



HIVIZ CONNECT™ WARNING LIGHT SYSTEM WIRING MANUAL

CAN/LIN HiViz Connect Wiring Information

MANUAL VERSION 1.5 (January 23, 2025)

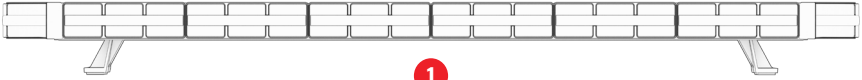


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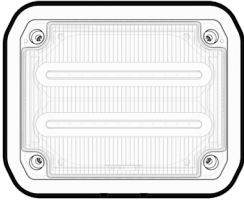


HVC WARNING LIGHT SYSTEM

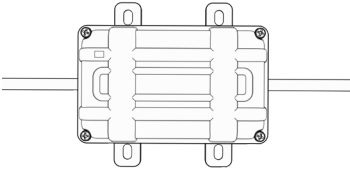
BASIC COMPONENTS NEEDED



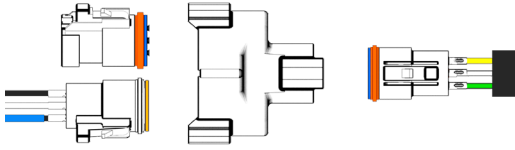
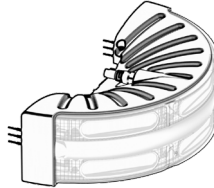
1



2



3



4

COMPONENTS

1 OMEN Warning Lightbar

3 HVC Zone Modules or OMEN Beacons/Half Beacons

2 HVC Guardian Perimeter Lights

4 CAN Wiring Components (see next page for more)



NOTE:

Tighten screws by hand/screwdriver. Power-tools can cause an insecure attachment and damage.

WIRING TOOLS & PARTS NEEDED



Generic needle nose pliers



Machined pin crimp tool
MPN: HDT-48-00



Generic wire stripping tool



Wedge lock & pin removal tool
MPN: DT-RT1



Misc. shielded twisted pair J1939 CAN automotive cable, 20 AWG
MPN: 32053076
HPN: P-FT-J1939-WIRE

Kit **HPN: P-FT-J1939-FULLTRUCKKIT**

For installation of OMEN warning lightbar with HVC perimeter lights.



(4) Deutsch DT 3-way gray J1939 "Y" receptacle connector
MPN: DT04-3P-P007
HPN: P-FT-J1939-3WAY



(6) Deutsch DT 3-way blue plug wedgelock (backbone)
MPN: W35-1939
HPN: P-W35-1939



(2) Deutsch DT 3-way J1939 terminating plug connector with 120 ohm resistor
MPN: DT06-3S-P006
HPN: P-FT-J1939-TERMPLUG



(4) Deutsch DT 3-way orange plug wedgelock
MPN: W35-AS
HPN: P-W35



(18) Deutsch size 16 gold plated solid socket; 20-16 AWG
MPN: 0462-201-1631
HPN: P-DTGOLD SOCKET-20-16



(10) Deutsch DT 3-way plug connectors
MPN: DT06-3S
HPN: P-DT06-3S



(12) Deutsch size 6 nickel machined solid socket; 18-16 AWG
MPN: 0462-201-16141
HPN: P-DT SOCKET-18-16

Kit **HPN: P-DT06-3S-KIT**

Additional J1939 CAN plug kits (if needed).



(1) Deutsch DT 3-way plug connectors
MPN: DT06-3S
HPN: P-DT06-3S



(1) Deutsch DT 3-way orange plug wedgelock
MPN: W35-AS
HPN: P-W35



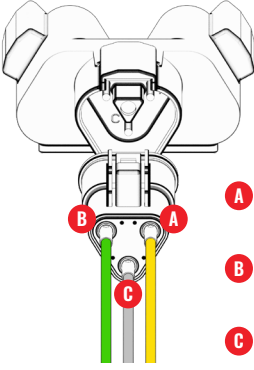
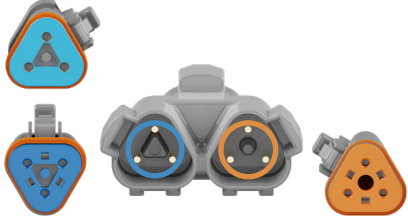
(3) Deutsch size 6 nickel machined solid socket; 18-16 AWG
MPN: 0462-201-16141
HPN: P-DT SOCKET-18-16

Order **MPN** from your supplier of choice or **HPN** from Hiviz. Kits may include generic alternatives. **Deutsch** or **Amphenol products can be used.**



WIRING INSTRUCTIONS

Figure A: Visual of which traditional twisted shielded CAN conductors should be inserted into the proper A, B, and C slots of the plugs.

