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**Fenix**

Fusion® 44" Instruction Manual  
1.800.615.8350 / fenix.com

# FUSION® S

BRIGHT MADE BRIGHTER

## FUSION® 44" LIGHTBAR

FS-4420



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## SAFETY REGULATIONS & WARRANTY

### Safety Regulations

The following provides all the information necessary to safely operate the previously listed products of Fenix Industries, Inc. Please read this manual thoroughly before installing or operating your new product in order to prevent any damage or injury. Failure to follow the listed instructions in this manual may result in damage to your products or personal injury.

- Proper installation of this product requires good knowledge of automotive systems, electronics and procedures.
- Please guarantee all vital components of the vehicle are not in danger of being damaged by drilling holes necessary for installation. Check all sides of the mounting surface before drilling any holes into the vehicle.
- Do not install this product in any way that interferes with the deployment of the air bag. Doing so may damage the effectiveness of the air bag and can lead to serious personal and vehicle injury. The installer will assume full responsibility of proper installation of the new unit.
- Please clean the mounting surface before installation of the unit when using tape, brackets, magnet, Velcro or suction cups.
- The product's ground wire must be connected directly to the Negative (-) battery post for effective use of the unit. Please follow all wiring guidelines provided to guarantee long lifespan and productivity. Failing to follow these instructions may result in damage to the product.

### Warranty

Fenix Industries, Inc. warrants to the original purchaser that all our products shall be free from defects in material and workmanship. Fenix Industries' speakers, sirens, rocker panels, AM600 Beacons, Torch Lights, AI lightbars, AI Cubes, AM900 Work Lights, 8.5" Dome Lights, Cargo Lights, flashlights, Remote Spot Lights, and controllers are warranted for 2 years from the manufacturing date. In addition, all other products are warranted for 5 years from the manufacturing date.

If a warranty problem occurs, please contact customer support at 1.800.615.8350 or visit the website at [www.fenix.com/support](http://www.fenix.com/support).

If the product needs to be returned for repair or replacement, call our customer support line to receive a return merchandise authorization number.

Operational times are from 9 a.m. to 6 p.m. central time, Monday through Friday. Please do not send in product without contacting support first for an RMA number.

### Service After Expiration

Fenix Industries will still provide service for all products after the expiration of the warranty. In some instances it may be necessary for the product to be shipped, freight prepaid, and insured for loss or damage to Fenix headquarters.

**Warning!** Utilizing non-factory screws and mounting brackets may result in loss of warranty coverage.

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## BOX CONTENTS

1x - Fusion-S 44" Lightbar

1x - Standard Foot Mount\*

1x - Feniex Converter

\*These items come attached to the product.

## WIRING GUIDE

WIRE	INPUT
Red	12V+
Black	Ground
Green	Data Wire A
White	Data Wire B

## PATTERNS

- 1 Attack
- 2 Cluster
- 3 Cluster Mix
- 4 Combo Single
- 5 Combo Triple
- 6 Vehicle Park
- 7 Half-Half Single
- 8 Half-Half Triple
- 9 One-One Single
- 10 One-One Triple
- 11 Two-Two Single
- 12 Two-Two Triple
- 13 All-On Single
- 14 All-On Triple
- 15 End + Corner

## SPECIFICATIONS

**DIMENSIONS** 44.5" x 12.13" x 3.65"

**VOLTAGE** 10-18VDC

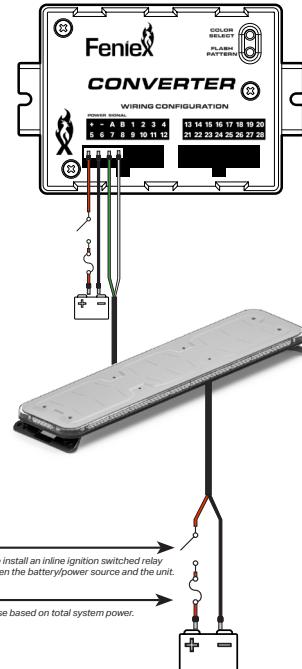
**CURRENT** 14 Amps @ 13V

**EXTERNAL FUSE** 125% Product Load

**WARRANTY** 5 Years

**Important!** To prevent constant draw on the battery/power source, please install an inline ignition switched relay between the battery/power source and the unit.

