



**Dialight INEM Quick Start Manual**  
READ AND FOLLOW ALL SAFETY INSTRUCTIONS



- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• <b><i>DO NOT let any supply cords touch hot surfaces higher than cord ratings.</i></b></li><li>• <b><i>DO NOT mount near gas or electric heaters</i></b></li><li>• <b><i>Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.</i></b></li><li>• <b><i>The use of accessory equipment not recommended by the manufacturer may cause unsafe conditions.</i></b></li><li>• <b><i>DO NOT use this equipment for other than intended use.</i></b></li><li>• <b><i>Before changes to settings are made the user must take screen shots of what the factory setting are.</i></b></li></ul> | <ul style="list-style-type: none"><li>• <b><i>The operation and maintenance must be carried out by authorized personnel.</i></b></li><li>• <b><i>Repairs and Installation must only be carried out by a qualified electrician.</i></b></li><li>• <b><i>Only genuine Dialight replacement parts must be used when unforeseen repairs are required.</i></b></li><li>• <b><i>Observe the national safety rules and regulations during installation!</i></b></li><li>• <b><i>Earth Grounding is required throughout the install process. Failure to do so could void all warranties!</i></b></li><li>• <b><i>No alterations should be done without the agreement from Dialight Corp. Alterations other than written in this manual will void all warranties.</i></b></li></ul> |
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**SAVE THESE INSTRUCTIONS!!**

### Introduction

This manual is for orientation and a quick guide to the installation process and configuration of the Control and Monitoring INEM (Integrated Network Card with Embedded Monitoring). The INEM is setup for directly connecting to an Ethernet port or to the owners supplied Wireless modem for remote monitoring or a Dialight supplied Janus modem (pluggable on the interface Hub - not available for all models). There is no physical dry contact support with the INEM, there is a digital representation on the INEM web page. If there are dry contacts presently at the site then those can be left as a second method for alarming. The INEM can only be used with Dialight's Dual Medium Intensity, Red Medium Intensity or High Intensity systems. It cannot be used in conjunction with other RS485 remote monitoring systems.

#### Included in this manual:

- System overview
- System configuration instructions
- User Interface overview

#### NOT Included with the Dialight INEM:

- 12Vdc battery or cables for Backup power
- #6 AWG earth ground cable when required
- Ethernet cable (shielded cable cannot be used for floating DC input powered version)



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## System Overview

Connection points (AC input version pictured)



WiFi antenna connection

Cable entry points

RS-485 communication connection terminal block

AC input Terminal block

Components of control and monitoring system



Digi SBC Connect6 i.MX6





Dialight designed interface hub



Janus Modem LTE910CF – (Dialight provided) – Not available or installed for all models.

**Electrical Parameters**

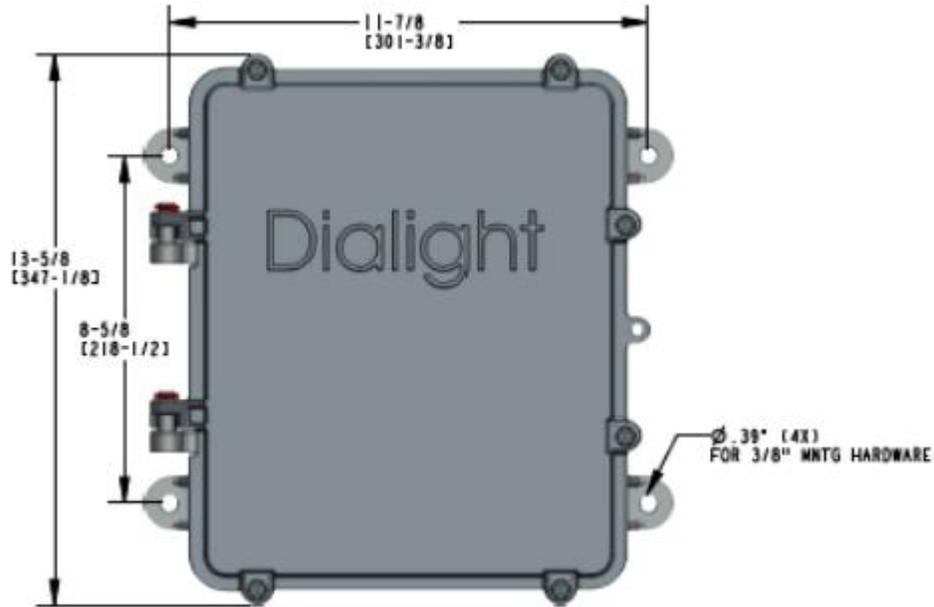
The INEM is supplied in either of the two versions below. Refer to product label for operation

Input Voltage [VAC]	Absolute Maximum	Frequency
120-230Vac	100-264Vac	50/60 Hz
+/- 48Vdc (Floating)	40-60Vdc	N/A



