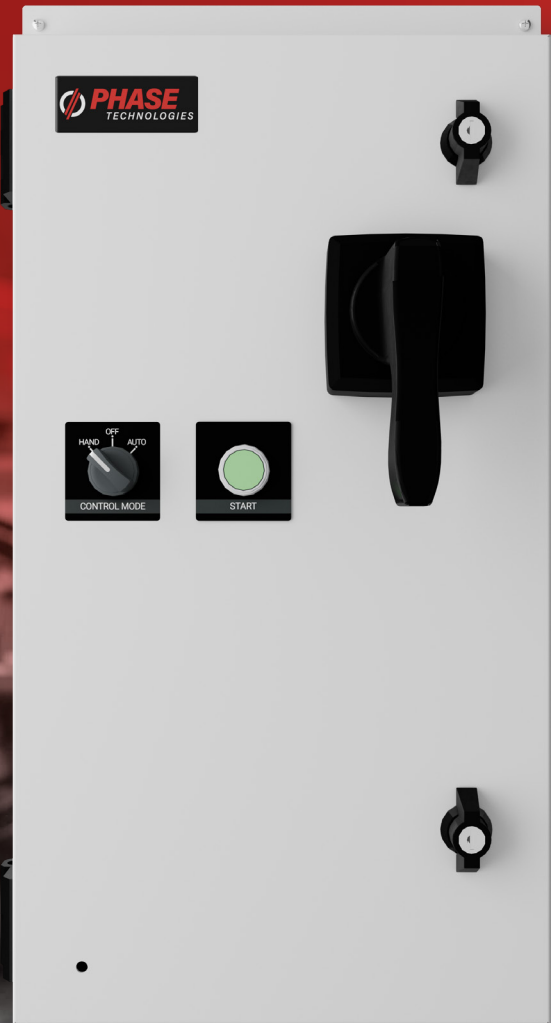


ACROSS-THE-LINE **MOTOR STARTER**

QUICK START GUIDE

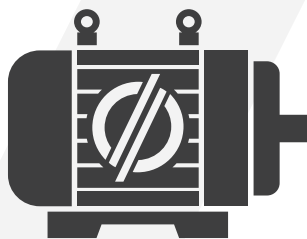


208 V – 460 V | 5 – 100 HP | MOTOR PROTECTION
MOTOR STARTER | NEMA 3R OUTDOOR ENCLOSURE

MS SERIES

ACROSS-THE-LINE

MOTOR STARTER



INTRODUCTION

Phase Technologies' Across the Line Motor Starter provides a dependable and straightforward solution for controlling electric motors in a wide range of industrial, agricultural, and commercial applications. Built for performance and ease of installation, this direct-on-line starter delivers full voltage to the motor for immediate startup without the complexity of soft starts or variable speed control.

TOOLS NEEDED FOR ASSEMBLY:

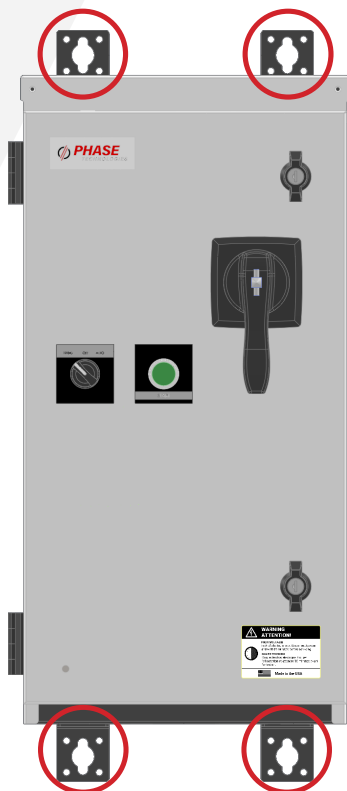
Tools will range from #2 Philips screwdriver, T20 Torx, allen keys, and large and small flathead screwdrivers.



