Greengate

Room Controller – Network Node Upgrade

⚠ **SAFETY INSTRUCTIONS** ⚠

IMPORTANT SAFEGUARDS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- Installation should be performed by a qualified electrician
- Installation shall be in accordance with all applicable local and NEC codes
- Turn the power off at circuit breakers before wiring
- RC3DE models may contain circuits from more than one power source
- Designed for indoor installation and use only
- All new wiring must be fully verified before applying power
- Servicing of equipment should be performed by qualified service personnel
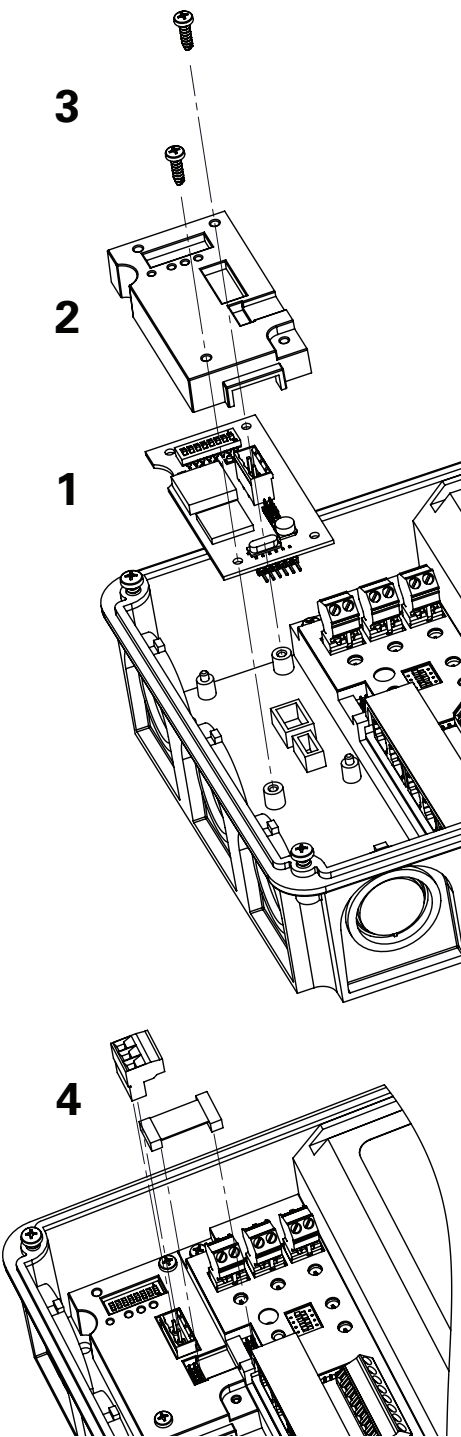
SAVE THESE INSTRUCTIONS

