Greengate
energy conservation systems

Room Controller - Private Office
w/Daylight Dimming

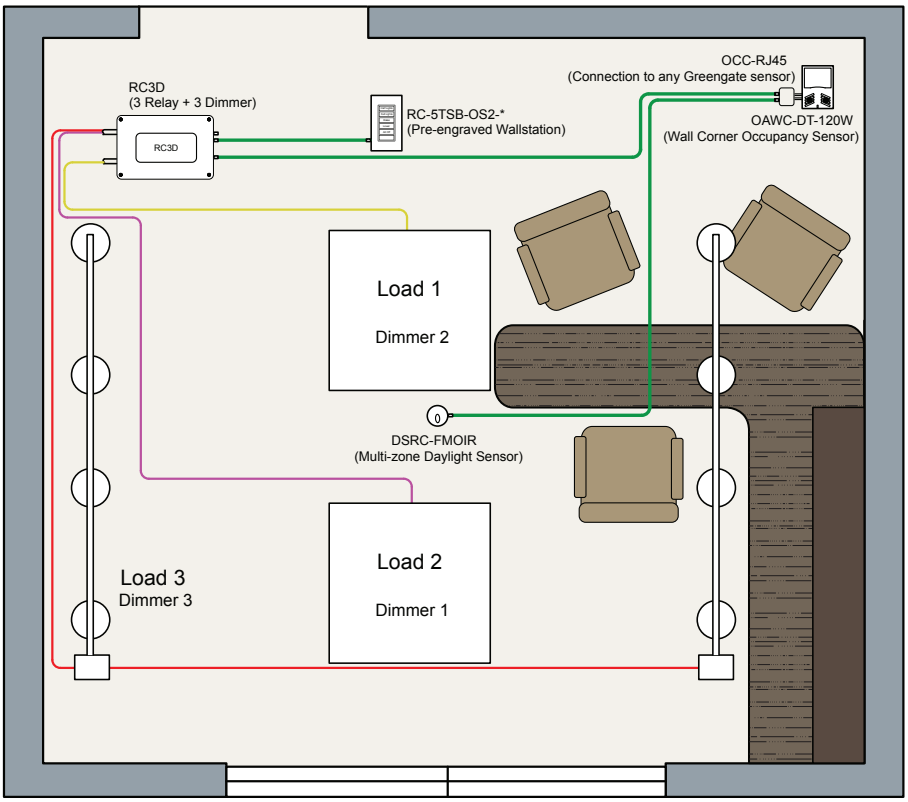
SUMMARY

A well designed office space requires an advanced energy-efficient design and highly controllable lighting. This application illustrates how offices can take advantage of strategies such as daylighting, Manual On/Automatic Off to achieve energy savings up to 52% and achieve higher quality lighting.

The Room Controller QuicKit is shipped preconfigured to work out-of-the-box minimizing installation and setup time, while ensuring maximum energy savings. Using this design guide to specify your room with a Room Controller QuicKit catalog number will guarantee that after installation the lighting control system will work immediately as defined on this application guide.

ROOM CONTROLLER SAMPLE ROOM LAYOUT (10' X 10')

Room Controller QuicKit
RCQK-OS3-OS2-W1-D1-W



Product Legend

QTY1: RC3D
3 RELAY + 3 DIMMER

QTY1: RC-5TSB-OS2-W
(HALF LIGHTS, FULL LIGHTS, RAISE, LOWER, ALL OFF)

QTY1: DSRC-FMOIR
DAYLIGHT SENSOR

QTY1: OAWC-DT-120W
WALL CORNER VACANCY SENSOR

QTY1: OCC-RJ45
OCCUPANCY SENSOR RJ45 CONNECTOR

QTY1: GGRJ45-10-G
QUICKCONNECT CABLE 10'

QTY2: GGRJ45-25-G
QUICKCONNECT CABLE 25'

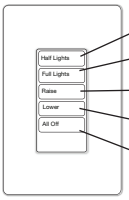
RECESSED FIXTURE

SINGLE BOX PACKAGING WITH WIRING DETAIL AND INSTALLATION

FOR GUARANTEED COMPATIBILITY REFER TO PREFERRED COOPER LIGHTING FIXTURE INFORMATION BELOW.

