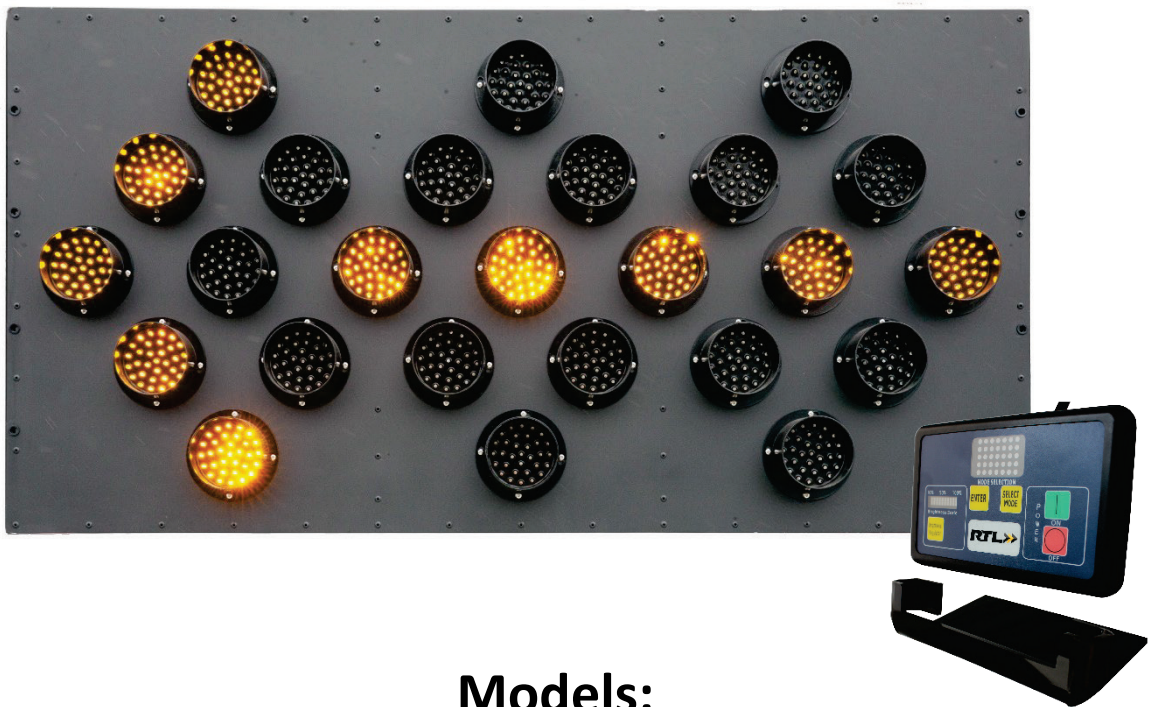




# 25 Light LED Arrow Board Installation & Operating Guide



**Models:**

**ET ABVA15B25 & ET ABLA15B25**

**PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE  
PROCEEDING WITH OPERATION**

Version 3.0

19 December 2023

## Contents

---

Introduction:	2
Package Includes:	2
In-Cab Controller:	3
Main Features:	3
Specifications:	3
LED Lamps:	3
Arrow Board Mounting	4
Dimensions:	4
Controller Layout	5
Power - On/ Off	5
Signal Display Mode:	5
Lamp Brightness Display	5
Lamp Brightness - Up / Down	6
Battery Voltage Status	7
Cable Diagram – Power and Control Cable	7
Wiring Diagram – LED Lamps	7
Wiring Diagram – Driver Board Replacement	8
Wiring Diagram – In-Cab Controller Replacement	8
Spare Parts – LED Lights	9

## Introduction:

---

Our 25 Light LED Arrow boards are used extensively on New Zealand level one roads for both mobile and semi static operations. They are used to caution or direct traffic (left or right) and provide additional safety in all work zones situations.

Our 25 Light LED Arrow boards are simple to install and easy to operate. The operator is kept up to date with real time data via the in-cab controller, including the “live” arrow mode and current brightness. They are manufactured from aluminium and feature LED lamps as standard.

