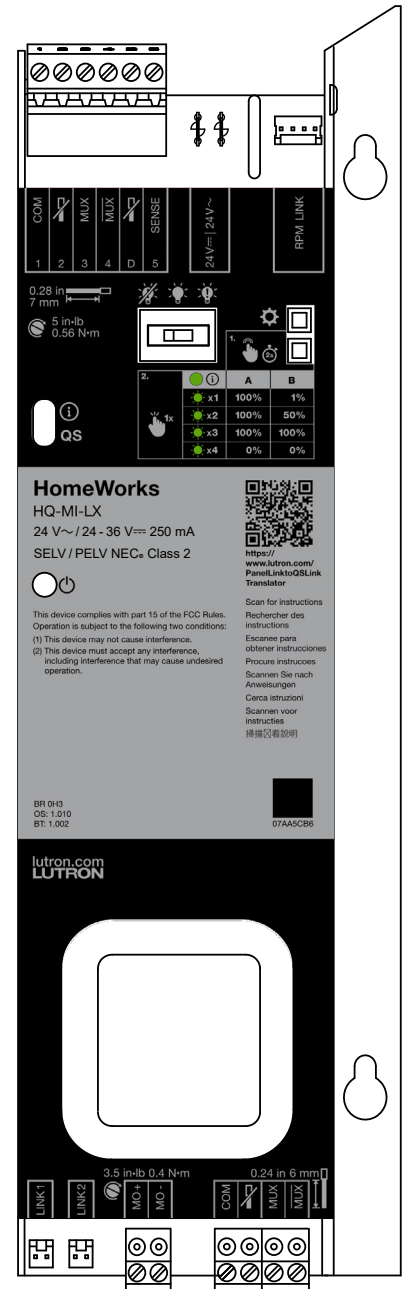# Panel Link to QS Link Translator

The panel link to QS link translator provides an interface for legacy remote power modules and specification-grade panels.

Features

- Panel link translator is compatible with the HomeWorks QSX system.
- Includes QS link for integration and control of most legacy dimmer cards and module panels.
- One for one replacement for each module interface and specification-grade panel interface.[1]
- Powered by existing 24 V∼ transformer or 24 V⎓.
- LEDs display diagnostic information.
- Buttons provide local control of all non-motor switch legs.
- Supports manual override.
- Power failure memory automatically returns the switch legs to the levels they were set to prior to a power outage.
- Enables existing HomeWorks Illumination, HomeWorks Interactive, and HomeWorks QS installations with legacy panels to be upgraded to HomeWorks QSX.[1,2,3]

HQ-MI-LX

[1] The panel link translator is required when upgrading legacy HomeWorks systems with remote power modules or specification-grade panels to HomeWorks QSX. Refer to Lutron Application Note #840 (P/N 048840) at www.lutron.com for more information.

[2] Please contact your local Lutron sales representative or system sales engineer for considerations when upgrading existing systems to HomeWorks QSX with the panel link translator.

[3] If present, LT-1 terminators will need to be removed from the existing wiring.

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Panel Link to QS Link Translator

Specifications

Model Number	HQ-MI-LX
Power	24 V$\sim$ 50/60 Hz or 24-36 V$=\!=$ 250 mA Consumes 5 PDUs when powered by a QS device that supplies PDUs
Regulatory Approvals	cULus Listed, FCC Class B, NOM, UKCA, and CE
Environment	Room ambient temperature is between 32 ºF and 104 ºF (0 ºC and 40 ºC). Relative humidity less than 90% non-condensing. For indoor use only.

Terminals (torque, wire gauge, & type ratings)	QS link 2 bottom: 3.5 in-lbs (0.6 N•m)
	    COM ("1"):
	    20 AWG to 10 AWG (0.5 mm^2 to 4.0 mm^2)
	    MUX ("3") and $\overline{\text{MUX}}$ ("4"):
	    22 AWG to 18 AWG (0.25 mm^2 to 1.0 mm^2) (1 twisted, screened pair)
	Manual override: 3.5 in-lbs (0.6 N•m)
	    24 AWG to 16 AWG (0.2 mm^2 to 1.5 mm^2)
	6-pin communication terminal block: 5 in-lbs (0.6 N•m)
	    COM ("1"):
	    22 AWG to 12 AWG (0.25 mm^2 to 4.0 mm^2)
	    "2" and "D" Terminals: Not connected
	    MUX ("3") and $\overline{\text{MUX}}$ ("4"):
	    22 AWG to 18 AWG (0.25 mm^2 to 1.0 mm^2) (1 twisted, screened pair)
	    SENSE ("5"):
	    22 AWG to 18 AWG (0.25 mm^2 to 1.0 mm^2)

Programming	Setup and programming of the panel link translator is done through Lutron Designer.
QS Link Limits	Each panel link translator counts as one device toward the QS link device limit, and up to either 24 switch legs (when replacing an SPI) or 32 switch legs (when replacing a module interface) toward the QS link switch leg limit. Refer to Lutron specification submittal P/N 369821 at www.lutron.com for system rules.

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# Panel Link to QS Link Translator

Specifications *(continued)*

|	
Panel Compatibility	The panel link translator is compatible with most legacy panels. Ensure compatibility by finding your panel in the full compatibility list in Lutron Application Note #840 (P/N 048840) at www.lutron.com
Control Link Compatibility	Supports Hi-1 and Hi-2 baud rates. Supports RTISS capable GP cards. The panel link translator is compatible with most remote power modules and specification-grade dimming cards. Ensure compatibility by finding your panel in the full compatibility list in Lutron Application Note #840 (P/N 048840) at www.lutron.com
Protections	Miswire: All terminal block inputs are over-voltage and miswire protected against wire reversals and shorts. ESD: Meets or exceeds the IEC 61000-4-2 standard. Surge: Meets or exceeds ANSI/IEEE C62.41 standard.

