QSE-IO Control Interface

The QSE-IO Control Interface provides integration with third-party equipment requiring contact closure inputs (CCIs) or contact closure outputs (CCOs). One QSE-IO Control Interface provides five CCIs and five dry CCOs. The QSE-IO Control Interface provides both normally open (NO) and normally closed (NC) contacts for outputs.

CCIs can use contact closures in third-party equipment to trigger HomeWorks® QS system events (e.g., turn on lights, close shades, adjust HVAC set-points). CCIs can use contact closures from motion sensors, occupancy/vacancy sensors, timeclock events, mechanical switches, A/V equipment, and security systems.

CCOs can be used to control shades/draperies, motorized projection screens, skylights, A/V equipment, security systems, movable partition walls, timeclock events, and LEDs and lamps (for status indication).

Model Number

QSE-IO Control Interface

QSE-IO Control Interface

Specifications

Model Number	QSE-IO
Power	12–24 V⎓ 100 mA
Typical Power Consumption	2.0 W; 3 Power Draw Units (PDUs); Test conditions: Normally open outputs closed and inputs shorted
Regulatory Approvals	UL, cUL, CE, C-tick
Environment	Indoor use only; 32 °F to 104 °F (0 °C to 40 °C); 0 to 90% humidity, non-condensing
Power Failure	Output relays are non-latching (if relays are closed and power is lost, relays will open).
Wiring	Control wire must be 1 pair 18 AWG (1.0 mm^2) IEC PELV/NEC® Class 2 for power and 1 pair 22 AWG to 18 AWG (0.5 mm^2 to 1.0 mm^2) IEC PELV/NEC® Class 2 twisted/shielded for data (see **Wiring**)
Communications	IEC PELV/NEC® Class 2 wiring connects the QSE-IO Interface to control units and other components.
Link Capacities	QSE-IO counts as one device toward link maximum of 100 devices.
ESD Protection	Meets or exceeds the IEC 61000-4-2 standard
Surge Protection	Meets or exceeds ANSI/IEEE standard c62.41.
Mounting	Surface mount on wall, mount on rack (LUT-19AV-1U), or mount in LV14, LV21, PNL8, or LUT-5x10-ENC enclosures
Dimensions	4.26 in (108.2 mm) x 5.26 in (133.6 mm) x 1.06 in (26.9 mm)
Status LEDs	Five status LEDs turn on when corresponding output is active (on).
DIP Switches	Dip switches do not operate when QSE-IO is part of a HomeWorks® QS system.
Warranty	http://www.lutron.com/TechnicalDocumentLibrary/HomeWorks_Warranty.pdf http://www.lutron.com/TechnicalDocumentLibrary/HomeWorks_Intl_Warranty.pdf

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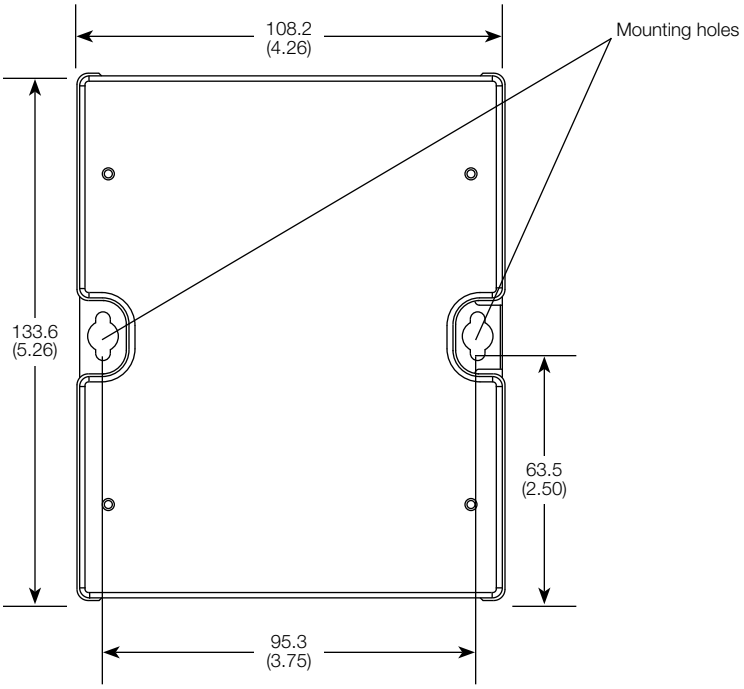
QSE-IO Control Interface

