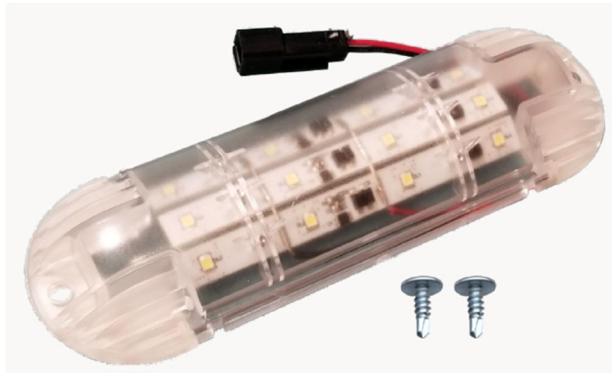


Part Number

69623

Module LED Light (69623)



Roof Bow Harness #2 (63482)



PRODUCT FEATURES

- This kit is compatible with the Ford Transit Connect.
- Included in this kit is one (1) module LED light (63480), roof bow harness #2 (63482), two switches, power harness (65795), and various fasteners.
- There are no OEM options that this kit is not compatible with and there are no OEM options that are required for this kit.

Model Year Validated:

2023

Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For Transit Connect

Note:

Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638)** before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before attempting installation.

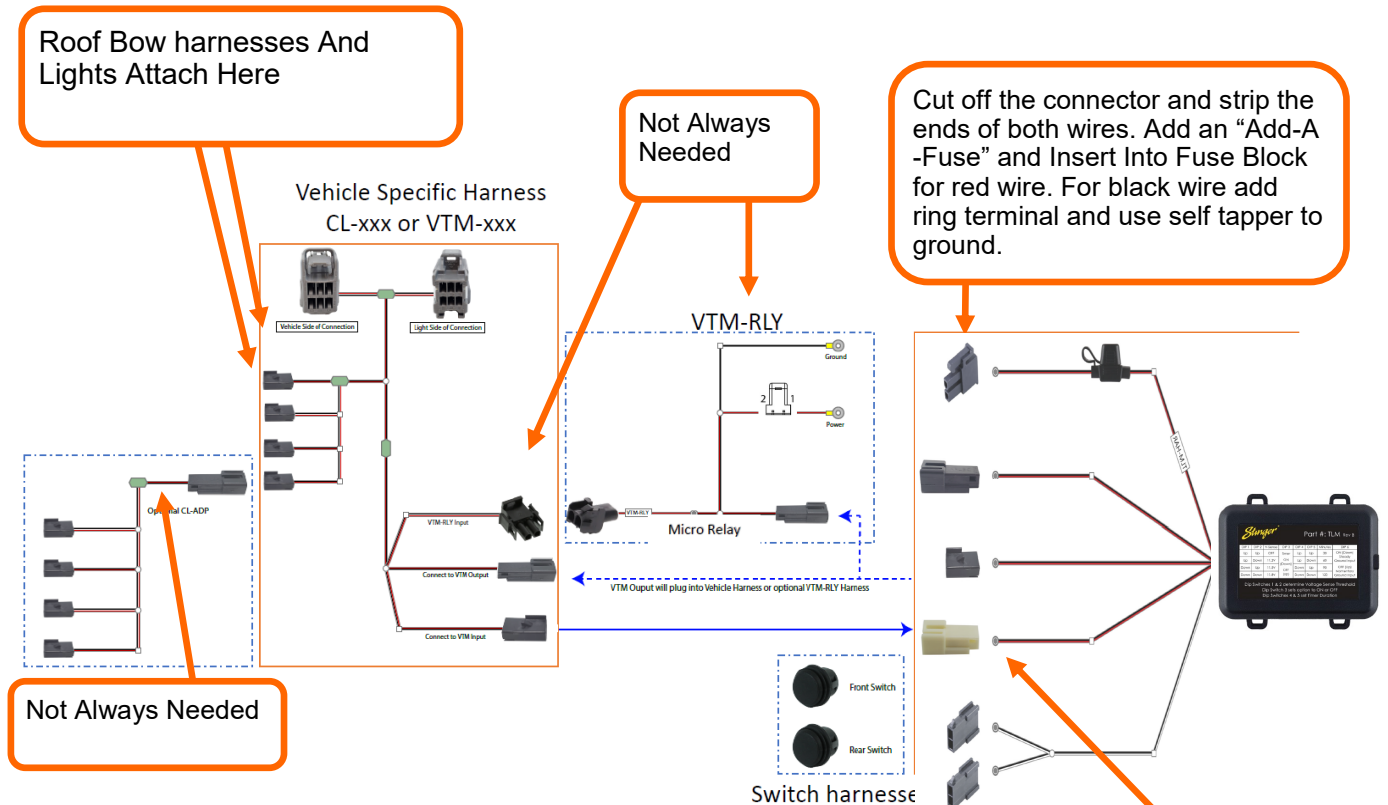


Installation Instructions For Interior Plug And Play Lights For Transit Connect

****Please read statement below before moving forward****

These plug and play kits are completely modular and can be configured in many different ways. Placement of lights will be determined by sales order drawings/customer ask. Therefore, these instructions are for the most standard configurations, and for reference only. The only harness that is specific to the transit connect vehicle is the power harnesses 65795. Routing will be very standard across all kits, but placement of lights and switches are subject to be different from these instructions if called out on the order drawing differently.

Overall Harness Diagram



Tools required:

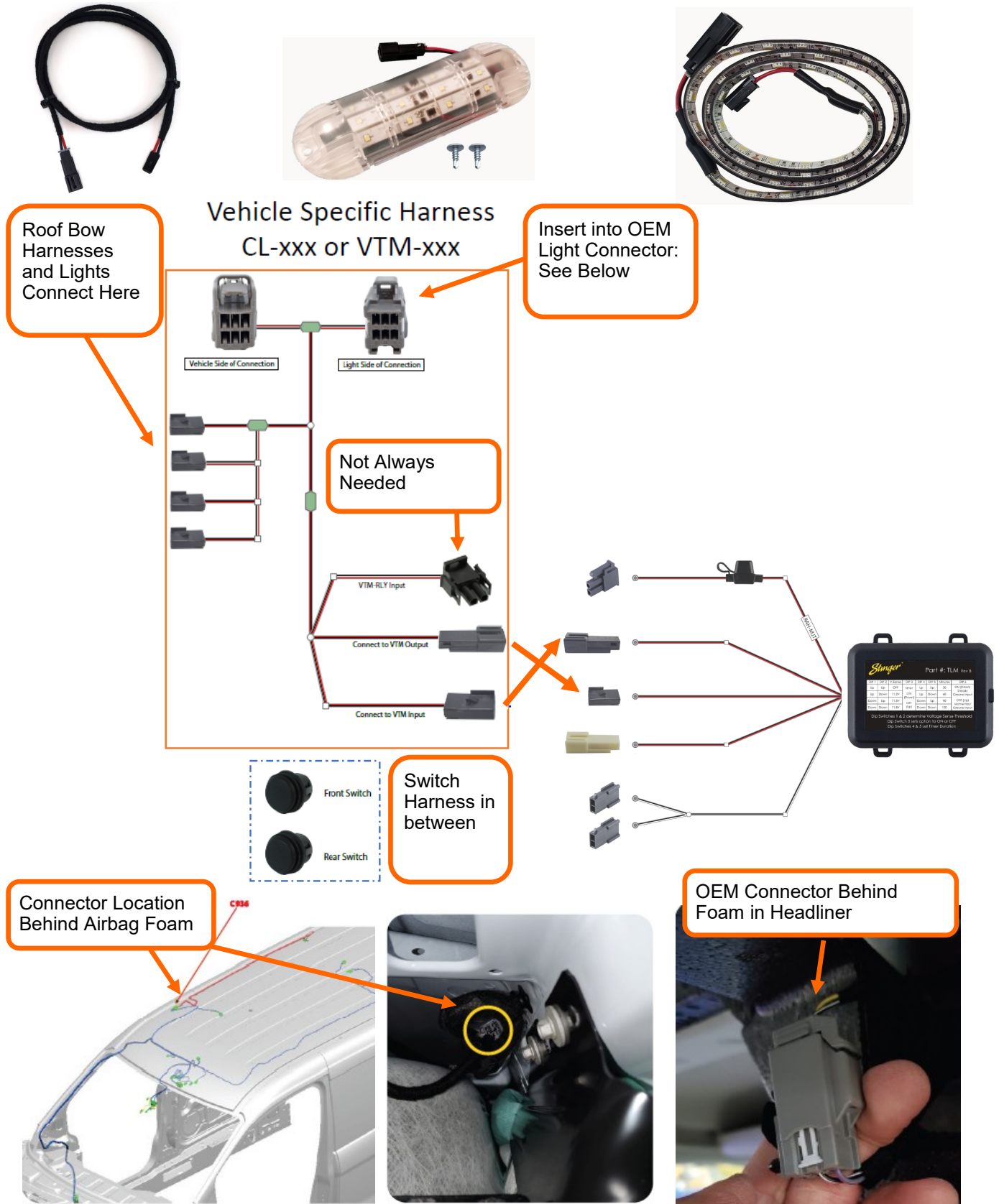
Crimpers

Power drill:
3/8" step drill bit
Philips head bit



For all vehicles that are NOT RAM. This connector will be black. RAM vehicles, this will be white. See page 4 for more details.

