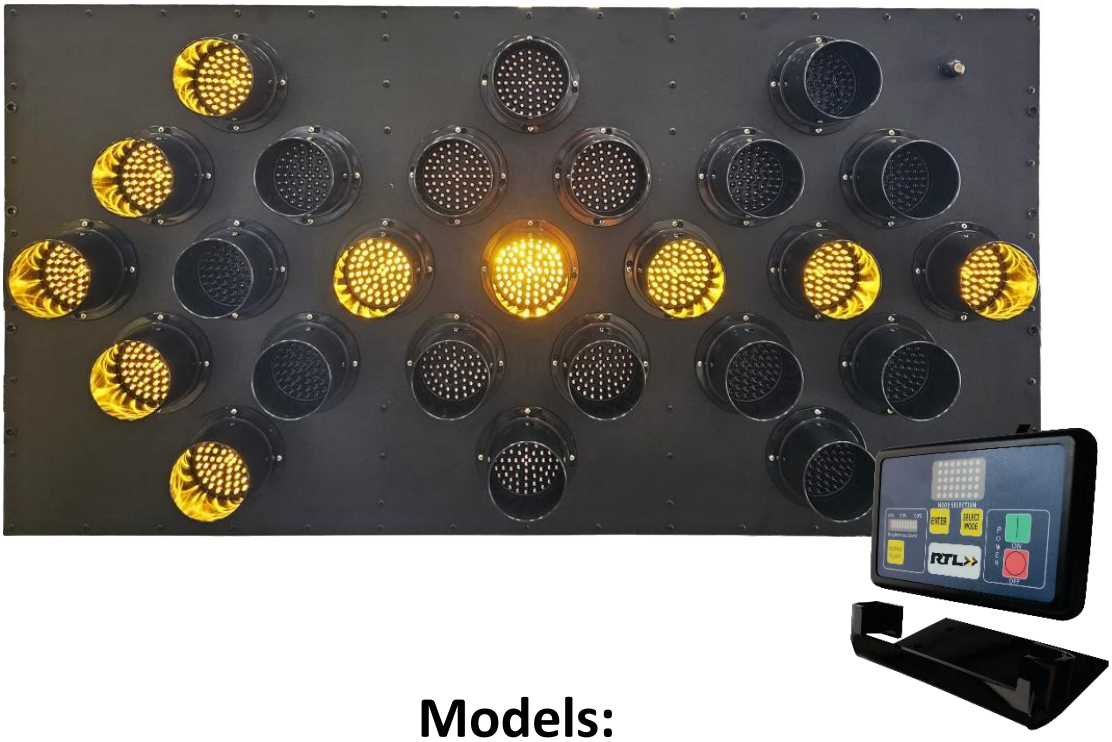
25 Light LED Arrow Board
Installation & Operating Guide



Models:

ET ABLA15B25 & ET ABVA15B25

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE PROCEEDING WITH OPERATION

Version 3.2

29 July 2026

Contents

Introduction:	2
Package Includes:	2
Cleaning:	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.

Package Includes:

- 1x 25 Light LED Arrow Board
- 1x In-cab controller & cradle
- 1x 10m data cable
- 1x 10m power cable

Notes: *Excludes M8 Bolts for fixing to frame*

Cleaning:

- Do not use high-pressure water cleaners, pressure washers, or steam cleaning equipment.
- high-pressure water may force moisture past seals, potentially damaging internal components.
- If cleaning is required, wipe the external surfaces with a soft, damp cloth.
- Do not use abrasive cleaners, solvents, or harsh chemicals, as these may damage the enclosure, labels, or seals.

Note: Damage caused by high-pressure cleaning or inappropriate storage practices is not covered under warranty.

In-Cab Controller:

The controller is housed in a custom molded polycarbonate housing. The controller houses many 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

