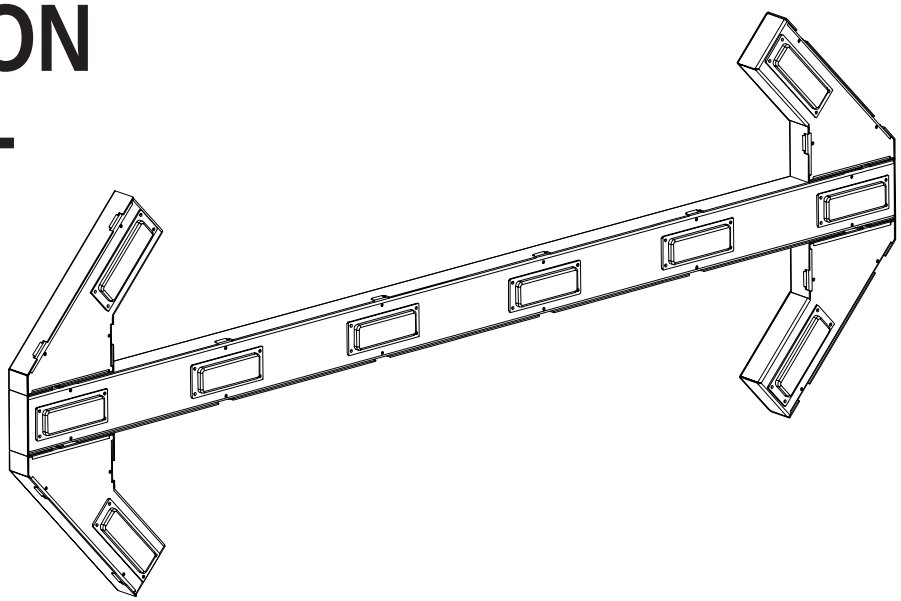
INSTALLATION & OPERATION MANUAL



ASL1060H
ASLSP10H
ASLC1060H

Code 3, Inc., a subsidiary of
Public Safety Equipment, Inc.

CODE 3® INC
PUBLIC SAFETY EQUIPMENT, INC.

LARGE LED NARROWSTIK™

Contents:

IMPORTANT: ***Read all instructions and warnings before installing and using.***
INSTALLER: ***This manual must be delivered to the end user of this equipment.***

Introduction

The Large LED Narrowstik® is a traffic directing device that will mount in many locations. The Large LED Narrowstik is a series of lights that point traffic away from the scene of an accident or work site and utilizes state-of-the-art High-Flux L.E.D. lightheads. These lightheads last longer and use much less current than standard incandescent lamps.

WARNING!

The use of this or any warning device does not insure that 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, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.

The effectiveness of this warning device is highly dependent upon correct mounting and wiring. Read and follow the manufacturer's instructions before installing or using this device. The vehicle operator should insure daily that all features of the device operate correctly. In use, the vehicle operator should insure the projection of the warning signal is not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. This equipment is intended for use by authorized personnel only. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should check all applicable city, state and federal laws and regulations.

Public Safety Equipment, Inc., assumes no liability for any loss resulting from the use of this warning device.

Proper installation is vital to the performance of this warning device and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergency situation. The warning device should be installed in such a manner as to: A) Not reduce the output performance of the system, B) Place the controls within convenient reach of the operator so that he can operate the system without losing eye contact with the roadway.

Emergency warning devices often require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.

PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Models:

1: ASL1060H: Standard LED 10-position Amber 60" Narrowstik

2: ASLSP10H: Split LED 10-position Amber 33" (each) Narrowstik

3: ASLC1060H: Standard LED 10-position Amber 60" LC-Stik

Unpacking & Pre-installation

After unpacking the items, carefully inspect the unit and its associated parts for any damage that may have been caused in transit. Report any damage to the carrier immediately.

Installation & Mounting

The Large LED Narrowstik was designed for mounting with a minimum four fasteners. The outer covers at each arrow wing must be removed since they conceal the prepunched mounting holes for a more aesthetically pleasing appearance. Three #6 x .5" sheet metal screws attach the covers and may be removed with a T-15 Torx screwdriver. (See Figure 1) The system is designed to use 3/8"-16 fasteners (included in the parts bag, see Figure 2 for details) for attaching the Narrowstik frame to the customer's mounting surface. The Split Narrowstik assembly is mounted in a similar fashion but uses two ¼"-20 fasteners (included in the parts bag) to attach each end flange and complete the mounting. Attachment holes may be drilled anywhere along the main horizontal frame to attach the Narrowstik assembly for a variety of mounting applications. Care should be taken to first remove the outer cover and be certain that no wiring is damaged during the drilling and mounting process. The plastic caps (included in the parts bag) may be installed in the prepunched mounting holes if not used to install the Narrowstik.