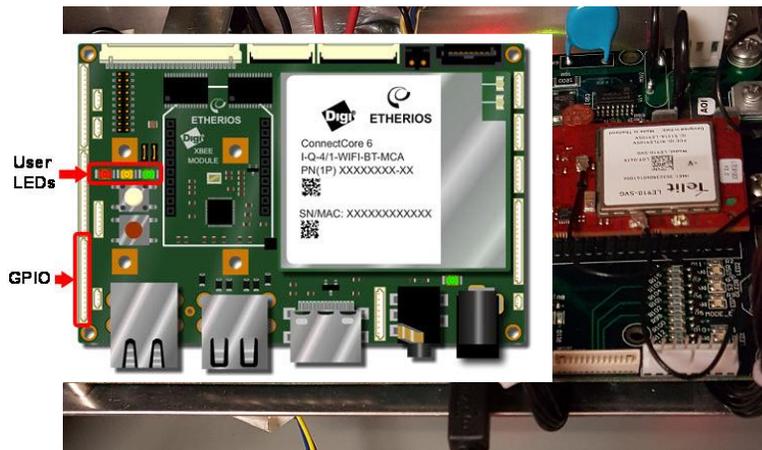
## Installation

### Mounting Information



### Wiring of Monitoring System to the Main Controller:

1. Run the RS485 cable from RS485 terminal block to Dialight Lighting System controller board "From Master" connection point
2. If optional Janus modem (Dialight provided - not available for all models) is to be used - the modem needs to be plugged on to the INEM interface HUB (an extra 14pin connector between the SBC GPIO header and the interface hub P5).



3. For use with standalone wireless modem, connect to Ethernet port on Digi SBC

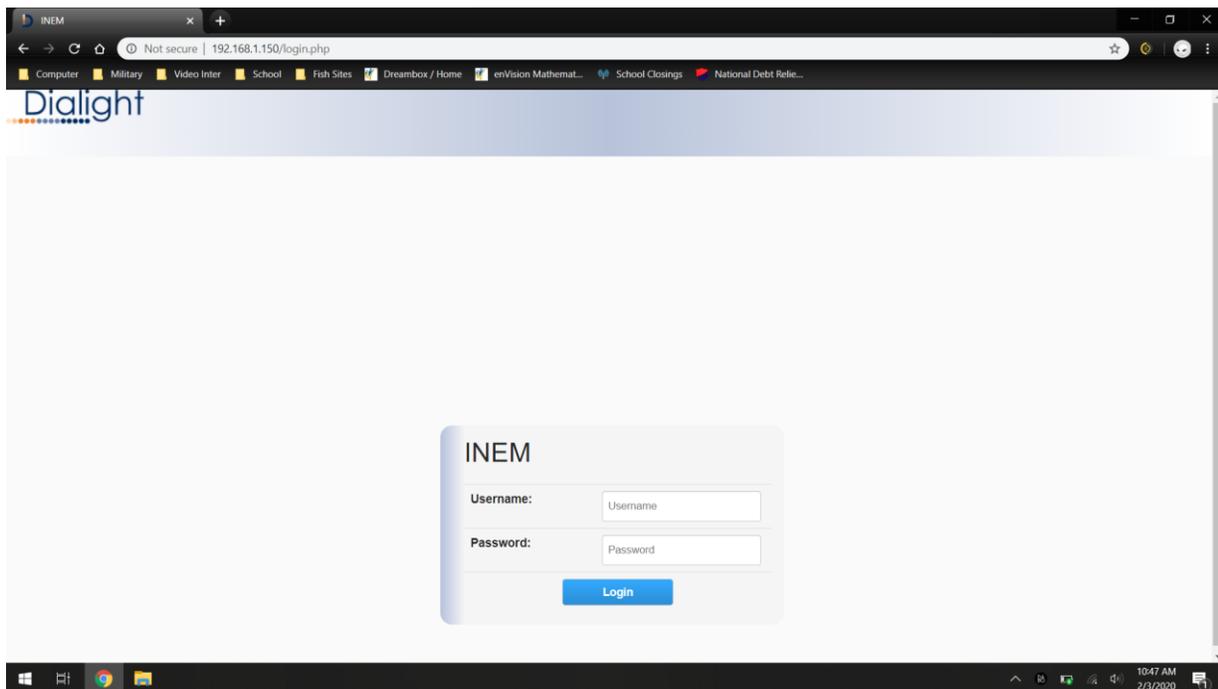
## System Configuration

### Connecting using the IP address

The INEM is provided with a static IP (192.168.1.150:9000) address if there is no Janus modem (not available for all models) installed- otherwise the IP of the INEM would be the modem IP. These Network settings can be changed, but it is advised to leave them as they are as changing them can disrupt communication

*WARNING: It is highly recommended that screen shots are taken and saved before any changes are made.*

### INEM Secure Login Page



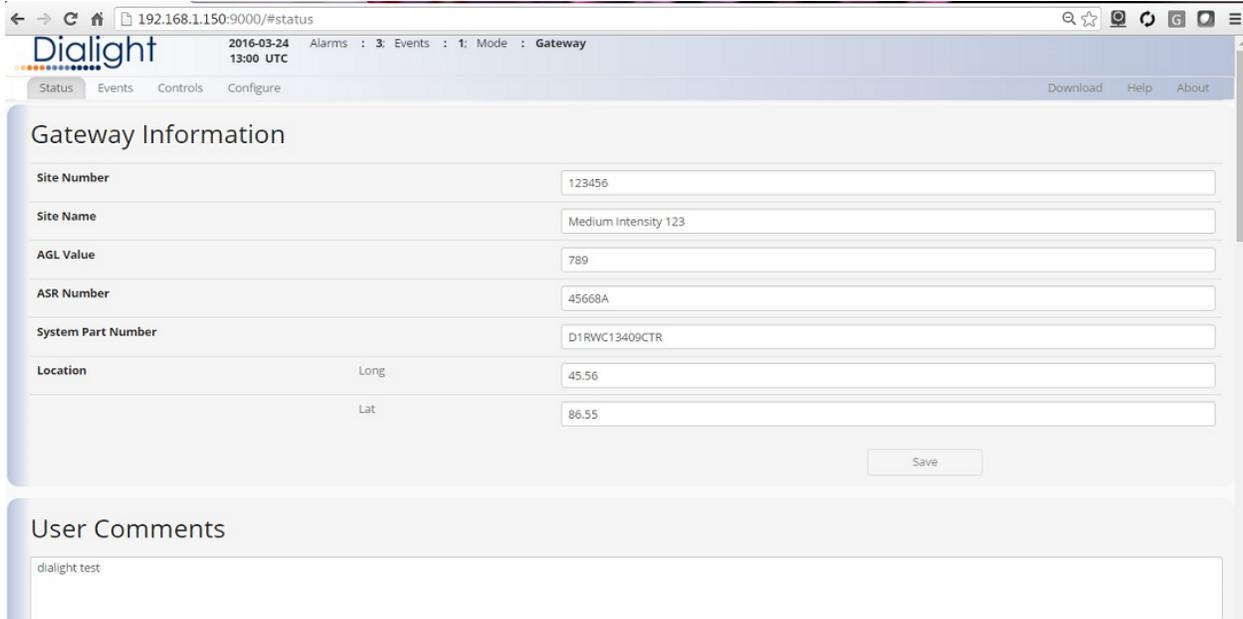
Default Username: admin  
Password: di@lightINEM1

