IntelliLED™

Enterprise Server

User Manual

Introduction

Dialight IntelliLED™ Enterprise Server is an enterprise class industrial lighting control system with many advanced features and capabilities.

The system consists of lighting devices and sensors, which are connected to a local gateway device via a wireless network.

Multiple gateways are, in turn connected to the Enterprise Server, which generates the control and user interface functionality.

Equipment not supplied:

- 24Vdc @ 5 amp power supply
- Cat5 Ethernet cable (use port marked X2 only)
- Din rail for mounting
- Additional Notes: All other ports are not to be used

System Specification

Certification	CE, UL E498688
DC Operating Voltage	19.2 – 28.8VDC, 65 W
Operating Temperature For Indoor Use Only	0 to 50°C
Ethernet	10/100/Gb Ethernet
Memory (RAM / SSD)	8 GB DDR3 / 150 GB mSATA
Dimensions (WxDxH)	6.4 inches X 5.75 inches X 1.93 inches 162mm X 146.2mm X 49mm
Dialight Part #	DACN825AP
Ratings	Install only dry locations, IP20

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- Refer to operating temperature ratings of this device before installing.
- DO NOT let the Enterprise Server touch hot surfaces.
- DO NOT mount near gas or electric heaters
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause unsafe conditions.
- DO NOT use this equipment for other than intended use.
- DO take pictures of the installation and mounting for future reference.
- Contact your local Sales representative or Dialight when necessary
- The installation and maintenance must be carried out by authorized personnel.
- Repairs and Installation must only be carried out by a qualified electrician.
- Only genuine or authorized Dialight replacement parts must be used when unforeseen repairs are required.
- Observe the national safety rules and regulations during installation!
- Mounting in extreme heat locations should be avoided. Failure to do so could void all warranties!
- No alterations are allowed without the written agreement from Dialight Corp. Alterations other than written in this manual will void all warranties.

SAVE THESE INSTRUCTIONS!!

System Components

IntelliLED™ Enterprise Server

IntelliLED™ Gateway

Dialight Wireless Controlled Fixtures

IntelliLED™ Sensors

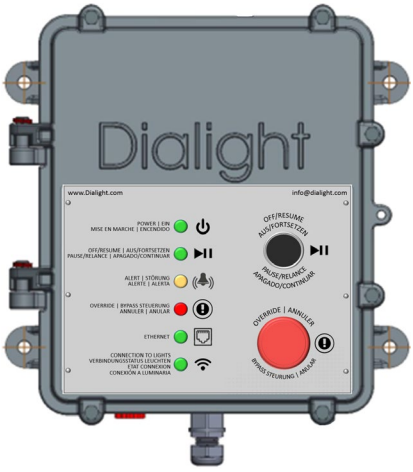
Components Overview

Enterprise Server

At the heart of the Dialight IntelliLED system is the Enterprise Server.

This computer runs software which performs the system-wide control and monitoring functions, plus it serves the web-based user interface applications which are used for system commissioning, configuration and control.

IntelliLED™ Gateway



The Gateway is a networking device, which connects devices to the Enterprise Server.

Up to 120 individual devices may be connected to each gateway.

Additionally, gateways provide local control for emergency override of schedules, allowing all lights connected to that gateway to be instantly turned on with a single button press.

Refer to the IntelliLED Gateway Manual for additional information

Wireless Controlled Fixture

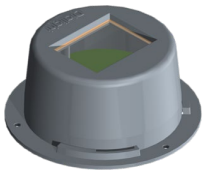
All Dialight wireless enabled fixtures can be controlled via the Enterprise Server. Thus allowing different models of Dialight fixtures to be controlled wirelessly.

Example of a Dialight Wireless LED High Bay Fixture

LED lighting fixtures are the main device-type which is controlled by the Enterprise Server.

Adjusting when lights are activated as well as the output dimming level of the fixture is part of the central control functionality offered by the system.

IntelliLED™ Wireless Occupancy Sensor



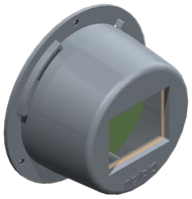
Dialight's Wireless Occupancy Sensor (WOS) is a sensor device which detects presence of human occupants in a particular space and can be configured to activate a group of lights.

WOS sensors may be used to lower operational cost by only turning on lights when they are needed.

Two models of sensor are available; one sensor offers long-range detection while a second model offers a wide-angle of detection.

Refer to the IntelliLED Wireless Occupancy Sensor Manual for additional information

IntelliLED™ Daylight Harvesting Sensor



The Daylight Harvesting Sensor is a sensor device which measures the ambient light level in a particular space.

The Enterprise system can use this information to adjust the dimming level of the lighting fixtures in the area to minimize power consumption while providing a calibrated and constant illumination level within the space.

DLH sensors are often used in areas that contain sky-lighting as the collected sunlight can be used to offset the output level of the powered lighting fixtures, thereby reducing operational cost.

Refer to the IntelliLED Daylight Harvesting Sensor Manual for additional information

Controls System Overview

Introduction

There are a few central concepts used repeatedly throughout the Enterprise Server which are helpful to understanding how the system operated. This section aims to provide a brief overview of these concepts.

Groups

In the Enterprise Server, the term "Group" refers to a collection of devices. This may be a combination of lights and sensors. Devices that are part of a group are affected by control events set for that group.

Additionally, devices may be members of more than one group at a time. This allows for maximum flexibility for creating zones of coverage and control.

Control Events

A control event is a command or action which acts upon a group of devices. This may consist of a dimming level sent to a group of lights to set the current light level.

Schedules

At the most basic level, a Schedule is a collection of control events. These are most typically used to turn the lights on in an area at a particular time during the day and to turn the lights off at the end of the day.
Schedules are also used to specify when a particular group will react to Occupancy Sensing or Daylight Harvesting sensors.

Schedules are created, defined and uniquely named from within the Enterprise user interface application. They contain a collection of control events and are configured to operate during selected days of the week. Once a schedule has been created, it may be added to a particular Group.

> **Example:** A system installer could create a Schedule named "Weekday Schedule" which contains an event to set the dimmer level to 80% at 7:00am each morning and a second event to set the dimmer level to 0% (Off) at 6:00pm each evening. This Schedule could then be added to Groups named "South Floor" and "North Floor" and the devices in these two groups would operate on the "Weekday Schedule."

Alerts

Alerts are used to signal error or warning conditions within the Enterprise system. It provides a rules engine, which allows users to configure the system to watch for particular Alert conditions.
Alerts are visible on the Alert page of the Enterprise Server user interface application.
A typical Alert would be set to signal if a device has stopped communicating with the control system.

Notifications

A Notification is an automated method to report an alert via sending a message to a User via some external means. Notifications announce an Alert directly to the system operator without the need to view the Enterprise user interface application.
Supported Notification types include:

- Email
- SMS Text Message
- Twitter Notification

Note - All notifications require that the server has an internet connection

Gateway operation modes

- **Enterprise mode**: The gateway acts as a part of the Enterprise structure.
- **Stand-alone mode:** The gateways acts independently, not part of the Enterprise structure.

See the Gateway User Manual for operating instructions.

User Accounts

Users of the IntelliLED Enterprise system are given individual logon User Accounts. These consist of a user name, password and additional information used to send notifications such as an email address and mobile phone number.

Automated Demand Response

Automated Demand Response (ADR) is an electric utility-driven communications protocol which enables utility companies to request enrolled customers to reduce their overall facilities power consumption during times of peak demand. This automated load-shedding is helpful to extend the capabilities of the existing power distribution grid infrastructure and results in significant rebates and cost savings for the ADR enabled customer.

IntelliLED Enterprise Server supports the industry leading ADR specifications OpenADR V1.0 as well as V2.0.

System Set Up and Configuration

In this section, you will learn how to:

- Install lights
- Install sensors
- Gateway Installation
- Install IntelliLED Enterprise Server
- Commissioning and setup of the Gateway(s)
- Commissioning and setup of the Enterprise Server

Device Installation

Reference each of the devices own installation guide for installing.

Gateway Installation

Reference the Gateway manual for physical installation, mounting and installation requirements.
Wi-Fi is enabled during initial setup.

IntelliLED Enterprise Server Installation

NOTE: Dialight recommends that the Enterprise Server be placed on a universal power supply and be rebooted ONLY using the user interface. Physical power removal may cause corruption!