Figure 1

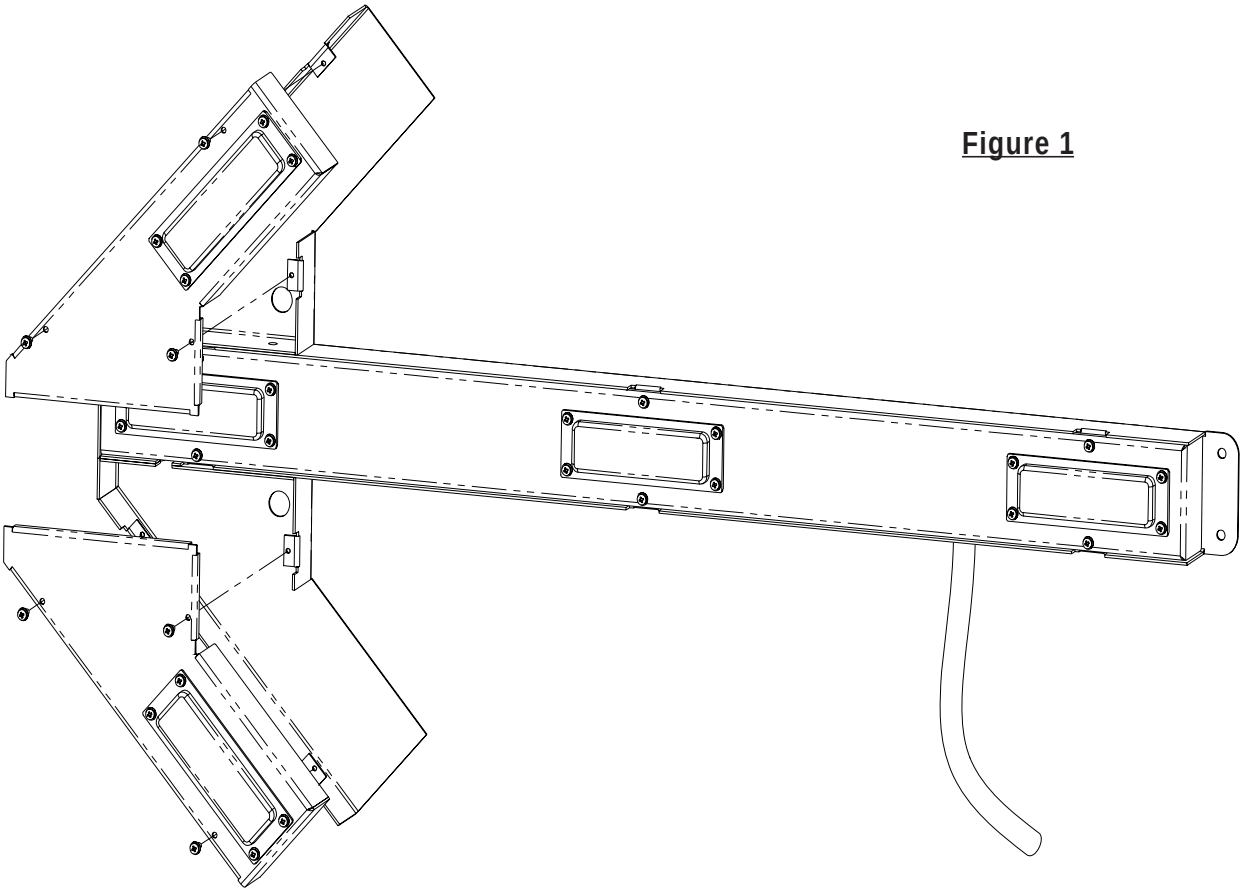
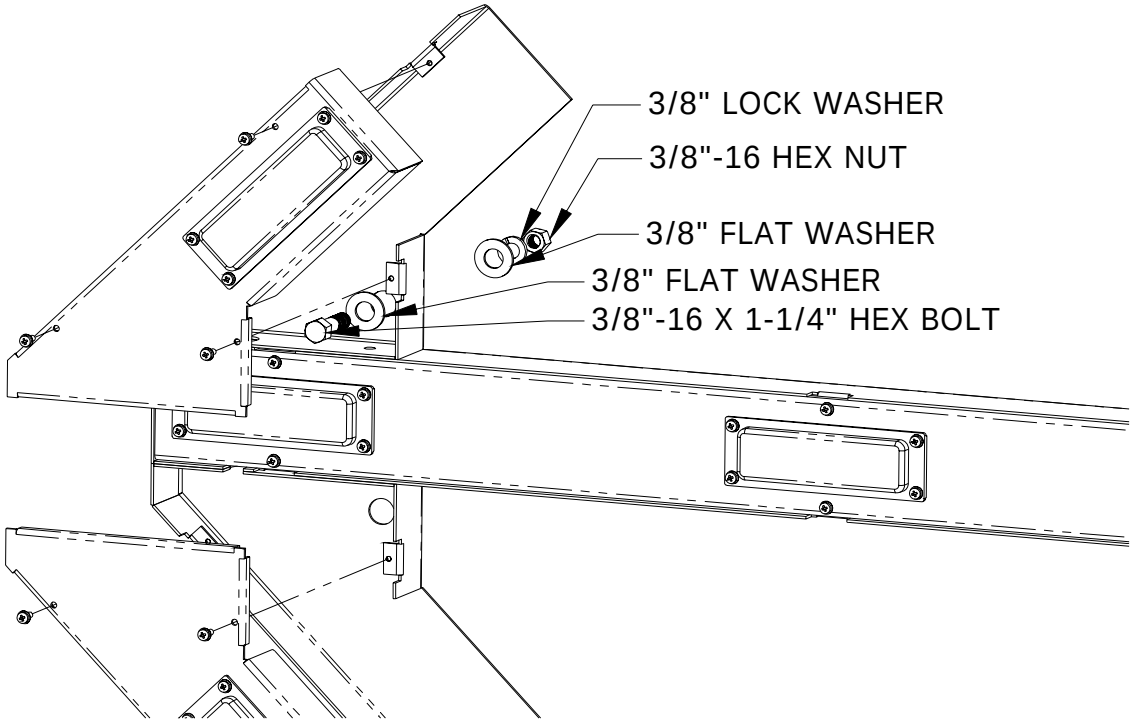


