
Omnisight
FusionBLADE®
Backward-Looking Advanced Detection Engine
Omnisight

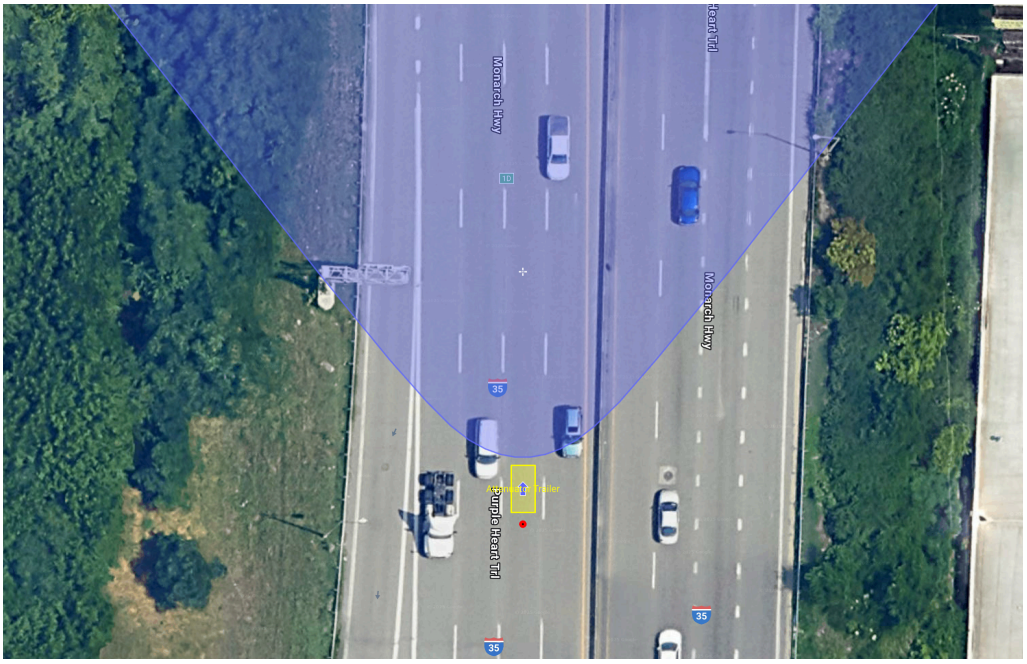
1. Introduction

The **FusionBLADE**® system is designed to improve work zone safety by detecting distracted or inattentive drivers approaching a work zone. It can be attached to a truck-mounted attenuator or other work zone vehicles and apparatuses. When it detects a potential collision, the system activates warning lights and horns to alert the driver and nearby workers and reduce the risk of impact. The system can also integrate with wearables such as vests or helmets.

Key Benefits:

- Fusion of radar and video for accurate vehicle detection
- Early warning system for distracted drivers and nearby road workers
- Fully configurable alert system with horns and lights
- Integrated connectivity with the Omnisight Fleet Commander application
- Rugged design suitable for roadside environments

Important Notice
The FusionBLADE® is an **aid to safety**, not a substitute for proper work zone safety procedures or compliance with state and federal guidelines.



FOV of sensor looking backwards

2. Components and Specifications

What's Included

Standard Components
- FusionSensor® LTE
- BLADE Relay Box

Optional Components
- Light Kits (strobe light, harness, mount, grommet)
- Horn System

Relay Box Enclosure: Polycarbonate box with weatherproof seals

Operating Voltage: 12 VDC (connect to a fused vehicle system

Connectors:

RJ45 for CAT6 PoE networking

Weatherproof crimp connectors for wiring

3. System Overview

How it works:

1. The FusionSensor® monitors approaching traffic.

2. If a collision is likely (within the configured time to collision), the relay system activates:
   - Collision within 3 seconds - Strobe lights flash
   - Collision within 2 seconds and the driver does not change course - The horn sounds for 5 seconds

3. The onboard cellular modem reports events, alerts, and system health to the **Omnisight Fleet Commander dashboard**.

4. Safety Precautions

- **Disconnect vehicle power before installation**
- Only qualified technicians should install the system
- Do not mount the system to the attenuator or crash pad
- Ensure all connections are secure and protected from weather and vibration
- Follow applicable DOT, OSHA, and FCC safety guidelines.

