Hubbell’s PowerHUB™ is an enterprise-level, Power over Ethernet (PoE), lighting and control platform that seamlessly integrates luminaires, sensors, user interfaces and software for a scalable, intelligent building control solution.

**Software & Controls**
Hubbell Control Solutions’ PowerHUB™ platform delivers intelligent sensors, intuitive user interfaces and scalable PoE technology that enables a highly configurable, enterprise software solution with cloud analytics.

**PoE Enabled Luminaires**
Hubbell Lighting’s portfolio of PowerHUB™ enabled luminaires deliver quality illumination while reducing energy consumption, and total cost of ownership for PoE installations.

**Infrastructure**
Hubbell Premise Wiring manufactures a fully integrated system of copper and fiber network cabling, and components that are designed to meet PoE performance and reliability standards.

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**Table of Contents**

- 4 Code Compliance
- 6 Classroom Applications
- 8 Product Portfolio
- 10 PowerHUB™ Support
PowerHUBB™ empowers building owners to reduce energy consumed by lighting, which, on average, is 17% of the total energy consumption in a building. While commercial lighting energy use continues to decline as a result of increased LED lighting efficacy and more stringent energy codes, there are still opportunities for energy savings. For example, additional savings can be seen through the deployment of dimmable LED luminaires controlled with occupancy and/or daylight sensors.

**Additional HVAC Savings**

The Automation Access service package provides BACnet™ Integration with Building Management Systems (BMS) allowing an exchange of occupancy and daylight information to help manage energy strategies and promote additional energy efficiency improvements through other building systems, such as HVAC. Integrating lighting control equipment through BACnet has the added benefit of reducing the initial equipment cost, reducing wall and ceiling clutter by eliminating the need for duplicate sensors and leveraging Hubbell Controls Solutions advanced sensor technology. Enabling BMS control of dimmable LED luminaires may represent an additional point of control which reduces the overall thermal load within a conditioned space.

**Energy by Use for All Building Types**

- **Lighting**
- **Ventilation**
- **Refrigeration**
- **Cooling**
- **Computers**
- **Office Equipment**
- **Water Heating**
- **Space Heating**
- **Other**

18% Lighting
17% Ventilation
16% Refrigeration
15% Cooling
10% Computers
4% Office Equipment
2% Cooking
1% Water Heating
1% Space Heating

**Energy Savings and the Building Environment**

PowerHUBB provides a complete networked building approach, that can maximize energy savings and meet or exceed today’s energy code requirements.

**Code Compliance at Every Level of Scalability**

<table>
<thead>
<tr>
<th>I N D O O R</th>
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<td>BMS Integration</td>
<td>Contact Closure</td>
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<td>Egress Lighting</td>
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**Energy Information Association**

[https://www.eia.gov/consumption/commercial/reports/2012/energyusage/](https://www.eia.gov/consumption/commercial/reports/2012/energyusage/)

**Additional HVAC Savings**

The Automation Access service package provides BACnet™ Integration with Building Management Systems (BMS) allowing an exchange of occupancy and daylight information to help manage energy strategies and promote additional energy efficiency improvements through other building systems, such as HVAC. Integrating lighting control equipment through BACnet has the added benefit of reducing the initial equipment cost, reducing wall and ceiling clutter by eliminating the need for duplicate sensors and leveraging Hubbell Controls Solutions advanced sensor technology. Enabling BMS control of dimmable LED luminaires may represent an additional point of control which reduces the overall thermal load within a conditioned space.

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18% Other
17% Lighting
16% Ventilation
16% Refrigeration
15% Cooling
10% Computers
4% Office Equipment
2% Cooking
1% Water Heating
1% Space Heating

**Code Compliance at Every Level of Scalability**

<table>
<thead>
<tr>
<th>ENERGY CODES</th>
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<td>ASHRAE 90.2016</td>
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</tbody>
</table>

**Energy Information Association**

[https://www.eia.gov/consumption/commercial/reports/2012/energyusage/](https://www.eia.gov/consumption/commercial/reports/2012/energyusage/)

**High-End Tuning** - An artificial maximum light output set below actual maximum light output for each space

**Local Control** - Manual lighting controls that control all the lights in that space and requires human intervention

**Multilevel Control** - Providing additional light levels in a space beyond Full On and Full Off

**Timeclock Off** - Automatically turns the lights off within a set period of time after all occupants leave the space

**Occupancy Sensor Full OFF** - Automatically turns the lights off based on the amount of daylight

**Occupancy Sensor Partial ON** - Automatically turns lights on to a reduced level between full on and full off when occupants enter the space

**Occupancy Sensor Partial OFF** - Automatically turns lights down to a reduced level between full on and full off after all occupants leave the space

**Daylighting** - Automatically turns the lights off based on the amount of daylight

**BMS Integration** - The data exchange for control and monitoring from a facilities Building Management System or Energy Management System using a common protocol such as BACnet™

**Egress Lighting** - The code establishes minimum criteria for the design of egress facilities so as to allow prompt escape of occupants from buildings, or where desirable, into safe areas within buildings.