Figure 2



Wiring Instructions

Refer to the manual packaged with the 8 Output LED Narrowstik® Controller for detailed control head wiring, installation and operation instructions.

WARNING!

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 shrink tubing to protect the connections. Do not use insulation displacement connectors (e.g. 3M® Scotchlock type connectors). 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. underhood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. Use "SXL" type wire in engine compartment. 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.

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.

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.

Ground terminations should only be made to substantial chassis components, preferably directly to the vehicle battery.

The user should install a fuse sized to approximately 125% of the maximum Amp capacity in the supply line to protect against short circuits. For example, a 30 Amp fuse should carry a maximum of 24 Amps.

DO NOT USE 1/4" DIAMETER GLASS FUSES AS THEY ARE NOT SUITABLE FOR CONTINUOUS DUTY IN SIZES ABOVE 15 AMPS.

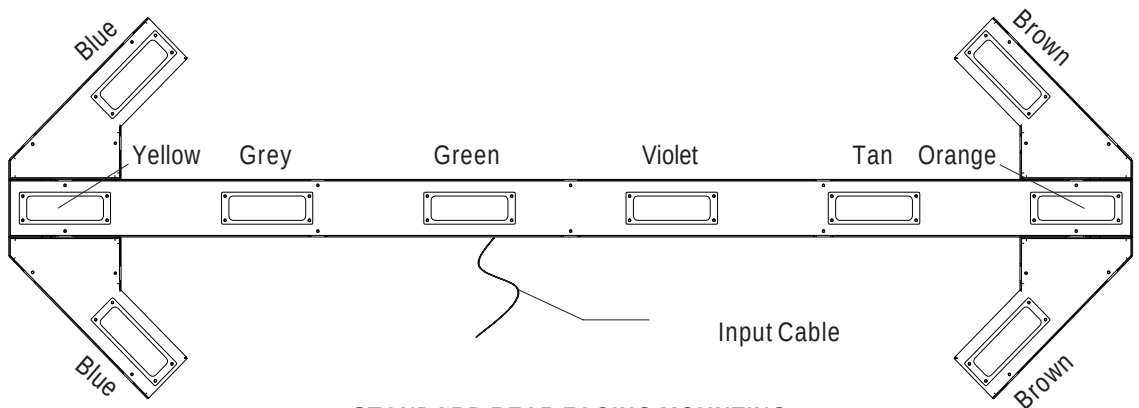
Circuitbreakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.