System Overview
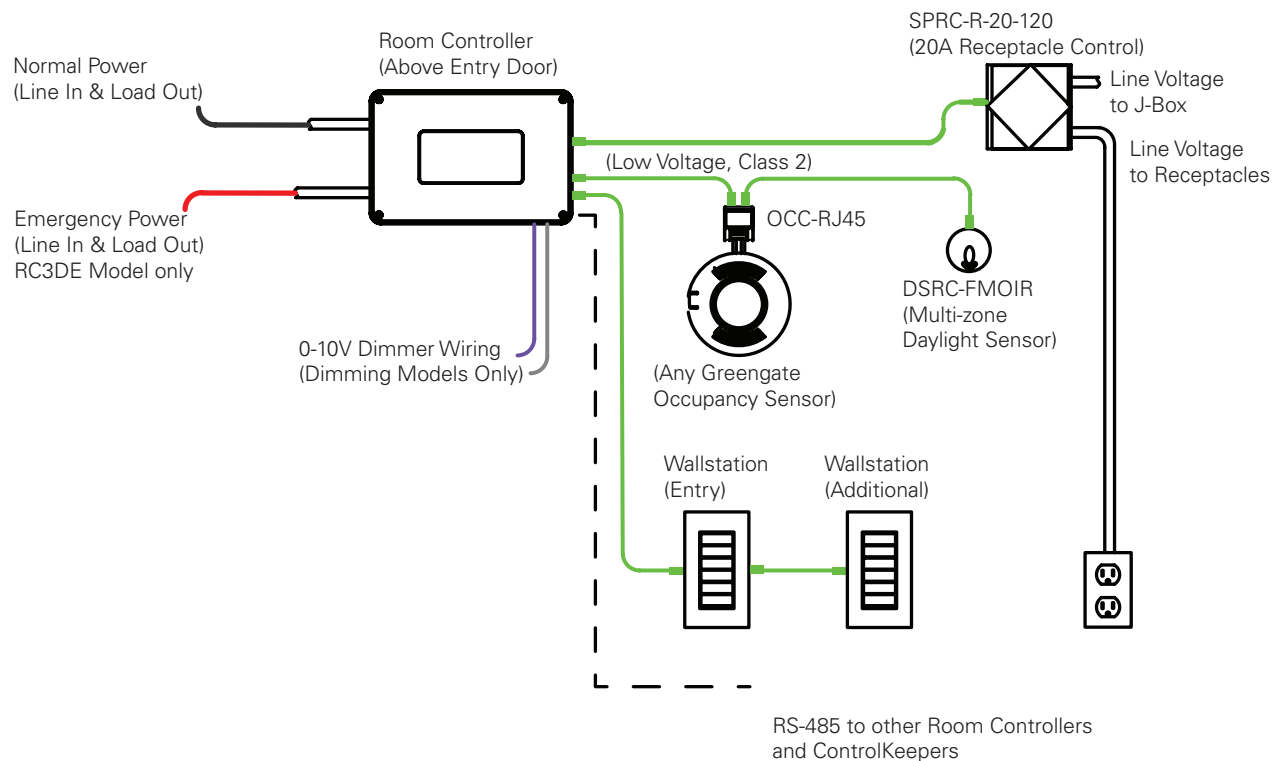
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Network Node Installation

1. Insert Netork Node (Part# RCNN)
2. Install Cover
3. Secure cover in place with two screws
4. Install electrical connectors

Room Controller Firmware

The Room Controller must be updated to the latest firmware version for the Network Node to work. Contact Eaton Lighting systems technical support for information on updating Room Controller Firmware.

Room Controller Networking

This section applies to the RC3-PL-N, RC3D-PL-N and RC3DE-PL-N Room Controller models.

Room Controller Network Node

The diagram below calls out some of the various components of the network node.
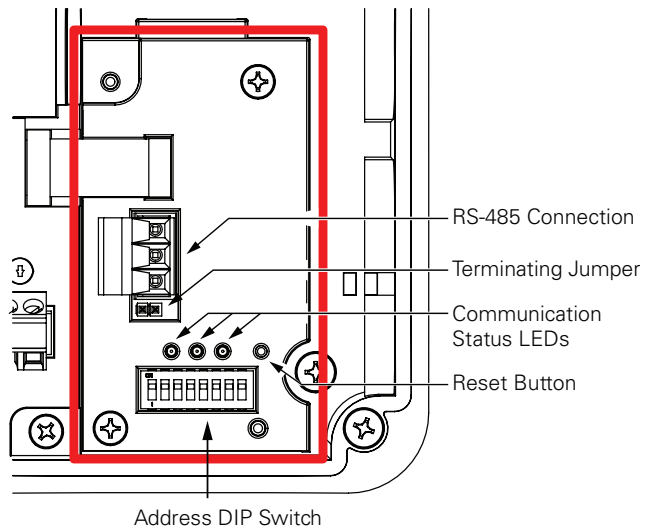
Network Wiring Notes

The Room Controller network is designed to communicate with other Room Controller and ControlKeeper network panels using a lighting control RS-485 network for communications. This allows the panels to share information and to be programmed from a central location using the Keeper Enterprise Software.

