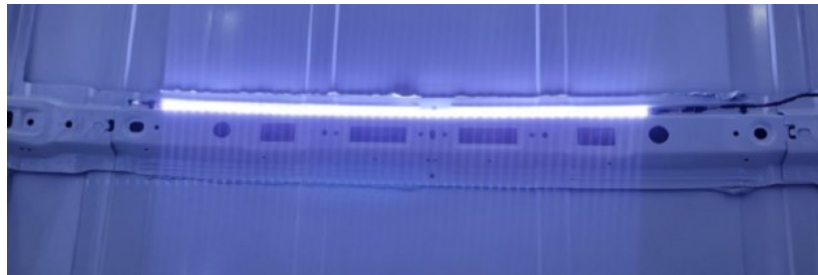




LED Light Strip Kit w/ Switches

CATALOG NUMBER

69630



LED Light Strip Installed on Roof Bow

PRODUCT FEATURES

Interior LED Light Strip Kit w/ Switches

- Included in this kit is one (1) LED light strip, power harness, roof bow harness #2, and voltage timer module.
- This kit is ideal for the RAM ProMaster City.
- There are no OEM options that this product requires. There are no OEM options that this kit is not compatible with.
- This kit was designed to provide LED lighting to the cargo area of the vehicle and can be controlled by switches.

Model Year Validated:

2022

Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For Promaster City

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.

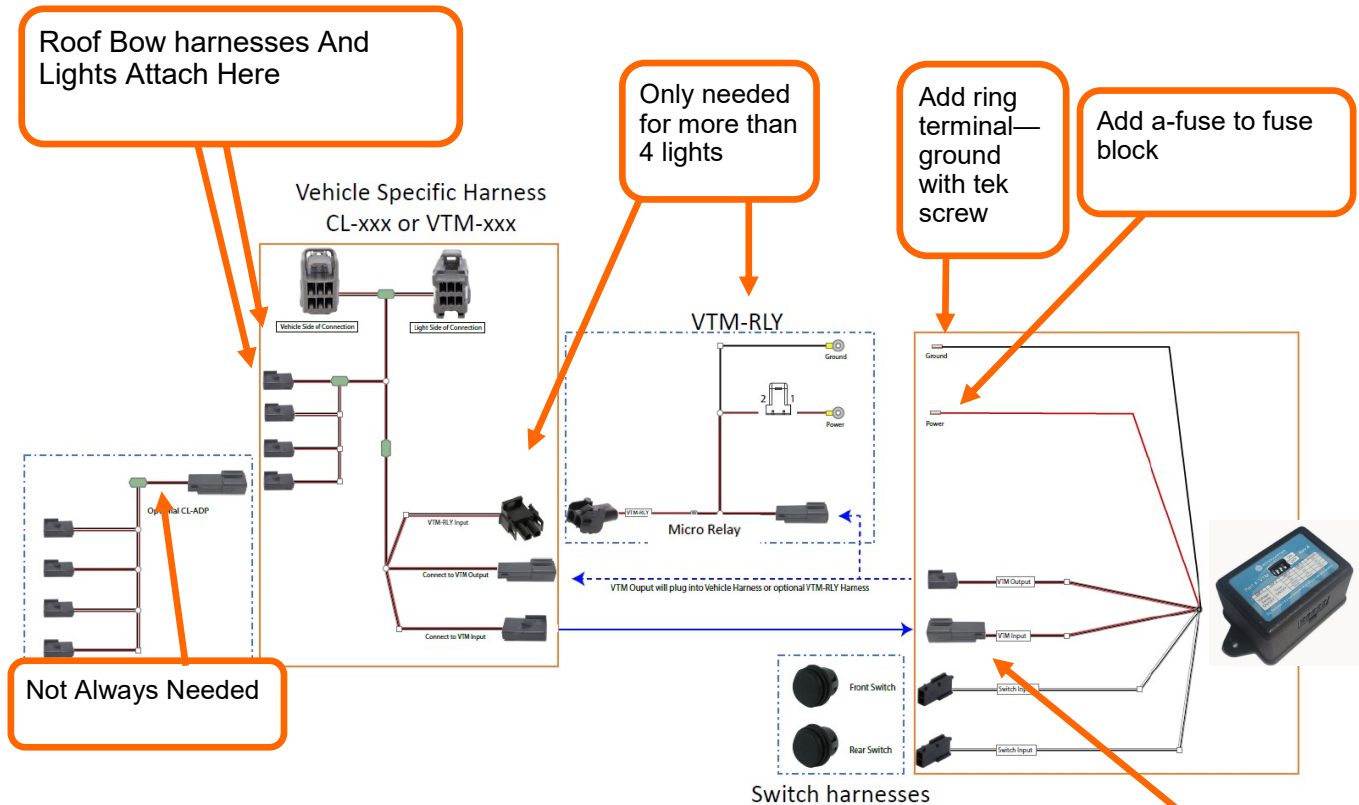


Installation Instructions For Interior Plug And Play Lights For Promaster City

****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 vehicle are the power harnesses 65796. 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.

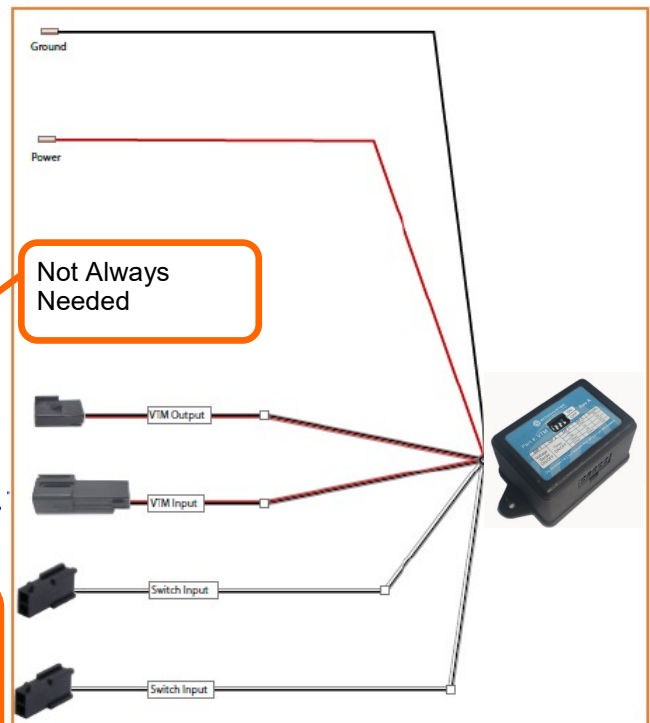
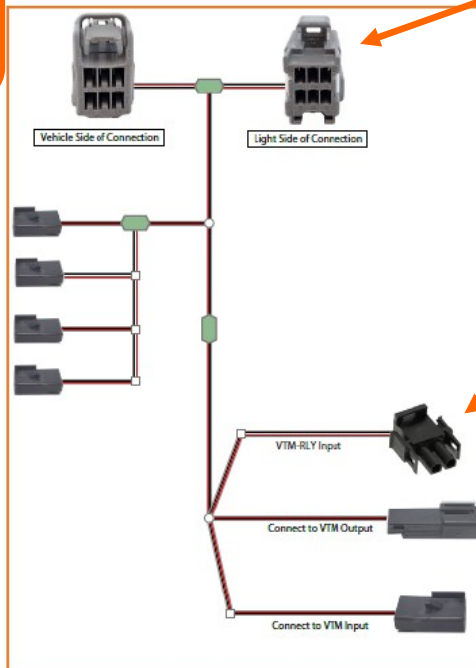
Specific Harness Diagram



Roof Bow
Harnesses
and Lights
Connect Here

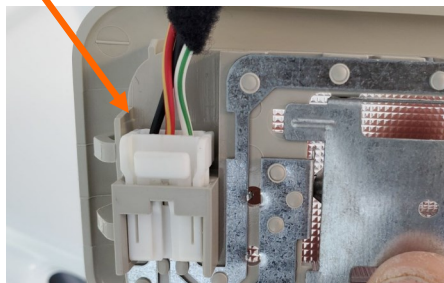
Vehicle Specific Harness
CL-xxx or VTM-xxx

Insert into OEM
Light Connector:
See Below



Switch
Harness in
between

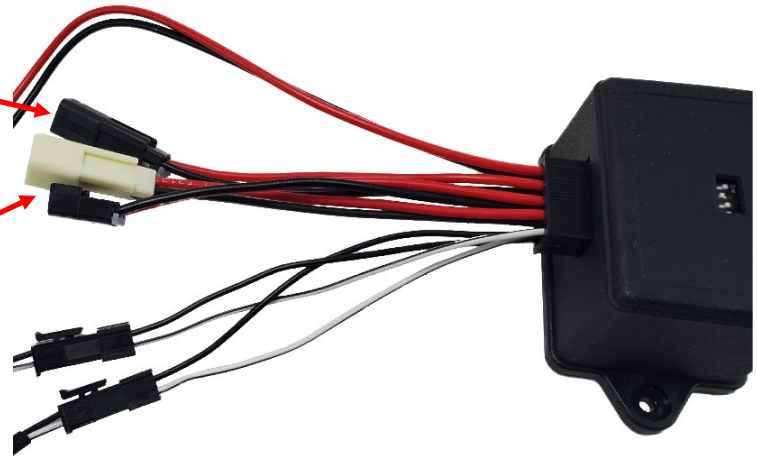
OEM Light Connector located on the back of the OEM light: Remove
the OEM light from the location



