



M50Q 120VAC series, v4.0 Motor Quick Setup

Electronic Solutions, Inc.
1355 Horizon Avenue
Lafayette, CO 80026 U.S.A.
www.elec-solutions.com
Tel: (303) 469-9322

Introduction

This document explains how to set motor limits (end positions) and how to connect the low voltage data cables to an M50Q series motor. Refer to the *M50Q 120VAC Specifications* document for technical details.

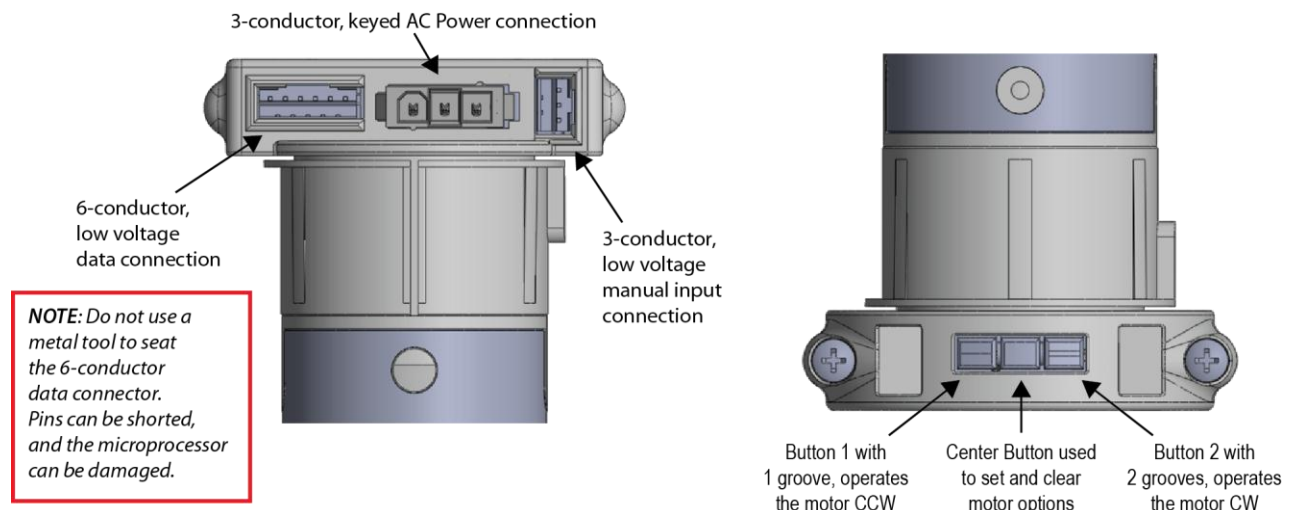
Products

M50Q 120VAC 60Hz series motors — M50Q 330A, M50Q 634A, M50Q 1234A

NOTE: M50Q part numbers ending with "A" are 120VAC and those ending with "B" are 230VAC.

Before You Start

- On power-up: LEDs will blink **RED GREEN**
- CW is clockwise rotation looking at the motor from the head end, CCW is counterclockwise.
- Be sure the motor is connected to continuous AC power.
- An M50Q series motor ships from the factory with a randomized RQ address between C00 and ZZZ and no limits set.
- The M50Q series motor has a 3-conductor, keyed AC power connection in the motor head for connecting the included AC power cord, PC M40/50 US.
- The M50Q series motor has a 6-conductor, keyed low voltage, data connection (RQ Bus and RP Bus) for use with the CBL 6 FT QE QM, CBL 1 FT QE QM, or RE 1 FT QM, each sold separately. This cable must be connected after the AC power connection is in place and AC power is applied.
- The M50Q series motor has a 3-conductor, keyed low voltage, manual input (dry contact) connection for use with CBL 6 FT DM, sold separately. This cable must be connected after the AC power connection is in place and AC power is applied.
- The M50Q series motor has three clear buttons with internal LEDs:
 - Button 1, **RED** LED button, with one groove, operates the motor counterclockwise [CCW].
 - Button 2, **GREEN** LED button, with two grooves, operates the motor clockwise [CW].
 - Center Button, **YELLOW** LED button with no groove, used to set and clear motor options.
- If any button is pressed while the motor is moving, the motor will stop.
- Use an SP1E3Q when connecting more than two RQ-enabled motors (M40Q or M50Q).
- Refer to the **M40Q and M50Q Typical Wiring Diagram** on page 4 for an example of wiring.



Power-Up the M50Q

The M50Q series motor includes a keyed 3-conductor AC power connection in the head end of the motor.

- Securely connect the included AC Power Cord (PC M40/50 US) to this connector.

Motor Configuration

■ Set Motor Limits:

When power is first applied to a factory default motor, the motor is in "Set CCW limit mode." The mode is identified by a flashing **RED** LED on Button 1.