The Enterprise Server is factory set as "static" IP as **192.168.1.160**
Username: admin **Password:** password

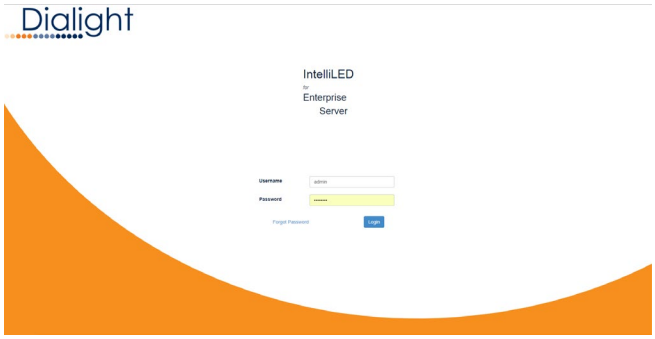
Note: it is suggested that the username and password be changed once the install is complete

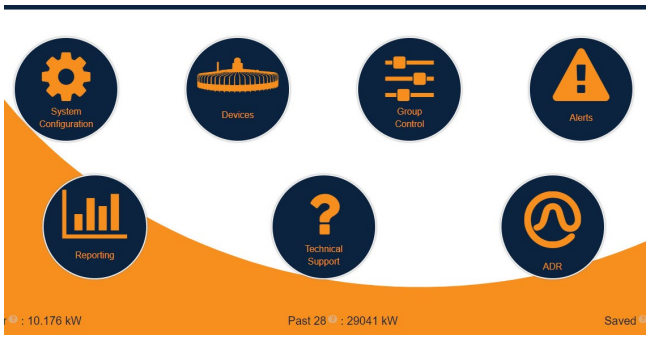
Recommended browsers are Chrome or Firefox.

Enterprise Server User Interface Web Application Login:

Launching the GUI:

Enter the Enterprise Server IP address into the URL line in a browser on the same network and hit "Enter"



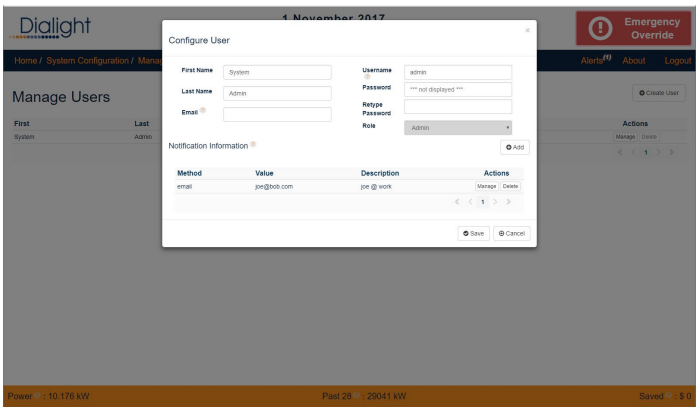


Enter default Username: **admin**

Enter default password: **password**

Click Login

You are now at the homepage



Account setup and login:

- Go to *homepage*
- Select *system configuration*
- Select *Users* Icon
- Select *Create User* Icon
- Enter *First Name*
- Enter *Last Name*
- Enter *Email* address
- Create a *username*
- Create a *password*
- Retype *password*
- Select *save*

Configure a Gateway to join the Enterprise Server

NOTE: Before setting a Gateway to Enterprise Mode, ensure all devices and schedules are removed from the Gateway. This will help avoid potential problems

- Power up gateway
- Ensure gateway is plugged into your Ethernet Network (or into a computer with an Ethernet port)
- Configure your PC with an IP address within the same subnet of the gateway IP
- Enter the Gateway IP address along with port **56005** (default **192.168.1.150:56005**) into the URL line in a browser on the same network and hit "Enter"

- Select desired Gateway Mode
- Enterprise (must have Enterprise Server)
- Stand-alone
- Enter Enterprise Server *IP*
- Enter Enterprise Server *Port (default 80)*
- Select Desired *IP Configuration*
- *DHCP*
- *Static*
- Enter Ethernet IP address
- Enter Ethernet Netmask
- Enter Ethernet Gateway address
- Select *Save*

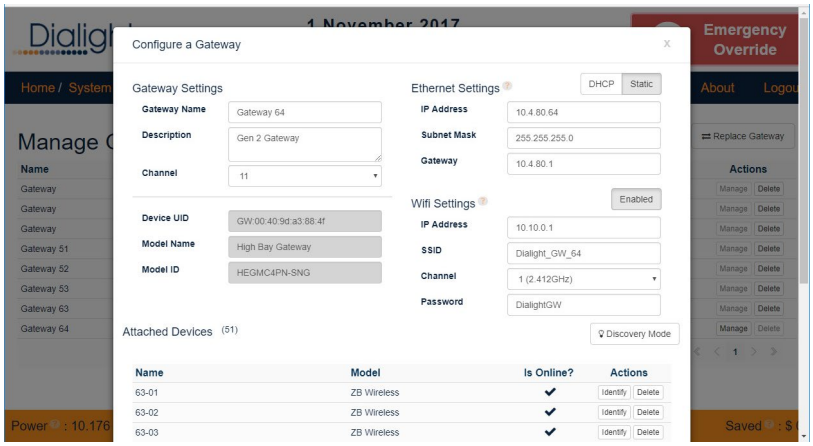
Enter the Enterprise Server IP address into the URL line in a browser on the same network and press the "Enter" key.

Enter a valid username and password to login

NOTE: Please refer to the IntelliLED Gateway Manual for default login info

- Select *System Configuration*
- Select *Gateways* Icon
- Look for your gateway IP address in the list of gateways
- Verify Gateway connectivity before attempting to commission the lighting system

How to check and change gateway settings



- *Select System Configuration*
- *Select Gateways Icon*
- Select Manage Button
- Configure a Gateway
- Add or change *Gateway Name*
- Add or change *Description*
- Click *Discovery Mode* button to discover devices
- Click Identify to locate a device connected to the gateway
- Delete a device connected to gateway
- *Ethernet Setting's* (In accordance to user's network definition)
- Select *DHCP* or *Static* IP Configuration
- Add or Change *IP Address*
- Add or Change *Subnet Mask*
- Add or Change *Gateway*
- Wi-Fi Settings
- Change *SSID*
- Change *WPA Passphrase*
- Change *Channel*
- Select **Save**

Device Discovery

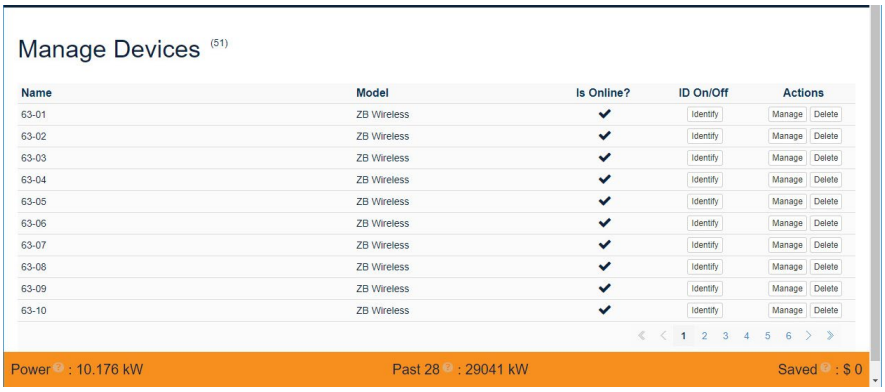
- Select *System Configuration* Icon
- Select *Gateways* Icon
- Select *Manage* Button
- Click Discovery Mode
- Turn off Discovery mode by clicking Discovery Mode button again
- Devices will show in the Attached Devices section. You can also view the discovered devices on the Manage Devices page:
- Close the Configure a Gateway window and click Home link
- Select Devices Icon

A list of the discovered devices is shown on this page

Troubleshooting devices that do not discover

- The fixtures must be on
- Ensure that the device is getting the correct supply voltage
- Power cycle the device
- Device setup
- Identify device
- Select *System Configuration*
- Select *Devices* Icon
- Click *Identify* Button
- Stop the identify process by pushing the identify button again

NOTE: Fixtures, change dim level from 100% to 70% continuously with a 10-second delay
NOTE: DLH's identify by blinking a led that can be seen through the lens



Device naming

- Select *System Configuration*
- Select *Devices* Icon
- Click *Manage* Button
- Add or change device *name*
- Select *Save*

  NOTE: It is suggested that name used gives information where the fixture or device is located

Creating and Managing Groups

Note: See User Interface Reference section for screenshots

The next step in system setup is to create groups of devices such that they may be controlled in congress. Groups consist of a collection of devices and may include any combination of lights and sensors.

- From the main page, select System Configuration, then select Groups.
- To create a new group, click the "Create Group" button on the top right.
- This will show a pop up screen requiring the user to enter a group Name and Description.
- Click the "Save" button to create the group.
- The new group should now be listed in the Manage Groups list with 0 Devices and no assigned schedules.
- Click "Manage" to edit the group. This will open the Configure Group screen.
- In the new screen, verify that the Name and Description fields match the intended group.

- Next, add the associated devices. The devices will be members of this group. Click the Associate Devices button.
- An Add/Remove Devices pane will appear with all Available Devices on the right of the screen, and all Selected Devices on the left of the screen.

- Select the desired devices from the Available Devices group. (Ctrl + click to select multiple devices at once)
- Click the Left arrow (←) to move the desired devices into the Selected Devices list.
- Remove from the Selected Devices list by selecting them and then clicking the right arrow (→)
  Once satisfied, click the "Save" button to save the associated devices.

The devices should now be listed in the Configure Group page.

Next, select a schedule that the group will follow. This is located under the Associated Schedules title.
The Associated Schedules button shows the numbers of existing and available schedules

If schedules do exist, click the Associated Schedule button.
An Add/Remove Schedules pane will appear with all Available Schedules on the right of the screen, and all Selected Schedules on the left of the screen.