Panel Link to QS Link Translator

Mounting

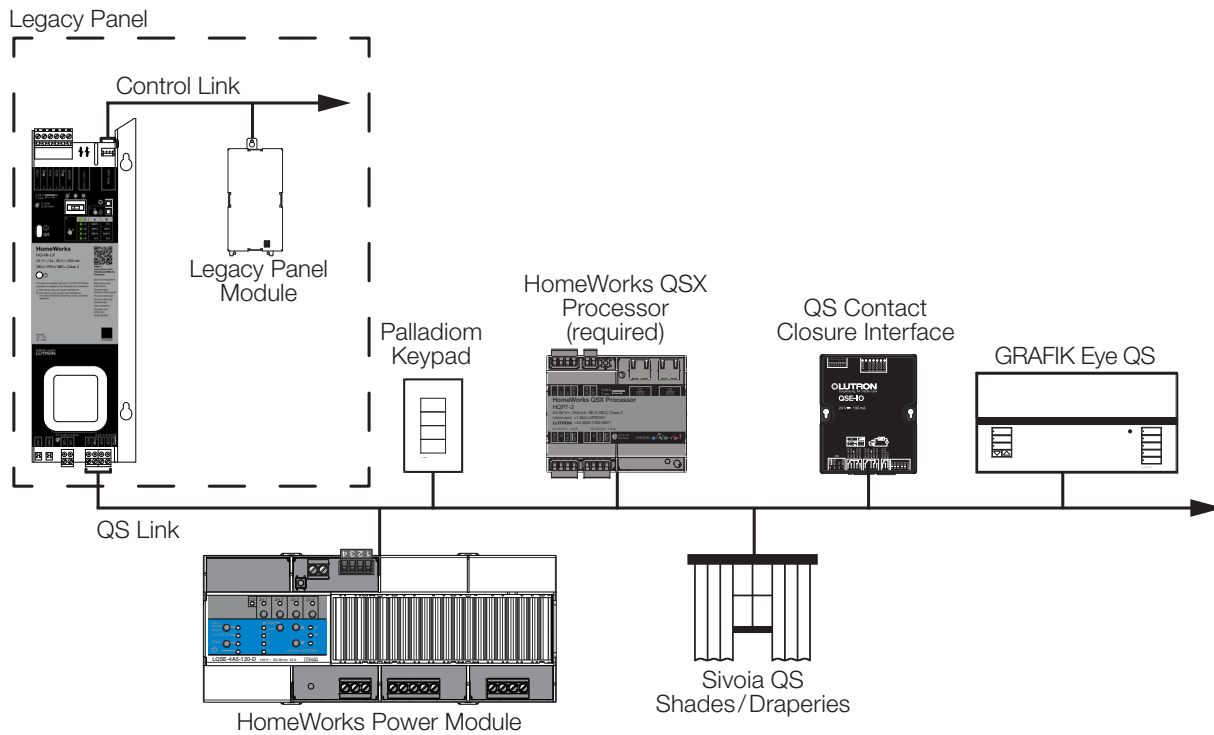### Mechanical Dimensions
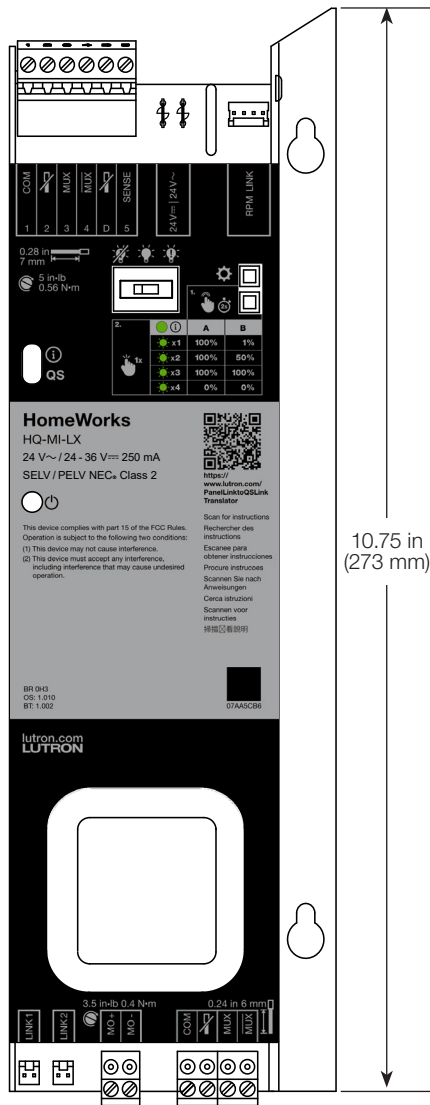
Front View
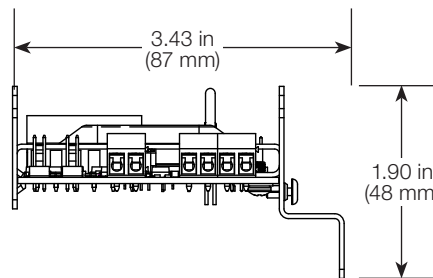
Bottom View

- Mount in a compatible Lutron panel. See **Specifications: Panel Compatibility** on page 3 for a list of compatible panels.
- Mount in front view orientation shown above.
- Mount in the existing module interface or specification-grade panel interface location.[1]
- Generates heat, maximum 7 BTUs/hr.
- Mount such that the room ambient temperature is between 32 °F to 104 °F (0 °C to 40 °C).

