lumenpulse™

Sustainable architectural LED lighting systems

DMXrdm

Bi-directional communication. A smarter, more efficient way to manage, commission and control your lighting system.

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“ Finally! Via an elegant reboot, Lumenpulse DMX/RDM is a software platform that harnesses the power of bi-directional feedback and control. From ease of commissioning to monitoring and control, installers and owners can attain efficiencies and subtleties they never thought possible.”

Steve Rosen, IALD
Lighting Designer & Creative Director at Available Light

DMXrdm

Your fixture has a lot to say.

- Hello my name is Lumenbeam™ Grande
- My DMX address is 125
- My temperature is 32° C
- My personality is 16-bit
- Remaining hours till L70: 102,567
- My serial number is 06500005

What is RDM?

Remote Device Management (RDM) is an enhancement of DMX that allows bi-directional control and feedback from lighting fixtures and devices.

Without RDM, there is no way to retrieve relevant information from fixtures. A DMX controller simply has no idea what it is connected to, and if the fixtures are working (or even there at all).

DMX

RDM solves these issues, turning a monologue into a conversation, and letting your luminaires tell you important information about their performance and lifetime.

DMX/RDM

Why is RDM Important?

For all its advantages, DMX has always been a one-way control system. Data flows in one direction – from the lighting controller to the luminaire.

RDM changes all that.
For the first time, the luminaire has a voice!

An RDM-enabled Lumenpulse luminaire can tell you many useful things about its operation: its address, status, temperature or even the remaining time until L70.

What's more, RDM isn't just limited to reporting back; it allows you to change things as well. As the name suggests, it can remotely manage your device. So if a luminaire is set to the wrong DMX address, you can alter it – without having to climb a ladder! Or, if a linear color-changer has been installed back to front you can re-orientate it digitally. RDM allows for faster, simpler commissioning.

1. Simple commissioning

- Discover any RDM-enabled device (or fixture) connected to the system.
- Retrieve important commissioning information.
- Update and change parameters remotely and at any time.

RDM allows quick, simple commissioning from the comfort of your control position.

2. Live monitoring

- Monitor the health and efficiency of your lighting system.
- Measure the temperature, voltage, and life expectancy of fixtures.
- Identify potential issues and implement preventative maintenance.

Features & Benefits

DMX/RDM provides a number of benefits for stakeholders throughout the construction, commissioning and property management stages, offering a lighting system that is:

1

Smarter
Retrieve important system information, including temperature, voltage, predicted lifetime, energy usage, and more.

2

Faster
Speed up the commissioning process with instant fixture discovery and addressing.

3

Safer
Interact with your system remotely, all from the comfort and safety of your seat.

4

More flexible
Instantly change fixture parameters, such as resolution or firmware, to take advantage of updates.

lumenpulse

For Designers

- Simplifies and speeds up the commissioning process.
- Safe, remote commissioning, without scaling a ladder.
- Re-address or update fixtures at any time.

For Facility Managers & Owners

- Understand the true lifetime of your lighting system.
- Monitor ongoing energy usage.
- Discover potential issues ahead of time.
- Implement preventative maintenance measures.

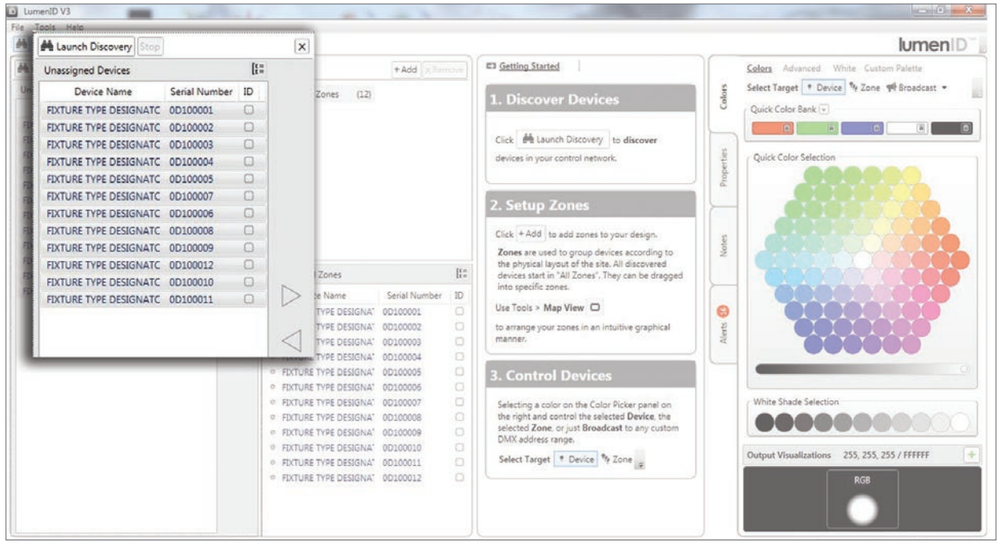
What can I do with RDM?