## Package Includes:

---

- 1x 25 Light LED Arrow Board
- 1x In-cab controller
- 1 x cradle
- 1x 15m data cable
- 1x 5m power cable

## Excludes:

- M8 Bolts for fixing to frame

## In-Cab Controller:

---

The controller is housed in a custom molded polycarbonate housing. The controller houses the majority of the smart electronics that control the arrow board, enabling simple connection to the controller.

The controller features real time display of the arrow board. The arrow board is controlled by the push buttons on the controller and can be changed without turning the power off.

### Controller Dimensions:

Width: 156mm  
Height: 100mm  
Deep: 23mm



## Main Features:

---

- Solid state circuitry
- Short circuit protected output circuitry
- Keypad operation with back lighting
- Intensity and battery monitoring
- Automatic dimming
- Manual dimming
- Low battery warning (LED display "LP")
- Text and graphic markings

## Specifications:

---

Width:	1500mm
Height:	770mm
Depth:	60mm (excluding lamps)
Number of LED bulbs:	25
LED bulb diameter:	100mm
System input voltage:	12 or 24v
Weight:	30Kg

## LED Lamps:

---

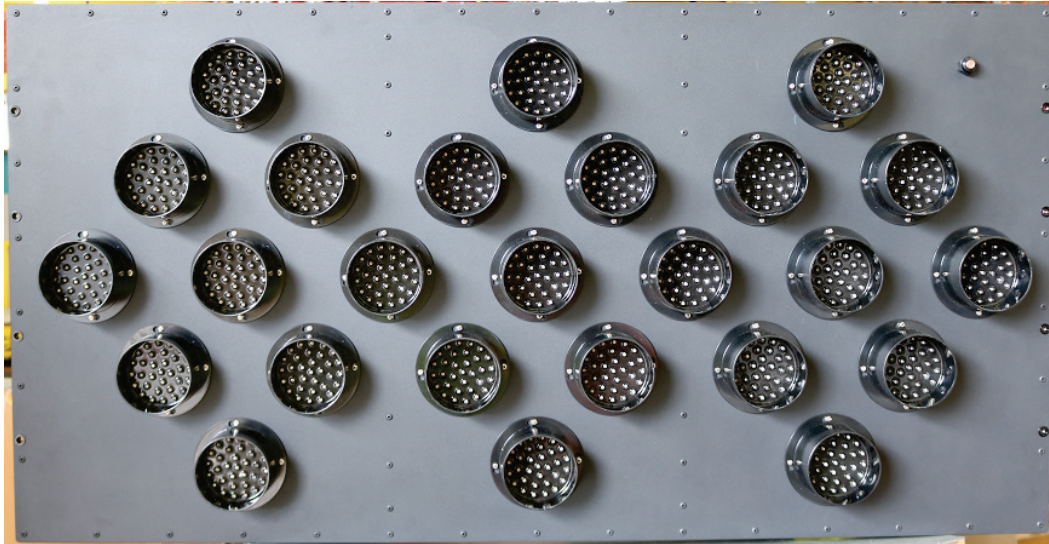
- 12V/24V DC dual voltage
- 120mA for each light
- 50 LED's on each lamp.
- Flashing rate: 60 times/min, 0.4sec ON, 0.6sec OFF

## Arrow Board Mounting

---

The arrow board can be fixed from front or back, or both if required. M8 nut hole centres may vary from product to product.

4x M8 Nuts front & 4 x M8 Nuts Back on left (same again on right side of the arrow board).