**Demand Response** - A defined temporary reduction of lighting load or load shedding in response to a request from an energy authority such as a utility or regional transmission operator

**Scheduling** - Controls light levels based on facility schedule

**Full OFF** - Automatically turns the lights off within a set period of time after all occupants leave the space

**Partial OFF** - Automatically turns lights down to a reduced level between full on and full off after all occupants leave the space

**BMS Integration** - The data exchange for control and monitoring from a facilities Building Management System or Energy Management System using a common protocol such as BACnet™
TYPICAL CLASSROOM WIRING DIAGRAM

TYPICAL ROOM SOLUTION, NON-EMERGENCY LIGHTING REQUIRED

CONTROL STRATEGIES

1. Master Station - 2-button station at the door provides on and off for the whole room. Capable to perform vacancy.
   a. Top Button ON
   b. Bottom Button OFF

2. Whether the occupancy or vacancy mode is enabled the motions sensor will turn off the lights upon loss of occupancy
   a. Zone A = Whiteboard/General Space
   b. Zone B = General Space
   c. Zone C = Daylighting Zone/General Space

3. Daylighting Zone – C
   a. Daylighting always functioning, cannot be overridden aside from manual or automatic off

4. Teacher Station – 4 button station to control zones A, B & C
   a. Station 1
      i. ON – 100% Entire Room
      ii. ON – 50% Entire Room
      iii. ON – 10% Entire Room
      iv. OFF Entire Room
   b. Station 2
      i. B & C - OFF, A – 80%
      ii. B & C - OFF, A – 20%
      iii. A - OFF, B & C -50%
      iv. OFF Entire Room

BILL OF MATERIAL:

<table>
<thead>
<tr>
<th>QTY</th>
<th>Catalog #</th>
<th>Description</th>
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<tr>
<td>6</td>
<td>LCATPH24-35MLG-PM</td>
<td>LCAT LED troffer, PowerHUBB enabled, no control inputs</td>
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<tr>
<td>3</td>
<td>LCATPH24-35MLG-PMC</td>
<td>LCAT LED troffer, PowerHUBB enabled, with control inputs</td>
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<tr>
<td>1</td>
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<td>Dual technology occupancy sensor</td>
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<tr>
<td>1</td>
<td>LUXSTLTS</td>
<td>Open loop daylight sensor</td>
</tr>
<tr>
<td>1</td>
<td>LVSM30PLWH</td>
<td>Low voltage wall station, 3 button, pilot light</td>
</tr>
<tr>
<td>2</td>
<td>LVSM40PLWH</td>
<td>Low voltage wall station, 4 button, pilot light</td>
</tr>
<tr>
<td>1</td>
<td>PoE Switch</td>
<td>Power Supply Equipment (Provided by others), size to be determined by application</td>
</tr>
</tbody>
</table>

TYPICAL CLASSROOM WIRING DIAGRAM

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4. Teacher Station – 4 button station to control zones A, B & C
   a. Station 1
      i. ON – 100% Entire Room
      ii. ON – 50% Entire Room
      iii. ON – 10% Entire Room
      iv. OFF Entire Room
   b. Station 2
      i. B & C - OFF, A – 80%
      ii. B & C - OFF, A – 20%
      iii. A - OFF, B & C -50%
      iv. OFF Entire Room

5. Emergency Lighting – A-EM fixture to go into emergency mode, 100%, when normal power is lost to the Gateway due to loss of normal power.

BILL OF MATERIALS:

<table>
<thead>
<tr>
<th>QTY</th>
<th>Catalog #</th>
<th>Description</th>
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<tr>
<td>6</td>
<td>LCATPH24-35MLG-PM</td>
<td>LCAT LED troffer, PowerHUBB enabled, no control inputs</td>
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<td>LCAT LED troffer, PowerHUBB enabled, with control inputs</td>
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<td>LCATPH24-35MLG-PMTE</td>
<td>LCAT LED troffer, Emergency Node, PowerHUBB enabled, with control inputs</td>
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<tr>
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<td>OMNIDT2000</td>
<td>Dual technology occupancy sensor</td>
</tr>
<tr>
<td>1</td>
<td>LUXSTLTS</td>
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<td>2</td>
<td>PoE Switch</td>
<td>Power Supply Equipment (Provided by others), size to be determined by application</td>
</tr>
<tr>
<td>1</td>
<td>Uninterrupted Power Supply</td>
<td>Emergency power supply (to be energized)</td>
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</table>
## PRODUCT PORTFOLIO

### POWERHUBB NODES
- Provide power distribution and data connectivity for luminaires and control devices
- RJ45 ports provided for PoE power and bidirectional Input/Output (I/O) connections
- 1% to 100% dimming range in 1% increments
- 60W peak operating power
- External sensor/relay and wall switch connections
- Emergency Node provides UL924 listed functionality