- Select the desired schedules from the Available Schedules group.
- Click the Left arrow (←) to move the desired schedules into the Selected Schedules list.
- Remove schedules by selecting them and then clicking the right arrow (→)

NOTE: It is the user's responsibility to make sure that multiple schedules do not contradict each other!
Once satisfied, click the "Save" button to save the associated schedules.

The schedules should now be listed in the Configure Group page

- Scroll down slightly on the Configure Group page. The schedule is graphically displayed in the Dimming Schedule and Sensor Schedule graphs.
- Scroll back up to the top. If the user schedule contains any WOS or DLH event, they can be configured by clicking the "WOS Stepdown Schedule" button or "Daylight Harvesting" button, respectively.
- Click the WOS Stepdown Schedule button. A pane with three steps will appear. For each step select a power level and duration. When the WOS is triggered, the light will follow this schedule for the desired amount of time. Click "Save" to save the Stepdown Schedule.
- Click the Daylight Harvesting button. A pane with the DLH parameters will appear. Use the slider to set the current power level for the lights in the group (OFF to 100%), then use the Mode dropdown menu to select the multi-sensor operation (Minimum, Average, or Maximum). If only one DLH sensor is in the group, all 3 modes will act the same. The third field shows the current DLH reading. This is the light level the DLH event will try to maintain by dimming or brightening the group. When the schedule enters the DLH event (as seen in the Sensor schedule graph), the light will react to the ambient light level to maintain a constant light level in the facility.
- Click "Save" to save the DLH parameters and set the target light illuminance.

Note: DLH 'Target' and 'Current' reading scan be verified from the Configure Groups page
NOTE: As recommended in the DLH User Manual, setting up the DLH event is easiest at night.

A pop up will appear indicating that the DLH parameters may change the current target illuminance (as previously configured). Click "save" again if this change is intended. Once the DLH event is over, the light will return to its scheduled dim level.
Finally, once satisfied with all prior steps, click "Save" on the bottom of the Configure Group page. This will return the user to the Manage Groups list.

Note: These group settings can be updated at any time based on user requirements

Creating and Managing Schedules

Note: See User Interface Reference section for screenshots

A schedule is a series of command events that run over time to control the lighting system. These events are assigned a control operation along with a time to be executed and a collection of these events creates a full control program for the system.

- From the Home page, select System Configuration, then select Schedules
- To create a new schedule, click the "Create Schedule" button on the top right. This will show a pop up screen that allows the user to set up a new schedule.

Here the user can set schedule's name and description, select operation days, and add event light levels.

- "**Days to Affect**" field lets the user set up the days of the week the schedule is in effect.
- "**Events**" field lets the user set up various events (Light level, DLH, and WOS) during various times of the day.

To create a new event, click the "+ Add" button next the "Events" title.

- First select the time the event is in effect (hour then minute)
- Then select the type of event (Light level, Occupancy or Daylight Harvesting)
- Then select the "Value" of the event:

Light Level: the user can set the dim level percentage of the light ranging from Off to 100% @ 10% intervals.

Occupancy Sensor: the user can set the WOS operation as "ON" or "OFF". Note: Create separate ON and OFF events if the occupancy sensor is required to work during certain time ranges.

Daylight Harvesting: the user can set the DLH operation as "ON" or "OFF". Note: Create separate ON and OFF events if the DLH sensor is required to work during certain time ranges.

Once satisfied, click the "Save" button to save the new event.

To change or fix existing events, click the "Manage" button of the desired event.

To delete an event, click the "Delete" button of the desired event. A pop up will appear confirming the user's deletion.

As events are set, graphs will appear on the right of the Schedule pane reflecting the event parameters. Scroll to the bottom of the Scheduling pane. Once satisfied, click the "Save" button, to save the newly created schedule.

To change or fix existing Schedules, click the "Manage" button of the desired schedule.

To delete a Schedule, click the "Delete" button of the desired schedule. A pop up will appear confirming the user's deletion.

Schedules can be associated with new or existing Groups,

Daylight Harvesting Setup

To discover a DLH sensor, go to System Configurations, then Gateway.

- Select Manage on the Gateway that the DLH sensor should belong to.
- Once selected a pop up window with the Gateway's information will appear.
- Turn on Gateway discovery by pressing the Discovery Mode button.
- Wait for the desired DLH sensor to join the network.
- Turn off discovery by pressing the Discovery Mode button again.
- Exit the Gateway management screen by pressing the "x" on the top right hand corner of the pop up or the Cancel button at the bottom.
- Return to System Configuration to set up a new Schedule with the desired DLH sensor or to add the DLH sensor to a new or existing Group.
- Optionally, check that the DLH sensor is listed on the Devices page.

Occupancy Sensor Setup

To discover a WOS sensor, go to System Configurations, then Gateway.

- Select Manage on the Gateway that the WOS sensor should belong to.
- Once selected a pop up window with the Gateway's information will appear.
- Turn on Gateway discovery by pressing the Discovery Mode button.

NOTE: Tigger the WOS sensor by waiving your hand or walking by the sensor and wait for it to join the network.

- Once the sensor has joined, turn off discovery by pressing the Discovery Mode button again.
- Exit the Gateway management screen by pressing the "x" on the top right hand corner of the pop up or the Cancel button at the bottom.
- Return to System Configuration to set up a new Schedule with the desired WOS sensor or to add the WOS sensor to a new or existing Group.
- Optionally, check that the WOS sensor is listed on the Devices page.

System Operation

System Health Monitoring

There are many ways to gauge the connectivity of the Enterprise system.

- In the Home page or in System configuration, click "Devices".
- The Manage Devices page displays all connected devices and their connection status. Lights that are connected have a ✓ in the "Is Online?" column. The user can verify that all desired units are connected. (Verify that units that are not connected are simply unplugged).
- The user can also identify each unit by clicking the "Identify" button. The corresponding unit will begin to blink at a moderate pace. Blinking can be stopped by clicking the "Identify" button again. The light will return to its scheduled dim level.
- User can click "Manage" in the light's row to verify the light's parameters: RF Parent, Software Version, UID, Power, Number of groups, RF strength, etc. The user can manually move the dim level slider to validate responsiveness of the light.

Group Control

Group Control allows the user to manually override the dimming of lights in groups independent of their selected schedules. The user can effectively, temporarily, disable schedules without deleting groups or schedules.

From the Home page go to Group Control.

- In Group Control there will be a list of individual groups defined by the user and All Devices system group.
- All Devices allows the user to take full control off all the lights on the Enterprise network. While individual groups only control devices in that single group.
- Click the green Override button in the Action column. Once clicked, the user gets control of the dimming slider. The user can set the slider to the desired dim level of the group (or all lights).
- To return to the scheduled operation of the group, click the red Resume button in the Action column (was Override). The group (or all groups for All Devices) will return to its scheduled dim level. This will be reflected by the dim slider.
- Lights and groups will remain in override mode until the resume button is pressed

Changing Dimming Schedules and Sensor Actions

Often the user may want to adjust a schedule, without creating a new one and associating it with groups. The user can simply change events in the schedule, and all groups following that schedule will respond accordingly.

- Schedules can be managed by selecting "Manage" next to the desired schedule.
- In the Configure Schedule panel, Events can be deleted or managed to change their parameters. New events can be added by clicking the "+Add" button

Note: If all events are deleted, the light will maintain its last dimmer value.
Note: Daylight Harvesting and Occupancy Sensor events do not automatically turn off when deleted. The user must turn off those events by creating an OFF event at the nearest time. Once the OFF event is triggered, the user can choose to delete the event.

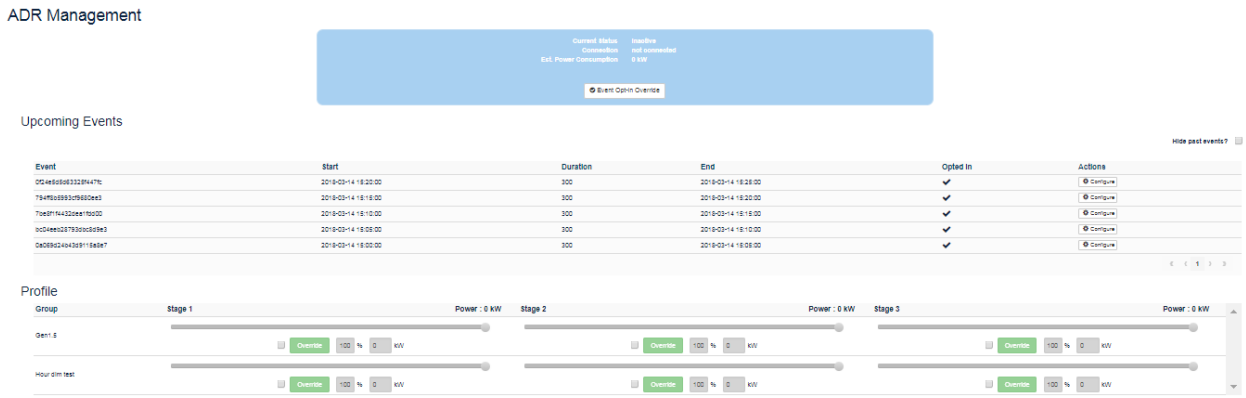
ADR Setup and Operation (U.S. Only)

ADR Installation

The Enterprise system uses the ISY device from Universal Devices to communicate with the utility's Virtual Top Node (VTN) server for OpenADR signals. The ISY device should be installed on the same network subnet as the Enterprise system for automatic configuration between the Enterprise and ISY via UPnP. If your network configuration does not allow you to install the ISY device on the same subnet, please contact Dialight support for help updating the Enterprise configuration to specify the ISY's IP address.

