

ProSignal

SOFTWARE MANUAL



SILVER BLADE – STROBE LED LIGHT BARS

V1.0

IMPORTANT

Before installing the system, make sure you have read and understood the included instructions in this guide.

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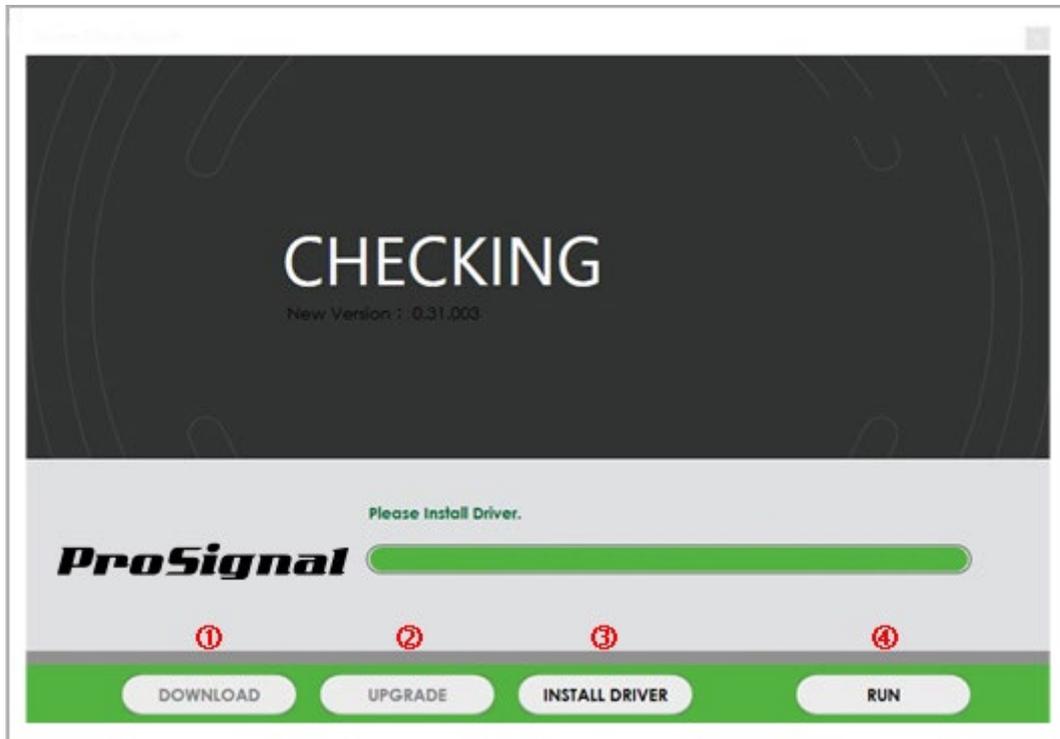
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▼ Chapter 1: Getting Started

1-1. Software Update

When starting LSB D Lightbar Configuration Tool, the latest software version and driver available for update will be checked. Follow the following instructions and click on appropriate buttons on the bottom.



① **Download**

If a new version or driver is available, click [DOWNLOAD] to download the latest version of the software. Save the zip to a desired directory; user may need to use this directory in the next time.

- This button is disabled if no new version is found.

② **Upgrade**

Once a new software version or driver is downloaded, click on [UPGRADE] to install the downloaded file.

- This button is disabled if no downloaded file is found.

③ **Install Driver**

Connect the lightbar controller module to the PC via a USB cable, then Click [INSTALL DRIVER] to install the driver for the controller module. User may require administrator permission on the PC in order to install the driver. Contact your IT administrator if you are unable to install.

- This button is disabled if the driver has been installed already.

④ **Run**

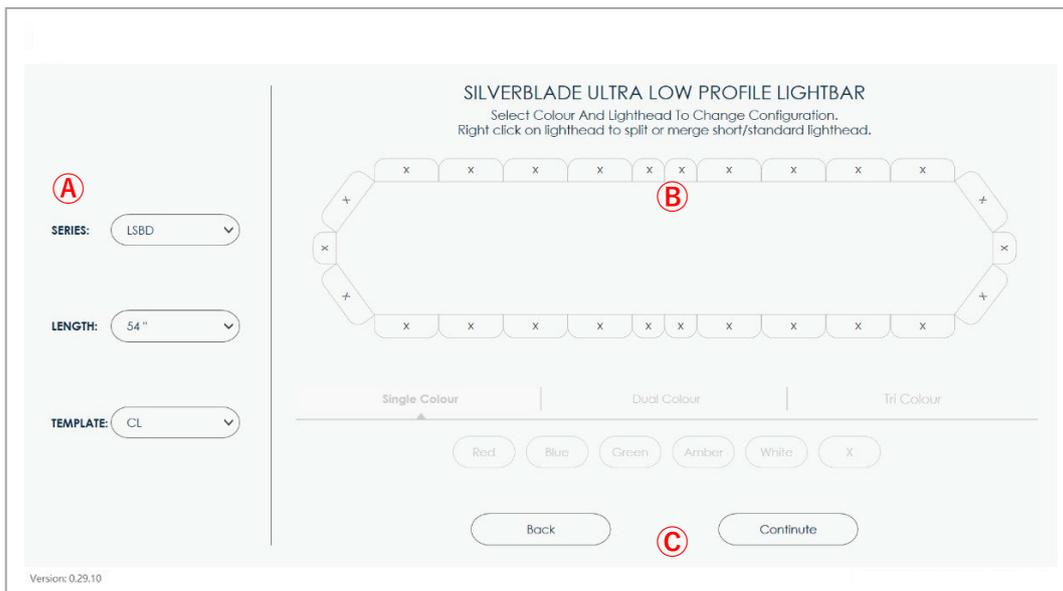
Once both latest software and device driver has been installed, click [RUN] to start the LSB D Lightbar Configuration Tool. User may choose to skip upgrading and driver installation and click [RUN] to start at user's own discretion; this may lead to possible bug or software issue.

1-2. Overview



① Create New Configuration

- Click to start with a new configuration of lightheads for a lightbar.



A. Lightbar Specs

a. Series

- Select your product series.

b. Length

- Select the length of your lightbar.

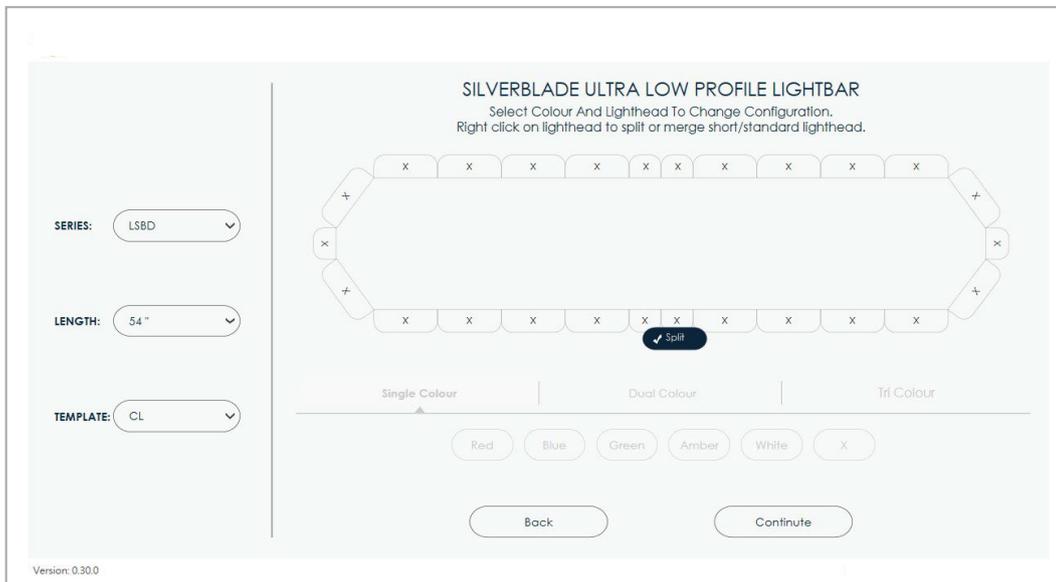
c. Template

- Select a function template to start your setting.
 1. CL - General SAE
 2. CE - General ECE
 3. CS - General STT

