# HomeWorks® QS Hybrid Repeaters

HomeWorks® QS Hybrid Repeaters add wireless Radio Frequency (RF) communication and extend the range of RF signals that are sent between dimmers, switches, keypads, visor control receivers, shades/draperies, and other devices. Repeaters ensure error-free communication between system components and prevent interference from neighboring systems.

The first repeater connects to the HomeWorks® QS processor to provide RF communication that extends up to 30 ft (9 m) in every direction. Up to four (4) total Hybrid Repeaters can be used per link to extend the RF range for larger system applications. Each Repeater has an RF range of 30 ft (9 m) between repeater and devices or 60 ft (18 m) between repeaters, covering a total area of approximately 2500 sq ft (232 m²).
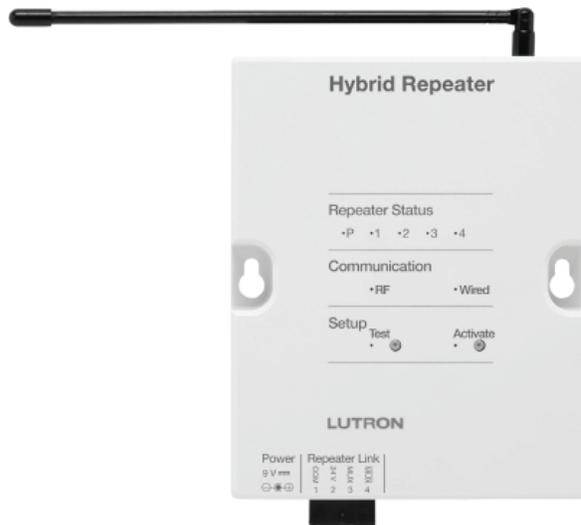
Model Numbers	Frequency
HQR-REP-120	434 MHz
HQK-REP	868 MHz
HQM-REP	868 MHz Limited
HQN-REP	865 MHz
HQR-REP-120-BA	434 MHz (Brazil)
HQQ-REP	434 MHz Limited

Only available in White (WH).

HomeWorks® QS software will select the correct frequency/channel code for compatibility with your particular geographic region.

HomeWorks® QS Hybrid Repeaters

Specifications

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Model Number	HQR-REP-120; HQK-REP; HQM-REP; HQN-REP; HQR-REP-120-BA; HQQ-REP
Power	**Hybrid Repeater:** DC adapter: 9 V⎓ 300 mA Link: 24 V⎓ 50 mA **DC adapter:** Input: 100-240 V∼ 50/60 Hz 6.5 W Output: 9 V⎓ 300 mA
Typical Power Consumption	Hybrid Repeater: 0.6 W Test conditions: one LED on, powered by a 9 V⎓ adapter.
Regulatory Approvals	**Hybrid Repeater:** FCC, IC, COFETEL, CE, CCC, TRA, CTICK, ANATEL, IDA, SUPERTEL, SUTEL
Environment	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only. Unit generates heat, maximum 4 BTU/hr
Low-Voltage Wire Type	Two pair – one pair 18 AWG (1.0 mm^2), one pair 22 AWG to 18 AWG (0.5 mm^2 to 1.0 mm^2) twisted shielded – NEC® Class 2/PELV cable. Required for connecting the first repeater to the processor and may be used to connect additional Hybrid Repeaters.
Communications	The first Hybrid Repeater communicates with the HomeWorks® QS processor on the RF wired link. Subsequent Repeaters may be wired on this link or may communicate over Radio Frequency (RF). All RF devices must be located within 30 ft (9 m) of a Repeater. All Repeaters must be within 60 ft (18 m) of another Repeater.
ESD Protection	Tested to withstand electrostatic discharge without damage or memory loss, in accordance with IEC 61000-4-2.
Surge Protection	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.
Power Failure	Power failure memory: should power be interrupted, the Repeater will return to its previous state when power is restored.
Mounting	Mount on a wall, ceiling, or level surface using the two #6 (M3) screws provided.
Connections	Hybrid Repeater: RS485
Warranty	www.lutron.com/TechnicalDocumentLibrary/warranty.pdf

Design Features

- Test button - enters the RF repeater test mode.
- Activate button - provides repeater activation within system.
- RS485 port to connect to the HomeWorks® QS RF link and to other repeaters through a wired link (daisy-chain).
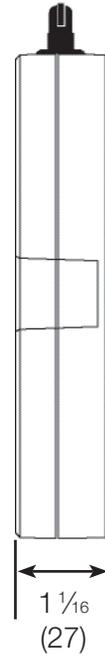
HomeWorks® QS Hybrid Repeaters