The ISY device needs to be configured to communicate with the VTN server. Please use the setup instructions on the vendor's site at http://wiki.universal-devices.com/index.php?title=Main_Page#OpenADR along with the VTN connection details from your utility company.

ADR Operation



ADR settings in the Enterprise Server are configured by going to the ADR Management page from the Enterprise home screen. The top section of the ADR Management screen shows you the current status of ADR signals, the connection status between the Enterprise and the ISY device, and your current system power consumption. The Event Opt-in Override button will toggle the opt-in setting for the currently active ADR event.

The Upcoming Events section lists all of the ADR events that the system has received from the utility's VTN via the ISY device. Past events can be hidden by clicking the Hide past events checkbox. All ADR events are set to opt-in by default, but you may opt-out of a future event by clicking on the Manage button for that event. An ADR Event Details dialog will open with additional information about the event and the option to change the Opt-in setting by clicking the checkbox at the top of the dialog and clicking the Save button. Note that the Opt-in checkbox can only be changed for future events.

The Profile section allows you to configure how the Enterprise system will behave during an ADR event. All of the user defined groups of the system will be listed and available for configuration. ADR events will specify a signal level for the event that correspond to the Stage levels in the Profile section. In general, higher signals correspond to higher reduction requests, but the meaning of a signal and your expected energy use is defined by your specific utility's ADR program. To enable a group for participation in an ADR event, click the checkbox for each Stage level the group should participate in. Then set the group's light level by clicking the Override button and adjusting the slider. As you adjust the slider, the group's power usage will update as will the total power usage for that stage. Once you are happy with both the light level and the power usage values, click the Resume button to save the setting for that group at that stage level. Repeat this process to configure all of the groups and stages that you need to for your ADR program.

When an ADR event becomes active, all participating groups for the event Stage level will be commanded to their defined levels. Note that an ADR event has priority over normal schedules and daylight harvesting settings. However, manual override and emergency override commands will take precedence over an active ADR event. Also, you may opt-in or out of an active ADR event by clicking the Event Opt-in Override button in the top section of the ADR Management screen.

ADR Best Practices

Here are a few things to consider when connecting an ADR device to the IntelliLED Enterprise Server:

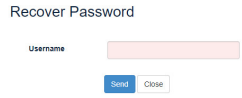
- ADR is should not be configured to run at the same time as the IntelliLED WOS and DLH sensors
- ADR should not be configured to run at the same time as a Manual Override
- ADR events should not start in the same minute that another ADR event is stopping
- Ensure a stable NTP server is configured within the Enterprise Server to ensure proper time sync with the external ADR utility
- Ensure the proper port forwarding is configured to connect the IntelliLED Enterprise Server to the ADR Utility. The Universal Devices ADR utility uses UPnP (Universal Plug-and-Play) to communicate to the enterprise
- The ADR Utility will take precedence over scheduled dim levels within the Enterprise Server. This may mean that the ADR Utility will command the lighting network to a higher dim level than scheduled (if configured that way)
- The IntelliLED Enterprise System uses the "LEVEL" Message parameter in the ADR Utility. The Enterprise system (if configured) will respond to a Level 1, 2, or 3 LEVEL Command

User Interface Reference

Supported Browsers

The suggested browser to use for the IntellLED Enterprise Server is Google Chrome v. 42 or greater. It is also supported on Firefox v.40 or greater

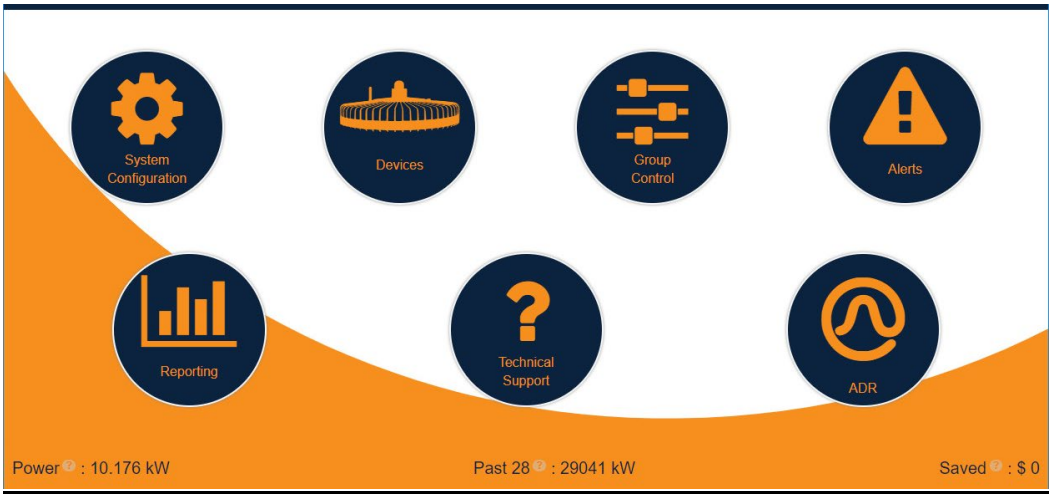
Login Screen



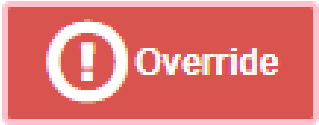
This is the first screen you will see when trying to access the Enterprise system. Each user may have a different Username and Password depending on admin requirements.

NOTE: If a password is forgotten, a user can click the Forgot Password link to the right of the Login button, which will lead to an email-based retrieval screen.

Home Screen



The main screen gives the user access to all of the features and controls that the Enterprise system offers. Each sub-menu will direct user to a different feature/control page. The menu bar at the top of the screen also offers quick navigation options as well as an emergency override feature and a real-time clock. Please see below for a detailed description of each sub-menu.



The **Override** button will automatically bring all lights to 100% ON when pressed. The button will flash when it is active, and will only turn off when pressed again. The lights will revert to previous dim state/ schedule after Override is turned off.

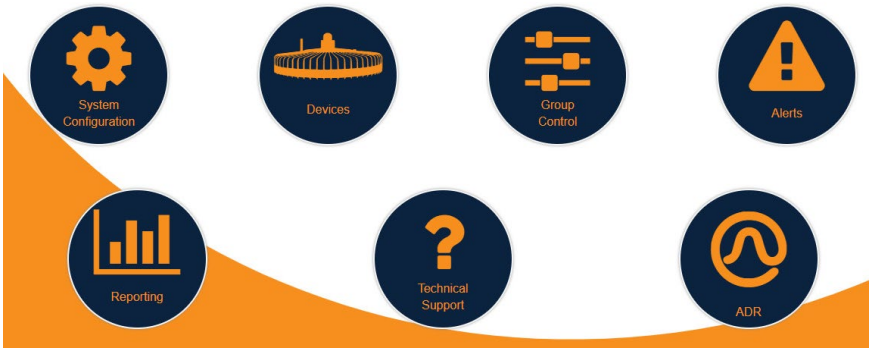
The **Home** button will bring the user back to the main screen regardless of what page they are on. Use this to quickly navigate back to the home screen.

The **Alerts** button will bring the user to the alerts page. Use this to quickly navigate to the Alerts page to view/acknowledge alerts.

The **About** button shows basic system information such as version and contact phone number. You can also use this option to find out more about your Enterprise system.

The **Logout** button will allow the user to log out after they are finished using the system.

Menu Options



System Configuration – This sub menu will allow you to customize all aspects of your Enterprise system. This includes managing/removing gateways, lights, and sensors. You can also modify Schedules, Groups, Users, and Alerts.
Devices – This sub menu will allow you to view all devices currently connected to your system. You can also view in-depth information about each light/sensor as well as identify or control each light individually.
Alerts – This sub menu will allow you to view and manage all current alerts in the system.
Reporting – This sub menu will allow you to print power reports for specific light groups or all connected lights.
Group Control – This sub menu will allow you to manually control your lights outside of schedules. You can dim individual groups or all devices connected to your Enterprise system.
ADR Management – This sub menu will let you view/modify your current ADR events.
Technical Support - This sub menu provides access to technical support information.

System Configuration

Clicking the system configuration menu option on the main screen will bring you to a sub menu with several options. See below for detailed description of each.

Gateways – manage the gateways currently connected to the system and add new gateways
Devices – manage all devices currently connected to the system
Groups – Modify/create groups and associate the groups with lights/schedules
Schedules – Create schedules
Users – Add/Manage user accounts
Alerts and Notifications – Create/Modify alerts and notifications
Network Analysis – View a connection map of gateways and their wireless networks
System Settings – This sub menu provides a variety of system-level functions, such as Backup/Restore, Set Date/Time, Network configuration plus System Shutdown and Upgrade.

