



# Instruction Manual

# WSR-DLI

## 15-Channel Digital Lighting Interface



2024

Version 2.0.4



WSR-DLI

Manual Version 2.0.4

For programming information, see the [Wired System Programming Guide](#)

For further installation information, see the [Wired RAK Application Sheet](#)

## What is the WSR-DLI?

The WSR-DLI allows the integration of an addressable DALI network into a Rako wired system. Up to 64 DLI ballasts can be assigned to 15 different Channels in a single Rako Room.

With DT8 compatibility, the WSR-DLI can control colour tunable and RGB lighting loads when used in conjunction with DT8 compatible drivers.

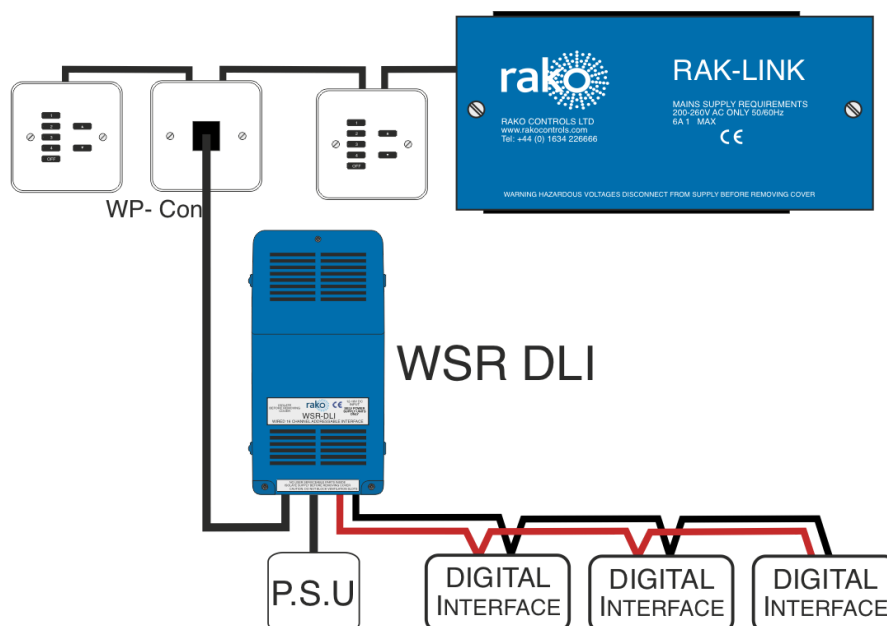


## Connecting WSR-DLI to Rako Wired Network

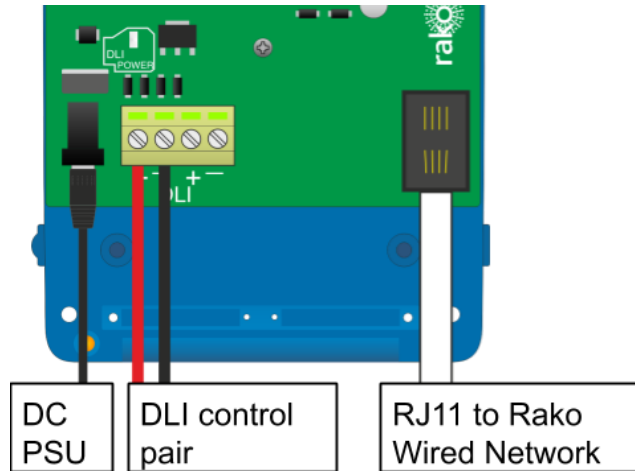
The WSR-DLI can be connected to the Rako Wired Network in several ways. It has the option of either an RJ11 cable connection or an 8-way Krone connector via the "Can Connect" daughterboard provided with the WSR-DLI.

RJ11 Cable connection options: RAK-LINK, RAK-STAR, WK-CONNECT, and WP-CON.

*The example below shows the WSR-DLI connected to the wired network via a WP-CON in a radial configuration*



## Installing the WSR-DLI



The WSR-DLI must be connected to the Rako Wired Network via the RJ11 port or by the 8-way daughterboard.

Although the WSR-DLI board will illuminate when connected to the Rako Wired Network, it is essential that the power supply that comes with the WSR-DLI is connected to the power input.