Paired with Lumenpulse's LumenID V3 software (LID V3), RDM provides a simple, efficient way to manage lighting systems and devices. With RDM, important system information is always just a click away, ensuring that you can easily and freely discover, address and program devices.

With the LID V3 software you can:

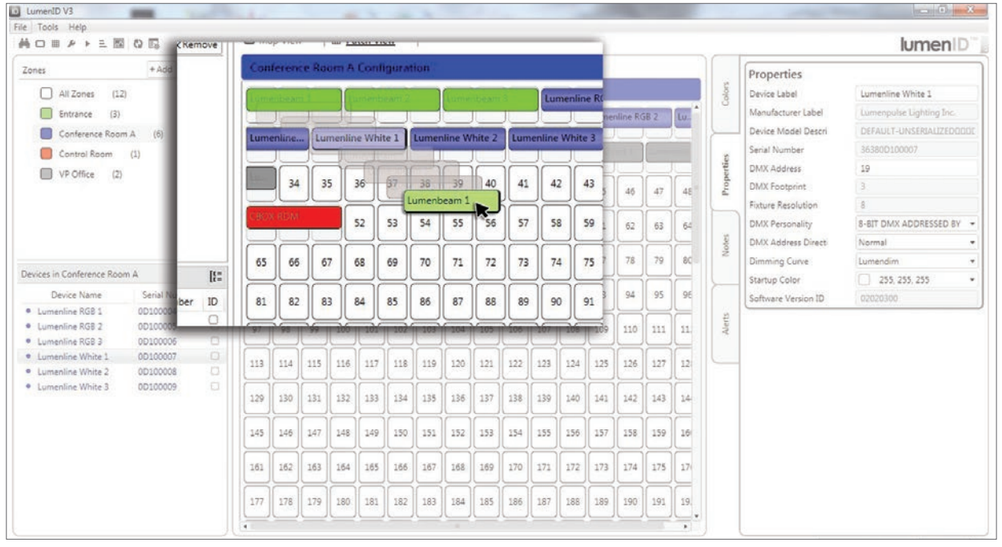
- Discover
- Address
- Update
- Monitor
- Demonstrate
- Schedule Maintenance

Discovery



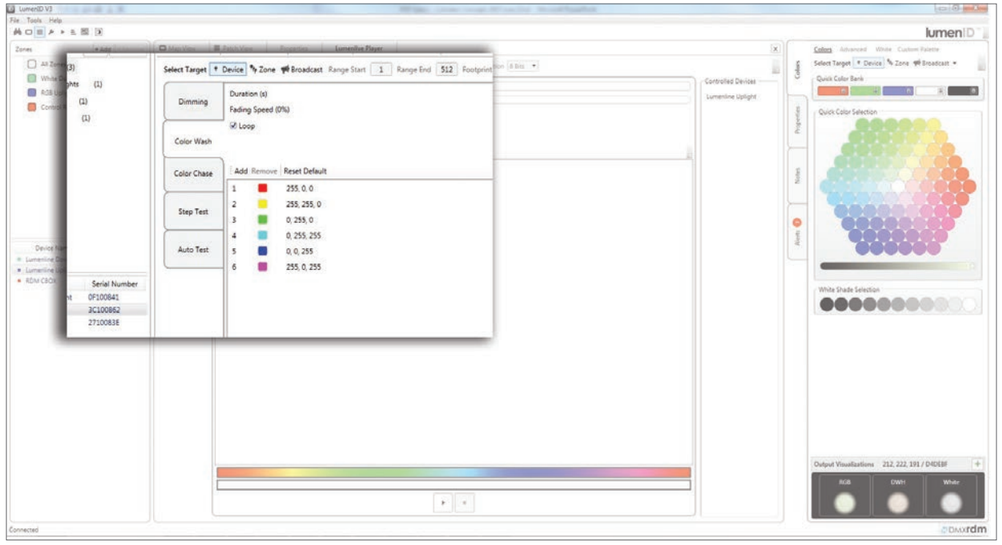
Discover devices connected to the system then drag and drop them into zones.

