



## 2 LED Light Plug & Play Kit w/ Switches

CATALOG NUMBER  
**69633**



**Plug and play LED Module Light Installed**

### PRODUCT FEATURES

#### *Plug and Play 2 LED Dome Lights Kit with Switches*

- This kit includes two (2) module LED dome lights, voltage timer module, power harnesses, and various fasteners.
- This kit is ideal for the Chevrolet Express.
- There are no OEM options that this product requires. There are no OEM options that are not compatible with this product.
- This kit provides LED lighting to the cargo area of the vehicle.

**Model Year Validated:**  
**2023**

## Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For GM Express

### **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.

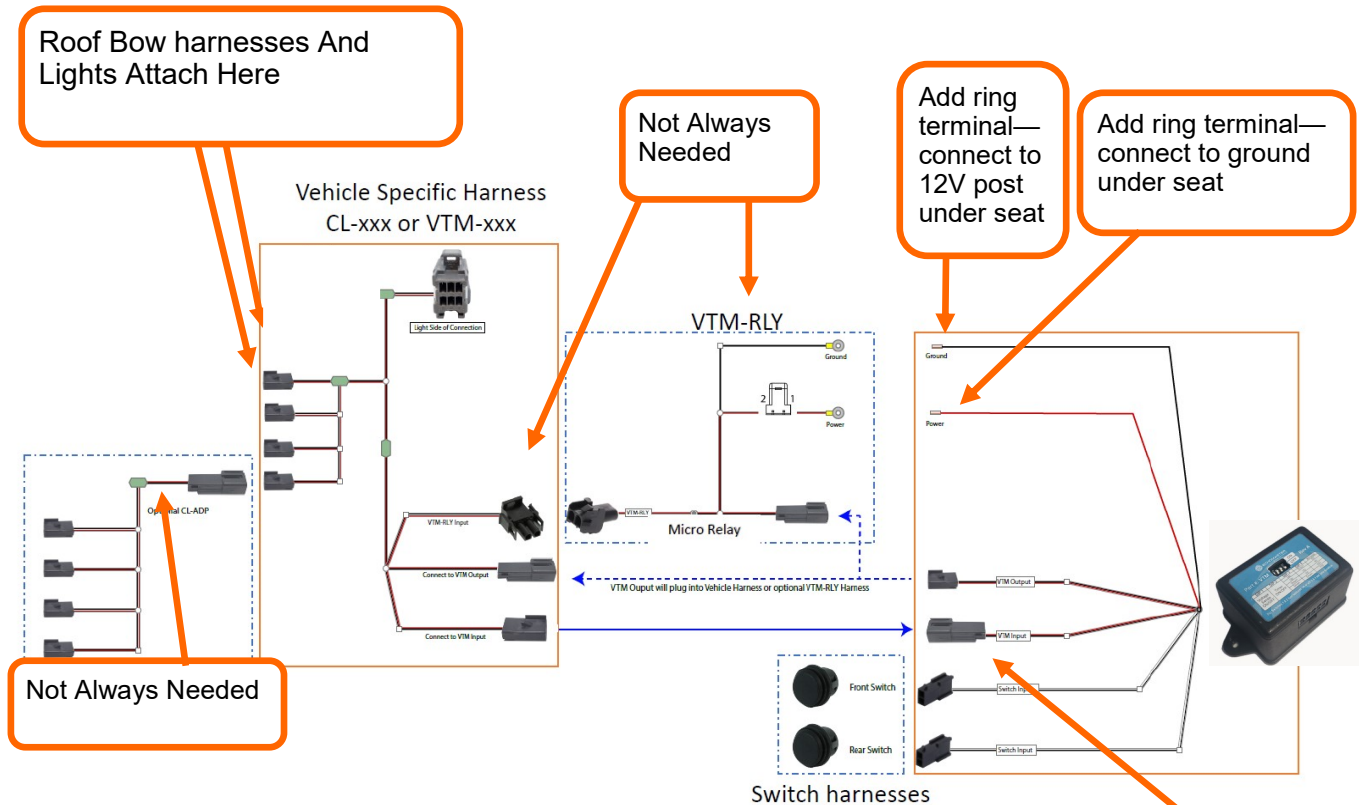


## Installation Instructions For Interior Plug And Play Lights For GM Express

**\*\*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 65792. 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

7/16 Socket and/or wrench

Power drill, 3/8" step drill bit, Philips head bit (if installing dome lights)



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

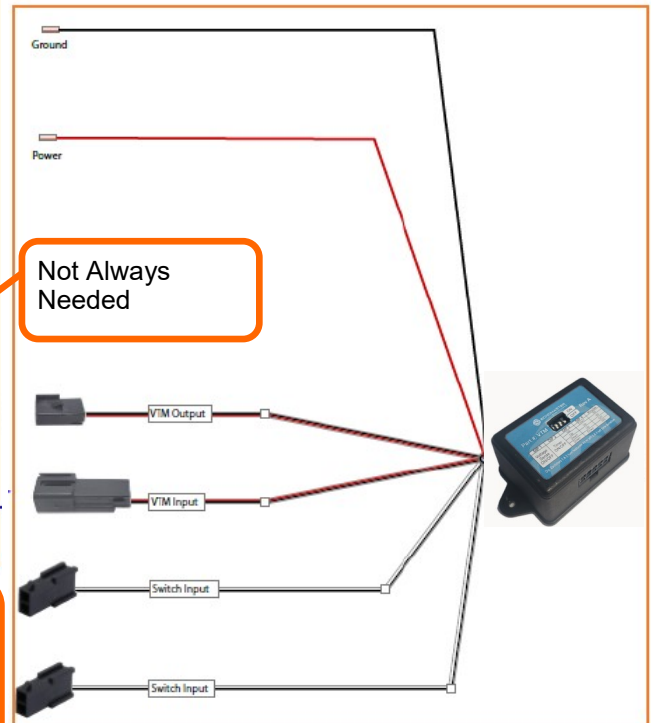
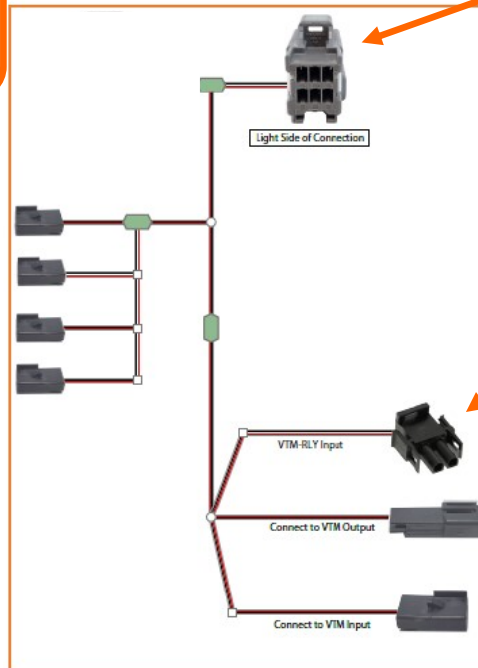
## Specific Harness Diagram



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

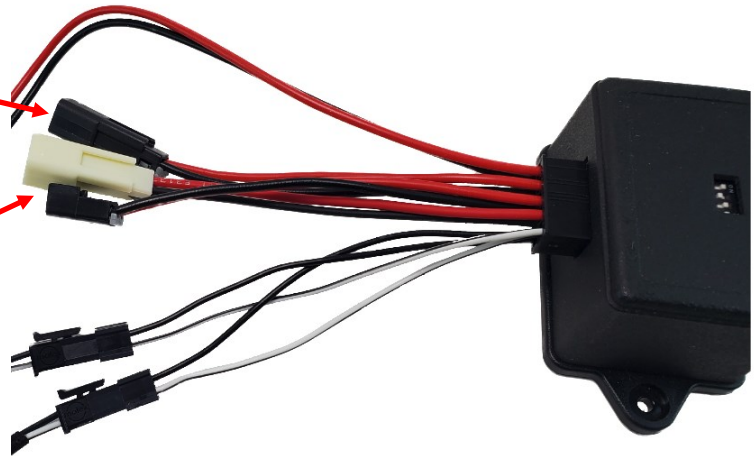
OEM Light Connector located on the OEM light: Remove the OEM  
light



## Voltage Timer Module (VTM) Harness Reference

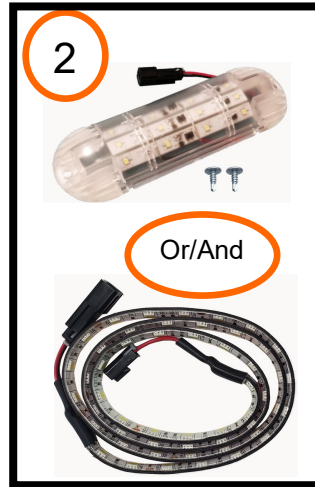
For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

