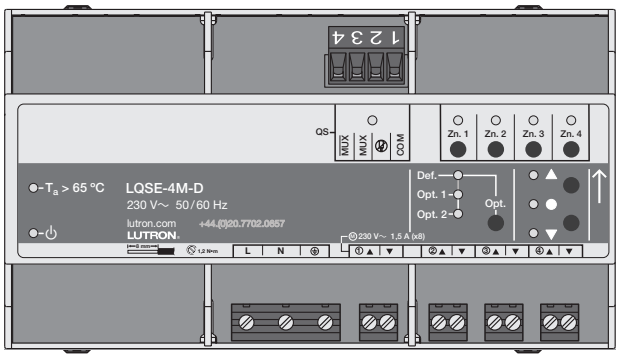
369614b 1 10.16.2015

Motor Control Power Module

The motor control power module is an interface that provides seamless integration of HomeWorks® QS systems with AC blinds, shades, louvers, projection screens, or any compatible AC motor. It provides four (4) independently controllable AC raise/lower outputs from one common AC input feed.

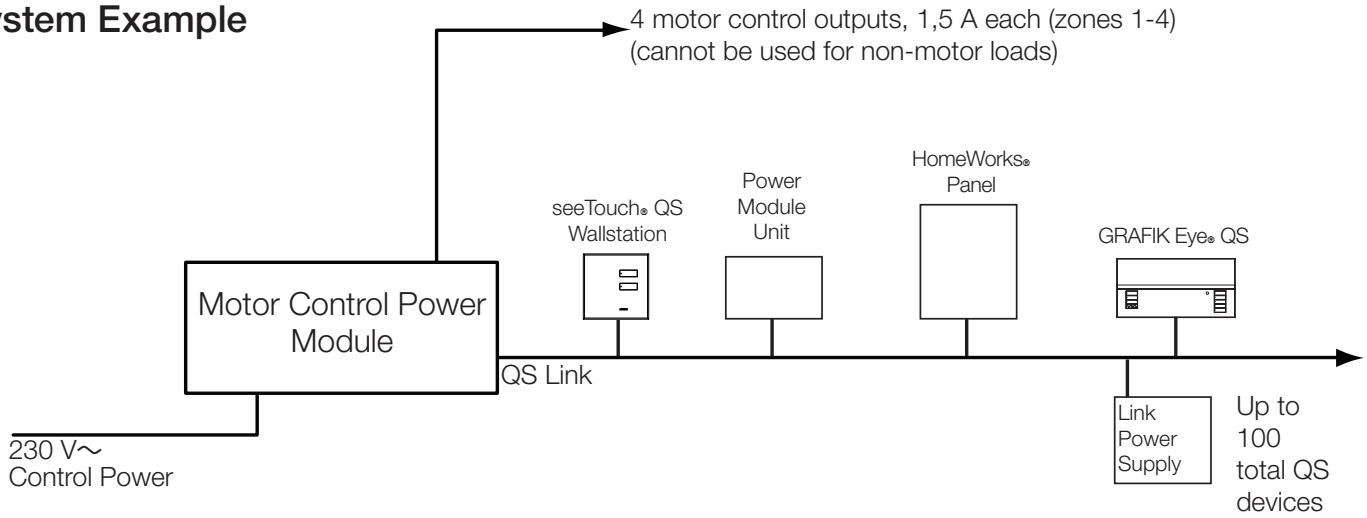


LQSE-4M-D

Features

In HomeWorks® QS systems, the motor control power module's high-voltage outputs for motor loads are fully programmable through the HomeWorks® system software.