Address/Patch



Drag and drop a fixture in the patch screen to quickly re-address it.

Lumenlive Player



Output simple dimming, color wash, and other effects for demonstration and testing purposes.

Additional Features

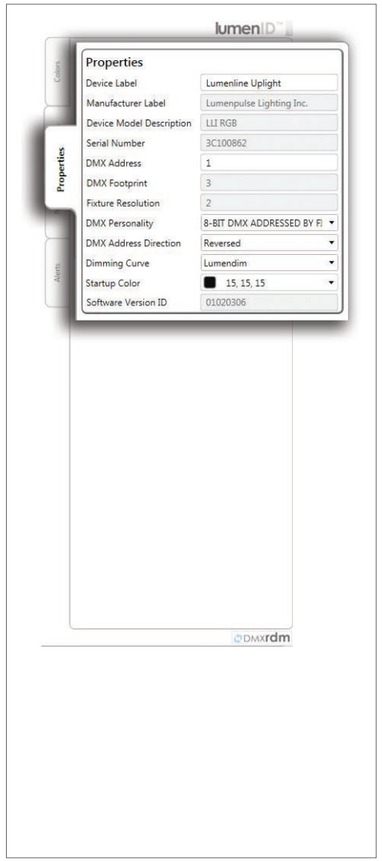
Key New RDM Parameters:

- Fixture Name (Customizable)
- Manufacturer Label
- Device Model Description
- Serial Number
- DMX Address
- DMX Footprint
- Fixture Resolution
- Fixture Personality (Multiple Options)
- DMX Address Direction
- Dimming Curve
- Start-Up Color
- Fimware Version Number

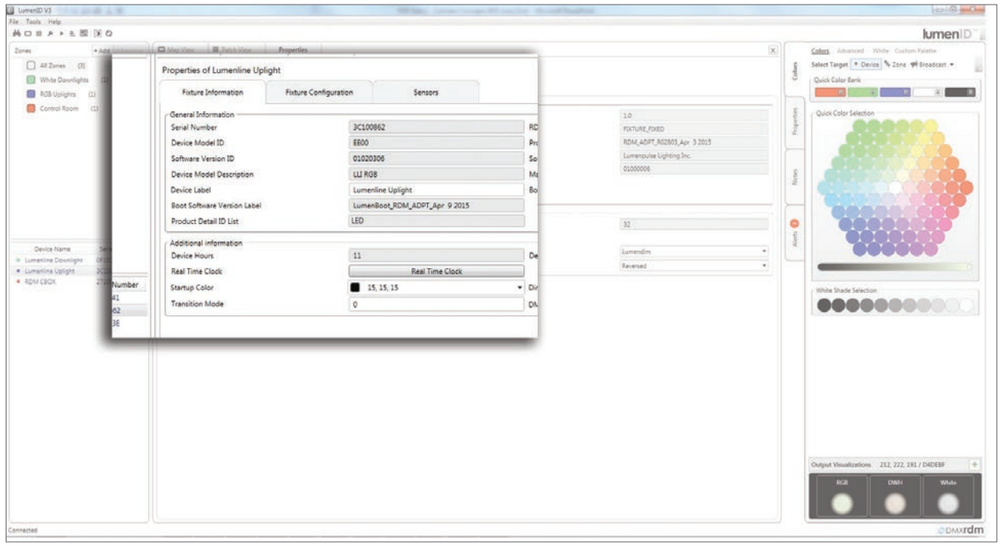
On-board Fixture Sensors:

- Device Power
- LED Temperature
- PSU Temperature

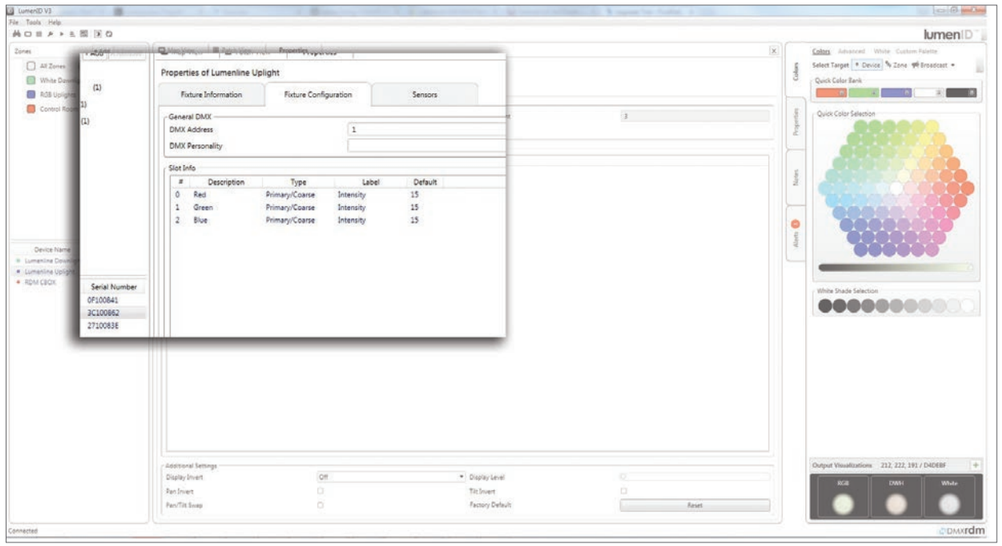
RDM Quick Properties



Advanced RDM Properties: Fixture Information



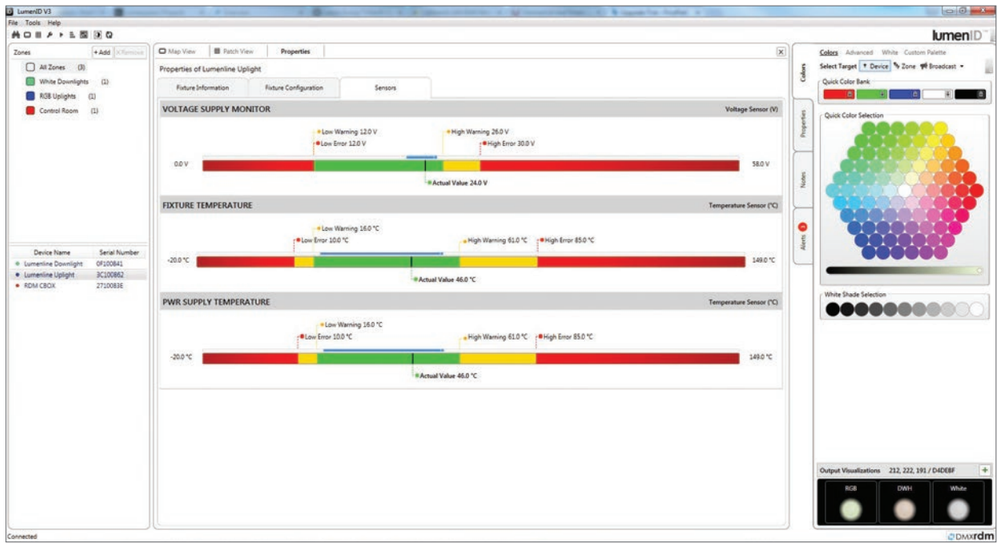
Advanced Properties: Fixture Configuration



Monitor

Simple monitoring of individual products and zones.

Sensor Reporting



Sensor reporting allows the user to easily set 'Alert' levels for individual fixture sensors.