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

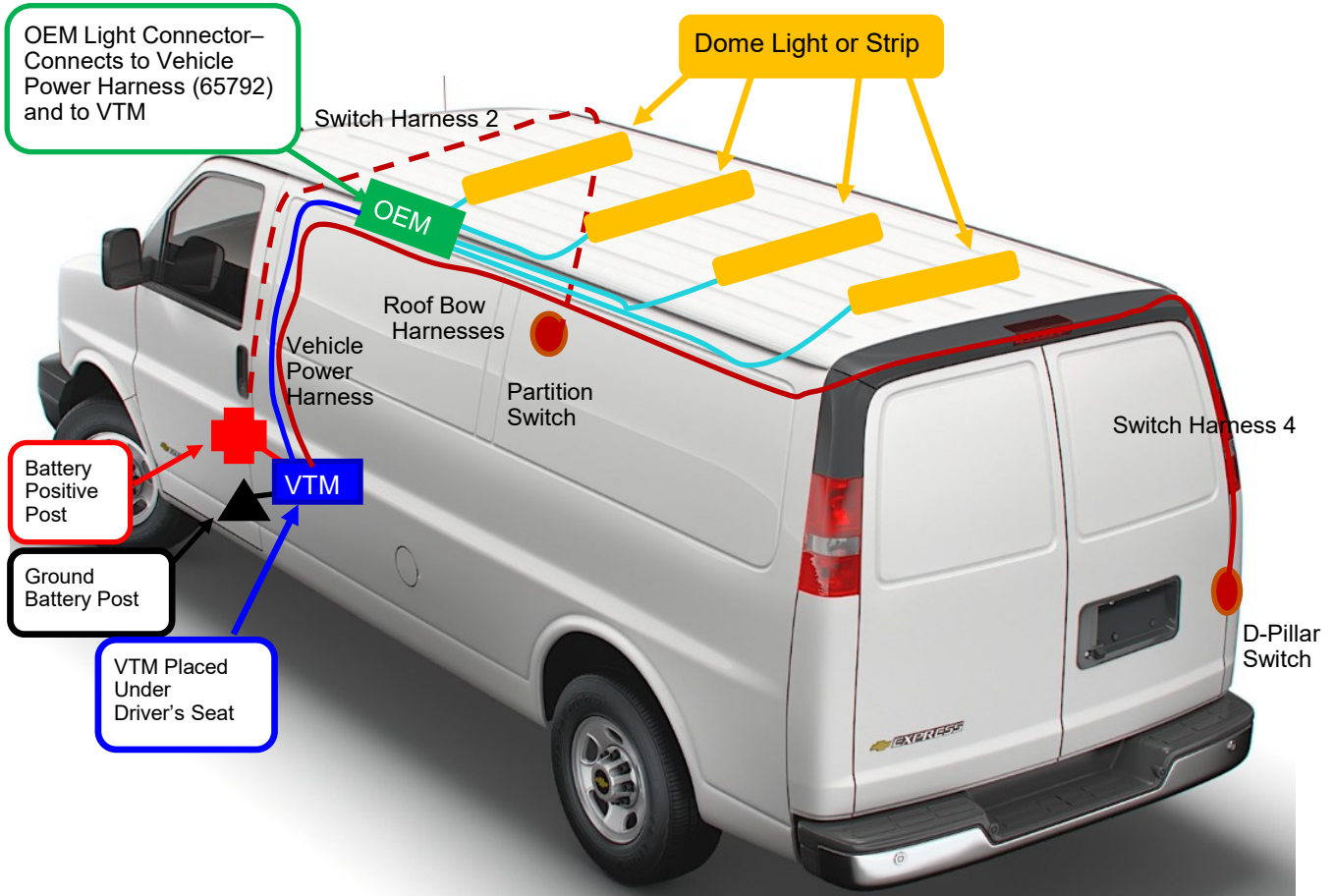


### Harnesses Needed

|   | Part Number                             | Description                        |
|---|-----------------------------------------|------------------------------------|
| 1 | 65786                                   | Voltage Timer Module (VTM)         |
| 2 | 63480 Or/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 | 65792                                   | Power Harness                      |
| 5 | 65787 Or/And 65788, 65789, 65790        | Switch Harness 1 through 4 for VTM |



Harness pictures are for reference only.



| 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             |

**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.**

## Optional Required Harnesses:

64244: This adapter harness allows for extra extensions to be added (if needed).



Be sure not to overload the OEM circuit by putting too many lights on the circuit. Consult ASCO Electrical Engineering team for application advice if using more than 4 lights.

Add Relay Harness 65791 for extra amperage. (Not always needed)