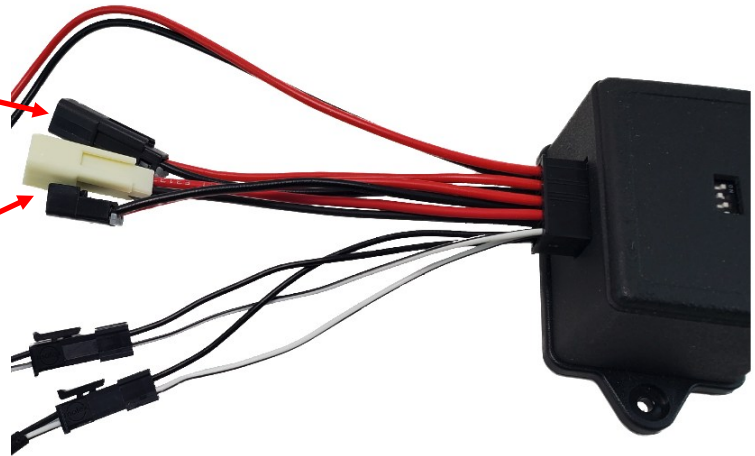
Specific Harness Diagram



Timer / Low Voltage Module (TLM) Harness Reference

For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

For all RAM vehicles, the white connector will be used to plug into the vehicle specific harness. The black connector will NOT be used.

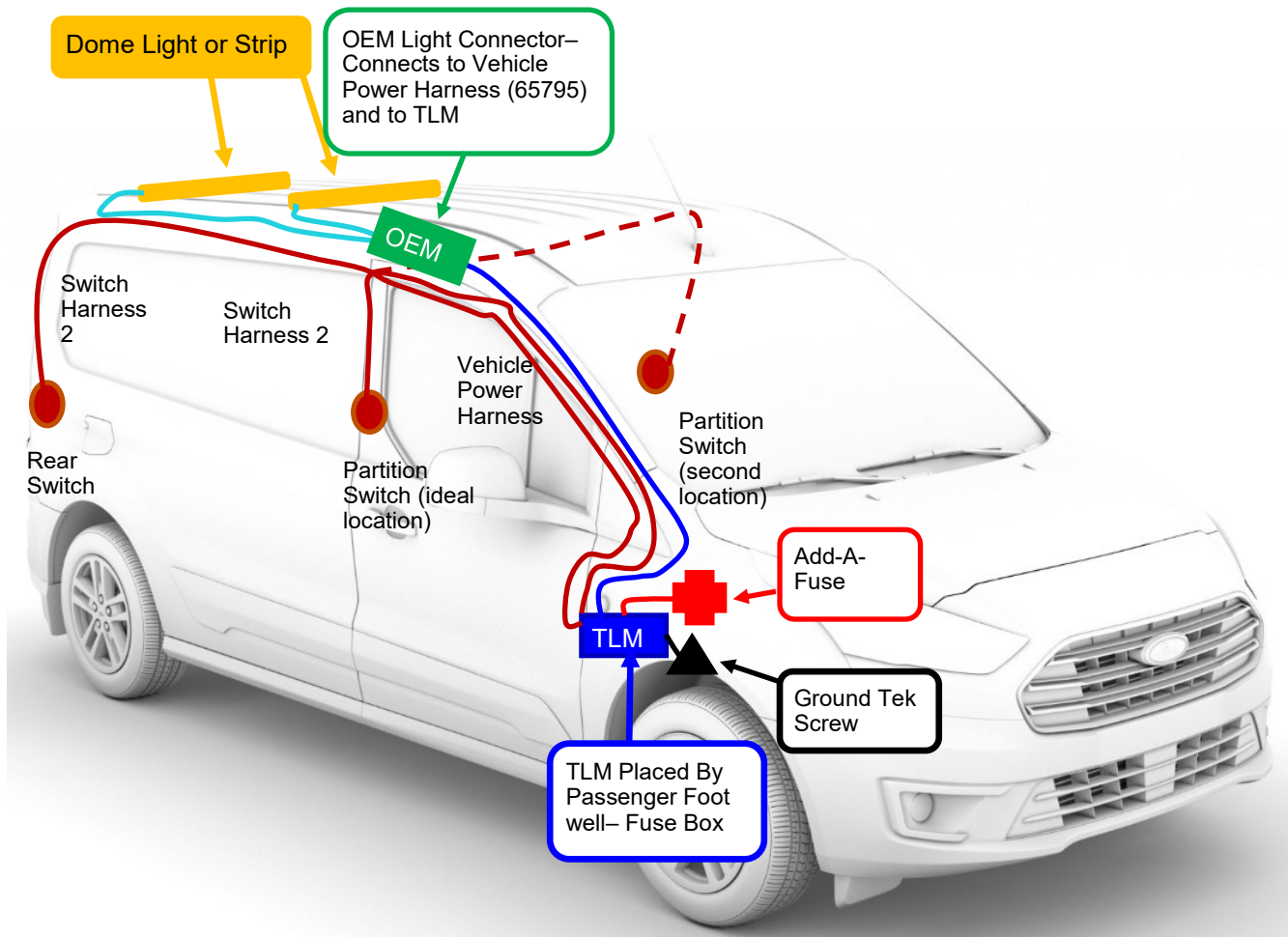


Harnesses Needed

	Part Number	Description
1	71902	Timer / Low Voltage Module (TLM)
2	63480 Or/And 64222, 65346, 65347, 65348	Dome Light Or/And Strip Lights
3	63481 Or/And 63842, 63483, 63484	Roof Bow Harnesses 1 through 4
4	65795	Power Harness
5	65787 Or/And 65788, 65789, 65790	Switch Harness 1 through 4 for TLM



Harness pictures are for reference only.



Color	Key - Items
Blue	TLM/Harness
Green	Vehicle Specific Power Harness
Black	Ground Location
Red	12V location
Redish/Brown	Switch Harnesses
Yellow	Dome or Strip Lights
Teal	Roof Bow Harnesses

The purpose of plug and play lighting is to be completely modular. Due to this feature, refer to the order drawing for all exact lighting placements. These installation instructions are for most cases and for reference.

Figure 6.1

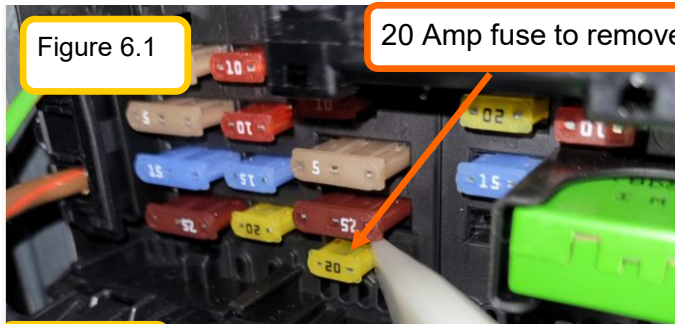


Figure 6.2

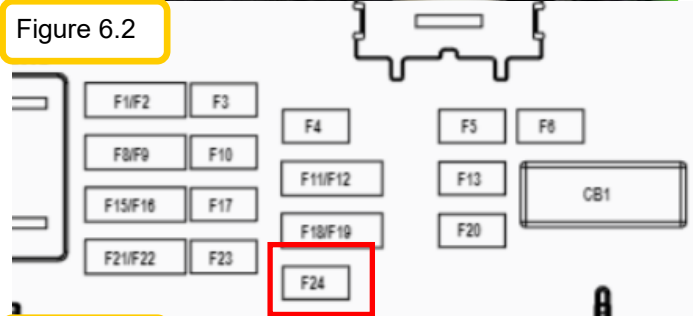


Figure 6.3

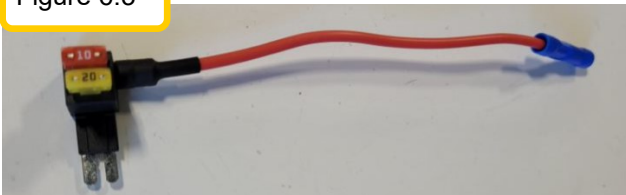


Figure 6.4



Figure 6.5



Figure 6.6



Step 1: Locate the TLM power harness #71902

Cut the power wires connector off and strip the ends of both the black and red wire.

