Serial-bus Controller
Installation & Operation Manual

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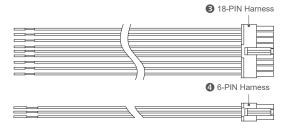
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❶ **Serial-bus Controller** x 1pc
❷ **Self-Driling Screw** x 4pcs
❸ **18-PIN Harness** x 1pcs
❹ **6-PIN Harness** x 1pcs

❸ 18-PIN Harness

❹ 6-PIN Harness

❷ Self-Drilling Screw
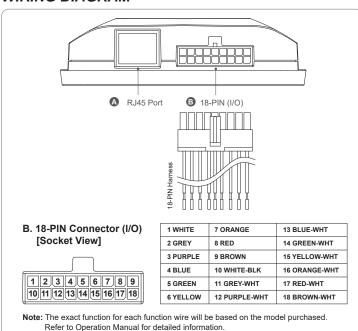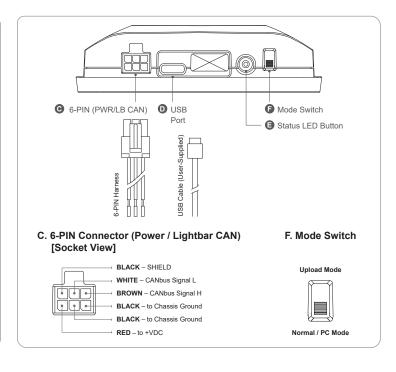
❶ Serial-bus Controller

INSTALLATION

Proper installation of the product requires the installer to have a good understanding of automotive electronics, systems and procedures. It is essential to install the unit properly to ensure a safe and reliable operation. Please read through all instructions thoroughly and carefully before installing the unit.

1. Select a location that is not exposed directly to weather elements, such as the driver compartment firewall, below the seat, or in the trunk; avoid any interference of air bag deployment. (Test fit all cables and harnesses before proceed.)
2. Use the Drilling Template, mark and drill the mounting holes on the mounting surface.
3. Fit the Serial-bus Controller and each mounting screw to its proper position, and tighten the screws until secured.
4. Connect the harness and wires to the Wiring Diagram.

WIRING DIAGRAM

Ⓐ RJ45 Port Ⓑ 18-PIN (I/O)

Ⓒ 6-PIN (PWR/LB CAN) Ⓓ USB Port Ⓕ Mode Switch

Ⓔ Status LED Button

18-PIN Harness

6-PIN Harness USB Cable (User-Supplied)

B. 18-PIN Connector (I/O) [Socket View]

| 1 2 3 4 5 6 7 8 9 |
| 10 11 12 13 14 15 16 17 18 |

1 WHITE	7 ORANGE	13 BLUE-WHT
2 GREY	8 RED	14 GREEN-WHT
3 PURPLE	9 BROWN	15 YELLOW-WHT
4 BLUE	10 WHITE-BLK	16 ORANGE-WHT
5 GREEN	11 GREY-WHT	17 RED-WHT
6 YELLOW	12 PURPLE-WHT	18 BROWN-WHT

Note: The exact function for each function wire will be based on the model purchased. Refer to Operation Manual for detailed information.

C. 6-PIN Connector (Power / Lightbar CAN) [Socket View]

BLACK – SHIELD
WHITE – CANbus Signal L
BROWN – CANbus Signal H
BLACK – to Chassis Ground
BLACK – to Chassis Ground
RED – to +VDC

F. Mode Switch

Upload Mode

Normal / PC Mode

Ⓐ **RJ45 Port -** Not used.

Ⓑ **18-PIN (I/O) -** Plug 18-Pin Harness to the socket.
Connect each individual I/O wire according to its function. (Refer to Software Operation Manual for detailed information.)

Ⓒ **6-PIN (Power / Lightbar CAN) -** Plug 6-Pin Harness to the socket.
- Connect 2 Serial-bus signal and SHIELD wires to Lightbar CAN Cable. (Refer to Software Operation Manual for detailed information.)
- Connect RED Wire to an ignition controlled circuit that can accommodate an additional 250mA load.
- Connect 2 BLACK Wires to Chassis Ground.

Ⓓ **USB Type-C Port -**
- Connect to PC via a Type-C Cable (user supplied) for PC programming. (Refer to Software Operation Manual for detailed information.)

Ⓔ **Status LED Button -**

Normal / PC Mode	- Green (Steady-burn):	System normal.
	- Red (Steady-burn):	CAN Bus Error; reboot and check Lightbar power and connection.
Upload Mode	- Green (Flashing Single):	Firmware uploading completed.
	- Red (Slow Flashing):	Firmware uploading.
	- Red (Fast Flashing):	Data Error, reload configuration file from PC via GUI software.
	- Red (Steady-burn):	Uploading failed; retry steps.

Ⓕ **Mode Switch -** (See next page "PROGRAMMING")
- Flip the switch downward for PC Mode when programming via PC.- Flip the switch upward for uploading firmware to lightbar. Flip downward after uploading for normal lightbar operation.

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PROGRAMMING - via Serial-bus Controller to lightbar

All lightbar function wires may be customized and re-programmed via Serial-bus Controller connection and specialized PC software.

For more information about PC programming and Software, please refer to Software Manual or contact your sales representative.

Follow the steps below to accomplish the programming:

1. Flip Mode Switch to PC Mode and connect the Serial-bus Controller to PC via a Type-C Cable.
2. Follow the instruction on GUI software and load (burn) the software configuration onto the Serial-bus Controller.
3. Once the Serial-bus Controller is prepared, plug 6-PIN harness to the socket, connect 2 CANBus signal and SHIELD wires to the respective Lightbar CAN wires.
4. Power-up the Serial-bus Controller and the Lightbar by connecting to a Power Supply Unit (following the respective wiring diagram).
5. Flip Mode Switch to Upload Mode to start uploading firmware from Serial-bus Controller to the lightbar.
   The status LED should display Slow Flashing Red when uploading the firmware.
6. Once done, the status LED should display Flashing Green. Flip Mode Switch to Normal / PC Mode for normal lightbar operation.
   6-1. If the status LED displays Fast Flashing Red, reload configuration file from PC via GUI software.
   6-2. If the status LED displays Steady Red, repeat from Step 5 and re-uploading.
7. The new firmware is loaded and ready to use. Test all function of your lightbar before actual operation.

DRILLING TEMPLATE