Joining multiple Room Controllers via the keypad interface

Overview

The Room Controller Wallstation interface provides +24 VDC power for up to twelve wall mounted switch stations. Each wallstation can support multiple pre-configured control functions. These include zone (load) toggles, or preset scene trigger commands. This also allows multiple wallstations to use the same interface port on a Room Controller. Wallstations can also share the same control function in different locations creating a multi-way control scenario.

Lighting control scenarios can take further advantage of this method by connecting one or more wallstations to up to four Room Controllers. The wallstation is equipped with two RJ45 connectors to allow the signals to pass through to another wallstation. Each connector on a wallstation can then be connected to a different wallstation or Room Controller for simultaneous control of both panels via any of the wallstations. This is depicted in Figure 1 below.
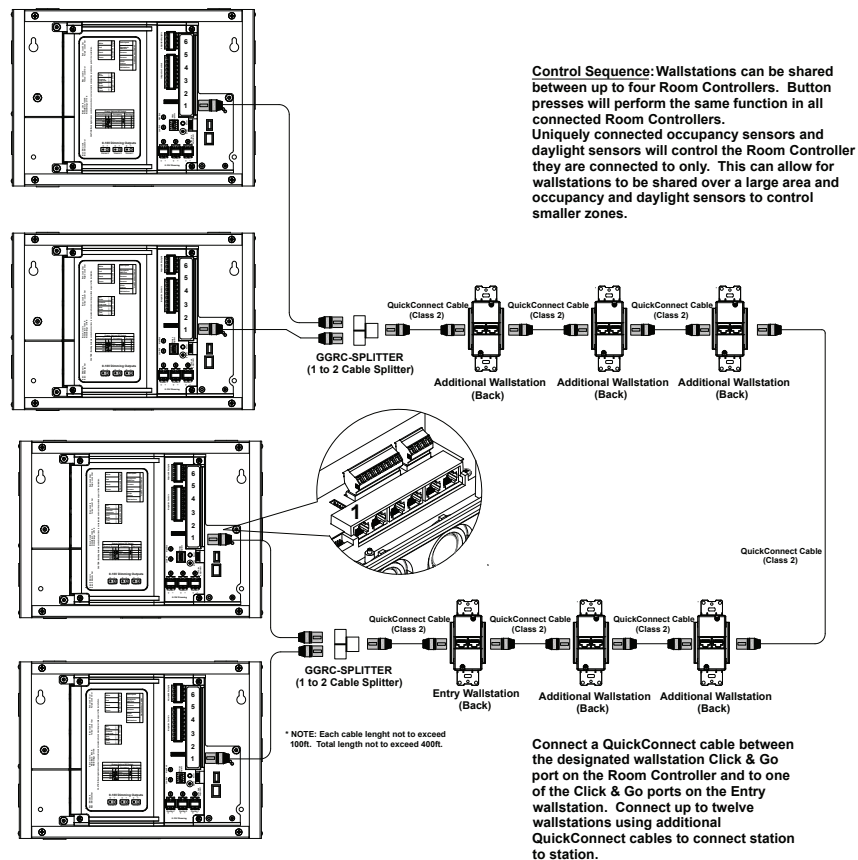

Control Sequence: Wallstations can be shared between up to four Room Controllers. Button presses will perform the same function in all connected Room Controllers.
Uniquely connected occupancy sensors and daylight sensors will control the Room Controller they are connected to only. This can allow for wallstations to be shared over a large area and occupancy and daylight sensors to control smaller zones.

Connect a QuickConnect cable between the designated wallstation Click & Go port on the Room Controller and to one of the Click & Go ports on the Entry wallstation. Connect up to twelve wallstations using additional QuickConnect cables to connect station to station.

Figure 1. Joined Keypad Interfaces Between Four Room Controllers

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Technical Details

The +24 VDC power for the wallstation will be supplied by at least one of the Room Controller wallstation ports. Each port has a series diode for over-voltage protection of the power output, which allows two ports to be connected on the same Cat5e cable without damage. However, one or both ports may supply power to the wallstations depending on the voltage drops of the two diodes.

Up to twelve Room Controller Wallstations may be shared with up to four Room Controllers to provide large area control with shared multi-way wallstation configurations.

The +24 VDC external power limit, which is approximately 90mA across all of the external ports, allows for multiple device connections. The application note Room Controller accessory power allocation details the DC current usage of each Room Controller accessory. Any combination of accessories may be connected to the sensor, keypad and slider RJ45 jacks as long as the maximum current limit is not exceeded.

Note: The Quiet Time LED on every Quiet Time button on any of the keypads, if equipped, will be illuminated when Quiet Time Mode is entered on any of the keypads.

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