4. Mounting Hardware

- **Outputs**: Relay-controlled outputs for optional horns and lights
- **Certifications**: FusionSensor® complies with FCC requirements and NEMA TS2



5. Installation Instructions

Tools Required

- Standard automotive tools (wrenches, drill, screwdrivers)
- Wire crimping and stripping tools
- Mounting hardware for installation.
- For other mounting configurations, you will need to replace the provided hardware as appropriate.

The following mounting hardware is included:

FusionBLADE® Relay Box

- ☐ (2) 2” square clamps w/bolts & nuts
- ☐ (4) 10-32 x ⅜” stainless steel bolts w/ 3/16” washers
- ☐ (2) pieces of slotted aluminum channel

Relay Box Mounting Hardware



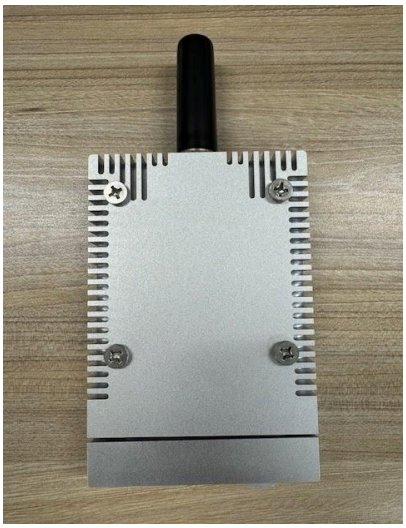
FusionSensor™

- ☐ (2) 2” square clamps w/bolts & nuts
- ☐ (2) pieces of aluminum channel with 3/8" holes on 1” centers
- ☐ (4) Case Screws (pre-installed on back of FusionSensor

FusionSensor™ Mounting Hardware



Case Back Screws

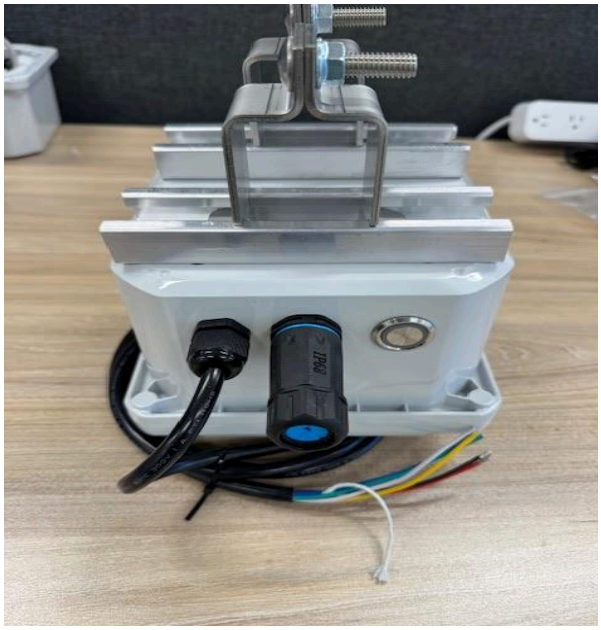


Mounting the FusionBLADE® Box

1. Identify a secure location on the **frame of the trailer**, safe from minor collisions
2. Do **not** mount on the attenuator or crash pad
3. Secure the enclosure using the provided mounting hardware or an alternate appropriate for your installation.



