Specifications

Mymesh Building Light Control

mymesh
Connected LED

mymesh

Specifications Mymesh BLC

V2.12

Turn any lighting infrastructure into a smart lighting system with Mymesh.

Mymesh Building Light Control is a wireless light control system that can be applied with
any make and type lighting fixture. Without the use of cables, light control is fully integrated
with LED lighting fixtures while ensuring maximum installation flexibility.

Mymesh Building Light Control offers a product suite of both actuators (controllers, LED drivers) and sensors (motion detection, light sensors and switches), that automatically form an ad-hoc self-organizing wireless mesh sensor & control network for light control.

Mymesh is an RF-based wireless full mesh network protocol that is radio agnostic and has nodes that inter-operate and self-organize a connected and fully integrated wireless platform. A Mymesh network is a large distributed system with a collective intelligence that differentiates Mymesh from traditional wired or wireless networks and makes it extremely scalable (+10.000 nodes) and resilient. It creates a fully meshed network topology for smart building platforms.

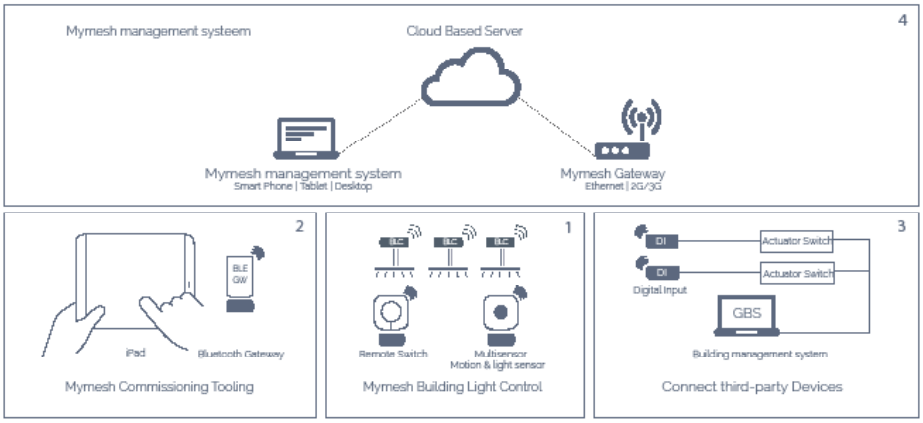
Mymesh Building Light Control is secure by design with implemented security measures known from the payment industry. Mymesh security is covered in the entire life cycle of the products from manufacturing to replacement. The network can be updated over-the-air (OTA). With a REST Application Programming Interface (API) back-office management applications can be developed.

The implementation of a Mymesh Building Light Control system delivers not only wireless lighting control and light management but inherently lays the foundation for a smart building platform.

For the professional environment

- Scalable
- Secure
- Robust
- Intelligent

Mymesh Building Light Control system configuration



Mymesh BLC consists of the following independent parts:

1. Autonomous Mymesh Building Light Control system
2. Mymesh Commissioning tooling
3. Mymesh Interface Module to connect third part devices (a.o.t. BAS)
4. Mymesh Management System (MMS)

Autonomous Mymesh Building Light Control system

Mymesh Building Light Control supports light control options on building, floor, room and zone level.

The different types of lighting fixtures (nr.1-4, design fixture, downlighter, LED panel and batten luminaire) are equipped with a Mymesh driver or controller. For manual control options on/off/dimming and scene select a Mymesh Remote Switch (nr.5) is used. For automatic control options a Mymesh sensor (nr.6) with motion detection and/or light sensor is used.

At the entrance/exit of a floor a "master" Remote Switch (nr.1) can be used to control multiple rooms.

With just two products you can turn any lighting system into a Smart LED lighting system. Check www.chess.nl for a complete overview of the Mymesh Building Light Control product suite.

Smart LED Driver, 40W

Controller DALI

MultiSensor

Remote Switch

Light control options for buildings and floors

A floor and/or building is controlled by a ""master" Remote Switch. This "master" Remote Switch has four configurations:

- Overrule, all lighting fixtures of the building or floor are switched to 0%. Most of the times all lights will be switched off when you leave the floor or the building. This disables the use of presence detectors and manual switches.
- Ready, all lights of the building and/or floor are switched to "ready" mode. This means presence detection will work as expected and manual switches can be used.
- All-On or emergency, all lighting fixtures of the building and/or floor are switched to 100%. The typical use case is an emergency or cleaning or inspection.
- Master, the switch combines all three functions Overrule, Ready and All-on in one switch.

Manual light control options for rooms

For manual light control options of a room a Remote Switch is used to control all lighting fixtures in the room. Lighting fixtures and switches form one group in a room.

The Remote Switch has two configurations:

- On/Off/Dimming, the lighting fixtures can be switched on/off and dimmed between 0%-100%.
- Scenes, a maximum of 4 scenes can be pre-set for the room. With each scene, light levels of individual lighting fixtures can be set. Scenes are often used for classroom- and meeting room applications.

