



# Installation and Operation Instructions

## MEGA THIN™ STIK

### WARNING AND ARROWSTIK® SYSTEM

**IMPORTANT!** Read all instructions before installing and using. Installer: This manual must be delivered to the end user.



**WARNING!**

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!



**Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.**

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of emergency personnel and the public.
2. Emergency warning devices often require high electrical voltages and/or currents. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation is vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure daily that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
6. The use of this or any other warning device does not ensure all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, drive against traffic, respond at a high rate of speed, or walk on or around traffic lanes.
7. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding emergency warning devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

### Specifications:

Size:	MTS418 Series	18.3" L x 1.6" H x 1.5" D
	MTS626 Series	27.0" L x 1.6" H x 1.5" D
	MTS835 Series	35.6" L x 1.6" H x 1.5" D
Weight:	MTS418 Series	3.1 lbs.
	MTS626 Series	3.7 lbs.
	MTS835 Series	4.4 lbs.
Input Voltage:		12 to 24 VDC systems

Max Input Current @ 12.8 / 25.6 VDC:	MTS418MC-XXXX	2.4 / 1.3 A
	MTS626S-A	3.8 / 2.0 A
	MTS626MC-XXXX	3.6 / 2.0 A
	MTS835S-A	5.0 / 2.7 A
	MTS835MC-XXXX	4.8 / 2.6 A
Max Power Consumption @ 12.8 / 25.6 VDC:	MTS418MC-XXXX	31.0 / 33.3 W
	MTS626S-A	48.4 / 52.2 W
	MTS626MC-XXXX	46.1 / 50.7 W
	MTS835S-A	64.5 / 69.6 W
	MTS835MC-XXXX	61.4 / 67.6 W

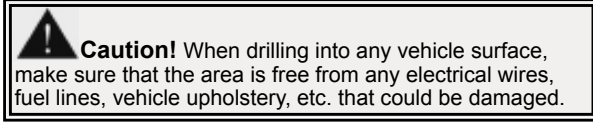
Temperature Range: -40°F - 158°F (-40°C - 70°C)

## Unpacking:

Carefully remove the unit from its packaging and place it on a flat surface. Examine the unit for transit damage. If damage is found, return the product to your local dealer for warranty replacement. Do not use damaged or broken parts.

## Installation & Mounting:

The mounting location should be chosen such that there is maximum visibility to the oncoming traffic.



## End Bracket Mounting:

1. Loosely assemble a mounting bracket to each end of the unit as shown in FIGURE 1 using the included hardware.
2. Position the lightbar in the desired mounting location on the rear of the vehicle with the cable exit to the driver's side. Mark and drill two holes for each bracket using 6.6 mm sized drill bit. The holes are spaced 1.83" apart center to center.
3. Secure the brackets in place on the vehicle using the supplied M6 x 1.0 mm hardware. Tilt the face of the unit to an angle that optimizes visibility to oncoming traffic and tighten the two screws in each end.

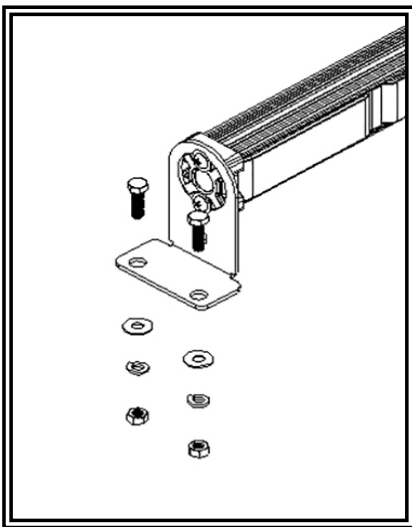


FIGURE 1

## Rear Bracket Mounting:

1. Loosely assemble the mounting brackets into the rear channel as shown in FIGURE 2 using the included hardware. Note: Carriage bolt is customer supplied, use of a stainless steel carriage bolt is advised to prevent corrosion.
2. Position the lightbar in the desired mounting location on the rear of the vehicle with the cable exit to the driver's side. Mark and drill a hole to mount each bracket using 17/64" sized drill bit. The brackets should be spaced a minimum of 1/2 the total length apart, i.e., 24" apart on a 48" long product.
3. Secure the brackets in place on the vehicle using customer supplied 1/4" thread size carriage bolts and associated hardware. Tighten the nuts holding the brackets to the product.

