QS Sensor Module

The QS Sensor Module (QSM) is a ceiling-mounted device that integrates Lutron® wireless and wired sensors through the wired QS Link on a HomeWorks® QS processor.

- The QSM uses Clear Connect® RF Technology for communication with up to 10 Radio Powr Savr™ occupancy/vacancy sensors and 10 Pico® wireless controls.
- The QSM connects up to four Lutron® wired occupancy sensors.
- No line voltage connections are required because the QSM is powered by the QS Link.

Model Numbers

<table>
<thead>
<tr>
<th>Frequency/Channel Code*</th>
<th>Number of Wired Inputs</th>
<th>Mounting Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>QSM_W_</td>
<td></td>
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</tbody>
</table>

- Frequency/Channel Code*
  - 2 — 431.5 – 436.6 MHz U.S.A., Canada and Mexico
  - 3 — 868.1 – 869.8 MHz European Union and United Arab Emirates
  - 4 — 868.1 – 868.5 MHz Singapore and China
  - 5 — 865.5 – 866.5 MHz India
  - 7 — 433.0 – 434.7 MHz Hong Kong
  - X — No RF

- Number of Wired Inputs
  - 4 — 4
  - X — None

- Mounting Method
  - C — Ceiling Mount
  - J — Junction Box Ceiling Mount

* Contact Lutron for frequency/channel code compatibility with your geographic region if it is not indicated above.
# QS Sensor Module

## Specifications

<table>
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<th>Specifications</th>
<th>Details</th>
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<tr>
<td><strong>Model Numbers</strong></td>
<td>QSM2-4W-C, QSM2-XW-C, QSM2-4W-J, QSM2-XW-J</td>
</tr>
<tr>
<td></td>
<td>QSM3-4W-C, QSM3-XW-C</td>
</tr>
<tr>
<td></td>
<td>QSM4-4W-C, QSM4-XW-C</td>
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<tr>
<td></td>
<td>QSM5-XW-C</td>
</tr>
<tr>
<td></td>
<td>QSM7-4W-C, QSM7-XW-C</td>
</tr>
<tr>
<td></td>
<td>QSMX-4W-C</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>24 V~ 400 mA max (wired input), 100 mA max (no wired input)</td>
</tr>
<tr>
<td><strong>Typical Power Consumption</strong></td>
<td>1.5 W; 3 Power Draw Units* (PDUs), plus 2 PDUs for each wired sensor</td>
</tr>
<tr>
<td></td>
<td>* For more information about PDUs, please see the HomeWorks® QS Wiring and Power Guidelines document on the HomeWorks® QS Resource Website.</td>
</tr>
<tr>
<td><strong>Regulatory Approvals</strong></td>
<td>cUL US, FCC, IC, SCT, CE, TRA, WPC</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>Ambient operating temperature: 32 to 104 °F (0 to 40 °C)</td>
</tr>
<tr>
<td></td>
<td>0% to 90% humidity, non-condensing. Indoor use only</td>
</tr>
<tr>
<td><strong>Communications</strong></td>
<td>The QSM communicates with the system through the Wired QS Link. When communicating via RF, all wireless sensors and Pico® wireless controls must be within 30 ft (9 m) through typical construction materials.</td>
</tr>
<tr>
<td><strong>Link Capacities</strong></td>
<td>The QSM counts as 1 device toward the link maximum of 100 devices. Wired sensors increase the PDU (Power Draw Units) of the QSM.</td>
</tr>
<tr>
<td><strong>ESD Protection</strong></td>
<td>Tested to withstand electrostatic discharge without damage or memory loss, in accordance with IEC 61000-4-2.</td>
</tr>
<tr>
<td><strong>Surge Protection</strong></td>
<td>Tested to withstand surge voltages without damage or loss of operation, in accordance with IEEE C62.41-1991 Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.</td>
</tr>
<tr>
<td><strong>Power Failure</strong></td>
<td>Power failure memory: Should power be interrupted, the QSM will return to its previous state when power is restored.</td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>To ensure optimal wireless range, QSM units should be mounted in the middle of non-metal ceiling tile or drywall, visible from inside the space. Installation near metal other than a junction box may reduce RF range.</td>
</tr>
<tr>
<td><strong>Wiring</strong></td>
<td>QS Link: 22 to 14 AWG (0.5 to 2.5 mm²) IEC PELV/NEC® Class 2 wiring</td>
</tr>
<tr>
<td></td>
<td>Maximum QS Link length 2000 ft (610 m)</td>
</tr>
<tr>
<td></td>
<td>Input: 22 to 14 AWG (0.5 to 2.5 mm²) IEC PELV/NEC® Class 2 wiring</td>
</tr>
<tr>
<td></td>
<td>Use Lutron® cable GRX-CBL-346S (standard) or GRX-PCBL-346S (plenum)</td>
</tr>
</tbody>
</table>
QS Sensor Module

Dimensions

Front View

Side View

Back View
(QSM2-4W-C shown)

Mounting

-C Models

-J Models

Ceiling thickness range for -C models
Min: 0.30 in (7.62 mm)
Max: 1.20 in (30.48 mm)

Use appropriate Mud Ring for ceiling tile thickness

Use Mud Ring with hole spacing shown below.
(Mud Ring not included with any QSM models)
QS Sensor Module

Wiring: QS Link and Wired Inputs

- **Occupancy sensor**
  - Black
  - Blue or Gray
  - Red

- **Input 3**
  - 22 to 14 AWG (0.5 to 2.5 mm²)
  - Lutron Cable GRX-CBL-346S (standard)
  - or GRX-PCBL-346S (plenum)
  - Max. Wired Input wire length 150 ft (46 m) per input

- **QS Link**
  - 22 AWG to 14 AWG (0.5 mm² to 2.5 mm²)
  - Max. QS Link wire length 2000 ft (610 m)

1 Only on QSM models with wired inputs.
QS Sensor Module

System Wiring Diagram

Control power
120-240 V ~

Wired occupancy sensors (up to 4)
Note: Only models with wired inputs

Radio Powr Savr™
occupancy/
vacancy sensor (up to 10 per QSM)

Pico® wireless
control (up to 10 per QSM)

HomeWorks® QS
Processor panel

HomeWorks® QS
Keypad

HomeWorks® Remote Power Module (RPM) panel

QSM

QS Link