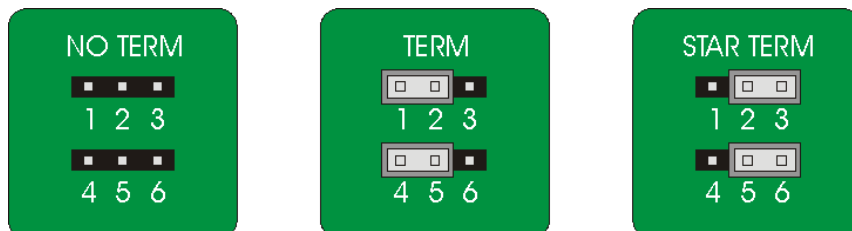
### NB

The 12V power supply is for the DLI output of the WSR-DLI only. The power for the fittings themselves is provided directly to the driver; the output from the WSR-DLI is a control signal only.

## Terminating the WSR-DLI

**TERMINATION ON THE WSR-DLI IS ONLY REQUIRED WHEN USING THE 8-WAY KRONE CONNECTOR "CAN CONNECT" DAUGHTERBOARD.**

The final step in the installation process is to terminate the WSR-DLI. The termination that is required depends on the nature of the installation and the position of the WSR-DLI within the system.



**No Term: Both Jumpers removed**

Used when the WSR-DLI is not at the end of line. This is usually identifiable by two cables being punched down to the WSR-DLI.

**Term: Jumper fitted across 1+2 and 4+5**

Used when the WSR-DLI is end of line in a daisy chain configuration.

**Star Term: Jumper fitted across 2+3 and 5+6**

Used when the WSR-DLI is end of line in a STAR wire configuration.

## Adding the WSR-DLI as a device

For the WSR-DLI to operate correctly with a RAKO system, some initial setup must be performed. This is done using a PC running RASOFT Pro (WSR-DLI is not supported by RASOFT Classic) and communicating with a RAKO Bridge or HUB connected to the same wired system as the WSR-DLI.

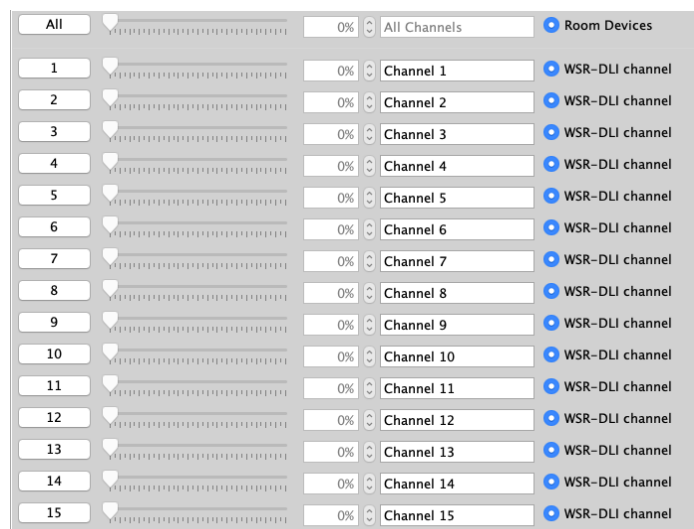
Open the Project File for the installed Rako system and make sure that Rasoft is connected to a communication device.



### NB

*The communication window at the bottom right should indicate whether a HUB/Bridge is connected or not. For instructions on how to connect to a HUB/Bridge see Rasoft Pro programming guides and applicable instruction manuals.*

- Select "File" - "New device" to bring up the "New device Wizard" and choose "WSR-DLI" from the list.
- Choose a suitable device name (if you have multiple WSR-DLIs, make sure they are identifiable from this description). Leave "Device ID" blank with the "Automatic ID" box checked.
- Associate the WSR-DLI with a Room from the drop-down menu. The Room selected here will set the "Local Room" for this device; leave "Associate to Channel" blank.
- Once this screen appears, press and hold the blue button on the WSR-DLI. After a few seconds it will enter Setup Mode and the status LED will start to blink. Release the button, and "Waiting for device to enter setup" should change to "Device Found."
- Click the "Finish" button to complete setup.