B. Lighthouse / Colour Configuration

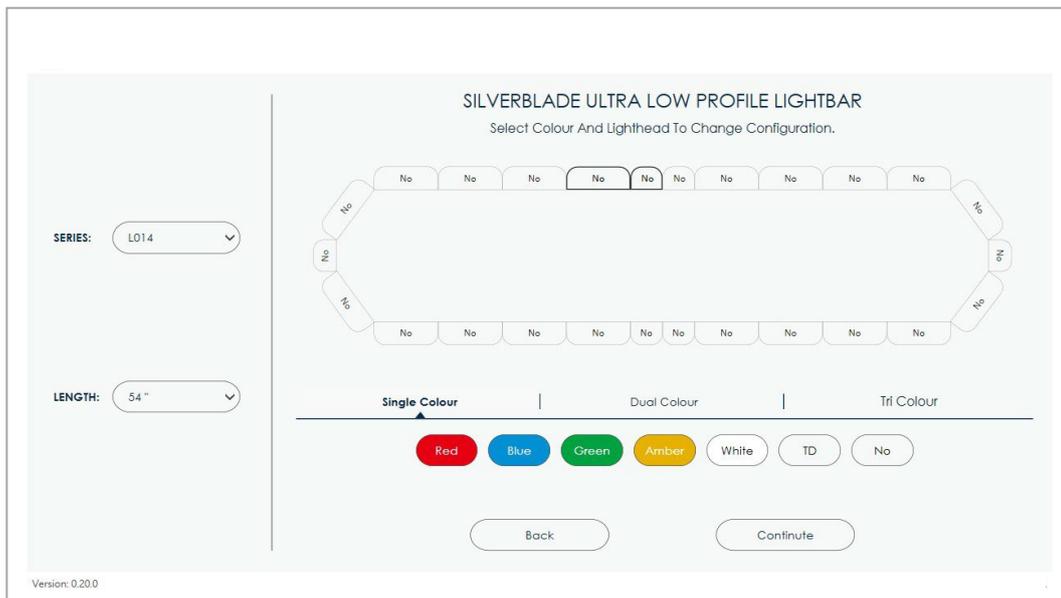
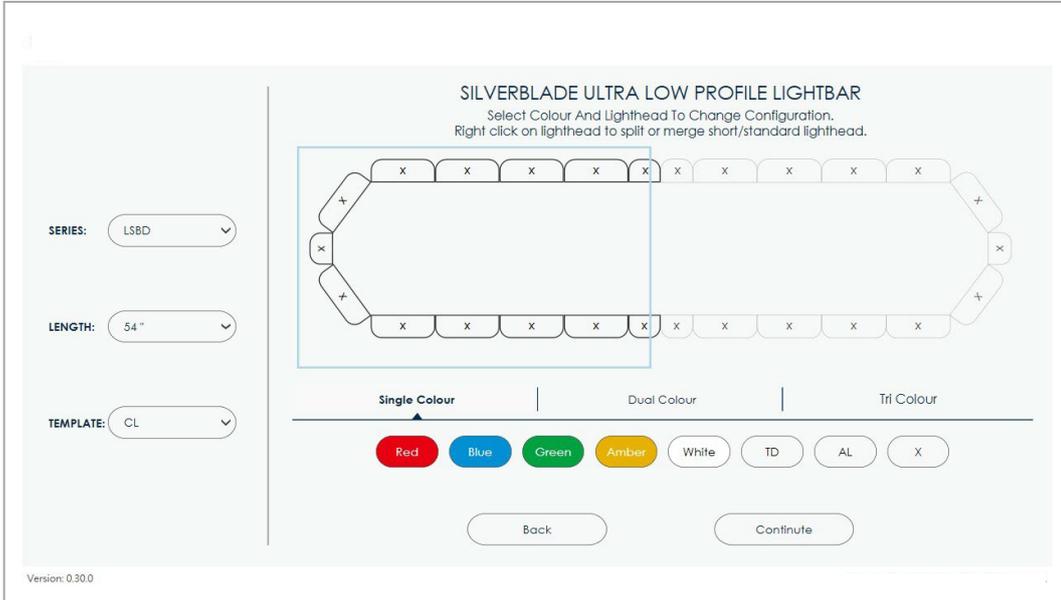
1. Lighthouse Configuration:

- Select and create a configuration of lighthouses that matches your actual lightbar.
- Right-click on any lighthouse to split or merge between one standard lighthouse and two short lighthouses, vice versa. The relevant lighthouse(s) at the opposite side will be split or merged together to maintain left-right symmetrical.
- The maximum number of available standard or short lighthouses depends on the length of the lightbar.



2. Colour Configuration

- Select and create a configuration of colours and types that matches your actual lightbar.
- Click one or drag to select a range of lighthouse(s) then select a colour / type to configure it.
- Select Single, Dual or Tri Colour for the lighthouse(s). Click on **[Single Colour]**, **[Dual Colour]** or **[Tri Colour]** to show the relevant page, and select the option.



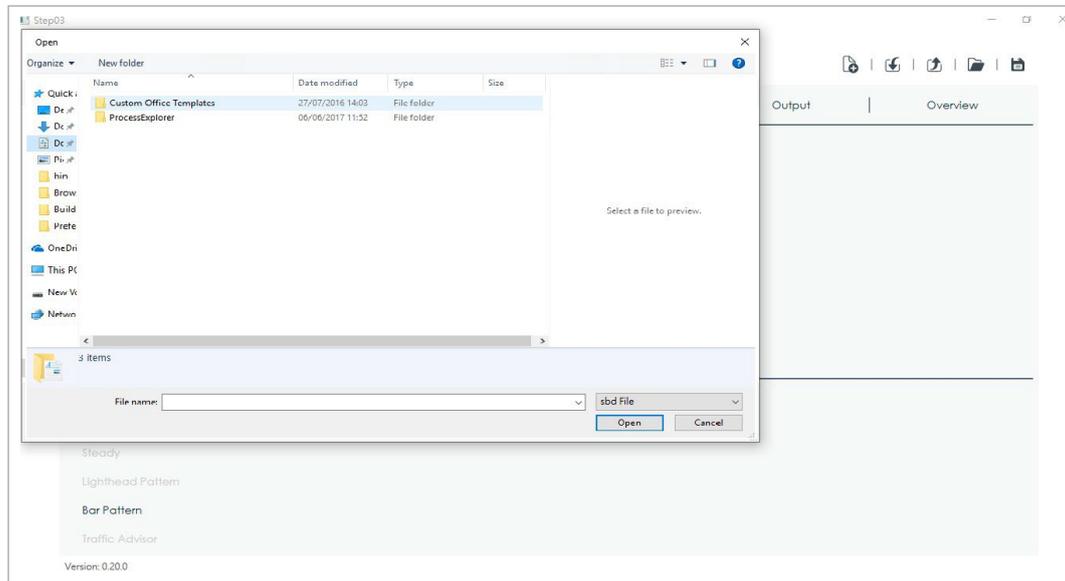
NOTE: The correct availability of the colour(s) depends on the actual product you have. Incorrect colour setting may still be uploaded to a lightbar but may not function properly as wanted.

C. Back / Continue

- Click **[Back]** to go back to the Getting Started page.
- Click **[Continue]** to go forward to Main Setting Panel.

② Open Existing Configuration

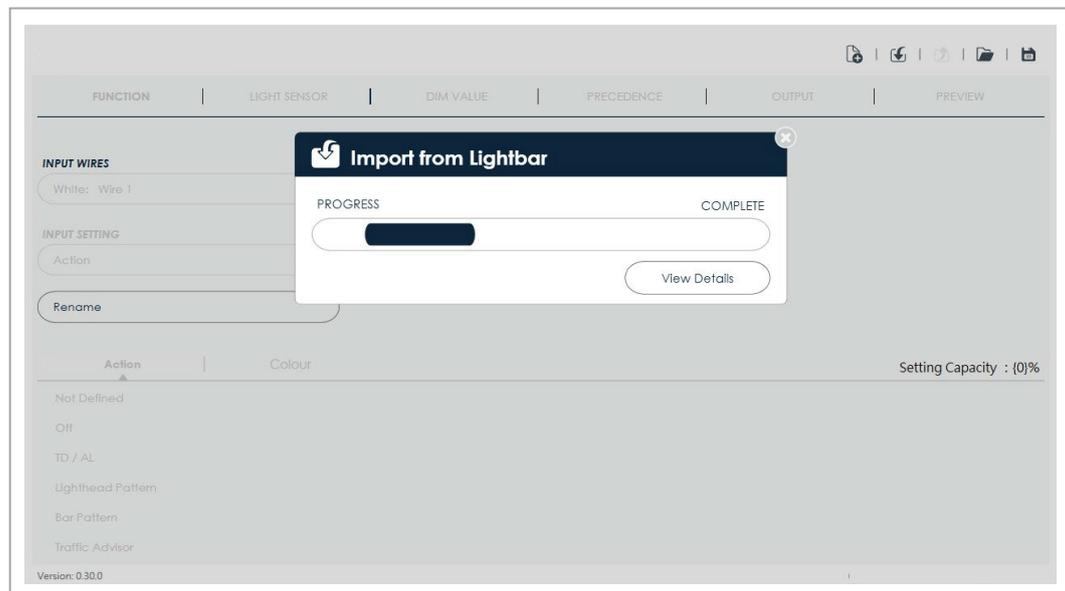
- Click to select an existing configuration and setting file from the host PC.



NOTE: Only the supported file format (.sbd) is available for configuration.

③ Import from Lightbar

- Connect your Controller Module to the host PC with a USB cable (user supplied).
- Click **[Import from Lightbar]** to read and load its configuration and settings to the host PC.



NOTE: DO NOT disconnect the USB cable during the process.