**Important!** Install a customer supplied fuse rated for 125% of the product load to the end of the red wire. Do not use a circuit breaker or fusible link.



## ▲ HOOK KIT MOUNTING

### ■ 1. Initial Lightbar Positioning

**Important!** Avoid drilling the vehicle at this stage. Please verify the mounting location before drilling.

- Place the full size lightbar on a flat surface with the bottom facing up. Using a 5/32" allen wrench, loosen the (4) bolts on each lightbar foot, but do not remove the feet from the bar.

See figure A.

- Remove the 5" long hex bolt from its packaging and slide the bolt through the hook bracket hole. Using a 1/2" socket wrench and the hex bolt, thread the bolt in roughly 1/2" with the hook bracket into the foot tongue bracket. Repeat this process with the second bracket on the other foot of the lightbar, so both sides have a hook bracket. Route the hook bracket through the foot ensuring the lip of the hook bracket rests in the bottom pocket. Place the lightbar with the attached hook brackets on the top of the vehicle. Ensure the hook bracket is upright and seated correctly. See figure B.

Figure A - Lightbar Bottom View

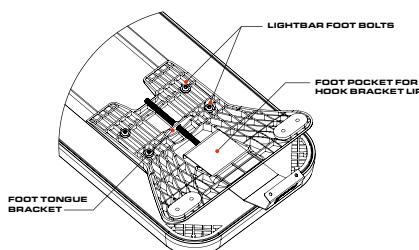


Figure B.1 - Bracket Top View

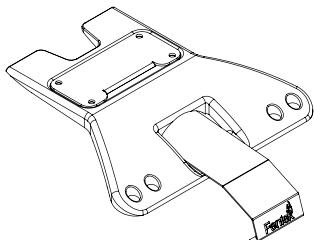


Figure B.2 - Bracket Bottom View

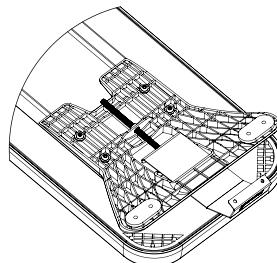
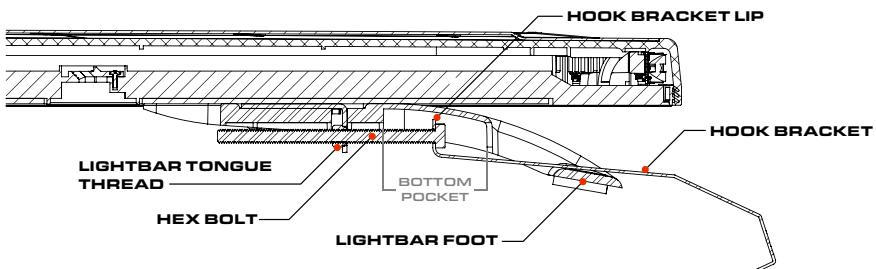
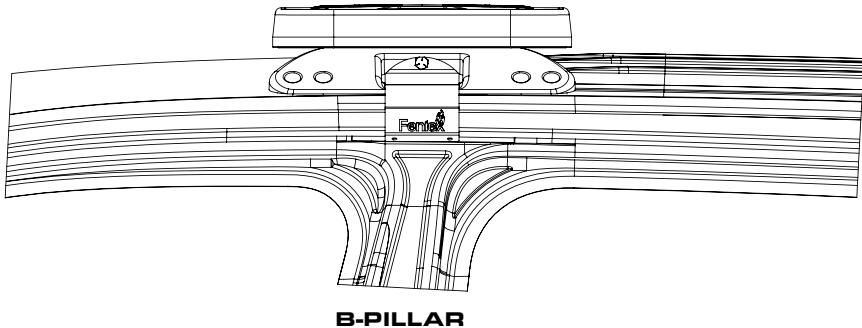


Figure B.3 - Bracket Side View



## ▲ HOOK KIT MOUNTING

c. Align the center of the foot and hook bracket with the vehicle's B-pillar.