### Selecting the tower style

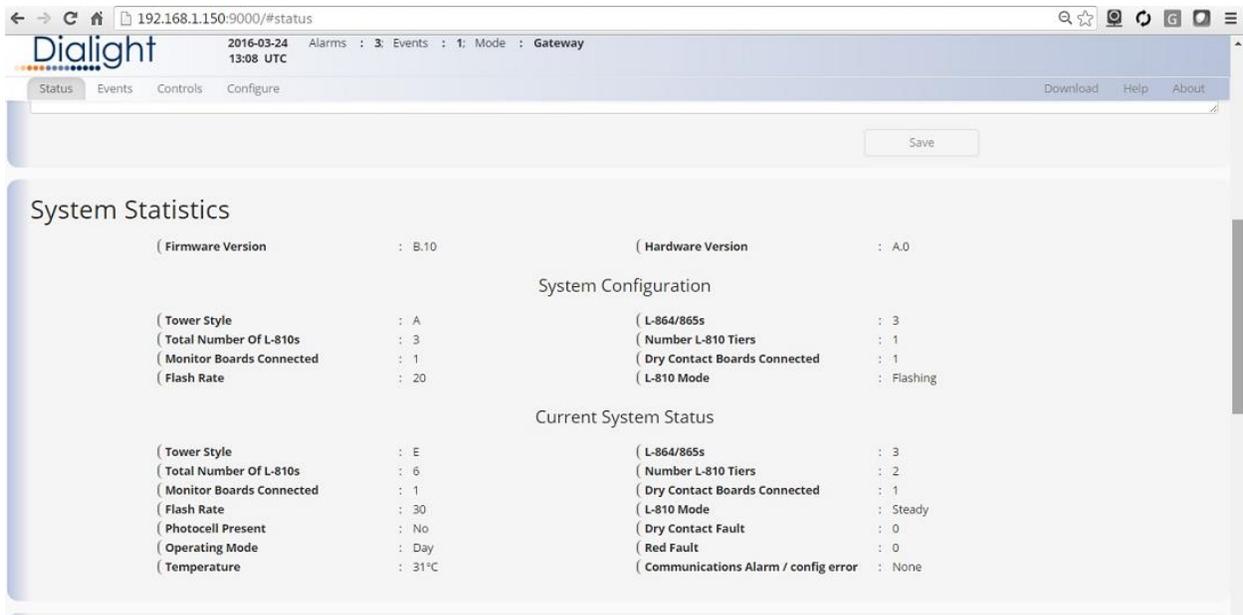
The INEM is set default for a Dual Medium Intensity system. However, the user is able to select use for Red Medium Intensity or High Intensity systems. To perform this function, see the “extra page” instruction in the INEM user interface section of this quick start manual.

# INEM User Interface (GUI)

## Status Page



In the figure above the user can enter the site and system information. The user can also add any needed comments.



The figure above show the system statistics and how many devices we have in the installed system.

It also shows if there are faults on the system, temperature, tower style and mode.

### High Intensity Beacons

**Tier 1 v**

**Beacon 1 v**

Power Supply Enabled	: Yes	Power Supply Type	: W3x3
PS 150VA Under Threshold	: No	PS 150VB Under Threshold	: No
Red Night Enabled	: Yes	Error on Red	: No
White Night Enabled	: No	Error on White	: No

**Module 1**

Communication Error	: No	Sync Error	: No
Red Voltage Out of Range	: No	Red Current Out of Range	: No
White Voltage Out of Range	: No	White Current Out of Range	: No

**Module 2**

Communication Error	: No	Sync Error	: No
Red Voltage Out of Range	: No	Red Current Out of Range	: No
White Voltage Out of Range	: No	White Current Out of Range	: No

**Module 3**

Communication Error	: No	Sync Error	: No
Red Voltage Out of Range	: No	Red Current Out of Range	: No
White Voltage Out of Range	: No	White Current Out of Range	: No

**Beacon 2 v**

Power Supply Enabled	: Yes	Power Supply Type	: W3x3
PS 150VA Under Threshold	: No	PS 150VB Under Threshold	: No
Red Night Enabled	: Yes	Error on Red	: No
White Night Enabled	: No	Error on White	: No

**Module 1**

For High Intensity system – this section will show parameters of each High Intensity Beacon module and power supply. Arranged in tiers of 3 complete beacons, each with three individual modules (flash head layers)