Voltage Timer Module (VTM) Harness Reference

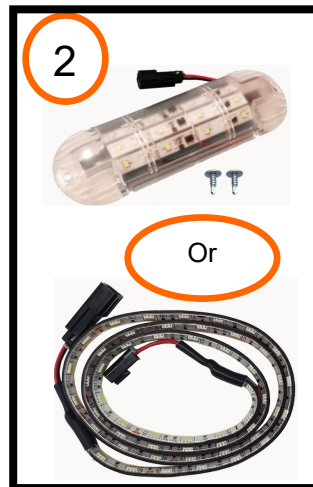
For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

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	65786	Voltage Timer Module (VTM)
2	63480 Or 65347	Dome Light Or Strip Lights
3	63481 Or/And 63842, 63483, 63484	Roof Bow Harnesses 1 through 4
4	65796	Power Harness
5	65788, 65789	Switch Harness 2 and 3 for VTM



Harness pictures are for reference only.

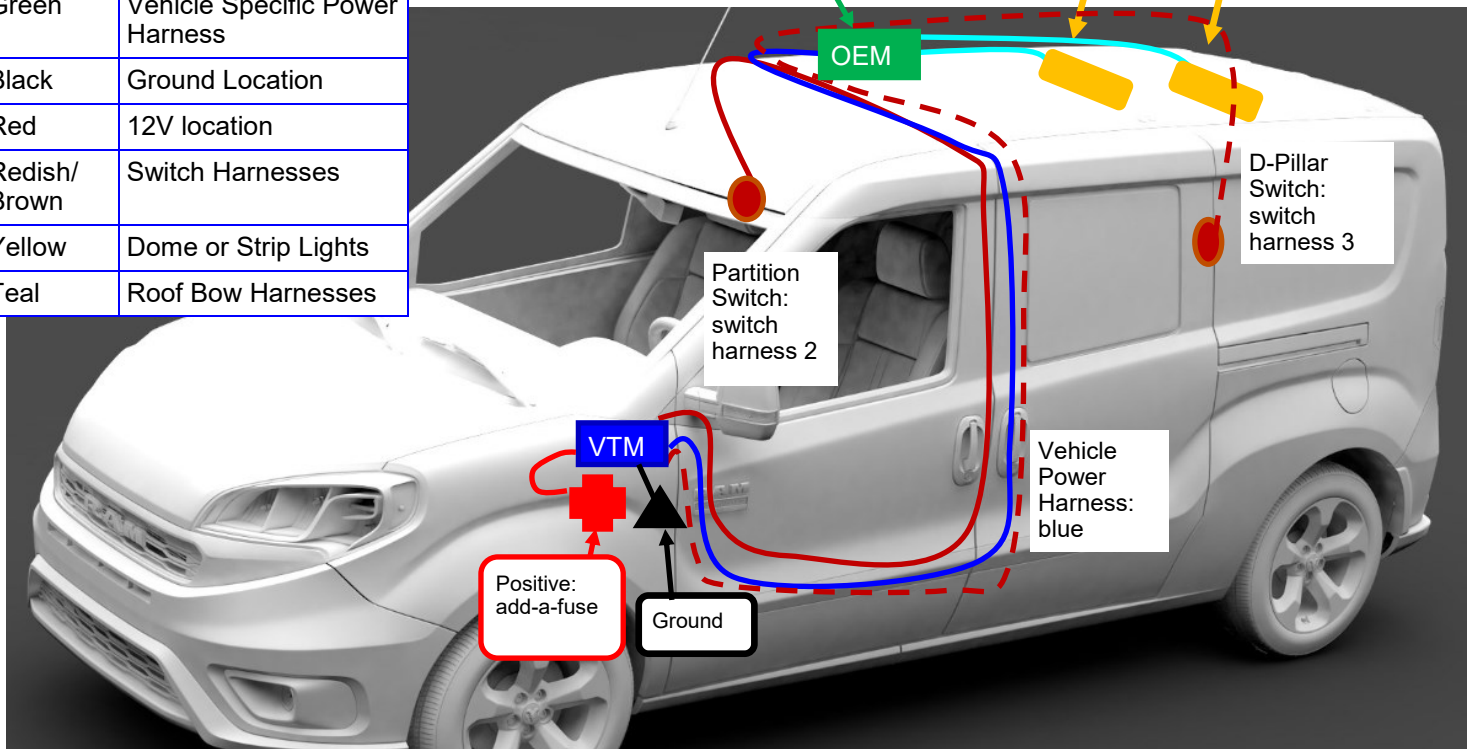


ADRIAN STEEL®

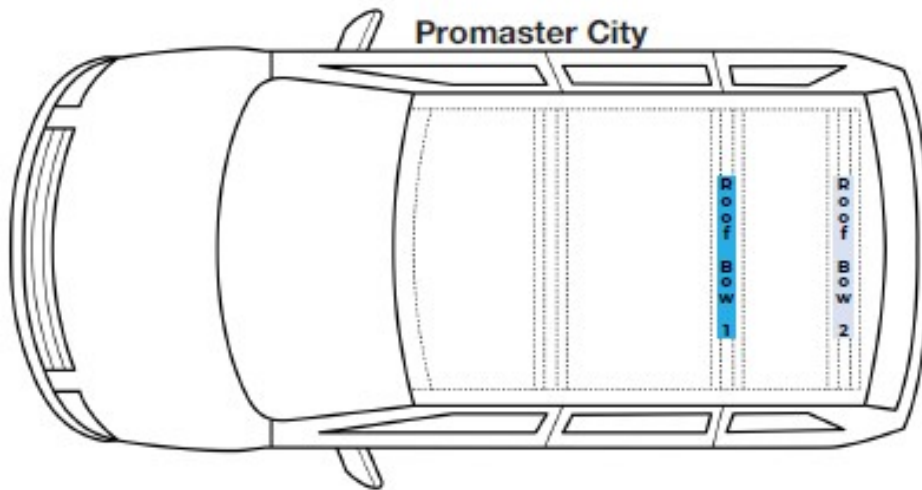
Cargo Management Solutions for Commercial Vehicles

Install Instructions Interior Plug & Play Lights—Promaster City

Color	Key - Items
Blue	VTM/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



Vehicle	Roof Bow 1	Roof Bow 2
Promaster City	P-HARRB2	P-HARRB1

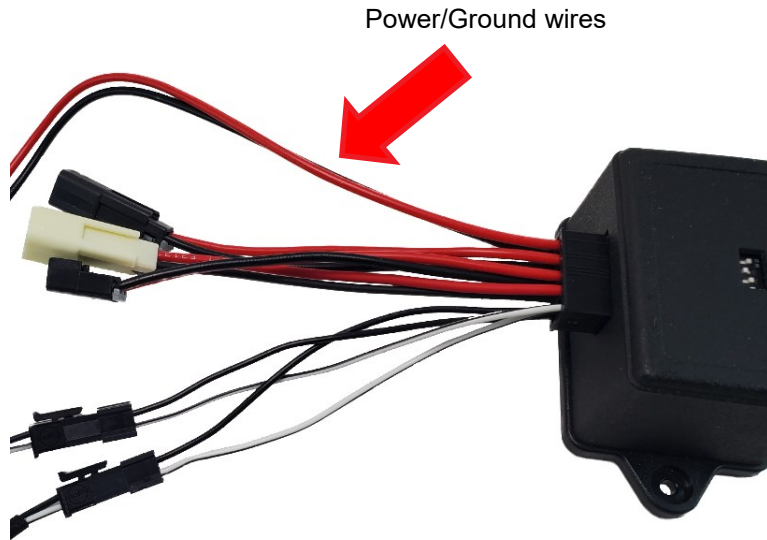


**Roof bow
placements with
harness reference**

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.

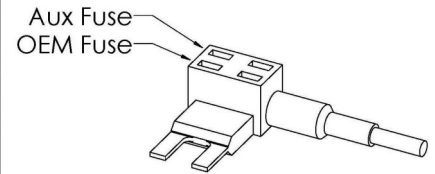
Step 1: VTM Installation

Locate the VTM Module and harness. Remove the inline fuse from the inline fuse holder. Attach a 1/4" ring terminal to the Negative (Black) wire and crimp the Add-A-Fuse to the Positive (RED) wire.