Relay Box secured to aluminum channel with 10-32 bolts & 3/16" washers



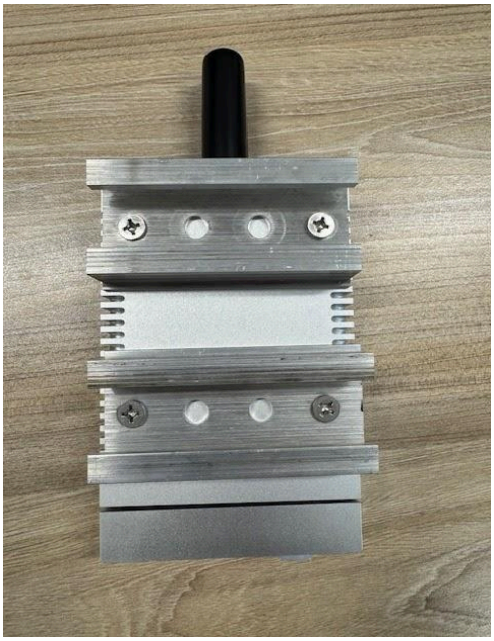
2" square clamps mounted on channel (shown for instructional purposes)

Relay Box mounted to TMA
(alternate mounting configuration with longer channel mounted to wider post)



Mounting the FusionSensor

1. Mount centered on the trailer with a clear, unobstructed view of approaching traffic
2. Attach securely to a vertical surface (sign, metal plate, or approved bar mount)
3. Ensure the mounting is rigid to prevent vibration misalignment



Aluminum channel secured to back of FusionSensor™



2” square clamps mounted on channel (shown for instructional purposes)



FusionSensor™ mounted to TMA

Wiring Connections

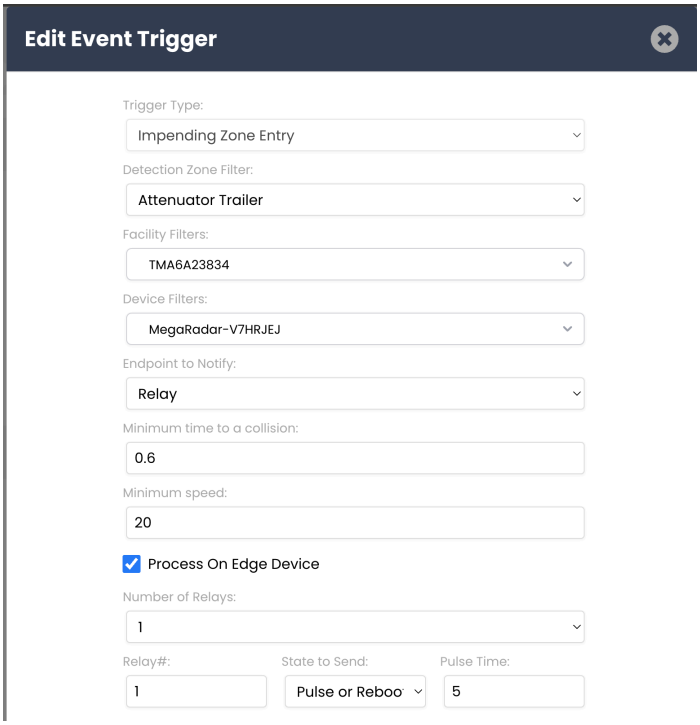
1. Connect the system to the truck's **12 V fused system**
2. Connect the FusionSensor® to the relay system via **CAT6 cable** using RJ45 connectors
3. Connect horns and lights (if purchased) to the relay output wires:
    - Relay 1 → Horns (recommended, so they can be disabled with the box button)
    - Relay 2 → Lights
4. Double-check connections before applying power.



Finished Installation

6. Configuration and Setup

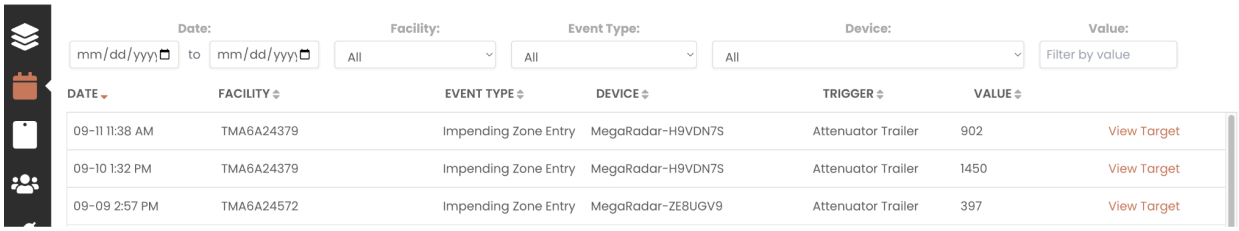
1. Power on the system.
2. Locate the **device key** on the FusionSensor® label.
3. Go to the **Omnisight Connect Dashboard** (omnisightusa.com) and create or log into your account.
4. Enter the device key to register and configure the system.
5. Configure alert behavior and verify connectivity.