**L810 Current Matrix**

(red if fails (less than 25%), green in range)

L-810 Tier	Calibration Current	Present Current	Difference
1	43392	40704	-6.2%
2	48128	0	-100.0%
3	0	0	0%
4	0	0	0%

**Dry Contact Alarm**

(Red for Alarm, Green if Clear, mode (Day Night))

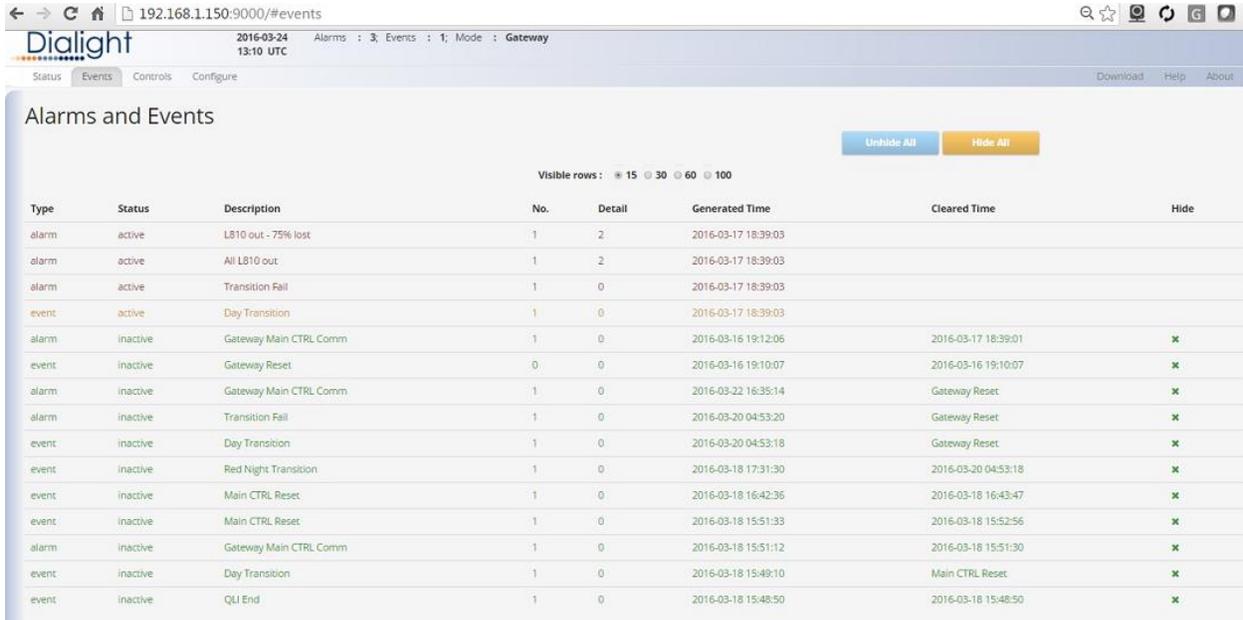
Status connected

Dry Contact Alarm	Description	Check Status
AL1	Communication alarm/Config error	Green
AL2	Beacon Sync	Green
AL3	25% Fail	Green
AL4	Photocell Lost	Green
AL5	Day/Night Transition	Red
AL6	Beacon Communication	Green
AL7	L-810 Fail	Red
AL8	Mode	Yellow

This figure shows the L810 current matrix that will show the calibrated and the present current values of the connected L810s on a single port.



### Events Page



Visible rows : 15 30 60 100

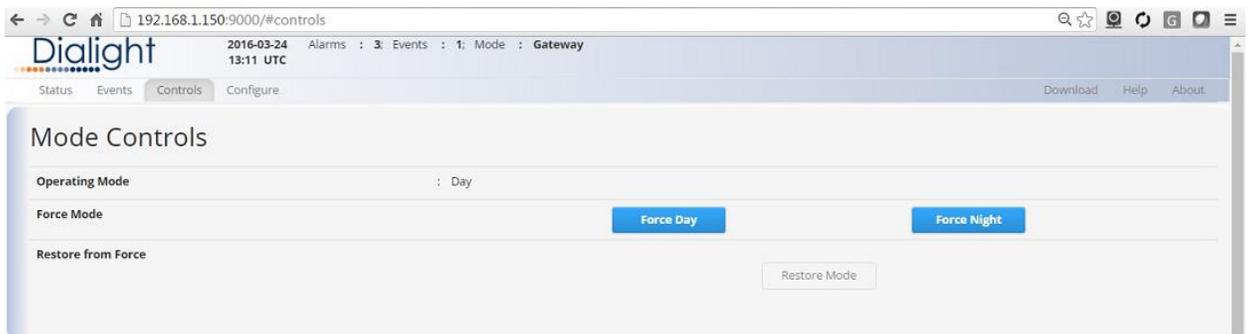
Type	Status	Description	No.	Detail	Generated Time	Cleared Time	Hide
alarm	active	L810 out - 75% lost	1	2	2016-03-17 18:39:03		
alarm	active	All L810 out	1	2	2016-03-17 18:39:03		
alarm	active	Transition Fail	1	0	2016-03-17 18:39:03		
event	active	Day Transition	1	0	2016-03-17 18:39:03		
alarm	inactive	Gateway Main CTRL Comm	1	0	2016-03-16 19:12:06	2016-03-17 18:39:01	✕
event	inactive	Gateway Reset	0	0	2016-03-16 19:10:07	2016-03-16 19:10:07	✕
alarm	inactive	Gateway Main CTRL Comm	1	0	2016-03-22 16:35:14	Gateway Reset	✕
alarm	inactive	Transition Fail	1	0	2016-03-20 04:53:20	Gateway Reset	✕
event	inactive	Day Transition	1	0	2016-03-20 04:53:18	Gateway Reset	✕
event	inactive	Red Night Transition	1	0	2016-03-18 17:31:30	2016-03-20 04:53:18	✕
event	inactive	Main CTRL Reset	1	0	2016-03-18 16:42:36	2016-03-18 16:43:47	✕
event	inactive	Main CTRL Reset	1	0	2016-03-18 15:51:33	2016-03-18 15:52:56	✕
alarm	inactive	Gateway Main CTRL Comm	1	0	2016-03-18 15:51:12	2016-03-18 15:51:30	✕
event	inactive	Day Transition	1	0	2016-03-18 15:48:10	Main CTRL Reset	✕
event	inactive	QLI End	1	0	2016-03-18 15:48:50	2016-03-18 15:48:50	✕