Power/Ground wires

Diagram of Add-A-Fuse



Locate Fuse Panel under Driver Steering Wheel and Remove Cover (Figure 1-1)

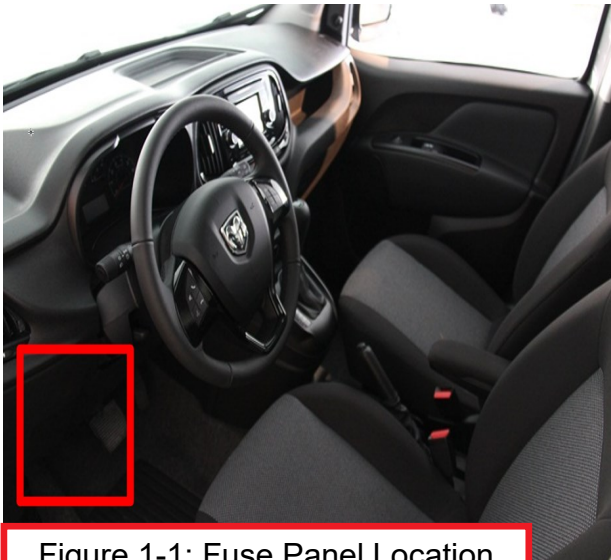
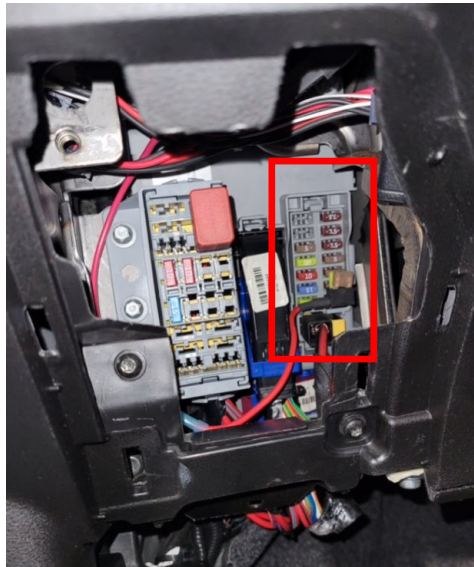


Figure 1-1: Fuse Panel Location



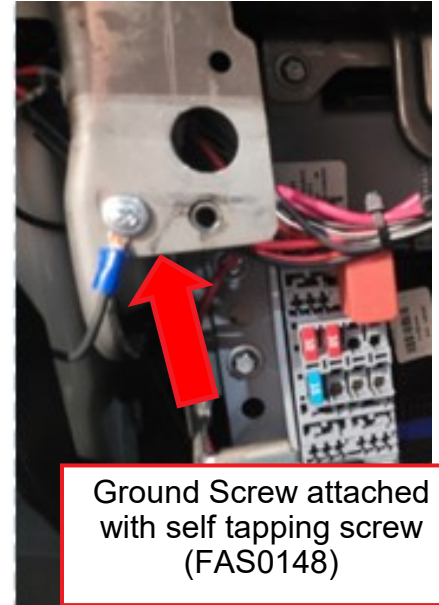
- The auxiliary fuse panel is located below the left side of the steering wheel.

Step 1: VTM Installation (Continued)

Locate the 20 Amp fuse in bottom right corner of fuse panel and insert add-a-fuse connected to the VTM Power wire. Then attach the Ground wire ring terminal to the metal post with self tapping screw (FAS0148).

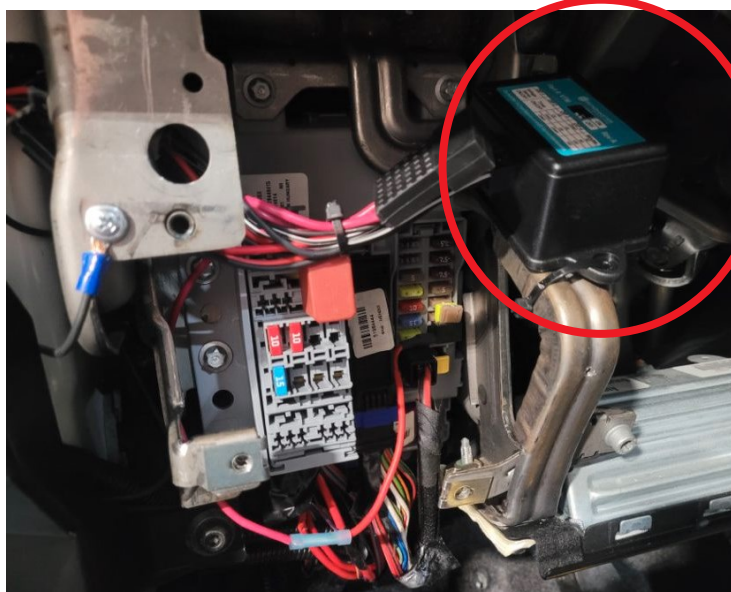


Inside Auxiliary Fuse Panel



Ground Screw attached with self tapping screw (FAS0148)

Connect the VTM light power harness(65796), the Rear Switch Harness(65789), and the Front Switch Harness(65788) to the VTM. Secure the VTM with zip ties and adhesive tape if needed) to the metal post shown below.

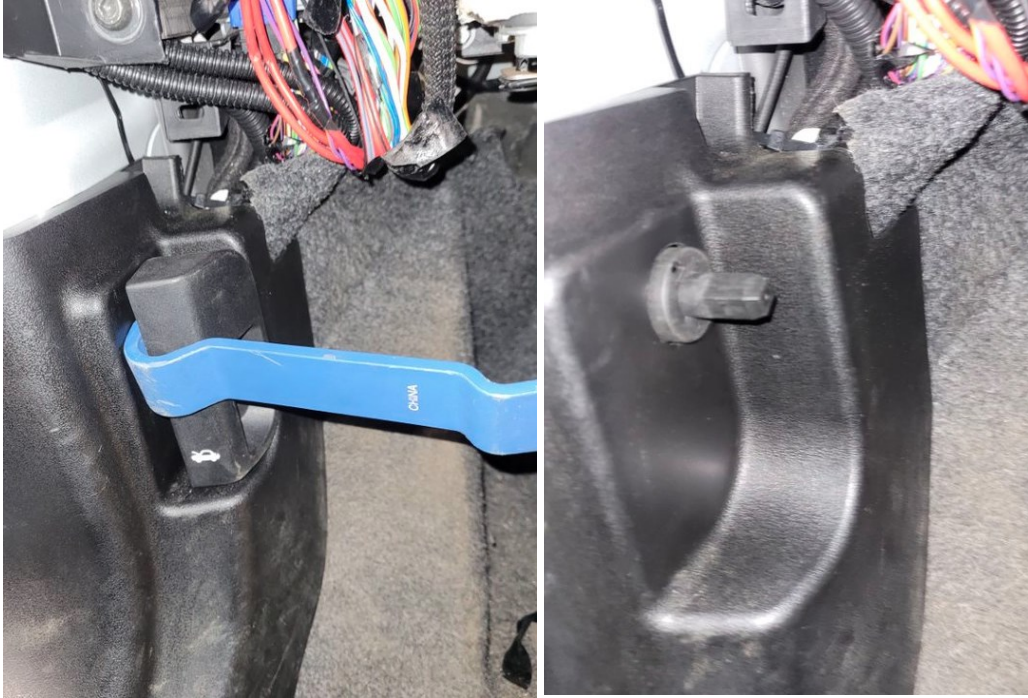


*****Please be sure to set all the dip switches on the VTM UP*****
Refer to the bottom picture for dip switch settings.
If the customer would like a different amount time other than 90 minutes, use the dip switches to set the time.