System Example



Job Name:	Model Numbers:	
Job Number:		

Specifications

Input Power

- Input voltage: 230 V~ 50/60 Hz
- 6 A maximum total input current
- At standby (no motors being driven), power is less than 1 W
- Lightning strike protection meets ANSI/IEEE standard 62.31-1980. Can withstand voltage surges of up to 6 000 V~ and current surges of up to 3 000 A

Output Capacity

- 1,5 A maximum motor load per channel (not for lighting control)
- Each zone supports only one motor; do not wire motors in parallel
- Raise and Lower outputs are mechanically interlocked to prevent simultaneously activating Raise/Lower outputs
- Designed to withstand 100 000 open/close cycles

Regulatory Requirements

- IEC/EN 60669-2-1, EN50428
- Lutron Quality Systems registered to ISO 9001.2008
- CE

Other Power Specifications

- Standby power:
  - 230 V~: 660 mW
- BTU/hour when fully loaded: 5

Environment

- Ambient temperature operating range (inside mounting panel): 0 °C to 40 °C (32 °F to 104 °F)
- Calibration point maximum: 65 °C (149 °F)
- Surrounding air temperature: $T_a \leq 65$ °C
- Relative humidity: less than 90% non-condensing
- For indoor use only

Terminals

- Mains Wiring: 1,0 to 4,0 mm^2 (18 to 12 AWG)
- Zone Wiring: 1,0 to 4,0 mm^2 (18 to 12 AWG)
- QS Link Wiring: See Wiring: QS Link

Mounting

- Use an IP20 (minimum) rated consumer panel or breaker panel with integrated DIN rail
- Width = 9 DIN modules (161,7 mm/6,4 in)

QS Link Limits

- A QS link can have up to 100 zones (outputs) and 100 devices
- Each motor control power module counts as 4 zones (outputs) and 1 device on the QS link
- The motor control power module (LQSE-4M-D) unit does not supply or consume power draw units. When using accessories (such as a keypad), an additional 24 V⎓ power supply or a link power supply must provide power and/or power draw units
  For more information on Power Draw Units, see "Power Draw Units on the QS Link", Lutron PN 369405, at www.lutron.com/qs

Normal Mode Operation

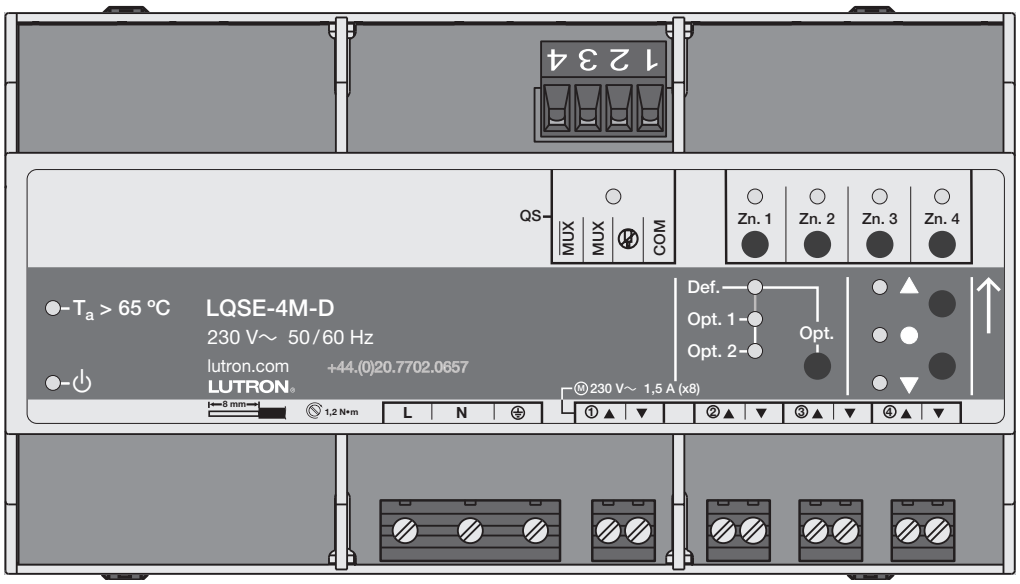
- Zone Select button selects the desired zone; raise/lower buttons control the selected zone
- Supports Open, Close, and Unaffected presets only; all other presets are ignored
- Does not support shade groups or areas
- Does not support discrete shade levels
- Does not support scenes