The events Page shows the alarms and events that are happening on the system

Alarms come up in red color if active and Green when cleared  
 Events come up in yellow color if active and Green when cleared

The user can set the amount of alarms and events shown on the page.  
 The user can hide the cleared alarms/events and view all the alarms/events

### Controls Page



Mode Controls

Operating Mode : Day

Force Mode Force Day Force Night

Restore from Force Restore Mode



### Tower Configuration

Tower Style	<input checked="" type="radio"/> E	<input type="radio"/> D	<input type="radio"/> A
L810 Mode	<input checked="" type="radio"/> Steady	<input type="radio"/> Flashing	<input type="radio"/> Disabled
Number of L810 Tier 1	<input type="text" value="3"/>		
Number of L810 Tier 2	<input type="text" value="0"/>		
Number of L810 Tier 3	<input type="text" value="0"/>		
Number of L810 Tier 4	<input type="text" value="0"/>		
Number of L810 Tiers	<input type="text" value="1"/>		
L864/865	<input type="text" value="3"/>		
Number of Dry Contact boards	<input type="text" value="1"/>		
Number of Monitor boards	<input type="text" value="1"/>		
Flash Rate	<input type="radio"/> 20	<input checked="" type="radio"/> 30	<input type="radio"/> 40

The user can use the controls page to force modes (day/night) on the system

This page can also be used to change the Tower style, the number of connected devices, FPM (red night), L810 mode (steady, Flashing or disabled)

### QLI

LI test      • LI ran on : 2016-03-18 15:45:24; results : PASS

[Run Auto LI](#)      [Download Report](#)

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### Main Controller

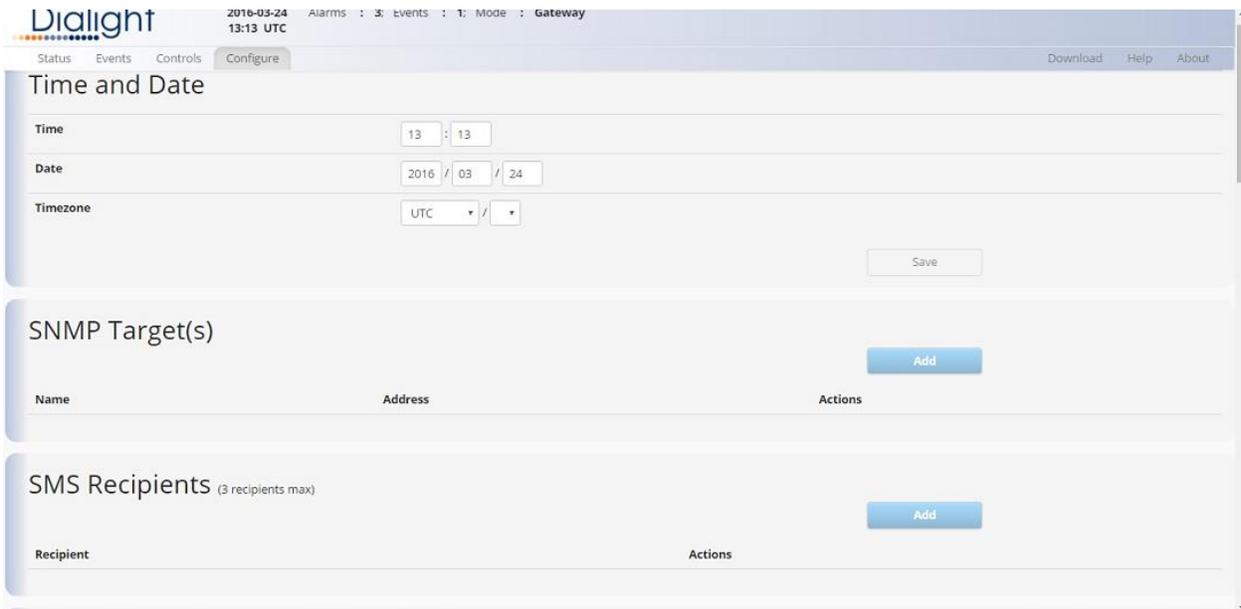
Reset      Last reset date : 2016-03-18 16:42:36

[Reset](#)

The user can run an Automatic Light inspection test. A LI report can be downloaded (.csv file format).