Step #1 - Mounting Panel

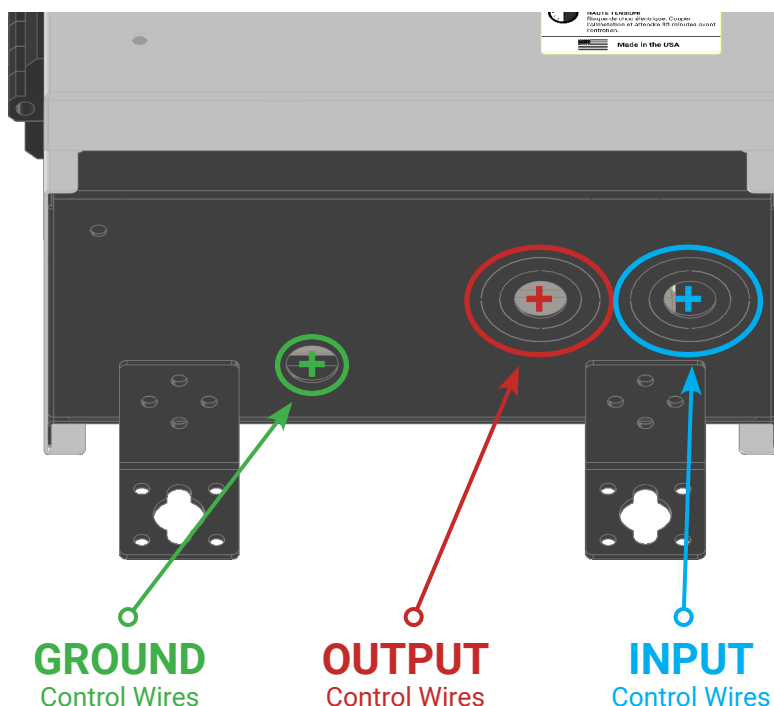
- ▶ Mount to a solid, non-flammable surface capable of supporting the weight of the unit, using the mounting brackets provided.

- ▶ Ensure air intake and exhaust openings are not obstructed. If mounted in a small room or cabinet, ensure temperature will remain below the rating.



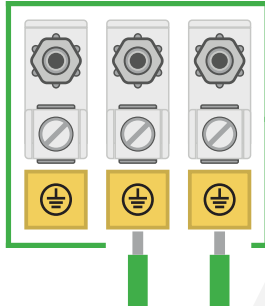
Step #2 - Routing Cables

- ▶ Route cables through the supplied openings in the bottom of the enclosure, using appropriate conduit or strain relief devices.



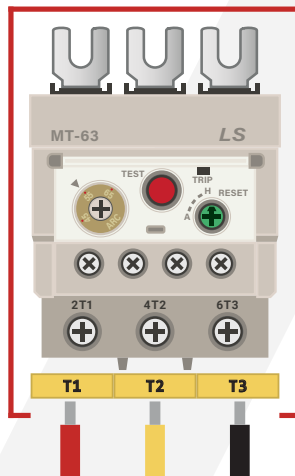
Step #3 - Grounding Panel

- Properly ground the Motor Starter according to local electrical code.