1. After installing the Large LED Narrowstik, route the 11-wire cable into the vehicle to where the control head will be mounted.
2. Cut the cable to length and strip back the cable insulation on the 11- wire cable.
3. Connect the red and red/white wires in, the 11- wire cable, to the **positive** (+12V) side of the battery through a user supplied 15 amp fuse or breakering an 16 gauge minimum wire or larger.
4. Route a minimum 16 gauge black wire to the battery negative (ground) (earth). Use the 1/4" insulated quickslide located in control head parts bag and connect the black 16 gauge wire control head.
5. Remove the 14- position terminal plug from the back of the control head. Connect the the remaining wires, in the 11-wire cable, to the plug as shown in Figure 5, page 5. Connect power to the control head. See control head manual for auxillary wire functions.

Note: When installing the Large LED Narrowstik as a **Front Facing** system, or if it is desired to have the cable exit from the **Passenger** side, the LED module control wires will be reversed. See Figure 6, page 6, for details.

6. Check all connections for frayed or shorted wires. Insert the plug back into the Narrowstik control head.

WARNING! This Product contains high intensity LED devices. To prevent eye damage, DO NOT stare into light beam at close range.

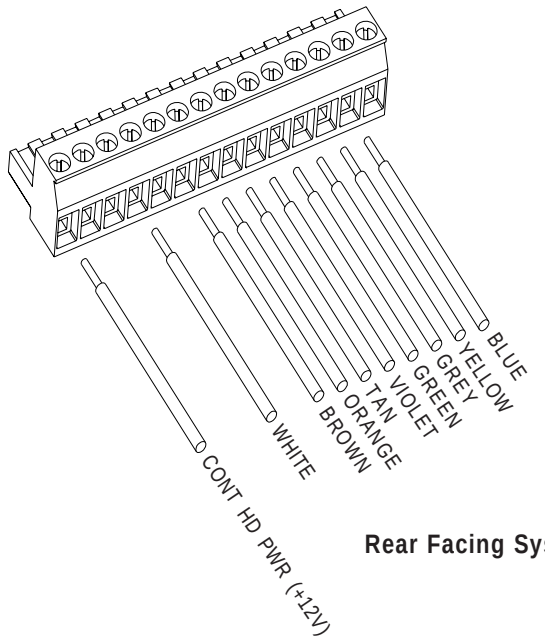


STANDARD REAR FACING MOUNTING

DRIVER SIDE

PASSENGER SIDE

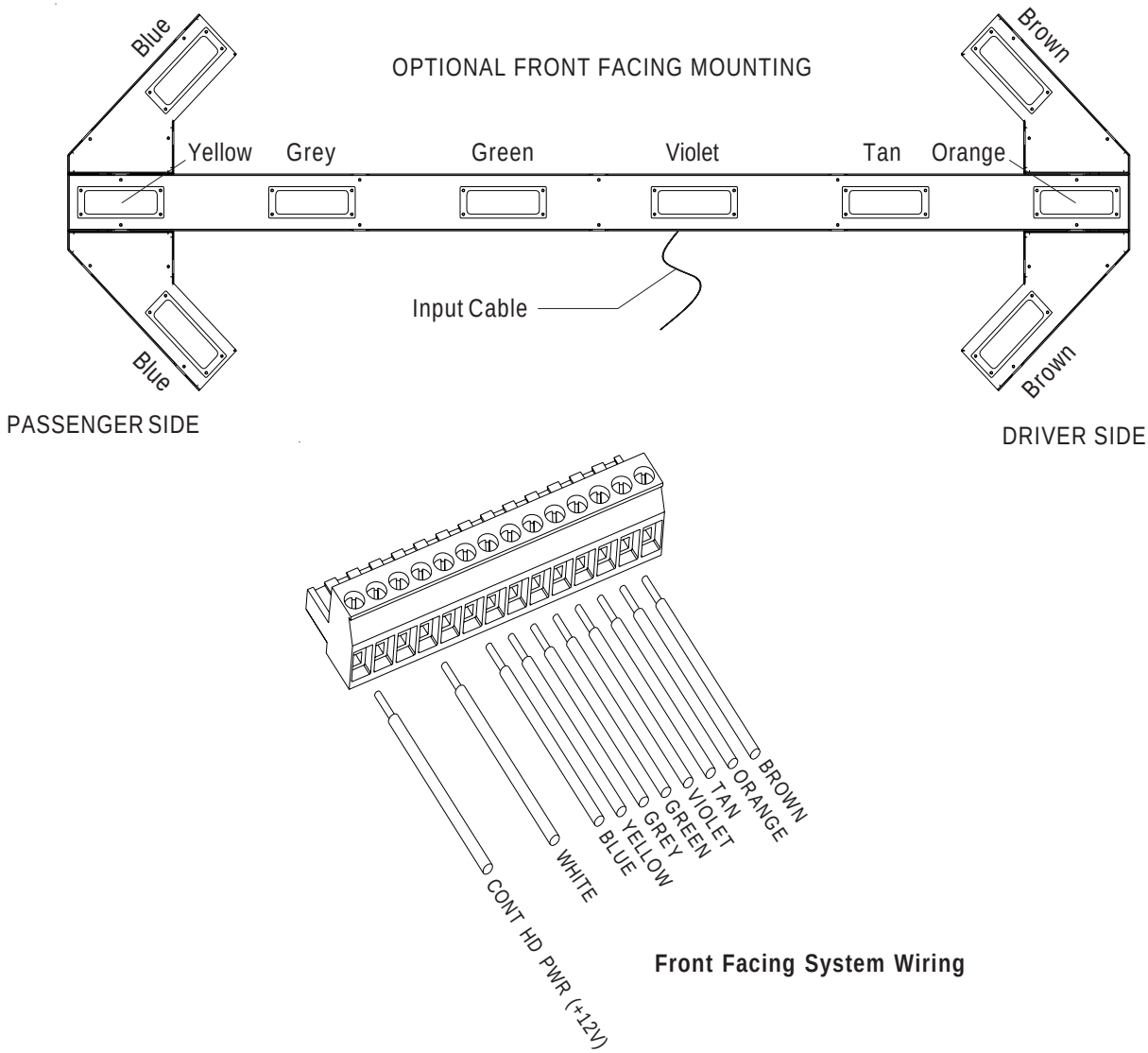
11-Wire Cable Wire Designations-Standard Rear Facing Mounting	
RED, RED/WHITE	Large L.E.D. Narrowstik® (+12V) wires
WHITE	DIM Control wire
BROWN ORANGE TAN VIOLET GREEN GREY YELLOW BLUE	INDIVIDUAL L.E.D. MODULE CONTROL WIRES (SEE FIGURE 5)