Attach the Micro Add-A-Fuse to the blunt cut red wire.

Attach the 1/4" ring terminal to the black wire

Remove the fuse from the inline fuse holder until the end of the install

Plug the harness connector into the timer / low voltage module port

Step 2: Locate the Fuse panel under the passenger side foot well. You will need to remove the glove box and some trim to see the fuse box.

Locate the 20 amp micro (F24) fuse shown in figure 6.1 and 6.2..

Remove the fuse carefully.

Insert the supplied 7.5A fuse into the add-a-fuse holder on the top portion of the insert.

Insert the OEM 20A fuse into the add-a-fuse in the bottom portion of the insert. Figure 6.2.

Insert the add-a-fuse back into the 20A fuse location. Figure 6.4.

Remove the trim panel on the body of the passenger side kick panel. Figure 6.5.

Use the self tapping screw (FAS0148) to ground the ring terminal/ground wire to the body of the van. Figure 6.6.

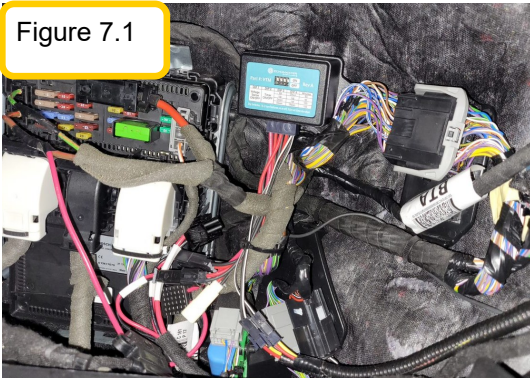
Step 3:

Apply the VHB tape the back of the TLM (voltage timer module). See figure 6.7.

Figure 6.7



Figure 7.1

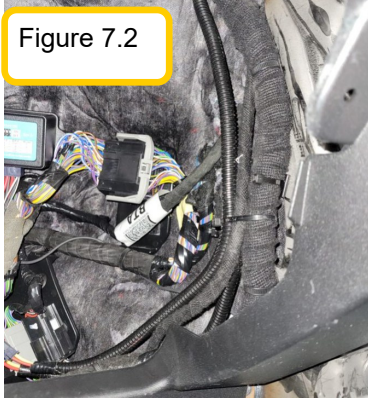


Place the TLM to the right of the fuse block like shown in figure 7.1. Secure the TLM to the OEM wire harnesses as needed with zip ties.

Refer to the bottom picture for dip switch settings. If the customer would like a different amount time other than 90 minutes, use the dip switches to set the time.

Plug the switch 2 harnesses (65788) into the TLM harness. See pages 2 & 3 for reference.

Figure 7.2



Secure wiring to the OEM harnesses as needed. Figure 7.2.

Step 4: Locate the OEM light connector that is located in the headliner, behind the foam. Figure 7.3.

You will need to remove the foam block on 2022+ Transit Connects.

Carefully remove it from the vehicle. You will need to enter the vehicle through the passenger side slider door and remove the block by pulling down the rear passenger corner of the headliner, then pull the block straight back towards the rear of the vehicle.

The foam block needs to be re-installed after installation of lights is complete.

Disconnect the OEM connectors and plug in the ASCO connector to each side. Figure 7.4.

Figure 7.3

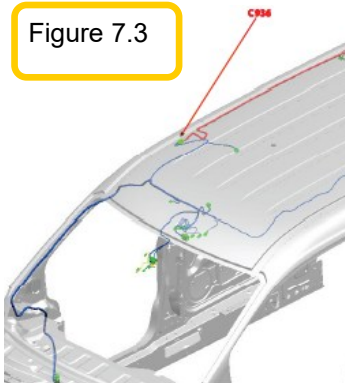
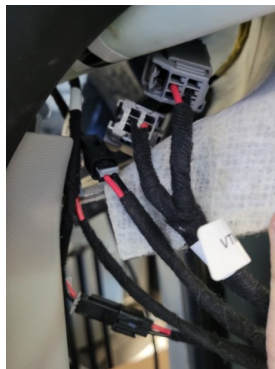


Figure 7.4



Connect the roof bow harnesses (63481 Or/And 63842, 63483, 63484 all that are applicable) to the power harness.

Use zip ties/fir trees to secure all wiring.

Step 5: Disassemble the A-pillar trim. Be careful not to interfere with any air bags or wiring.

TLM Dip Switch Settings

1	2	V-Sense	3	4	5	6
Down	Down	11.8	Down	Down	Up	Down



Part #: TLM Rev B

DIP 1	DIP 2	V-Sense	DIP 3	DIP 4	DIP 5	Minutes	DIP 6
Up	Up	OFF	Timer ON (Down) OFF (Up)	Up	Up	30	ON (Down) Steady
Up	Down	11.2V		Up	Down	60	Ground Input
Down	Up	11.5V		Down	Up	90	OFF (Up) Momentary
Down	Down	11.8V		Down	Down	120	Ground Input

Dip Switches 1 & 2 determine Voltage Sense Threshold
Dip Switch 3 sets option to ON or OFF
Dip Switches 4 & 5 set Timer Duration

Figure 10.1



Route the switch harnesses up the A-pillar, to the top of the partition area. These will be routed to their locations on the next page. Do not interfere with any airbag wiring.

Route the power harness the opposing way, down the A-pillar to the TLM. Figures 10.0 and 10.2.

Figure 10.2

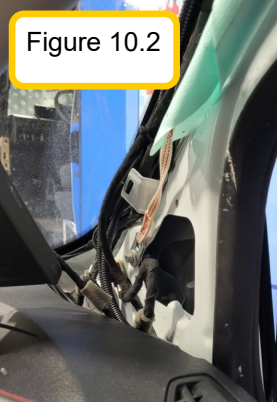


Figure 10.3



End to route to the VTM

Plug the power harness into the TLM, using only the input and output connectors. The relay connector will not be used. Reference page 3 for connections, and figure 10.3.

Be sure to use the black colored TLM input connector referenced on page 4. The white connector will NOT be used for this install.

Secure wiring with zip ties.

Step 6: Plug the roof bow harnesses into the power harness in the headliner area.

Route the roof bow harnesses to the light locations on the roof bows. Be sure to confirm placement of lights with the order drawing. Ideal placements are the very rear door pillar and the last roof bow.

Use the OEM roof channels and fir tree zip ties for securing the wiring. Figures 10.4 and 10.5.

Step 7: Before mounting any lights, prep the surface where the light will be placed with the supplied alcohol pad. Let dry for a few minutes, then mount the light.

Be sure the surface is clean before applying the VHB tape. Read the supplied instructions in the lighting boxes.

Mount the strip/dome lights to their desired locations: Refer to the order drawing.

For dome lights, use the VHB tape already on the back of the light, and also secure with the supplied tek screws. Figure 10.6.

Dome lights are to be placed as close to the center of the roof bow as possible, while straddling the gaps in the roof bow.

For the strip lights, use the VHB tape supplied on the back of the lights, and use the little square sticky backs with zip ties that are supplied in the box.

Figure 10.4



Figure 10.5



Figure 10.6

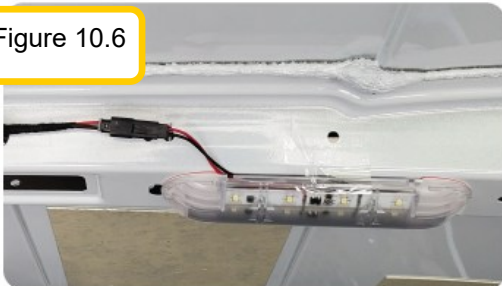
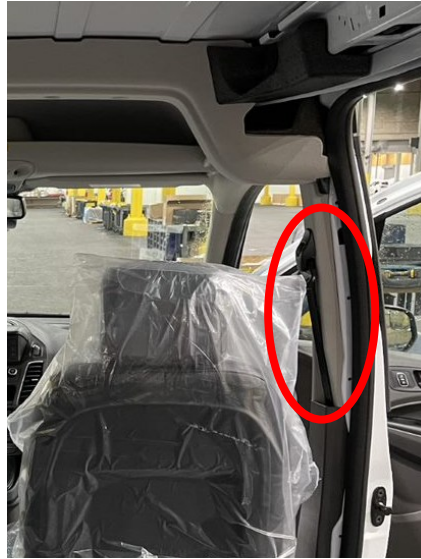


Figure 11.1



Partition Switch

Locations:

Switch hole in steel partition (figure 11.1) or drill out switch hole in composite partition (figure 11.2).