Figure B: When assembling the CAN system you will see that the Y receptacle connector will have compatibility with triangle wedgelock plugs and a circle wedgelock plug. The triangle wedgelock connectors should be used with the CAN backbone and the terminating resistors. The circle wedgelock connector should be used with the CAN wires coming off of the OMEN and HVC Zone Modules.

| | |
|---|---|
| <p>FIGURE A: CAN WIRING</p>  <ul style="list-style-type: none">A CAN High (Yellow)B CAN Low (Green)C CAN Shield (exposed wire) | <p>FIGURE B: WEDGELOCK KEY</p>  <p>Compatible with blue/triangle wedgelocks</p> <p>Compatible with orange/circle wedgelocks</p> |
|---|---|

**FIGURE C:
WHEN TO USE THE GOLD VS NICKEL SOCKETS**

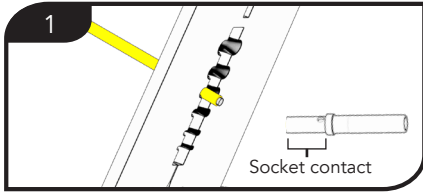
| | |
|--|---|
|  |  |
| <p>Use the gold plated sockets with the CAN backbone plugs (blue wedgelock plugs).</p> | <p>Use the nickel sockets with the tail plugs (orange wedgelock plugs).</p> |

WIRING INSTRUCTIONS (CONT.)

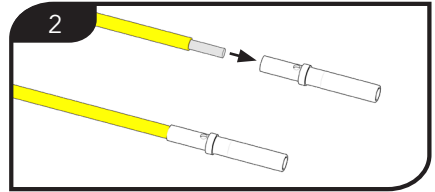
HOW TO ASSEMBLE DEUTSCH CONNECTORS



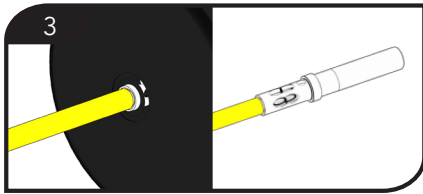
WARNING: TURN OFF POWER BEFORE WIRING



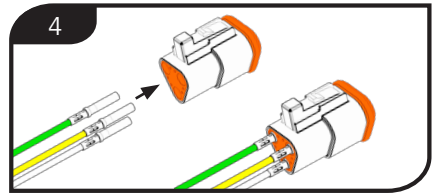
Strip the wire with your wire strippers just enough so that it will fit inside the socket contact. Ensure that none of the wires inside were nicked or broken off.



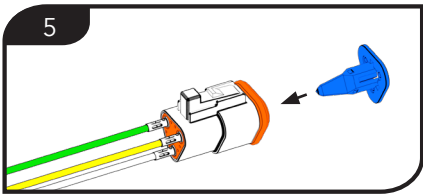
Insert the wire into the socket contact and ensure there are no stray wires sticking out from the socket. You want to see the wires from the hole in the side of the socket. Make sure you don't have wire exposed at the bottom of the socket as well.



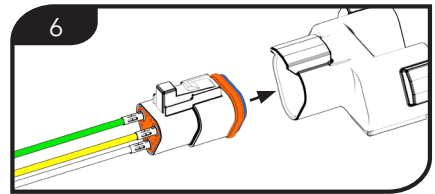
Once you have done the above steps: crimp the socket contact onto the stripped wire per your crimp tool's instructions.



Insert the socket contact with attached wire into the rear of the Deutsch connector (see Figures A and B for proper layout). Push until a click is heard and felt. A slight tug will confirm it is in place.