Dimensions

Measurements shown as: in (mm)

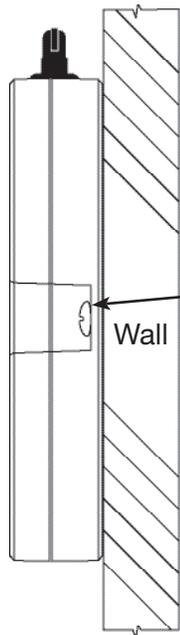**Front View**
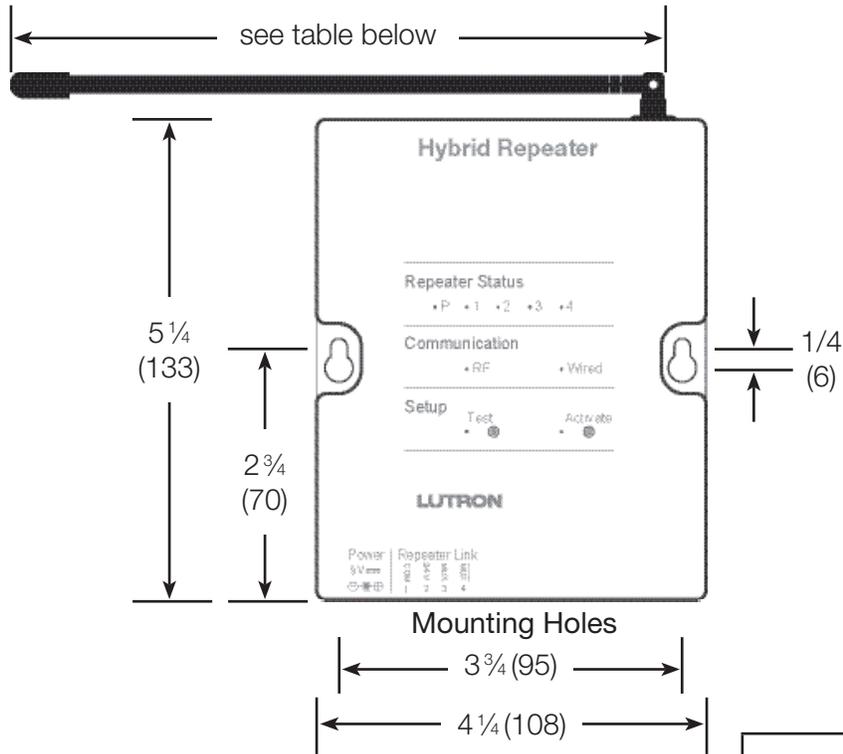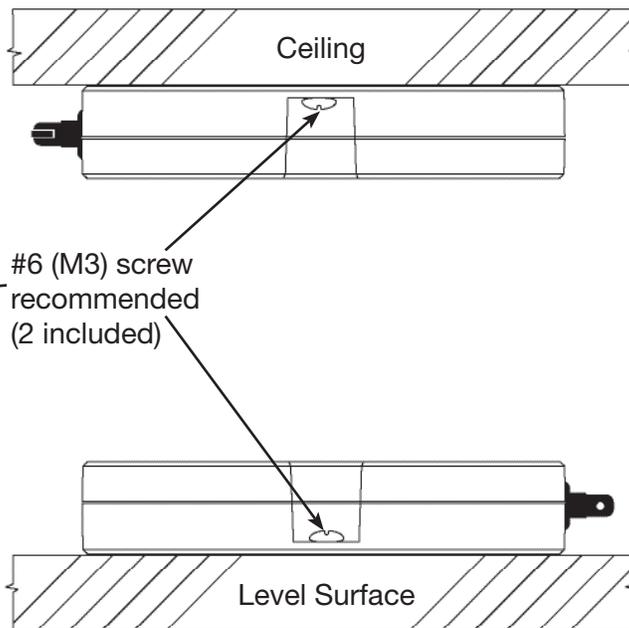
Side View

Model	Dimension
HQR-REP-120, HQR-REP-120-BA, HQQ-REP	6.25 (158.8)
HQK-REP, HQM-REP, HQN-REP	3.13 (79.4)

Mounting

Vertical

Horizontal

#6 (M3) screw recommended (2 included)

HomeWorks® QS Hybrid Repeaters

Operation

Hybrid Repeater

Repeater Status
• P • 1 • 2 • 3 • 4

Communication
• RF   • Wired

Setup
Test   Activate

LUTRON

Power | Repeater Link

Repeater Status
• P • 1 • 2 • 3 • 4

Communication
• RF   • Wired

Setup
Test   Activate

Repeater Status LEDs
Displays the activation status or test status of the Repeaters in the system.

