Application Note #680

LUTRON

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Fan Control in a myRoom System

Overview

The Room Control System (RCS) in guestroom applications often needs to be capable of controlling ceiling fans, especially in humid climates. While some ceiling fans use proprietary control methods, there are some ceiling fans that offer various control options.

The myRoom Prime and myRoom Plus systems are capable of interfacing with select ceiling fans and use the current state of the guestroom (e.g., occupied/unoccupied, sold/unsold) to control the fan automatically to save energy. This document will address the products that can be used in both myRoom Prime and myRoom Plus systems, and the methods of control used to interface with ceiling fans.

Control Options

Ceiling fans that can interface with 3rd party controls can typically be identified in one of the following ways:

- The speed of the fan is adjusted via a pull-chain.
- Other methods of control are specified in the data sheet for the fan.
- The fan does not have a proprietary remote or control to adjust the speed of the fan.

Standalone Controls (no myRoom system integration)

120 V~

If the ceiling fan does <u>not</u> need to be integrated into a myRoom system, the Lutron fan-speed wallbox controls can be used to control the fan in the guestroom regardless of the system type. See the following Lutron product pages for more information on these types of products and their compatibility with ceiling fans:

- Diva Fan Control (DVFSQ- series)
- Maestro Fan Control and C)L Dimmer (MACL-LFQ series)
- Skylark Fan Control (SFS- series)
- Skylark Contour Fan Control (CTFSQ-F series)
- Ariadni/Toggler Fan Control (AYFSQ- series)
- Rotary Fan Control (FS- series)

Note: Verify that the desired fan control coordinates with the color and aesthetics of the other controls in the guestroom. Palladiom keypads will not gang with the options mentioned above.

230 V~

If the ceiling fan does <u>not</u> need to be integrated into a myRoom system, the following fan controls have a coordinating aesthetic with Lutron Palladiom guestroom solutions:

- T&J Electric Lavina™ Line
 - JC2-M3 (500 VA 230 V~)
- T&J Electric Deco™ Line
 - W2726 (400 VA 230 V~)
 - W2716 (400 VA 230 V~)
 - W2774 (400 VA 230 V~)

Note: T&J Electric Lavina_{TM} and Deco_{TM} lines are not guaranteed to be a complete color match with Lutron Palladiom finishes. Contact your local Lutron representative for more information.

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Control Options (continued)

System Integrated Controls

myRoom Prime Solutions

myRoom Prime systems offer the following control topologies that can be used to interface with ceiling fans.

Note: Typically, fans have horsepower (HP) and current (A) ratings above the ratings of a myRoom 1 A module; therefore, interfaces may be needed for control.

- On/off control (e.g., MQSE-4S1-D with PHPM-SW)
 - This option does not offer speed control unless a pull-chain is accessible to the guest.
 - This option can be used to turn on a fan to a pre-determined level and off. When energized, the fan will operate at the pull-chain speed setting.
- Phase-cut dimming (e.g., MQSE-4A1-D with PHPM-PA* or NGRX-PB)
 - This option can be used to control fans that are suitable for use with solid-state controls.
 - Big Ass Fans_® Isis_® line offers compatibility with this control topology.
- 0-10 V== control (e.g., MQSE-4A1-D with GRX-TVI)
 - This option can be used to control fans that accept a 0-10 V=== input signal.
 - Big Ass Fans_® Haiku_® line offers options using this control topology.

myRoom Plus Solutions

myRoom Plus systems offer the following control topologies that can be used to interface with ceiling fans:

- On/off control (e.g., MQSE-4S1-D with PHPM-SW)
 - This option does not offer speed control unless a pull-chain is accessible to the guest.
 - This option can be used to turn on a fan to a pre-determined level and off. When energized, the fan will operate at the pull-chain speed setting.
- Phase-cut dimming (e.g., MQSE-4A1-D with PHPM-PA* or NGRX-PB)
 - This option can be used to control fans that are suitable for use with solid-state controls (e.g., dimmers).
 - Big Ass Fans_® Isis_® line offers compatibility with this control topology.
- 0-10 V== control (e.g., MQSE-4A1-D with GRX-TVI)
 - This option can be used to control fans that accept a 0-10 V=== input signal.
 - Big Ass Fans_® Haiku_® line offers options using this control topology.
- Dry contact closure integration (QSE-IO)
 - This option can be used to control fans that have separate dry contact inputs for each fan speed selection.
- Ethernet/serial integration (GCU-HOSP-1)
- Permanent split-capacitor motor control (HQRD-2ANF)
 - This option is only available in 120 $V\sim$ regions.
 - This option is used to control motors that typically have a pull chain. It is not designed to control motors that have an integrated fan-speed control.
 - Using this method requires setting the pull-chain speed to "high" and removing or disabling the pull-chain.

Communicate with the fan manufacturer to determine if any of these control topologies are applicable to the fan being used in the application. If none of these topologies can control the fan directly, the fan can be controlled indirectly by either energizing/de-energizing the circuit upstream of the control, as explained in the first method above, or through other events in the system.

Once specific fan information has been obtained, contact your local Lutron representative to design the fan control solution for the guestroom.

^{*} PHPM-PA may or may not be used in certain applications where forward-phase dimming is required. Contact your local Lutron representative for clarification regarding the specific application.



Additional Resources

Lutron has a wide variety of systems and solutions. The same principles described in this document can also extend to those other systems and solutions.

For more information regarding Lutron myRoom solutions, visit www.lutron.com. If you require assistance on a project, contact your local Lutron representative. For technical questions regarding compatibility, contact the System Sales Engineering team at systemsalesengineers@lutron.com.

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