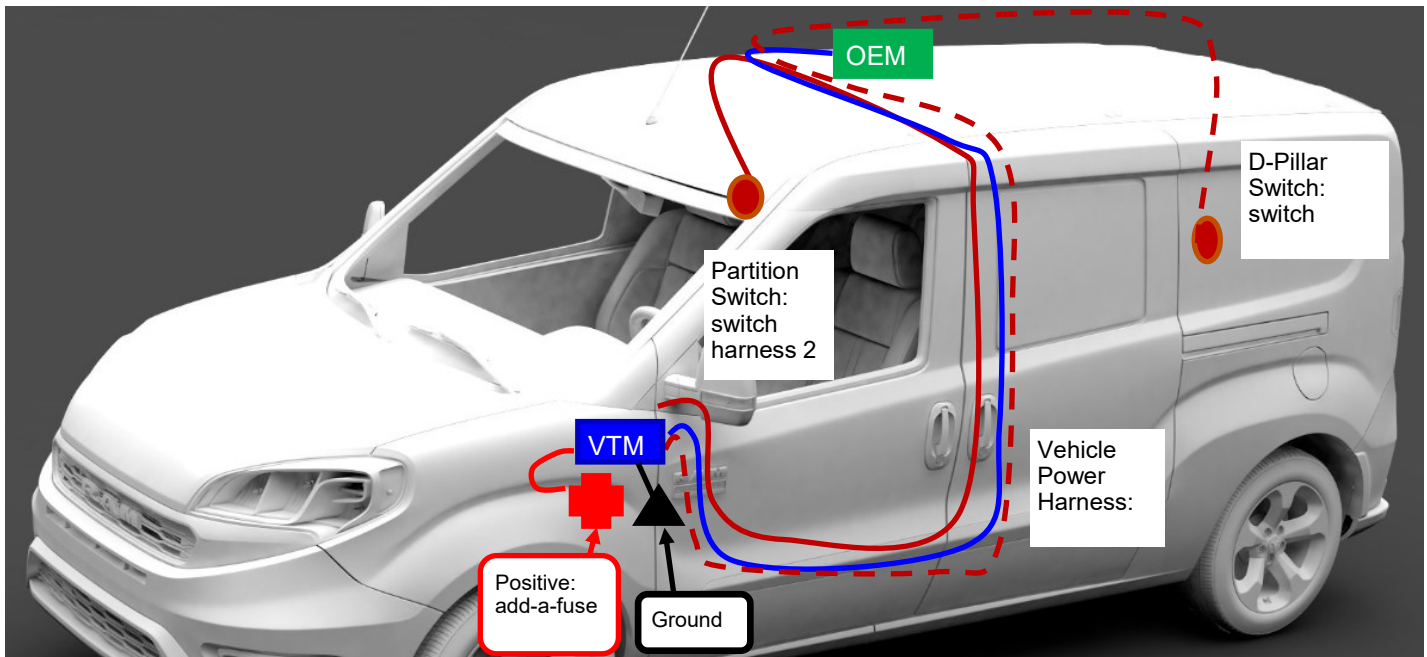
DIP SWITCH 1 UP/DOWN	DIP SWITCH 2 UP/DOWN	DIP SWITCH 3	DIP SWITCH 4	Timer Duration (Minutes)
Voltage Sense ON/OFF	Timer ON/OFF	UP	DOWN	60
		UP	UP	90
		DOWN	UP	120
		DOWN	DOWN	150

Step 2: Harness Routing

Remove Hood latch and plastic door jam cover to route the Harness from the VTM to the rear of the vehicle. (pictured below)



Both the switch harnesses and VTM power harness will be routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side. More pictures to follow for reference.



Harnesses routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side.

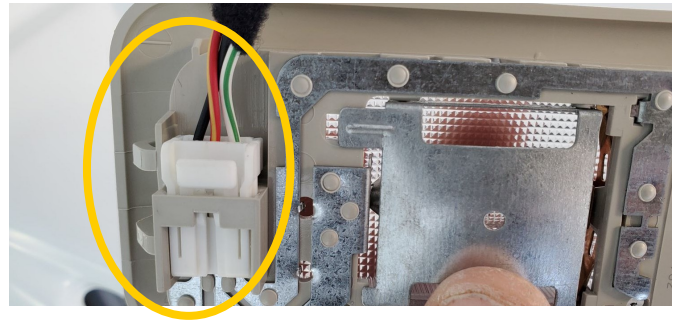


Leave the side switch harness (65788) on the passenger side B-pillar. You can continue to route the rest of the harnesses rearward following the roof channels.



Step 3: VTM Power Harness

Locate the OEM cargo light in the passenger side header, behind the side door. Remove the cargo light with a trim tool, then unplug the OEM connector from the back of the light

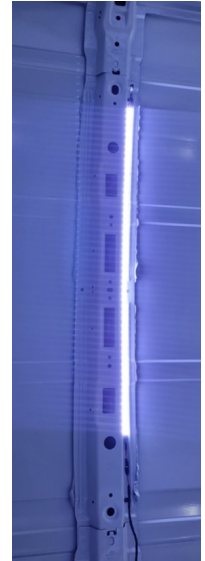


Plug the vehicle specific power harness (65796) into the OEM connector. You no longer need the OEM light. You can dispose of it how you would like. Connect the roof bow harnesses (63481 Or/And 63842, 63483, 63484 all that are applicable) to the power harness.



Step 4: Mounting Lights

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.



Step 5: Roof Bow Harnesses

Route the roof bow harnesses to their desired light locations. (Light locations on the roof bows). Reference page 5 for roof bow locations. Route through roof channels as much as possible. When not applicable, use fir tree zip ties to secure wiring.



Step 6: Switch Installations

Switch Locations: Partition Hole (composite or steel) and Rear D-Pillar Trim.

Route the switch harnesses to the desired switch locations. Switch 2 (65788) will go to the partition, and switch 3 (65783) will go rearward to the D-pillar area (passenger side). See pictures below for locations.

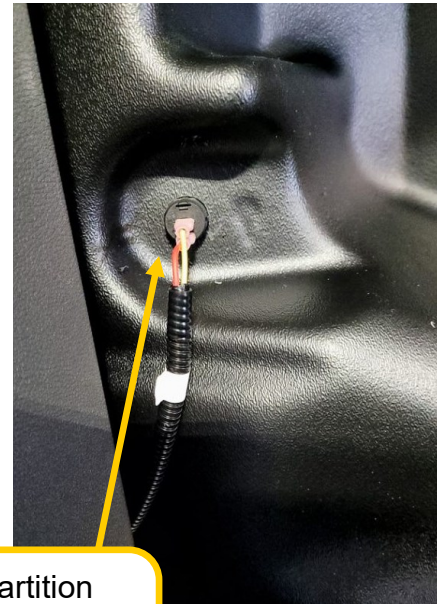
Drill out needed holes for the switch as applicable. Use your best judgement for the rear D pillar trim hole.



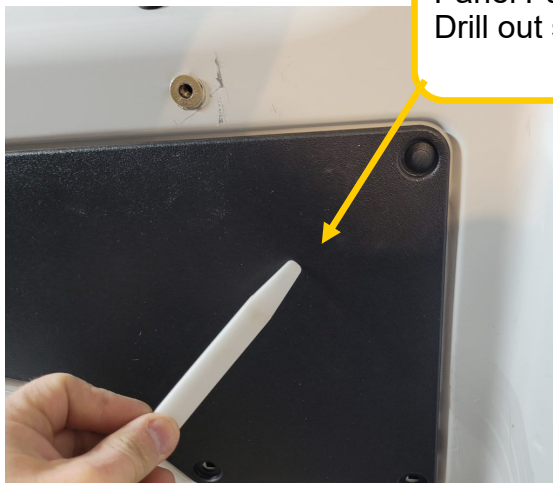
Steel partition
hole behind
passenger seat



Composite partition
behind passenger
seat. Drill out the hole.



Remove panel to drill
the hole and to route
the wiring



Rear D-Pillar Trim
Panel Passenger side.
Drill out switch hole.



Step 6: Switch Installations (Continued)

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

Secure wiring with zip ties.

Step 7: Finish Install

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.



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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ADRIAN STEEL
VAN AND PICKUP EQUIPMENT

906 JAMES STREET
ADRIAN, MI 49221
517-265-6194
WWW.ADRIANSTEEL.COM



CAUTION
WHEN INSTALLING EQUIPMENT IN OR ON
VEHICLES CHECK FOR FUEL TANKS, FUEL
LINES, CONTROL LINES AND ELECTRICAL
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

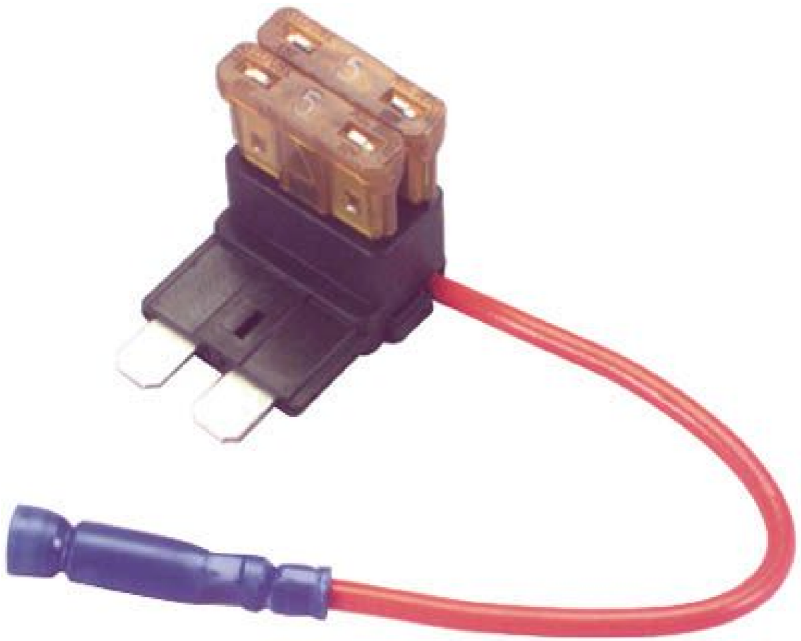
PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
13905-0

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS
<p>Note: Waytek</p> <p>Manufacturers P/N: 46044</p>