Gateways

Clicking the gateway menu will open the manage gateways page. This page allows you to see all gateways currently connected to the Enterprise system. You can see IP addresses assigned to each gateway as well as the number of devices currently connected. After a gateway is connected, you can manage it by selecting the **Manage** button, which will bring up the following screen:

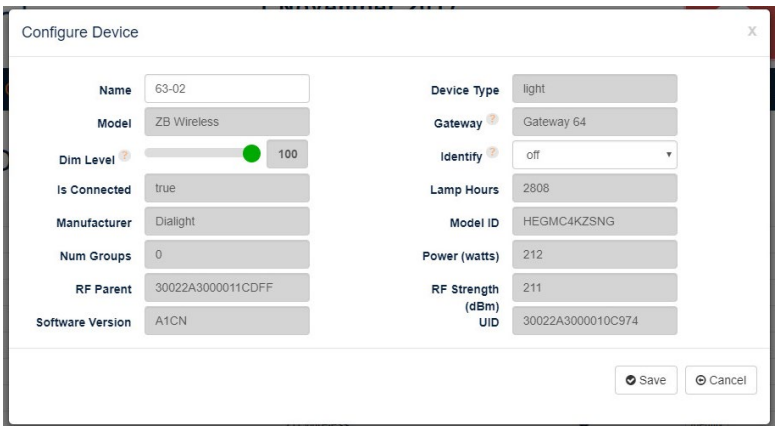
This pop-up window will allow you to configure the following parameters:

- Name
- Ethernet Settings
- Wi-Fi Settings
- Attached Devices
- Device Discovery
- Device Identify

Please refer to the section on Connecting Devices for a more in-depth guide

Devices

Clicking the devices menu will open up the Manage Devices page. This page allows you to view/manage all devices currently connected to your Enterprise system. You will be able to see which devices are connected as well as information about each device. You can click the **Manage** button, which will open the following screen:



This screen gives you a wealth of information about the selected device as well as a few changeable features:

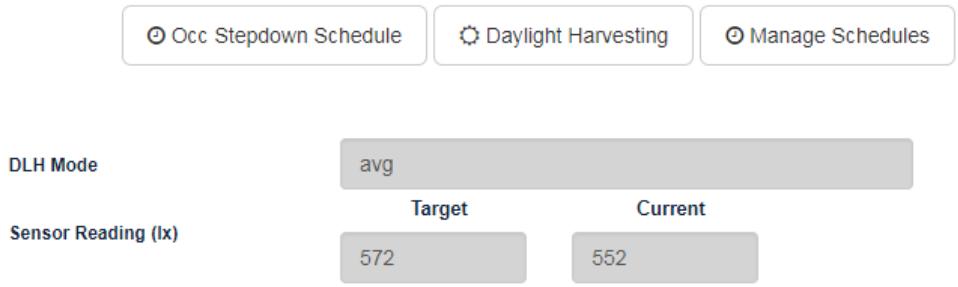
- Name (unique name for each device)
- Set dim level for individual lights
- Identify device for easy location management

Groups

Clicking the Groups menu will open up the Manage Groups page. This page allows you to view/manage all groups currently set up on your Enterprise system. You can create/edit all groups from this screen regardless of which gateway the devices are connected to. After creating a group, you can manage it by clicking the **Manage** button which will open a page with several group options. These include:

Name and Description: Give each group a custom name and description for better identification

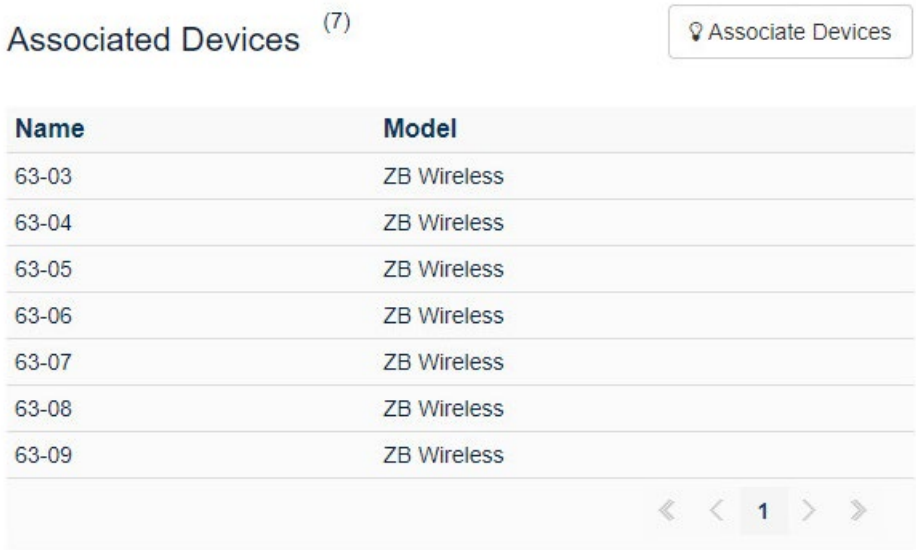
Manage Sensors



Set your Occupancy sensor Stepdown Schedule and Daylight Harvesting light levels. The DLH will show Target vs. Current readings for easy commissioning

NOTE: This can only be used if you have WOS or DLH sensors installed and associated with the group. Refer to respective manuals for more in-depth guides.

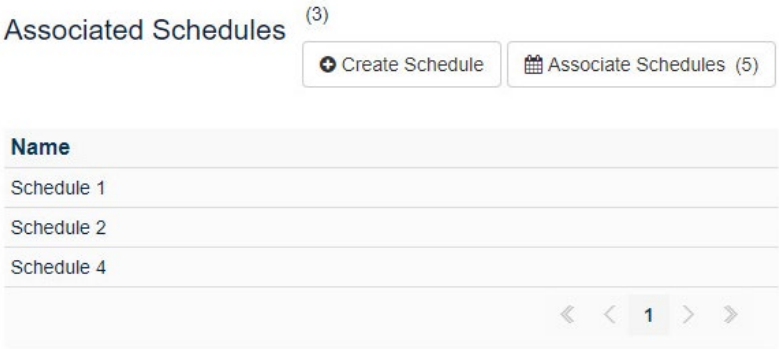
Associated Devices



View and manage all devices currently in the selected group. You can add/delete devices by selecting the **Associate Devices** button.

NOTE: Devices must be associated with a group to interact with schedules/group commands. See configuring groups section for a more in-depth guide.

Associate Schedules

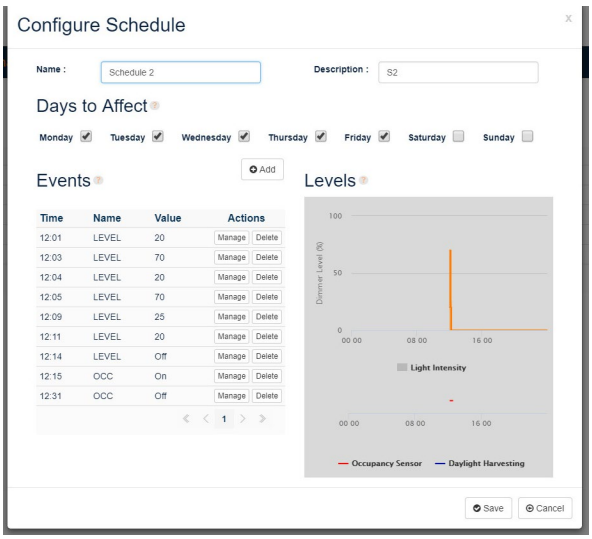


View and manage all schedules currently associated with selected group. You can add/delete schedules by selecting the Associate Schedules button. Once a schedule is associated with a group, a visual display of the schedule will appear in the graphing section at the bottom of the page.

NOTE: Schedules must be associated with a group to interact with lights/sensors. See configuring schedules section for a more in-depth guide.

Schedules

Clicking the Schedules menu will open up the Manage Schedules page. This page allows you to view/manage all schedules currently set up on your Enterprise system. You can create/edit all schedules from this screen regardless of which group they are associated with. You can create a new schedule by clicking the **Create Schedule** button, which will open the following page:

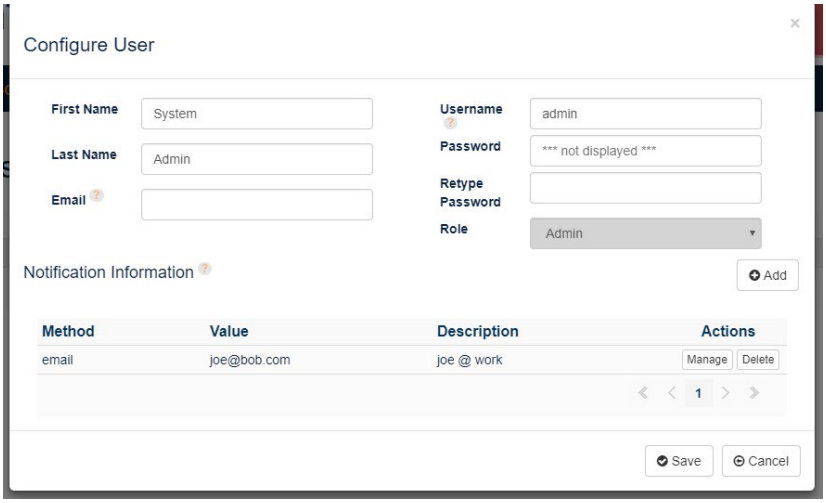


This screen allows you to customize a schedule for any situation. You can set events for dimming as well as turning on and off sensors. The schedule will interact with all devices in a specific group once the schedule is associated with that group.