Rear Facing System Wiring

Figure 5

Large LED Narrowstik wire designations for standard rear facing mounting



Front Facing System Wiring

Figure 6

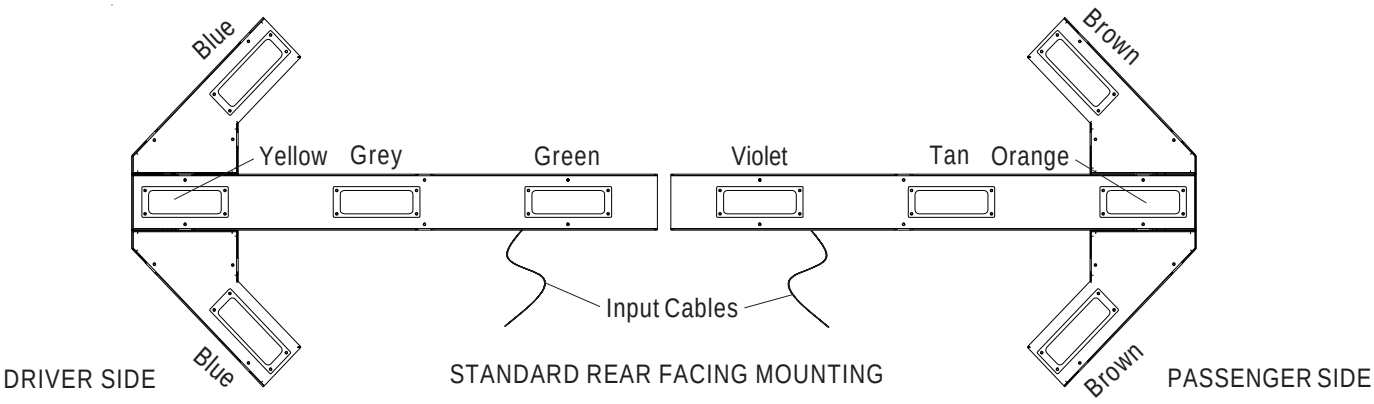
Large LED Narrowstik wire designations for optional front facing mounting