Once all contacts are in place, the wedgelock may be inserted by hand. Press until it clicks into place. The arrow on the wedgelock should point towards the exterior locking mechanism.

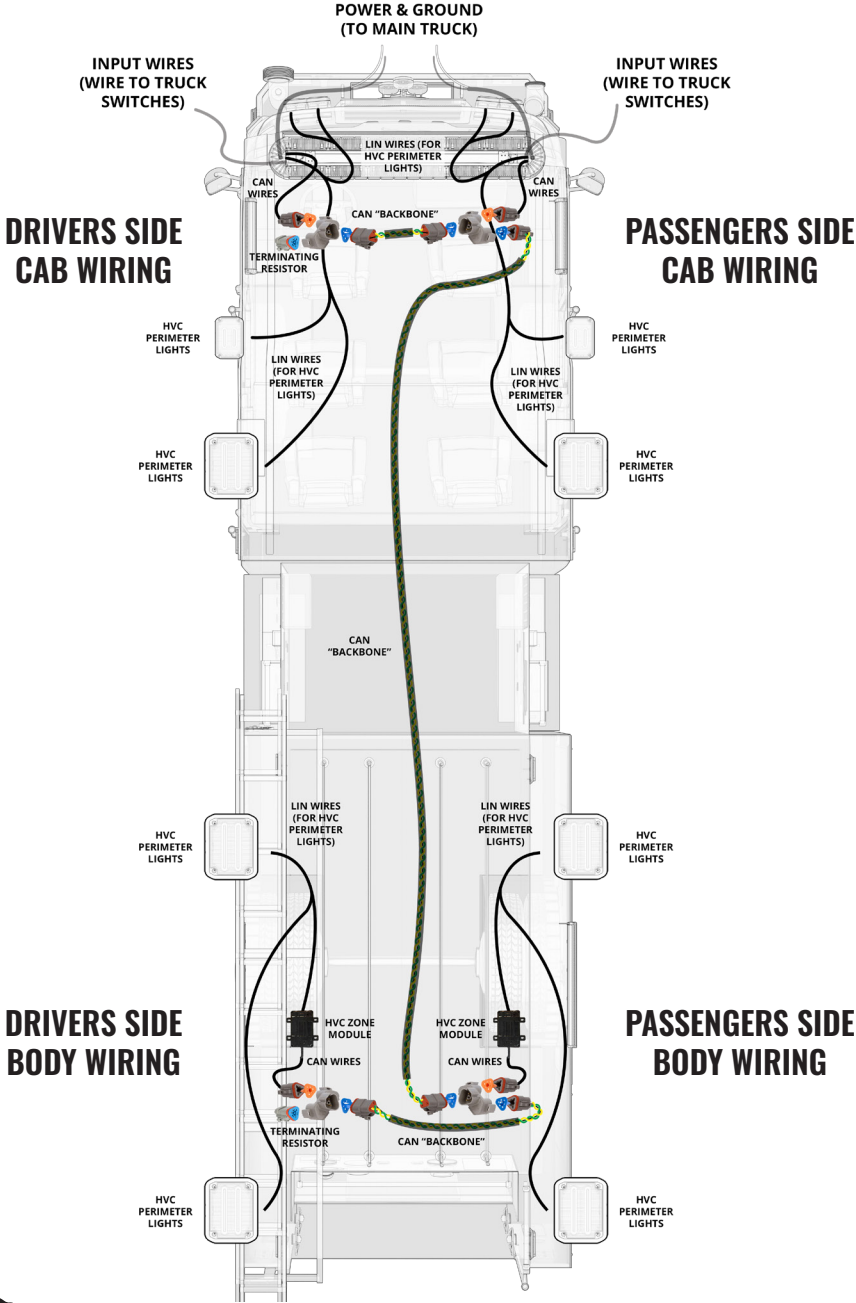


Insert the assembled plug into the correct receiving section of the Y Receiver.

NOTE: Use blank sealing plugs (PN A114017) for any holes not used to keep water from entering the connectors. These are available through waytekwire.com and other suppliers.