CONTROL SEQUENCE

- Manual On/Automatic Off or Automatic On (50%)/Automatic Off
- Bi-level Switching (option with fluorescent)
- Occupancy based HVAC or Egress control
- Automatic multi-zone daylight dimming out-of-the-box
- Automatic Demand Response 10%-40% reduction based on input
- High-end trim/tuning to define target light levels
- After-hours warn offs and timers to ensure maximum efficiency and savings



1. Preset - Load 1 On & 50% Dimmers
2. Preset - Load 1, 2, 3 On & 100% Dimmers
3. Raise Dimmers 5%
4. Lower Dimmers 5%
5. All Loads Off

RC-5TSB-OS2-W

INTEGRATED CAPABILITIES

Occupancy/Vacancy Sensing | Daylighting Control | Manual Control | Integration | Demand Response

COOPER LIGHTING GUARANTEED COMPATIBLE FIXTURES

Metalux LED	Room Controller Classroom Lighting Layouts
Metalux LFL	Room Controller Classroom Lighting Layouts
Corelite LED	Room Controller Classroom Lighting Layouts
Corelite LFL	Room Controller Classroom Lighting Layouts

Refer to these Cooper Lighting data sheets for lighting layouts and illuminance value information.

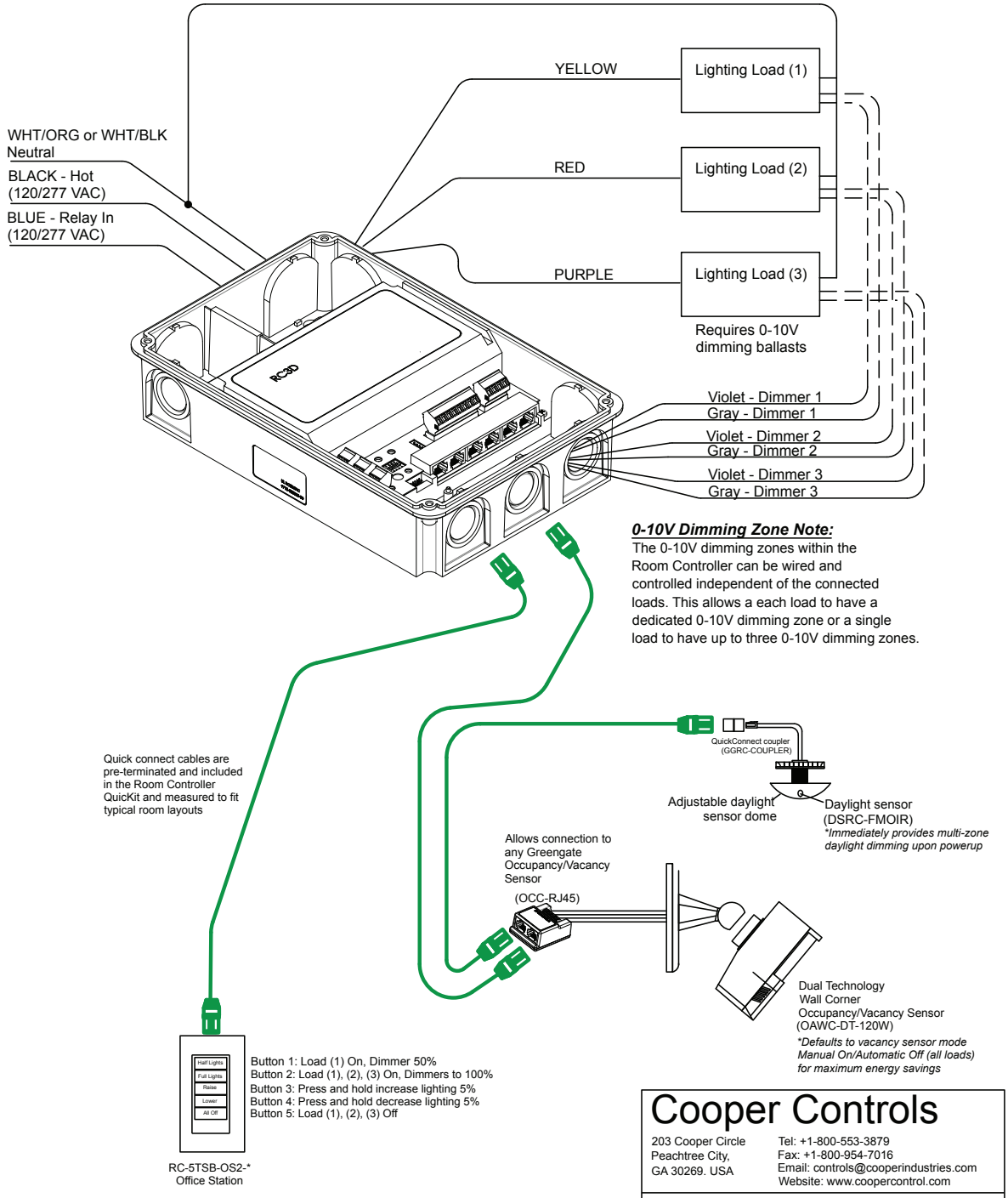
ROOM CONTROLLER AND SMART DEVICES USE CLICK & GO TECHNOLOGY

The RC3D will automtically recognize any smart device connected with the quick connect cable (provided) and start working immediately upon power up with no programming required.