Two-way or multiway switching with multiple Switches is possible for both On/Off/Dimming or Scenes.

Automatic light control options for rooms

For automatic light control options of a room a motion or light sensor is used to control all the lighting fixtures in the room. Lighting fixtures and Multisensors are connected in one group in a room. Multiple motion sensors can be active in one room.

The Multisensor has three configuration options:

- PIR, the lighting fixtures are switched to set-point high (on) when presence is detected. When no presence is detected the luminaries are switched to set-point low (off). The hold-time for presence can be set.
- PIR and Light sensor (automatic dimming), constant light level control by dimming the lighting fixtures based on light level settings (auto calibration of light sensor). If a group has multiple Multisensors, only one sensor acts as daylight controller.
- Light sensor (automatic dimming), constant light level control by dimming the lighting fixtures based on light level settings (auto calibration of light sensor).

The Motion Sensor High Bay and Micro BLC add-on PIR sensors have one configuration option:

- PIR, the lighting fixtures are switched to set-point high (on) when presence is detected. When no presence is detected the luminaries are switched to set-point low (off). The hold-time for presence can be set.

The Micro BLC Light sensor has one configuration option:

- The Micro BLC Light sensor is a twilight switch with an adjustable switching threshold high and low. Commissioning on a floor or building level. Mainly used for outdoor applications like façade lighting, parking area's and greenhouses. For daylight harvesting with automatic dimming the Multisensor needs to be applied.

Automatic & manual light control options for rooms

Both automatic & manual light control options can be combined in one room. Lighting fixtures, Switches and Multisensors form one group in a room. The central push button of the Remote Switch is used to toggle between manual mode and automatic mode for the set configuration.

Automatic fall-back from manual light control to automatic light control once the hold-time has expired.

Overlapping groups

Large spaces are often divided into multiple zones. Devices can be assigned to a maximum of 3 zones to create overlapping groups.
This is for example used for:

- Single motion sensor for both way zone crossings in open plan offices, parking garages, warehouses and production halls.
- "Follow me" lighting in corridors or staricases
- Single light sensor to cover multiple zones

Light level settings

Each lighting fixture can be set to a maximum light level to tune lumen output or to extend the lifetime by reducing output power.

Mymesh Commissioning tooling

Commissioning of your Mymesh building light control system is easy with this Mymesh Light Commissiong app for iPad. You can download the App in the Apple App store.

The Mymesh Light Commissiong App offers the following standard features:

Mymesh App

- Easy commissioning and modification of the lighting control system
- Create lighting groups on building, floor and room level
- Set automatic and manual light control options with sensors and switches
- Completely customizable settings for light levels, scenes, timers.
- Secure operating environment
- Demo mode

Mymesh Interface module to connect third party devices

It is possible to control the Mymesh network via a third party device for example:

- Actuator switch of a Building Automation System
- Time switch or emergency stop switch
- PIR, radar or door contact sensor

To connect the external device to the network a Mymesh Digital Input Module with voltage free contacts is used.

With the Digital Input Module you can set different light levels for contact open and contact closed in both presence and absence state of a room, floor or building.

You can also set Master control functions (Overrule, Ready and All-On) for both contact open and contact closed.

Mymesh Network data

Through an Ethernet Gateway messages from the Mymesh network nodes (both sensors and actuators) can be logged using REST API to a back-office system like a Building or Light Management System. The data can be used for management, maintenance and all kind of building applications.

The Mymesh network provides status or event data. The network sends periodically and automatically status or event messages of individual nodes via a gateway to the back-office. This data is logged in the back-office system.

Which data is provided by the Mymesh network?

Following table shows the available signals (white) and default settings (x) for all products:

Tag	Signal	Default filter settings	Flush time out	Lamp drivers[1]	Mini BLC Relay	Mini BLC 4DI	Remote switch	Multi Sensor	Ethernet gateway
1	Node die temperature	T = 15m	24h	x	x	x			x
3	Total burning hours	T = 24h	24h	x	x				
4	Weighted burning hours	T = 24h	24h	x					
5	Number of neighbors		24h						
6	Number of switch triggers since last interval		24h						
7	Number of PIR triggers since last interval		24h						
8	Measured ambient light level		24h						
13	Blob distribution fill level	V = 25%	0	x	x	x			x
14	Actual lamp control state		24h						
15	Actual lamp intensity set point		24h						
16	Actual lamp linear intensity after output reduction		24h						
17	Actual PIR presence state		24h						
18	Actual lamp status	V = 1	0	x					
30	Emergency status		0	[2]					
31	Emergency battery charge		0	[2]					
32	Emergency lamp time		0	[2]					
33	Voltage drop	V = 1	0				x	x	

[1] Lamp drivers can be BLC200, Mini BLC DALI, Mean Well LCM-40, T8 LED tube, CoolGrow VF and CoolControls.
[2] BLC200 and mini BLC DALI only.

A Smart Building starts with Smart Lighting.

More information at chess.nl