d. The rubber pads of the lightbar foot should be very close but never touching the vehicle's rain channel. Press the hook bracket up to the door jam and move the foot so the hook bracket doesn't interfere with the bottom side of the foot. Ensure the bracket does not touch the lightbar tongue bracket. The bottom of the lightbar will be close to the roof; however it should never touch the vehicle roof (Move the feet towards the center of the vehicle to remove any interference between the bottom of the lightbar and roof). *See figure D.*

Figure D.1 - Vehicle View

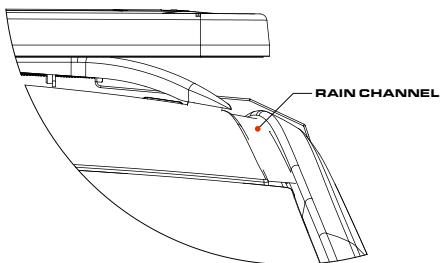
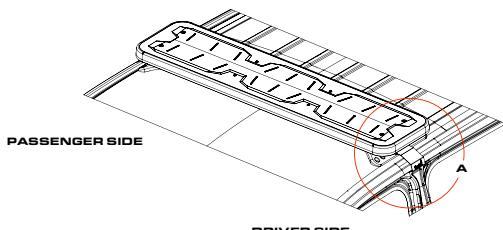
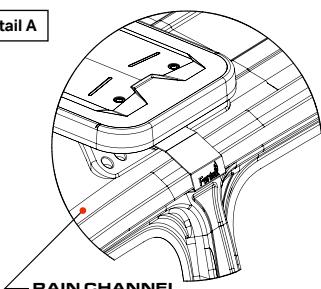


Figure D.2 - Vehicle Top View



Detail A

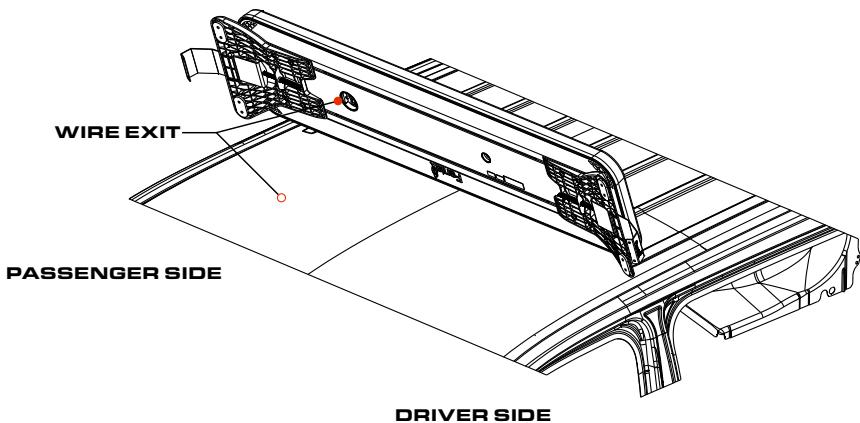


## ▲ HOOK KIT MOUNTING

e. When the lightbar mounting locations are set, use an automotive masking tape or a marker to reference lightbar foot locations later. Also mark the wire exit location under the Passenger Side of the lightbar. This will serve as the drill point on the vehicle to allow for wire access. Flip the lightbar over to retighten the lightbar foot bolts using a 5/32" allen wrench on both feet (shown in step 1.a).

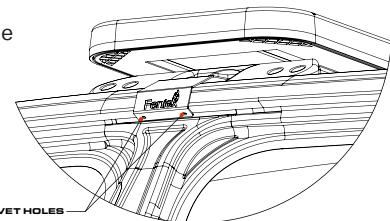
### ■ 2. Routing Lightbar Wires

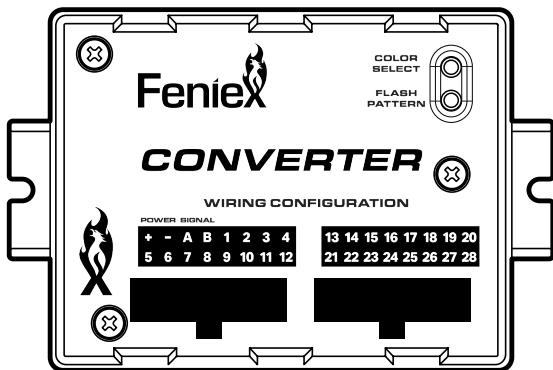
Ensure the headliner is removed or out of the way. To route the wire harness, drill a 1in. diameter hole (preferably under the Lightbar wire exit,  $\frac{3}{4}$ " diameter minimum), and route the wire harness through the vehicle. Ensure that wires are protected from rough edges using a rubber wire grommet seal the hole with silicone after securing the hook brackets.