The RC3D defaults to Manual On/Automatic Off vacancy sensor mode for maximum energy savings. Office stations provide On/Off control of the Yellow, Red and Purple loads as well as manual Raise/Lower of all dimmers.

The daylight sensor will automatically provide multi-zone daylight dimming in the space. (Remote adjustments can be made later.)

*Refer to Room Controller website for more information on other integral no programming required benefits like Demand Response, Solatube Control, Egress Control, BMS Output, Alert Mode, Emergency Lighting Control, and Slider Stations.



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Room Controller - RC3D
Three Relay + Three Dimmers Wiring Diagram

Drawing Name:	Drawing Date:
RC3D-Office.dwg	1/10/2013

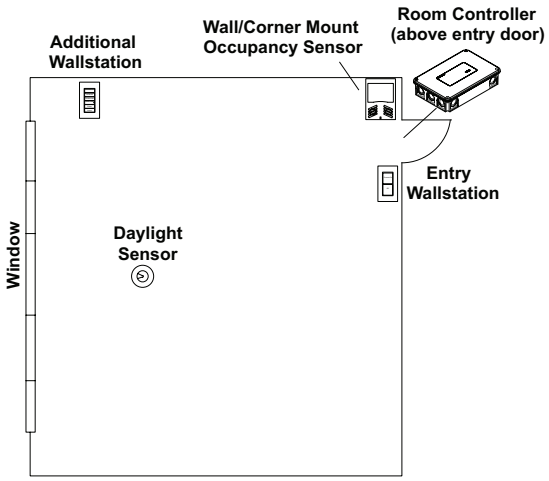
MOUNTING THE ROOM CONTROLLER

The Room Controller mounts above the ceiling in the space it is controlling, typically above the door to the room. The Room Controller include breakouts for direct conduit connection limiting the need for additional junction boxes. Mount the Room Controller using the keyhole slots at the top and secure to the wall using the holes at the bottom of the Room Controller.

Connect conduit to the line voltage breakout connections and connect the line and load wires. Connect low voltage cables either through the low voltage breakout openings or by connecting low voltage conduit to the breakouts on the low voltage side of the Room Controller.