Mini Fuse Holder, Add a Circuit Tap: 41842

Note: For Mini Fuses Only

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TOLERANCES & INSPECTION			RELEASE & REVISIONS	
<div>UNLESS OTHERWISE SPECIFIED</div> <div>ALL BEND ANGLES ARE 90 DEGREES</div> <div>ALL DIMENSIONS ARE IN INCHES.</div> <div>REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION</div>			<div>INITIAL ECN: 14217</div> <div>CURRENT ECN: 22269</div> <div>ECN DESCRIPTION:<div>RELEASE TO PRODUCTION</div></div> <div>REVISED BY: RMW</div>	
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				

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER Waytek
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 46044
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
			REVISION LEVEL C
MAT'L USED:		DESIGNED BY: RBB	
DESCRIPTION: Mini Fuse Holder, Add a Circuit Tap: 41842			
WEIGHT (Lbs.): .018	SEGMENT CODE: ELE		PART NUMBER: 41842

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 158

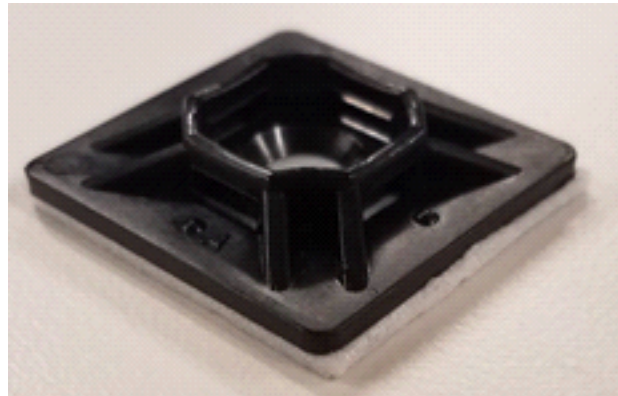
Temp. F:

Max. Operating 70

Temp. C:

Min. Installation 65

Temp. F:



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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: 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



ADRIAN STEEL®

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**

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

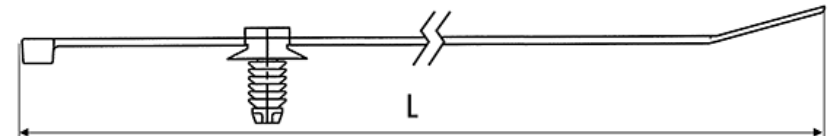
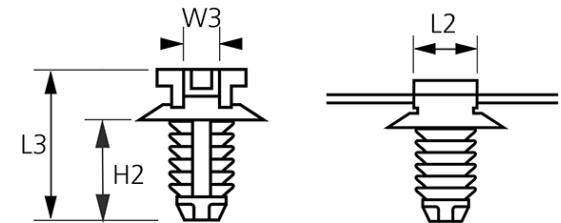
OTHER REQUIREMENTS

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



P-HARRB2

(5x)



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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: 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)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

YES

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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: **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															
<p>Note:</p> <p>Connector / Terminal Configuration:</p> <ul style="list-style-type: none">• MALE 2 PIN ON ONE END• FEMALE 2 PIN ON THE OPPOSITE END. <p>BOM:</p> <table><tr><th>Item</th><th>Qty.</th><th>Description</th></tr><tr><td>1</td><td>1</td><td>36" WHITE LED STRIP LIGHT W/ADHESIVE</td></tr><tr><td>2</td><td>2</td><td>4" ZIP TIE</td></tr><tr><td>3</td><td>2</td><td>CABLE TIE MOUNT</td></tr><tr><td>4</td><td>1</td><td>ALCOHOL PAD</td></tr></table>	Item	Qty.	Description	1	1	36" WHITE LED STRIP LIGHT W/ADHESIVE	2	2	4" ZIP TIE	3	2	CABLE TIE MOUNT	4	1	ALCOHOL PAD
Item	Qty.	Description													
1	1	36" WHITE LED STRIP LIGHT W/ADHESIVE													
2	2	4" ZIP TIE													
3	2	CABLE TIE MOUNT													
4	1	ALCOHOL PAD													



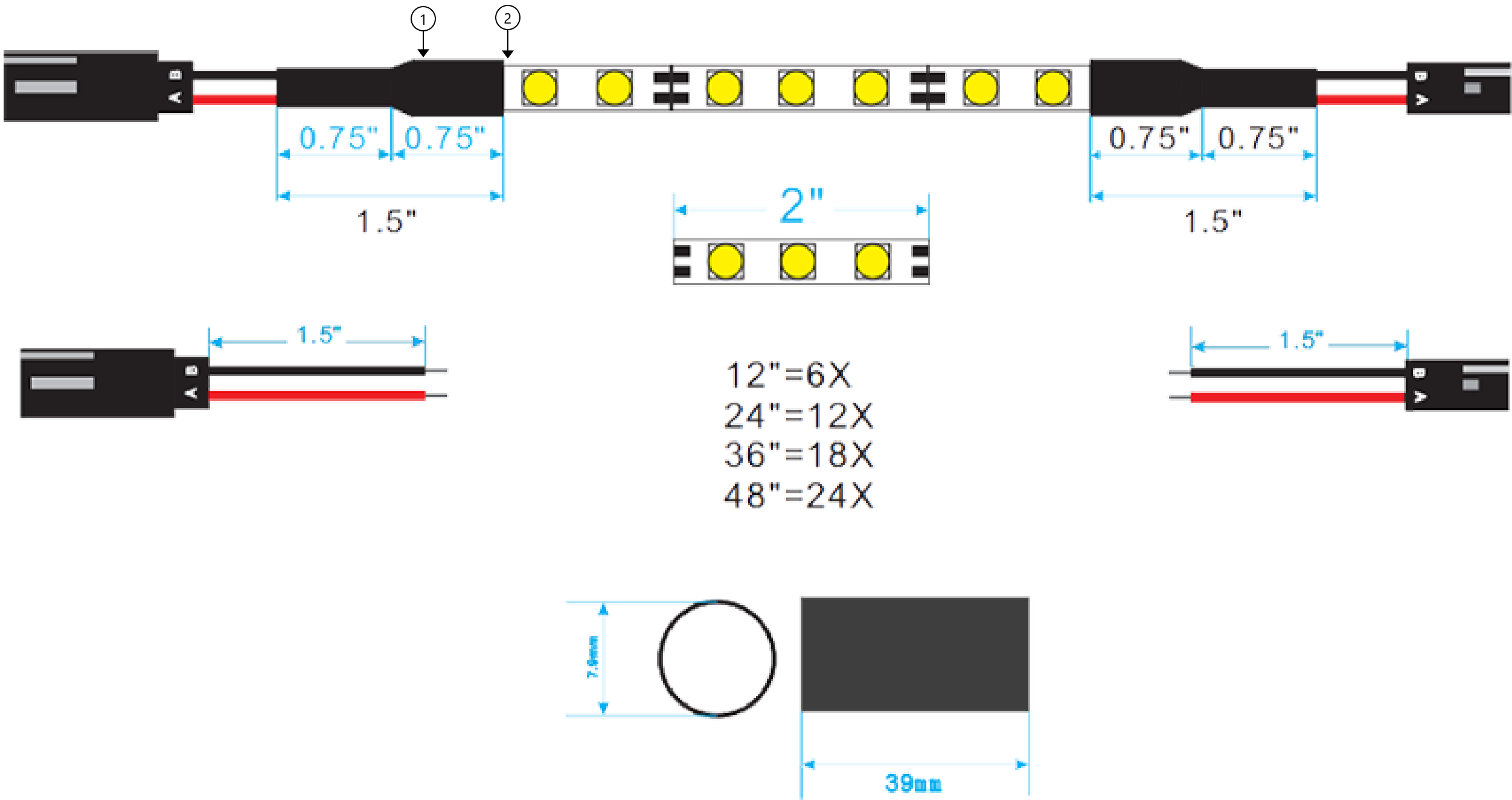
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TOLERANCES & INSPECTION	RELEASE & REVISIONS												
<div>UNLESS OTHERWISE SPECIFIED</div> <div>ALL BEND ANGLES ARE 90 DEGREES</div> <div>ALL DIMENSIONS ARE IN INCHES.</div> <div>REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION</div> <table><tr><th>FEATURES</th><th>HOLES/SLOTS</th><th>ANGLES</th></tr><tr><td>0.0 = ± .125</td><td>0.0 = ± .062</td><td>0° = ± 2°</td></tr><tr><td>0.00 = ± .062</td><td>0.00 = ± .031</td><td>0.0° = ± 1°</td></tr><tr><td>0.000 = ± .031</td><td>0.000 = ± .015</td><td></td></tr></table> <div>Material Thickness: per ASTM Std. Weld Callouts per AWS</div>	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		<div>INITIAL ECN: 24697</div> <div>CURRENT ECN: 25778</div> <div>ECN DESCRIPTION: Revise Modular Lights With New 3M Adhesive</div> <div>REVISED BY: JLT</div>
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												


PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER AAMP
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER CL-36BLED rev.B
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: J. TYNER	REVISION LEVEL B
DESCRIPTION: MODULE DOME LED STRIP 36"			
WEIGHT (Lbs.): 0.3	SEGMENT CODE: EAU	PART NUMBER: 65347	

Notes	
①	3:1 Adhesive Heat Shrink to be placed over LED Solder Joints
②	5925 Adhesive Liner Edges to be exposed next to heat shrink



Revisions			
Rev.	Date	Author	Description
A	11/1/21	Bennet Fisher	Initial Drawing
B	7/27/2022	Bennet Fisher	Adhesive changed to VHB 5925

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	Designed By	Bennet Fisher	11/1/21		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: CL-36BLED	
	Quality Assurance			Description:	
				36" LED Strip	
				Revision: B	
				Sheet:	
				1	

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
INCLUDES HARNESS - "P-VTM-HAR"

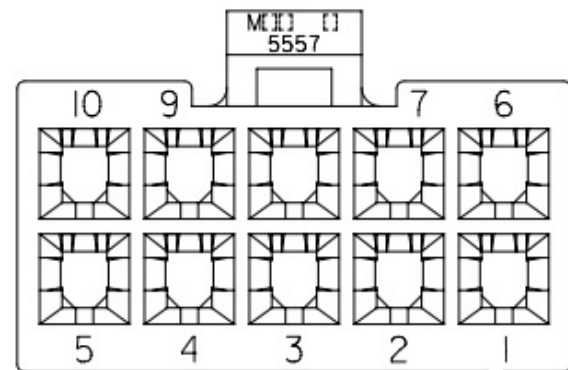


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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25377
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25377
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE FOR PRODUCTION
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	REVISED BY:

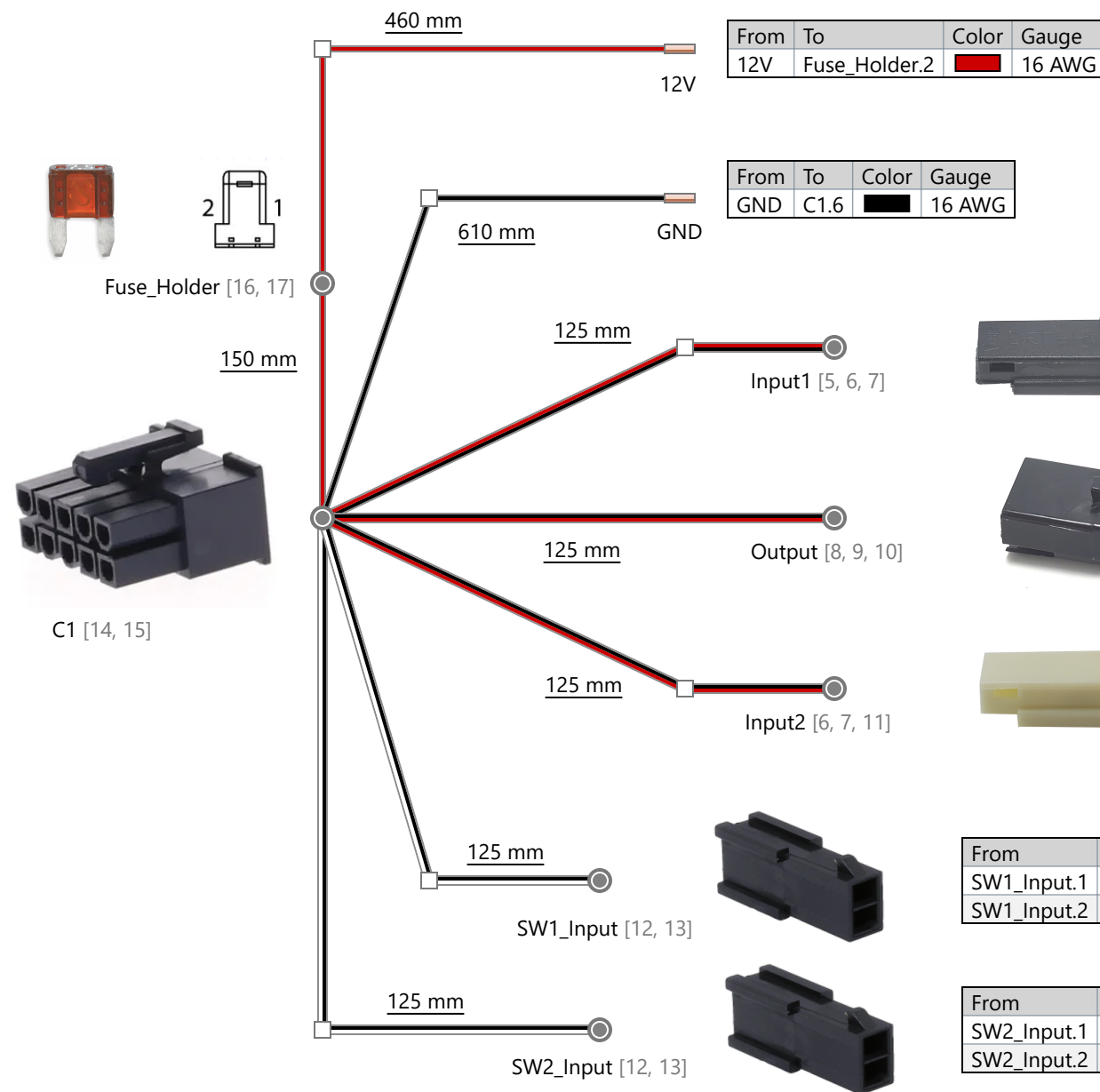
PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
VTM OR 65786
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
	ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221
	REVISION LEVEL		A
MAT'L USED:	PURCHASED	DESIGNED BY:	E.BURKE
DESCRIPTION: VOLTAGE TIMER MODULE			
WEIGHT (Lbs.):	0.2	SEGMENT CODE:	ELE
		PART NUMBER:	65786



Rear View of Connector -
Wire Side of Connector

From	To	Color	Gauge
C1.1	Fuse_Holder.1	Red	16 AWG
C1.2	Input1.A	Red	16 AWG
C1.3	Output.A	Red	16 AWG
C1.4	Input2.A	Red	16 AWG
C1.5	SW1_Input.1	White/Black	20 AWG
C1.5	SW2_Input.1	White/Black	20 AWG
C1.6	GND	Black	16 AWG
C1.7	Input1.B	Black	16 AWG
C1.8	Output.B	Black	16 AWG
C1.9	Input2.B	Black	16 AWG
C1.10	SW1_Input.2	Black	20 AWG
C1.10	SW2_Input.2	Black	20 AWG



From	To	Color	Gauge
12V	Fuse_Holder.2	Red	16 AWG

From	To	Color	Gauge
GND	C1.6	Black	16 AWG

From	To	Color	Gauge
Input1.A	C1.2	Red	16 AWG
Input1.B	C1.7	Black	16 AWG

From	To	Color	Gauge
Output.A	C1.3	Red	16 AWG
Output.B	C1.8	Black	16 AWG

From	To	Color	Gauge
Input2.A	C1.4	Red	16 AWG
Input2.B	C1.9	Black	16 AWG


From	To	Color	Gauge
SW1_Input.1	C1.5	White/Black	20 AWG
SW1_Input.2	C1.10	Black	20 AWG

From	To	Color	Gauge
SW2_Input.1	C1.5	White/Black	20 AWG
SW2_Input.2	C1.10	Black	20 AWG

Input.1 for each switch is the ground signal that will be fed back to the timer module for activation

Input.2 for each switch is a ground that will be provided by the timer module

Revisions			
Rev.	Date	Author	Description
v1	03/26/21	Bennet Fisher	Initial Drawing
v2	7/1/2021	Bennet Fisher	Revised pin 4 and 9 connections; spliced switch inputs
v3	7/22/2021	Bennet Fisher	Changed second dome connector
v4	11/8/2021	Bennet Fisher	Eliminated White/Black and Black wire splices; Corrected contacts for C1.4, C1.5, C1.9, and C1.10

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	Designed By	Bennet Fisher	3/26/21		
	Engineering Approval	----	----		
	Manufacturing Approval	----	----		
	Revision Approval	----	----		
	Quality Assurance	----	----		



VTM

Voltage Timer Module

INSTALLATION MANUAL





Thank you for purchasing the **VTM**



WHAT'S INCLUDED:

- Voltage Timer Module
- Voltage Timer Module Harness
- Screws

COMPATIBLE ACCESSORIES:

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

FEATURES:

- Selectable timer durations - 60, 90, 120, and 150 minutes
- Low voltage shut off at 11.8V
- Timer and Low Voltage sense work independently of each other
- Inputs for 2 momentary switches
- 7.5A max current output





OPERATING INSTRUCTIONS:

DIP SWITCH 1 UP/DOWN	DIP SWITCH 2 UP/DOWN	DIP SWITCH 3	DIP SWITCH 4	Timer Duration (Minutes)
Voltage Sense ON/OFF	Timer ON/OFF	UP	DOWN	60
		UP	UP	90
		DOWN	UP	120
		DOWN	DOWN	150

If Voltage Sense is turned ON, low voltage shut down will occur when voltage input drops below 11.8V. 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. Voltage Sense is only active when the Switch Inputs are activated. Voltage Sense does not monitor VTM Trigger Input.