This location will require harness #65788.

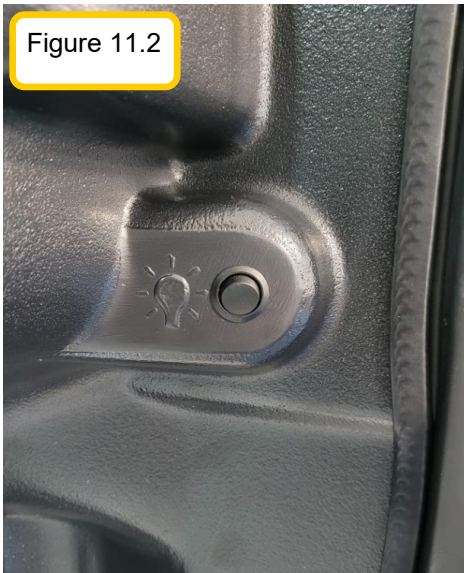
Rear Switch Location:

Passenger side rear D-pillar trim.

2.5" left of the D-pillar and 3.5" down from the top edge of the trim.

See figure 11.3 below for reference.

Figure 11.2



This location will also require harness #65788.

Step 8: Route the front switch harness from the TLM harness location to the partition switch location. (From fuse box under passenger side seat, up the A-pillar, then down the partition to the switch hole.

Do the same with the rear harness the D-pillar switch location. Route in the upper channels on the van to the D-pillar then to the switch location.

Figure 11.3

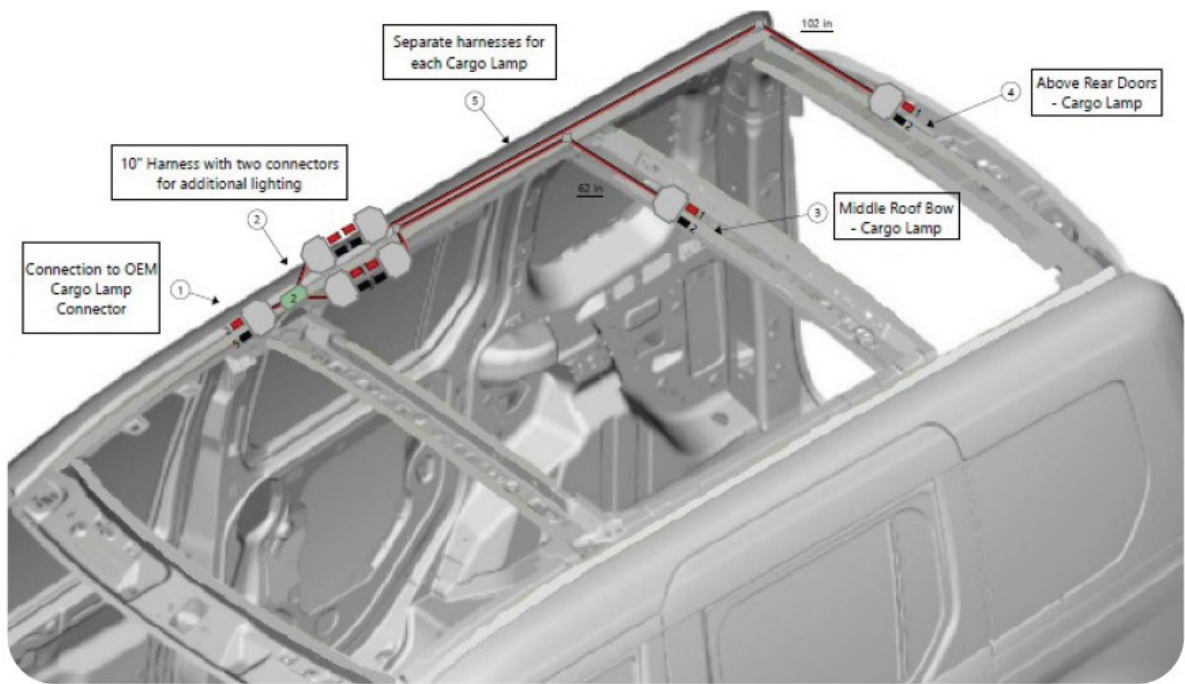


Reference page 5 for routing paths.

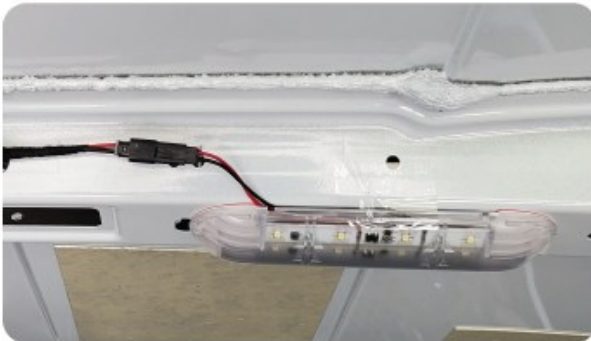
Use Zip ties to secure wiring.

Drill needed holes for the switches in rear D pillar trim panel, and composite partition (if applicable).

Insert the switches into the holes with the "1" in the 12:00 position, connect the harness (the connection orientation does not matter).



Final install reference pictures



Insert the fuse into the inline-fuse holder on the power harness. The install is now complete. Secure all wiring with zip ties. Re-attach all trim. Double check the functionality of the lights and switches.

Transit Connect basic photos for install



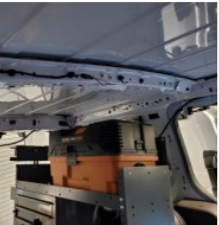
20amp fuse does not
fit anything in vehicle,
use a spare 20amp
fuse from BCM