▼ Chapter 2: Main Setting Panel

2-1. File Centre



① Create New Configuration

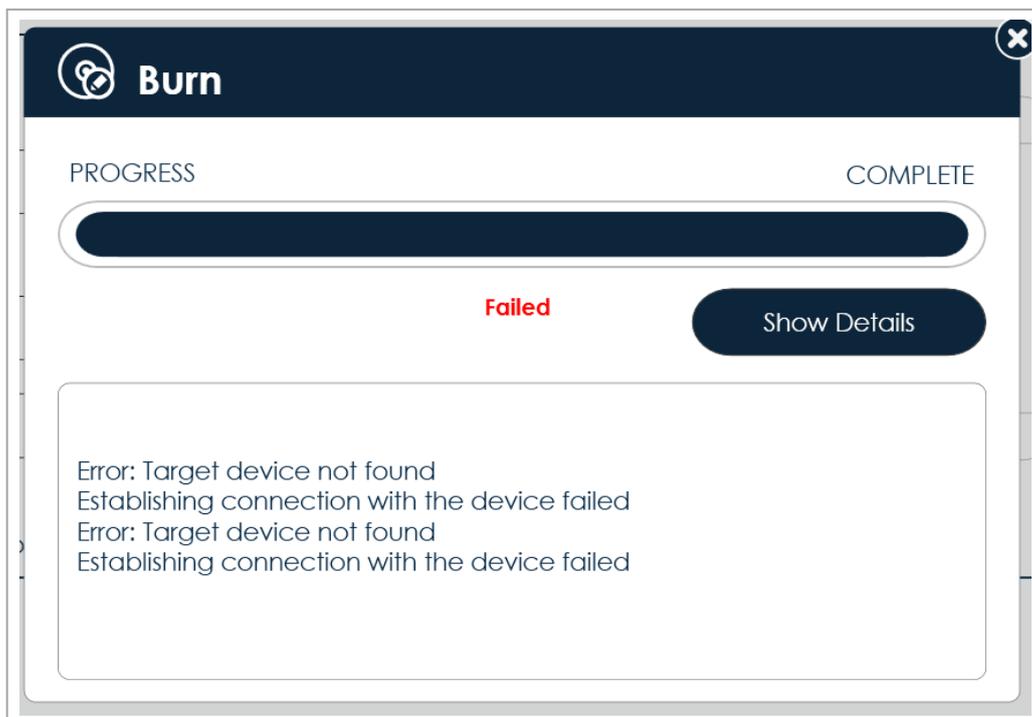
- Click to re-start with a new configuration of lightheads (see 1.1).

② Import from Lightbar

- Click to read and load its configuration and settings to the host PC (see 1.1).

③ Export to Lightbar

- Click to export current configuration and settings to the connected Controller Module.
- Do not disconnect the Controller Module while burning is in progress.
- If burning failed, click on **[Show Details]** to see error message.



④ Open Existing Configuration

- Click to select an existing configuration and setting file (.sbd) from the host PC (see 1.1).

⑤ Save

- Click to save current configuration and setting file to the host PC or USB drive for later use.

NOTE: Users must check setting capacity before saving (see 2-2). If memory capacity exceeds 100%, setting file may be unable to upload onto the Controller Module.

2-2. Setting Centre



① **Function**

- Change settings of each lighthouse action for function wires (see Chapter 3).

② **Light Sensor**

- Change settings of your light sensor (see Chapter 4).

③ **Dim Value**

- Change settings for dimming function (see Chapter 5).

④ **Precedence**

- Change the order of precedence for each control wires (see Chapter 6).

⑤ **Output**

- Change settings for signal outputs (see Chapter 7).

⑥ **Preview**

- Preview set functions for the selected function wires (see Chapter 8).

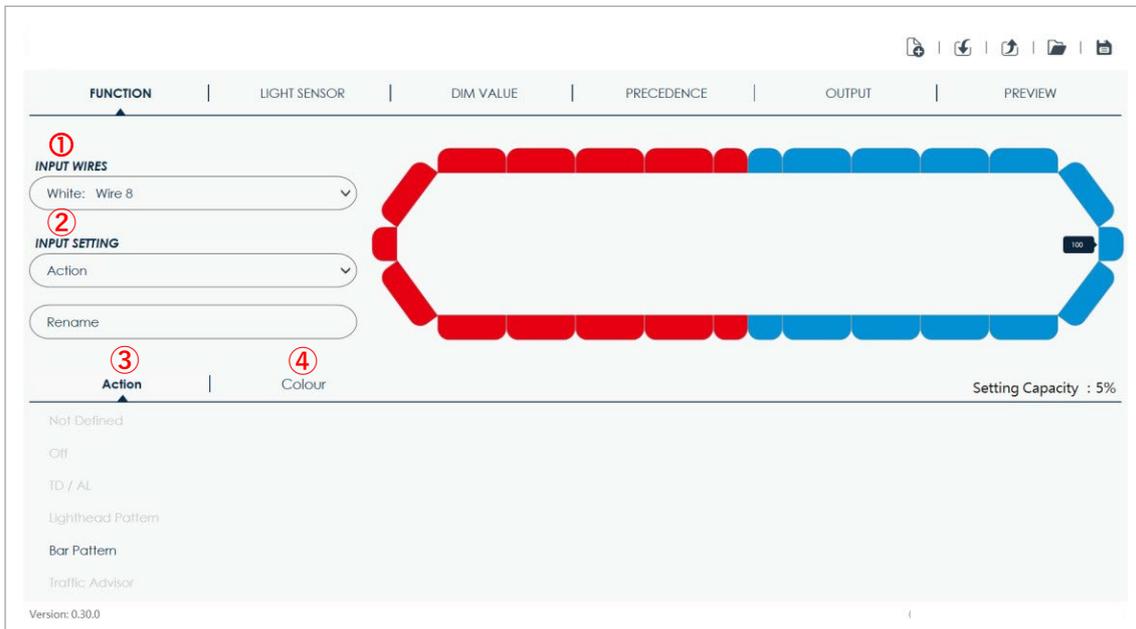


⑦ **Setting Capacity**

- Users must check setting capacity frequently during setting. If memory capacity exceeds 100%, setting file is unable to upload onto the Controller Module. Simplify each setting to release memory capacity.

▼ Chapter 3: FUNCTION

3-1. Overview



① **Input Wires**

- Click and select an input wire for setting (see 3-2).

② **Input Setting**

- Click [**Rename**] to change the name of this input wire for easy memory (see 3-3).

③ **Action**

- Drag to select a range of lighthoods and set desired action for the lighthouse(s) (see 3-4) when the wire is activated.

④ **Colour**

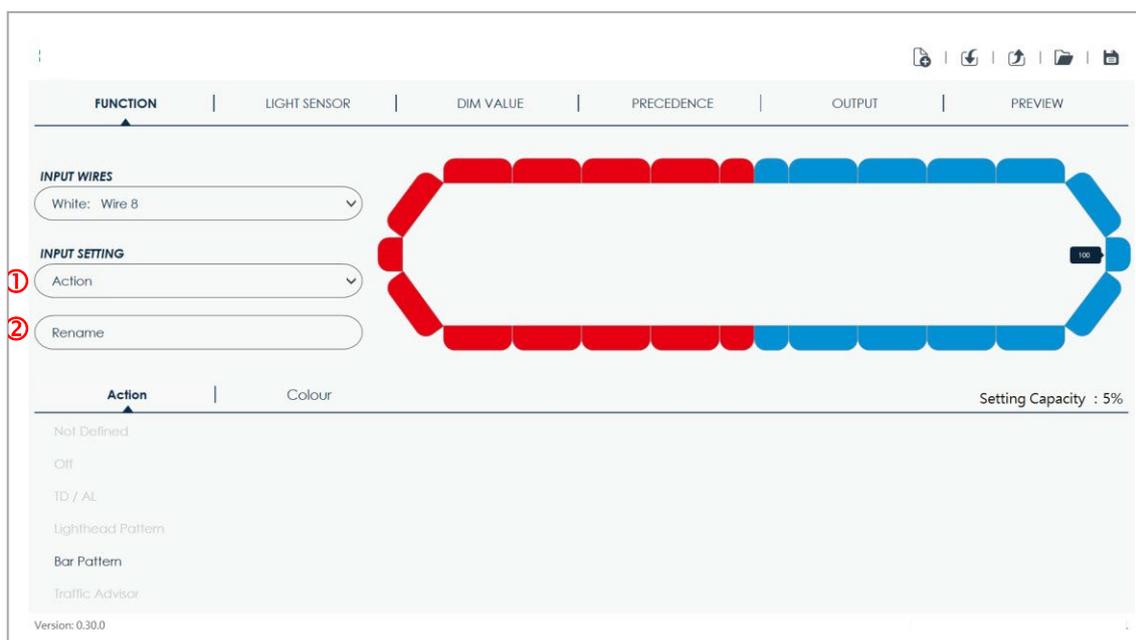
- Drag to select a range of lighthoods and set a desired colour(s) for the lighthouse(s) when the wire is activated (see 3-5).

3-2. Input Wires



- Click to show the list of all available wires and select an input wire for setting.
- The colour of the wire will show on the left hand side of the wire name.