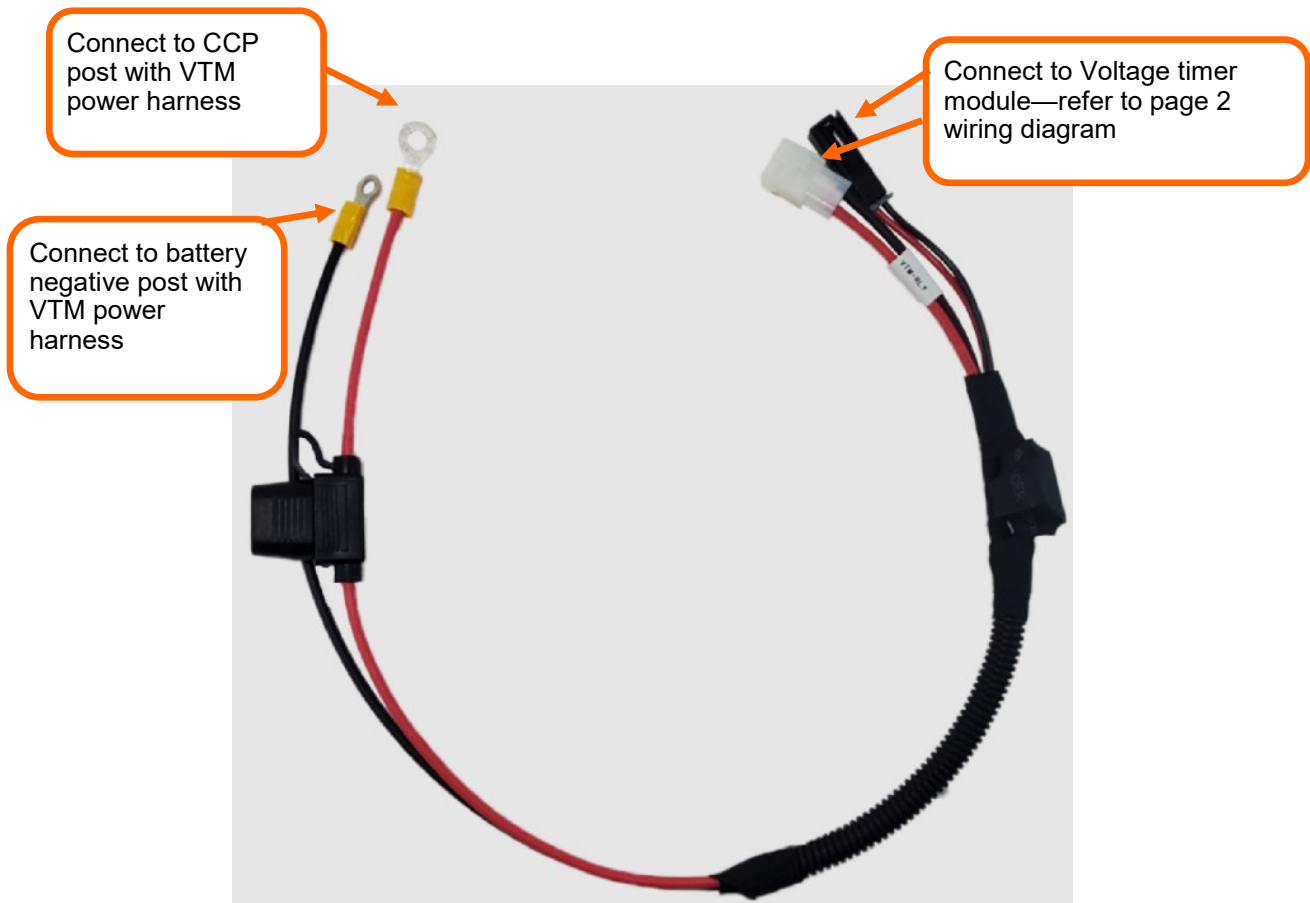


Figure 7.1



Figure 7.2



Figure 7.3



### Pre Work for install:

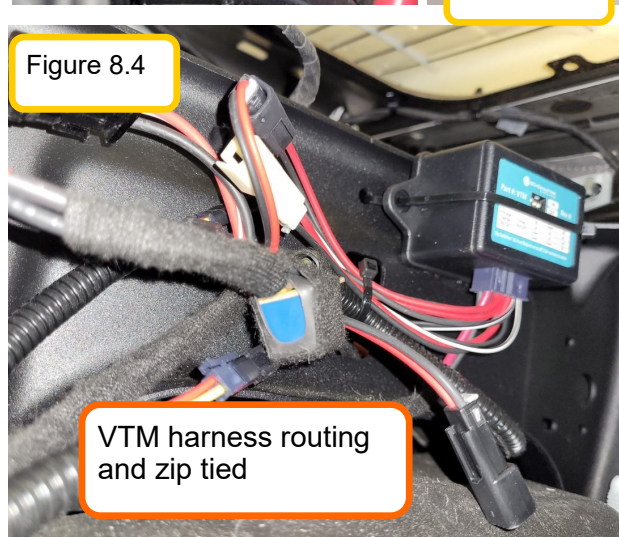
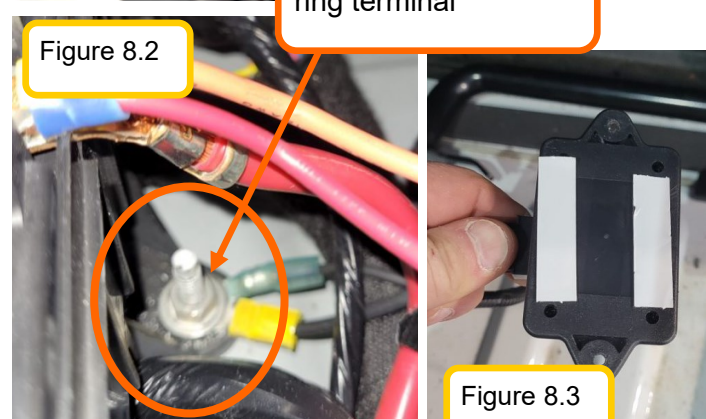
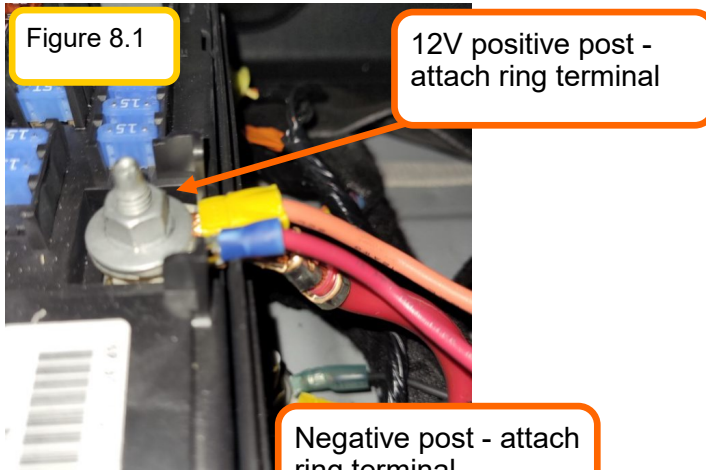
Disconnect the OEM cargo lights from the OEM harnesses by unclipping the connectors. See figure 7.1.

Do this for all the cargo roof lights.

Remove all the interior lights from the roof bows. Figure 7.2.

Unclip all the OW roof bow harnesses from the roof bow, and reposition them back into the OEM harness bundle in the roof channel.

Be sure to keep the first roof bow harness handy for the install on page 9. You can locate this harness end next to the first roof bow split. See figure 7.3 for location.



### Step 1:

Locate the VTM harness #65786

Attach the two 3/8" ring terminals to the red wire and the black wire.

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

Plug the harness connector into the voltage timer module port

**Step 2:** Locate the fuse box under the driver's seat.

Attach the positive (red) wire to the 12V positive post. Secure with the OEM nut. See Figure 8.1.

Attach the ground ring terminal (black) to the negative post on the bottom of the fuse block. Secure with the OEM nut. See Figure 8.2.

### Step 3:

**\*\*\*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 of time other than 90 minutes, use the dip switches to set the time.

Apply the VHB tape to the back of the VTM (voltage timer module). See figure 8.3.

Stick the VTM to the back of the seat base and secure with a zip tie. See figure 8.4.

Plug the switch harnesses (65788 & 65790) into the VTM harness. See pages 2 & 3 for reference.

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

VTM Dip Switch  
Settings

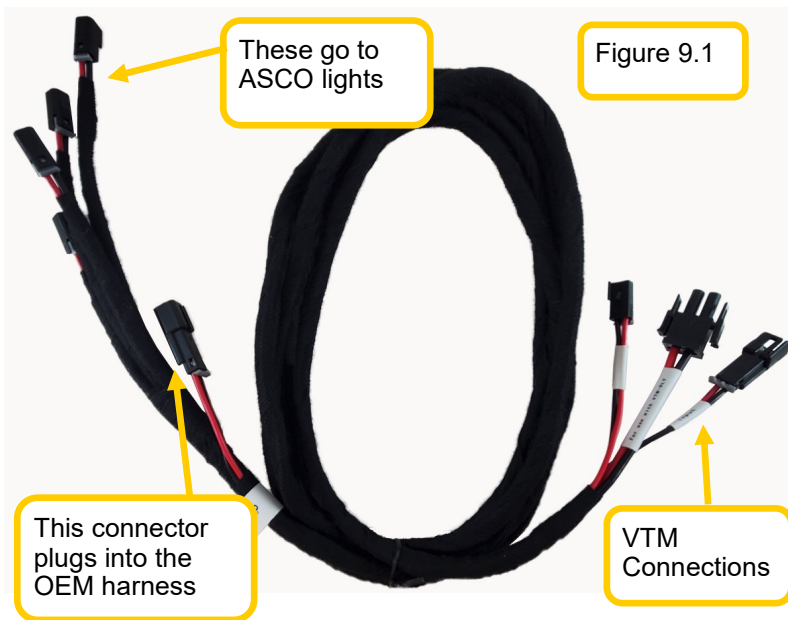


Figure 9.1

**Step 4:**

Locate the OEM first roof bow harness end that you saved for this part of the install.

Plug the vehicle specific power harness (65792) into the OEM connector:  
Figure 9.1 and 9.2.

Route the power harness down the partition to the VTM module, and plug it in. Be sure to use the black colored VTM input connector referenced on page 4. The white connector will NOT be used for this install.



Figure 9.2

**Step 5:**

Connect the roof bow harnesses (63481 Or/And 63842, 63483, 63484 all that are applicable) to the power harness (ends located in the OEM harness channel) and route them to their desired light locations. (Light locations on the roof bows).  
Figure 9.3.

Use zip ties/fir trees to secure all wiring. See figures 9.4 and 9.5.



Figure 9.3



Figure 9.4



Figure 9.5



Figure 10.1

**Step 6:**

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.

Dome lights are to be placed as close to the center of the roof bow as possible. Figure 10.1 and 10.2.

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.

Strip lights are to be placed centered between the channel/valley of the bow. You will see that these lights fit almost perfectly in the channel. Figure 10.3



Figure 10.2



Figure 10.3

Figure 11.1



## Partition Switch

### Locations:

Switch hole in steel partition behind the passenger's seat (figure 11.1) or drill out switch hole in composite partition (figure 11.2).

This location will require harness #65788

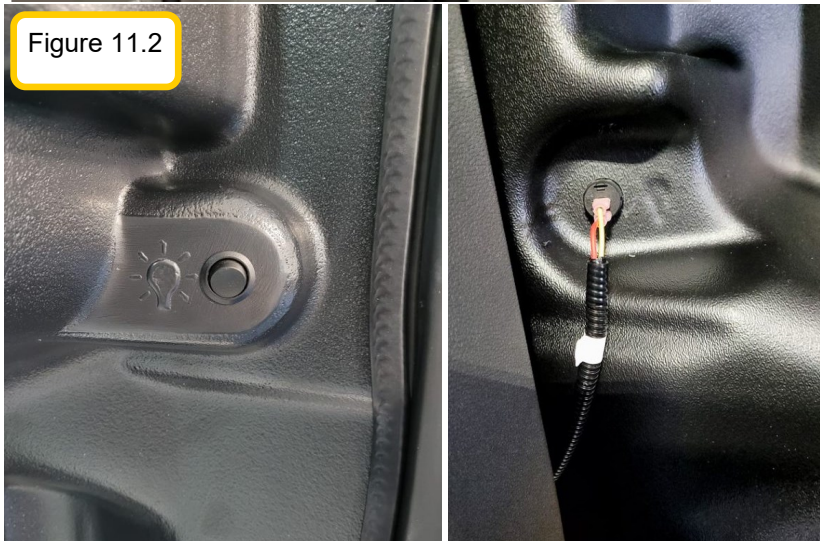
### Rear Switch Location:

Passenger side rear D-pillar.

Drill out the horizontal slit in the D-pillar, to fit the switch.

See figure 11.3 below for reference.