Configurable Parameters

- Minimum On time (also called Jog Time): the minimum time for which the Raise/Lower relay will be turned on
  Configurable from 80 ms to 3520 ms in 80 ms increments
  Default: 80 ms
- Interlock delay: the time both relays are de-energized while switching from Raise to Lower, or from Lower to Raise
  Configurable to 320 ms, 560 ms, or 960 ms
  Default: 320 ms
- Maximum On time (also called Travel Time or Time to Off): after this time, the relay is turned off as a precaution
  Configurable from 10 seconds to 450 seconds in 10-second increments
  Default: 80 seconds

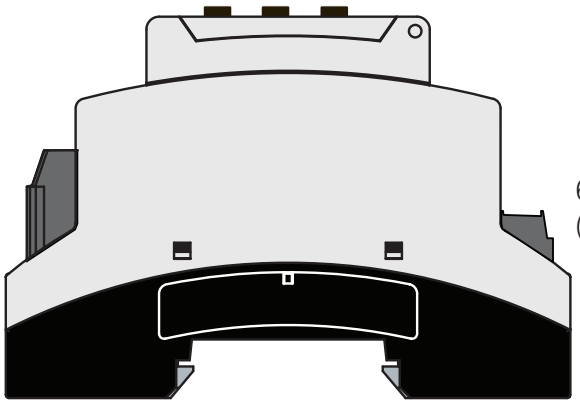
Job Name:	Model Numbers:	
Job Number:		

Mechanical Dimensions



89,7 mm
(3,5 in)

161,7 mm
(6,4 in)
(Equal to
9 DIN modules)

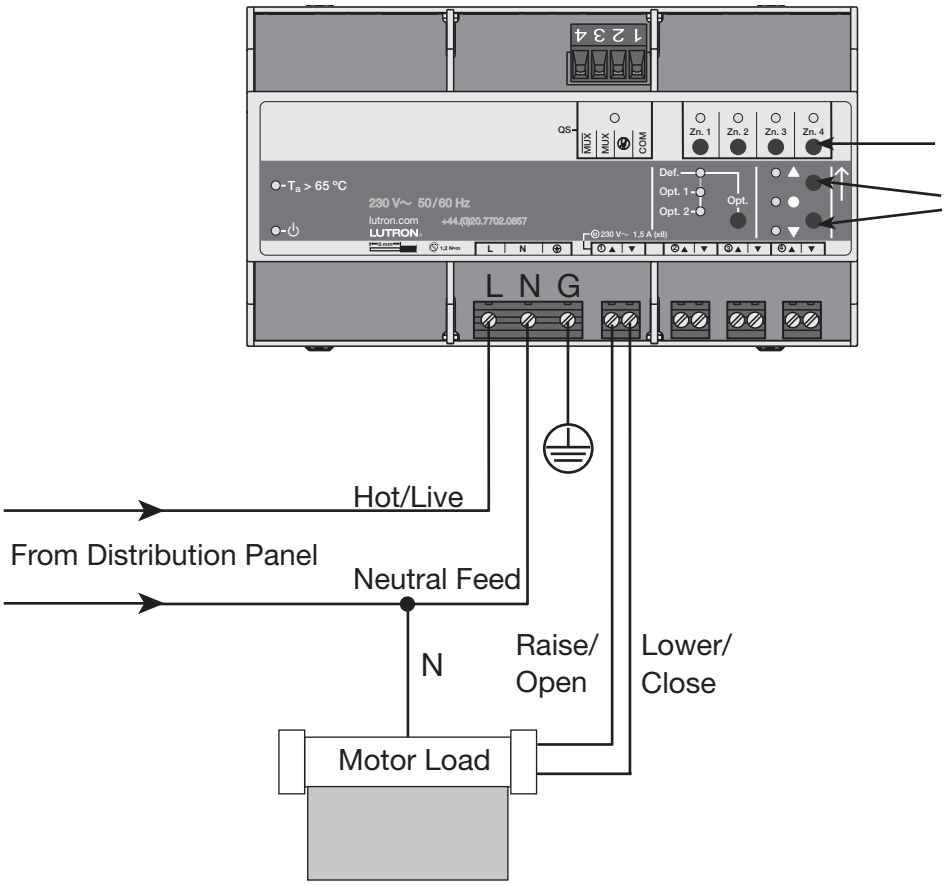


60,6 mm
(2,4 in)