Lumenlife™

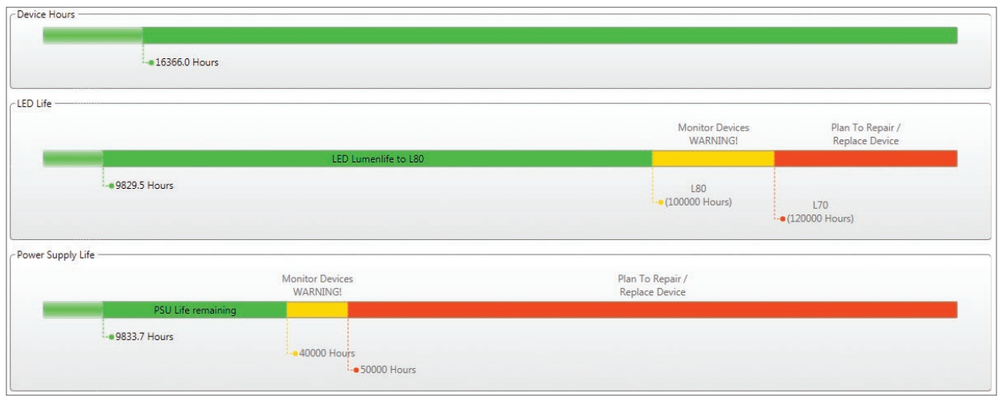
How long does an LED system actually last?

When is it time to replace fixtures that have reached 70% of their initial output?

The answer actually depends on contextual information such as the fixture environment, the operational temperature and dimming usage.

Lumenlife is a patented method for estimating the life expectancy of a fixture, which takes into account environmental factors that influence lifetime, rather than merely the past hours of operation.

With Lumenlife, we can better estimate when a luminaire reaches L70 and issue alerts as the luminaire starts to approach the end of its useful lifetime. For more information, please consult the Lumenpulse Terms and Conditions at http://www.lumenpulse.com/en/terms.

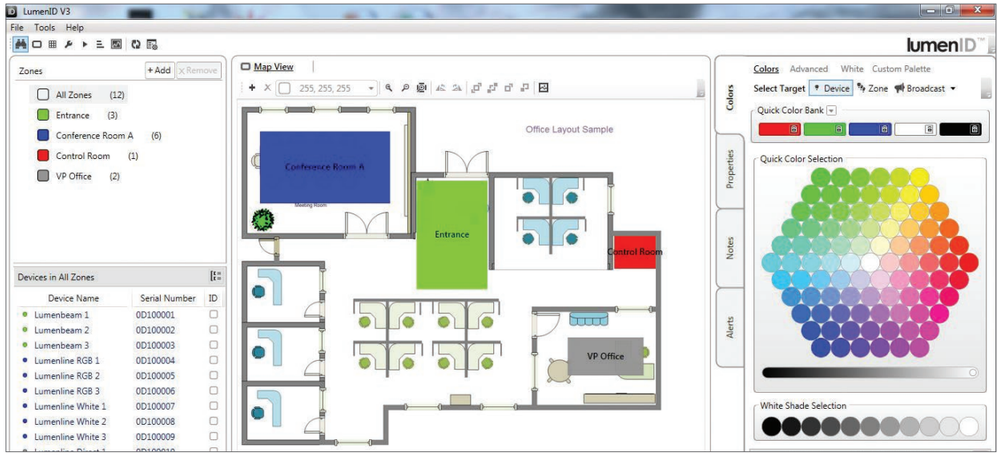


Lumenlife allows you to see the expected lifetime for both the LEDs and the PSU in every fixture.

Lighting Control Tools

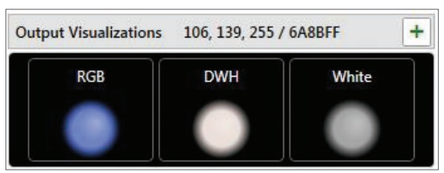
Multiple control tools are at your fingertips, allowing you to quickly dial in the exact levels needed. Best of all, you can then save these values and use them with your lighting controller.

Zone Mapping View



Allows easy importing and overlaying of project plans and control zones.