Please refer to Table 1 for information on recommended network cables.

Acceptable Network Wiring	Suggested Cable	Eaton CAT#
Standard RS485	Belden 9841 (Shield is not used)	GG9841
Plenum RS485	Belden 89841 (Shield is not used)	GG89841

Table 1. Network Wiring Recommendations

For best network performance, one of the suggested cables should be used. If the specified cable is not used and communications problems occur that require troubleshooting assistance, additional charges for support may be assessed.

1. All low voltage wiring is Class 2.

2. All low voltage wiring must enter the cabinet from the low voltage section of the enclosure.

3. All low voltage wiring must be run in separate conduit from line voltage wiring.Test all network wiring for shorts to AC ground before connecting to the Room Controller.

4. If using Belden 9841 or 89841, ensure shields are taped back and not connected to any metal surfaces.

5. Panels and devices on the RS-485 lighting network should be daisy-chained. Do not create a Star or T-Tapped configuration.
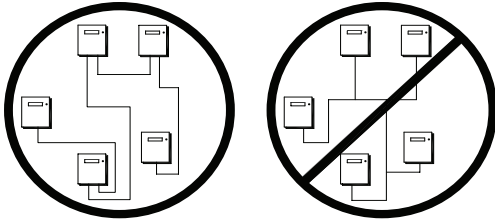
6. Total network length should not exceed 4000 feet.

Network Wiring Detail

The diagram below illustrates the networking of the Room Controllers. Pull the twisted pair wiring in conduit along the planned route, making certain that it is separated from any line voltage wiring.

To network Room Controllers together:

1. Select end panels to establish the beginning and end of the network

2. The end panels will have the network termination jumpers installed and the panels in between will have them removed.

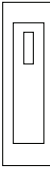3. Wire the panels together per the diagram below. For clarity the network node is seen below.