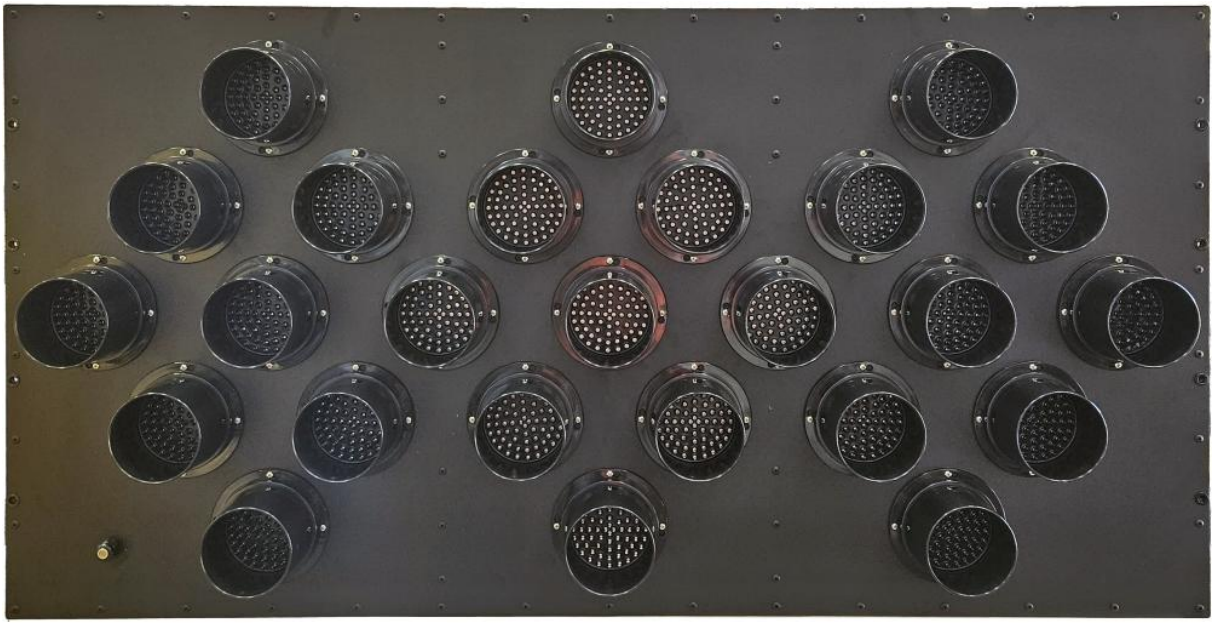
LED Lamps:

- 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

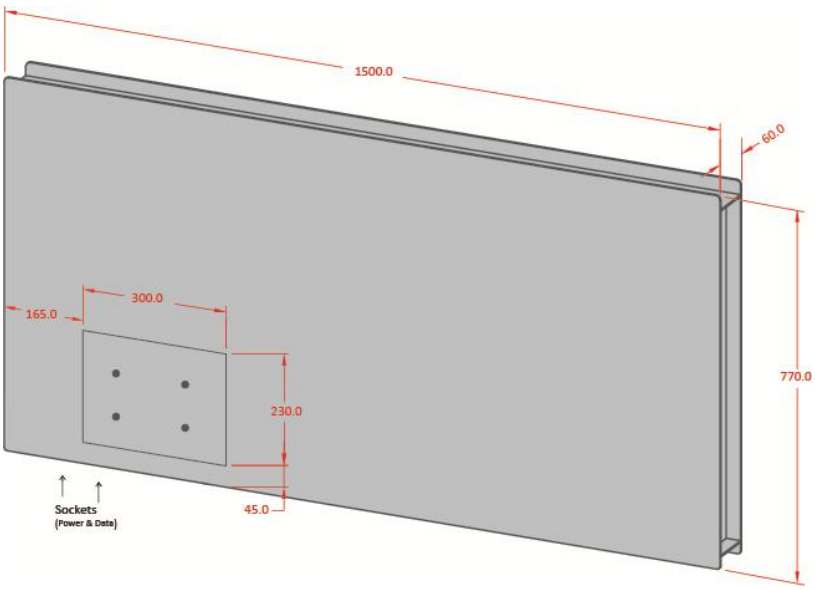
The arrow board can be fixed from front or back, or both if required. M8 nut hole centres may vary from product to product.