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

While output voltage is active, pressing a switch will disable the output voltage. If pressed once again, output voltage will be re-activated and reset the timer.

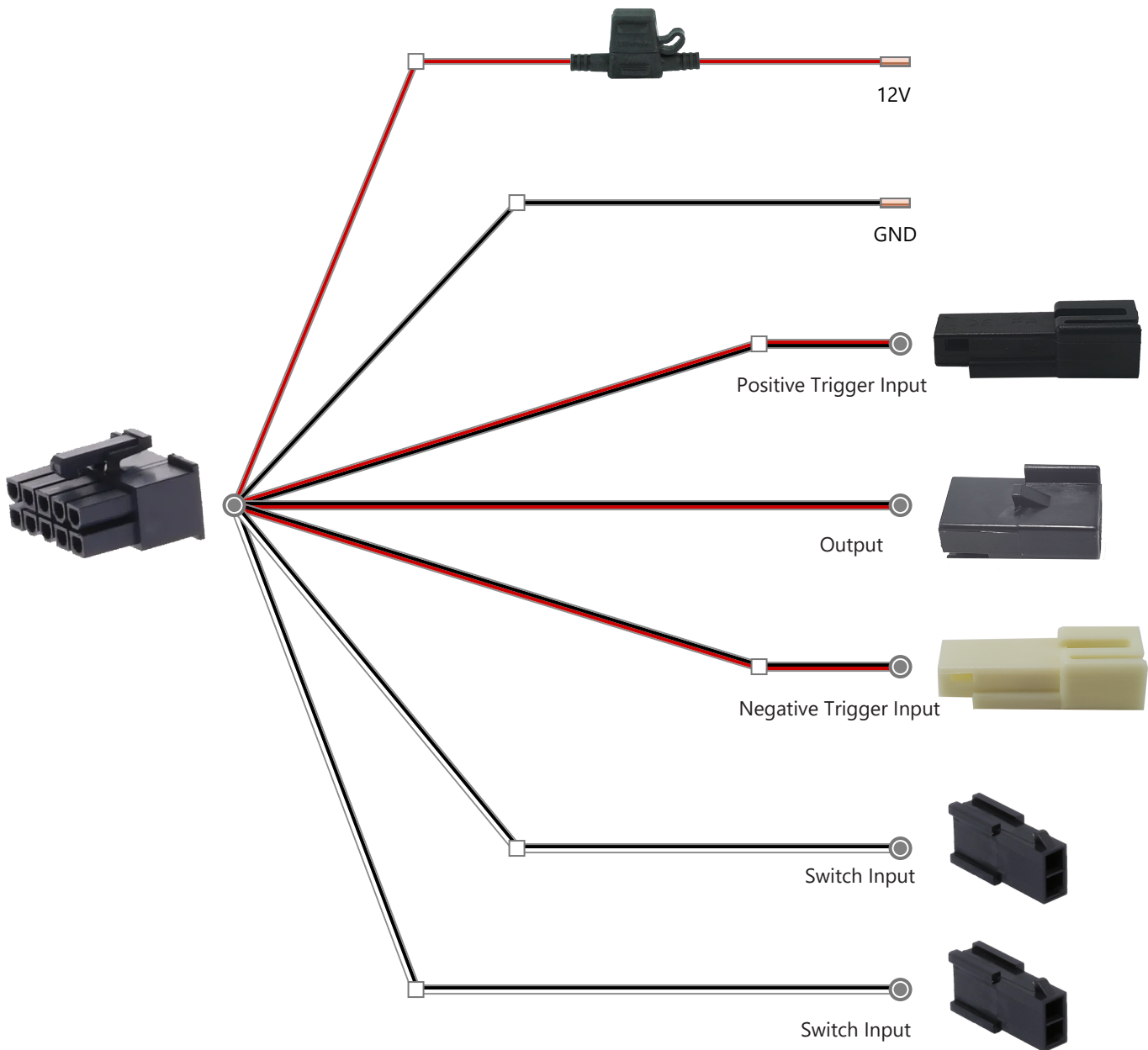
Trigger Input	Switch Input	Output	Voltage Sense (ON)	Timer (ON)
Active	N/A	ON	N/A	N/A
Deactivated	N/A	OFF	N/A	N/A
Not Active	Activated (Pressed)	ON	Monitoring Input Voltage	Timer starts
Not Active	Activated (Pressed)	OFF	N/A	Timer off
Not Active	Activated (Pressed)	ON	Monitoring Input Voltage	Timer resets

If VTM Trigger Input to the VTM module is active, its function takes precedence.



WIRING DIAGRAMS:

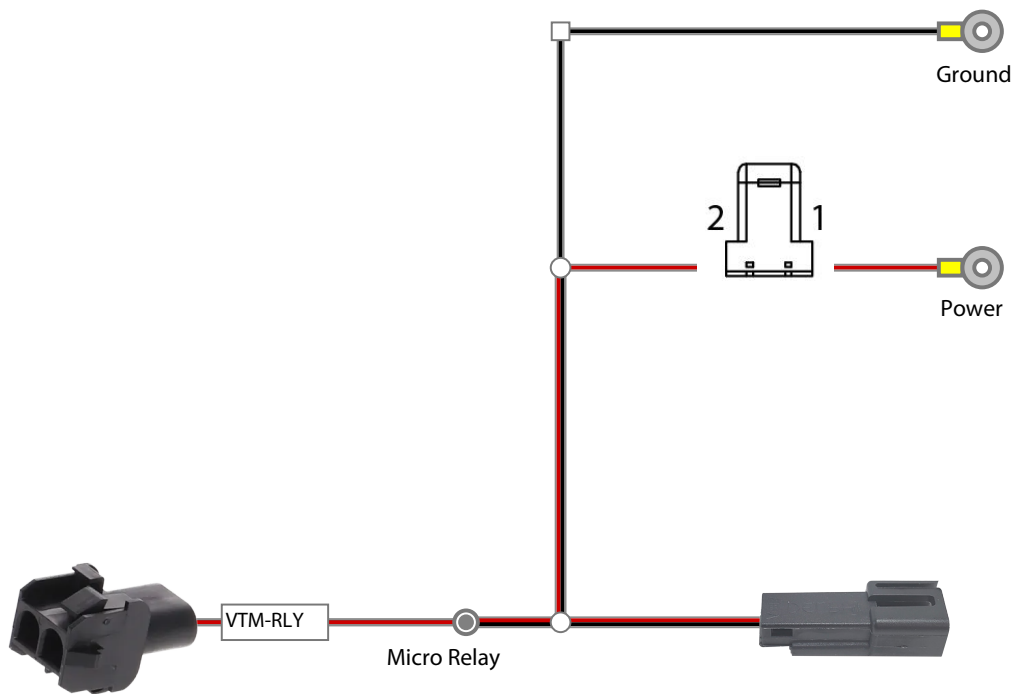
VTM Harness



.....

VTM-RLY (Optional Harness)

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



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

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



Phone – 866-931-8021 (option 3)

E-Mail – support@echomasterfleetsolutions.com



EchoMaster Fleet Solutions is a Power Brand of AAMP Global


EchoMasterfleetsolutions.com


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	





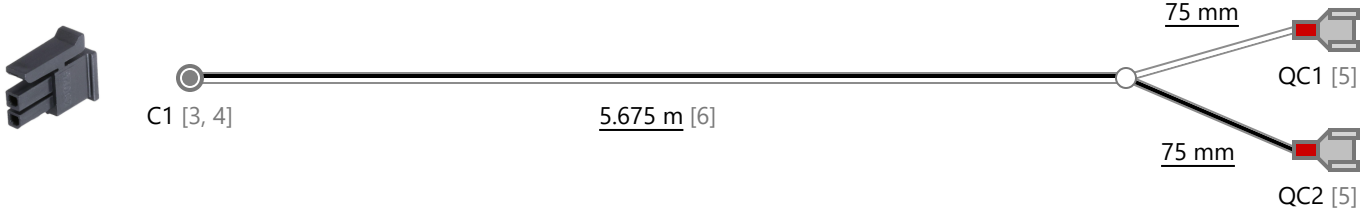
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TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25377
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25377
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE FOR PRODUCTION
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	REVISED BY:


PURCHASED COMPONENT	
REFERENCED SUPPLIER AND/OR MANUFACTURER	
AAMP GLOBAL	
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER	
VTM-SW2 OR 65788	
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	


