Control solution for UV-C surface disinfection systems

The Philips Dynalite PDUVCC-NA control solution is a vital part of a properly designed and installed UV-C lighting system, that allows the system to be used and operated with greater safety than a system without an equivalent control solution in place.

This preconfigured solution incorporates switched outputs for driving Philips UV-C lamps and third-party audio alarms and warning lights. It also features an onboard settings interface, authorized key switch activation, lamp maintenance reporting, integrated Dynalite motion sensors, checkpoint buttons, and inputs for peripheral emergency shutoff buttons and area safeguard door switches.
Features

• Single-box solution
  Assembled, programmed, and tested in the factory to provide complete out-of-the-box functionality.

• Integrated Antumbradisplay
  Allows authorized users to adjust UV-C disinfecting dosage and monitor lamp life management. Includes multi-language support.

• Physical key switch protection
  Helps to ensure that only authorized users can modify settings or activate the system.

• External control inputs
  Robust, reliable connection to door switches, emergency shutoff buttons, and vacancy confirmation checkpoints.

• Motion sensor integration*
  Designed to work with Dynalite’s best-in-class network sensors to automatically shut down the UV lamps if motion is detected in the disinfection area.

• System status indicators
  Eight clearly labelled LEDs on the front of the enclosure show the device’s status at a glance.

• Onboard event logging
  All system events are logged and timestamped for reporting.

• Ethernet connectivity
  Enables secure network access to configuration and event logs via System Manager head-end software.

Dimensions

Peripheral Devices

Devices peripheral to the PDUVCC-NA cabinet and Philips UV-C luminaires and lamps supplied separately.

<table>
<thead>
<tr>
<th>Peripheral Device</th>
<th>Function</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupant warning alarm</td>
<td>Warns occupants that the UV-C lamp cycle is about to begin</td>
<td>max 16 A, 120 VAC</td>
</tr>
<tr>
<td>Emergency stop button (red)</td>
<td>Immediately stops the UV-C lamp cycle</td>
<td>Normally closed momentary push-button switch</td>
</tr>
<tr>
<td>Door switch</td>
<td>Ensures that all doors to the UV-C area are closed before UV-C cycle can begin</td>
<td>Closed contact when door is closed</td>
</tr>
<tr>
<td>Checkpoint button (yellow)</td>
<td>Confirms that the authorised user has physically inspected the area for occupants before UV-C cycle can begin</td>
<td>Normally open momentary push-button switch</td>
</tr>
</tbody>
</table>

* Sensors must not be relied on as a safety measure. The authorized user must always perform a visual check of the area before starting the disinfection cycle.

Note: Due to continuous improvements and innovations, specifications may change without notice.
## Specifications

### Electrical
- **Cabinet Supply**: 240 VAC @ 20 A
- **Switched UV-C Lamp Rating**: See Output Ratings table below
- **Switched Alarm Rating**: See Output Ratings table below
- **Peripheral Output**: 12 VDC @ 0.5 A (max)
- **DyNet Output**: 12 VDC @ 0.5 A (Class 2)
- **Electrical Protection**: 20 A (max) per input
- **Short Circuit Current Rating (SCCR)**: 14,000 A
- **IEC Overvoltage Category**: III

### Physical
- **Dimensions (H x W x D)**: 500 x 400 x 151 mm (19.69 x 15.75 x 5.94 in)
- **Packed Weight**:
  - PDUVCC-NA: 15.7 kg (34.6 lb)
  - PDUVCC-NA-10: 19.8 kg (43.7 lb)
  - PDUVCC-NA-20: 24.4 kg (53.8 lb)
  - PDUVCC-NA-30: 26.6 kg (58.6 lb)
- **Construction**:
  - Steel wall mount enclosure
  - Powder coat finish
- **Color**: RAL7035 (Grey)
- **Serial Ports**: 1 x 5-way pluggable screw terminal
- **Supplied Terminals**:
  - 5-way pluggable screw terminal
  - 1 x RJ45 (future provision)
- **Serial Port Conductor Size**: 0.1-2.5 mm² (28-12 AWG)
- **Supply Terminals**:
  - 5 x spring cage clamp terminal
  - 0.5-6 mm² (20-10 AWG) solid or stranded wire
- **Supply Terminal Conductor Size**: 0.5-6 mm² (20-10 AWG) solid or stranded wire
- **Output Terminals**: 5 x spring cage clamp terminal
- **Output Terminal Conductor Size**: 0.5-6 mm² (20-10 AWG) solid or stranded wire
- **External Control Input Terminals**:
  - 1 x 9-way pluggable screw terminal
  - 1 x 6-way pluggable screw terminal
- **External Control Input Terminal Conductor Size**: 0.1-2.5 mm² (28-12 AWG)
- **External Control Max Wiring Distance**: 75 m (82 yd) @ 0.75 mm² (18 AWG)
- **Earth Bar Terminals**: 7 x screw terminal
- **Earth Bar Terminal Conductor Size**: 2.1-21 mm² (14-4 AWG)