Relay Trigger Configuration

7. Operation

- **Normal Operation**:
    - Lights flash for 5 seconds when the system detects an approaching vehicle.
    - If the vehicle continues toward a collision path, the horn sounds for 5 seconds.
- **Manual Controls**:
    - The horn can be snoozed via the mobile app accessible by scanning the cab card.
- **Event Reporting**:
    - All events, images, and health status are sent via the onboard cellular modem to the Omnisight Connect dashboard.



Near Miss Events on the dashboard

8. Maintenance and Troubleshooting

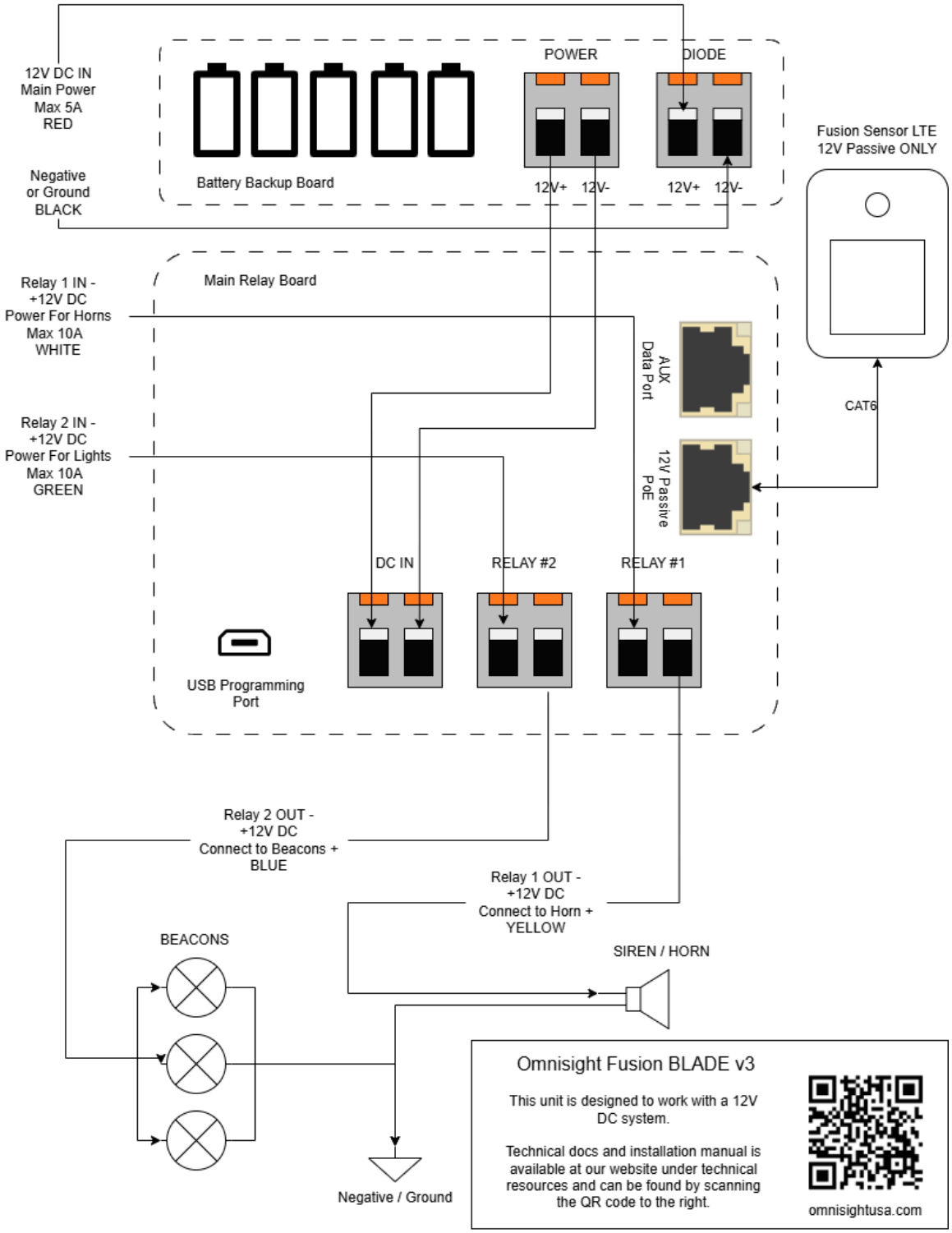
Routine Checks

- Verify the FusionSensor® is free of dirt, obstruction, or physical damage
- Confirm lights and horns activate during test events
- Review system health in the dashboard regularly.

Troubleshooting Table

Symptom	Possible Cause	Solution
Horn not sounding	Wiring loose, blown fuse	Inspect wiring and fuse
Lights not flashing	Wiring loose, blown fuse	Inspect wiring and fuse
No power to system	Incorrect or missing power connection	Verify 12 V fused connection
Dashboard not showing events	Cellular connection issue	Check antenna placement and retry connection

9. Wiring Diagram



10. Support

- For assistance, contact:
    - **Website**: omnisightusa.com
    - **Phone**: 843-800-0986
    - **Email**: info@omnisightusa.com

11. Photo Gallery









12. Product Warranty

There are no warranties which extend beyond the description on the face hereof.

Definitions.

"Accessories" shall mean the cables, connectors, and other such accessories sold by Omnisight for use with the Devices.

"Devices" shall mean the products manufactured and sold by Omnisight.

"End User" shall mean only the original end user who directly purchases the Hardware from Omnisight.

"Hardware" shall mean the Accessories and Devices.

"Omnisight" shall mean Omnisight, Inc., a Delaware corporation.

Scope; Non-Consumer Use Only. The Hardware is intended solely for commercial, industrial, governmental, and institutional use by trained personnel and is not a consumer product as defined by 15 U.S.C.A. § 2301 or any other applicable state or federal law. End User represents and warrants that it is acquiring the Hardware for use in business, professional, or governmental operations and not for personal, family, or household purposes.