3-3. Input Setting

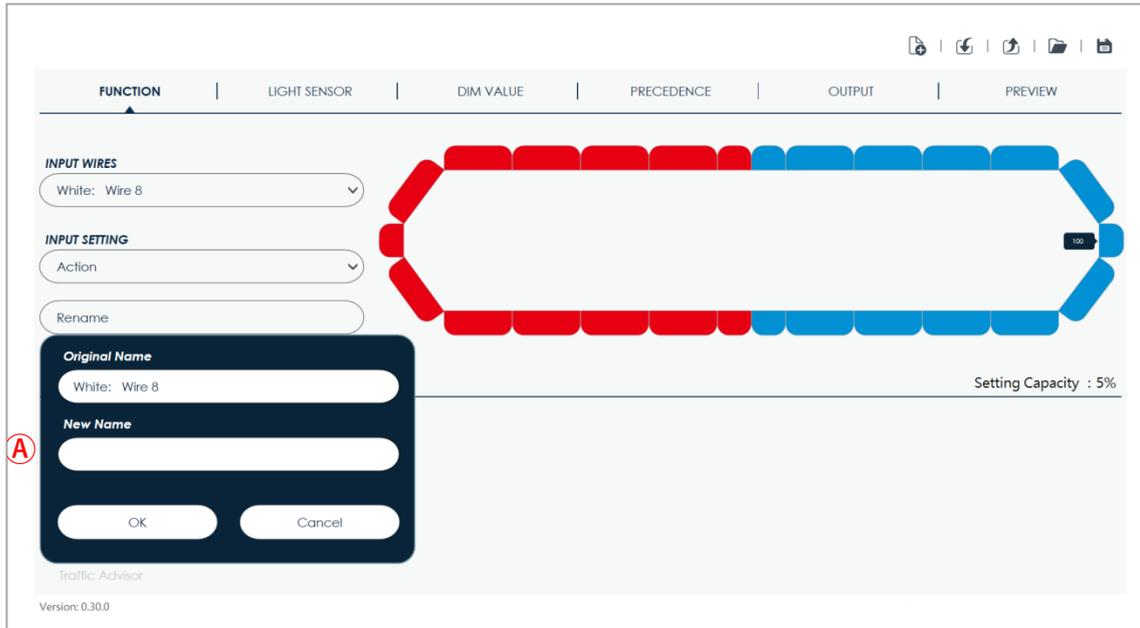


① Action

- Click **[Action]** and then select one of the following functions for setting.

② Rename

- Click **[Rename]** to change the name of an input wire.



A New Name

- Click to enter a new name for the input wire.
- Click **[OK]** to apply your change.
- Click **[Cancel]** to abort the action.

3-4. Action

Drag to select a range of lighthoods and then select one action and relevant settings for the lighthouse(s).

Set actions will be applied with the order of precedence for control wires. When two or more wires are activated at the same time, the wire with the higher precedence will override / affect the action of lighthoods of the lower precedence wire.

NOTE: If you want to change the precedence, click **[Precedence]** to arrange your own order (see Chapter 6).



3-4-1. Not Defined

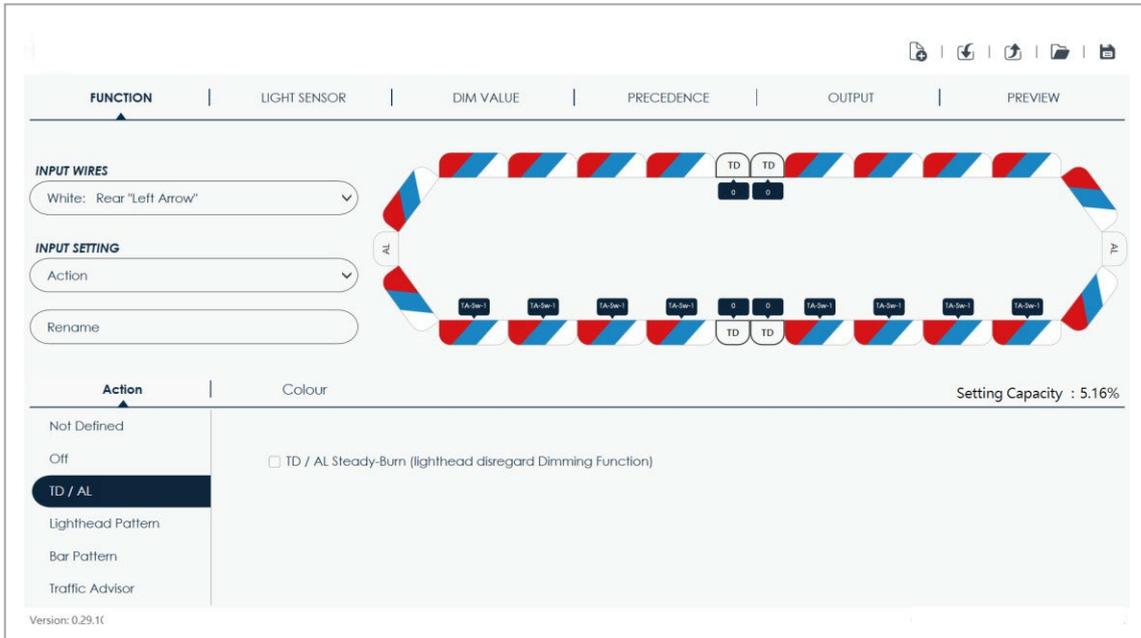
- The selected lighthoods will do nothing with this control wire.

3-4-2. Off

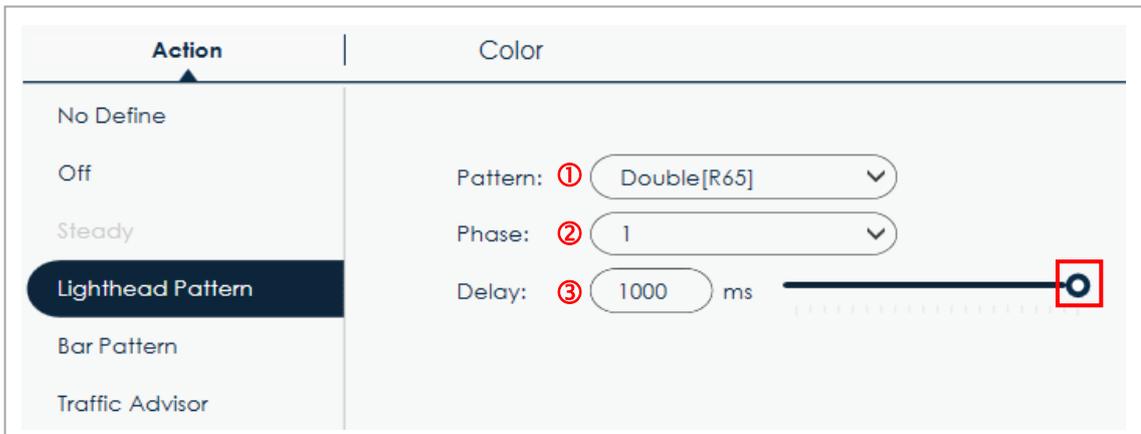
- The selected lighthead(s) will be turned off with this control wire.

3-4-3. TD / AL

- When selecting Take-down or Alley lighthead(s), check to force 100% brightness steady and disregarding other dimming function.



3-4-4. Lighthead Pattern



① **Pattern**

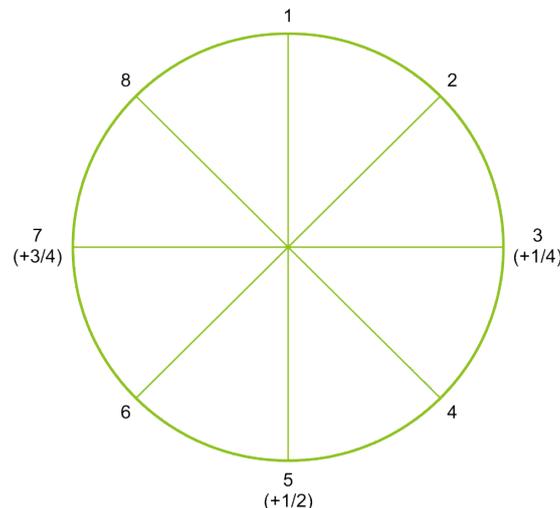
- Click to select a flash pattern for the lighthoods.

#	Flash Pattern	Abbreviation	Note
1	Double-ECE	2E	
2	Single-ECE	1E	
3	Triple-ECE	3E	
4	Quad-ECE	4E	
5	Random	Rdm	
6	Steady H/L	Stdy-B	100% brightness activation and reduced to 40% in second; does not affect by other dimming function.
7	Single-SAE	1	
8	Double-SAE	2	
9	Triple-SAE	3	
10	Quad-SAE	4	
11	Quint-SAE	5	
12	Mega	M	
13	Giga	G	
14	Ultra-SAE	U	
15	Single-Quad	1-4	
16	Single H/L	1HL	
17	Single-Triple-Quint	1-3-5	
18	Steady-burn (40%)	Stdy	40% brightness activation; does not affect by other dimming function.
19	Single-Single	1-1	
20	Double Double	2-2	
21	Triple-Triple Fast	3-3	
22	Triple-Triple Mid	3-3'	
23	Quint-Triple	5-3	
24	7-1 Flash	7-1	
25	Quad-Single	4-1	
26	Quint-Quint	5-5	

NOTE: Actual compliance and approval will be based on your lightbar configuration.

② **Phase**

- Click to select a phase order (#1 to #8) for the flash pattern. Each phase adds 1/8 activation time to the action.
- To have a lightbar flashing left and right alternatingly, set one half to “#1” and the other half to “#5(+1/2)”
- The phase setting does not affect ending time when the wire is deactivated.