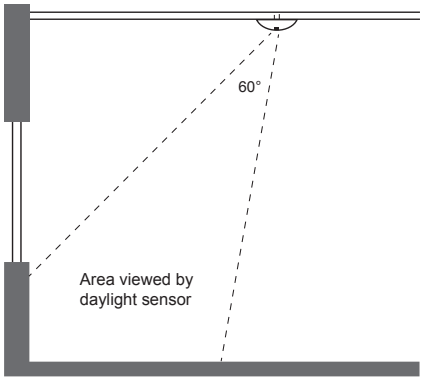
Sample Placement Diagram

(for example purposes only)

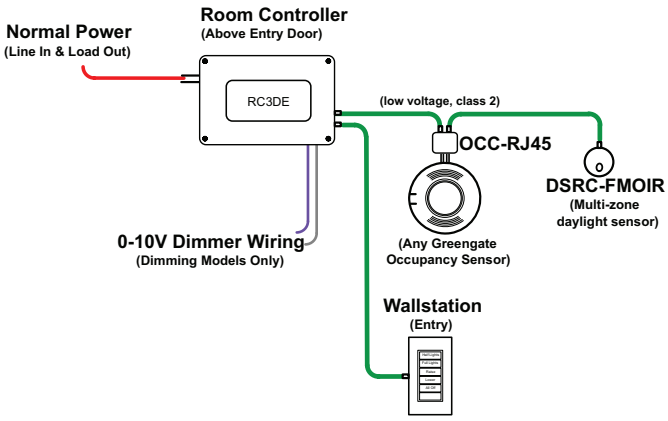


Daylight Sensor Ceiling Location

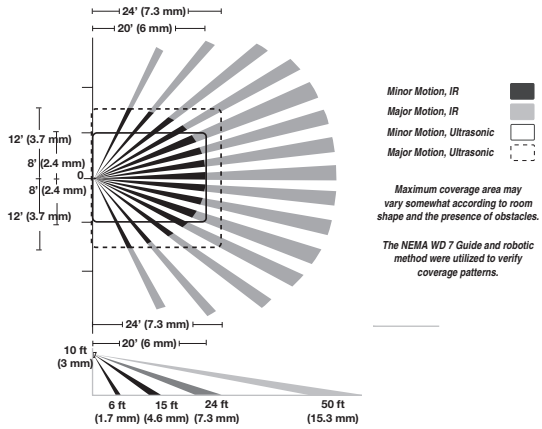
1. Mount the daylight sensor one to two times the window height from the window wall.
2. Position the sensor so its arrow is pointed toward the nearest window.
3. Ensure the daylight sensor is not obstructed or looking directly at electric light.
4. For narrow spaces mount the daylight sensor near the window facing into the space.



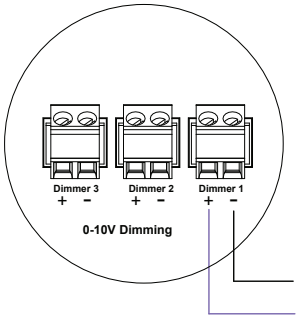
WIRING DIAGRAM



OCCUPANCY SENSOR COVERAGE DIAGRAM (OAWC-DT-120W)



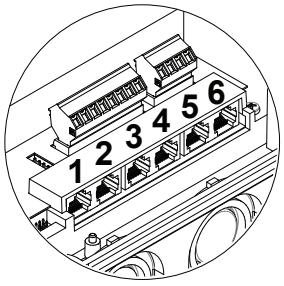
CONNECTIONS



Room Controller 0-10V Dimming Connections

Dimmer 1: Near the Window
Dimmer 2: Middle of Room
Dimmer 3: Far from Window

The daylight sensor will automatically provide multi-zone dimming based on this wiring configuration



Room Controller and Smart Devices use Click & Go Connections

1. Wallstations (up to four)
2. Slider Station Connection (one)
3. Occupancy Sensors (up to two)
4. Daylight Sensor (one)
5. Receptacle Control or BMS Output
6. Switchpack (controlled with Load 1 for alternate voltage)