Large Split LED Narrowstik®

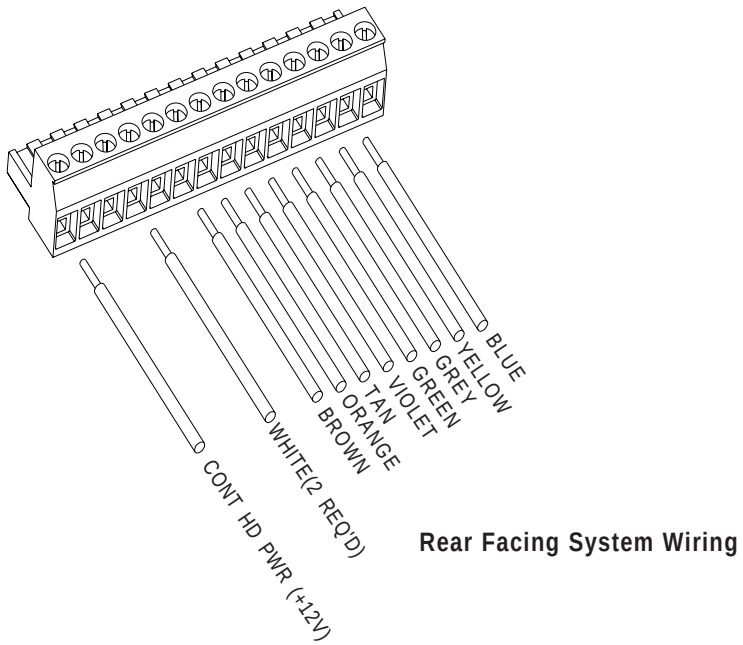
1. After installing the Large Split LED Narrowstik, route the two (2) 11-wire cables into the vehicle to where the control head will be mounted.
2. Cut the cables to length and strip back the cable insulation on the 11- wire cables.
3. Connect the red and red/white wires in both 11- wire cables, to the **positive** (+12V) side of the battery through a user supplied 15 amp fuse or breakering an 16 gauge minimum wire or larger.
4. Route a minimum 16 gauge black wire to the battery negative (ground) (earth). Use the 1/4" insulated quickslide located in control head parts bag and connect the black 16 gauge wire control head.
5. Remove the 14 position terminal plug from the back of the control head. Connect the the remaining wires, in the 11-wire cables, to the plug as shown in Figure 7, page 7. Connect power to the control head. See control head manual for auxillary wire functions.

Note: When installing the Large Split L.E.D. Narowstik as a **Front Facing** system, or if it is desired to have the cable exit from the **Passenger** side, the L.E.D. module control wires will be reversed. See Figure 8, page 8, for details.

6. Check all connections for frayed or shorted wires. Insert the plug back into the Narrowstik control head.



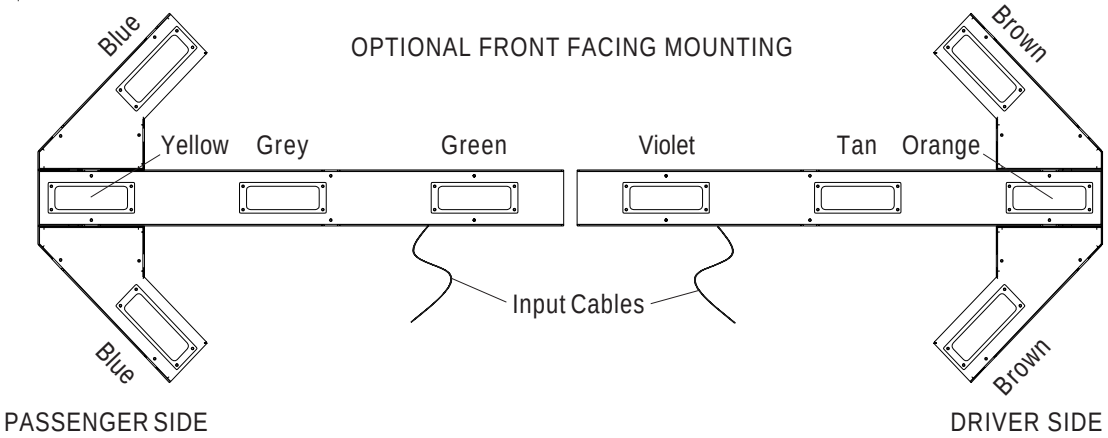
11-Wire Cable Wire Designations- Standard Rear Facing Mounting		
RED, RED/WHITE	Large Split Narrowstik® (+12V) wires (Both Input Cables)	
WHITE	DIM Control wire (Both Input Cables)	
BROWN		
ORANGE	Passenger Side	
TAN	Input Cable	
VIOLET		
GREEN	No Connection	
GREY	No Connection	
YELLOW	No Connection	INDIVIDUAL
BLUE	No Connection	LED MODULE CONTROL WIRES
BLUE		(SEE FIGURE 7)
YELLOW	Driver Side	
GREY	Input Cable	
GREEN		
VIOLET	No Connection	
TAN	No Connection	
ORANGE	No Connection	
BROWN	No Connection	