Figure 11.2



This location will require harness #65790

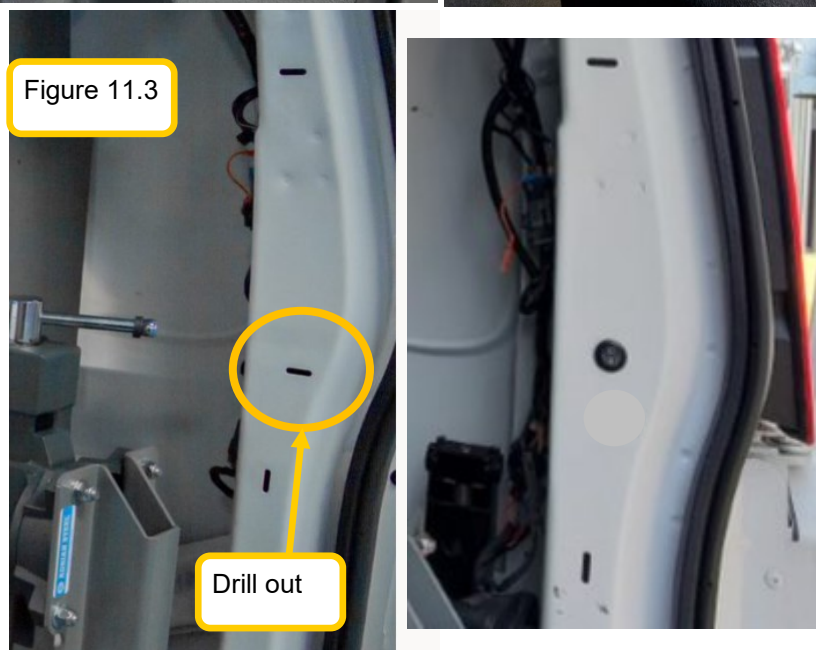
### Step 7:

Route the 65788 harness from the VTM harness location (above the drivers seat in the headliner - see routing diagram for reference) to the partition switch location.

Do the same with harness 65790 to the D-pillar switch location.

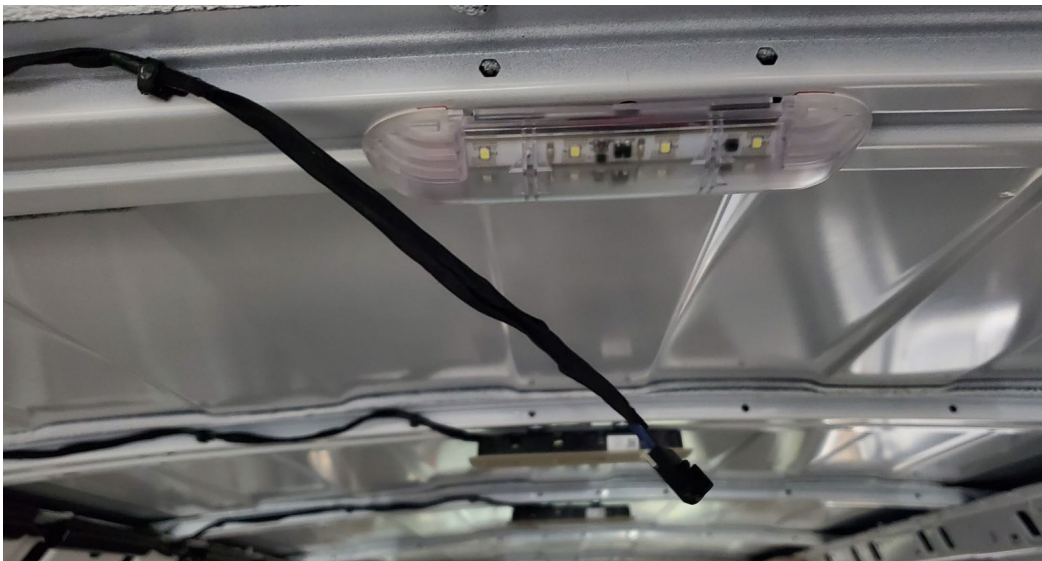
Use Zip ties to secure wiring.

Figure 11.3



Drill needed holes for the switches in rear D pillar 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).



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)

**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

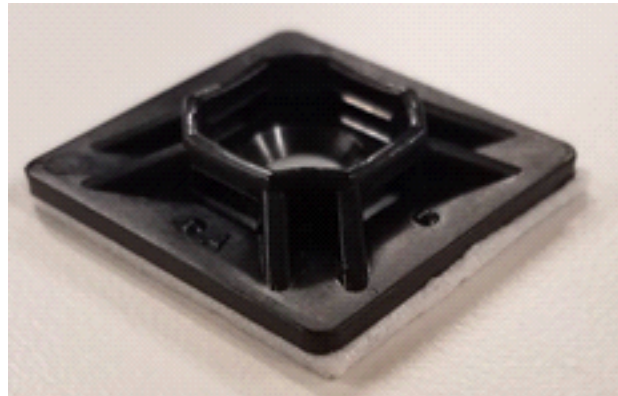
Temp. F:

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**

PRINTED DOCUMENT IS UNCONTROLLED

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.):

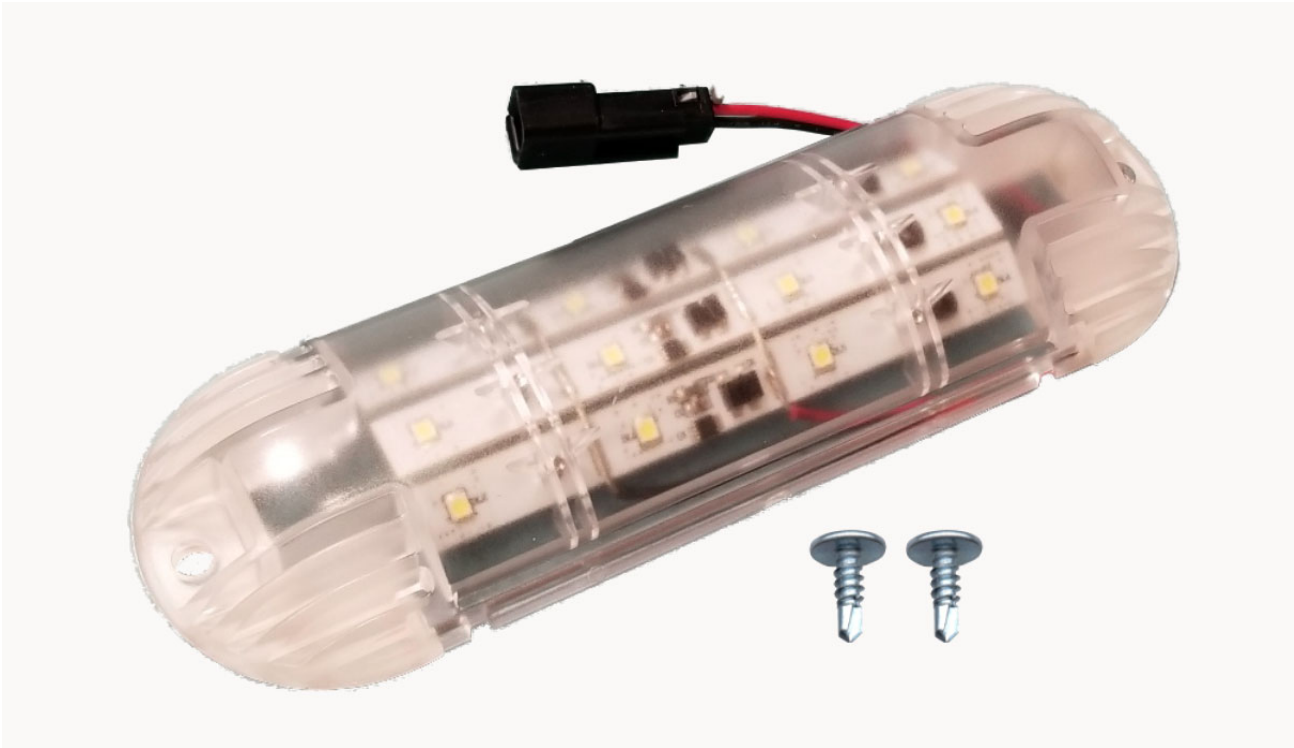
**0.05**

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                                 |
| (1) LED LIGHT WITH 12 LED<br>GROUPED IN THREE ROWS |
| (2) TEK SCREWS INCLUDED                            |



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TOLERANCES & INSPECTION

|                                                            |                |             |
|------------------------------------------------------------|----------------|-------------|
| UNLESS OTHERWISE SPECIFIED                                 |                |             |
| ALL BEND ANGLES ARE 90 DEGREES                             |                |             |
| ALL DIMENSIONS ARE IN INCHES.                              |                |             |
| REFERENCE DIMENSIONS (X.XXX)<br>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.<br>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)<br>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) |

PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

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

REVISION LEVEL  
**B**

# 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

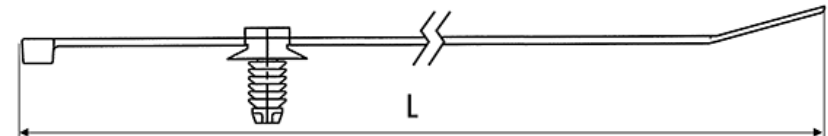
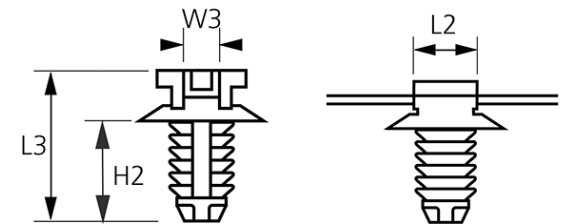
OTHER REQUIREMENTS

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



**P-HARRB2**

**(5x)**



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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: 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**

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: **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