RF and wired LEDs
Displays the Tx / Rx activity on the RF and wired links. (Green=Tx; Orange=Rx)

Test and Activate Buttons
Press and hold to enter the system into Test mode or Activate mode.

Test and Activate LEDs
Flashes green to indicate that the system is in Test mode or Activate mode.

Wired and RF Configuration

Hybrid Repeater

30 ft (9 m) maximum

30 ft (9 m) maximum

30 ft (9 m) maximum

HWQS Processor

RF Link
60 ft (18 m) maximum

Wired Link (Daisy-chain)
1000 ft (305 m) maximum
IEC PELV / NEC® Class 2 cable
Two pair – one pair 18 AWG
(1.0 mm²), one pair 22 AWG to
18 AWG (0.5 mm² to 1.0 mm²)
twisted shielded.
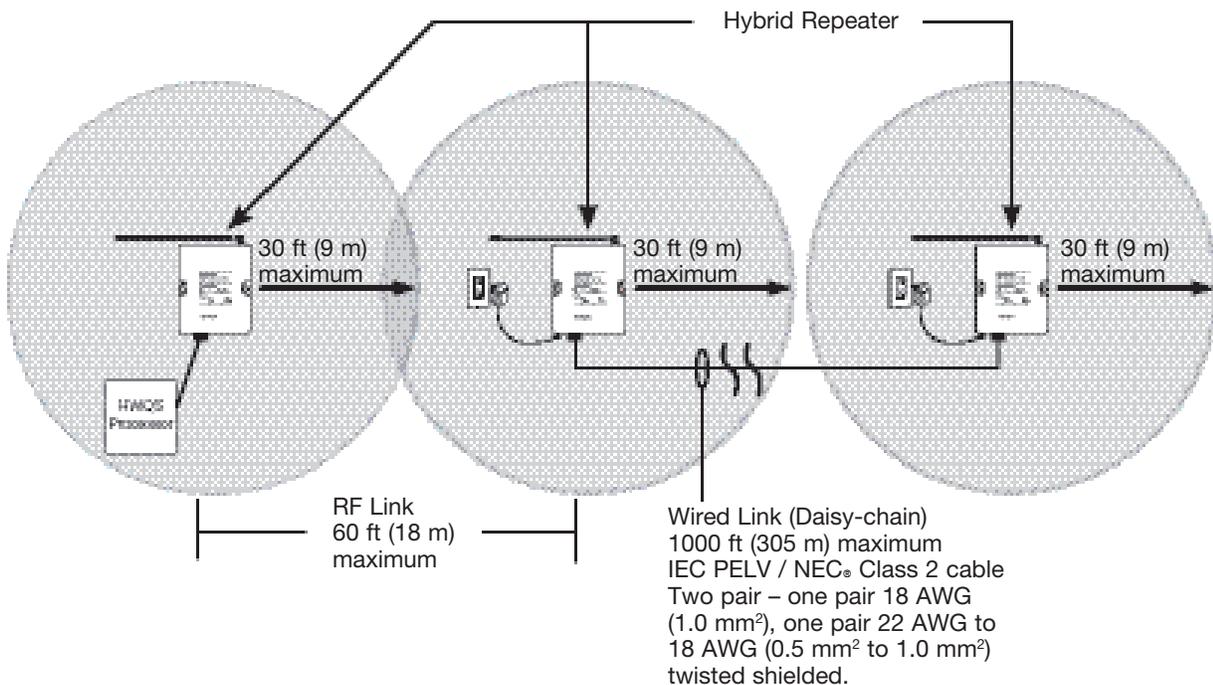
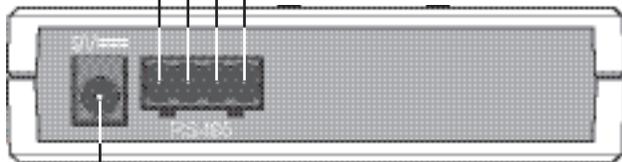# HomeWorks® QS Hybrid Repeaters

Connections

Top View

RF range:
To Repeater:
60 ft (18 m)

To other devices:
30 ft (9 m)

Bottom View

Wired Link (Daisy Chain)
maximum 1000 ft (305 m)

COM
24 V⎓ Power Input
MUX
$\overline{\text{MUX}}$

Power Jack (to adapter)
IEC PELV / NEC® Class 2
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NOTE: Power must be provided by a 9 V⎓ adapter or 24 V⎓ power on the HomeWorks® QS processor link.