Job Name:	Model Numbers:	
Job Number:		

369614b 4 10.16.2015

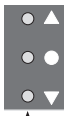
Mains Voltage and Load Wiring



Button Functions

Zone Select buttons:
Select desired zone
LED indicates which zone is selected

Raise/Lower buttons:
Raise/Lower selected zone



LEDs indicate which direction (Raise/Stop/Lower) is active

Wiring from Distribution Panel to Motor Control Power Module

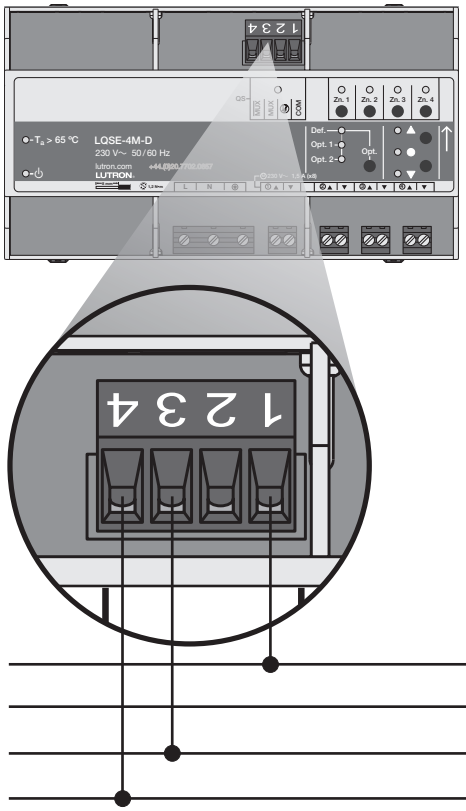
- Turn off all circuit breakers or isolators feeding the motor control power module unit at distribution panel.
- Run hot/live, neutral, and ground/earth (⏚) wires from a 230 V~ 50/60 Hz feed to the motor control power module.
- Follow appropriate local and national codes to avoid violating required separation guidelines between Mains wiring and IEC PELV/NEC® Class 2 wiring.

Note

Before proceeding with the line voltage/mains wiring, set the upper/open and lower/close limits for each motor. Refer to the manufacturer's instructions for your specific motor.

Job Name:	Model Numbers:	
Job Number:		

Wiring: QS Link



To additional QS devices

IEC PELV/NEC® Class 2 QS Link Wiring

- Link communicates using IEC PELV/NEC® Class 2 wiring.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Wiring may be daisy chained or t-tapped.
- Total length of QS link must not exceed 610 m (2 000 ft).
- For lengths under 150 m (500 ft), use 1,0 mm² (18 AWG) conductor for control power (COM).
- For lengths over 150 m (500 ft), use 4,0 mm² (12 AWG) conductor for control power (COM).
- Use one, twisted-shielded pair of 0,5 mm² (22 AWG) for data link (MUX, $\overline{\text{MUX}}$).

Wire Sizes (check compatibility in your area)

QS Link Wiring Length	Wire Gauge	Lutron Cable Part Number
Less than 150 m (500 ft)	Common (terminal 1) 1 1,0 mm² (18 AWG)	GRX-CBL-346S (non-plenum) GRX-PCBL-346S (plenum)
	Data (terminals 3 and 4) 1 twisted, shielded pair 0,5 mm² (22 AWG)	
150 to 610 m (500 to 2 000 ft)	Common (terminal 1) 1 4,0 mm² (12 AWG)	GRX-CBL-46L (non-plenum) GRX-PCBL-46L (plenum)
	Data (terminals 3 and 4) 1 twisted, shielded pair 0,5 mm² (22 AWG)	

Job Name:	Model Numbers:	
Job Number:		