 25-B</td>
<td>5101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
</tr>
<tr>
<td>230V</td>
<td>0.4-63</td>
<td>MBS 25-E</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
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<tr>
<td>460V</td>
<td>3-6</td>
<td>MBS 25-F</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
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<tr>
<td>575V</td>
<td>1-1/2</td>
<td>MBS 25-G</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
</tr>
<tr>
<td>1/4</td>
<td>1/2</td>
<td>MBS 25-H</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
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<tr>
<td>1/3</td>
<td>3/4</td>
<td>MBS 25-I</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
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<tr>
<td>1/2</td>
<td>2/3</td>
<td>MBS 25-J</td>
<td>101</td>
<td>1200</td>
<td>50kA 1200A 50kA 1200A</td>
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<tr>
<td>1-1/2</td>
<td>3/2</td>
<td>MBS 25-K</td>
<td>101</td>
<td>1200</td>
<td>25kA 150A 10kA 125A</td>
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<tr>
<td>2</td>
<td>3/3</td>
<td>MBS 25-L</td>
<td>101</td>
<td>1200</td>
<td>25kA 150A 10kA 125A</td>
</tr>
<tr>
<td>3</td>
<td>5/3</td>
<td>MBS 25-M</td>
<td>112</td>
<td>1200</td>
<td>25kA 150A 10kA 125A</td>
</tr>
<tr>
<td>5</td>
<td>7/3</td>
<td>MBS 25-N</td>
<td>112</td>
<td>1200</td>
<td>25kA 150A 10kA 125A</td>
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<tr>
<td></td>
<td>7/3</td>
<td>MBS 25-O</td>
<td>112</td>
<td>1200</td>
<td>25kA 150A 10kA 125A</td>
</tr>
</tbody>
</table>

Also includes fixed instantaneous magnetic trip.
Lower current ratings are available to 0.1 Amp.

* See bottom of page for current limiter module.

## MBS-25 Single Phase 2 Pole 600 Volt

<table>
<thead>
<tr>
<th>One Phase Horse Power</th>
<th>Overload Relay Adjustment Range (AMP)*</th>
<th>Basic Catalog No.</th>
<th>Outdoor Dust Tight Hose Test Water Tight</th>
</tr>
</thead>
<tbody>
<tr>
<td>115V</td>
<td>1/3</td>
<td>MBS 25-2P-I</td>
<td>$69</td>
</tr>
<tr>
<td>120V</td>
<td>1/2</td>
<td>MBS 25-2P-K</td>
<td>$69</td>
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<tr>
<td>125V</td>
<td>1/2</td>
<td>MBS 25-2P-L</td>
<td>$101</td>
</tr>
<tr>
<td>130V</td>
<td>1-1/2</td>
<td>MBS 25-2P-M</td>
<td>$101</td>
</tr>
<tr>
<td>135V</td>
<td>2</td>
<td>MBS 25-2P-N</td>
<td>$112</td>
</tr>
<tr>
<td>140V</td>
<td>2-1/2</td>
<td>MBS 25-2P-O</td>
<td>$112</td>
</tr>
</tbody>
</table>

Smaller sizes available to 0.1 Amps

* Type 54 Series Enclosures are non-metal outdoor completely dust tight. Series Enclosures have been widely used throughout the world in dust tight, hose pressure water tight, and corrosion proof applications. (IP56)

**ORDER EXAMPLE:**
3 HP 460V Enclosed with Red Pilot Light and 120V UV Trip (undervoltage trip)
1-MBS-25-K Motor Circuit Protector
1-MBS-25-54 Enclosure
1-MBS-25-PL-A-R Red Pilot Light Kit
1-MBS-25-100-A UV Trip Kit

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**Current Limiter** Rapid module type id 50 for single and group back up protection. Suitable for mounting in any position.

MBS25-140 $55 LIST
Type ID 50
Current Limiter
Increases interruption capacity to 50kA (380V)
Module Dimensions:
L-3.15", W-1.77", Depth 1.65"
ENCLOSURES & ACCESSORIES

**MBS 25 Accessories**

- Pilot Light for above enclosures. Specify color ** and voltage *
- *Voltage Suffix**
  - A 120V
  - C 220V
  - D 380V
  - E 480V
- **Color Suffix**
  - G green
  - R red

- Example:
  - MBS25-PL-A-R

- **SHUNT TRIP KIT** *specify voltage*
  - A 120V 60 Hz
  - C 240V 50 Hz
  - D 380V 50 Hz
  - E 480V 60 Hz
  - G 24V 60 Hz

- **UNDERVOLTAGE TRIP** *specify voltage*
  - A 120V 60 Hz
  - C 240V 50 Hz
  - D 380V 50 Hz
  - E 480V 60 Hz
  - G 24V 60 Hz

- **Combination Rail Mounting Brackets** Includes 2 DIN Rails to mount MBS25 and LS contactors

- **Current Limiter Rapid Module**
  - For increasing fault current breaking capacity of MBS 25 up to 50 KA/3 380V max.

MBS 25 - Open / Enclosed Dimensions
### COMBINATION MANUAL MOTOR CONTROLS

**Din Rail or Screw Mount**

#### Three Phase 3 Pole 600 Volt

<table>
<thead>
<tr>
<th>Horse Power</th>
<th>Thermal Overload Relay Adjustment Range (AMP)*</th>
<th>Basic Catalog No.</th>
<th>OPEN LIST</th>
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</thead>
<tbody>
<tr>
<td>200V 230V 460V 575V</td>
<td>0.25-0.4</td>
<td>MBS 25-D-L5K*</td>
<td>$182</td>
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<tr>
<td>1/4 1/3 3/4 1 1/2 1 3/4</td>
<td>1</td>
<td>MBS 25-E-L5K*</td>
<td>$162</td>
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<tr>
<td>1/2 1/2</td>
<td>2</td>
<td>MBS 25-F-L5K*</td>
<td>191</td>
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<tr>
<td></td>
<td>3</td>
<td>MBS 25-G-L5K*</td>
<td>191</td>
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<tr>
<td></td>
<td>5</td>
<td>MBS 25-H-L5K*</td>
<td>191</td>
</tr>
<tr>
<td>3/4 1</td>
<td>2</td>
<td>MBS 25-I-L5K*</td>
<td>191</td>
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<td>3</td>
<td>MBS 25-J-L5K*</td>
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<td>MBS 25-L-L5K*</td>
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<td>5</td>
<td>MBS 25-M-L5K*</td>
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<tr>
<td></td>
<td>15</td>
<td>MBS 25-O-L11K*</td>
<td>230</td>
</tr>
</tbody>
</table>

* Specify voltage suffix
- **A** 120V 60Hz 110V 50Hz
- **B** 240V 60Hz 220V 50Hz
- **C** 380V 50Hz
- **D** 480V 60Hz
- **G** 24V 60Hz

**Combination Rail Mounting Brackets**
- Includes 2 Din Rails to mount MBS25 and LS contacts to MBS 25-206.

- Combination Manual Motor Controls are an ideal way of having short circuit protection provided with Magnetic Instantaneous trip as well as inverse time thermal protection built into one compact package.
- To increase short circuit protection to 50KA add option 150 - current limiter (380 Vac) max.
- The combination allows you to utilize all MBS 25 options including Remote Shunt Trip, Undervoltage Trip and additional auxiliaries if required.

(Found on page 96.)

Discount Schedule ST