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ORDERING

RCQK - OS3 - OS2 - W1 - D1 - W

Room Controller
QuicKit

Types of Space and Control
OS - Office Switching (RC3)
OS2 - Office 2 Zone Dimming (RC3D2)
OS3 - Office 3 Zone Dimming (RC3D)
OS3E - Office 3 Zone Dimming and and Emergency Relay (RC3DE)

Office Stations (Choose up to 4)
OS1 - Half Lights, Full Lights, All Off (3 Large Buttons)
OS2 - Half Lights, Full Lights, Raise, Lower, All Off † (5 Small Buttons)
OS3 - Half Lights, Full Lights, Under Cabinet, Raise, Lower, All Off † (6 Small Buttons)
OS4 - All On, All Off (2 Large Buttons)
CR1 - General, Meeting, Whiteboard, Presentation, Raise, Lower (6 Small Buttons - Scenes)
SS1 - Slider Station ††

Occupancy Sensor
C1 - Ceiling DT 2000 sq. ft.
C2 - Ceiling PIR 1500 sq. ft.
C3 - Ceiling DT 1000 sq. ft.
W1 - Wall Corner DT
W2 - Wall Corner PIR
W3 - Hallway PIR

Daylight
D1 - Multi-zone Daylight Sensor
DH - Multi-zone Daylight Sensor w/ Handheld Remote

Station Color
W - White
G - Gray
V - Ivory
B - Black

*Catalog number automatically includes low voltage connection cable, wallplates and connectors based on room type and configuration.

PRE-DEFINED WALLSTATION MODEL NUMBERS

RC-3TLB-OS1 RC-5TSB-OS2 RC-6TSB-OS3 RC-2TLB-OS4 RC-6TSB-CR1

*For site specific engraving, please see the Room Controller Wallstation custom engraving form on the Cooper Controls website

APPLICATIONS

Office Application Button Functionality

Program No.	Button Text	Control Type	Function (Unless a target level is indicated, the dimmer output will default to daylight sensor control)
9	Half Lights	Preset	Load 1 (yellow) ON, Load 2 (red) OFF All Dimmers 50% Solatube Open (RC3DE only)
10	Full Lights	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON All Dimmers 100%
11	Undercabinet	Toggle	Load 3 (purple) ON and OFF
6	Raise	Raise	Raise All Dimmers†
7	Lower	Lower	Lower All Dimmers†
16	All On	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON All Dimmers 100%
8	All Off	Preset	Load 1 (yellow) OFF, Load 2 (red) OFF, Load 3 (purple) OFF Solatube Closed (RC3DE only)
Slider		Slider	Raise and Lower All Dimmers††

Conference Room Application Button Functionality

Program No.	Button Text	Control Type	Function (Unless a target level is indicated, the dimmer output will default to daylight sensor control)
12	General	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON Dimmer 1: 100%, Dimmer 2 80%, Dimmer 3 80% Solatube Open (RC3DE only)
13	Meeting	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON Dimmer 1: 80%, Dimmer 2 20%, Dimmer 3 100% Solatube Open (RC3DE only)
14	Whiteboard	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON Dimmer 1: 50%, Dimmer 2: 100%, Dimmer 3: 50% Solatube Closed (RC3DE only)
15	Presentation	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON Dimmer 1: 30%, Dimmer 2: 0%, Dimmer 3: 25% Solatube Closed (RC3DE only)
6	Raise	Raise	Raise All Dimmers†
7	Lower	Lower	Lower All Dimmers†
16	All On	Preset	Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON All Dimmers 100%
8	All Off	Preset	Load 1 (yellow) OFF, Load 2 (red) OFF, Load 3 (purple) OFF Solatube closed (RC3DE only)
Slider		Slider	Raise and Lower All Dimmers††

† These dimming wallstations can only be used with dimming Room Controllers (RC3D, RC3D2, RC3DE)

†† Slider stations can not be used if a wallstation with Raise/Lower buttons are used

Catalog #	Type	
Project		
Comments		
Prepared by	Date	