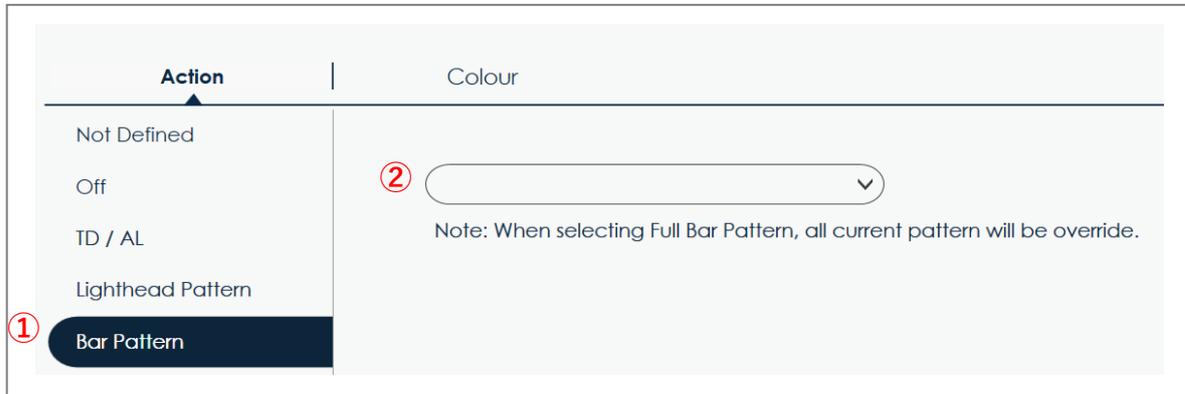


③ **Delay**

- Drag on the slider  or key in a number in the cell to set a delay activation time to the action from 0 to 1000ms
- This delay will stacked with the previously set phase time.

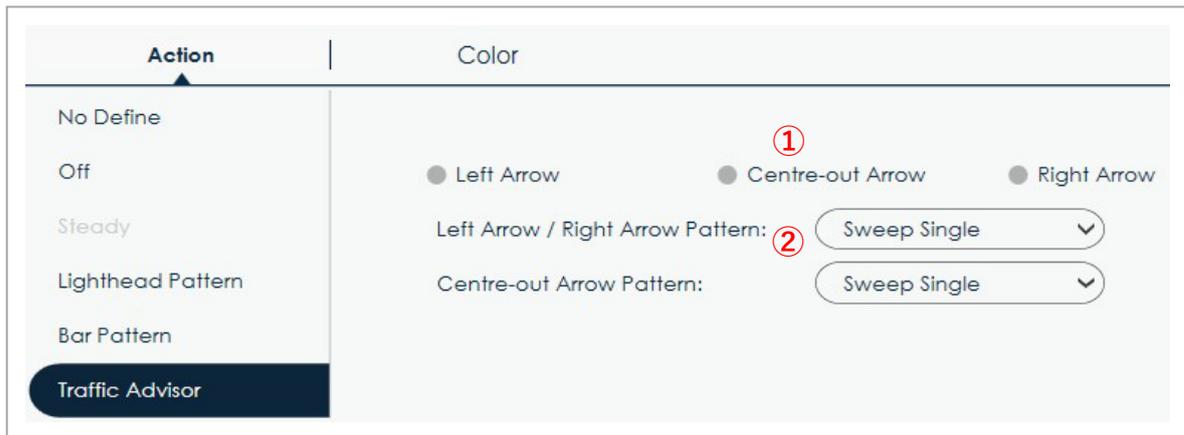
3-4-5 Lightbar Pattern

Select a range of lightheads then click to apply a set lightbar pattern.



#	Bar Pattern		Abbreviation	Note
1	Left-Right	Single-Single	1-1-LR	
2	Left-Right	Double-Double	2-2-LR	
3	Left-Right	Double-Single	2-1-LR	
4	Left-Right	Triple-Triple	3-3-LR	
5	Left-Right	Triple-Single	3-1-LR	
6	Left-Right	Quad-Quad	4-4-LR	
7	Left-Right	Quad-Single	4-1-LR	
8	Left-Right	Single H/L II	1HL'-LR	
9	Left-Right	Double-Double II	2-2'-LR	
10	Left-Right	Double-Blast	2-B-LR	
11	Left-Right	Swing I	Sw-LR	
12	Left-Right	Triple-Blast	3-B-LR	
13	Left-Right	Swing II	Sw'-LR	
14	Left-Right	Swing III	Sw''-LR	
15	Left-Right	Triple H/L	3HL-LR	
16	All	Pulsing	P	
17	Clockwise	Pulsing Chaser	PC-C	
18	Anti-Clockwise	Pulsing Chaser	PC-AC	
19	All	Pulsing Fast	PF	
20	Clockwise	Pulsing Chaser Fast	PCF-C	
21	Anti-Clockwise	Pulsing Chaser Fast	PCF-AC	
22	Clockwise	Pulsing Scan Fast	PSF-C	
23	Anti-Clockwise	Pulsing Scan Fast	PSF-AC	
24	Clockwise	Pulsing Scan	PS-C	
25	Anti-Clockwise	Pulsing Scan	PS-AC	
26	Split	Pulsing Chaser Fast	PCF-LR	
27	Split	Pulsing Chaser	PC-LR	
28	Split	Pulsing Scan	PS-LR	
29	Split	Pulsing Scan Fast	PSF-LR	
30	In-Out	Pulsing Scan Wig-Wag	PSWW-IO	

3-4-6 Traffic Advisor



① **Traffic Arrow Mode**

- Click to select a Traffic Arrow direction for the lighthoods.
- When a wire set with Left Arrow is active with a wire set with Right Arrow, regardless of their wire precedence (priority), Centre-out Arrow and its flash pattern will be displayed.

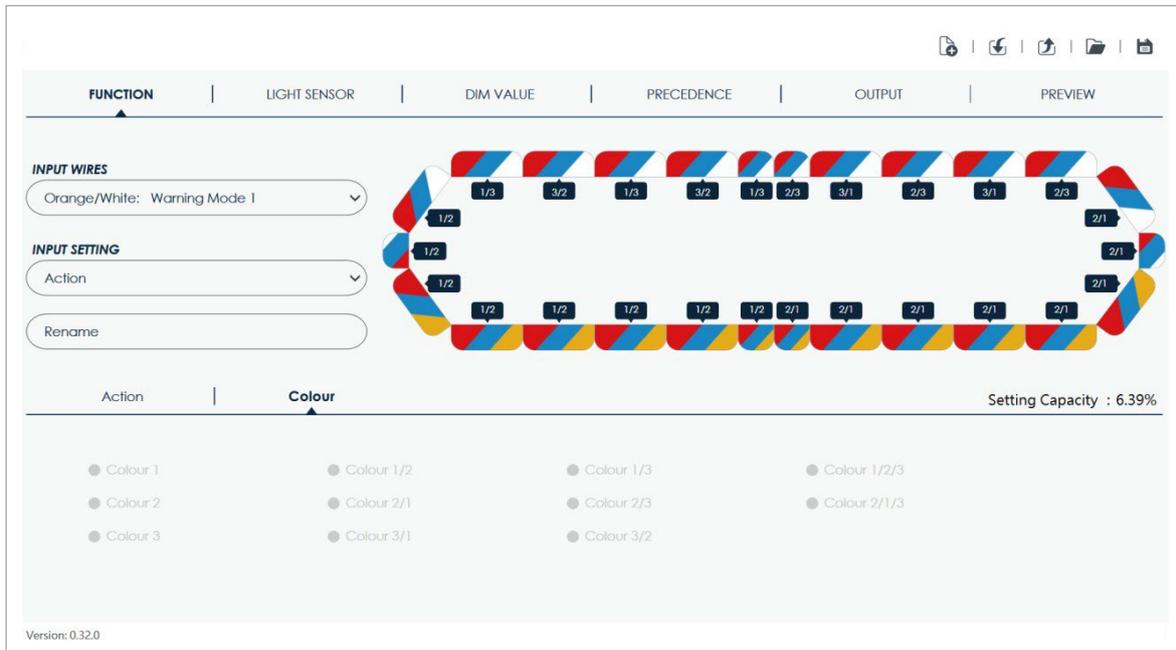
② **Flash Pattern**

#	TA Pattern	Abbreviation	Note
1	Sweep Single	TA-Sw-1	Does not affected by dimming function
2	Sweep Double	TA-Sw-2	Does not affected by dimming function
3	Sweep Triple	TA-Sw-3	Does not affected by dimming function
4	Sweep Single End x2	TA-Sw-1'	Does not affected by dimming function
5	Solid Single	TA-Sd-1	Does not affected by dimming function
6	Solid End x2	TA-Sd-1'	Does not affected by dimming function
7	Solid Chaser	TA-Sd-C	Does not affected by dimming function
8	Solid Fade	TA-Sd-D	Does not affected by dimming function
9	Blink Double	TA-Bk-2	Does not affected by dimming function
10	Blink Triple	TA-Bk-3	Does not affected by dimming function
11	Blink Solid	TA-Bk-Sd	Does not affected by dimming function

- Click to select a TA Flash Pattern for Left Arrow / Right Arrow Pattern and Centre-out Arrow Pattern respectively.
- These two patterns will be used for all Traffic Arrow action on any wire.