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

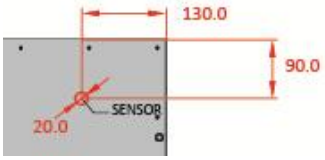


For replacement LED Lamps, see Page 10 Spare Parts - LED Lights

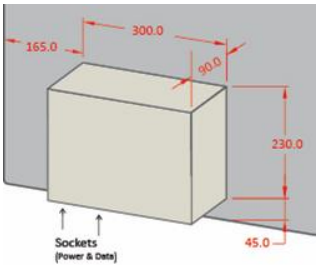
Dimensions:



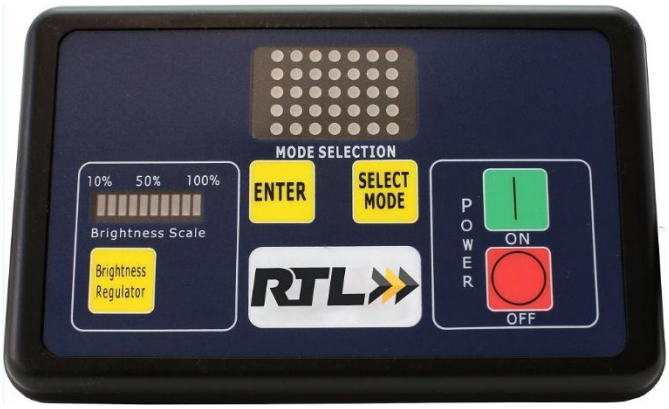
The Light Sensor is situated on the front of the arrow board in the top right:



Previous Models with Enclosure:
(Manufactured before December 2021:



Controller Layout

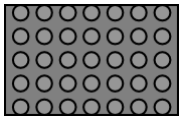


Power - On/ Off

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

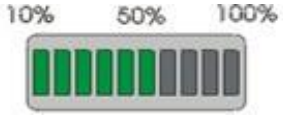
Signal Display Mode:

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

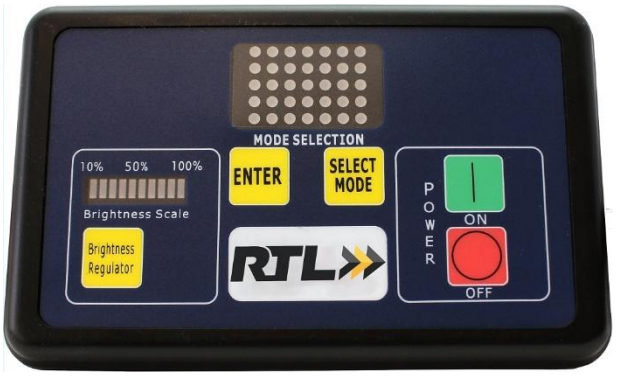
This display gives accurate readings of bulb brightness.



Lamp Brightness - Up / Down

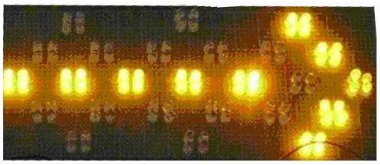
Manual dimming mode: when in power OFF mode, push “ON” button once, it will operate in manual mode. You can increase the brightness by 10% for each push of the “Brightness Regulator” button and set the brightness from 10% to 100% either with handheld controller or remote controller.

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

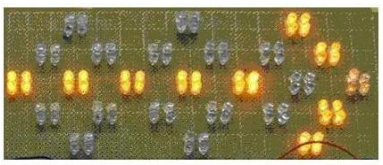


Auto dimming mode: when in arrow board is on and in manual operation mode, push “ON” button once, it will switch to Auto dimming mode. Please note that the remote controller won’t operate brightness when arrow board is in auto dimming mode.

Auto mode 100% brightness
Arrow symbol and brightness scales will increase in brightness



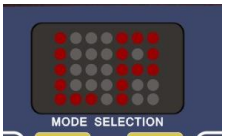
Auto mode 40% brightness
Arrow symbol and brightness scales will decrease in brightness



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

Battery Voltage Status

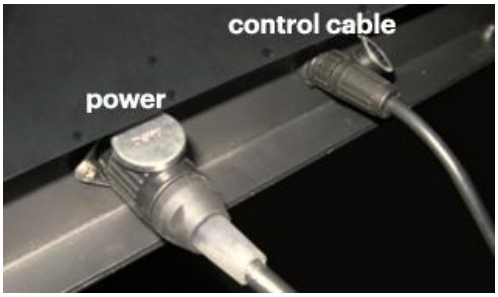
When the battery voltage falls between 10 – 11 volts, the arrow board will switch automatically to Caution mode and display the 4 corner lamps and the arrow board controller will display “LP” in the signal mode display.



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.

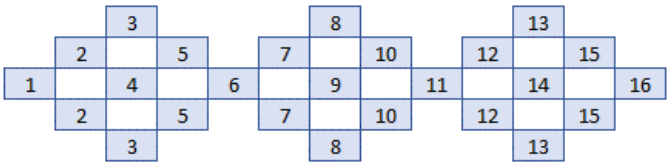


Wiring Diagram – LED Lamps

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.