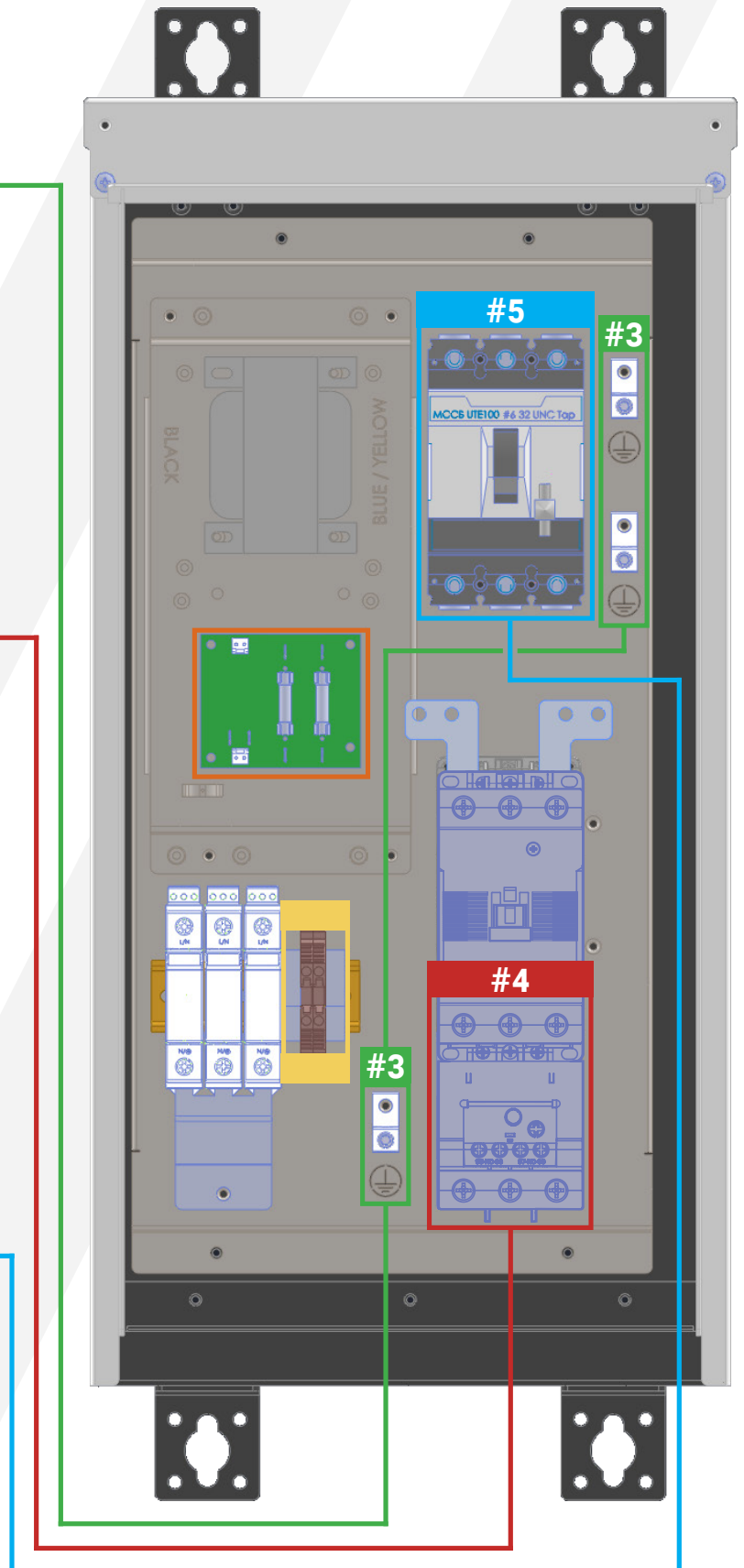
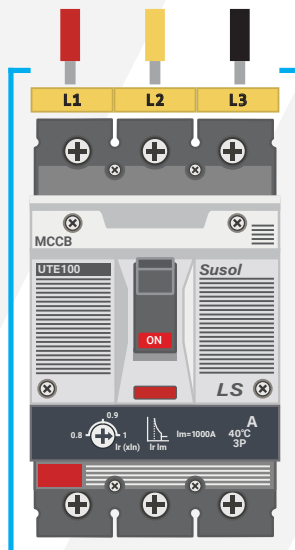
Step #4 - Connecting Wires (Output)

- Install the three load side conductors into the output terminals labeled **T1**, **T2**, and **T3**.
- Connect the load side ground conductor into the grounding terminal illustrated in **Step #3**.



Step #5 - Connecting Wires (Input)

- Connect the line side input leads into the terminal labeled **L1**, **L2** and **L3**.