No Express Warranties; "AS IS" Sale. Except for any express written limited warranty provided herein, the Hardware is provided "AS IS," "WITH ALL FAULTS," and "AS AVAILABLE." No description, affirmation of fact or promise, sample, model, drawing, or diagram shall create any warranty or form part of the basis of the bargain unless expressly set forth in a separate written warranty signed by an authorized officer of Omnisight.

Limited Warranty. Omnisight warrants the Hardware conform substantially to Omnisight's product specifications and are free from defects in materials and workmanship for **two (2) years** from shipment to the End User. Omnisight warrants the Accessories are free from defects in materials and workmanship for **three (3) months** from shipment to the End User. This Limited Warranty extends only to the End User. In the event the End User determines, or a reasonable basis exist to determine, that a Limited Warranty issue has arisen, then End User must provide written notice to Omnisight at the earlier of ten (10) days following End User's knowledge of such Limited Warranty issue or ten (10) days following expiration of the applicable warranty period. The failure of End User to timely provide Omnisight with written notice shall waive the warranty. The sole and exclusive remedy of a timely Limited Warranty claim by End User is, at Omnisight's exclusive right and option to the extent permitted by law, at no charge to End User to either: (1) repair or replace the Hardware with functionally equivalent new, previously opened, or refurbished parts and replacements; or (2) replace the Hardware with a replacement new or refurbished product that has substantially similar features; or (3) refund the net price paid to Omnisight for the original Hardware. The repaired or replacement Hardware is warranted for the remaining warranty term of the original Hardware. The obligations hereunder are conditioned upon the return of defective

Hardware in accordance with the Omnisight RMA policy. The replacement Hardware becomes the property of the End User and the original Hardware becomes the property of Omnisight.