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[1] Refer to Application Note #840 (P/N 048840) at www.lutron.com if replacing HomeWorks Illumincation systems with 8-series processors (with module interface link).
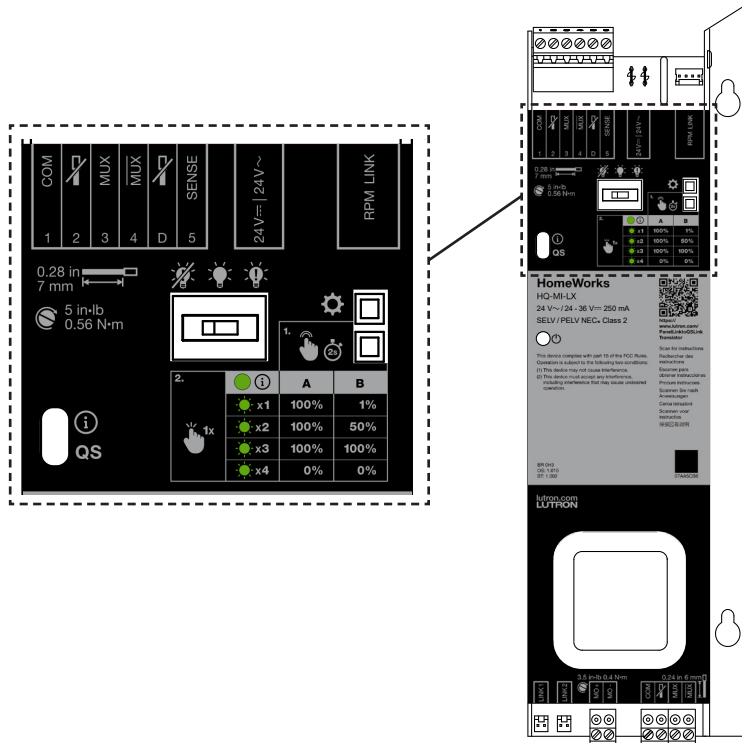
Panel Link to QS Link Translator

System Example

Legacy Panel

Control Link

Legacy Panel
Module

HomeWorks QSX
Processor
(required)

QS Contact
Closure Interface

GRAFIK Eye QS

Palladiom
Keypad

QS Link

HomeWorks Power Module

Sivoia QS
Shades/Draperies

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Panel Link to QS Link Translator

Out of Box Functionality

User Interface Operation

- The buttons on the panel link translator can be used with or without system connection, to:
  – Set the baud rate of the control links. The baud rate can be set to Hi-1 (default) or Hi-2.
  – Control all panel switch legs as non-dimmable switched outputs. The switch legs can be turned on or off.[1]

Manual Override

- Inputs
  – Manual override terminal: Connected to an auxiliary switch or Contact Closure Output (CCO).
- Operation Modes
  – Normal mode: The panel link translator will communicate over the control links normally and will respond to local button presses.
  – Manual override mode: All switch legs on the control links will be sent to their maximum light level (default). The panel link translator will respond to local button presses and communications over the QS link, but the switch legs will remain at the maximum light level. The switch leg light levels in manual override mode can be customized in the Lutron Designer programming software.
  – Return to normal mode from manual override mode: All switch legs on the control links will be sent to the most recent light level received while in manual override mode. They will return to their previous light level if no updates were received while in manual override mode. The switch legs on the control links will again respond to communications from the circuit selector.

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[1] Only applicable for switch legs that can be controlled as switched outputs. Excludes motor loads.

Panel Link to QS Link Translator

Remote Power Module (RPM) Panel Wiring

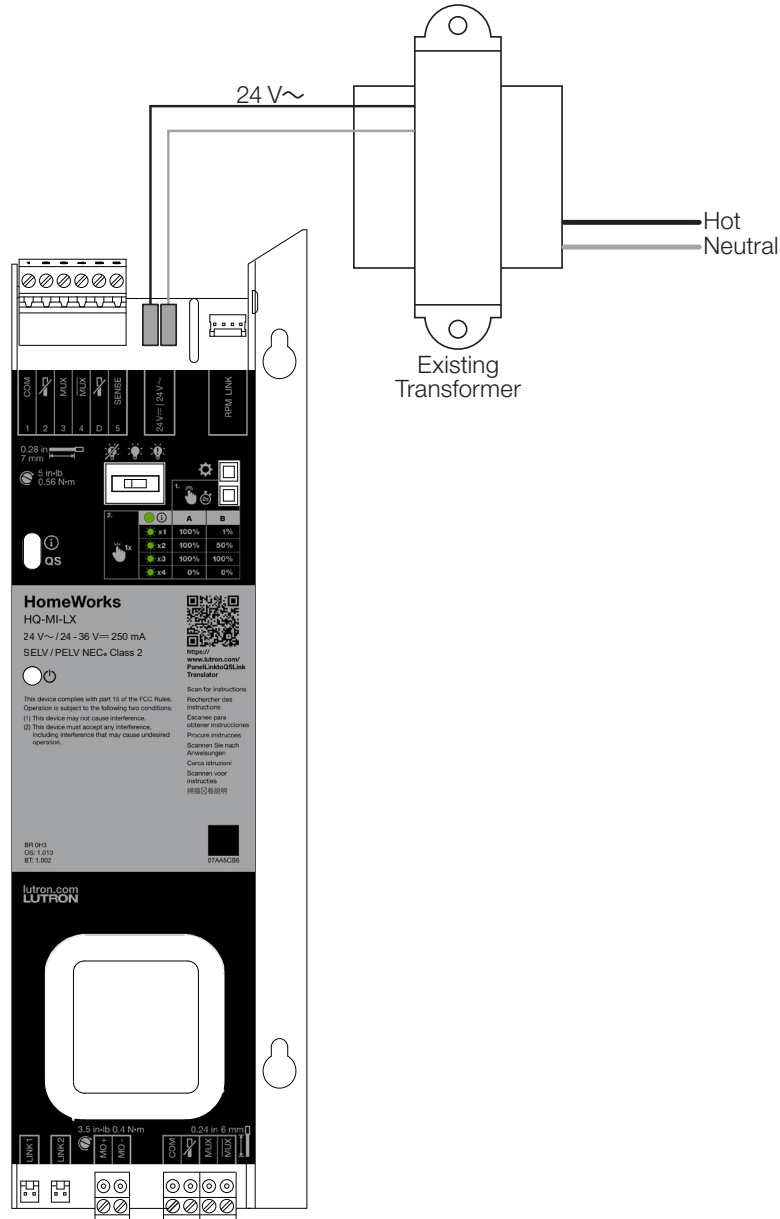### Overview of Wiring
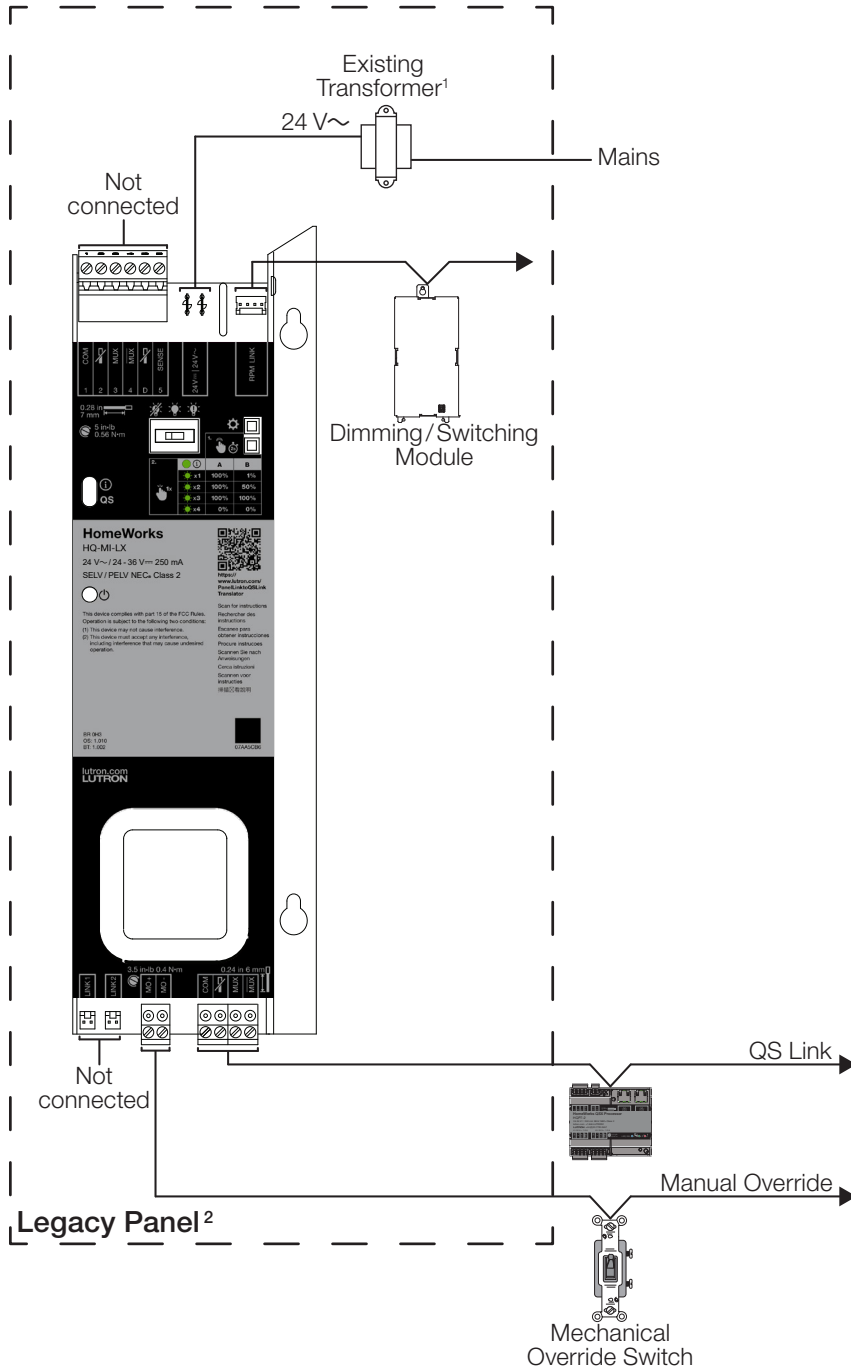
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[1]   The panel link translator can also be powered by 24 V⎓.