3-5. Colour

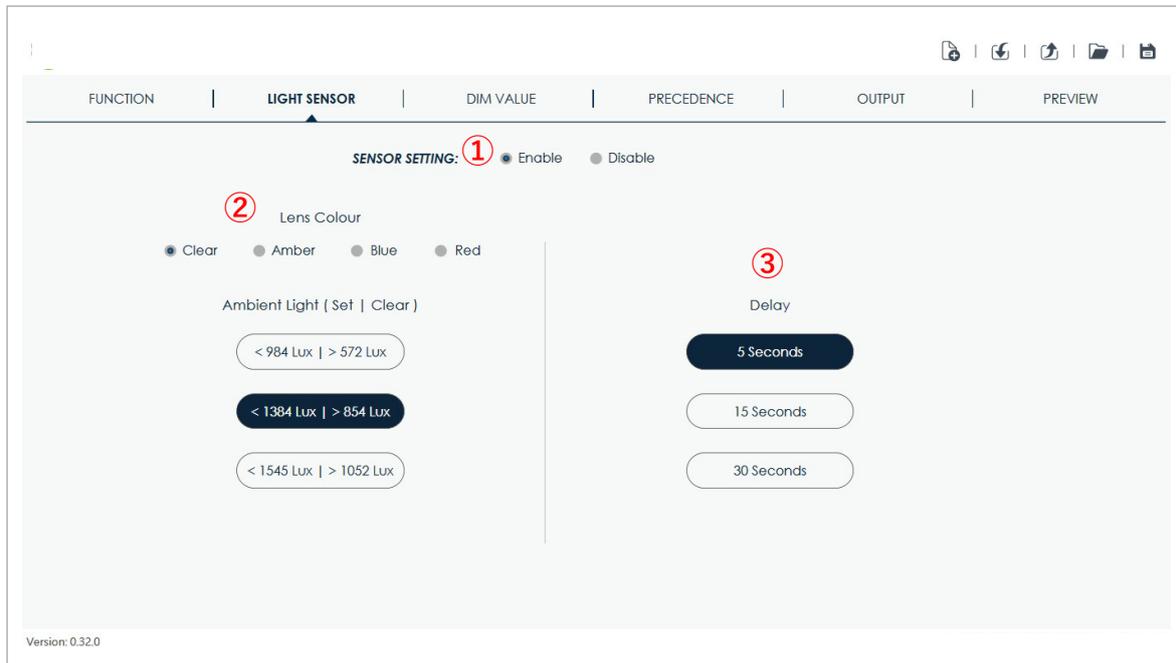
Select one or a range of lighthouse(s) and set a colour for its action.



- If the action is set to “Not Defined”, the colour setting will not be carried down to the next precedence wire(s)
- For Single Colour lighthouse(s), [**Colour 1**] is the only option.
- For Dual Colour lighthouse(s), click one of the following options for colour setting:
 - ✓ [**Colour 1**]
 - ✓ [**Colour 2**]
 - ✓ [**Colour 1/2**]
 - ✓ [**Colour 2/1**]
- For Tri Colour lighthouse(s), click one of the following options for colour setting:
 - ✓ [**Colour 1**]
 - ✓ [**Colour 2**]
 - ✓ [**Colour 3**]
 - ✓ [**Colour 1/2**]
 - ✓ [**Colour 1/3**]
 - ✓ [**Colour 2/1**]
 - ✓ [**Colour 2/3**]
 - ✓ [**Colour 3/1**]
 - ✓ [**Colour 3/2**]
 - ✓ [**Colour 1/2/3**]
 - ✓ [**Colour 2/1/3**]
- The availability of Dual Colour or Tri Colour function depends on the product you ordered.
- The exact colour of Colour 1, 2, 3 depends on the colour option(s) for specific lighthouse(s) you ordered.

Chapter 4: Light Sensor

4-1. Overview



① Sensor Enabling

- Click **[Enable]** to enable the Auto Dimming function.
- Click **[Disable]** to disable the Auto Dimming function.

NOTE: The availability of Auto Dimming depends on the product ordered.

② Settings for Ambient Light (Set | Clear)

- Select the correct lens colour to display the correct lux value for the colour.
- Click to select the activating and deactivating automatic dimming; The left value indicates activation threshold; the right value indicates clear threshold.

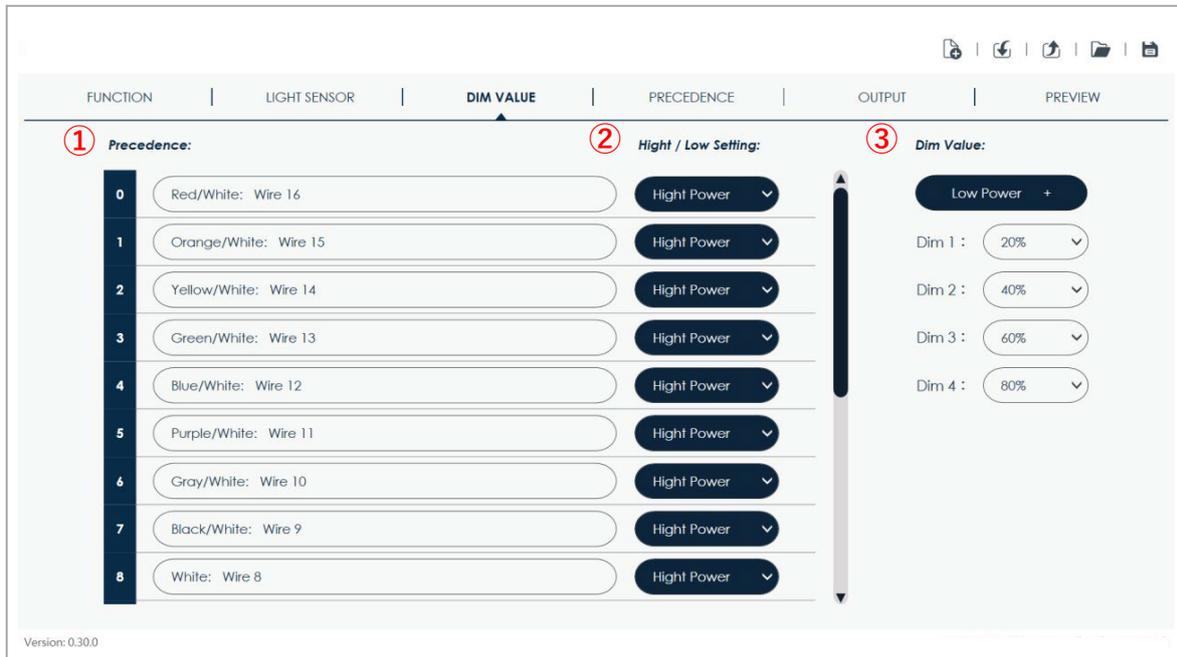
	Clear Lens		Amber Lens		Blue Lens		Amber Lens	
Value 1	<984 Lux	>572 Lux	<1321 Lux	>912 Lux	<1850 Lux	>1248 Lux	Do Not used	
Value 2	<1384 Lux	>854 Lux	<2022 Lux	>1235 Lux	<2260 Lux	>1520 Lux	Do Not used	
Value 3	<1545 Lux	>1052 Lux	<2449 Lux	>1667 Lux	<2652 Lux	>1704 Lux	<2574 Lux	>1596Lux

③ Delay

- Click to select one of the delay time setting; above set/clear condition must be met over the delay time to proceed:
 - ✓ **[5 Seconds]**
 - ✓ **[15 Seconds]**
 - ✓ **[30 Seconds]**

Chapter 5: Dim Value

5-1. Overview



① **Precedence**

- Show the precedence for all control wires of your lightbar (see 5-1-1).

NOTE: To change the precedence, click [**Precedence**] to arrange order (see Chapter 6).

② **High / Low Setting**

- Click on the dropdown menu and select one of the dimming modes (see 5-1-2).

③ **Dim Value**

- Click to change the setting for each of 4 dimming modes.
- Select one of the following options for dimming function:

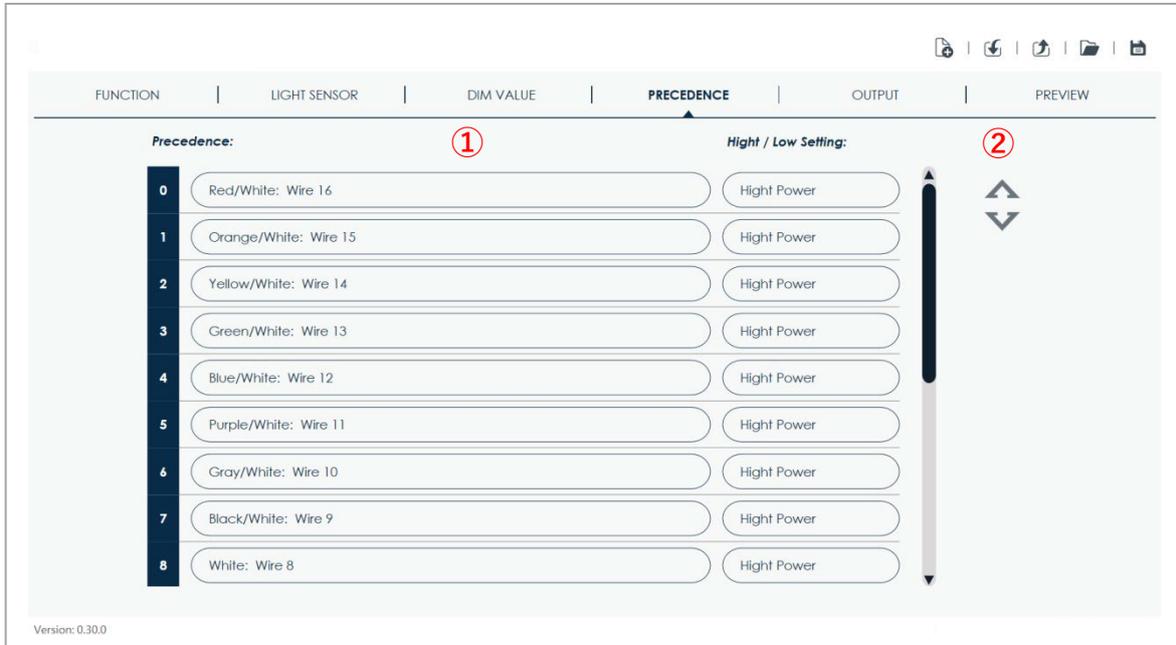
- ✓ [10%]
- ✓ [20%]
- ✓ [30%]
- ✓ [40%]
- ✓ [50%]
- ✓ [60%]
- ✓ [70%]
- ✓ [80%]
- ✓ [90%]

Chapter 6: PRECEDENCE

6-1. Overview

Set the order of precedence for your lightbar.