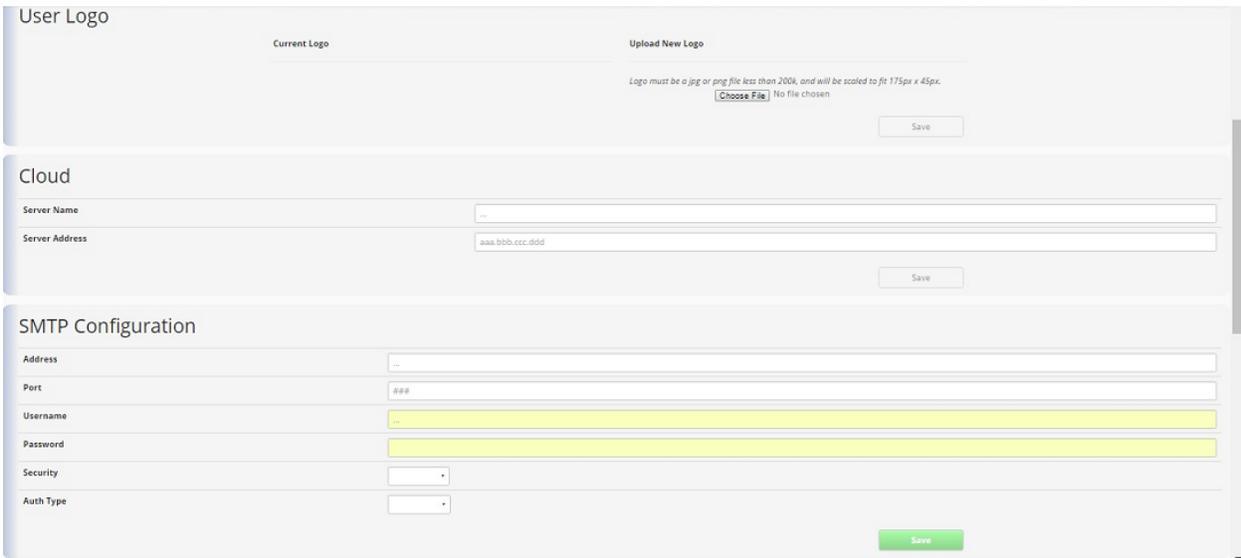
The user can reset the main controller remotely (not recommended in the middle of a Light inspection test)

### Configure page



The screenshot shows the 'Configure' page in the Dialight interface. At the top, there is a header with the Dialight logo, the date '2016-03-24', time '13:13 UTC', and system status 'Alarms : 3 Events : 1 Mode : Gateway'. Below the header are navigation tabs for 'Status', 'Events', 'Controls', and 'Configure'. The main content area is divided into three sections: 'Time and Date', 'SNMP Target(s)', and 'SMS Recipients'. The 'Time and Date' section has input fields for 'Time' (13:13), 'Date' (2016/03/24), and 'Timezone' (UTC). The 'SNMP Target(s)' section has an 'Add' button and a table with columns for 'Name', 'Address', and 'Actions'. The 'SMS Recipients' section has an 'Add' button and a table with columns for 'Recipient' and 'Actions'. A 'Save' button is located at the bottom right of the 'Time and Date' section.

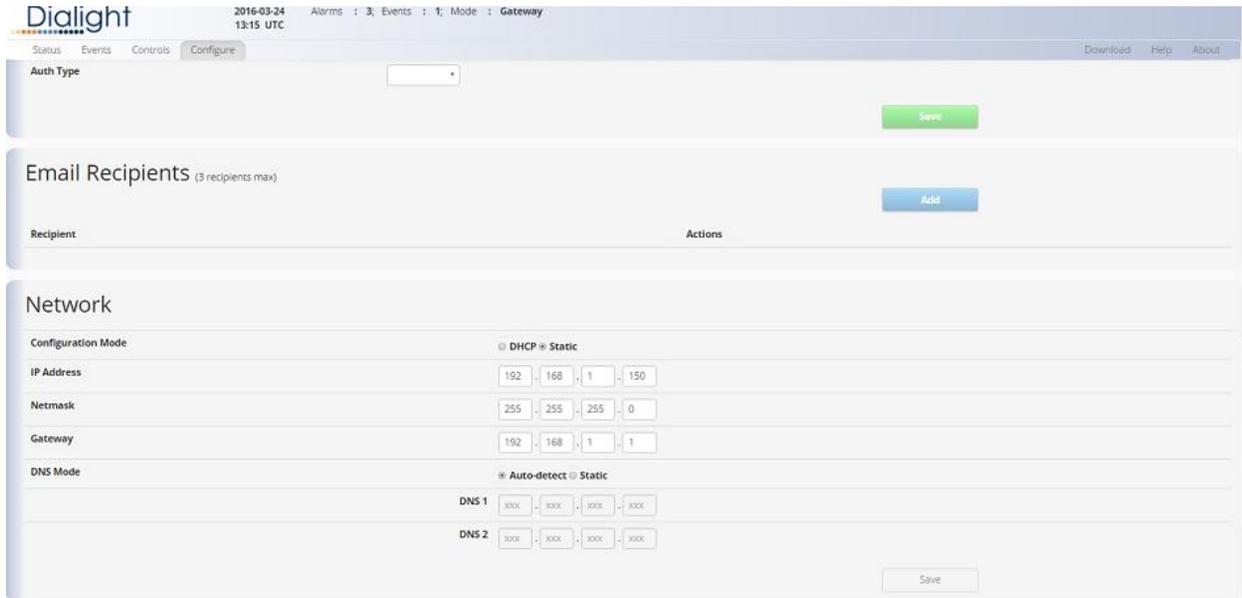
The user can set the system time and date remotely from the configure page  
The user can set and add the NOC IP in the SNMP target area to receive the traps  
**The SMS functionality is not available yet.**



The screenshot shows the 'Configure' page in the Dialight interface, specifically the 'User Logo', 'Cloud', and 'SMTP Configuration' sections. The 'User Logo' section has a 'Current Logo' area and an 'Upload New Logo' area with a 'Choose File' button and a 'Save' button. The 'Cloud' section has input fields for 'Server Name' and 'Server Address' (aaa.bbb.ccc.ddd) and a 'Save' button. The 'SMTP Configuration' section has input fields for 'Address', 'Port', 'Username', and 'Password', and dropdown menus for 'Security' and 'Auth Type', along with a 'Save' button.