Ground for timer module



Harness ran up the
passenger kick panel and
into the A pillar



Low lighting front
kick



VTM connection point

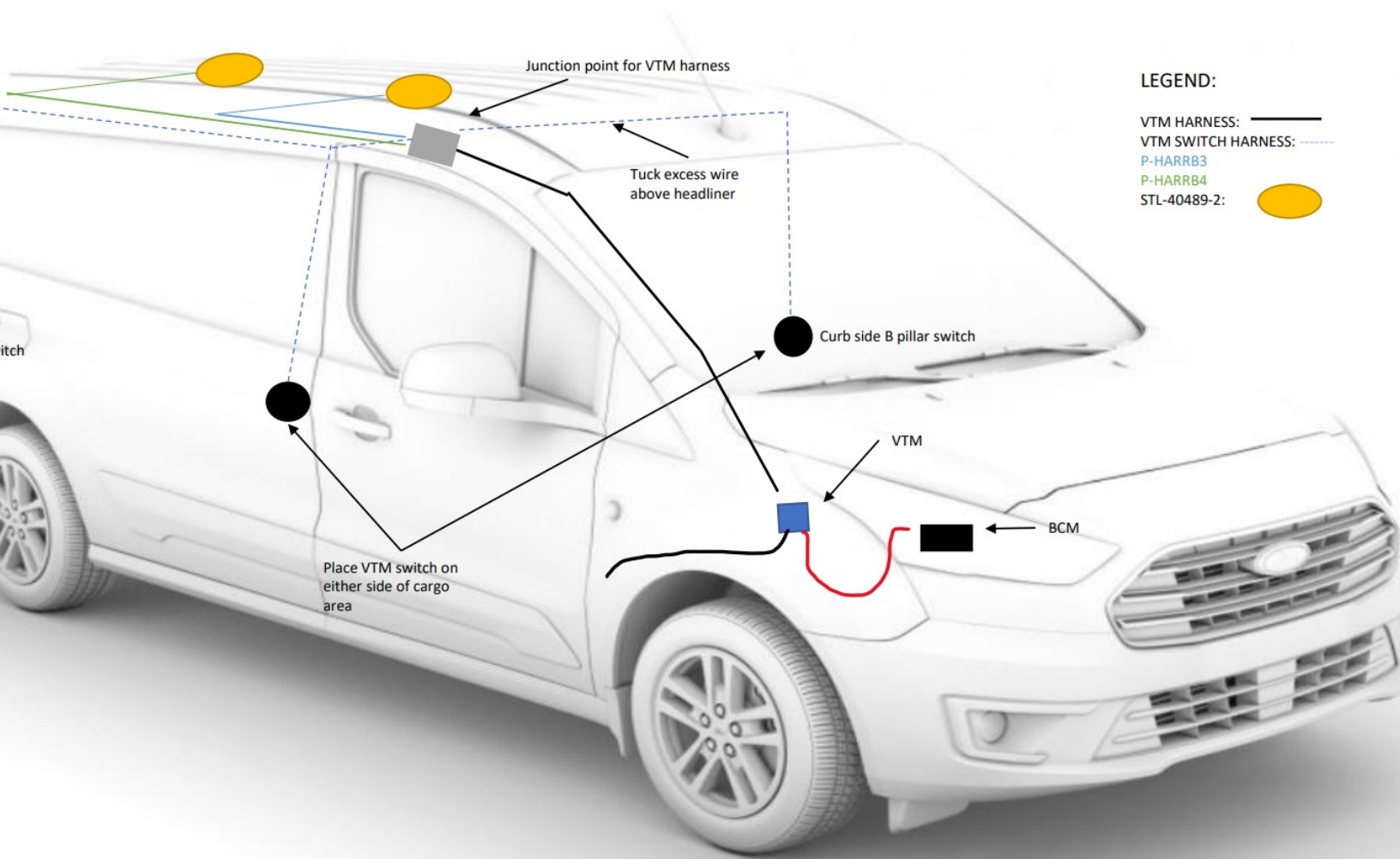


VTM harness cable tied to
factory harness in
passenger A pillar

Parts List

- VTM
- ATCM add-a-fuse w/ 7.5
fuse
- ¼' ring terminal
- Vehicle specific harness
- P-HARRB3
- P-HARRB4
- (2) STL-40489-2

Transit Connect line diagram for install



ITEM DESCRIPTION: WIRE TIE, NYLON 40Lb, 8.5" BLACK

MANUFACTURER: WAYTEK, INC. or equivalent
MANUFACTURERS PART NUMBER: 21093M or 21093C

SPECIFICATIONS: STANDARD CABLE TIE
 BLACK, NYLON
 8-1/2" LONG
 TENSILE STRENGTH: 40.0 LBS
 21093M = 1,000 quantity
 21093C = 100 quantity

SPECIAL NOTES: PART NUMBER IS BLACK.

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

PURCHASED PRODUCT DATA SHEET (PPDS)

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WIRING BEFORE DRILLING! ALWAYS USE
DRILL BITS WITH INTEGRAL STOPS
WHENEVER POSSIBLE!

DRAWN BY
MDG

DATE DRAWN
10/26/2006

ECN NUMBER
18021

ECN DATE
11/13/2015

PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
13905-0

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

Base is a 0.975 inch square

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

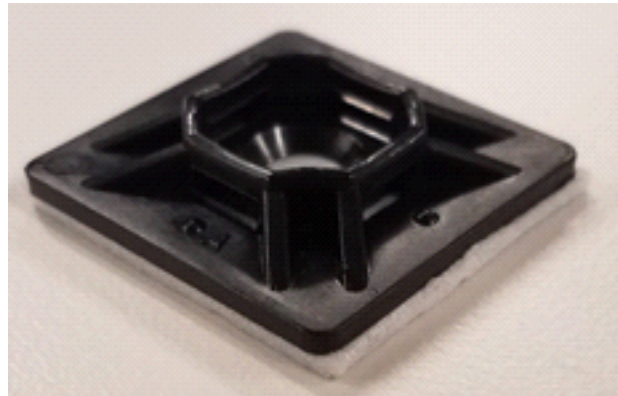
PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS

Black adhesive wire tie mounting base.

Cure Time:	Bond 15 Min., Max Adhesion 1 Hr.
Max. Operating Temp. F:	158
Max. Operating Temp. C:	70
Min. Installation Temp. F:	65



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TOLERANCES & INSPECTION

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ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX)
DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS

INITIAL ECN: 17429

CURRENT ECN: 22185

ECN DESCRIPTION:

**Size of the base changed with a
change in supplier**

REVISED BY: D. LaCroix

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

Midstate

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

49401

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

YES

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION



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ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL

B

MAT'L USED:

DESIGNED BY: **RJB**

DESCRIPTION:

Adhesive wire tie base

WEIGHT
(Lbs.): **0.05**

SEGMENT
CODE: **HDW**

PART NUMBER: **49401**

ITEM DESCRIPTION: MICRO2 ADD-A-FUSE FUSE HOLDER

MANUFACTURER: WAYTEK

MANUFACTURERS PART NUMBER: 46177 or similar

SPECIFICATIONS: (1) Add-A-Fuse Micro2 style

SPECIAL NOTES: None.

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!**PURCHASED PRODUCT DATA SHEET (PPDS)**

Page 1 of 1

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DRAWN BY
RJB

DATE DRAWN
08/27/2015

ECN NUMBER
17776

ECN DATE
08/27/2015

PART WEIGHT
0.01 LBS.

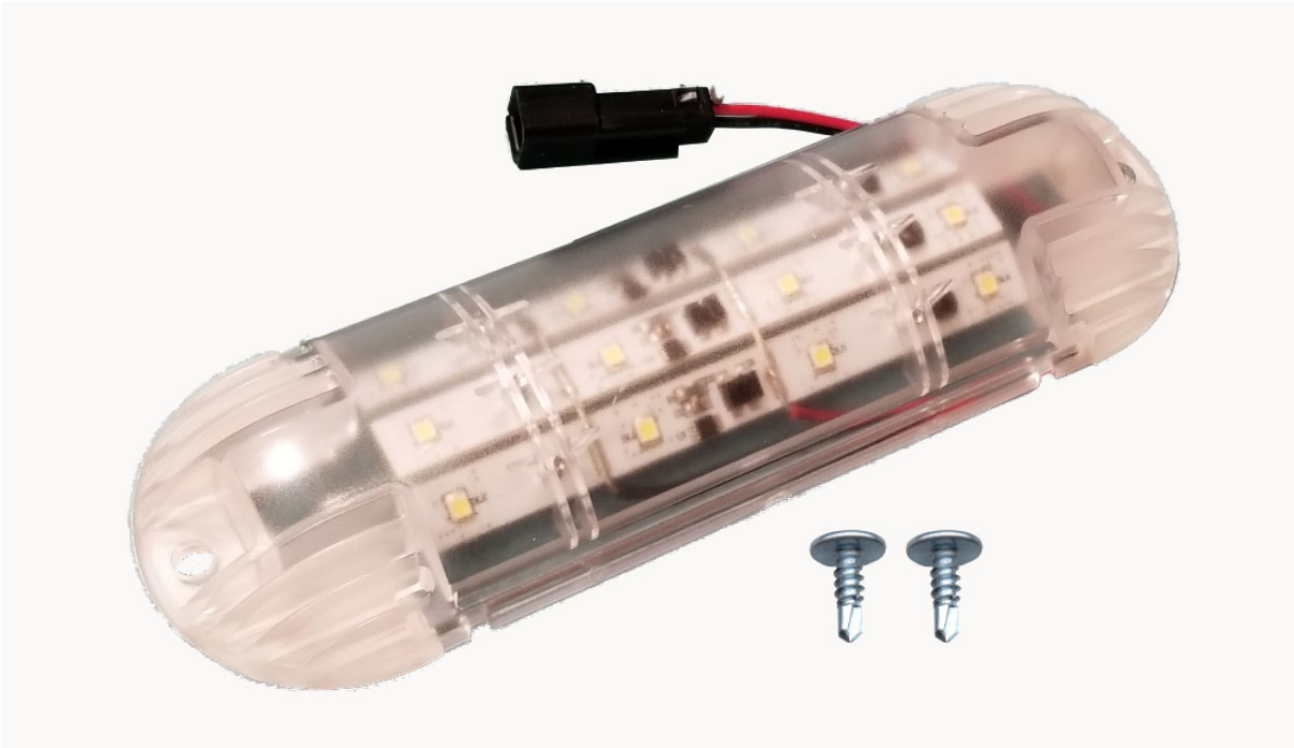
REV. LEVEL
A

PART NUMBER

49987

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS
(1) LED LIGHT WITH 12 LED GROUPED IN THREE ROWS
(2) TEK SCREWS INCLUDED



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ALL DIMENSIONS ARE IN INCHES.		
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION		
FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	
Material Thickness: per ASTM Std. Weld Callouts per AWS		