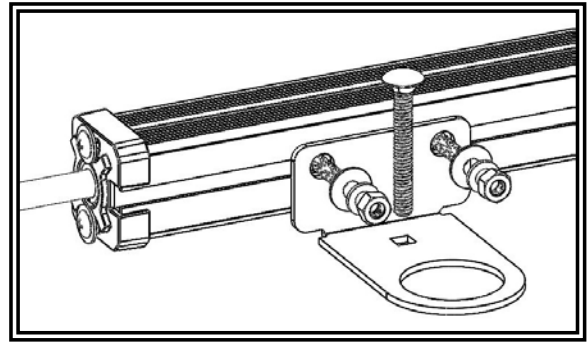


FIGURE 2

## Wiring Instructions:

Before attempting to connect the unit's wiring harness, refer to the wiring diagram in FIGURE 3. The wiring diagram describes the function for each wire.

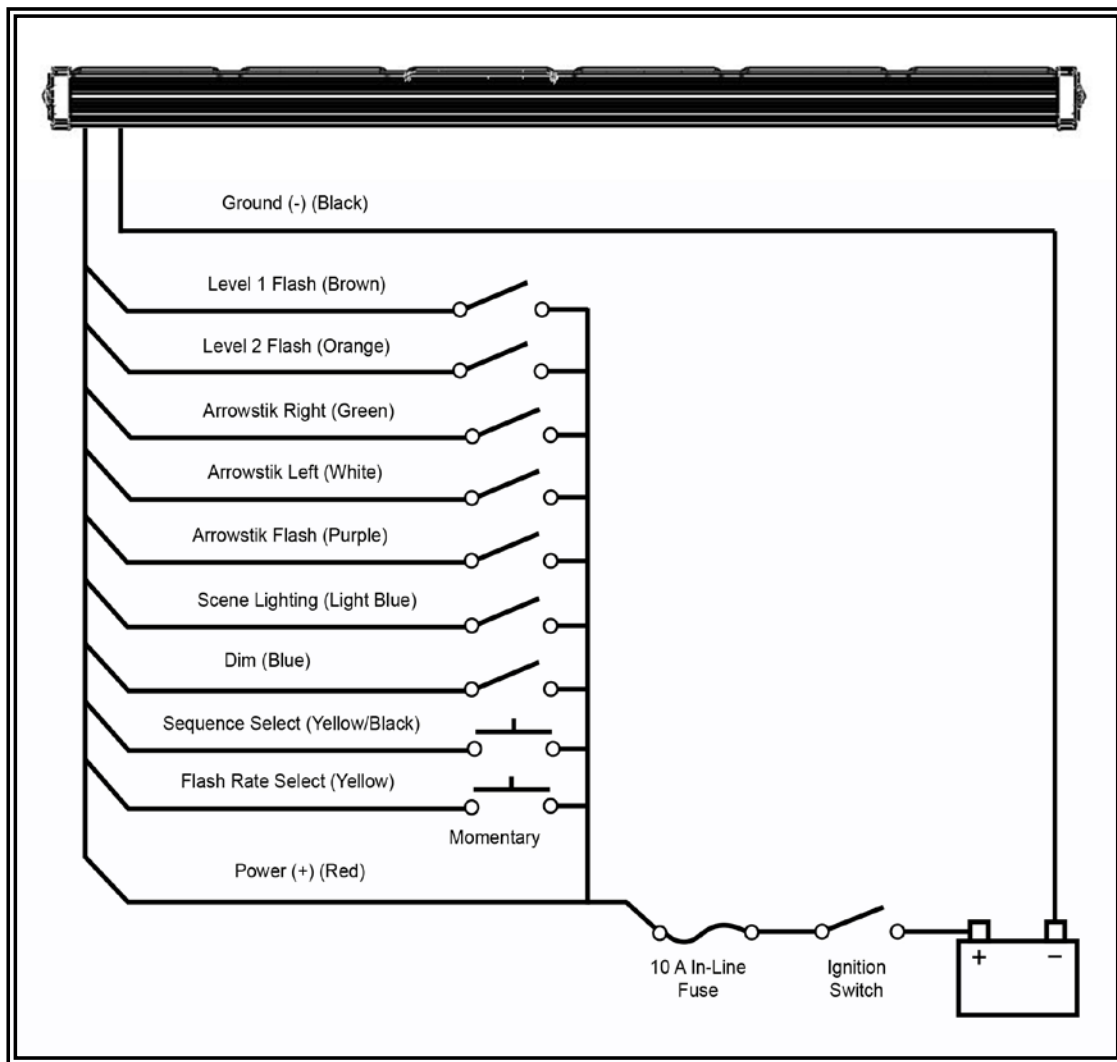
**Important!** This unit is a safety device, and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