[2]   Refer to Lutron Application Note #840 (P/N 048840) at www.lutron.com if you need assistance identifying your panel.

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Panel Link to QS Link Translator

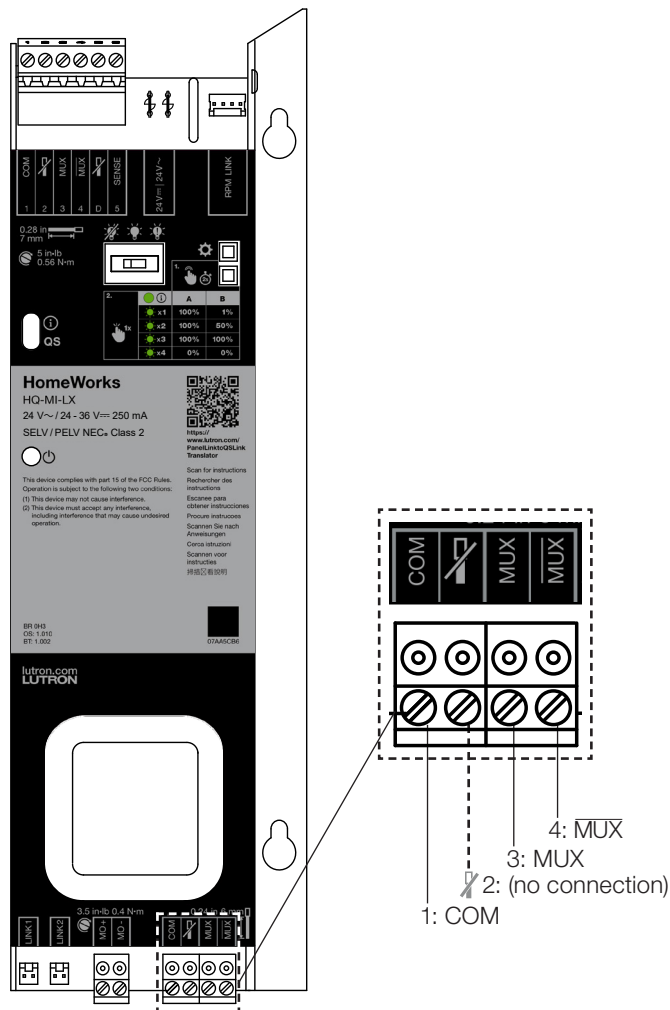## Remote Power Module (RPM) Panel Wiring *(continued)*

Wiring: Power

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit use and protection.
- Input 24 V∼ or 24-36 V⎓.
- Terminals are polarity-free.
- Most installations will reuse the existing transformer.
- Consumes 5 PDUs when powered by a QS device that supplies PDUs.
- Power terminal wire harness is included in the packaging.