NOTE: Please refer to the scheduling section for a more in-depth guide.

Users

Clicking the Users menu will open up the Manage Users page. This page will let you see all user accounts currently configured for the Enterprise system. This screen will also show you the authorization level for each account. To create a new account, simply click the **Create Account** button, which will open the following screen:

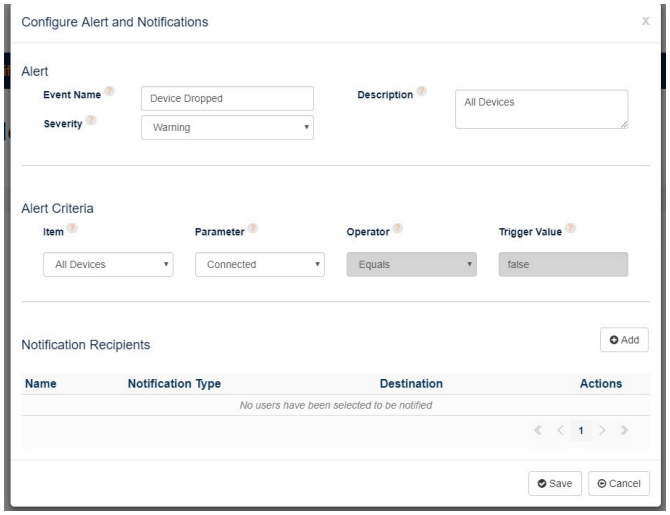


Usernames can be set up with the following custom parameters:

- First and Last name
- Email address (used for forgotten password retrieval)
- Username
- Password

Alerts and Notifications

Clicking the Alerts and Notifications menu will bring you to the Manage page for all Alerts and Notifications currently set up on the Enterprise system. These can be custom made for a wide variety of parameters that could occur within the system. Hitting the **Create Alert**, button will open the following page:



Some of the notable features in this screen include:
Custom event name, description, severity
Custom alert criteria which can apply to a single light, group of lights, or even a gateway
Notification recipients
Alerts can be sent to any number of recipients over a variety of methods including:

- Twitter
- Email
- SMS

NOTE: Alerts can be tailored to custom parameters using the Alerts Rules Engine. Please refer to Alerts section for a more in-depth guide.
NOTE: The Enterprise Server must have access to the internet for notifications to be transmitted.

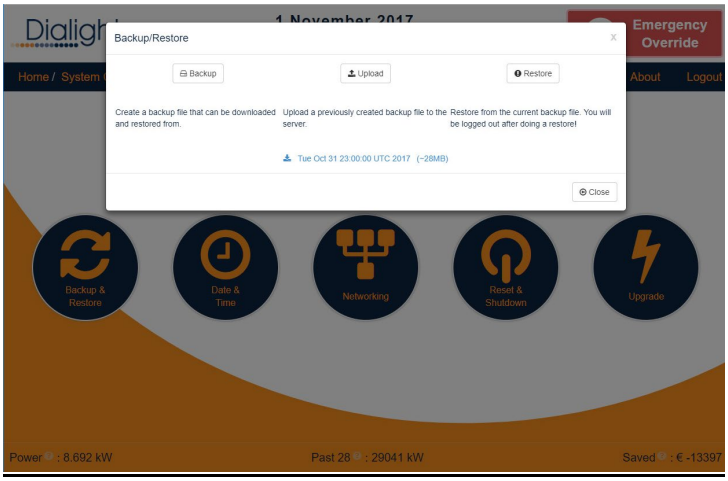
System

Clicking the "System" button takes you to the Manage Settings page. This page contains links to sub-pages which contain a variety of system settings including:

- Back up & Restore
- Date & Time
- Networking
- Reset & Shutdown
- Upgrade

Note: Please familiarize yourself with these pages and understand how they work before attempting to change any information. Some of these features can render the system unusable if not properly configured

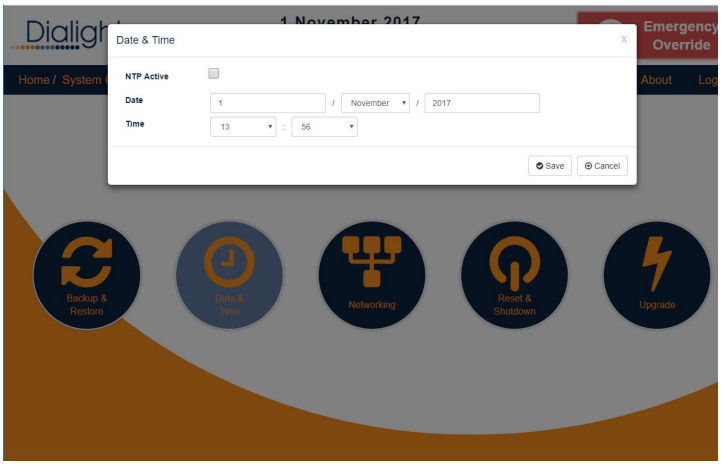
Backup & Restore



Backup & Restore allows system commissioning and configuration to be saved and restored at a later date. This is useful in that it provides a backup, which could restore a previous configuration of the Enterprise Server

NOTE: It is a good practice to create and download a backup file to a local PC EVERY TIME a configuration change is made

Date & Time



The Date & Time page allows the internal system clock to be set. Alternately, an external networked timeserver may provide time over NTP protocol.

Instructions for setting NTP Server (Enterprise MUST be connected to the Internet)

- Log into the web GUI and click the menu to go to System
- Make sure NTP checkbox is off, and set the correct date and time for UTC
- Click the Save button in the top right
- Give the gateway time to restart and log back in
- Go back to the Menu -> System page
- Click the NTP Active checkbox

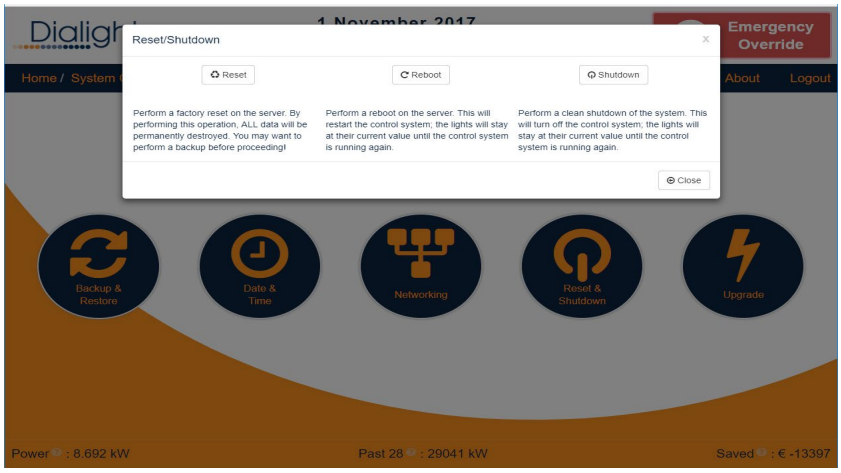
- Select the correct time zone from the dropdown menus based on your location
- Enter 127.0.0.1 for the NTP Server
- Click Save (the system will reset

Networking

The Networking page allows the Ethernet settings for the Enterprise Server to be set. The system will default to IP **192.168.1.150**

Note: Be sure to record all changed network settings

Reset & Shutdown

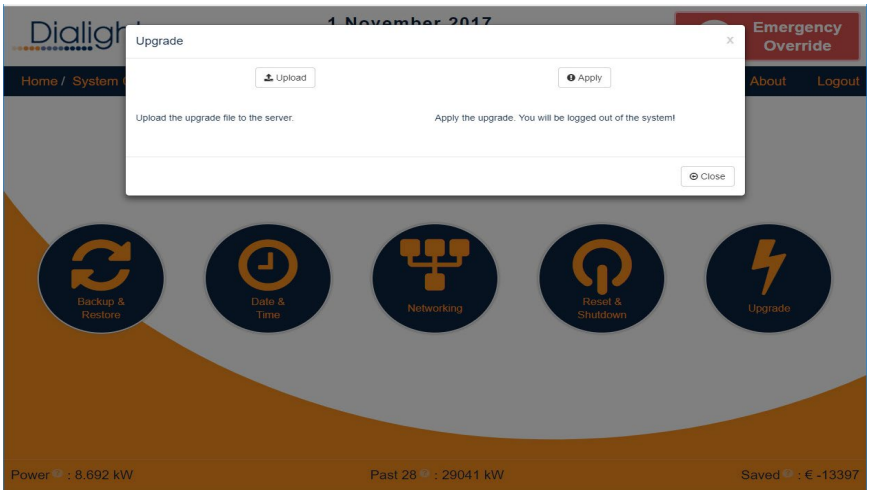


The Reset/Shutdown page provides controls to perform a factory reset on the Enterprise Server, reboot the server, or perform a full system shutdown. It is recommended to use this page when turning off the Enterprise Server to avoid data corruption

Note: Performing a factory reset will erase all commissioning and configurations that have been performed on the system.