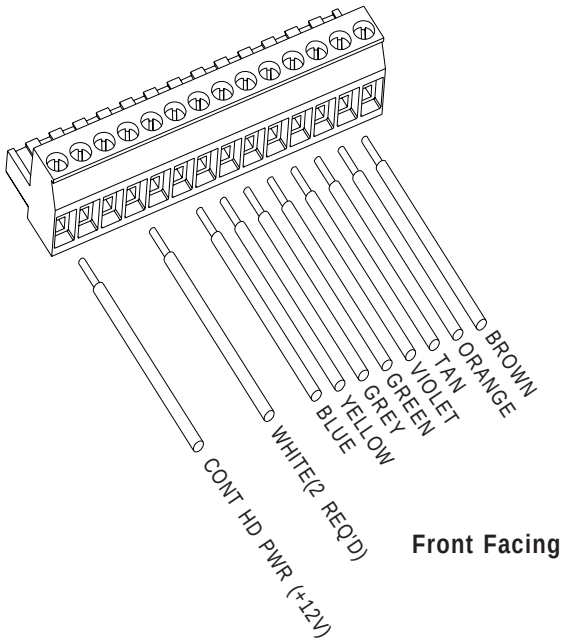
Rear Facing System Wiring

Figure 7

Large Split LED Narrowstik wire designations for standard rear facing mounting



11-Wire Cable Wire Designations- Optional Rear Facing Mounting		
RED, RED/WHITE	Large Split Narrowstik® (+12V) wires (Both Input Cables)	
WHITE	DIM Control wire (Both Input Cables)	
BROWN		
ORANGE	Driver Side	
TAN	Input Cable	
VIOLET		
GREEN	No Connection	
GREY	No Connection	
YELLOW	No Connection	INDIVIDUAL
BLUE	No Connection	LED MODULE CONTROL WIRES
BLUE		(SEE FIGURE 8)
YELLOW	Passenger Side	
GREY	Input Cable	
GREEN		
VIOLET	No Connection	
TAN	No Connection	
ORANGE	No Connection	
BROWN	No Connection	



Front Facing System Wiring

Figure 8

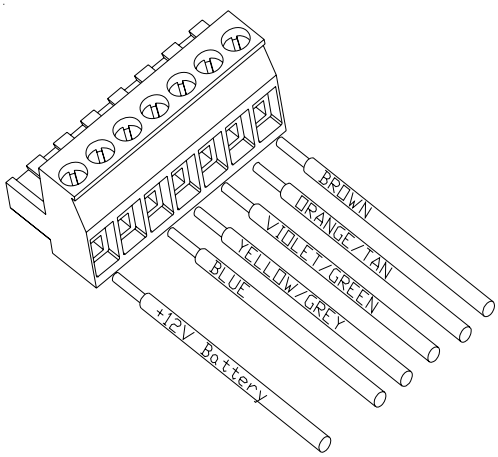
Large Split LED Narrowstik wire designations for optional front facing mounting

Connecting An 11-wire LED Narrowstik cable to a 5 Outptut Control Head or RLS System

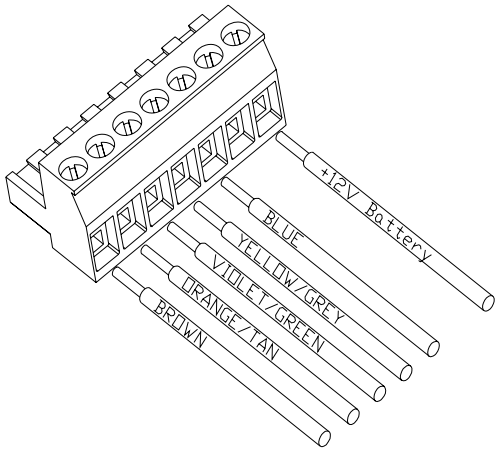
It may be necessary to retrofit the new 11-wire cable to a 5 output control system. The required connections are shown below, in Fig. 9, to connect a 5 output control head or a 5 output RLS. Stand alone LED Narrowstiks and internal Lightbar LED Narrowstiks will follow the same wire designations. **Refer to the 5 output control head user manual, or RLS manual, for control head operation.**

New Standard 11-Wire Cabler Designations	
RED, RED/WHITE	Power (+12V) wires
WHITE	LED DIM Control wire
BROWN ORANGE TAN VIOLET GREEN GREY YELLOW BLUE	Individual LED Control Wires