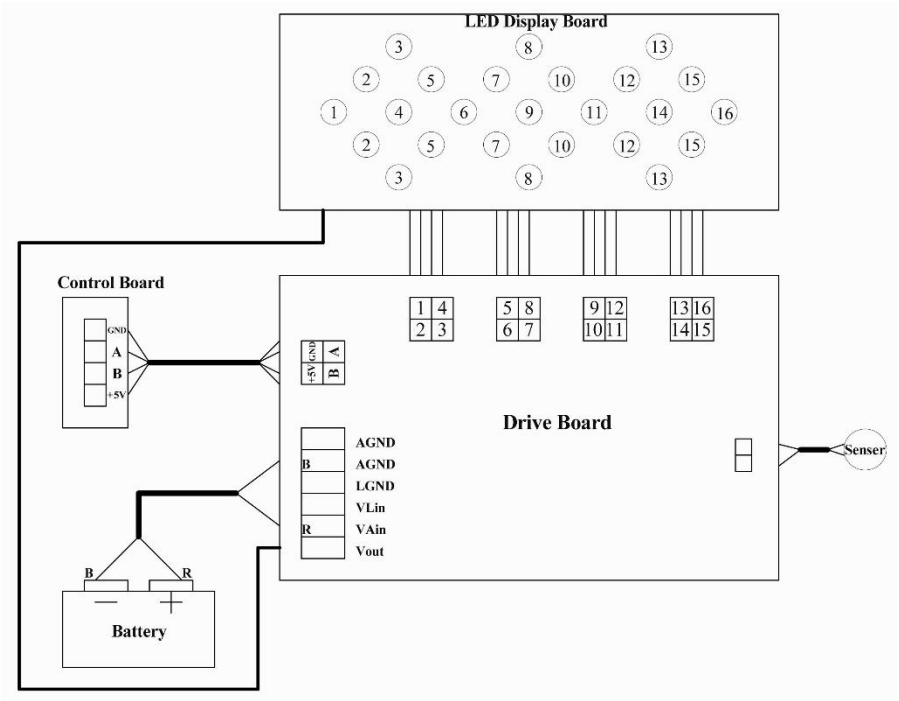
Pin to Bulb connections for Standard Set-up

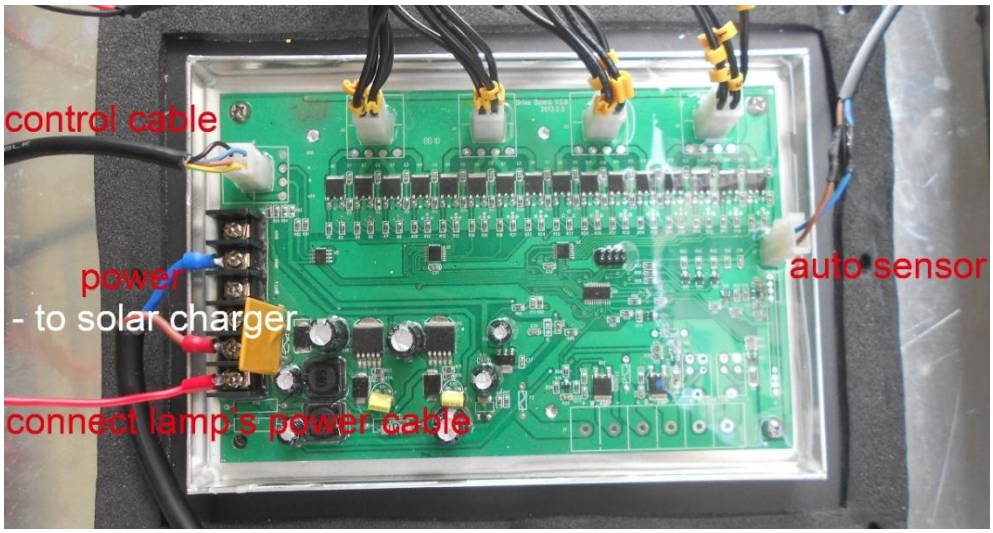


Connector on Driver Board (New)