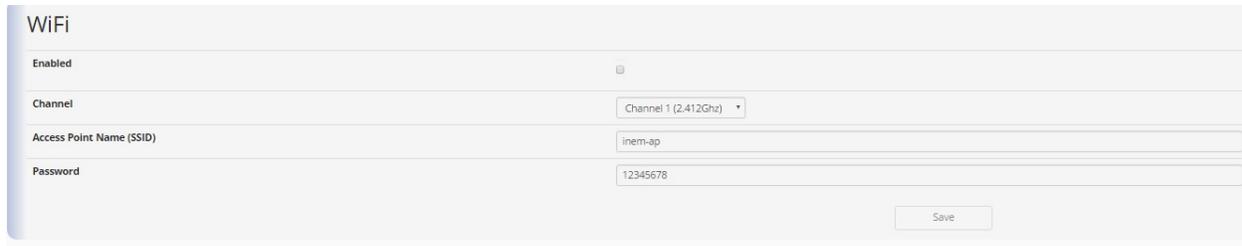
The user can add their company logo to the upper right of the INEM pages from the User logo area  
The User can connect the system to be seen from the cloud if cloud is available (NOT AVAILABLE YET)  
The user can receive emails in the occurrence of alarms/events (NOT AVAILABLE YET)





The screenshot shows the 'Configure' page in the Dialight web interface. At the top, it displays the date '2016-03-24 13:15 UTC', 'Alarms : 3', 'Events : 1', and 'Mode : Gateway'. The 'Configure' tab is active, and there are links for 'Status', 'Events', 'Controls', 'Download', 'Help', and 'About'. Below the navigation bar, there are three main sections: 'Auth Type' with a dropdown menu and a 'Save' button; 'Email Recipients' (3 recipients max) with an 'Add' button; and 'Network' configuration. The 'Network' section includes 'Configuration Mode' with radio buttons for 'DHCP' (selected) and 'Static'; 'IP Address' (192.168.1.150), 'Netmask' (255.255.255.0), and 'Gateway' (192.168.1.1); and 'DNS Mode' with radio buttons for 'Auto-detect' (selected) and 'Static', and two rows of DNS server addresses (DNS 1 and DNS 2) each with four placeholder 'xxx' boxes. A 'Save' button is located at the bottom right of the network configuration area.

The user can reconfigure the INEM IP and network configuration.  
 This is not recommended if the Janus modem is connected (Not available for all models).  
 The IP will always be available on port 9000



The screenshot shows the 'WiFi' configuration page in the Dialight web interface. It includes an 'Enabled' checkbox, a 'Channel' dropdown menu set to 'Channel 1 (2.412Ghz)', an 'Access Point Name (SSID)' text field containing 'inem-ap', and a 'Password' text field containing '12345678'. A 'Save' button is located at the bottom right of the form.

The user can enable/disable the Wi-Fi radio on the INEM.  
 In case of enabling the Wi-Fi network of the INEM

The user will need to

1. Click on the enable box
2. Enter the name of the Wi-Fi network in the Access Point Name (SSID) eg. inem-ap
3. Provide a password for the Wi-Fi network eg. 12345678



