**Room Controller - Semi-Private Patient Room**

**Room Controller QuickKit**

RCQK-HC3E-HC1-HC2-3ZD-D1-P-W

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**SUMMARY**

Access to daylight and personal control of electric light improves the health and well-being of patients, reduces anxiety and increases overall patient satisfaction. Simple to use, labeled controls allow hospital staff to provide quality care, including energy-saving strategies such as daylighting, which provides up to 30% savings, and code requirements like integral UL 924 relays qualifies the Room Controller as an outstanding solution for the private patient room.

The Room Controller QuickKit 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 QuickKit catalog number will guarantee that after installation the lighting control system will work immediately as designed on this application guide.

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**ROOM CONTROLLER SAMPLE PLACEMENT LAYOUT (12” X 16”)**

**Product Legend (per patient bed)**

- **QTY1: RC3DHC**
  3 RELAY + 3 DIMMER + 1 EMERGENCY RELAY

- **QTY1: RC-4TSB-HC1-W**
  GENERAL, EXAM, READING, ALL OFF

- **QTY1: RC-6TSB-HC2-W**
  GENERAL, EXAM, READING, RAISE, LOWER, ALL OFF

- **QTY1: GPCS-3Z-DIM**
  3 ON/OFF & 3 ZONE DIMMING PATIENT CONTROLS

- **QTY1: GG37P**
  3PIN CONNECTOR FOR GPCS-3Z-DIM MOUNTED ON HEADWALL

- **QTY1: DSR-4FS**
  DAYLIGHT SENSOR

- **QTY1: GGRJ45-10-G**
  QUICKCONNECT CABLE 10’

- **QTY1: GGRJ45-50-G**
  QUICKCONNECT CABLE 50’

**SINGLE BOX PACKAGING WITH WIRING DETAIL AND INSTALLATION**

- **DOWNLIGHT FIXTURES**
- **RECESSED FIXTURES**

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

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**CONTROL SEQUENCE**

- Manual On
- Patient personal control from pillow speaker, 3 relay On/Off and 3 dimming zones
- Direct integration with most major Nurse Call Systems
- Providing users with wall-based dimming controls to adjust the lighting levels to meet their needs
- Automatic multi-zone daylight dimming out-of-the-box
- High-end trim/tuning to define target light levels guarantees energy savings
- BMS integration for HVAC control based on Occupancy

**INTEGRATED CAPABILITIES**

![Daylighting Control](Image)

![Manual Control](Image)

![Integration](Image)

![Emergency](Image)

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**COOPER LIGHTING GUARANTEED COMPATIBLE FIXTURES**

<table>
<thead>
<tr>
<th>Fat-Safe</th>
<th>Room Controller Patient Room Lighting Layouts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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www.coopercontrol.com
In developing a patient room lighting control solution, Cooper Controls found existing methods for providing patients control over natural and electric lighting levels to be inadequate. Control solutions that rely on existing off-the-shelf pillow speakers and nurse call station interfaces are severely limited in functionality. On/Off only control of a limited number of lighting zones is typical for these systems.

To address this issue, Cooper Controls developed a line of proprietary pillow speakers designed specifically to support the control of natural and electric light. These units offer the following features:

- Support for up to three zones of electric lighting control
- An all zones On/all zones Off function
- Independent Raise/Lower control of each zone
- Shade Raise/Lower function
- Sealed design reduces potential risk of infectious fluids or solids settling into the unit, even in the speaker area
- High-impact case material is designed to withstand over 100 drops onto a concrete floor without impacting its functionality
- Standard interface to leading nurse call stations

These exceptionally functional control devices interface with a state of art, small form factor lighting control panel. This panel is capable of supporting a digital switch network. Multiple digital switch stations may be used in conjunction with the pillow speaker to provide additional control points for staff and visitors.
MOUNTING THE ROOM CONTROLLER

For semi-private rooms where you would need multiple Room Controllers, each would mount above the ceiling in the space it is controlling, typically above the headwall so it can be easily wired to the 37pin connector and Nurse Call System. The Room Controller includes 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**

**Room Controller - Semi-Private Patient Room w/Daylight Dimming and Pillow Speaker Integration**

**Connections to Nurse Call Stations and Entertainment System**

**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)
ORDERING (PER PATIENT BED)

- RCQK
- HC3E
- HC1-HC2
- 3ZD
- D1
- P
- W

Room Controller

QuickKit

Types of Space and Control

HC3E - Healthcare Patient Room (RC3DEHC)

Patient Stations (Choose up to 4)

HC1 - General, Exam, Reading, All Off
HC2 - General, Exam, Reading, Raise, Lower, All Off

Daylight

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

Pillow Speaker

3Z - 3 Relay On/Off control
3ZD - 3 Relay On/Off, 3 zone dimming control
2Z - 2 Relay On/Off control
2ZD - 2 Relay On/Off, 2 zone dimming control