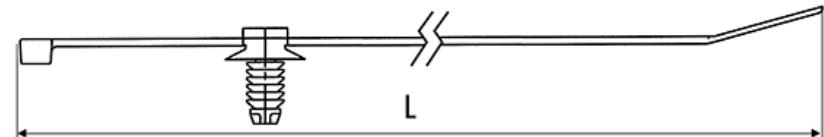
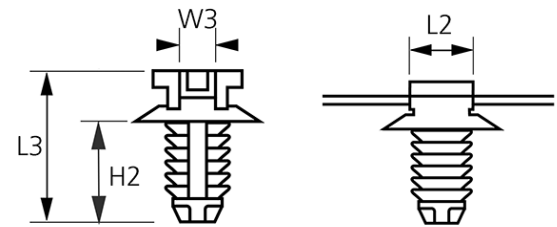
OTHER REQUIREMENTS

- **Roof Bow #3**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **2570mm Length**



**P-HARRB3**

**(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-HARRB3**

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 #3**

WEIGHT  
(Lbs.):

**.50**

SEGMENT  
CODE: **EAU**

PART NUMBER: **63483**

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

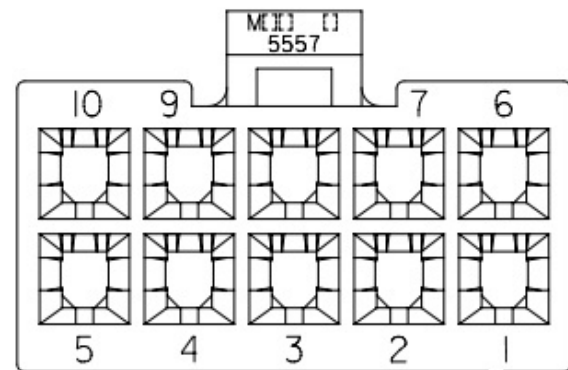
|                                                            |                |             |
|------------------------------------------------------------|----------------|-------------|
| UNLESS OTHERWISE SPECIFIED                                 |                |             |
| ALL BEND ANGLES ARE 90 DEGREES                             |                |             |
| ALL DIMENSIONS ARE IN INCHES.                              |                |             |
| REFERENCE DIMENSIONS (X.XXX)<br>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.<br>Weld Callouts per AWS |                |             |

RELEASE & REVISIONS

|                        |
|------------------------|
| INITIAL ECN: 25377     |
| CURRENT ECN: 25377     |
| ECN DESCRIPTION:       |
| RELEASE FOR PRODUCTION |
| REVISED BY:            |

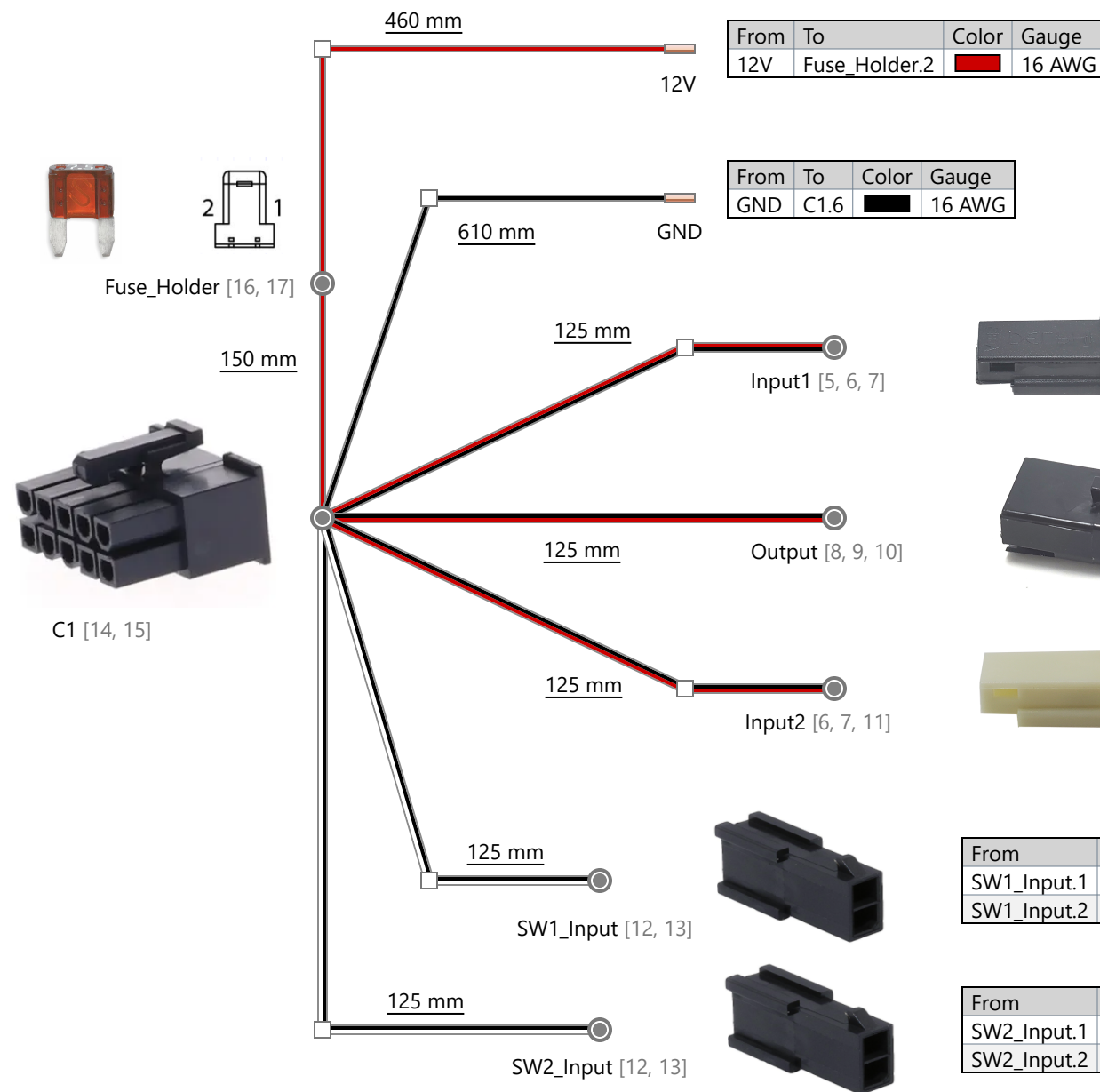
| PURCHASED<br>COMPONENT                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|
| REFERENCED SUPPLIER AND/OR 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)<br>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) |
| NO                                                                                                                                  |

| PRINTED DOCUMENT IS UNCONTROLLED                                                      |                      |               | Sheet 1 of 1                                               |
|---------------------------------------------------------------------------------------|----------------------|---------------|------------------------------------------------------------|
| PART / PRODUCT IDENTIFICATION                                                         |                      |               |                                                            |
|  | <b>ADRIAN STEEL®</b> |               | ADRIAN STEEL COMPANY<br>906 JAMES STREET, ADRIAN, MI 49221 |
|                                                                                       | DESIGNED BY: E.BURKE |               | REVISION LEVEL<br><b>A</b>                                 |
| MAT'L USED:                                                                           | PURCHASED            |               |                                                            |
| 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;<br>Corrected contacts for C1.4, C1.5, C1.9, and C1.10 |

|                                                                                                                                                                                                                                                                                                                               |                        |               |         |                                                                                                                                                                                                |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN MILLIMETERS (INCHES)<br>TOLERANCES: ±5MM<br><br><b>PROPRIETARY AND CONFIDENTIAL</b><br><br>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    | <br>Part Number: P-VTM-HAR_<br>Revision: ----<br>Description:<br>Timer Module Harness<br>Sheet:<br>1 of 1 |  |
|                                                                                                                                                                                                                                                                                                                               | 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<br>UP/DOWN | DIP SWITCH 2<br>UP/DOWN | DIP SWITCH 3 | DIP SWITCH 4 | Timer Duration<br>(Minutes) |
|-------------------------|-------------------------|--------------|--------------|-----------------------------|
| Voltage Sense<br>ON/OFF | Timer<br>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.