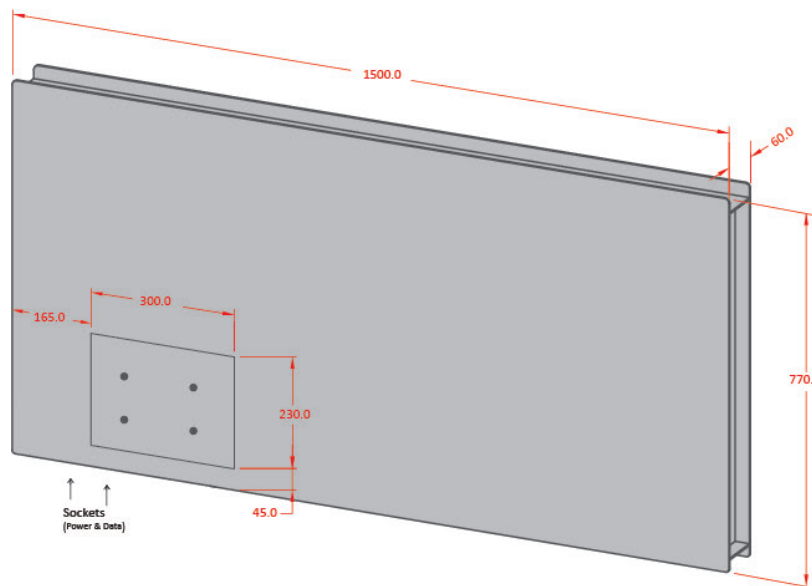


For replacement LED Lamps, see Page 9 Spare Parts – LED Lights

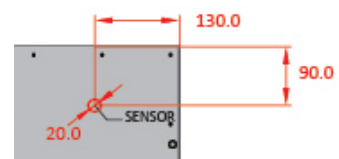
### Dimensions:

---

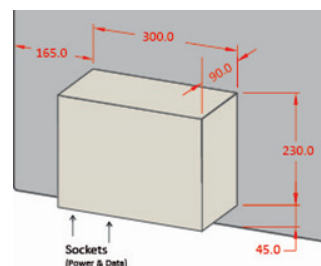
From December 2021, our arrow boards no longer have the external box on the back. If you are installing an arrow board manufactured before this date, the external enclosure must be taken into consideration when building the truck and framework etc



The Light Sensor is situated on the front of the arrow board in the top right:

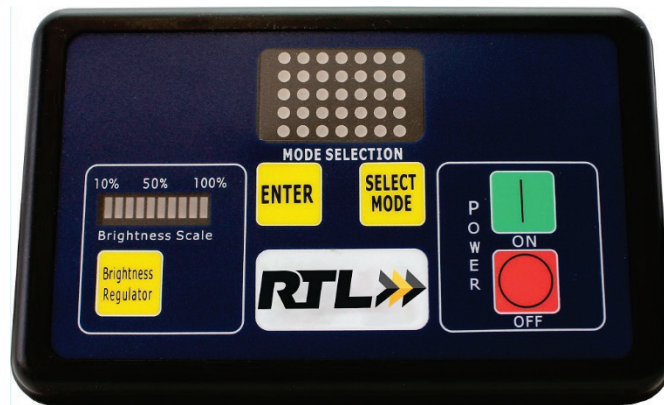


**Previous Models with Enclosure:**  
(Manufactured before December 2021:



## Controller Layout

---



## Power - On/ Off

---

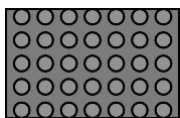
ON /OFF buttons are colored Green for On, Red for Off and are positioned on bottom right of the controller.



## Signal Display Mode:

---

There are 6 arrow board modes that can be displayed. To change the arrow board mode, press the "Select Mode" buttons to cycle through the available modes and press "Enter" one chosen you desired arrow mode.



## Lamp Brightness Display

---

This display gives accurate readings of bulb brightness.