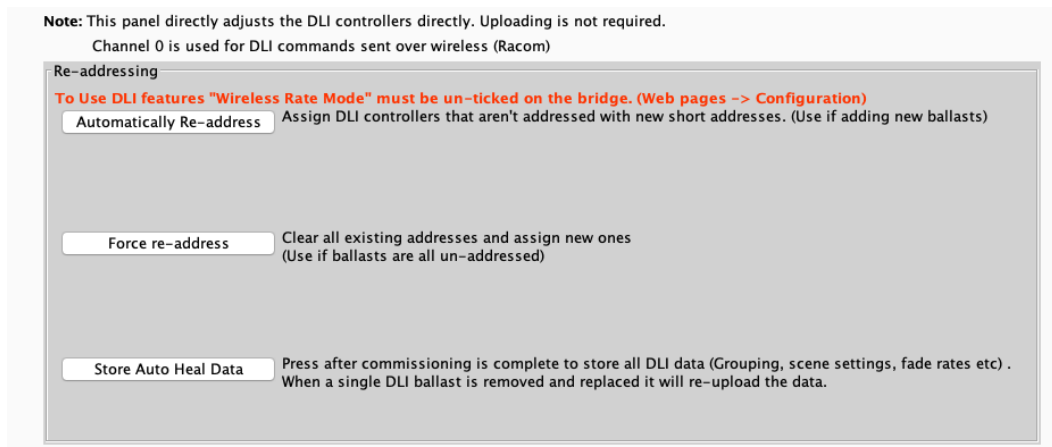


The WSR-DLI is a multi-channel device and will occupy the entire Room. By default, Short Address 0 will be addressed to Channel 1 in the Rako Room, DLI Short Address 1 to Channel 2, and so on for all 15 Channels.

## Assigning the DLI short addresses

Once the WSR-DLI has been assigned to a Rako Room, the drivers require addressing.

- Open the “DLI Setup” tab in the WSR-DLI device editor



### Force Readdress:

Existing short addresses on the drivers are replaced, this is used when setting up the drivers for the first time.

### Automatically Readdress:

This button will assign DLI short addresses to any drivers that are unaddressed. If additional drivers are added after the initial setup, this will assign addresses to the new ballasts while leaving the previous addresses unaffected.

### NB

During the addressing process, luminaires will flash once when a short address has been assigned.

## Managing the WSR-DLI Channels

To use the Circuits mapping page “Use group mapping” must be selected. When in “Use Direct mapping” mode Rako Channels will always be set as DLI short addresses -1 (DLI short address 0 = Rako Channel 1, DLI short address 1 = Rako Channel 2 etc.) regardless of how the mapping page appears.

Sometimes it may not be desirable to have the DLI Channels arranged in the order they have been auto-assigned using “Automatically Readdress” or “Force Readdress”. This is achieved using the Circuits (Mapping) tab in “Use Grouped Mapping”.

When “Use Grouped Mapping” is selected the Rako Channels become mapped to DLI groups. This means that any number of DLI short addresses can be mapped to a single Rako Channel and in any order. This is useful if more than 15 DLI short addresses need to be assigned to a single WSR-DLI or if the ballast(s) are not set to the desired Rako Channel.

Re-Upload Group Settings

**DLI Groups** When in Grouped Mapping.

Background State:  
Processing Short Address: 14

**Grouping Options**

Use Direct Mapping  
DLI short address +1 will be mapped to Rako Channels

Use Grouped Mapping  
DLI groups +1 will be mapped to Rako Channels. Use "Rako Channel" column. (Recommended)

*Only grouping options use "Save & Upload". Other options on this panel communicate directly with DLI drivers.*