Note: Before disconnecting power to the Enterprise Server it is important to properly shut the server down through the shutdown mechanism provided. Failure to do so may result in unrecoverable data corruption.

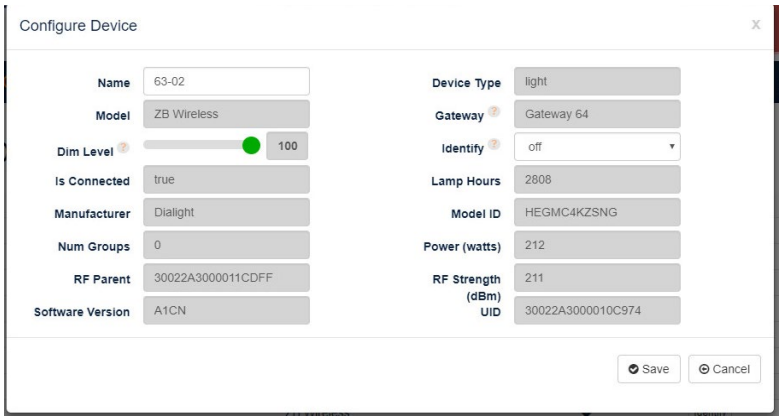
Upgrade



The Upgrade page provides the capability to upgrade the software of the Enterprise Server. Simply acquire the new version from a Dialight technical support representative, upload the file using the button provided and then click on the "Apply" button to apply the update.

Note: - You will be logged out of the system once the update is complete.

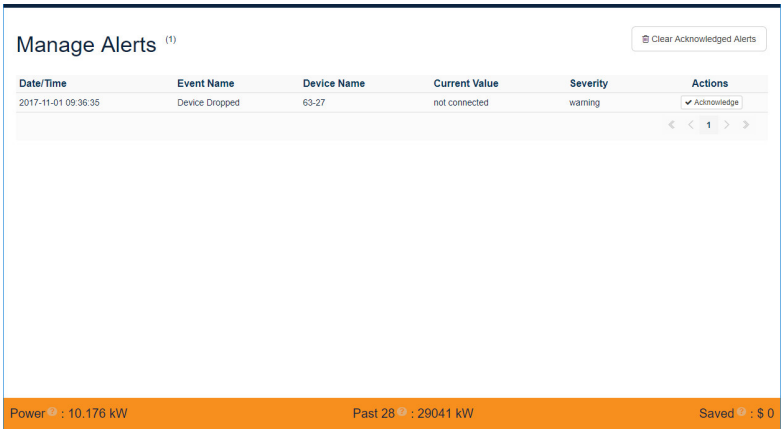
Devices



Clicking the devices screen on the home page will bring you to the **Manage Devices** page. This is the same page that can be accessed from the **System Configuration** menu. Use this page to manage/view all devices currently connected to your Enterprise system. You can also use this page to:

- Identify individual lights
- Rename lights
- Delete lights
- Verify light communication
- Get various information about light
- RF signal Strength
- RF parent
- UID
- Temp
- Lumens Output

Alerts



Clicking the **Alerts** menu on the main page will bring you to the **Manage Alerts** page. This is different than the **Alerts Configuration** page which can be accessed from the **System Configuration** menu. Use this page to view all current active and acknowledged alarms on the system:

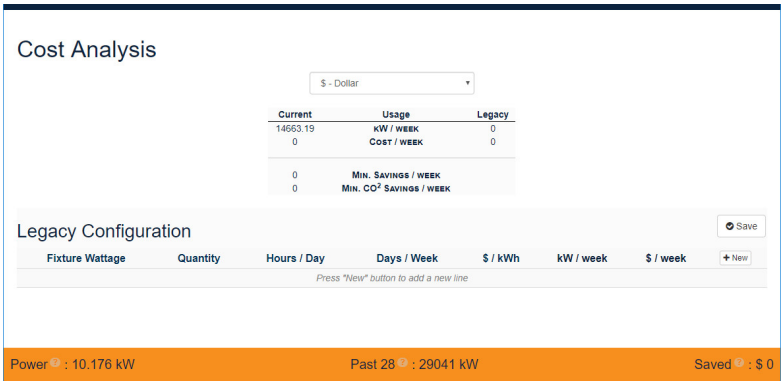
- Acknowledge or Un-Acknowledge alerts
- Delete Acknowledged alerts

Reporting

Clicking the **Reporting** menu on the main page will bring you to the **Reporting** page. Use this page to access tools that will allow you to print out power reports for various lighting configurations. Available reporting options are Cost Analysis, Historical and Real-Time.

NOTE: Disconnected devices will show a power reporting of 0 Watts

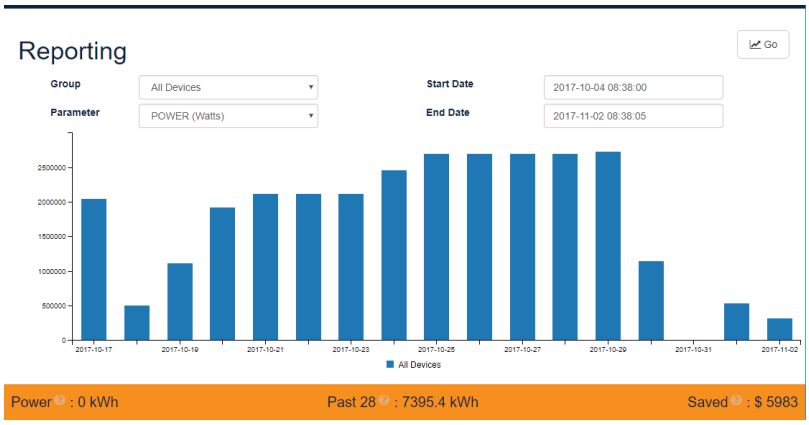
Cost Analysis



The Cost Analysis page provides an easy to use energy cost calculator. Enter in the energy cost, hours of operation and currency type to estimate savings based on various scenarios. Currently, The Enterprise Server supports the following currencies:

- United States Dollar
- China Yuan Reniminbi
- Euro Member Countries
- United Kingdom Pound

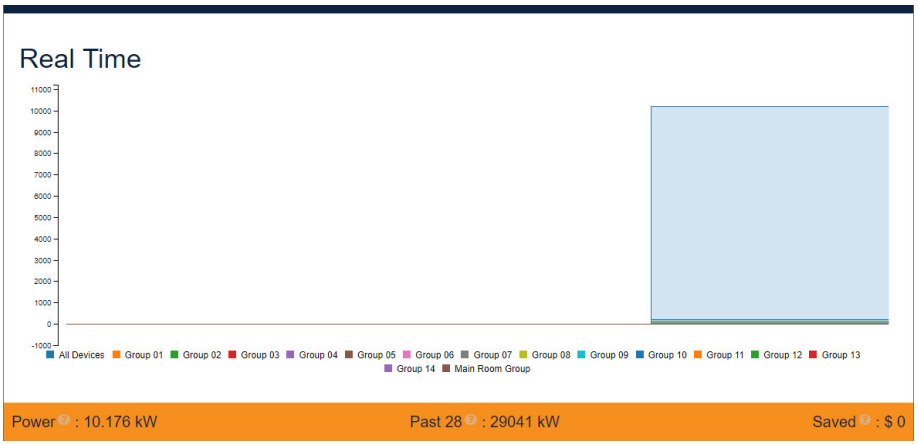
Historical



The Historical reporting page allows you to select a group, parameter and date range. Clicking on the "Go" button will display a graph showing the value of the selected parameter over the selected date range.

NOTE: Disconnected Lights will display a power reading of 0 Watts

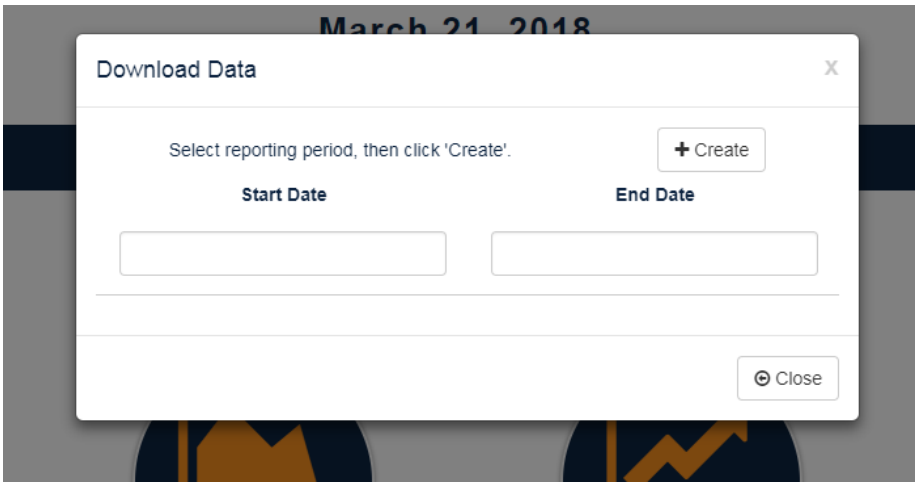
Real-time



The Real-time page provides a live display of power consumed by group in an ongoing scrolling display. The graph will automatically update every 3 seconds and user configured groups will be displayed in different colors. The user can remove a specific group from the graph by clicking the group name in the bottom axis