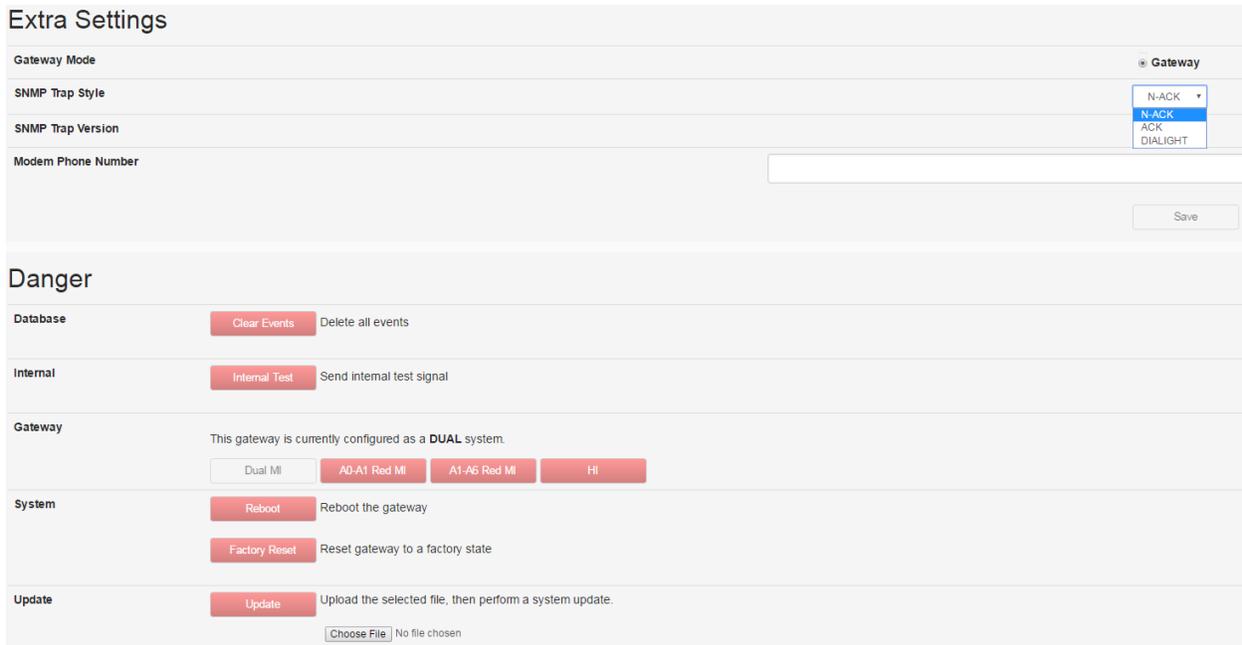


The screenshot shows a 'Change Password' web form. It contains three input fields: 'Current Password' (with placeholder text 'Current Password'), 'New Password' (with placeholder text 'New Password'), and 'Confirm new Password' (with placeholder text 'Confirm new Password'). A 'Save' button is located at the bottom right of the form.

The user can change the password for login to secure their system. This can be changed at anytime based on end users policies.

1. Dialight recommends changing during initial installation so that the system is secure to maintain compliance with FAA regulation.
2. It is recommended to write this down somewhere secure so that the password can be looked up if forgotten.

### Extra page



The screenshot displays two sections of the web interface. The 'Extra Settings' section includes fields for 'Gateway Mode' (set to Gateway), 'SNMP Trap Style' (dropdown menu with options N-ACK, N-ACK, ACK, DIALIGHT), 'SNMP Trap Version', and 'Modem Phone Number'. A 'Save' button is at the bottom right. The 'Danger' section contains several rows of controls: 'Database' with a 'Clear Events' button (Delete all events); 'Internal' with an 'Internal Test' button (Send internal test signal); 'Gateway' with a text description 'This gateway is currently configured as a DUAL system.' and four buttons: 'Dual MI', 'A0-A1 Red MI', 'A1-A6 Red MI', and 'HI'; 'System' with 'Reboot' (Reboot the gateway) and 'Factory Reset' (Reset gateway to a factory state) buttons; and 'Update' with an 'Update' button (Upload the selected file, then perform a system update.) and a 'Choose File' button (No file chosen).

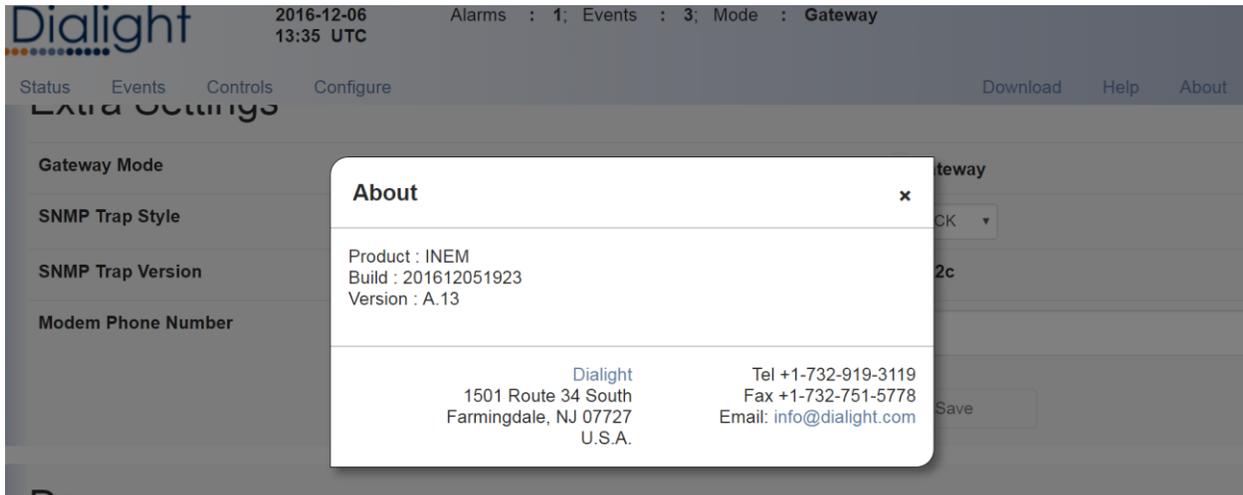
The extra page is hidden, to get to it you will need to append /#extra next to the IP eg. 192.168.1.150:9000/#extra



The extra page will allow the User to:

1. Select the type of needed SNMP style
2. Clear all events stored on INEM GUI
3. Send Internal Test Signal (NOT AVAILABLE YET)
4. Select the tower style (Dual Medium Intensity, Red A0-A1 (no LCD), Red A1-A6, High Intensity)
5. Reset the INEM to factory default, clear the database, reboot the INEM SBC, and Over the Air firmware update to the INEM SBC and/or the lighting system main controller

**How to retrieve the INEM version number**



The INEM revision can be obtained from the “About” link on the top right on the pages.

NOTES: all the pages information can be downloaded by the “Download” link on the top right on each page. The downloaded page will be in the form of “.csv”

**REVISION HISTORY**

<u>REV</u>	<u>ECO No.</u>	<u>DRN</u>	<u>CKD</u>	<u>APP</u>	<u>QA</u>	<u>CM</u>	<u>DATE</u>
A	33921	EK	SA	CV	JP	JN	03/25/16
B	36761	EK	SA	CV	JP	JN	06/30/16
C	40816	SA	CAG	KH	YS	JN	12/9/16
D	67165	NS	AV	AR	YS	JN	4/20/20