Limited Warranty Exclusions. This Limited Warranty does not apply and is void with respect to (a) cosmetic damage, (b) Hardware that has been improperly installed or maintained, (c) costs of any installation or uninstallation, (d) any product not manufactured or supplied by Omnisight, (e) failures or defects caused by misuse, abuse, accidents, electrical surges, lightning, physical damage, abnormal operation, improper handling and storage, neglect, exposure to fire, fluids, biological waste, hazardous materials, chemicals, excessive moisture or dampness exceeding the published IP rating, extreme changes in climate or temperature, spills of food or liquids, or alterations, (f) complications, damage or issues arising from the End User network (e.g., connectivity, power outage, power brown-outs, coverage or other signal reception problems), (g) floods, (h) acts of God, (i) riots, (j) Hardware from which warranty stickers, electronic serial numbers and/or serial labels have been removed, altered or rendered illegible, (k) Hardware operated outside published maximum ratings, (l) performance of Hardware in combination with other items not manufactured, approved or supplied by Omnisight, (m) any Hardware which has been opened, repaired, modified or altered by anyone other than Omnisight or a Omnisight authorized service center, (n) engraving, (o) normal wear and tear, or (p) other circumstances beyond the reasonable control of Omnisight.

Disclaimer of All Other Warranties. EXCEPT FOR THIS EXPRESS LIMITED WARRANTY, ALL EXPRESS, IMPLIED AND STATUTORY TERMS, CONDITIONS, REPRESENTATIONS, AND WARRANTIES (INCLUDING, WITHOUT LIMITATION, ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY OR FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT) ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. THIS LIMITED WARRANTY IS PROVIDED ON THE BASIS THAT THE END USER IS PURCHASING THE HARDWARE FOR THE PURPOSES OF NON-CONSUMER USE, AND NOT FOR HOUSEHOLD OR CONSUMER USE. OMNISIGHT'S RESELLERS HAVE NO AUTHORITY TO MAKE ANY REPRESENTATIONS OR COMMITMENTS ON BEHALF OF OMNISIGHT OR TO MODIFY, IN ANY RESPECT, THIS LIMITED WARRANTY, ANY OF ITS PROVISIONS OR ANY RIGHTS HEREUNDER. IF ANY CONDITION OR WARRANTY IMPLIED BY LAW IN RELATION TO THE SALE OR SUPPLY OF GOODS WHICH CANNOT LAWFULLY BE EXCLUDED, RESTRICTED OR MODIFIED OR CANNOT BE EXCLUDED, RESTRICTED OR MODIFIED EXCEPT TO A LIMITED EXTENT IS BREACHED THEN, TO THE EXTENT PERMITTED BY LAW, END USER'S REMEDY IN RESPECT OF SUCH CONDITION OR WARRANTY IS LIMITED, AT OMNISIGHT'S OPTION, TO THE SOLE AND EXCLUSIVE REMEDY STATED IN THE LIMITED WARRANTY CLAUSE ABOVE.

Damages Exclusions and Limitations. WITHOUT PREJUDICE TO ANY OF THE FOREGOING, TO THE FULL EXTENT PERMITTED BY LAW, OMNISIGHT WILL NOT BE LIABLE FOR ANY OF THE FOLLOWING AMOUNTS ARISING OUT OF OR ALLEGED TO ARISE OUT OF THE HARDWARE OR THIS LIMITED WARRANTY: (A) LOST PROFITS, LOST REVENUE, LOST INTEREST, LOST GOODWILL, LOSS OR CORRUPTION OF DATA OR ANY LOSS OF OR INTERRUPTION TO BUSINESS; (B) COSTS OF PROCUREMENT OF SUBSTITUTE PRODUCTS OR SERVICES; (C) SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR EXEMPLARY DAMAGES; OR (D) ANY AMOUNT EXCEEDING THE AMOUNT ACTUALLY PAID OR