## Important Wiring Notes:

1. Larger wires and tight connections will provide longer service life for components. For high current wires it is highly recommended that terminal blocks or soldered connections be used with heat shrink tubing to protect the connections.
2. Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop. High ambient temperatures (e.g. under hood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.
3. Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices.
4. Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity.
5. Ground terminations should only be made to substantial chassis components, preferably directly to the vehicle battery.
6. Circuit breakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.

## General Wiring Instructions:

1. After the lightbar has been mounted, route the power cable's red wire to a fused, ignition-switched power point as shown in FIGURE 3. Use an in-line 10 amp slow blow fuse on the positive line. Connect the black wire directly to the negative battery terminal. A minimum size of 18 AWG wire should be used on the power and ground lines.
2. Route the remaining control wires into the vehicle to a switch panel or controller location. See the Flash Patterns section for flash sequence and flash rate options.
3. Use cable ties and grommets to secure and protect all cables and wires.



**FIGURE 3**

**NOTE:** Green and White together is ArrowStik center out. ArrowStik functions override all others. Brown and Orange together is Level 3 Flash. Scene Lighting overrides Levels 1, 2 and 3 Flash. ArrowStik functions in multicolor units flash the secondary color only.

### Flash Patterns:

The Mega Thin Stik functions can be configured to any combination of flash sequences and flash rates to achieve the desired flash pattern. The unit must be powered through the black ground wire, the red power wire and the single function being programmed to allow flash sequence and flash rate selection. Set the desired flash sequence (in the order below) by tapping the yellow/black wire to power (+V) as described in the wiring diagram. Set the desired flash rate (in the order below) by tapping the yellow wire to power. Holding either wire (yellow or yellow/black) to power for approximately 3 seconds will move to the prior sequence or rate. Holding either wire to power for approximately 5 seconds will move to default sequence or rate.

Level 1 and Level 2 Flash Sequences (Brown or Orange Wire to V+)			
Flash Sequence (Momentary Yel/Blk to V+)			
No.	Single Color	No.	Multicolor
1	Left/Right	1	Left/Right - Primary & Secondary
2	Even/Odd	2	Left/Right - Primary Only (Level 1 Default)
3	Random	3	Left/Right - Secondary Only
4	Cycle Sequence Random	4	Left/Right - Primary with Secondary Pops
5	Sweep Left/Right	5	Left/Right - Primary with Secondary Random
6	Off	6	Even/Odd - Primary & Secondary
		7	Even/Odd - Primary Only (Level 2 Default)
		8	Even/Odd - Secondary Only
		9	Even/Odd - Primary with Secondary Pops
		10	Even/Odd - Primary with Secondary Random
		11	Random - Primary & Secondary
		12	Random - Primary Only
		13	Random - Secondary Only
		14	Random - Primary with Secondary Pops
		15	Random - Primary with Secondary Random
		16	Cycle Sequence Random - Primary & Secondary
		17	Cycle Sequence Random - Primary Only
		18	Cycle Sequence Random - Secondary Only
		19	Cycle Sequence Random - Primary with Secondary Pops
		20	Cycle Sequence Random - Primary with Secondary Random
		21	All on Random - Primary & Secondary
		22	Sweep Left/Right - Secondary Only
		23	Off - Primary & Secondary