When more than one wire are activated at the same time, the wire with the higher precedence will affect the lighthouse action of the lower precedence wire.



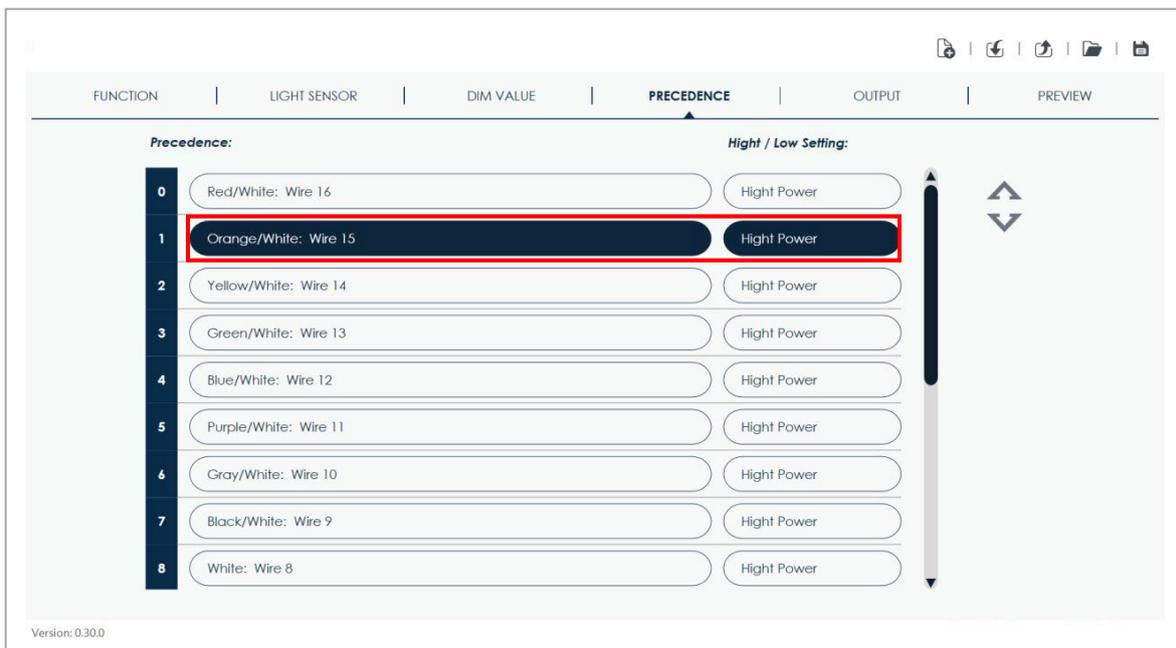
① Precedence Panel

- The Precedence Panel shows the information of each wire with specific precedence.

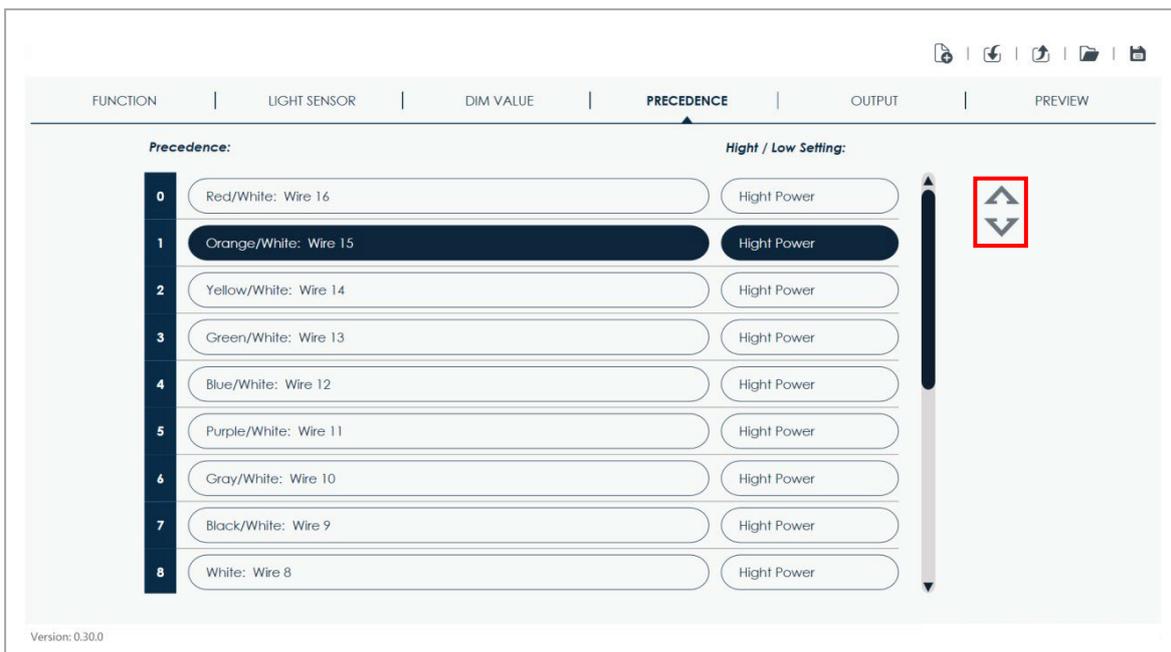
NOTE: To change the dimming value, click [DIM VALUE] to change settings (see Chapter 5).

② Change Button

- Click on the wire to be change. Current selected wire will be highlighted.