RELEASE & REVISIONS
INITIAL ECN: 24359
CURRENT ECN: 25886
ECN DESCRIPTION:
UPDATE SUPPLIER PART #
REVISED BY: A. ELLISON

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER
OBERTON ELECTRONICS / ECHOMASTER FLEET SOLUTIONS
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
8018-6000 / STL40489-3
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

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PART / PRODUCT IDENTIFICATION			
	ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221
	DESIGNED BY: A. ELLISON		REVISION LEVEL B
MAT'L USED:	PURCHASED	DESCRIPTION: MODULE DOME LED LIGHT	
WEIGHT (Lbs.):	.50	SEGMENT CODE: EAU	PART NUMBER: 63480

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

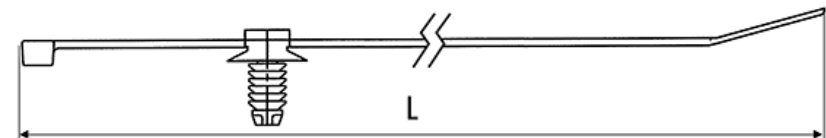
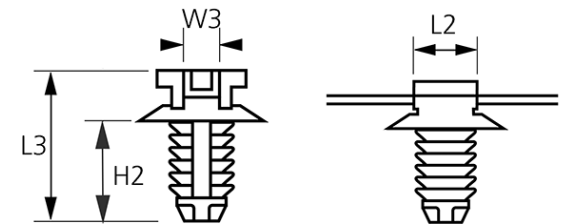
OTHER REQUIREMENTS

- **Roof Bow #2**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **1570mm Length**



P-HARRB2

(5x)



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UNLESS OTHERWISE SPECIFIED

ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX)

DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS

INITIAL ECN: 24359

CURRENT ECN: 24359

ECN DESCRIPTION:

**QE8539 RELEASE MODULAR DOME
LIGHTING**

REVISED BY: MJF

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

ECHOMASTER FLEET SOLUTIONS

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

P-HARRB2

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)
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YES

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PART / PRODUCT IDENTIFICATION



ADRIAN STEEL

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL

A

MAT'L USED: **PURCHASED**

DESIGNED BY: **MJF**

DESCRIPTION: **ROOF BOW HARNESS #2**

WEIGHT
(Lbs.):

.50

SEGMENT
CODE: **EAU**

PART NUMBER: **63482**

PURCHASED COMPONENT KEY FEATURES	
DESCRIPTION OF REQUIREMENTS	
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)	
N/A	
LOAD/RATING REQUIREMENT	
N/A	
MATERIAL REQUIREMENT	
N/A	
PACKAGING REQUIREMENT	
N/A	
OTHER REQUIREMENTS	

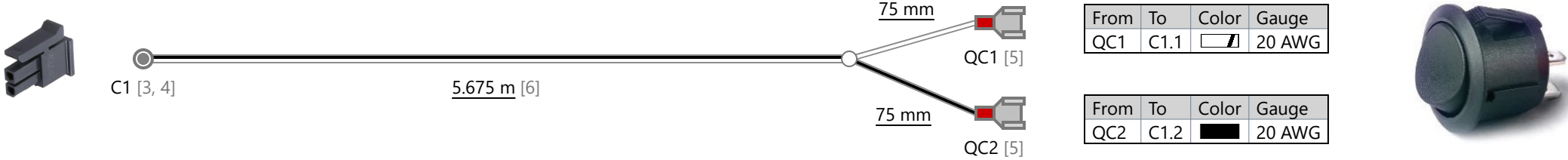


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ALL BEND ANGLES ARE 90 DEGREES				A
ALL DIMENSIONS ARE IN INCHES.				
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION				
FEATURES	HOLES/SLOTS	ANGLES		
0.0 = ± .125	0.0 = ± .062	0° = ± 2°		
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°		
0.000 = ± .031	0.000 = ± .015			
Material Thickness: per ASTM Std. Weld Callouts per AWS				
RELEASE & REVISIONS		PURCHASED COMPONENT		
INITIAL ECN: 25377		REFERENCED SUPPLIER AND/OR MANUFACTURER AAMP GLOBAL		
CURRENT ECN: 25377		REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER VTM-SW2 OR 65788		
ECN DESCRIPTION:		COLOR (ONLY LIST IF COLOR SPECIFIC)		
RELEASE FOR PRODUCTION		COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO		
REVISED BY:		NO		
		NO		

ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	
PURCHASED		DESIGNED BY: E.BURKE	
SWITCH 2 HARNESS FOR VTM			
0.2		ELE	
65788			

Coverings	
Id	Assembly
[6]	

From	To	Color	Gauge
C1.1	QC1		20 AWG
C1.2	QC2		20 AWG



From	To	Color	Gauge
QC1	C1.1		20 AWG

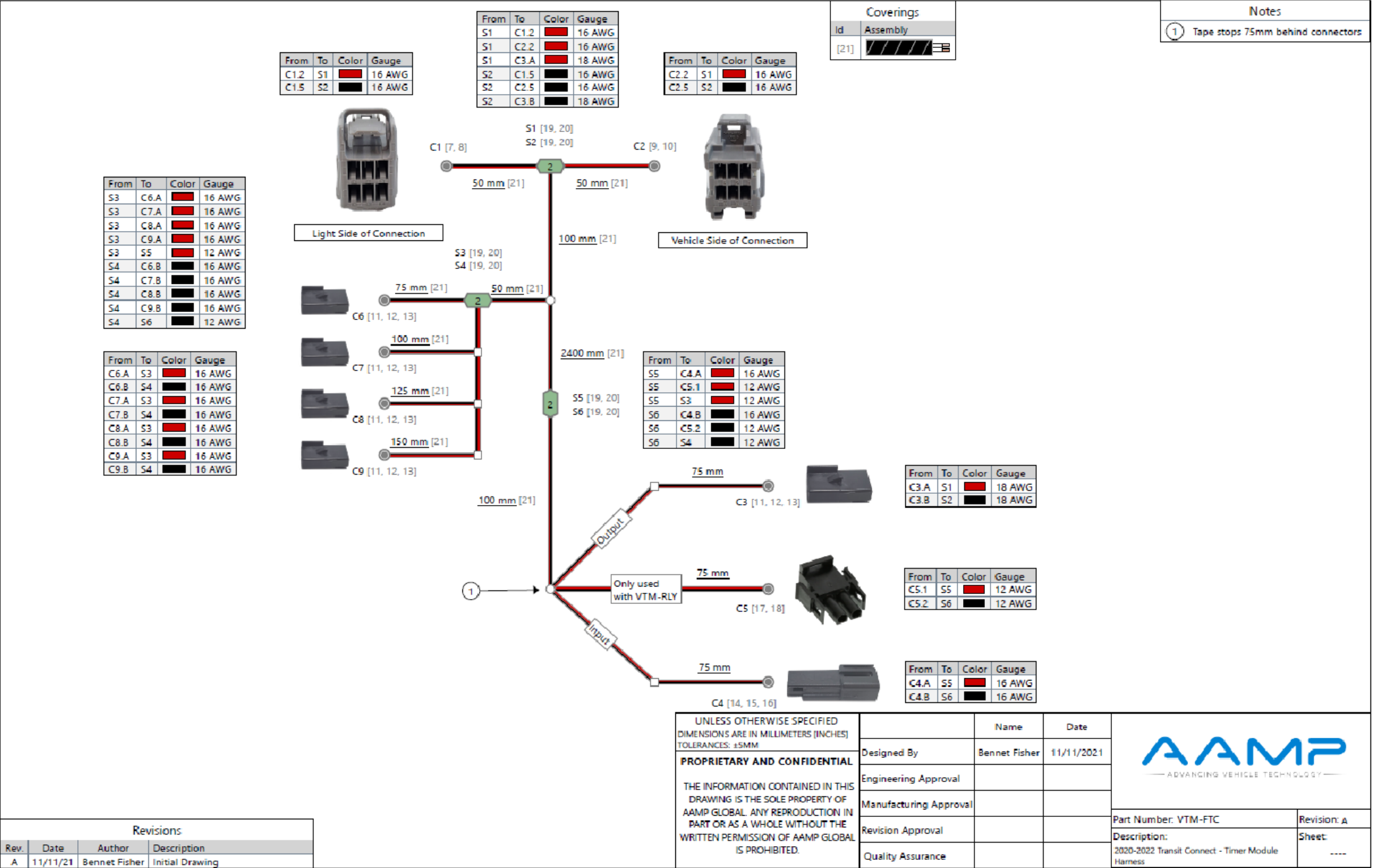
From	To	Color	Gauge
QC2	C1.2		20 AWG

Revisions			
Rev.	Date	Author	Description
1	6/10/21	Bennet Fisher	Initial Drawing