Panel Link to QS Link Translator

Remote Power Module (RPM) Panel Wiring *(continued)*
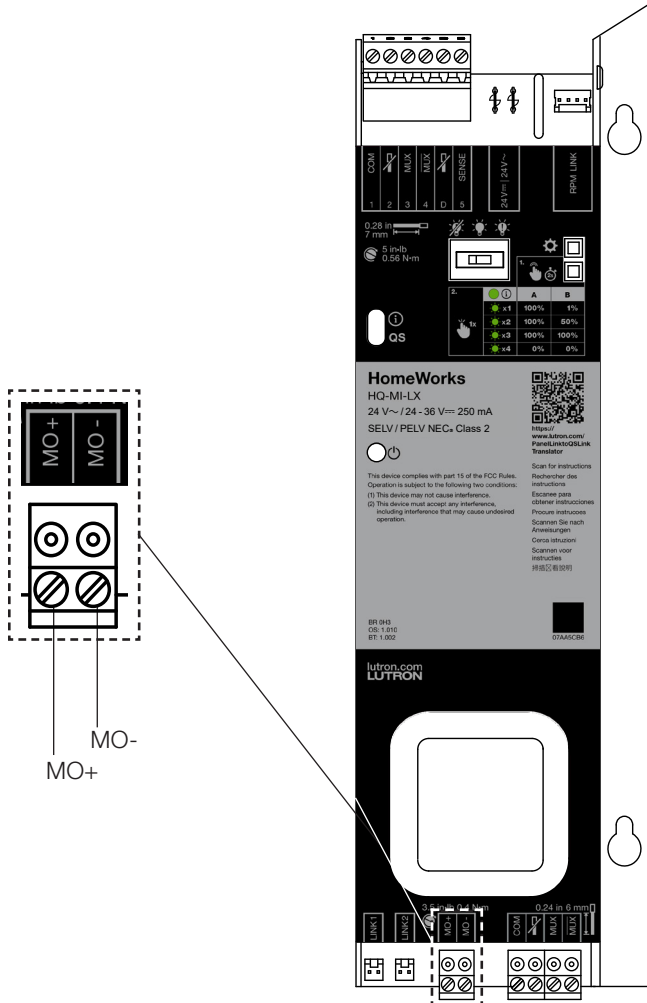
Wiring: Bottom QS Link

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Wiring may be daisy-chained or T-tapped.
- Do NOT connect the second terminal from the left side.
- Use the existing QS link terminal block and wiring.
- Inspect the existing wiring.
- Refer to Lutron Specification Submittal P / N 369821 at www.lutron.com for system rules.

Panel Link to QS Link Translator

Remote Power Module (RPM) Panel Wiring *(continued)*
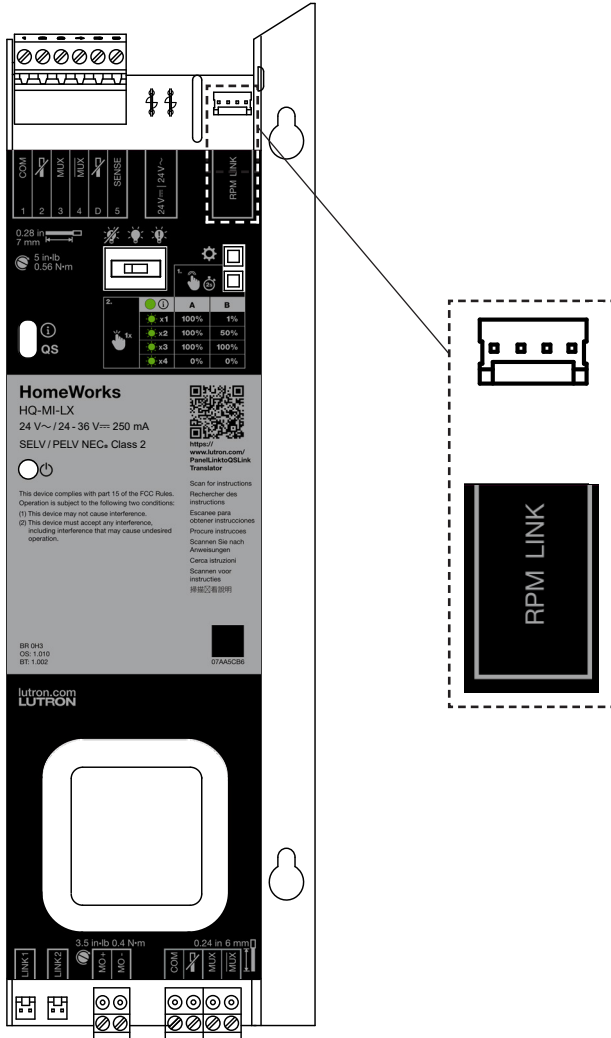
Wiring: Manual Override

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Maximum of 32 modules may be connected in parallel to a Manual Override device
- See **Out of Box Functionality: Manual Override** on page 6 for details on each mode.
- Refer to Lutron Application Note #701 (P / N 048701) at www.lutron.com for information on manual override setup.

