HUMAN CENTRIC LIGHTING (HCL)

ADVANCED TUNABLE LIGHTING CONTROL MADE SIMPLE

Wattstopper’s full line of Human Centric Lighting (HCL) products leverage our expertise in architectural dimming and code-compliant lighting controls and pairs it with sophisticated tunable light LED driver technology from Lumenetix®.

The result is the world’s first tunable lighting systems that are simple to design, install, and control. Once implemented, these solutions deliver the highest possible quality of light, replicating the visual comfort of natural daylight.

The Wattstopper family of HCL products provides ultimate flexibility in design with options for dim to dark, tunable white, and tunable color logic modules that integrate into a broad range of fixtures. These provide zone or fixture-based control and native DLM control protocols on any module.

LOGIC MODULES

- **Dim to Dark**
  - **Blanco 1** - Precision architectural dimming and fixed color temperature from 100% all the way down to 0.1% with DLM or DMX control.

- **Tunable White**
  - **Blanco 2** - High quality two-channel tunable white solution (tunable range of 3000K - 5000K).
  - **Blanco 3** - Three-channel solution adjusts corrected color temperature (CCT) precisely along the blackbody curve across a wide range of color temperatures to replicate natural daylight. Ideal for healthcare, education, and office applications (tunable range of 2700K – 6500K)

- **Tunable Color**
  - **araya®** - Mixes five channels for advanced tunable color simulating the range, color quality, and consistency of natural sunlight and is ideal for retail and hospitality applications (1650K - 8000K)

SPECIFIABLE FEATURES & BENEFITS

- Wattstopper HCL technology delivers high quality, natural tunable light, making any space more visually comfortable
- Proprietary Lumenetix algorithm mixes multicolored LEDs to precisely trace the black body curve across a wide range of color temperatures at 90+ CRI
- Both lumen and color maintenance ensure consistent light output throughout the life of the fixture
- For Blanco modules, the Digital Lighting Management (DLM) control system provides simple, code-compliant design, installation, and control for tunable white applications
- **araya®** offers flexibility to choose from multiple control system design options, including control via 0-10V, DMX, or DLM in either zone or fixture-based configurations
- The Architectural Dimming control system delivers precise dimming via DMX for both tunable white and color applications with fixed and mobile user interfaces
DIGITAL LIGHTING MANAGEMENT

**DLM Controls**
(For fixtures containing Blanco and araya modules enabled for DLM)

**Color Control Preset Switch**
[LMSW-105-CCT] – Features a master raise/lower paddle to adjust color temperature levels between cool light (higher CCT range), and warm light (lower CCT range). It is also equipped with convenient scene buttons to set and recall up to four preset color temperature scenes.

**Color Control Schedule Switch**
[LMTS-101-CCT] – Offers the convenience of automated color control based on the building’s geographical location, enabling seasonally accurate daylight cycling [sunrise, mid-day, sunset]. Just set it with your latitude and longitude and let it run, or easily program custom CCT event scheduling.

**Digital Dimming Wall Switch**
[LMDM-101] – Low voltage device for dimming intensity level of one or more lighting loads connected to Blanco and araya logic modules enabled for DLM control or loads connected to DLM dimming room controllers. Easy Plug n’ Go™ automatic configuration and Push n’ Learn™ personalization.

**Network Segment Manager**
[LMSM and Segment Manager] – Supports HCL fixture-based controls inside a DLM network. Together with standard loads, HCL monitoring, adjustments, and scheduling are now enabled.

**DLM Software Tools**

**LMCS Software**
[LMCS-100] – Provides expanded capabilities for advanced configuration, simplifying installation and providing easy system management.
ARCHITECTURAL DIMMING PLATFORM

Architectural Dimming Controls
(For fixtures containing araya modules enabled for DMX or 0-10V control)
Provides control of all logic modules using the DMX protocol. araya™ modules not only allow for control of intensity and CCT, but also hue and saturation. Through the new Architectural Dimming Equinox UI, CCT levels, personalized scenes, and HCL schedules, like circadian rhythm can be created that allow users advanced and simple control of tunable white and tunable color fixtures.

Equinox 40
(EQ40TB-TI-II) – A small form factor glass LCD touchscreen that provides control of up to 15 discrete lighting loads, scenes, and shades in a single-gang keypad.

Equinox 41 and Equinox 73
(EQ41-LCAP and EQ73-LCAP) – 4.3” or 7” glass LCD touchscreens and mobile apps that provides CCT control of lighting functions.

Equinox 40

EasyTouch II
(KSxxxxxx) – Provides a simple programmable interface for selecting color temperature scenes as a fixed function or as a dimmable scene. With up to five buttons available, the engravable keypad provides a simple, yet effective, control interface.

Architectural Dimming Software Tools
Design Center Software provides the installer the ability to configure and program most types of lighting sources.

Design Center
With the latest version of Design Center 3.8.0, DMX control of tunable white and color fixtures has been added. Improved functionality of intensity, hue, saturation, and correlated color temperature (CCT) for araya™ logic modules as well as other compatible HCL fixtures is even simpler.
### HUMAN CENTRIC LIGHTING (HCL)

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>CONTROL PROTOCOL</th>
<th>PART NUMBER</th>
<th>AVAILABILITY*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanco 1 Logic Module</td>
<td>DLM</td>
<td>BLM1-DLM</td>
<td>TBD</td>
</tr>
<tr>
<td>Blanco 2 Logic Module</td>
<td>DLM</td>
<td>BLM2-DLM</td>
<td>Q2 2018</td>
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<tr>
<td>Blanco 3 Logic Module</td>
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<td>BLM3-DLM</td>
<td>Q2 2018</td>
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<td>araya® Logic Module</td>
<td>Choice of DLM, DMX, or 0-10V</td>
<td>ALM5-XXX</td>
<td>Currently available</td>
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<tr>
<td>DLM Color Control Preset Switch</td>
<td>DLM</td>
<td>LMSW-105-CCT</td>
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<tr>
<td>DLM Color Control Schedule Switch</td>
<td>DLM</td>
<td>LMTS-101-CCT</td>
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<tr>
<td>DLM Digital Dimming Wall Switch</td>
<td>DLM</td>
<td>LMDM-101</td>
<td>Currently available</td>
</tr>
<tr>
<td>Equinox 40 Touchscreen</td>
<td>DMX or 0-10V</td>
<td>EQ40TB-TI-II</td>
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<tr>
<td>Equinox 41 Touchscreen</td>
<td>DMX or 0-10V</td>
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<td>Equinox 73 Touchscreen</td>
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<td>EQ73-LCAP</td>
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</table>

*Availability from fixture manufacturer may vary depending on UL approval cycle.

**OEM Partners**
Fixture manufacturers that have integrated Wattstopper HCL [https://www.legrand.us/wattstopper/oem/oem-partners.aspx](https://www.legrand.us/wattstopper/oem/oem-partners.aspx)

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