NOTE: Disconnected Lights will display a power reading of 0 Watts. This does not necessarily mean the light is OFF

Download



The download page will allow the user to download a .CSV file with full system power outputs over a period of time. Use the Start Date and End Date selection to customize the data output

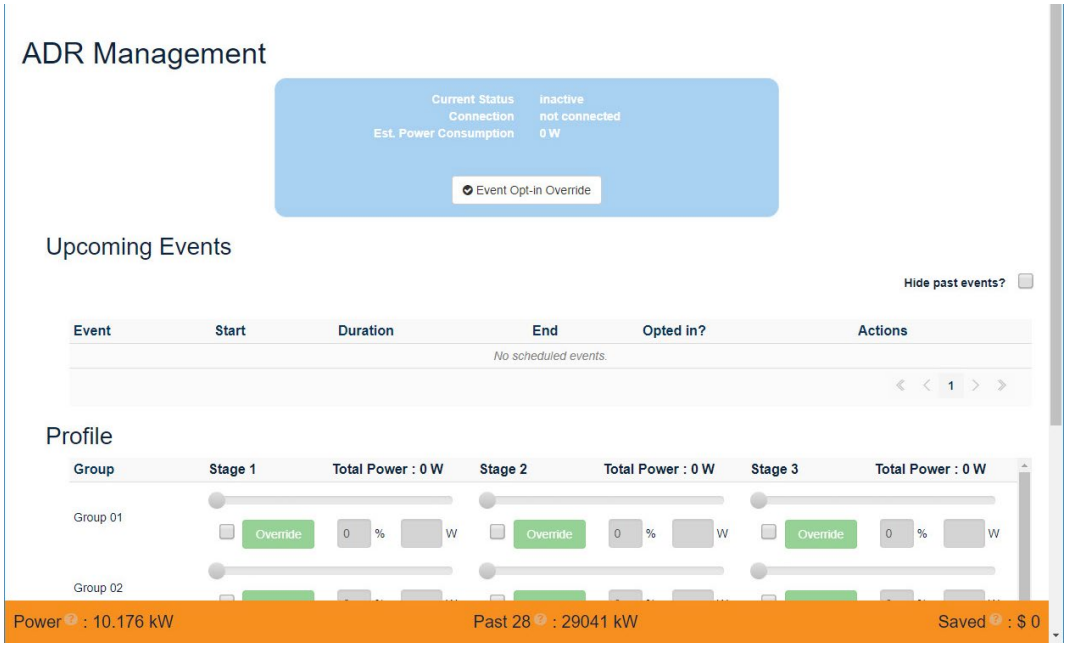
NOTE: Disconnected Lights will display a power reading of 0 Watts. This does not necessarily mean the light is OFF

Clicking the **Group Control** menu on the main page will bring you to the **Group Control** page. Use this page to control groups of lights or all current lights connected to the system. To control these groups, you will need to override the schedule set for each group. The schedules will not resume until you click the resume button.

NOTE: Groups must be configured before they can be controlled.
NOTE: 'All Devices' Group will take priority over all group control inputs

See **Group Control** section for a more in-depth guide.

ADR Management



Clicking the **ADR Management** menu on the main page will bring you to the **ADR Management** page. Use this page to view upcoming ADR events, Opt-out of events, and set desired stage profiles.

NOTE: please see section ADR Installation for a more in-depth guide.

Automation Adapters

The IntelliLED Enterprise Server offers options or connectivity with several popular building and industrial automation systems through the implementation of network adapters that support popular industry standard protocols. The lighting system's device properties can be made accessible via a network connection to the Enterprise Server and the Enterprise system may be fully commanded, configured and operated from a facility-wide master control system.

EtherNet/IP – CIP

EtherNet/IP is an industrial network protocol that adapts the Common Industrial Protocol to standard Ethernet. EtherNet/IP is one of the leading industrial protocols in the United States and is widely used in a range of industries including factory, hybrid and process. The EtherNet/IP and CIP technologies are managed by ODVA, Inc., a global trade and standards development organization founded in 1995 with over 300 corporate members.

The Enterprise Server Ethernet/IP adapter connects over the server's wired Ethernet network. Please refer to the document "**Dialight Enterprise EtherNetIP Adapter** " for a full description of the adapter implementation specifics.

BACnet/IP

BACnet is a communications protocol for Building Automation and Control (BAC) networks that leverage the ASHRAE, ANSI, and ISO 16484-5 standard protocol. BACnet was designed to allow communication of building automation and control systems for applications such as heating, ventilating, and air-conditioning control (HVAC), lighting control, access control, and fire detection systems and their associated equipment. The BACnet protocol provides mechanisms for computerized building automation devices to exchange information, regardless of the particular building service they perform.

The Enterprise Server BACnet/IP adapter connects over server's wired Ethernet network. Please refer to the document "**Dialight Enterprise BACnet Adapter**" for a full description of the adapter implementation specifics.

Notes on Connections to Industrial Control Systems (ICS) and Building Management Systems (BMS)

Note 1: If a group is in manual override in the Enterprise Server, the BMS and ICS will no longer have control over the group

Note 2: Replacing a BMS or ICS device has no effect on the Enterprise Server. All configuration needs to be done in the BMS or ICS

Note 3: Replacing a BMS or ICS connection is lost, lights will remain at their last level until the BMS and ICS connection is restored. Users may override that level from the Enterprise Server via either the emergency or group overrides

Field Replacement

Light Replacement

1. Note the gateway, name and groups to which the old light resides
2. Delete old light from the devices page
3. After new light is installed and powered on, start a discovery from the gate configuration page
4. Once new light is discovered, rename the light from the devices page
5. Go to groups in which the old light resided and add the new light
6. Turn on manual control for each group that the light was added to
7. Release the manual control for each group, this will ensure lights return to their schedule
8. Create and download a new backup file

Gateway Replacement

1. Remove the old gateway and install the new gateway
2. Power on the new gateway
3. Connect to the gateway and setup the gateway Ip settings per IT department requirements (if necessary)
4. Go to the administrative settings page and click on the node release button, this process takes twenty minutes, the lights will dim to 80% for 1 second and then return to 100% every minute
5. Once the node release has been completed, connect the gateway to the Enterprise Server per instructions in this manual
6. Go to the gateway configuration page and click the replace gateway button
7. In the "Old gateway" dropdown, choose the gateway to be replaced
8. In the "New gateway" dropdown, choose the new gateway that was just installed
9. All nodes attached to the old gateway will join the new gateway, the device will stay assigned to their original groups
10. Once all nodes rejoin, turn on manual control for each group
11. Release the manual control for each group, this will ensure lights return to their schedule
12. Create and download a new backup file

Enterprise Server (with backup file)

1. If the Enterprise is functional, create and download a backup file. If the Enterprise Server is not functional, locate a stored backup file, if available
2. Remove the old Enterprise Server and install the new Enterprise Server
3. Power on the new Enterprise Server
4. Connect to the Enterprise Server and setup the Enterprise Server IP settings to the same settings as the old Enterprise Server
5. Upload and restore the backup file, all devices should rejoin
6. Once all nodes rejoin, turn on manual control for each group
7. Release the manual control for each group, this will ensure lights return to their schedule
8. Create and download a new backup file

Enterprise Server (without backup file)

1. Remove the old Enterprise Server and install the new Enterprise Server
2. Power on the new Enterprise Server
3. Connect to the Enterprise Server and set up the Enterprise Server IP settings to the same settings as the old Enterprise Server
4. Restart any attached gateways, via the Administrative Settings page
5. Reboot the Enterprise Server via the systems settings page
6. All attached gateways should be present on the new Enterprise Server
7. Refer to the System Setup, Configuration, and Device Commissioning section of this manual to complete the setup

Legal Notice

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Installation & secondary retention. The use of this product without proper installation (including secondary retention / netting) and periodic inspections, could cause severe injury or death. Dialight recommends that all installations should use secondary retention / netting (appropriate to the installation environment) as applicable. Dialight products are intended for ultimate purchase, installation and operation by knowledgeable persons trained in the functional assessment, installation, use and maintenance of such products and all customers (including but not limited to end customers) are responsible for assessing the suitability of Dialight products for any given installation requirement. It is the exclusive responsibility of the contractor, installer and/or end-user to: (a) determine the suitability of the product for its intended application; and, (b) ensure that the product is safely installed (with secondary retention / netting as appropriate) and in compliance with all applicable laws and regulations.
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Who we are

Dialight is the world leader in LED industrial lighting technology with over 1 million LED fixtures installed worldwide. In 1971, we launched our first LED product. Since then, we have revolutionized the use of LEDs and ONLY LEDs, to provide superior lighting for traffic control, indicators, structural towers and industrial work sites around the world.

Scan here to be directed to our website

Technical Support
www.dialight.com/contact/technical-support/

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