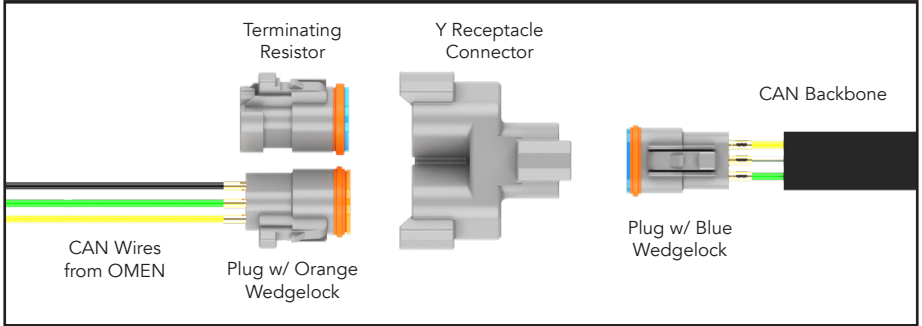


EXAMPLE #1: CAN/LIN HVC ARCHITECTURE*

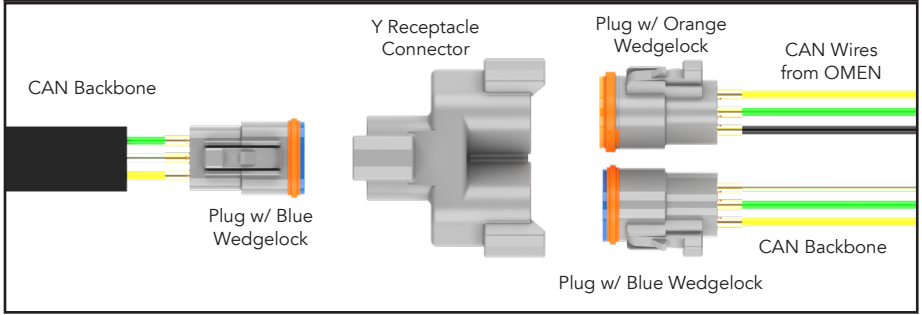


* These are just examples to show basic CAN/LIN wiring. Each trucks lighting layout will be different.

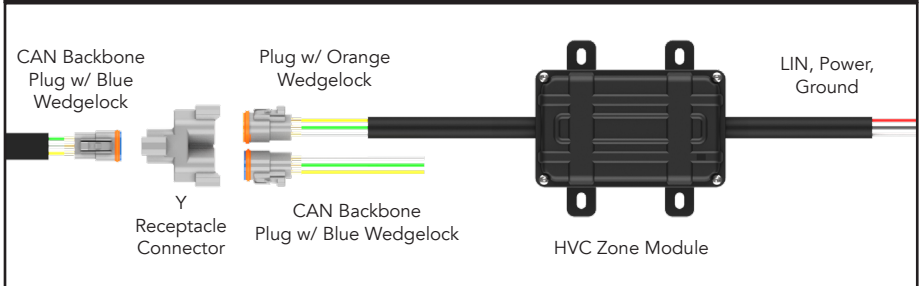
DRIVERS SIDE CAB WIRING - Y RECEIVER CLOSE UP



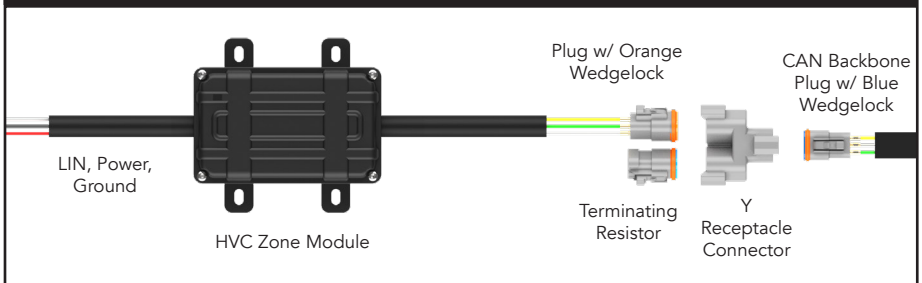
PASSENGERS SIDE CAB WIRING - Y RECEIVER CLOSE UP