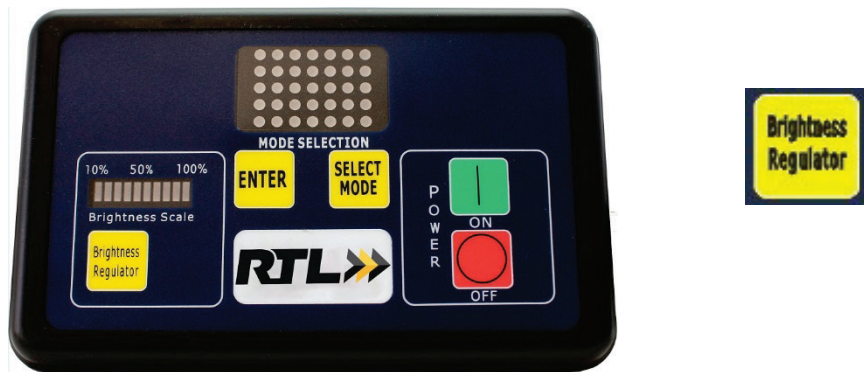


## Lamp Brightness - Up / Down

---

**Manual dimming mode:** when in power OFF mode, push “ON” button once, it will operate in manual mode. You can increase the brightness by 10% for each push of the “Brightness Regulator” button and set the brightness from 10% to 100% either with handheld controller or remote controller.

“Brightness Regulator” button: When pressed repeatedly, the brightness with step upwards through the brightness levels from 10% to 100%.



**Auto dimming mode:** when in arrow board is on and in manual operation mode, push “ON” button once, it will switch to Auto dimming mode. Please note that the remote controller won’t operate brightness when arrow board is in auto dimming mode.



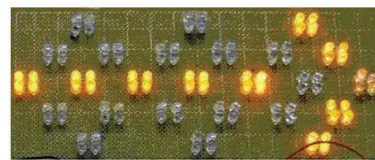
### Auto mode 100% brightness

Arrow symbol and brightness scales will increase in brightness



### Auto mode 40% brightness

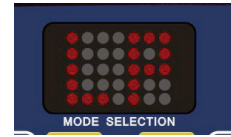
Arrow symbol and brightness scales will decrease in brightness



When in auto dimming mode, push “ON” button once, it will switch to manual mode.

## Battery Voltage Status

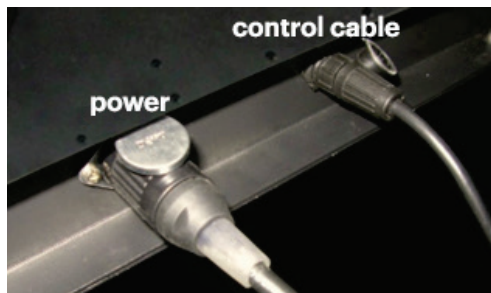
When the battery voltage falls between 10 – 11 volts, the arrow board will switch automatically to Caution mode and display the 4 corner lamps and the arrow board controller will display “LP” in the signal mode display.



When the battery voltage falls to below 10 volts, the arrow board and controller will shut off automatically.

## Cable Diagram – Power and Control Cable

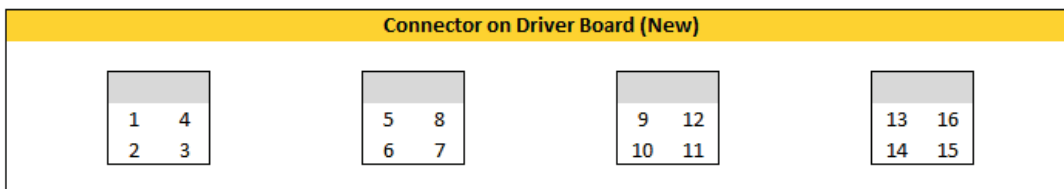
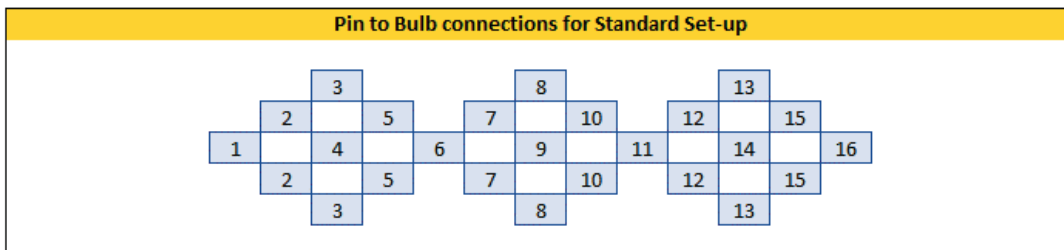
Plug both the power and control (data) cables into the connector plugs on the main arrow board.