DLI Short Address	Test (Double Click)	DLI Status	Rako Channel	DLI Group #
0		Test	Channel 1 [Ch: 1 ]	0
1		Test	Channel 2 [Ch: 2 ]	1
2		Test	Channel 3 [Ch: 3 ]	2
3		Test	Channel 4 [Ch: 4 ]	3
4		Test	Channel 5 [Ch: 5 ]	4
5		Test	Channel 6 [Ch: 6 ]	5
6		Test	Channel 7 [Ch: 7 ]	6
7		Test	Channel 8 [Ch: 8 ]	7
8		Test	Channel 9 [Ch: 9 ]	8
9		Test	Channel 10 [Ch: 10 ]	9
10		Test	Channel 11 [Ch: 11 ]	10
11		Test	Channel 12 [Ch: 12 ]	11
12		Test	Channel 13 [Ch: 13 ]	12
13		Test	Channel 14 [Ch: 14 ]	13
14		Test	Channel 15 [Ch: 15 ]	14
15		Test Unknown		
16		Test Unknown		
17		Test Unknown		
18		Test Unknown		
19		Test Unknown		
20		Test Unknown		
21		Test Unknown		

It is possible to test which ballast is associated to which short address by using the test column on the mappings page. Double-click on "test" to send and "on" to this ballast, double clicking again will send an "off." When an "on" is successfully sent the row will appear as below.

DLI Short Address	Test (Double Click)	DLI Status	Rako Channel	DLI Group #
0	Send On		Channel 1 [Ch: 1 ]	0

Shortcut commands exist for testing individual DLI short addresses, select the column of the short address to be tested first

- The <, key = Send on
- The >. key = Send off
- The ?/ key = Toggle on/off

Auto Heal Data

When programming is complete press this button to store DLI network information. Failure to do so will mean in the event of lamp failure the entire DLI network will need to be re-programmed.

This button will store the current state of the DLI network within the WSR-DLI. This means that if a single ballast is removed and replaced the new ballast will have the same short address automatically uploaded to it. If more than one DLI ballast needs to be replaced the entire network must be re-addressed using the "Force Readdress" button.

Advanced features of WSR-DLI

Swap Channels

The Swap Channels tile in the DLI setup tab allows for custom readdressing of the DLI short addresses themselves. Individual short addresses can be moved on to or swapped with each other by using this interface.

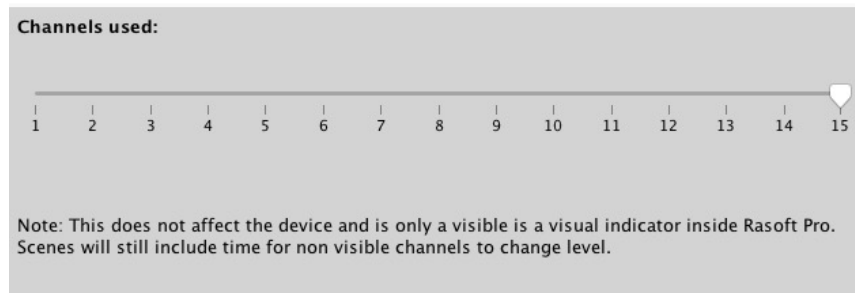
**Swap Channels**

DLI Short Address 1	DLI Short Address 2	<input type="button" value="Perform Swap"/>	<b>Swap:</b> Swaps the devices
<input style="width: 80%;" type="text" value="0"/>	<input style="width: 80%;" type="text" value="0"/>		<b>Move:</b> Force first address onto second address (Can cause collisions)
<input type="button" value="Ident 1 (On)"/>	<input type="button" value="Ident 2 (On)"/>	<input type="button" value="Perform Move"/>	

This will readdress the DLI ballast to the short address as set in each box, "Perform Swap" will directly switch the position of the two ballast. "Perform Move" will result in both ballasts having a short address of "DLI Short Address 2".

### Visible Channels

Sometimes not all 15 Channels in the Room will be required by the WSR-DLI (fewer than 15 separately controllable sets of DLI ballasts are required). When this is the case then the "Visible Channels" tab can be used to reduce the number of Channels the WSR-DLI occupies in the software.



Slide the "Channels used" slider to match the number of Channels required by the WSR-DLI and the remaining Channels are freed up to be used by other devices.

## Appendix 1 - Hardware Changes

### Power Supply

- WSR-DLI issue D and onwards require a 12V DC power supply
- WSR-DLI issue C and below require an 18V DC power supply

Thank you for choosing Rako Controls; we hope that you are pleased with your system. Should you require further assistance, please contact us via our website, [www.rakocontrols.com](http://www.rakocontrols.com), or by calling our customer support helpline on 01634 226666.