Panel Link to QS Link Translator

Remote Power Module (RPM) Panel Wiring *(continued)*
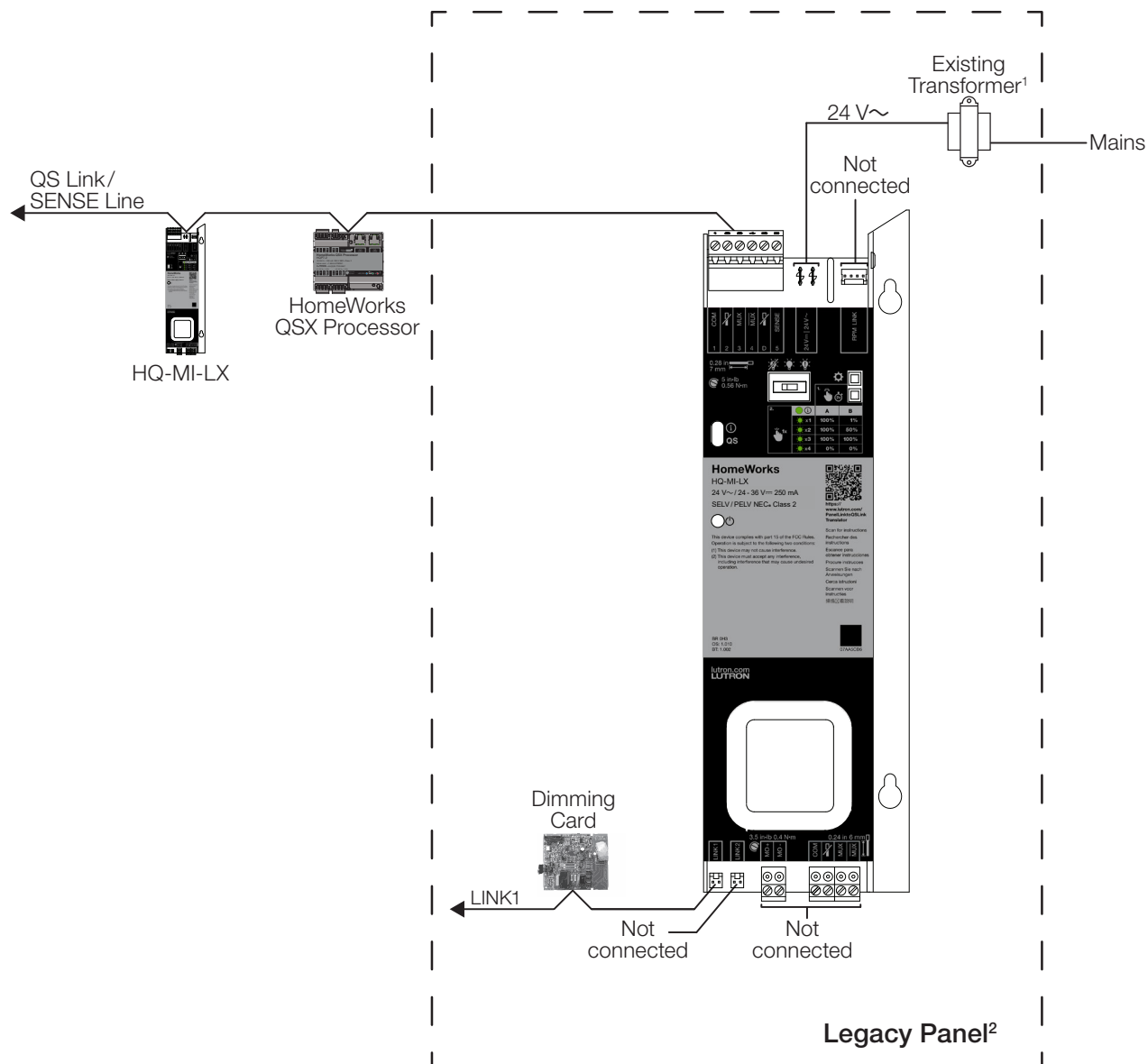
Wiring: RPM Control Link

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Each link can interface with up to 8 Remote Power Modules (32 switch legs).
- Utilizes existing wiring harness.

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Panel Link to QS Link Translator

Specification-Grade Panel Wiring

Overview of Wiring

QS Link /
SENSE Line

HQ-MI-LX

HomeWorks
QSX Processor

Existing
Transformer[1]

24 V∼

Not
connected

Mains

HomeWorks
HQ-MI-LX
24 V∼ / 24 - 36 V⎓ 250 mA
SELV / PELV NEC₌ Class 2

Dimming
Card

LINK1

Not
connected

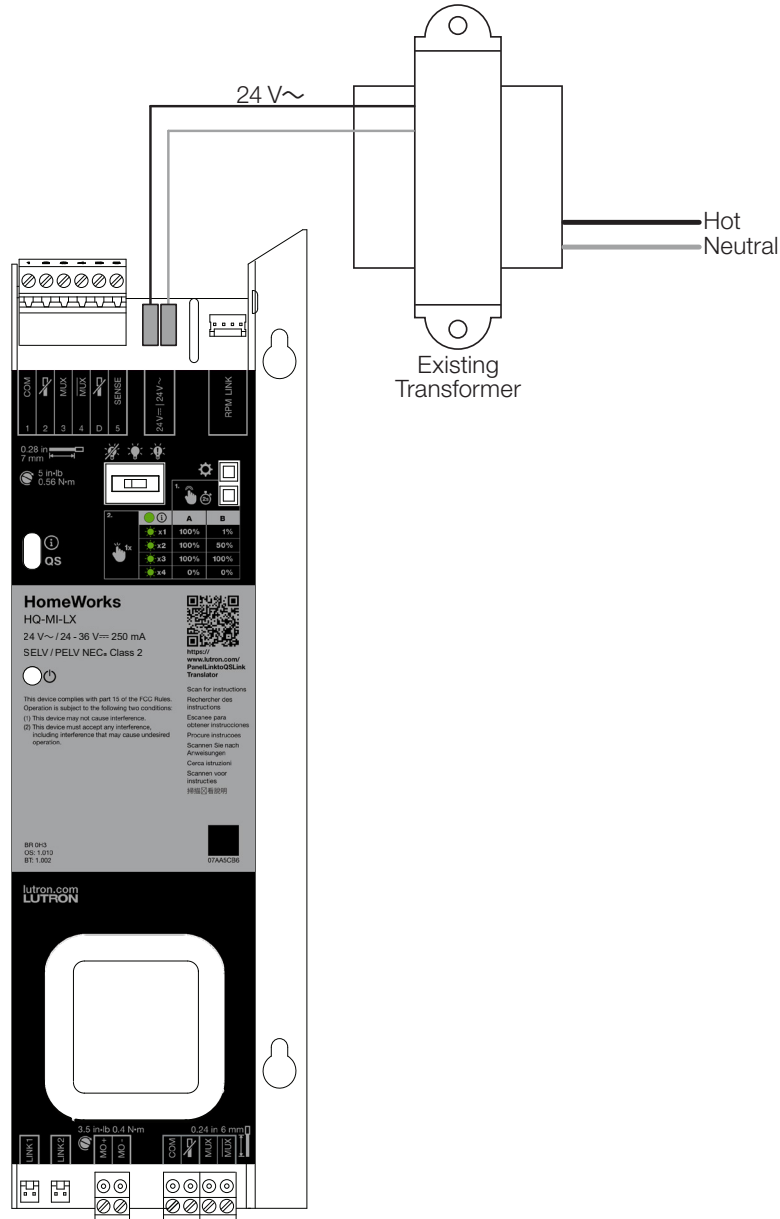Not
connected

Legacy Panel[2]

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[1] The panel link translator can also be powered by 24 V⎓.