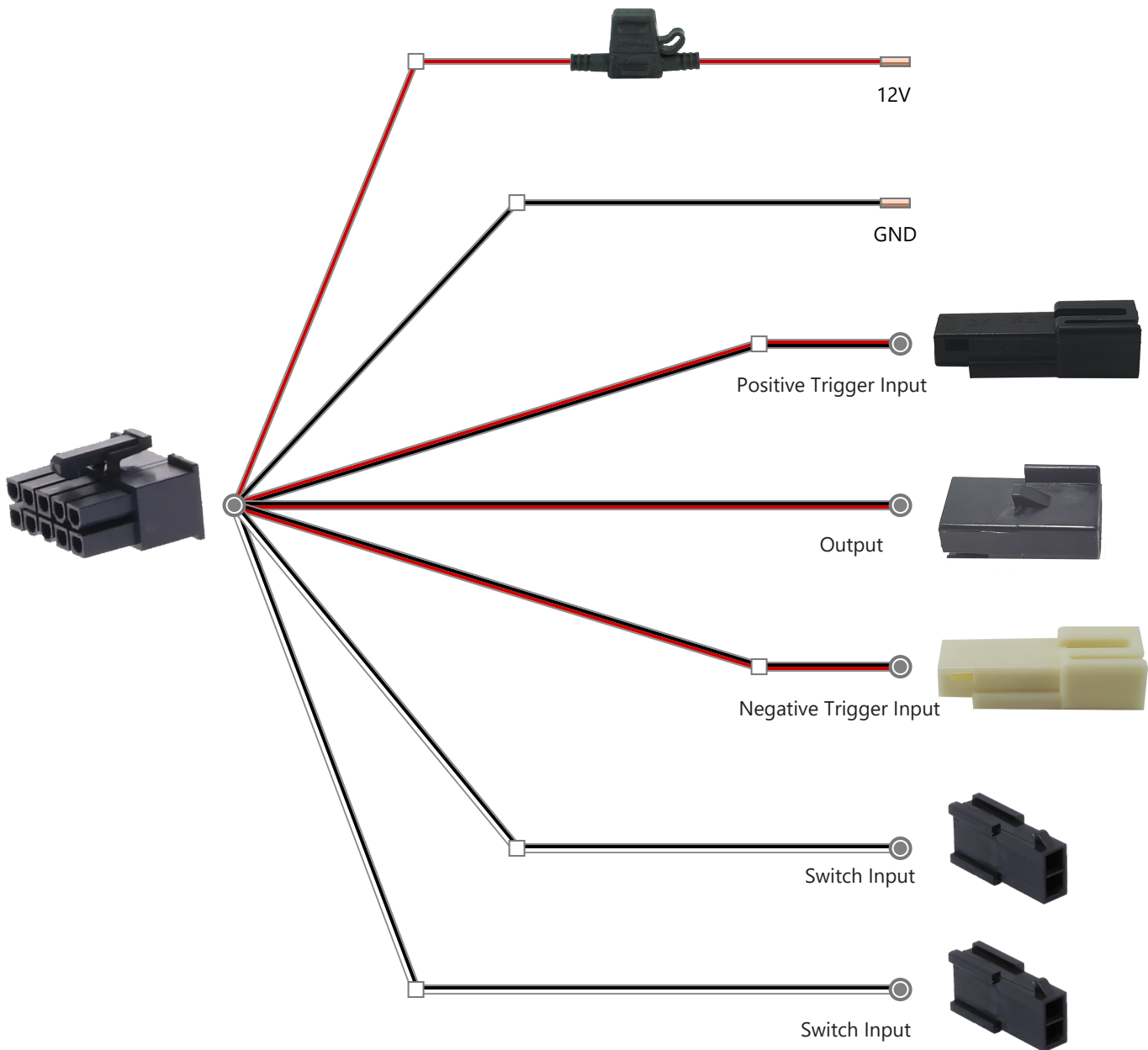
| Trigger Input | Switch Input           | Output | Voltage Sense (ON)       | Timer (ON)   |
|---------------|------------------------|--------|--------------------------|--------------|
| Active        | N/A                    | ON     | N/A                      | N/A          |
| Deactivated   | N/A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

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



## WIRING DIAGRAMS:

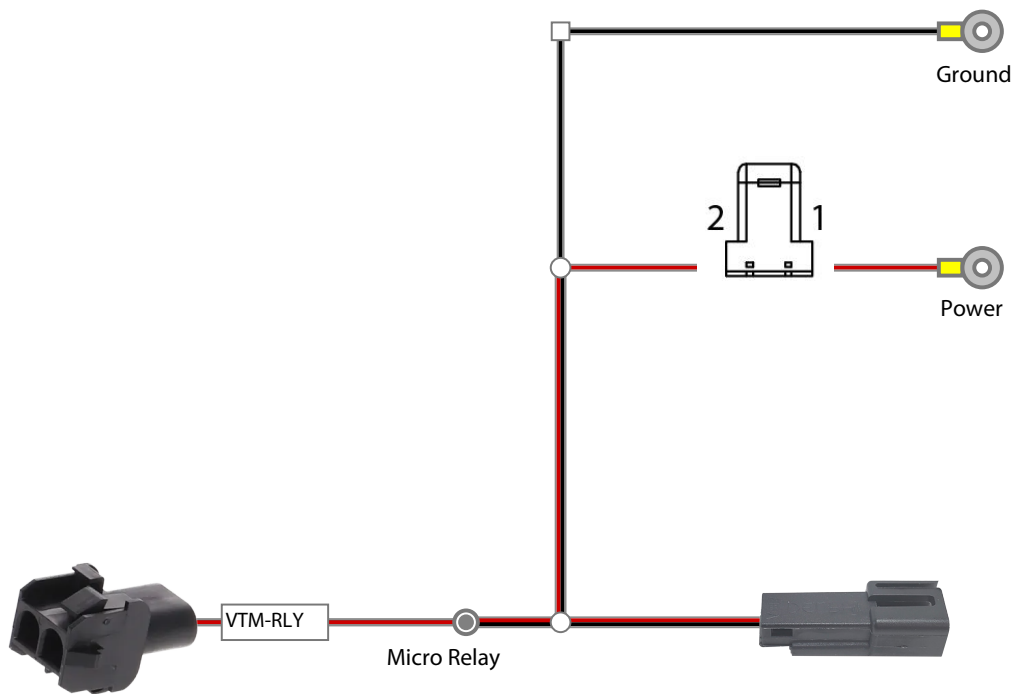
### VTM Harness



.....

## 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](mailto:support@echomasterfleetsolutions.com)



**EchoMaster Fleet Solutions is a Power Brand of AAMP Global**

[EchoMasterfleetsolutions.com](http://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                             |  |

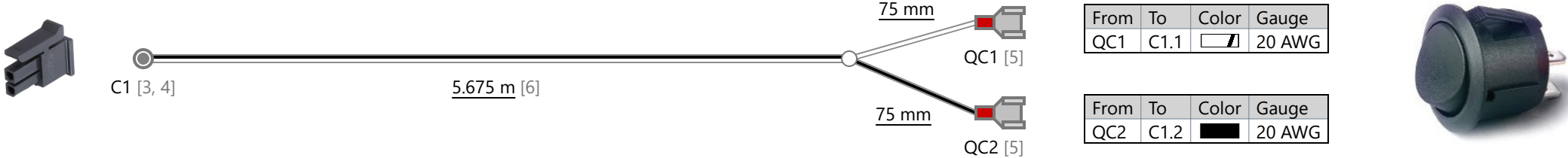


|                                                                                                                                                  |                |                                                                                                                                           |  |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|----------------|
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| TOLERANCES & INSPECTION                                                                                                                          |                | PART / PRODUCT IDENTIFICATION                                                                                                             |  |                |
| UNLESS OTHERWISE SPECIFIED                                                                                                                       |                | <div><div><div>AS</div><div>ADRIAN STEEL®</div></div><div>ADRIAN STEEL COMPANY<br/>906 JAMES STREET, ADRIAN, MI 49221</div></div>         |  | REVISION LEVEL |
| ALL BEND ANGLES ARE 90 DEGREES                                                                                                                   |                |                                                                                                                                           |  | A              |
| ALL DIMENSIONS ARE IN INCHES.                                                                                                                    |                |                                                                                                                                           |  |                |
| REFERENCE DIMENSIONS (X.XXX)<br>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.<br>Weld Callouts per AWS                                                                                       |                |                                                                                                                                           |  |                |
| RELEASE & REVISIONS                                                                                                                              |                | PURCHASED COMPONENT                                                                                                                       |  |                |
| INITIAL ECN: 25377                                                                                                                               |                | REFERENCED SUPPLIER AND/OR MANUFACTURER<br>AAMP GLOBAL                                                                                    |  |                |
| CURRENT ECN: 25377                                                                                                                               |                | REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER<br>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)<br>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)<br>NO |  |                |
| REVISED BY:                                                                                                                                      |                | NO                                                                                                                                        |  |                |
|                                                                                                                                                  |                | NO                                                                                                                                        |  |                |

|                          |  |                                                            |  |
|--------------------------|--|------------------------------------------------------------|--|
| ADRIAN STEEL®            |  | ADRIAN STEEL COMPANY<br>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 |