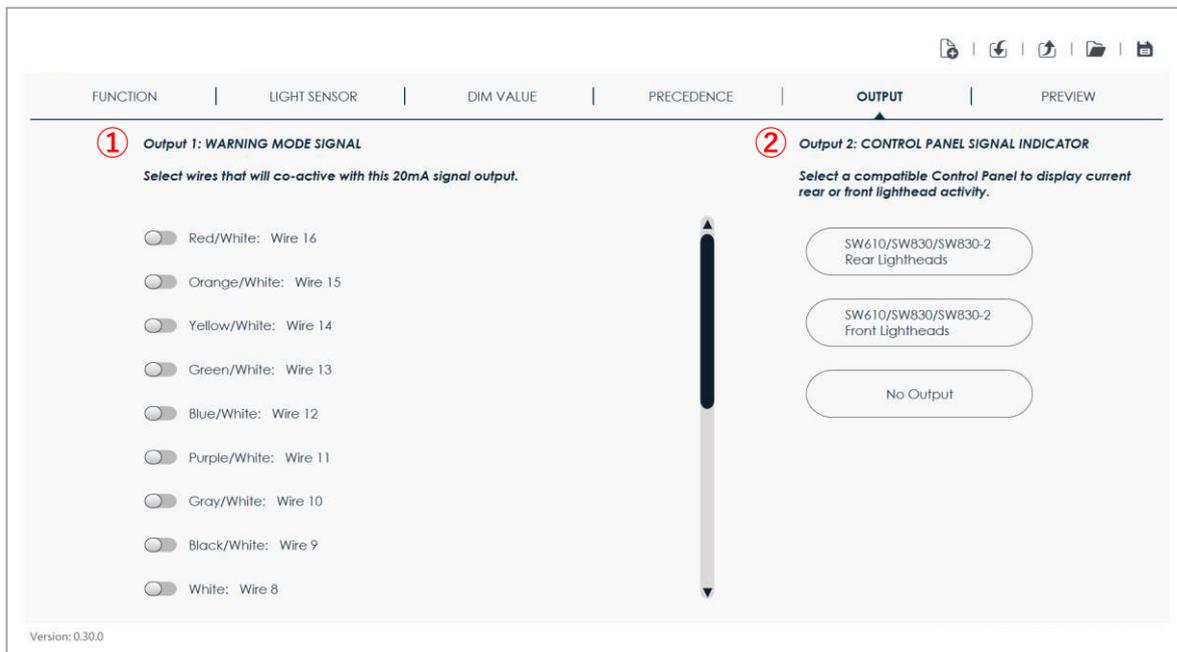


2. Change the precedence of the selected wire with the  button (move upward) or the  button (move downward).



Chapter 7: Output

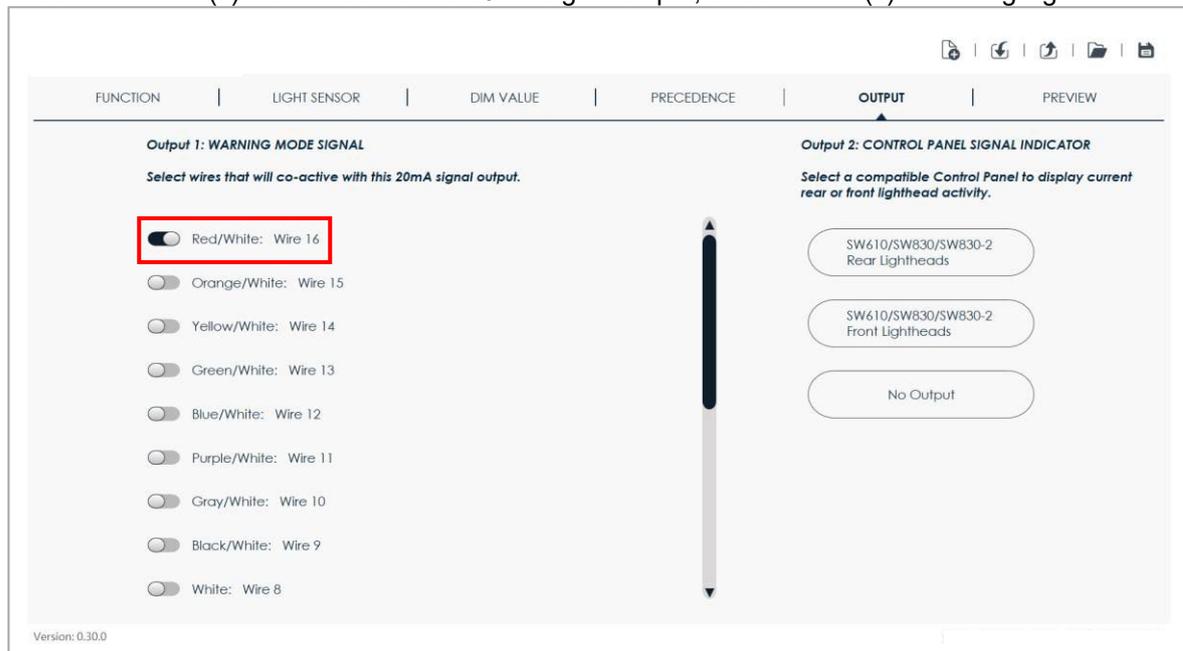
7-1. Overview



① Output 1 : WARNING MODE SIGNAL

Output 1 will output a 0.2A signal when any of the selected wires is activated.

1. Select the wire(s) that will activate this 20mA signal output; selected wire(s) will be highlighted.



② Output 2: CONTROL PANEL SIGNAL INDICATOR

Select a compatible Control Panel to display current rear or front lighthouse activity.

- SW610 / SW830 / SW830-2 Control Panel, displaying Rear Lighthouse Activity
- SW610 / SW830 / SW830-2 Control Panel, displaying Front Lighthouse Activity
- Disable

The screenshot shows the configuration interface for Output 2: CONTROL PANEL SIGNAL INDICATOR. The interface is divided into two main sections: Output 1 and Output 2. Output 1 is titled "Output 1: WARNING MODE SIGNAL" and includes a list of wire color combinations with toggle switches. Output 2 is titled "Output 2: CONTROL PANEL SIGNAL INDICATOR" and includes three buttons for selecting a control panel. The "SW610/SW830/SW830-2 Rear Lighthoods" button is highlighted with a red box. The interface also includes a navigation bar at the top with tabs for FUNCTION, LIGHT SENSOR, DIM VALUE, PRECEDENCE, OUTPUT, and PREVIEW. The OUTPUT tab is currently selected. The version number 0.30.0 is displayed at the bottom left.

FUNCTION | LIGHT SENSOR | DIM VALUE | PRECEDENCE | **OUTPUT** | PREVIEW

Output 1: WARNING MODE SIGNAL
Select wires that will co-active with this 20mA signal output.

- Red/White: Wire 16
- Orange/White: Wire 15
- Yellow/White: Wire 14
- Green/White: Wire 13
- Blue/White: Wire 12
- Purple/White: Wire 11
- Gray/White: Wire 10
- Black/White: Wire 9
- White: Wire 8

Output 2: CONTROL PANEL SIGNAL INDICATOR
Select a compatible Control Panel to display current rear or front lighthouse activity.

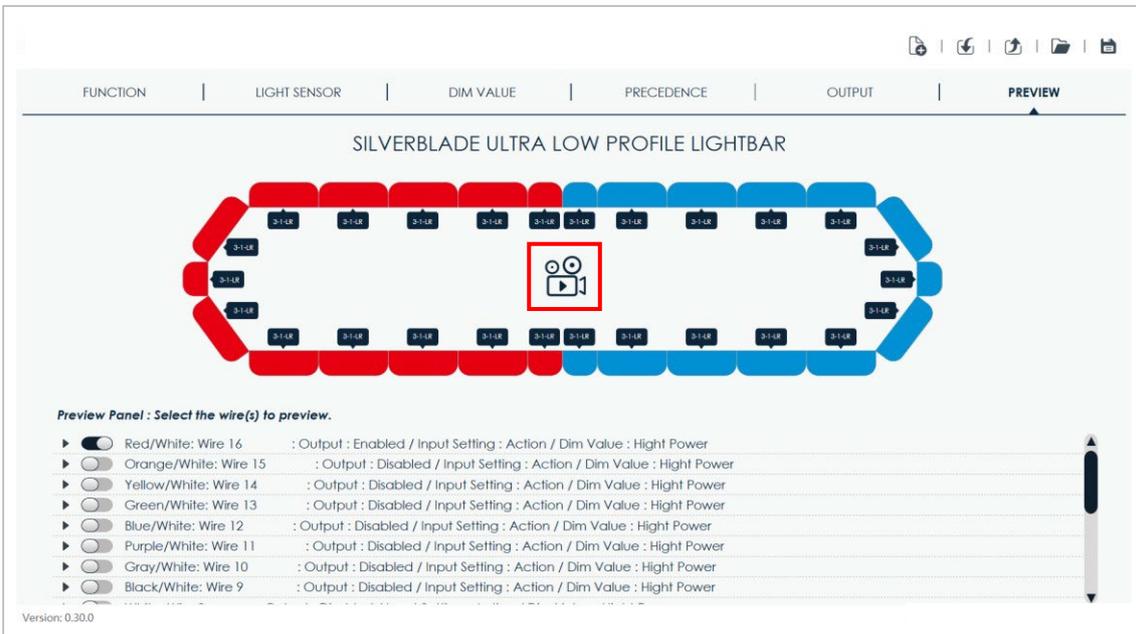
- SW610/SW830/SW830-2 Rear Lighthoods**
- SW610/SW830/SW830-2 Front Lighthoods
- No Output

Version: 0.30.0

Chapter 8: Preview

8-1. Preview Your Lightbar

This preview page allows users to preview the set actions when one or many wires are activated together. Dimming condition is not shown.



- Click  to preview the set functions for control wires.
- Click  to stop the preview of your lightbar.

8-2. Preview Panel



- Turn ON or OFF one or many function wires to preview.
- Actual action and function must be checked and confirmed on the actual lightbar. Special condition such as Left Arrow and Right Arrow wire will activating Centre-out Arrow will not be displayed.

▼ Chapter 9: Preparing USB Drive for remote upload (S-Flash)

9-1. Preparing S-Flash USB Drive

All function wires may be customized and re-programmed via pre-prepared USB Drive without using PC or other specialized tool.

Follow the steps below to accomplish the S-Flash:

1. Check the compatibility of your USB storage drive. (see Compatible USB Device Chart below) Plug this USB drive onto your host PC.
2. Complete all lightbar settings in Chapter 3 to Chapter 7.
3. Follow instructions on Chapter 2-1.5 (page 8) to save the setting file.
4. Place the saved setting into this USB drive; rename the file as “LSBD_Setting.sbd”.

Compatible USB Device Chart			
Tested Capacity	4GB	8GB	32GB
Compatible File System	exFAT	FAT32	FAT16
Not Compatible File System	NTFS		

9-2. Uploading Setting File onto Controller Module

1. Ready and plug the prepared USB drive into the USB port on the Controller Module.
 2. Check that Mode Switch is at Normal / S-Flash Mode.
 3. Power-up the Controller Module by applying +VDC to RED wire on the 6-PIN harness.
 4. Press Status LED Button once to start S-Flash.
 5. Once done, the Status LED should display Flashing Green continuously.
 6. If the Status LED displays Flashing Red continuously, repeat step 4 or check your USB drive and the software file.
 7. Unplug the USB drive and press Status LED Button again to reboot your Controller Module.
 8. Once rebooted, the Status LED should display Steady Green.
 9. The new software is loaded and ready for use. Test all function of your lightbar before actual operation.
- NOTE:** Users must check setting capacity before saving (see 2-2). If memory capacity exceeds 100%, setting file may be unable to upload onto the Controller Modu