[2] Refer to Lutron Application Note #840 (P/N 048840) at www.lutron.com if you need assistance identifying your panel.

HOMEWORKS

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Panel Link to QS Link Translator

Specification-Grade Panel Wiring *(continued)*
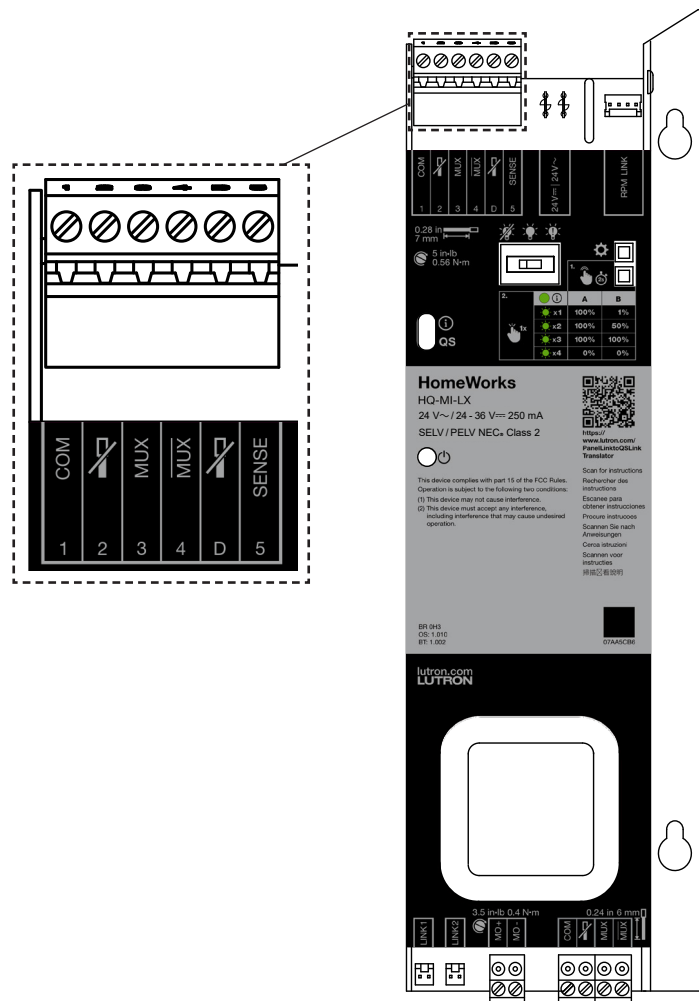### Wiring: Power

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit use and protection.
- Input 24 V∼ or 24-36 V⎓.
- Terminals are polarity-free.
- Most installations will reuse the existing transformer.

www.lutron.com/support   13   Customer Assistance:
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Panel Link to QS Link Translator

Specification-Grade Panel Wiring *(continued)*

Wiring: 6-Pin Communication Terminal Block

- 6-pin communication terminal block wiring is IEC SELV / PELV or NEC® Class 2.
- Includes QS Link and SENSE connections. See subsections for details.
- Each terminal can accept two 18 AWG (1.0 mm^2) wires or one 12 AWG (2.5 mm^2) wire.
- Wiring may be daisy-chained or T-tapped.
- Applications that use the SENSE terminal will require an additional 18 AWG (1.0 mm^2) SENSE wire.

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Panel Link to QS Link Translator