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

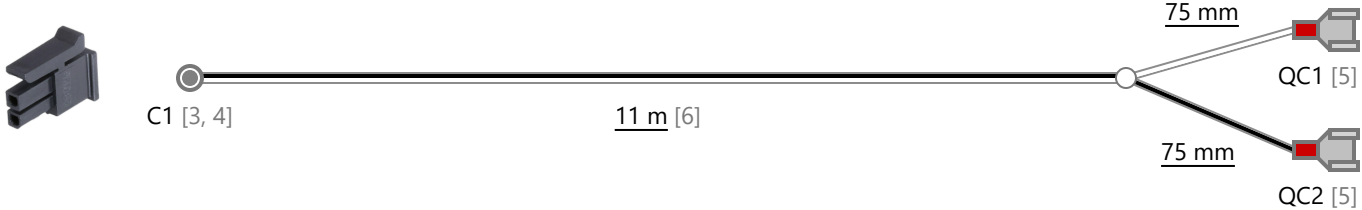
| PURCHASED COMPONENT KEY FEATURES               |  |
|------------------------------------------------|--|
| DESCRIPTION OF REQUIREMENTS                    |  |
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) |  |
| N/A                                            |  |
| LOAD/RATING REQUIREMENT     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



|                                                                                                                                                  |  |                                                                                                                                           |                    |              |                                |                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|--------------------------------|--------------------|
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| TOLERANCES & INSPECTION                                                                                                                          |  | PART / PRODUCT IDENTIFICATION                                                                                                             |                    |              |                                |                    |
| UNLESS OTHERWISE SPECIFIED                                                                                                                       |  | <div><div><div>AS</div><div>ADRIAN STEEL®</div></div><div>ADRIAN STEEL COMPANY<br/>906 JAMES STREET, ADRIAN, MI 49221</div></div>         |                    |              | REVISION LEVEL<br><div>A</div> |                    |
| ALL BEND ANGLES ARE 90 DEGREES                                                                                                                   |  |                                                                                                                                           |                    |              |                                |                    |
| ALL DIMENSIONS ARE IN INCHES.                                                                                                                    |  | DESIGNED BY: E.BURKE                                                                                                                      |                    |              |                                |                    |
| REFERENCE DIMENSIONS (X.XXX)<br>DO NOT REQUIRE INSPECTION                                                                                        |  | DESCRIPTION: SWITCH 4 HARNESS FOR VTM                                                                                                     |                    |              |                                |                    |
| FEATURES                                                                                                                                         |  | MAT'L USED: PURCHASED                                                                                                                     | WEIGHT (Lbs.): 0.2 |              | SEGMENT CODE: ELE              | PART NUMBER: 65790 |
| HOLES/SLOTS                                                                                                                                      |  |                                                                                                                                           |                    |              |                                |                    |
| ANGLES                                                                                                                                           |  |                                                                                                                                           |                    |              |                                |                    |
| 0.0 = ± .125                                                                                                                                     |  |                                                                                                                                           |                    |              |                                |                    |
| 0.00 = ± .062                                                                                                                                    |  |                                                                                                                                           |                    |              |                                |                    |
| 0.000 = ± .031                                                                                                                                   |  |                                                                                                                                           |                    |              |                                |                    |
| 0.0 = ± .062                                                                                                                                     |  |                                                                                                                                           |                    |              |                                |                    |
| 0.00 = ± .031                                                                                                                                    |  |                                                                                                                                           |                    |              |                                |                    |
| 0.000 = ± .015                                                                                                                                   |  |                                                                                                                                           |                    |              |                                |                    |
| Material Thickness: per ASTM Std.<br>Weld Callouts per AWS                                                                                       |  |                                                                                                                                           |                    |              |                                |                    |
| RELEASE & REVISIONS                                                                                                                              |  | PURCHASED COMPONENT                                                                                                                       |                    |              |                                |                    |
| INITIAL ECN: 25377                                                                                                                               |  | REFERENCE SUPPLIER AND/OR MANUFACTURER<br>AAMP GLOBAL                                                                                     |                    |              |                                |                    |
| CURRENT ECN: 25377                                                                                                                               |  | REFERENCE SUPPLIER AND/OR MANUFACTURER PART NUMBER<br>VTM-SW4 OR 65790                                                                    |                    |              |                                |                    |
| ECN DESCRIPTION:<br>RELEASE FOR PRODUCTION                                                                                                       |  | COLOR (ONLY LIST IF COLOR SPECIFIC)<br>NO                                                                                                 |                    |              |                                |                    |
| REVISED BY:                                                                                                                                      |  | COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)<br>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)<br>NO |                    |              |                                |                    |

| 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 |

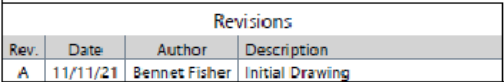
| From | To   | Color                                                                                | Gauge  |
|------|------|--------------------------------------------------------------------------------------|--------|
| QC2  | C1.2 |  | 20 AWG |



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

|                                                                                                                                                                                                                                                                                                                                                                 |                        |               |           |                                                                                                                                       |  |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------|--|----------------|
| <div>UNLESS OTHERWISE SPECIFIED<br/>DIMENSIONS ARE IN MILLIMETERS [INCHES]<br/>TOLERANCES: ±5MM</div> <div>PROPRIETARY AND CONFIDENTIAL</div> <div>THE INFORMATION CONTAINED IN THIS<br/>DRAWING IS THE SOLE PROPERTY OF<br/>AAMP GLOBAL. ANY REPRODUCTION IN<br/>PART OR AS A WHOLE WITHOUT THE<br/>WRITTEN PERMISSION OF AAMP GLOBAL<br/>IS PROHIBITED.</div> |                        | Name          | Date      | <div><br/>— ADVANCING VEHICLE TECHNOLOGY —</div> |  |                |
|                                                                                                                                                                                                                                                                                                                                                                 | Designed By            | Bennet Fisher | 6/10/2021 |                                                                                                                                       |  |                |
|                                                                                                                                                                                                                                                                                                                                                                 | Engineering Approval   |               |           |                                                                                                                                       |  |                |
|                                                                                                                                                                                                                                                                                                                                                                 | Manufacturing Approval |               |           |                                                                                                                                       |  |                |
|                                                                                                                                                                                                                                                                                                                                                                 | Revision Approval      |               |           | Part Number: VTM-SW4                                                                                                                  |  | Revision: 1    |
|                                                                                                                                                                                                                                                                                                                                                                 | Quality Assurance      |               |           | Description:<br>11 Meter Switch Harness                                                                                               |  | Sheet:<br>---- |

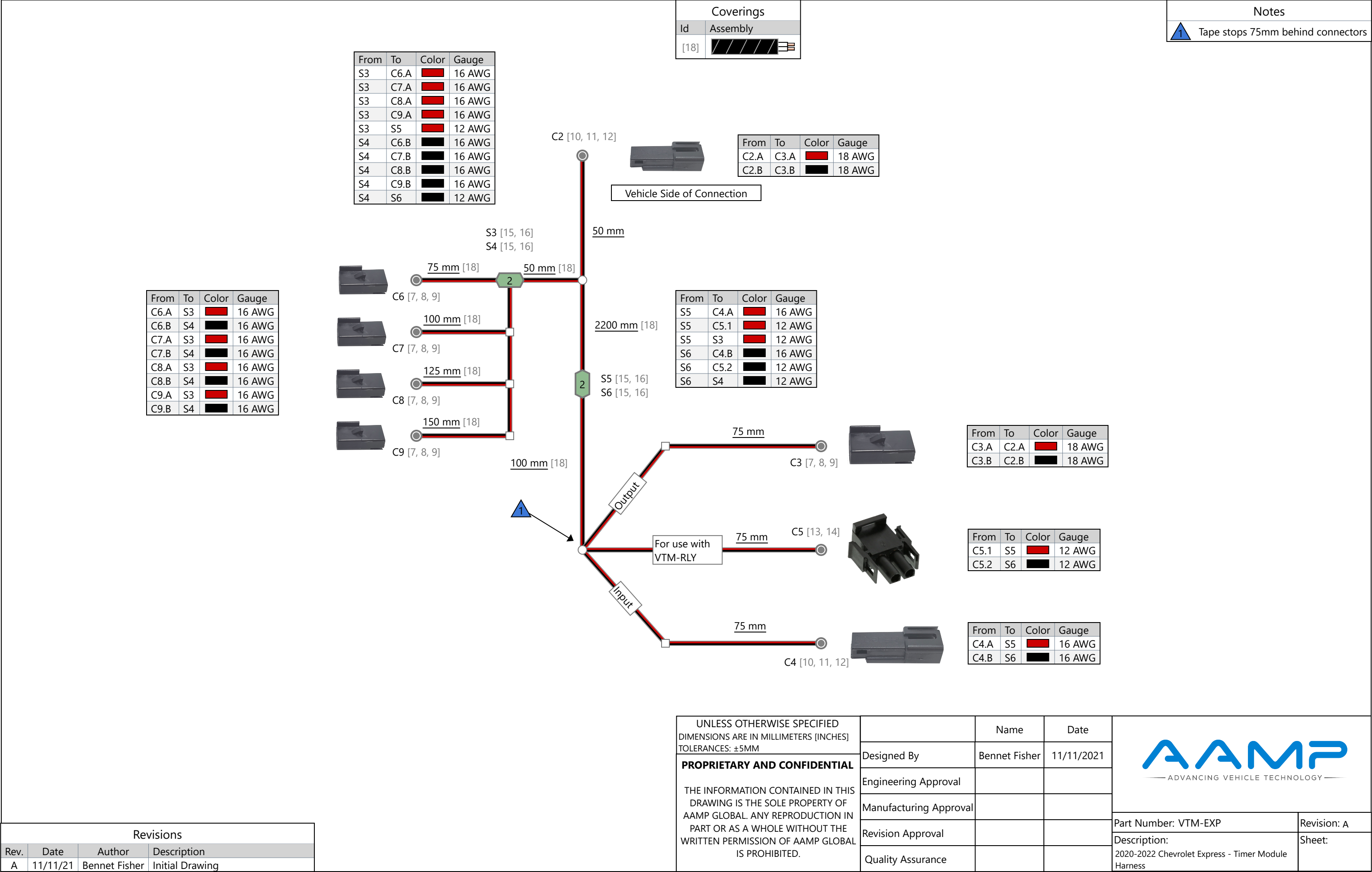
| PURCHASED<br>COMPONENT<br>KEY FEATURES         |     |
|------------------------------------------------|-----|
| DESCRIPTION OF REQUIREMENTS                    |     |
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) | N/A |
| LOAD/RATING REQUIREMENT                        | N/A |
| MATERIAL REQUIREMENT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