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF AAMP GLOBAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF AAMP GLOBAL IS PROHIBITED.		Name	Date	 — ADVANCING VEHICLE TECHNOLOGY —	
	Designed By	Bennet Fisher	6/10/2021		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: VTM-SW2	
	Quality Assurance			Description: 5.675 Meter Switch Harness	
				Revision: 1	
				Sheet: ----	

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS



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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

TOLERANCES & INSPECTION		
UNLESS OTHERWISE SPECIFIED		
ALL BEND ANGLES ARE 90 DEGREES		
ALL DIMENSIONS ARE IN INCHES.		
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION		
FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	
Material Thickness: per ASTM Std. Weld Callouts per AWS		

RELEASE & REVISIONS
INITIAL ECN: 25377
CURRENT ECN: 25377
ECN DESCRIPTION: RELEASE FOR PRODUCTION
REVISED BY: EMB

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER AAMP GLOBAL
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER VTM-FTC OR 65795
COLOR (ONLY LIST IF COLOR SPECIFIC) NO
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
 ADRIAN STEEL®	ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221		REVISION LEVEL A
	MAT'L USED: PURCHASED	DESIGNED BY: E.BURKE	
DESCRIPTION: HARN, POWER VTM FTC			
WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE	PART NUMBER: 65795	

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) N/A
LOAD/RATING REQUIREMENT N/A
MATERIAL REQUIREMENT N/A
PACKAGING REQUIREMENT N/A
OTHER REQUIREMENTS RING TERMINAL: 16-14GA 1/4" STUD SIZE BLUE TIN PLATED COPPER



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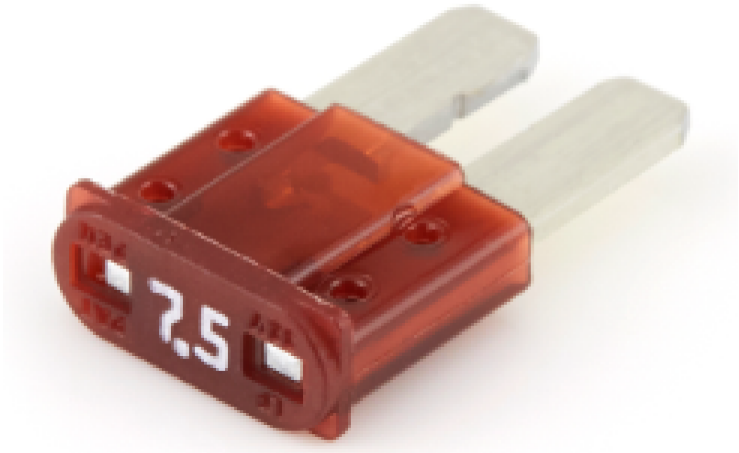
TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED ALL BEND ANGLES ARE 90 DEGREES ALL DIMENSIONS ARE IN INCHES. REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	INITIAL ECN: 25975 CURRENT ECN: 25975 ECN DESCRIPTION: RELEASE TO PRODUCTION REVISED BY: N/A
FEATURES 0.0 = ± .125 0.00 = ± .062 0.000 = ± .031	HOLES/SLOTS 0.0 = ± .062 0.00 = ± .031 0.000 = ± .015
ANGLES 0° = ± 2° 0.0° = ± 1°	
Material Thickness: per ASTM Std. Weld Callouts per AWS	

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 37393 COLOR (ONLY LIST IF COLOR SPECIFIC) BLUE COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
 ADRIAN STEEL [®]		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	
MAT'L USED: PURCHASED		DESIGNED BY: EMB	
DESCRIPTION: WIRE TERM 1/4"RING 14-16G			
WEIGHT (Lbs.): 0.01	SEGMENT CODE: ELE		PART NUMBER: 69511

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) MICRO2
LOAD/RATING REQUIREMENT 5 AMP
MATERIAL REQUIREMENT N/A
PACKAGING REQUIREMENT N/A
OTHER REQUIREMENTS (1) 7.5 AMP FUSE MICRO 2 STYLE



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TOLERANCES & INSPECTION

UNLESS OTHERWISE SPECIFIED

ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX)
DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS
INITIAL ECN: 26015
CURRENT ECN: 26015
ECN DESCRIPTION: RELEASE TO PRODUCTION.
REVISED BY: N/A

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 46117
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) YES

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
 ADRIAN STEEL [®]		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	
MAT'L USED:		DESIGNED BY: E.Burke	REVISION LEVEL A
DESCRIPTION: FUSE, MICRO2 7.5 AMP			
WEIGHT (Lbs.): .10	SEGMENT CODE: ELE	PART NUMBER: 69821	

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS
TIMER LIGHTING MODULE FOR INTERIOR PLUG AND PLAY LIGHTING ON TOPPERS



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TOLERANCES & INSPECTION		
UNLESS OTHERWISE SPECIFIED		
ALL BEND ANGLES ARE 90 DEGREES		
ALL DIMENSIONS ARE IN INCHES.		
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION		
FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	
Material Thickness: per ASTM Std. Weld Callouts per AWS		

RELEASE & REVISIONS
INITIAL ECN: 26830
CURRENT ECN: 27950
ECN DESCRIPTION:
Update to Rev B
REVISED BY: JJC

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
71902
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	
MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE	
DESCRIPTION: TIMER LIGHTING MODULE			
WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE		PART NUMBER: 71902



TLM

Timer/Low Voltage Module

INSTALLATION MANUAL

Stinger[®]



Thank you for purchasing the
TLM



WHAT'S INCLUDED:



- Timer/Low Voltage Module
- Module Harness
- Cable Ties

COMPATIBLE ACCESSORIES:



- Vehicle-specific harness (P-VTM-xxx)
- Switch harness (VTM-SWx)
- High current harness (VTM-RLY)

FEATURES:



- Selectable timer durations - 30, 60, 90, and 120 minutes
- Selectable Low Voltage Sense shut off - 11.8V, 11.5V, and 11.2V
- Timer and Low Voltage sense work independently of each other
- Inputs for 2 momentary switches or a steady ground input
- 10A max current output





OPERATING INSTRUCTIONS:

DIP 1	DIP 2	V-Sense	DIP 3	DIP 4	DIP 5	Minutes	DIP 6
Up	Up	OFF	Timer ON (Down) OFF (Up)	Up	Up	30	ON (Down) Steady Ground Input
Up	Down	11.2V		Up	Down	60	
Down	Up	11.5V		Down	Up	90	OFF (Up) Momentary Ground Input
Down	Down	11.8V		Down	Down	120	

DIP 1-2

If Voltage Sense feature is turned ON, low voltage shut down will occur when the input voltage to the TLM module drops below the V-Sense setting. To eliminate false triggers, there is a 20 second delay before shut down.

If Voltage Sense is turned OFF, input voltage level will not be monitored.

NOTE: Voltage Sense takes precedence over Timer.

DIP 3

If the Timer feature is turned ON and switch input is activated, output voltage will be provided for specified timer duration.

DIP 4-5

Switch settings will determine how long output will be active after the switch input is activated.

NOTE: If an invalid time is selected (e.g. Up, Up, Up or Down, Down, Down) the output will turn off 10 seconds after the switch input is activated.

DIP 6

Steady Ground Input Applications:

Applying ground to the switch input will activate the output, removing ground from switch input will disable the output. If ground is applied once again, the output will be re-activated, and the timer will reset/start over.

Momentary Ground Input Applications:

Applying a pulsed ground to the switch input will activate the output, a second pulsed ground to the switch input will disable the output. If a pulsed ground is applied once again, the output will be re-activated, and the timer will reset/start over.



Steady Ground Input Applications

Trigger Input	Switch Input	Output	Voltage Sense (ON)	Timer (ON)
Active	N/A	ON	Monitoring Input Voltage	N/A
Not Active	N/A	OFF	N/A	N/A
Not Active	Activated (Input Grounded)	ON	Monitoring Input Voltage	Timer Starts
Not Active	Deactivated (Ground Removed)	OFF	N/A	Timer Off
Not Active	Activated (Input Grounded)	ON	Monitoring Input Voltage	Timer Starts

Momentary Ground Input Applications

Trigger Input	Switch Input	Output	Voltage Sense (ON)	Timer (ON)
Active	N/A	ON	Monitoring Input Voltage	N/A
Not Active	N/A	OFF	N/A	N/A
Not Active	Activated (Pulsed)	ON	Monitoring Input Voltage	Timer Starts
Not Active	Activated (Pulsed)	OFF	N/A	Timer Off
Not Active	Activated (Pulsed)	ON	Monitoring Input Voltage	Timer Starts

In the tables above "Trigger Input" refers to the Positive Trigger Input and Negative Trigger Input of the module.