Specification-Grade Panel Wiring *(continued)*
Wiring: 6-Pin Communication Terminal Block *(continued)*
Top QS Link
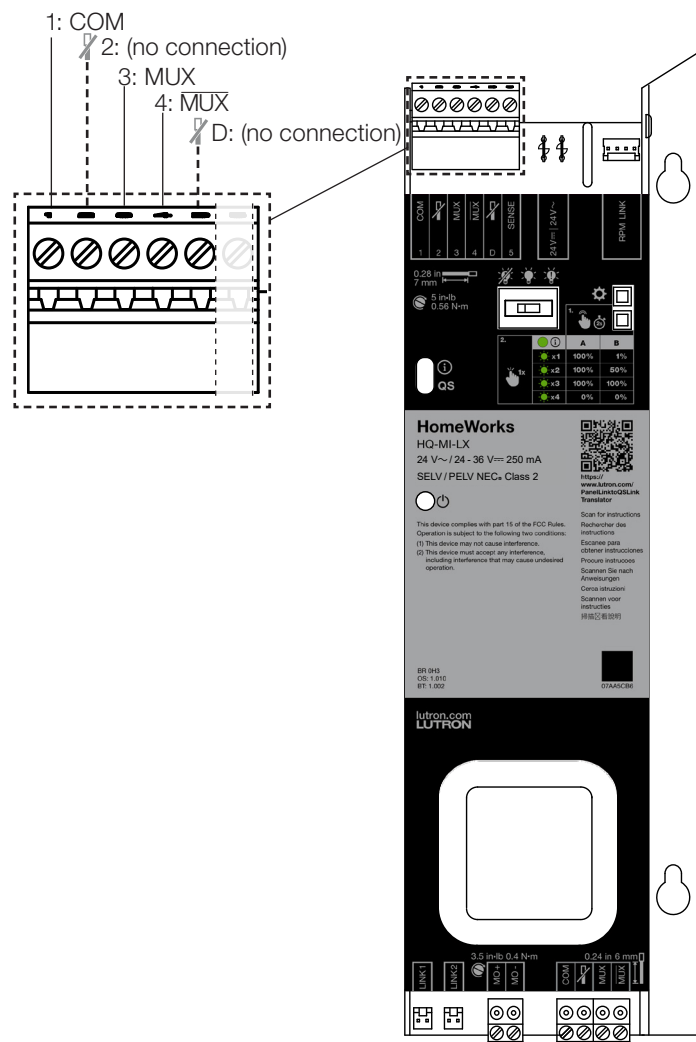
1: COM
2: (no connection)
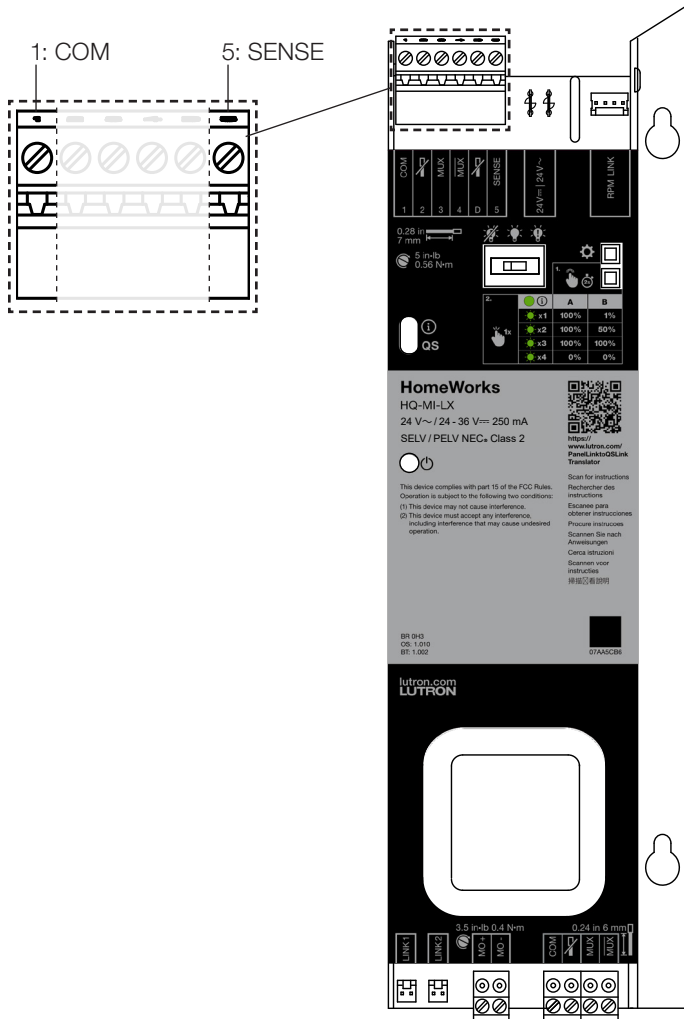3: MUX
4: $\overline{\text{MUX}}$
D: (no connection)

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Cannot be powered through QS link terminal. See **Wiring: Power** section on page 8 for more details.
- Do NOT connect to "2" terminal.
- Do NOT connect to "D" terminal.
- Does not supply or consume PDUs.
- Use the existing QS link terminal block and wiring. Only one QS link will be used (top QS link or bottom QS link).
- Inspect the existing wiring.
- Refer to Lutron Specification Submittal P / N 369821 at www.lutron.com for system rules.

Panel Link to QS Link Translator

Specification-Grade Panel Wiring *(continued)*
Wiring: 6-Pin Communication Terminal Block *(continued)*
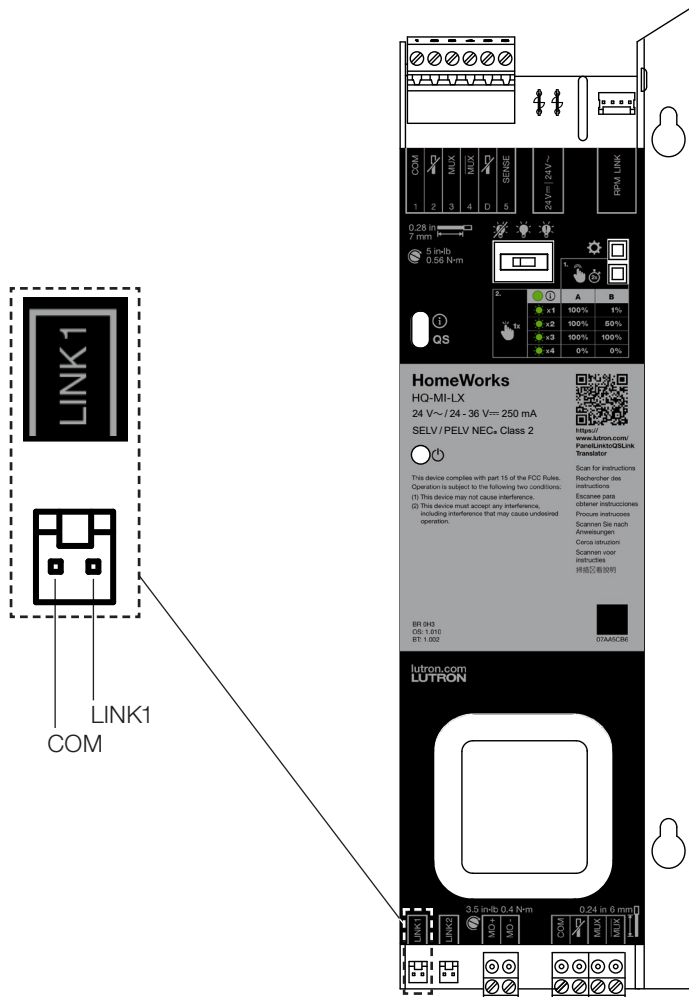### SENSE

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Set switch to center position if the SENSE terminal is not used.
- Maximum of 32 panel link translators may be connected in parallel to one LUT-ELI.

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Panel Link to QS Link Translator

Specification-Grade Panel Wiring *(continued)*
Wiring: Control LINK1

- Wiring is IEC SELV / PELV or NEC® Class 2.
- Follow all applicable national and local codes for proper circuit separation and protection.
- Control link 1 (LINK1) can interface with up to 24 switch legs.
- Utilizes existing wiring harness.

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