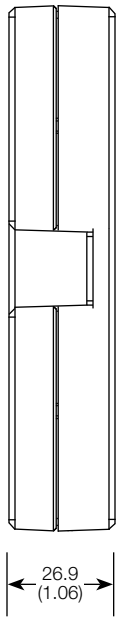
Dimensions

Dimensions shown as: mm (in)

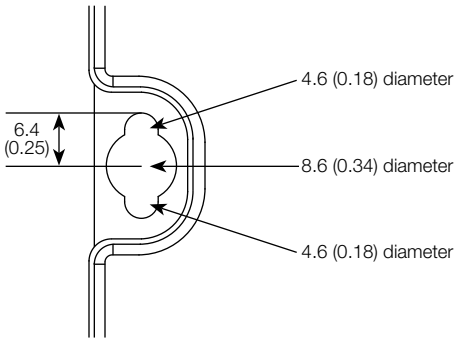
Front View



Side View



Mounting Hole Detail



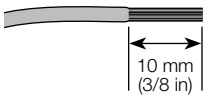
#6 or #8 (M3 or M4) screw recommended

QSE-IO Control Interface

Mounting Options

Mount where terminal blocks, switches, and LEDs are accessible, using #6 or #8 (M3 or M4) screws (not included). Strip 10 mm (3/8 in) of insulation from wires. Each data link terminal will accept up to two 1.0 mm^2 (18 AWG) wires. Connect wiring as shown in the **Wiring** section.

Wire Strip Length



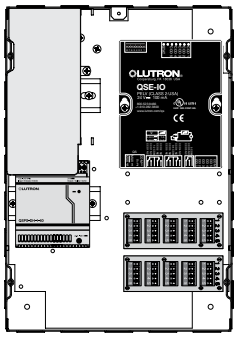
Note: Contact closure output relays click audibly when switching. Mount where this is acceptable.

Choose from the following mounting methods:

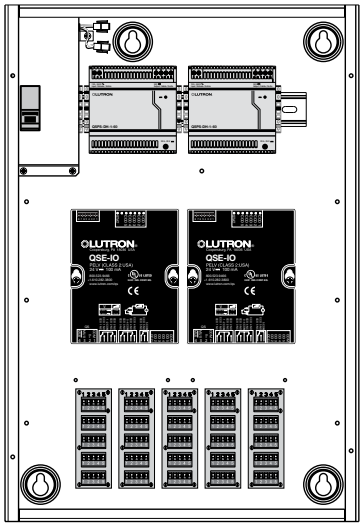
1: Panel Mounting

Mount the control interface in a LV14, LV21, or PNL8 enclosure. The LV14 enclosure can hold only one control interface. The LV21 and PNL8 enclosures can hold up to two interfaces.

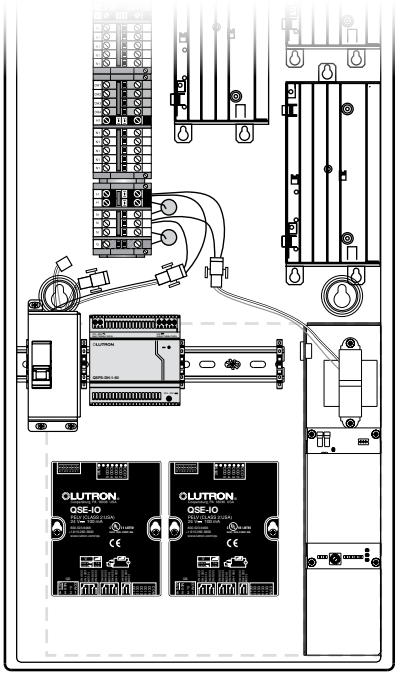
LV14



LV21



PNL8



2: Enclosure Mounting

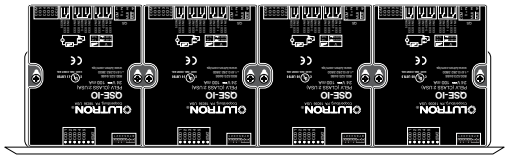
If conduit is desired for wiring, use the LUT-5x10-ENC to mount one control interface.