## Wiring Diagram – LED Lamps

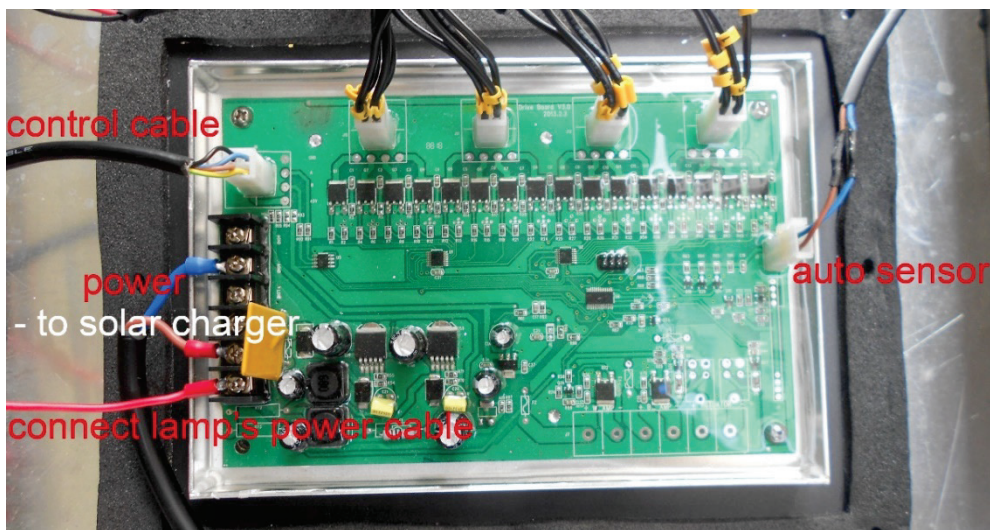
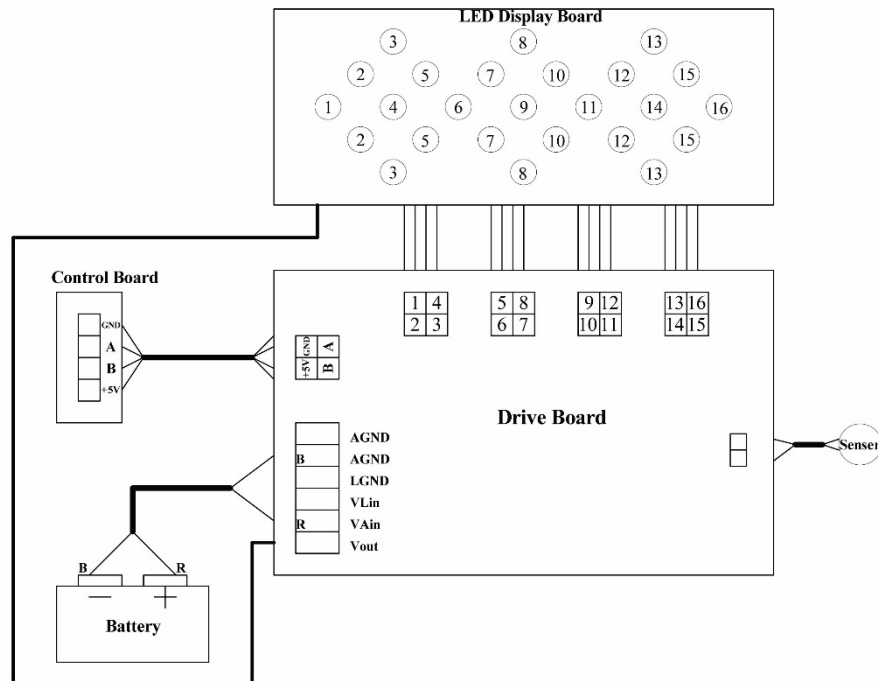
Use this diagram to accurately wire in replacement LED etc. The diagram shows the numbers allocated to the individual lamps. Some lamps have the same number as they are designed to flash at the same time.