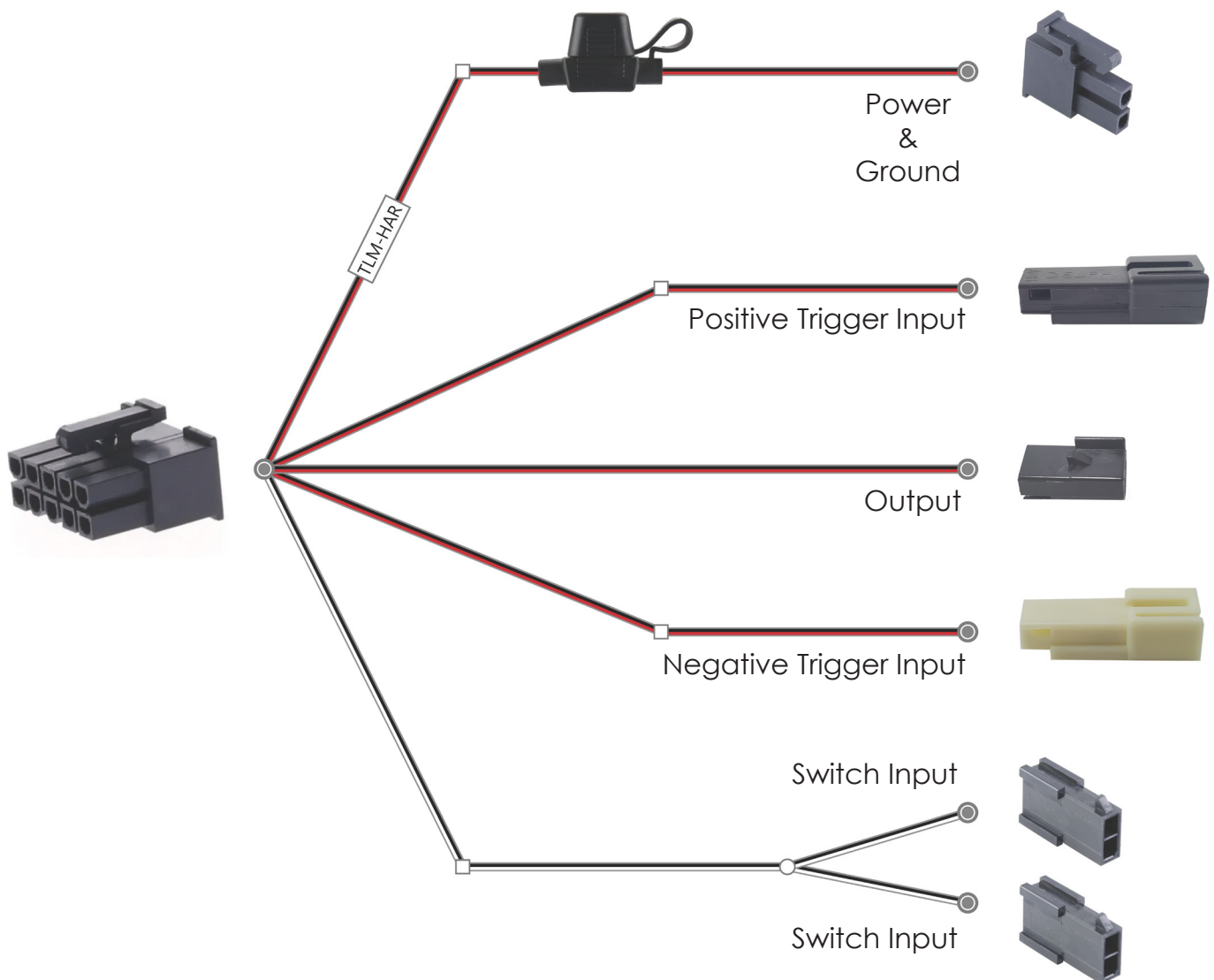
If a Trigger Input is active, its function takes precedence. Attempting to activate the Switch Input while a Trigger Input is active will have no effect on the modules output.





WIRING DIAGRAMS:

TLM Harness



If necessary, connectors may be removed for hardwire applications.

Positive Trigger Input: Applying 12V to Red wire will activate output

Negative Trigger Input: Applying ground to Black wire will activate output

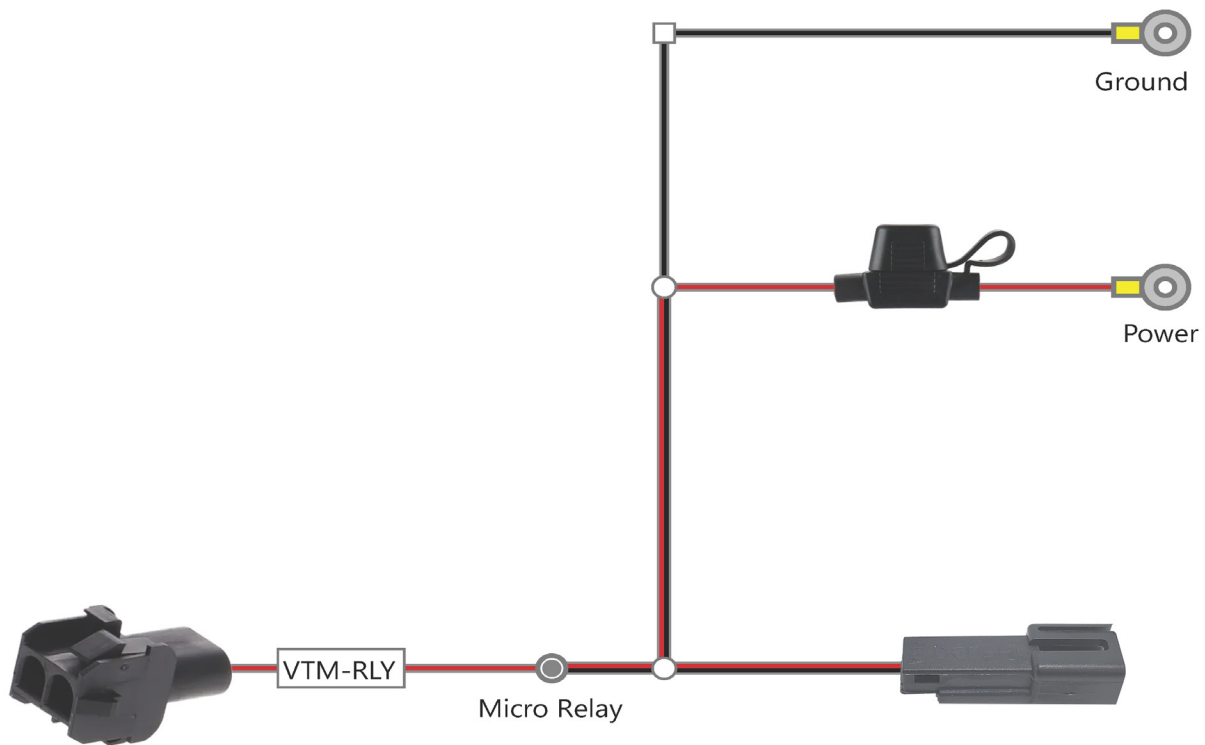
Switch Input: Closing loop between switch input wire leads will activate output





VTM-RLY (Optional Harness)

For larger current demands, use the optional VTM-RLY and connect to power and ground, along with the TLM harness. VTM-RLY supports up to 15A.



VTM-RLY Output connects to P-VTMxxx harness for vehicle lighting

VTM-RLY Input connects to the output from the TLM harness





Troubleshooting Table:

Output does not activate when Positive or Negative Trigger Input is activated	Check fuse on TLM harness	Replace fuse if it is bad
	Check power and ground connections	Fix loose or bad wire connection
	Confirm module has power and ground at its input	Replace module or damaged harness if necessary
Output does not activate when Switch Input is activated	Confirm DIP 6 on module matches switch type being used	Change DIP 6 setting to match switch type
	Confirm switch being used is not defective	Replace bad switch if necessary
Switch Input - Irregular behavior	Output does not turn off with switch	Check DIP 6 and confirm it matches switch type
		Confirm switch is not damaged or defective; replace if necessary
	Output activates for 5 seconds then turns off	Input voltage to module is below Voltage Sense setting





Stinger[®]

Phone – 866-931-8021 (option 3)

E-Mail – support@stingersolutions.com

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