Wiring Diagram – Driver Board Replacement

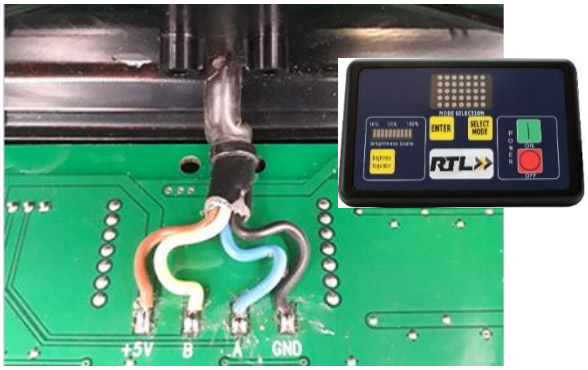
Driver board wiring the Controller Cable, Earth Wire and Lamp Power Cables, Sensor, and the four arrow board connectors.





Wiring Diagram – In-Cab Controller Replacement

In Cab Controller Wiring
Brown +5V | Yellow B | Blue A |Black GND



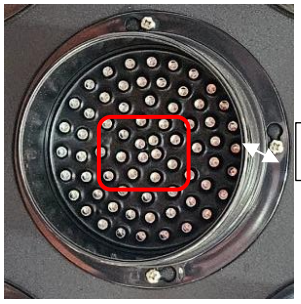
Spare Parts – LED Light Identification Guide

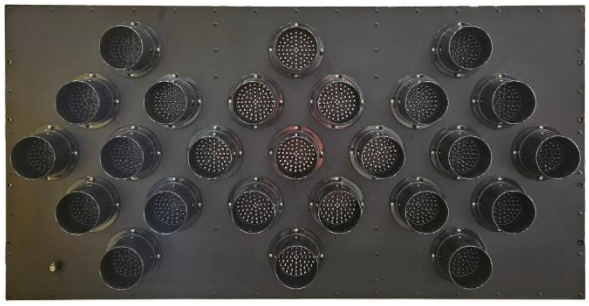
RTL stock replacement LED lamps for the following Arrow Board models. Replacement lamps must match the existing lamp mounting hole and fitting. If you are unsure which lamp is required, contact services@rtl.co.nz for assistance before ordering.

NEW 2026 LS Lamps - Black Silicon – 4 centre LEDs

Part Number: ET ABSLAMP	Shroud Dia only:	105mm OD
Features: Black silicone around LEDs, 3 piece;	Overall dia including screw plate:	145mm wide
includes LED Lamp, grey Gasket and Shroud	Shroud Depth:	105mm deep

NOTE: individual parts not sold separately). 4x mounting screws are not included.

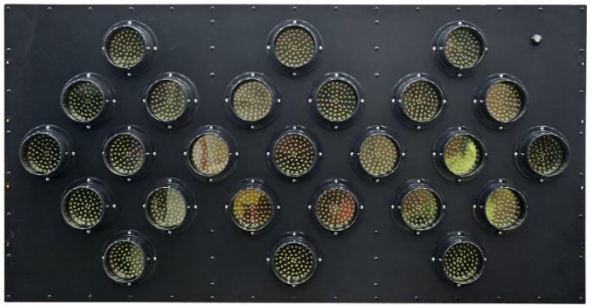




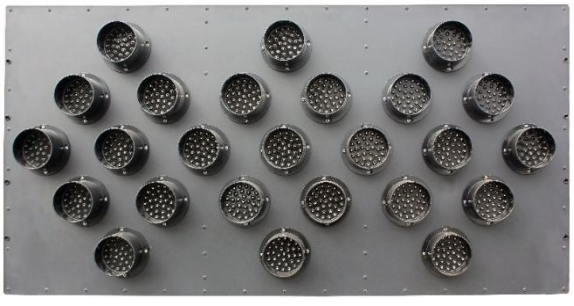
Lamp Type LS – Yellow Casing

Part Number: ET ABLAMP	Shroud Dia only:	105mm OD
Features: Yellow LED Casing	Overall Dia including screw plate:	145mm wide
3 piece; includes LED Lamp, grey Gasket and Shroud	Shroud Depth:	105mm deep

NOTE: individual parts not sold separately). 4x mounting screws are not included.



Lamp Type CS – 80mm deep Black Silicon

Part Number: ET ABVLAMP2	Shroud Dia only:	105mm OD
Features: Black silicone around LEDs, one piece	Overall Dia including screw plate:	140mm wide
construction	Shroud Depth:	80mm deep

NOTE: 4x mounting screws are not included.