1. Press either Button 1 (CCW motion) or Button 2 (CW motion), to operate the motor to the desired CCW limit.
2. Once the desired CCW limit position has been reached, press and hold the Center Button first and then also press and hold Button 1 (*flashing RED*) until the **RED** LED turns off and the Center Button **YELLOW** LED lights solid (*approx. 2 seconds*) then immediately release both buttons to set the CCW limit.
3. The **YELLOW** LED lights solid for three seconds to acknowledge the "Set CCW limit to here" operation, then the motor goes into "Set CW limit mode" and the **GREEN** LED on Button 2 will be flashing.
4. Press either Button 1 or Button 2 to operate the motor to the desired CW limit.
5. Once the desired CW limit position has been reached, press and hold the Center Button first and then also press and hold Button 2 (*flashing GREEN*) until the **GREEN** LED turns off and the Center Button **YELLOW** LED lights solid (*approx. 2 seconds*) then immediately release both buttons to set the CW limit.
6. The **YELLOW** LED lights solid for three seconds to acknowledge the "Set CW limit to here" operation.
7. Both motor limits are set and all LEDs are off.

■ Clear both Limits:

1. Press and hold the Center Button until the **YELLOW** LED lights solid (*approx. 10 seconds*) then release the Center Button.
2. The LED in Button 1 begins flashing **RED**. See "Set Motor Limits" above.

■ Clear CCW Motor Limit:

1. Press and hold the Center Button first and then also press and hold Button 1 until the Center Button **YELLOW** LED lights (*approx. 2 seconds*) and then turns off (*approx. 3 seconds later*) then release both buttons.
2. The LED in Button 1 begins flashing **RED**. See "Set Motor Limits" above.

■ Clear CW Motor Limit:

1. Press and hold the Center Button first and then also press and hold Button 2 until the Center Button **YELLOW** LED lights (*approx. 2 seconds*) and then turns off (*approx. 3 seconds later*) then release both buttons.
2. The LED in Button 2 begins flashing **GREEN**. See "Set Motor Limits" above.

■ Adjust either Motor Limit:

1. Press either Button 1 (CCW motion) or Button 2 (CW motion), to operate the motor to the desired position.
2. Once the desired limit position is reached, press and hold the Center Button first and then also press and hold the appropriate button — Button 1 (CCW limit) or Button 2 (CW limit) — until the **YELLOW** LED lights (*approx. 2 seconds*) then immediately release both buttons to set the corresponding motor limit.

■ Toggle Motor Direction:

1. Simultaneously press and hold **both** Button 1 (CCW) and Button 2 (CW), until both the **RED** and **GREEN** LEDs light (*approx. 5 seconds*) then release both buttons.
2. If motor direction is such that the Open command is CW, then the LEDs will blink **RED** then **GREEN**. If motor direction is such that the Open command is CCW, then the LEDs will blink **GREEN** then **RED**.

■ Determine Motor Version:

1. Power cycle the motor to determine motor firmware version.
2. On power-up, LEDs will blink **RED GREEN**.

Low Voltage Cable Connections

IMPORTANT: Each of the Low Voltage cables must be connected **after** the AC power connection is in place and AC power is applied.

■ Manual inputs (dry contact) using 3-conductor, keyed low voltage cable:

If you plan to use relays from a building automation system, a Single Pole Double Throw (SPDT) manual input (dry contact) switch, or similar device, for “contact closure control” of an M50Q motor, you will need to connect the CBL 6 FT DM, sold separately.

1. Connect the CBL 6 FT DM to the 3-conductor, low voltage manual input (dry contact) connection, and wire it to the contact closure control — the center wire is COMMON.
IMPORTANT: When inserting the connector into the motor, do not use a metal tool to push the connector into the socket.
2. Verify desired operation from the contact closure device.

■ RP Bus / RQ Bus using 6-conductor, keyed low voltage cable:

If you plan to utilize an RQ Bridge, Infrared Eye, or other RP/RQ accessory to control an M50Q motor, you will need to connect the CBL 6 FT QE QM, or the CBL 1FT QE QM, each sold separately.

1. Connect the cable to the 6-conductor, low voltage data connection, and connect the modular plug into the RP or RQ bus.
IMPORTANT: When inserting the connector into the motor, do not use a metal tool to push the connector into the socket.
NOTE: the modular plug is an EYE as far as an RP bus connection is concerned.
2. Verify desired functions from an RP or RQ input device or accessory.
DO NOT attempt to send RS-232, RS-422, or contact closure to this connection.

If you plan to use an Infrared Eye to control an M50Q motor, you can connect the RE 1 FT QM, sold separately.

1. Connect the Infrared Eye to the 6-conductor, low voltage data connection.
IMPORTANT: When inserting the connector into the motor, do not use a metal tool to push the connector into the socket.
2. Verify desired operation from the IR control.

M40Q and M50Q Typical Wiring Diagram