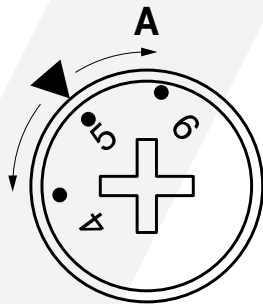


Across-The-Line Motor Starter - Quick Start Guide

Step #6 - Setting Overload Relay

▶ Check your motor nameplate to find your Motor's Full Load Amps (FLA).

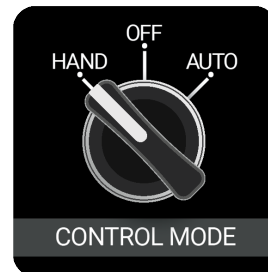
▶ The Adjustment Dial on the thermal overload relay should be set to your Motor's Full Load Amps (FLA).



Step #7 - Operating Modes

▶ **HAND:** Set Control Mode Switch to HAND and push START button on the front of the panel to start the motor.

▶ **AUTO:** If an external permission circuit will be used for control, it should be wired into AUX 1 and COM terminals. When HOA is set to Auto, and the Start button is pressed, the motor will run when the external device is closed and stop when the device is open.



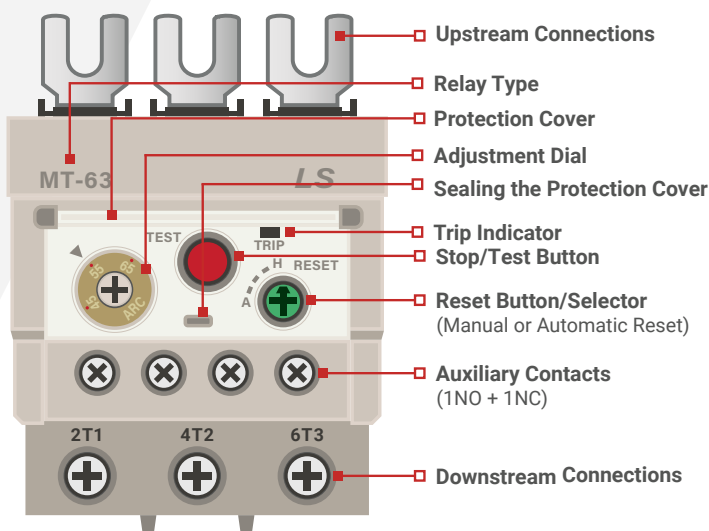
Overload Reset (Reference Overload Relay Diagram Below)

▶ **FRAME 1** When the Motor Starter trips due to an overload or fault condition, the disconnect handle will move to an intermediate position between ON and OFF. To reset the device, turn the HOA selector switch to the OFF position and ensure the Start/Stop push button is in the unlatched (OUT) position. Move the disconnect handle to the OFF position, then return it to the ON position.

▶ **FRAME 2** Motor starters are equipped with a Thermal Overload Relay (TOL), which provides adjustable overload protection for the motor. Unlike the MMS device used in Frame 1, the TOL relay is a dedicated protection device that works in conjunction with the starter contactor. When the TOL relay trips, it opens the contactor control circuit, de-energizing the starter and stopping the motor.

When the TOL relay trips, the red TRIP indicator button on the face of the relay will protrude or become visible, indicating a tripped state. The motor will have stopped and will not restart until the relay is manually reset.

Overload Relay Diagram



Aux Input Terminals



CAUTION: DO NOT apply voltage to the Aux 1 and COM input terminals. Use dry contacts only.

Aux 1 and COM input terminals allow remote ON/OFF control when a dry contact (voltage-free) closure device is connected. When the connected device closes Aux 1 to COM, the motor will start. When the connected device opens, the motor will stop.

To connect a control device, remove the orange jumper wire and replace with the control device wires. Any device that provides a dry contact closure can be used for basic control. Common examples include: 40-60 pressure switch, float switch, overpressure shutdown switch, programmable-logic controller (PLC), timer relays.