**TABLE 1**

Level 1 and Level 2 Flash Rates (Brown or Orange Wire to V+)				
No.	Flash Rate (Momentary Yel to V+)	FPM	SAE Compliant	CA T13 Compliant
1	Double (Level 2 Default)	75	Class 1	Class B
2	Triple	75	Class 1	Class B
3	Quad	75	Class 1	Class B
4	Quint	75	Class 1	Class B
5	Double	150	Class 1	N/A
6	Triple (Level 1 Default)	150	Class 1	N/A
7	Quad	150	Class 1	N/A
8	Quint	150	Class 1	N/A
9	Triple Pop	75	Class 1	N/A
10	Quad Pop	75	Class 1	N/A
11	Single	375	N/A	N/A
12	Cycle	N/A	N/A	N/A

**TABLE 2**

<b>ArrowStik Center Out, Left and Right Flash Sequences</b> (White and Green, or White, or Green Wire to V+)	
<b>No.</b>	<b>Flash Sequence (Momentary Yel/Blk to V+)</b>
1	Build (Default)
2	Build 3 Flash
3	Travel 3 Flash
4	Build/Collapse

**TABLE 3**

<b>ArrowStik Flash Sequences</b> (White and Green, or Green, or White or Purple Wire to V+)	
<b>No.</b>	<b>Flash Rate (Momentary Yel to V+)</b>
1	Fast
2	Medium
3	Slow

**TABLE 5**

<b>ArrowStik Flash Sequences</b> (Purple Wire to V+)	
<b>No.</b>	<b>Flash Sequence (Momentary Yel/Blk to V+)</b>
1	Even/Odd, Split (Default)
2	Single Flash, All On
3	Even/Odd
4	Left/Right

**TABLE 4**

<b>Multicolor Scene Lighting Sequences</b> (Light Blue to V+)	
<b>No.</b>	<b>Flash Sequence (Momentary Yel/Blk to V+)</b>
1	Primary Only
2	Secondary Only (Default)

**TABLE 6**

**Replacement Parts and Accessories:**

<b>Part No.</b>	<b>Color</b>
CZ0022RB	12 LED Red/Blue LED Module
CZ0023RA	12 LED Red/Amber LED Module
CZ0024RW	12 LED Red/White LED Module
CZ0025BA	12 LED Blue/Amber LED Module
CZ0026BW	12 LED Blue/White LED Module
CZ0027AW	12 LED Amber/White LED Module
CZ0028A	6 LED Amber LED Module
CZ0029W	6 LED White LED Module
CZ0030R	6 LED Red LED Module
CZ0031B	6 LED Blue LED Module

**Light Head Primary/Secondary:**

<b>Light Head</b>	<b>Primary</b>	<b>Secondary</b>
R/B	RED	BLUE
R/A	RED	AMBER
R/W	RED	WHITE
B/A	BLUE	AMBER
B/W	BLUE	WHITE
A/W	WHITE	AMBER

**NOTES:**

**NOTES:**

## **Manufacturer Limited Warranty Policy:**

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for Sixty (60) months from the date of purchase.

**DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS Voids THIS LIMITED WARRANTY.**

### **Exclusion of Other Warranties:**

MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

### **Remedies and Limitation of Liability:**

MANUFACTURER'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER THEORY AGAINST MANUFACTURER REGARDING THE PRODUCT AND ITS USE SHALL BE, AT MANUFACTURER'S DISCRETION, THE REPLACEMENT OR REPAIR OF THE PRODUCT, OR THE REFUND OF THE PURCHASE PRICE PAID BY BUYER FOR NON-CONFORMING PRODUCT. IN NO EVENT SHALL MANUFACTURER'S LIABILITY ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE MANUFACTURER'S PRODUCTS EXCEED THE AMOUNT PAID FOR THE PRODUCT BY BUYER AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF MANUFACTURER OR A MANUFACTURER'S REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MANUFACTURER SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.

## **Product Returns:**

If a product must be returned for repair or replacement\*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3®, Inc. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

\*Code 3®, Inc. reserves the right to repair or replace at its discretion. Code 3®, Inc. assumes no responsibility or liability for expenses incurred for the removal and /or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products returned to sender after the service has been rendered.



10986 North Warson Road  
St. Louis, MO 63114

**Technical Service**

(314) 996-2800

[c3\\_tech\\_support@code3esg.com](mailto:c3_tech_support@code3esg.com)

[www.code3esg.com](http://www.code3esg.com)

An ECCO SAFETY GROUP™ Brand

[www.eccosafetygroup.com](http://www.eccosafetygroup.com)