All lamps are wired into one of four connectors on the main driver board.



## Wiring Diagram – Driver Board Replacement

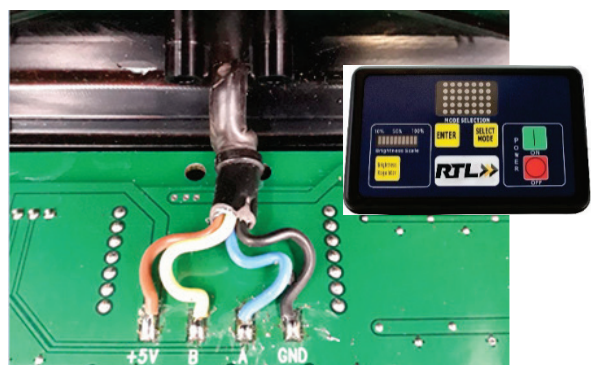
Driver board wiring the Controller Cable, Earth Wire and Lamp Power Cables, Sensor, and the four arrow board connectors.



## Wiring Diagram – In-Cab Controller Replacement

### In Cab Controller Wiring

Brown +5V | Yellow B | Blue A | Black GND





## Spare Parts – LED Lights

---

Arrow board will be fitted with either CS Lamps (Part Number: ET ABVLAMP2) or LS Lamps (Part Number: ET ABLAMP). They are different sizes and not interchangeable. The correct replacement lamp must be ordered to match the existing lamp hole. Contact [services@rtl.co.nz](mailto:services@rtl.co.nz) for assistance before placing orders.

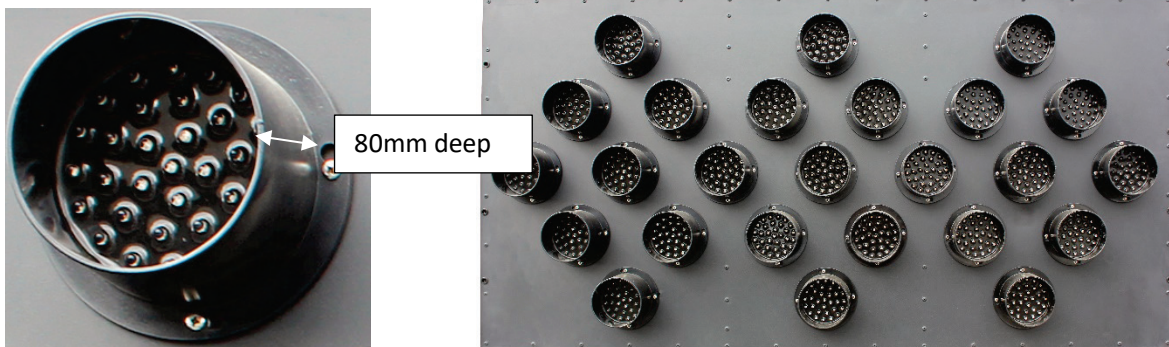
### Lamp Information:

#### Lamp Type CS

Part Number: ET ABVLAMP2

Features: Black silicone around LEDs, one piece construction  
4x mounting screws are not included.

Shroud Dia only: 105mm OD  
Overall Dia including screw plate: 140mm wide  
Shroud Depth: 80mm deep



#### Lamp Type LS

Part Number: ET ABLAMP

Features: Yellow LED Casing  
3 piece; includes LED Lamp, grey Gasket and Shroud (NOTE: individual parts not sold separately).  
4x mounting screws are not included.

Shroud Dia only: 105mm OD  
Overall Dia including screw plate: 145mm wide  
Shroud Depth: 105mm deep