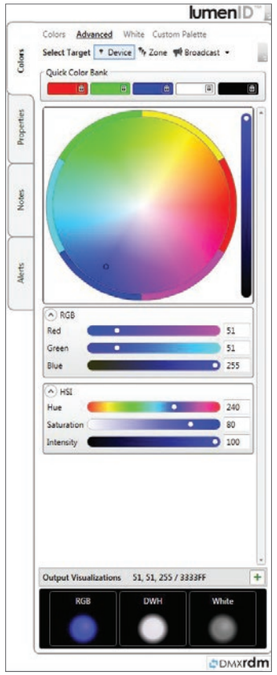
Output Control Visualization



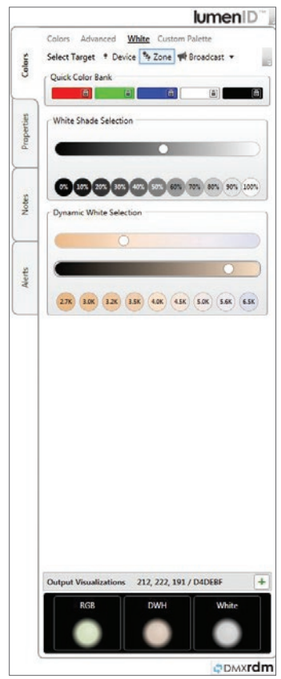
Understand the output of the products you're controlling (RGB, DWH, or static white.)

1. Simple Color Picker

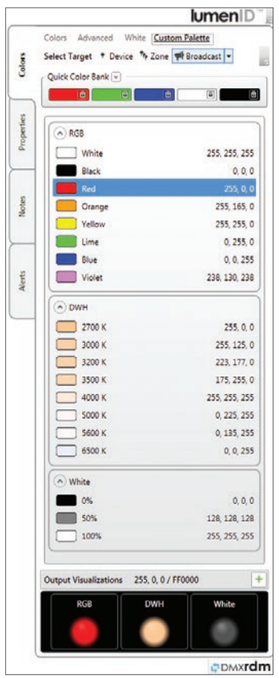
2. Advanced Color Picker



3. Dynamic White Picker



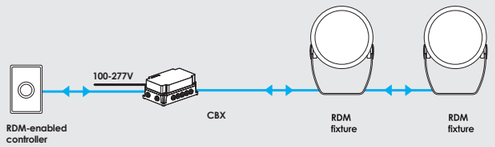
4. Custom Palette Picker



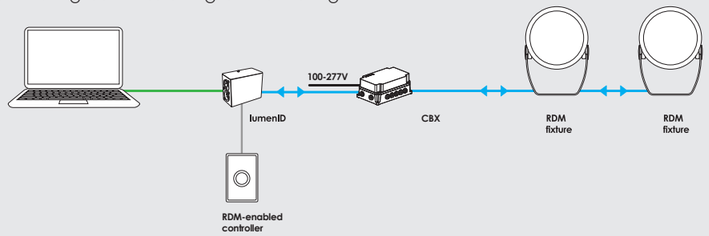
RDM System

1. DMX/RDM system

1.1 During operation



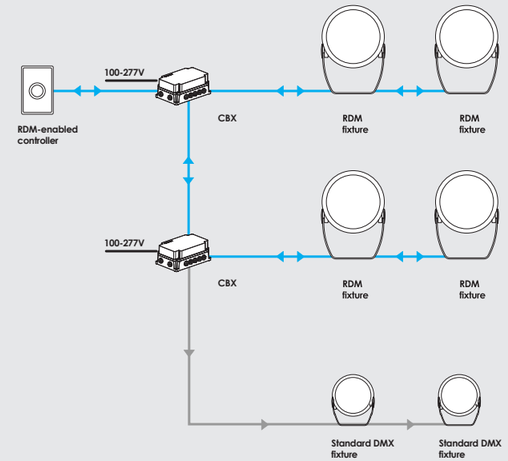
1.2 During commissioning or monitoring



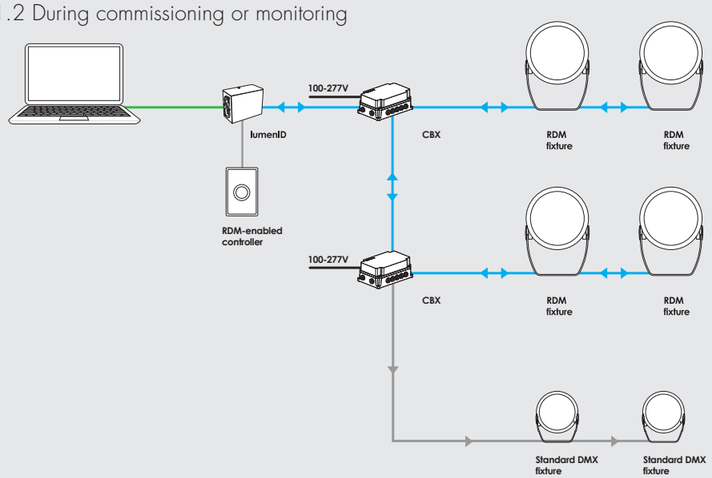
DMX/RDM
DMX
USB
100-277V

2. Combination of DMX/RDM and standard DMX

2.1 During operation



1.2 During commissioning or monitoring



DMX/RDM
DMX
USB
100-277V

RDM Specification

Lumenpulse RDM operates on standard DXM512 control lines. Standard DMX rules, therefore, apply to its usage. System requirements for RDM specification:

1. PC Laptop with Windows platform (not supplied)
2. Lumenpulse RDM-enabled luminaires (see facing page)
3. Lumenpulse LumenID
   Used for commissioning and as an RDM reader
   Lumenpulse LumenID Open DMX USB Box (with latest firmware)
4. Lumenpulse RDM-enabled CBX

Optional: RDM-enabled controller

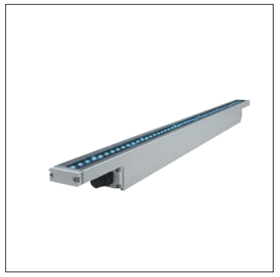
Consult factory for a list of compatible RDM controllers, and RDM-compliant DMX splitters and opto-isolators.

RDM-Enabled Products

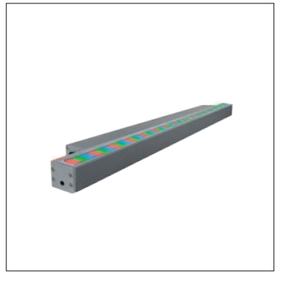
The following product families of Lumenpulse LED luminaires can be RDM-enabled for use with an RDM controller.

Lumenbeam™ Family

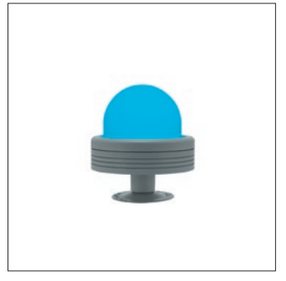
Lumenline™ Family



Lumencove® Family



Lumenfacade™ Family



Lumendome™ Family

FAQ

> “By allowing bi-directional communication, RDM gives you long-term access to important fixture information. It’s a smarter way to manage devices, and it makes commissioning, building and maintenance easy and efficient.”
>
> Greg Campbell,
> SVP, Chief Technology Officer, Lumenpulse

Q: How does RDM work?
A: The RDM protocol allows data packets to be inserted into a DMX512 data stream without adversely affecting existing non-RDM equipment. By using a special “Start Code,” and by complying with the timing specifications for DMX512, the RDM protocol allows an RDM controller to send commands, and receive messages from RDM-enabled Lumenpulse products and other RDM devices.

Each RDM device is assigned a Unique Identifier (UID) by Lumenpulse. This UID is composed of the Lumenpulse ID and a “serial” number to uniquely identify the device. The RDM controller can search for and identify all of the RDM devices connected to it using a process called "Discovery". Once discovered, the controller can communicate with devices individually or in groups created by the user.

Q: What equipment is required for an RDM control system?
A: A basic Lumenpulse RDM system consists of LumenID V3 running on a computer with a LumenID box connected to the system; or another RDM controller and one (or more) RDM-enabled Lumenpulse fixture(s). The LumenID V3 software can be part of the lighting control network as a separate box, which connects in line between the main controller and the RDM devices. Existing DMX splitters and opto-isolators will need to be replaced with RDM capable bi-directional units.

Q: Can standard DMX-only fixtures be integrated with an RDM system?
A: Yes, the RDM signal that is being sent has a specific RDM start bit that the RDM fixtures listen to. For non-RDM fixtures, they would ignore this start bit and listen to the standard DMX command that follows.

Q: Can RDM predict when fixtures may need to be replaced?
A: RDM monitoring can feed back many different parameters of a fixture for the user to monitor. Many of these features can help show the health of the lighting infrastructure. With this information, Lumenpulse LumenID V3 software can better estimate the lifetime expectancy of a fixture based on live conditions in the installation. This can help building managers plan for maintenance of their lighting system, and understand how different parts of an installation may vary based on actual conditions of the lighting system.

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