End Panel
Jumper installed

Middle Panel(s)
Jumper Removed

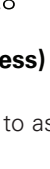**End Panel**
Jumper installed
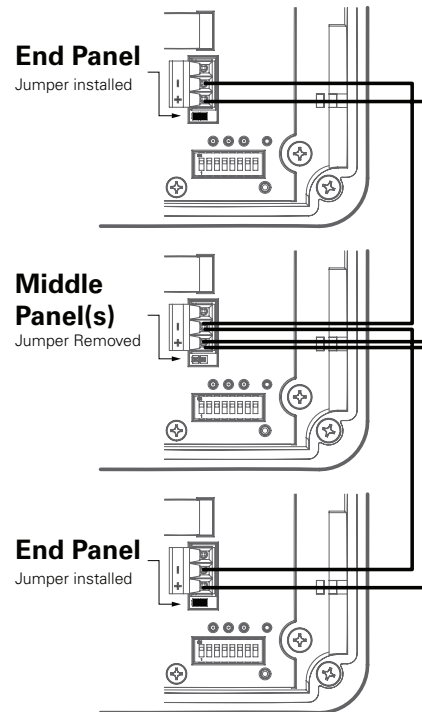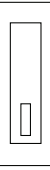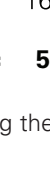
Room Controller Network Topology
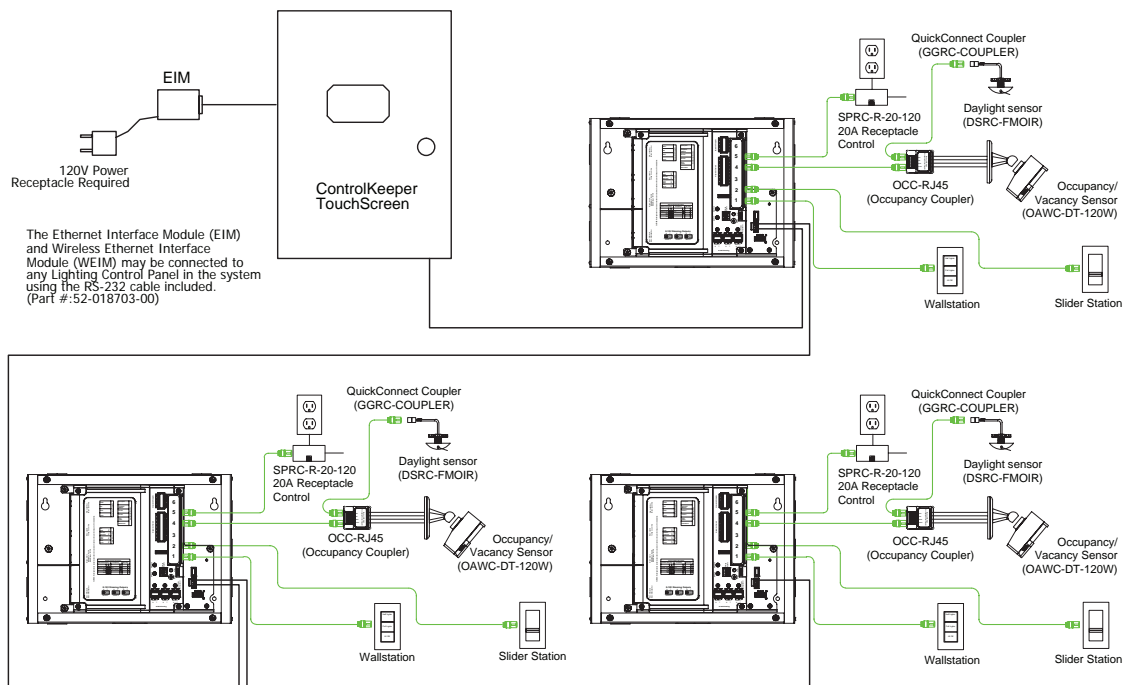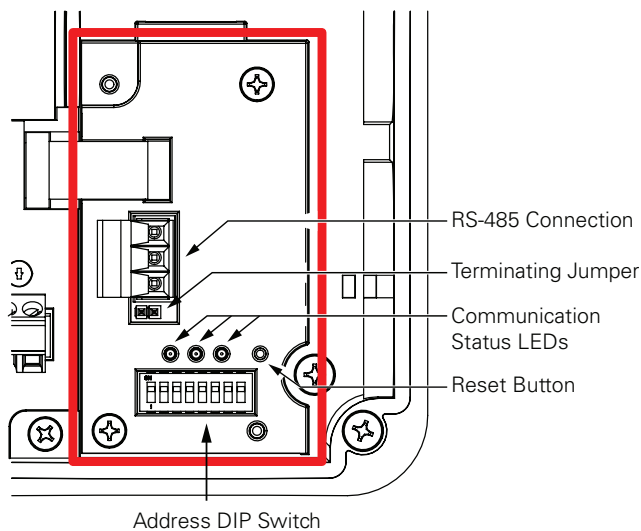
Network Address Switch Detail

After networking each panel an address will have to be assigned to each using the network address DIP Switch. The example below describes its use to address the room controller. Each switch position (1–8) has a value associated with it (1–128). Addresses 1 through 254 are valid for use but 255 (all values added together) is reserved for system use and should not be used.

1. Add the value for each switch position that is On to obtain the panel address.

Switch Position	1	2	3	4	5	6	7	8	
									ON
									OFF
Value	1	2	4	8	16	32	64	128	

1 + 4 = 5 (Panel Address)

2. Issue a soft reset by pressing the reset button to assign the address to the panel.

RS-485 Connection

Terminating Jumper

Communication Status LEDs

Reset Button

Address DIP Switch

Catalog Numbers

RC3
RC3D
RC3DE
RC3-PL
RC3D-PL
RC3DE-PL
RC3-PL-N
RC3D-PL-N
RC3DE-PL-N

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