| TOLERANCES & INSPECTION           |                |             |
|-----------------------------------|----------------|-------------|
| <i>UNLESS OTHERWISE SPECIFIED</i> |                |             |
| 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             |                |             |

|                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>PURCHASED<br/>COMPONENT</div>                                                                                                                          |
| <div>REFERENCED SUPPLIER AND/OR MANUFACTURER<br/>AAMP GLOBAL</div>                                                                                          |
| <div>REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER<br/>VTM-EXP OR 65792</div>                                                                         |
| <div>COLOR (ONLY LIST IF COLOR SPECIFIC)</div>                                                                                                              |
| <div>COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)<br/>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)<br/><br/>NO</div> |

|                                                                                                            |                           |                                                            |                            |
|------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------|----------------------------|
| PRINTED DOCUMENT IS UNCONTROLLED                                                                           |                           |                                                            | Sheet 1 of 1               |
| PART / PRODUCT IDENTIFICATION                                                                              |                           |                                                            |                            |
|  <b>ADRIAN STEEL®</b> |                           | ADRIAN STEEL COMPANY<br>906 JAMES STREET, ADRIAN, MI 49221 | REVISION LEVEL<br><b>A</b> |
| MAT'L USED:                                                                                                | <b>PURCHASED</b>          | DESIGNED BY: <b>E.BURKE</b>                                |                            |
| DESCRIPTION:                                                                                               | <b>HARN, POWER VTM EX</b> |                                                            |                            |
| WEIGHT (Lbs.): <b>0.2</b>                                                                                  | SEGMENT CODE: <b>ELE</b>  | PART NUMBER: <b>65792</b>                                  |                            |



From

To

Color

Gauge

S3

S5

12 AWG

From

To

Color

Gauge

S4

C6.B

16 AWG

From

To

Color

Gauge

S4

C7.B

16 AWG

From

To

Color

Gauge

S4

C8.B

16 AWG

From

To

Color

Gauge

S4

C9.B

16 AWG

From

To

Color

Gauge

S4

S6

12 AWG

From

To

Color

Gauge

C6.A

S3

16 AWG

From

To

Color

Gauge

C6.B

S4

16 AWG

From

To

Color

Gauge

C7.A

S3

16 AWG

From

To

Color

Gauge

C7.B

S4

16 AWG

From

To

Color

Gauge

C8.A

S3

16 AWG

From

To

Color

Gauge

C8.B

S4

16 AWG

From

To

Color

Gauge

C9.A

S3

16 AWG

From

To

Color

Gauge

C9.B

S4

16 AWG

From

To

Color

Gauge

S5

C4.A

16 AWG

From

To

Color

Gauge

S5

C5.1

12 AWG

From

To

Color

Gauge

S5

S3

12 AWG

From

To

Color

Gauge

S6

C4.B

16 AWG

From

To

Color

Gauge

S6

C5.2

12 AWG

From

To

Color

Gauge

S6

S4

12 AWG

From

To

Color

Gauge

C3.A

C2.A

18 AWG

From

To

Color

Gauge

C3.B

C2.B

18 AWG

From

To

Color

Gauge

C5.1

S5

12 AWG

From

To

Color

Gauge

C5.2

S6

12 AWG

From

To

Color

Gauge

C4.A

S5

16 AWG

From

To

Color

Gauge

C4.B

S6

16 AWG

Id

Assembly

[18]

Notes

Tape stops 75mm behind connectors

From

To

Color

Gauge

S3

C6.A

16 AWG

From

To

Color

Gauge

S3

C7.A

16 AWG

From

To

Color

Gauge

S3

C8.A

16 AWG

From

To

Color

Gauge

S3

C9.A

16 AWG

From

To

Color

Gauge

S3

S5

12 AWG

From

To

Color

Gauge

S4

C6.B

16 AWG

From

To

Color

Gauge

S4

C7.B

16 AWG

From

To

Color

Gauge

S4

C8.B

16 AWG

From

To

Color

Gauge

S4

C9.B

16 AWG

From

To

Color

Gauge

S4

S6

12 AWG

From

To

Color

Gauge

C2.A

C3.A

18 AWG

From

To

Color

Gauge

C2.B

C3.B

18 AWG

From

To

Color

Gauge

S5

C4.A

16 AWG

From

To

Color

Gauge

S5

C5.1

12 AWG

From

To

Color

Gauge

S5

S3

12 AWG

From

To

Color

Gauge

S6

C4.B

16 AWG

From

To

Color

Gauge

S6

C5.2

12 AWG

From

To

Color

Gauge

S6

S4

12 AWG

From

To

Color

Gauge

C3.A

C2.A

18 AWG

From

To

Color

Gauge

C3.B

C2.B

18 AWG

From

To

Color

Gauge

C5.1

S5

12 AWG

From

To

Color

Gauge

C5.2

S6

12 AWG

From

To

Color

Gauge

C4.A

S5

16 AWG

From

To

Color

Gauge

C4.B

S6

16 AWG

Vehicle Side of Connection

Output

Input

For use with VTM-RLY

1

2

75 mm

100 mm

125 mm

150 mm

50 mm

2200 mm

75 mm

75 mm

75 mm

50 mm

100 mm

From

To

Color

Gauge

S3

S4

15, 16

From

To

Color

Gauge

S3

S4

15, 16

From

To

Color

Gauge

S5

S6

15, 16

From

To

Color

Gauge

S5

S6

15, 16

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.

Designed By

Engineering Approval

Manufacturing Approval

Revision Approval

Quality Assurance

Name

Bennet Fisher

Date

11/11/2021

AAMP

ADVANCING VEHICLE TECHNOLOGY

Part Number: VTM-EXP

Revision: A

Description:

2020-2022 Chevrolet Express - Timer Module Harness

Sheet:

Revisions

Rev.

Date

Author

Description

A

11/11/21

Bennet Fisher

Initial Drawing

| 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                                                   |  |
| 3/8" ID ring terminal<br>-Vinyl insulated<br>-Accepts 14-16 AWG wire |  |



|                                                                                                                                                  |                |                                                                                                                                            |                        |                                                            |                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------|--------------------|
| THIS DRAWING IS THE PROPERTY OF ADRIAN STEEL COMPANY AND IS NOT TO BE USED IN ANY MANNER<br>DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY |                | PRINTED DOCUMENT IS UNCONTROLLED                                                                                                           |                        | Sheet 1 of 1                                               |                    |
| TOLERANCES & INSPECTION                                                                                                                          |                | PART / PRODUCT IDENTIFICATION                                                                                                              |                        |                                                            |                    |
| UNLESS OTHERWISE SPECIFIED                                                                                                                       |                | <div><div><div>AS</div></div><div>ADRIAN STEEL®</div></div>                                                                                |                        | ADRIAN STEEL COMPANY<br>906 JAMES STREET, ADRIAN, MI 49221 |                    |
| ALL BEND ANGLES ARE 90 DEGREES                                                                                                                   |                |                                                                                                                                            |                        |                                                            |                    |
| ALL DIMENSIONS ARE IN INCHES.                                                                                                                    |                | MAT'L USED:                                                                                                                                |                        | DESIGNED BY: AMB                                           |                    |
| REFERENCE DIMENSIONS (X.XXX)<br>DO NOT REQUIRE INSPECTION                                                                                        |                | DESCRIPTION: WIRE TERM. 3/8" RING                                                                                                          |                        |                                                            |                    |
| FEATURES                                                                                                                                         | HOLES/SLOTS    | ANGLES                                                                                                                                     | WEIGHT<br>(Lbs.): 0.01 | SEGMENT<br>CODE: ELE                                       | PART NUMBER: 66756 |
| 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.<br>Weld Callouts per AWS                                                                                       |                |                                                                                                                                            |                        |                                                            |                    |
| RELEASE & REVISIONS                                                                                                                              |                | PURCHASED COMPONENT                                                                                                                        |                        |                                                            |                    |
| INITIAL ECN: 25286                                                                                                                               |                | REFERENCED SUPPLIER AND/OR MANUFACTURER<br>Waytek                                                                                          |                        |                                                            |                    |
| CURRENT ECN: 25286                                                                                                                               |                | REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER<br>31506                                                                               |                        |                                                            |                    |
| ECN DESCRIPTION:<br>Release                                                                                                                      |                | COLOR (ONLY LIST IF COLOR SPECIFIC)                                                                                                        |                        |                                                            |                    |
| REVISED BY: N/A                                                                                                                                  |                | COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)<br>(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)<br>YES |                        |                                                            |                    |