Healthcare Application Button Functionality

<table>
<thead>
<tr>
<th>Program No.</th>
<th>Button Text</th>
<th>Control Type</th>
<th>Function (Unless a target level is indicated, the dimmer output will default to daylight sensor control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General</td>
<td>Toggle</td>
<td>Load 1 (yellow) ON and OFF</td>
</tr>
<tr>
<td>2</td>
<td>Exam</td>
<td>Toggle</td>
<td>Load 2 (red) ON and OFF</td>
</tr>
<tr>
<td>3</td>
<td>Reading</td>
<td>Toggle</td>
<td>Load 3 (purple) ON and OFF</td>
</tr>
<tr>
<td>6</td>
<td>Raise</td>
<td>Raise</td>
<td>Raise All Dimmers</td>
</tr>
<tr>
<td>7</td>
<td>Lower</td>
<td>Lower</td>
<td>Lower All Dimmers</td>
</tr>
<tr>
<td>16</td>
<td>All On</td>
<td>Preset</td>
<td>Load 1 (yellow) ON, Load 2 (red) ON, Load 3 (purple) ON</td>
</tr>
<tr>
<td>8</td>
<td>All Off</td>
<td>Preset</td>
<td>Load 1 (yellow) OFF, Load 2 (red) OFF, Load 3 (purple) OFF</td>
</tr>
</tbody>
</table>

- † Final dimmer output level is determined by the following combination:
  - High end trim level
  - Daylighting contribution

- If enough natural light is entering the space and either of these features has been implemented, raise commands from pushbuttons or the Greengate Patient Control Station will not override or raise the lighting above the target threshold implemented by these advanced energy savings methods.

- Additional Information:
  - Emergency relay will always work under normal conditions with Load 1 (yellow lead).
  - Alternate Voltage Switchpack: Click & Go connected alternate voltage switchpacks will always track with Load 1 (yellow lead).

Pillow Speaker Functionality

<table>
<thead>
<tr>
<th>Input</th>
<th>Button Icon</th>
<th>Control Type</th>
<th>Function (Unless a target level is indicated, the dimmer output will default to daylight sensor control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (General)</td>
<td></td>
<td>Toggle</td>
<td>Load 1 (yellow) ON and OFF, Sets Raise/Lower control action to control Dimmer 1</td>
</tr>
<tr>
<td>2 (Exam)</td>
<td></td>
<td>Toggle</td>
<td>Load 2 (red) ON and OFF, Sets Raise/Lower control action to control Dimmer 2</td>
</tr>
<tr>
<td>3 (Reading)</td>
<td></td>
<td>Toggle</td>
<td>Load 3 (purple) ON and OFF, Sets Raise/Lower control action to control Dimmer 3</td>
</tr>
<tr>
<td>6 (All)</td>
<td></td>
<td>Toggle</td>
<td>Load 1 (yellow), Load 2 (red), Load 3 (purple) ON and OFF, Sets Raise/Lower control action to control Dimmers 1, 2 and 3</td>
</tr>
<tr>
<td>Raise</td>
<td></td>
<td>Raise</td>
<td>Raise the selected dimmer zone.† Zone controlled is based on last GPCS button that was pressed. To control all zones together, ensure that the ALL button is pressed prior to raising the zones.</td>
</tr>
<tr>
<td>Lower</td>
<td></td>
<td>Lower</td>
<td>Lower the selected dimmer zone.† Zone controlled is based on last GPCS button that was pressed. To control all zones together, ensure that the ALL button is pressed prior to raising the zones.</td>
</tr>
</tbody>
</table>

- † Final dimmer output level is determined by the following combination:
  - High end trim level
  - Daylighting contribution

- If enough natural light is entering the space and either of these features has been implemented, raise commands from pushbuttons or the Greengate Patient Control Station will not override or raise the lighting above the target threshold implemented by these advanced energy savings methods.

- Additional Information:
  - Emergency relay will always work under normal conditions with Load 1 (yellow lead).
  - Alternate Voltage Switchpack: Click & Go connected alternate voltage switchpacks will always track with Load 1 (yellow lead).

- † These dimming wallstations can only be used with dimming Room Controllers (RC3D1, RC3D2, RC3DE)
- †† Slider stations can not be used if a wallstation with Raise/Lower buttons are used

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

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

PRE-DEFINED WALLSTATIONS AND PILLOW SPEAKER MODEL NUMBERS

- RC-4TSB-HC1
- RC-6TSB-HC2
- GPCS-2Z
- GPCS-22-DIM
- GPCS-3Z
- GPCS-3Z-DIM

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

HEALTHCARE APPLICATION BUTTON FUNCTIONALITY

- Daylighting contribution
- High end trim level
- Additional Information:
  - Emergency relay will always work under normal conditions with Load 1 (yellow lead).
  - Alternate Voltage Switchpack: Click & Go connected alternate voltage switchpacks will always track with Load 1 (yellow lead).

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