LUT-5x10-ENC

3: Rack Mounting

Place the unit in the LUT-19AV-1U AV rack which will hold up to four control interfaces.

LUT-19AV-1U



4: Direct Wall Mounting

Mount the control interface directly on a wall. When mounting, provide sufficient space for connecting cables.

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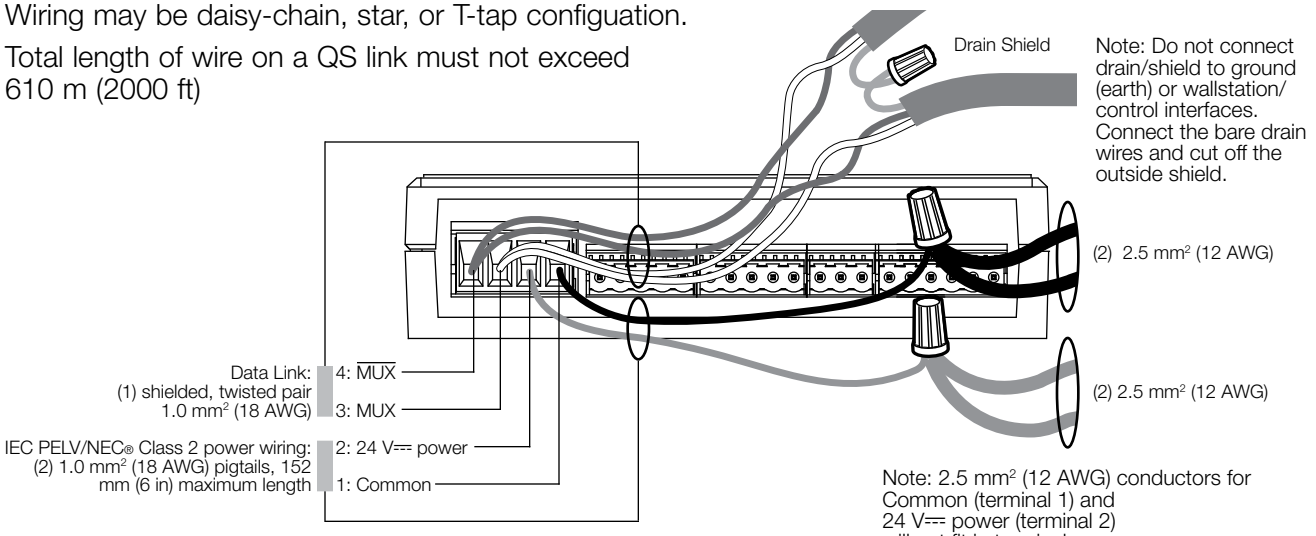
QSE-IO Control Interface

Wiring

QS Link Wiring

- Wire the QSE-IO Interface to the IEC PELV/NEC® Class 2 QS link using the MUX terminal.
- Each terminal accepts up to two 1.0 mm² (18 AWG) wires.
- Wiring may be daisy-chain, star, or T-tap configuation.
- Total length of wire on a QS link must not exceed 610 m (2000 ft)