### Control
- **Serial Ports**: 1 x RS-485, 1 x Ethernet 10/100 baseT (Future provision)
- **Supported Protocols**: DyNet
- **External Control Inputs**:
  - 1-4 x Area checkpoint channel
  - 1 x Door switch channel
  - 1 x Emergency stop channel
  - 1 x Extended area checkpoint channel (max 20 devices)
- **Diagnostic Functions**: Device online/offline status, 28-day rolling event log
- **User Controls**:
  - 3-position key switch (Off, Armed, Start)
  - 6-button AntumbraDisplay Emergency Stop button
- **Indicators**: 8 x status LED, AntumbraDisplay LCD screen

### Output Ratings

<table>
<thead>
<tr>
<th>Load Type</th>
<th>UV-C Lamps</th>
<th>Alarms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Ballast</td>
<td>3 x single-phase</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>16 A max @ 120 / 277 / 347 VAC (500 A inrush)</td>
<td>–</td>
</tr>
<tr>
<td>General Use</td>
<td>–</td>
<td>12 A max. 120 VAC (single-phase only)</td>
</tr>
</tbody>
</table>

### Compliance
- **Certification**: UL/cUL

### Environment
- **Operating Temperature**: 0° to 40°C ambient (32° to 104°F)
- **Storage/Transport Temperature**: -25° to 60°C ambient (-13° to 140°F)
- **Relative Humidity**: 0 to 90% non-condensing
- **IP Rating**: IP30 – Type 1 indoor use only (see PDUVCC-NA Installation Instructions)
- **IEC Pollution Degree**: II

---

**Note**: Due to continuous improvements and innovations, specifications may change without notice.
System Overview

- Sensors (may not be provided for all systems)
- Philips UV-C lamps
- Occupant warning alarms*
- Area emergency stop*
- Door switches*
- Checkpoints*

* Peripheral devices and Philips UV-C luminaires & lamps supplied separately

Ordering Code

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Description</th>
<th>12NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDUVCC-NA</td>
<td>UV-C Controller</td>
<td>912401425140</td>
</tr>
<tr>
<td>PDUVCC-NA-10CS*</td>
<td>UV-C Controller + 10 Sensors</td>
<td>912401425147</td>
</tr>
<tr>
<td>PDUVCC-NA-20CS*</td>
<td>UV-C Controller + 20 Sensors</td>
<td>912401425150</td>
</tr>
<tr>
<td>PDUVCC-NA-30CS*</td>
<td>UV-C Controller + 30 Sensors</td>
<td>912401425153</td>
</tr>
</tbody>
</table>

Auxiliary components

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Description</th>
<th>12NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDUVCC-CPB-Y-FM</td>
<td>Philips Dynalite UVC yellow flush mount checkpoint station, single gang</td>
<td>912401425138</td>
</tr>
<tr>
<td>PDUVCC-CPB-Y-SM</td>
<td>Philips Dynalite UVC yellow surface mount checkpoint station</td>
<td>912401425139</td>
</tr>
<tr>
<td>PDUVCC-ESTOP-R-FM</td>
<td>Philips Dynalite UVC red flush mount E-Stop checkpoint station, single gang</td>
<td>912401425141</td>
</tr>
<tr>
<td>PDUVCC-ESTOP-R-SM</td>
<td>Philips Dynalite UVC red surface mount E-Stop checkpoint station</td>
<td>912401425142</td>
</tr>
<tr>
<td>PDUVCC-MAG SENSOR-1</td>
<td>Philips Dynalite UVC door sensor w/ actuator</td>
<td>912401425143</td>
</tr>
<tr>
<td>PDUVCC-STROBE-120R</td>
<td>Philips Dynalite UVC red strobe light indicator</td>
<td>912401425144</td>
</tr>
</tbody>
</table>

* Ensure that only the required number of sensors are installed for your space. Remaining sensors can be kept as spares. Only install sensors supplied with the system.