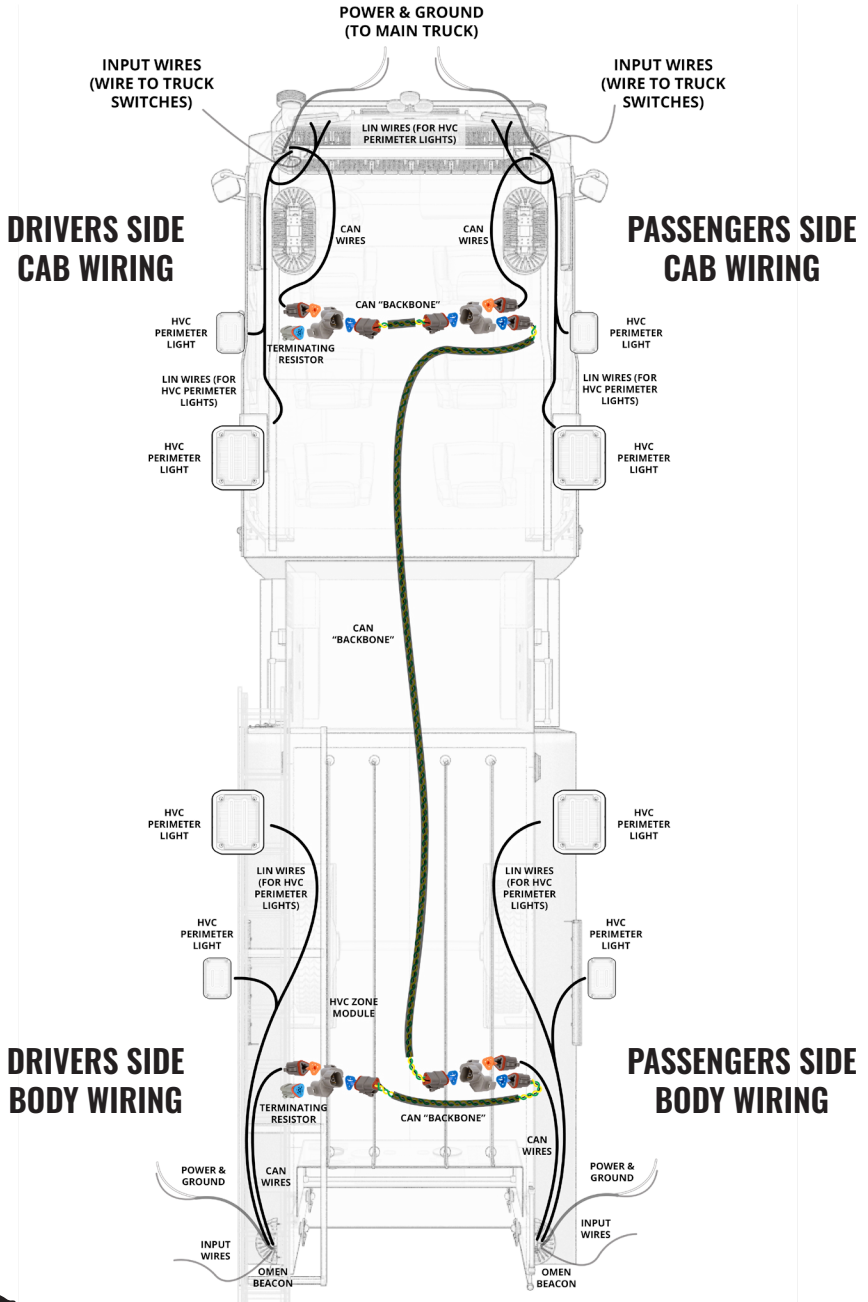
PASSENGERS SIDE BODY WIRING - Y RECEIVER CLOSE UP