Note: Use Lutron® Cable GRX-CBL-46L

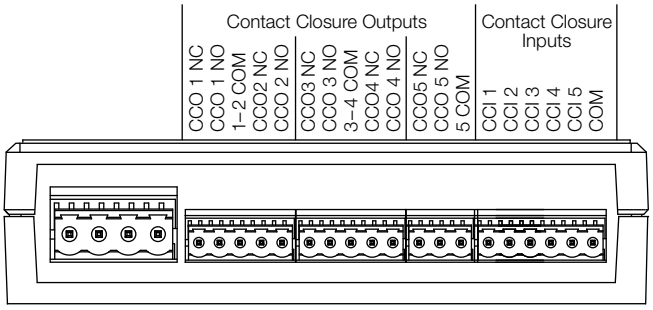
CCO and CCI Wiring

Five Input Terminals

- Accept maintained inputs and momentary inputs with 40 ms minimum pulse times.
- Off-state leakage current must be less than 100 µA.
- Open circuit voltage: 24 V⎓ maximum.
- Inputs must be dry contact closure, solid state, open collector, or active-low (NPN) / active-high (PNP) output.
  - Open collector NPN or active-low on-state voltage must be less than 2 V⎓ and sink 3.0 mA.
  - Open collector PNP or active-high on-state voltage must be greater than 12 V⎓ and source 3.0 mA.

Five Output Terminals

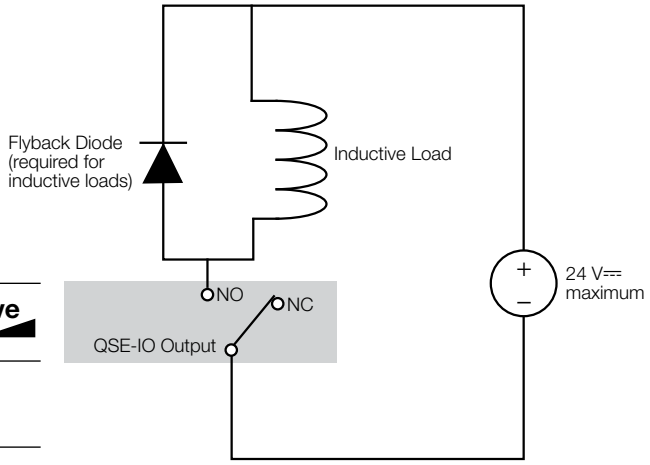
- Provide selectable maintained or momentary (0.25 second) outputs (IEC PELV/NEC® Class 2).
- Outputs can control other manufacturers' equipment.



QSE-IO Control Interface

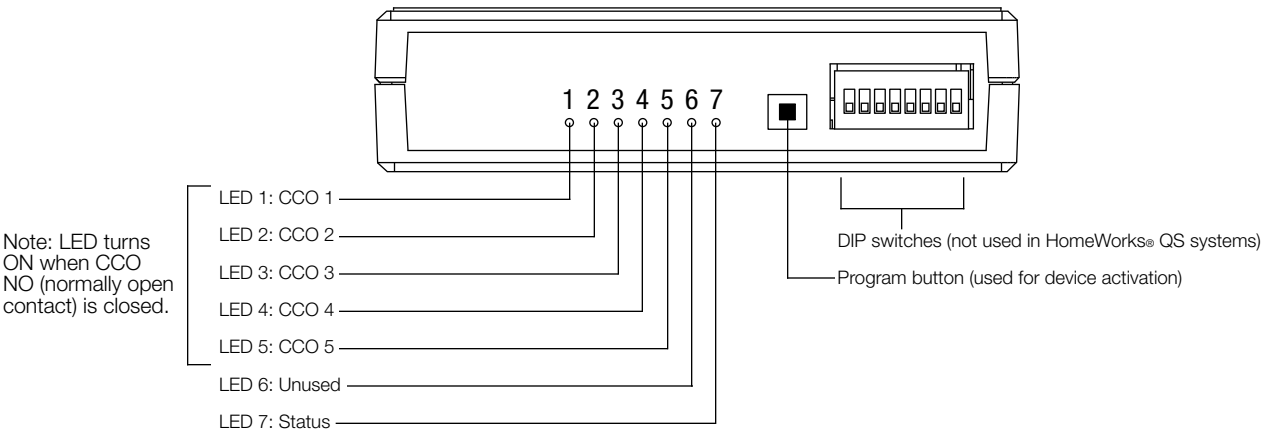
Wiring (continued)

Control of Unclamped, Inductive Loads
The QSE-IO control interface is not rated to control unclamped, inductive loads (e.g., relays, solenoids, motors). To control these types of equipment, a flyback diode must be used (DC voltages only).



Supply Voltage	Resistive Load R
0–24 V⎓	1.0 A
0–24 V∼	0.5 A

Operation



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