Existing 7-Wire Cable Designations	
RED, RED/WHITE	Power (+12V) wires
BROWN ORANGE VIOLET YELLOW BLUE	Individual LED Control Wires



NASLDC, 5 Output Control Head Connections



RLS 5 Output Connections

As shown, the **Orange and Tan**, **Violet and Green**, and the **Grey and Yellow** wires will need to be paired into each single output as indicated. **Note that the each wire shown with two color designations is actually representing two individual wires into a single output.**

Figure 9

Wiring for Narrowstik® models with outboard positions flashing:

When independently flashing modules are selected to replace the standard modules in the outboard positions the **BLUE** and the **Brown** wires will be used to activate these modules and will not be connected to the **Blue / Brown** outputs on the control head as usual. Instead the **Blue* (positive)** wire can be connected to **+12V** and the **Brown*** (**negative**) wire can be connected to the **AUX** output on the control head. When the AUX button is activated the flashing modules will be enabled. Refer to the control head manual for further details on use of the AUX function.

Alternaively the **Blue (positive)** wire can be connected through a switch to **+12V** and the **Brown (negative)** wire can connected to **ground**. When the switch is closed the Flashing modules will be enabled.

Dimming

All Narrowstik models come equipped with a DIM, low power, mode as standard that allows the user to reduce the L.E.D. intensity, if desired. The current consumption is also significantly reduced in this mode (approximately 60%). Dim mode is controlled by the White wire in the 11-wire cable, see figure 5, page 5. When +12V is applied to this white wire the modules will DIM until removed. The Narrowstik control head has an output dedicated to provide this +12V, see the Control Head manual for details.

Note: This feature is not available on LC-Stik models.

WARNING!

The Dim setting reduces the light output of emergency warning lights reducing the effectiveness of them especially in brightly lit areas. Failure to use adequate light for the circumstances can cause motorists to fail to see the emergency vehicle and lead to serious personal injury or death. Never use the DIM setting in a brightly lit area. Use of the DIM setting may cause emergency lights to not comply with applicable emergency warning light standards. Use caution when using the DIM setting to assure that motorists can clearly see the emergency vehicle.

Specifications

ASL-1060H Size: 60" L, 2" D, 20" H Weight : 6.2 lb
ASL-SP10H Size: 33" L, 2" D, 20" H Weight : 9.8 lb
ASLC-1060H Size: 60" L, 2" D, 20" H Weight : 6.2 lb

Operating Voltage : 10 - 16VDC

Current Draw :	10 Head Split	10 Head Std	10 Head LC
Average :	5A	5A	1.25A
Maximum :	10A	10A	2.5A

Current Draw is reduced by approximately 60% in Dim mode.

Maintenance

The Large LED Narrowstik® requires minimal routine maintenance. Occasional cleaning of the lens is all that is required to sustain maximum light output. Water or *Code 3*® lens polish and a very soft cloth is needed for cleaning. The plastic scratches easily, so cleaning is recommended only when necessary.

Parts List

Name	Type	Part Number
LED Lightheads	Red	Contact Code3 for Replacements
	Blue	
	Amber	

Troubleshooting

Verify that all connections for the Large LED Narrowstik are correct as detailed in this manual. Each head can be checked by placing POWER on the red and red/white wires while grounding each individual LED control wire (see figure 5, page 5).If any heads do not light replace with a new LED module or return the entire unit for service. If all heads are functioning refer to the control head manual for troubleshooting details related to the control head.

NOTES

WARRANTY

Code 3® , Inc.'s L.E.D. emergency devices are tested and found to be operational at the time of manufacture. Provided they are installed and operated in accordance with manufacturer's recommendations, Code 3® , Inc. guarantees all parts and components to a period of 5 years (unless otherwise expressed) from the date of purchase or delivery, whichever is later. Units demonstrated to be defective within the warranty period will be repaired or replaced at the factory service center at no cost.

Use of inappropriate or inadequate wiring or circuit protection causes this warranty to become void. Failure or destruction of the product resulting from abuse or unusual use and/or accidents is not covered by this warranty. Code 3®, Inc. shall in no way be liable for other damages including consequential, indirect or special damages whether loss is due to negligence or breach of warranty.

CODE 3® , INC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.

PRODUCT RETURNS

In order to provide you with faster service, if you are going to return a product 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.

Problems or Questions? Call The Technical Assistance HOTLINE - (314) 996-2800

Code 3®, Inc.
10986 N. Warson Road
St. Louis, Missouri 63114-2029—USA
Ph. (314) 426-2700 Fax (314) 426-1337
www.code3pse.com

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