DRIVERS SIDE BODY WIRING - Y RECEIVER CLOSE UP

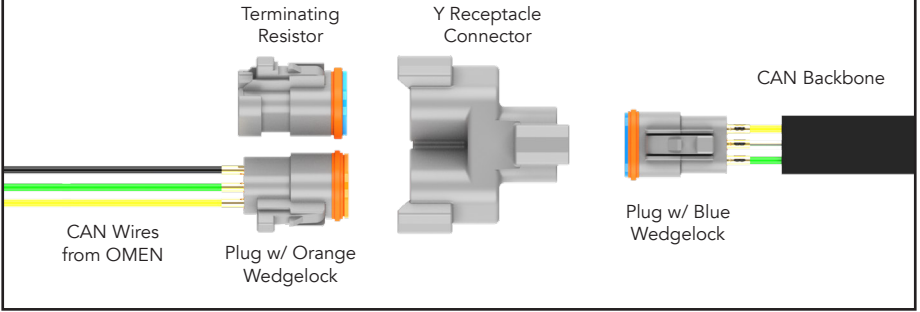


EXAMPLE #2: CAN/LIN HVC ARCHITECTURE*

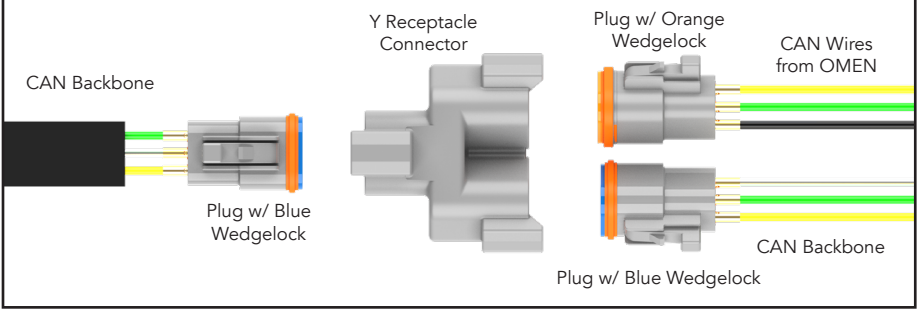


* These are just examples to show basic CAN/LIN wiring. Each trucks lighting layout will be different.

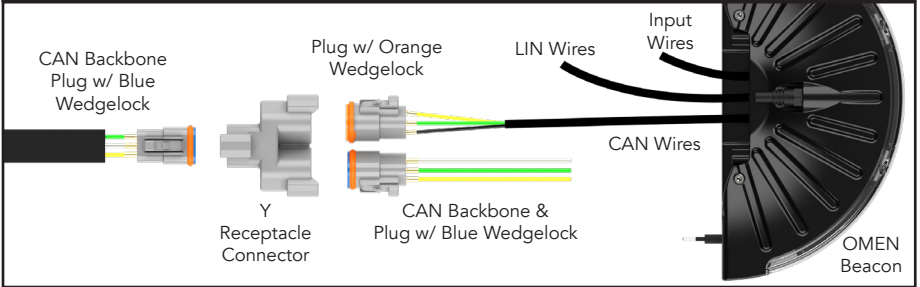
DRIVERS SIDE CAB WIRING - Y RECEIVER CLOSE UP



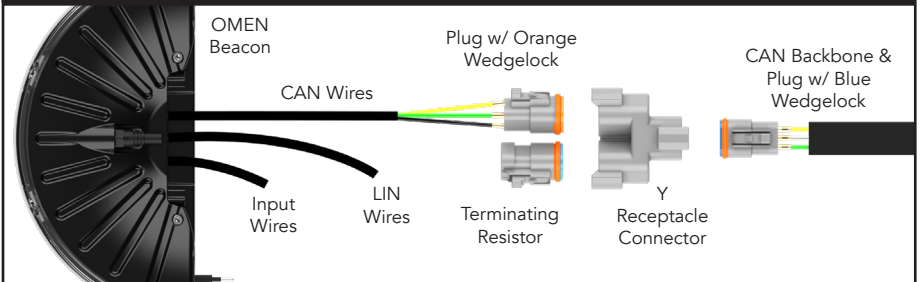
PASSENGERS SIDE CAB WIRING - Y RECEIVER CLOSE UP