**PHM1P-xxx0**  
PowerHubb, Master Power Node, 1 output, xxx0mA, Black

**PHS1P-xxx0**  
PowerHubb, Satellite Power Node, 1 output, xxx0mA, Black

**PHM1PC-xxx0**  
PowerHubb, Master Power and Control Node, 1 output, xxx0mA, Black

**PHS1PC-xxx0**  
PowerHubb, Satellite Power and Control Node, 1 output, xxx0mA, Black

**PHM4PC-XXX0**  
PowerHubb, Master Power and Control Node, 4 outputs, xxx0mA, Black

**PHS4PC-XXX0**  
PowerHubb, Satellite Power and Control Node, 4 outputs, xxx0mA, Black

**PHM4PC-XXX0-EM**  
PowerHubb, Master Emergency Power and Control Node, 4 outputs, xxx0mA, Black

**PHS4PC-xxx0-EM**  
PowerHubb, Satellite Emergency Power and Control Node, 4 outputs, xxx0mA, Black

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For a complete list of luminaires with integrated PowerHUBB options please visit www.hubbellcontrolsolutions.com

### LIGHTING CONTROL SOFTWARE SUITE

#### Standard Lighting Control Software Package
- Supports lights, wall controls On/Off/Dim, motion sensors, and daylight sensors
- Lighting system commissioning, rapid-commissioning, and diagnostic tools
- Occupancy control (software-defined)
- High and low end trimming (software-defined)
- Daylight harvesting (software-defined)
- Lighting scheduling

**PHSL1**  
PowerHUBB Lighting Control Software Package, 1-100 Device Count

**PHSL2**  
PowerHUBB Lighting Control Software Package, 101-500 Device Count

**PHSL3**  
PowerHUBB Lighting Control Software Package, 501+ Device Count

#### ADVANCED SOFTWARE SERVICE PACKAGES

##### Connectivity
- API access and test suite
- Multi-IP network binding management

##### Automation Access
- Accepts BACnet™ commands and inquiries
- Supports temperature sensors

##### Service (via cloud portal)
- Near real-time system monitoring
- System status, analytics, statistics, and dashboards
- Advanced multi-recipient email alerts for critical system status
- Daily backups of configuration

##### Advanced Energy* (via cloud portal)
- Energy analytics, statistics, dashboards, and interactive reports
- Energy data repository

##### Enterprise Management* (via cloud portal)
- Multi-site enterprise performance and service dashboards
- Advanced log dashboard and analyzer
- Multi-user multi-role cloud portal logins

*Service Package Required

---

#### Low Voltage Wall Stations
- Supported by I/O connections on PowerHUBB nodes
- Offered in 1, 2, 3 and 4 button configurations
- Momentary button action
- Optional LED indicators available
- 24 VDC low voltage device

#### HCSREC
- Controlled Receptacle
- Split or fully controlled 15A or 20A options
- Downstream Branch Circuit Control
- Straight Blade Switched Duplex Receptacle 2 Pole, 3 Wire Grounding

#### OMNI®
- Occupancy/Vacancy Ceiling Mount Sensor
  - Passive Infrared (PIR), Ultrasonic (US) and Dual Technology (DT) versions available
  - Proprietary IntelliDAPT™ Technology
  - Optional relay and photocell control

#### LightOWL®
- Occupancy/Vacancy Wall Mount Sensor
  - Passive Infrared (PIR) and Dual Technology (DT) versions available
  - Proprietary IntelliDAPT Technology
  - Optional relay and photocell control

#### LightHAWK®
- Occupancy/Vacancy Wall Switch Sensor
  - Passive Infrared (PIR), Ultrasonic (US) and Dual Technology (DT) versions available
  - Proprietary IntelliDAPT Technology
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Comprehensive Support Options to Meet Project Needs

Phone and Online Support
While it is our goal to provide you with intelligent, simple and scalable control solutions, customer expectation level and project complexity may necessitate additional support during the design development, construction and post-occupancy stages of a project. The Hubbell Control Solutions support team is available for consultation to evaluate multiple control scenarios to identify the ideal lighting control device or system to meet energy code requirements and customer criteria. Additionally, our team of friendly and experienced professionals is enabled to assist on-site personnel, such as installation contractors, third party integrators, certified field technicians and facilities personnel, to quickly resolve issues and provide additional support.

Design Service
Our team of lighting control system design professionals are available to provide sensor layouts, networked system design services and third party integration support for new and retrofit projects. Our goal is to provide you with on-time and accurate delivery of design deliverables optimised for your specific application, compliant with local building codes and project specifications.

On-site Support
Hubbell Control Solutions offers on-site support service to ensure your project goes smoothly. While Hubbell Control Solutions products are designed with simplicity in mind, some projects may benefit from a Certified Field Technician to perform an on-site pre-installation walk-through, after hours and remote startup assistance, occupant training, sensor tuning, preset programming and other pre/post-occupancy services.

Warranty
Hubbell Lighting provides a 5-year limited warranty for LED luminaires and Hubbell Control Solutions devices. Hubbell Premise Wiring provides the MISSION CRITICAL® 25-year warranty providing assurance of the overall structured cabling system. To qualify for this warranty, start with HPW end-to-end cabling system and have the system installed by a HPW Certified Installer.

Technical Service Center:
(800) 888-8006