### ■ 3. Mounting Lightbar to Vehicle

Secure and tighten the hook brackets using a  $\frac{1}{2}$ " socket wrench on each side of the vehicle until the bar is snugly mounted. Ensure the vehicle's door closes fully without any interference. Drill and secure the hook bracket to the vehicle with  $\frac{3}{16}$ " diameter rivets, using the two pilot holes on the bottom of the hook bracket as a guide. Once the rivets are installed, torque the hex bolts to 175 in\*lb max to complete the installation.





## ▲ CONVERTER INPUT GUIDE

1	Front Mode 1	15	Left Signal
2	Front Mode 2	16	Right Signal
3	Front Mode 3	17	Tail
4	N/A	18	Brake
5	Rear Mode 1	19	Front Flood
6	Rear Mode 2	20	Rear Flood
7	Rear Mode 3	21	Alley Right Flood
8	N/A	22	Alley Left Flood
9	Driver Cut	23	California Red
10	Passenger Cut	24	Cruise Left
11	Front Cut	25	Cruise Right
12	Rear Cut	26	Dim 10%
13	Left Arrow	27	Dim 50%
14	Right Arrow	28	Arrow Position

## ▲ PROGRAMMING

*Must activate each mode and then tap the pattern select button on the Fenix Converter.*

### ■ Arrow Modes 13 & 14

Left and right arrow factory default is set to the whole rear of the lightbar along with all positions in the lightstick. If you wish to step in your traffic advisor pattern using less modules, then activate left or right arrow mode and tap mode 28 to 12V+ 1 second each time to step the patterns in.

### ■ Signal Modes 15 & 16

Factory default for Left and Right turn signals will illuminate half the bar. To reposition your turn signal to less modules or a single module, activate the signal mode and tap the pattern select button to a 12V+ for 1 second.

### ■ Tail & Brake Modes 17 & 18

Tail and Brake modes will activate the full bar on the rear by factory default. To reposition tail and brake to a different module, activate the mode and tap the pattern select button to a 12V+ for 1 second.

### ■ Takedown Modes 19 & 20

When activating front or rear as a takedown function, the entire bar will illuminate by factory default. To reposition take down to the appropriate module, activate the flood mode and tap the pattern select button to a 12V+ for 1 second.

### ■ Alley Modes 21 & 22

When activating Left and Right Alley, all three modules will activate by factory default. To reposition alley to the center, activate the Left or Right Alley mode and then tap the pattern select button to a 12V+ for 1 second.

### ■ California Red Mode 23

California Red illuminates one module in front of the bar by factory default. To reposition California Red to another module or to add more modules, activate California Red mode and then tap the pattern select button to a 12V+ for 1 second.

### ■ Cruise Modes 24 & 25

The default setting for Cruise Left is the whole left half and then Cruise Right defaults to the whole right half. To add more modules to cruise, activate cruise mode and then tap your pattern select button to a 12V+ for 1 second to illuminate more modules.

1 Front Mode 1

2 Front Mode 2

3 Front Mode 3

4 N/A

5 Rear Mode 1

6 Rear Mode 2

7 Rear Mode 3

8 N/A

9 Driver Cut

10 Passenger Cut

11 Front Cut

12 Rear Cut

13 Left Arrow ✓

14 Right Arrow ✓

15 Left Signal ✓

16 Right Signal ✓

17 Tail ✓

18 Brake ✓

19 Front Flood ✓

20 Rear Flood ✓

21 Alley Right Flood ✓

22 Alley Left Flood ✓

23 California Red ✓

24 Cruise Left ✓

25 Cruise Right ✓

26 Dim 10% ✓

27 Dim 50% ✓

28 Arrow Position ✓