PASSENGERS SIDE BODY WIRING - Y RECEIVER CLOSE UP



DRIVERS SIDE BODY WIRING - Y RECEIVER CLOSE UP

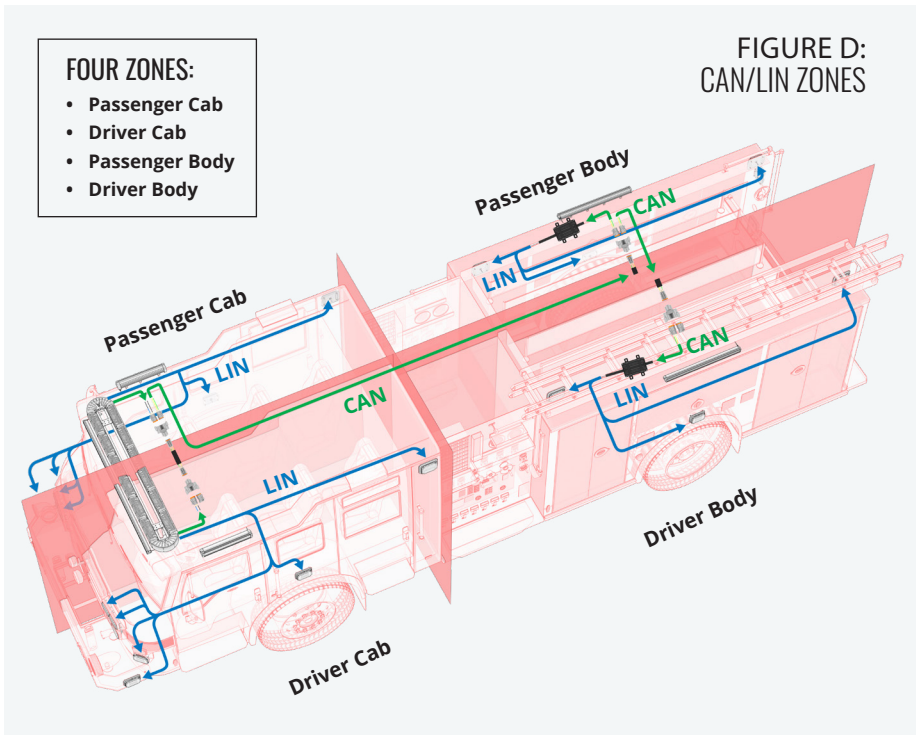


THINGS TO KNOW

- If you have multiple OMENs in the front two cab zones you can choose any one OMEN side module to connect your perimeter lights to as long as it is in the same zone as your perimeter lights (see Figure D below).
- All HVC perimeter lights must be tied to the LIN network in their zone. They should be bussed together like a traditional sync wire would.
- Each zone must have some form of zone module to allow system communication. Zone modules can either be integrated or external:

Integrated: OMEN side modules/beacons double as zone modules and are most commonly used to communicate with the “driver cab” and “passenger cab” zones.

External: In body zones where no OMEN side modules/beacons exist, an additional HVC Zone Module is required per zone (typically 2 per truck).



WIRING TROUBLESHOOTING

- Check for any missing wedgelocks.
- Check to make sure the sockets are all the way seated and latched before wedgelocks are installed, a small tug on the wire should confirm.
- Check to make sure sealing plugs are installed to any open holes in the connectors, if they are not installed water gets inside and kills the connection.
- Check to make sure your sockets haven't been crimped too tight, if they are crimped too tight it will break the wire off in the terminal contact.
- Check to make sure your twisted shielded CAN wires are all in their correct seats in the plugs (see figure A on page 4 for details).



PROGRAMMING - FIELD SUPPORT TOOL

FireTech “Smart” products like our HiViz Connect warning lights and OMEN warning lightbar are all programmable. Currently the system is programmed using a product called the Field Support Tool, this tool allows you to configure these products as well as install software updates as they become available. This tool is also extremely helpful in diagnosing problem areas, even connecting back to the HiViz engineering team to “talk to your truck” and see exactly what sort of messages are being sent/received by the lighting system. Future software updates will enable bluetooth functionality on all fixtures and this tool will be replaced by a bluetooth mobile app for most customers.

This tool is NOT required to use our systems, only to configure it. As such, training is required and this tool is restricted to dealers, OEMs, and up-fitter partners who are in good standing with HiViz. If you are an end-user looking to make updates to your system, contact HiViz and our team will provide more information about shipping a loaner field support tool or scheduling a visit from a qualified HiViz smart product technician.



Field Support Tool P/N: FT-FIELDSUPPORTTOOL