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PART / PRODUCT IDENTIFICATION			
	ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221
	DESIGNED BY: E.BURKE		REVISION LEVEL A
MAT'L USED:	PURCHASED		
DESCRIPTION:	SWITCH 2 HARNESS FOR VTM		
WEIGHT (Lbs.):	0.2	SEGMENT CODE: ELE	PART NUMBER: 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

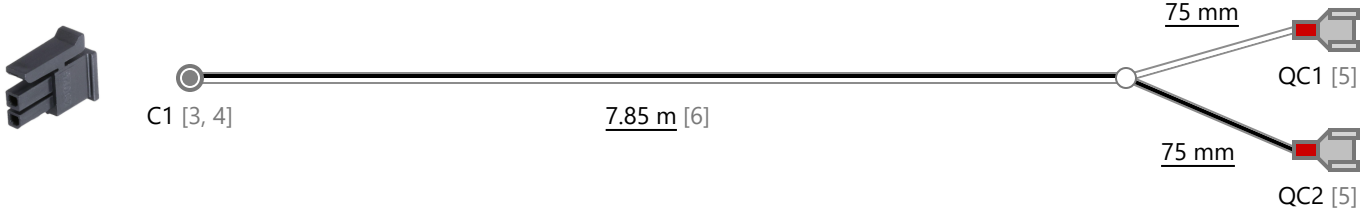



Revisions			
Rev.	Date	Author	Description
1	6/10/21	Bennet Fisher	Initial Drawing


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	Designed By	Bennet Fisher	6/10/2021			
	Engineering Approval					
	Manufacturing Approval					
	Revision Approval			Part Number: VTM-SW2		Revision: 1
	Quality Assurance			Description: 5.675 Meter Switch Harness		Sheet: ----

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

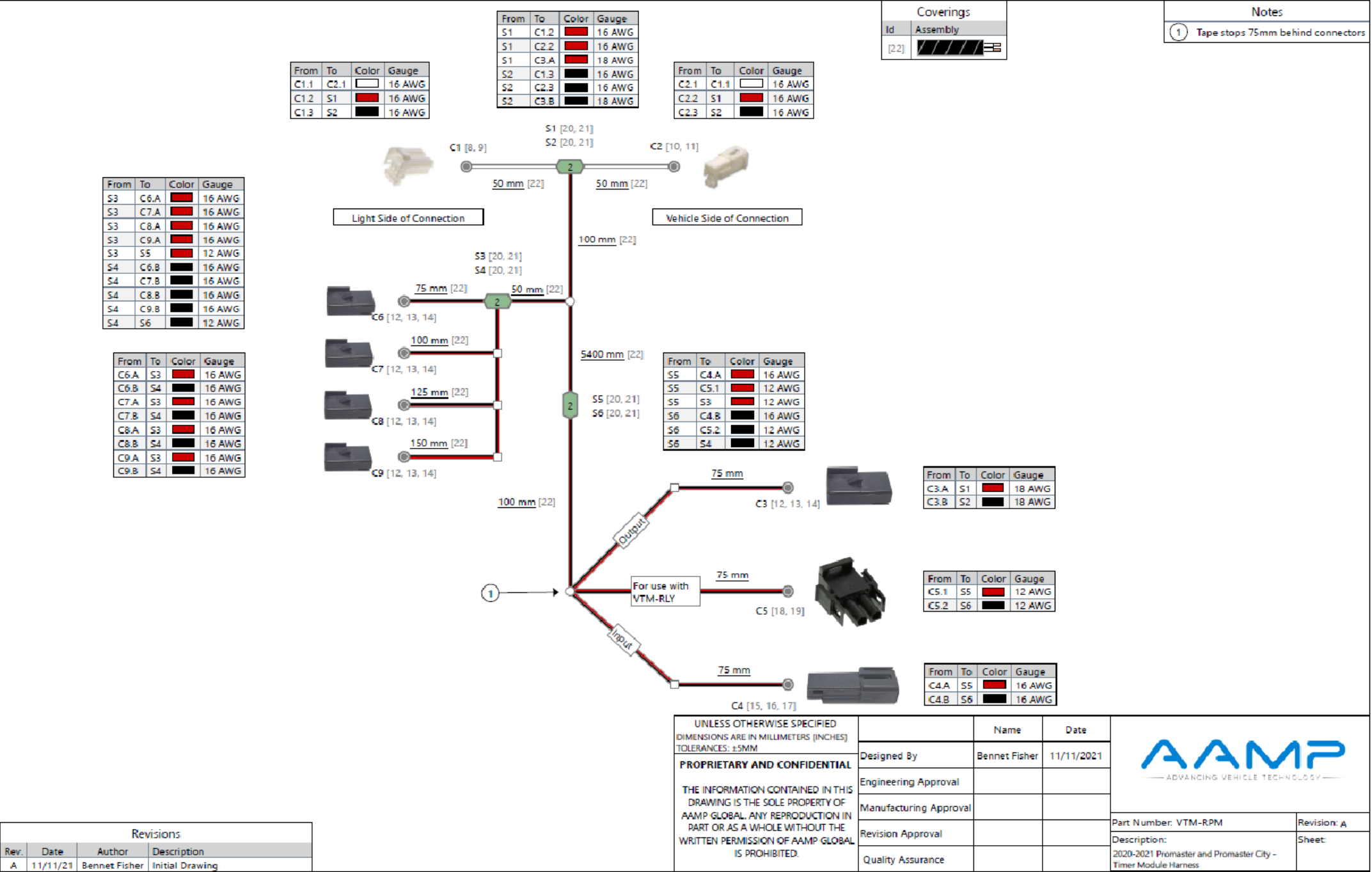


Revisions			
Rev.	Date	Author	Description
1	6/10/21	Bennet Fisher	Initial Drawing

<div>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM</div> <div>PROPRIETARY AND CONFIDENTIAL</div> <div>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.</div>		Name	Date	<div> — ADVANCING VEHICLE TECHNOLOGY —</div>	
	Designed By	Bennet Fisher	6/10/2021		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: VTM-SW3	
	Quality Assurance			Description: 7.85 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



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: 25377 CURRENT ECN: 27060 ECN DESCRIPTION: PPDS Change: Manuf# and Description REVISED BY: MLH
FEATURES 0.0 = ± .125 0.00 = ± .062 0.000 = ± .031 Material Thickness: per ASTM Std. Weld Callouts per AWS	
HOLES/SLOTS 0.0 = ± .062 0.00 = ± .031 0.000 = ± .015	
ANGLES 0° = ± 2° 0.0° = ± 1°	

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER AAMP GLOBAL REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER VTM-RPM 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			
MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE	REVISION LEVEL A
DESCRIPTION: HARN, POWER VTM-RPM			
WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE	PART NUMBER: 65796	

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		PART / PRODUCT IDENTIFICATION			
UNLESS OTHERWISE SPECIFIED		<div><div><div>AS</div><div>ADRIAN STEEL®</div></div><div>ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221</div></div>		REVISION LEVEL <div>A</div>	
ALL BEND ANGLES ARE 90 DEGREES					
ALL DIMENSIONS ARE IN INCHES.		MAT'L USED: PURCHASED		DESIGNED BY: EMB	
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION		DESCRIPTION: WIRE TERM 1/4"RING 14-16G			
FEATURES		WEIGHT (Lbs.): 0.01		PART NUMBER: 69511	
HOLES/SLOTS		SEGMENT CODE: ELE			
ANGLES					
0.0 = ± .125					
0.00 = ± .062					
0.000 = ± .031					
0.0 = ± .062					
0.00 = ± .031					
0.0° = ± 2°					
0.0° = ± 1°					
Material Thickness: per ASTM Std. Weld Callouts per AWS					
RELEASE & REVISIONS		PURCHASED COMPONENT			
INITIAL ECN: 25975		REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK			
CURRENT ECN: 25975		REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 37393			
ECN DESCRIPTION:		COLOR (ONLY LIST IF COLOR SPECIFIC) BLUE			
RELEASE TO 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: N/A					

<div>PURCHASED COMPONENT KEY FEATURES</div>	
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 MINI STYLE	



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TOLERANCES & INSPECTION			PART / PRODUCT IDENTIFICATION					
UNLESS OTHERWISE SPECIFIED			<div><div><div><div>AS</div></div></div><div><div>ADRIAN STEEL®</div><div>ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221</div></div></div>				REVISION LEVEL	
ALL BEND ANGLES ARE 90 DEGREES							A	
ALL DIMENSIONS ARE IN INCHES.								
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION			MAT'L USED:		DESIGNED BY: E.Burke			
FEATURES			DESCRIPTION: FUSE,MINI 7.5 AMP					
HOLES/SLOTS			WEIGHT (Lbs.): .10		SEGMENT CODE: ELE			
ANGLES			PART NUMBER: 69879					
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: 26016			REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK					
CURRENT ECN: 26016			REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 46254					
ECN DESCRIPTION:			COLOR (ONLY LIST IF COLOR SPECIFIC)					
RELEASE TO PRODUCTION.			COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) YES					
REVISED BY: N/A								