PAYABLE FOR THE HARDWARE SUBJECT TO A CLAIM (COLLECTIVELY, “DAMAGES”). THE FOREGOING EXCLUSIONS AND LIMITATIONS SHALL APPLY TO ALL DAMAGES (I) HOWEVER CAUSED OR ALLEGED TO BE CAUSED, (II) EVEN IF OMNISIGHT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, (III) WHETHER GROUNDED IN WARRANTY, NEGLIGENCE, TORT, STRICT LIABILITY, BREACH OF CONTRACT, CIVIL LIABILITY OR OTHER CAUSE OF ACTION OR CLAIM, (IV) REGARDLESS OF WHETHER CLAIMED IN

THE FORM OF AN ALLEGATION, DEMAND, SUIT, ACTION OR OTHER PROCEEDING, AND (V) NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY. NOTHING HEREIN SHALL BE CONSTRUED TO LIMIT OR EXCLUDE ANY LIABILITY THAT CANNOT BE LIMITED OR EXCLUDED BY LAW. IF ANY PART OF THIS CLAUSE IS FOUND TO BE UNENFORCEABLE BY ANY COURT OR COMPETENT AUTHORITY OR WOULD BE FOUND TO BE UNENFORCEABLE IF IT WERE INTERPRETED OR CONSTRUED IN A PARTICULAR WAY, THEN, THE RELEVANT WORDING SHOULD BE INTERPRETED OR CONSTRUED SO AS TO AVOID SUCH A FINDING AND THAT, IN THE EVENT OF SUCH A FINDING, THE REMAINDER OF THE PROVISION IN QUESTION SHALL BE INTERPRETED OR CONSTRUED TO GIVE IT FULL EFFECT.

Safety and Compliance; No Guarantee of Regulatory Approval. End User is solely responsible for ensuring that the Hardware, as installed and used, complies with all applicable federal, state, and local laws, regulations, codes, standards, and directives governing traffic safety devices, including without limitation any design, placement, visibility, conspicuity, electrical, communications, cybersecurity, and data-handling requirements. Omnisight makes no representation or warranty that the Hardware, alone or in any specific configuration or location, will satisfy or obtain any governmental or third-party approval, authorization, or certification, or prevent accidents, injuries, or property damage.

Installation, Maintenance, and Instructions. End User must follow all installation, operation, inspection, and maintenance instructions and schedules provided by Omnisight and applicable industry standards. Failure to do so may result in malfunction, reduced service life, safety hazards, or legal noncompliance. End User shall ensure that only qualified personnel install, operate, and service the Hardware.

Component and System Interactions. Performance may depend on site conditions and on interactions with third-party components, software, power, communications, sensors, and environmental factors. Omnisight disclaims responsibility for performance issues or failures caused by third-party products, improper integration, or conditions outside its control.

No Third-Party Beneficiaries. No third party has any rights under this disclaimer, and no third party may rely on any representations or warranties regarding the Hardware.

No Amendments. This Limited Warranty may only be amended as expressly provided by Omnisight and may not be excluded or modified by course of dealing, course of performance, or usage of trade.

Indemnity. To the extent permitted by law, End User shall defend, indemnify, and hold harmless Omnisight and its affiliates, and their respective directors, officers, employees, and agents, from and against all Damages, claims, demands, losses, liabilities, costs, and expenses (including reasonable attorneys' fees) arising out of or related to: (a) End User's selection, installation, integration, operation, or maintenance of the Hardware; (b) use of the Hardware in combination with other products, equipment, software, or systems; (c) modification or misuse of the Hardware; or (d) End User's violation of applicable laws or third-party rights.

No Professional Advice; User Responsibility. End User is solely responsible for selection, configuration, deployment, use, maintenance, and compliance with all applicable laws, regulations, and standards relating to traffic control and safety, including obtaining required approvals, permits, and certifications. Omnisight does not provide engineering, design, or professional services and does not warrant that the Hardware will meet End User's requirements or achieve any particular safety or performance outcome in End User's specific application. Information made available online by Omnisight is for informational purposes only and Omnisight makes no warranty of any kind, express or implied, regarding online information.

Governing Law. This Limited Warranty is governed by the laws of the State of South Carolina. The courts sitting in such jurisdiction shall have exclusive jurisdiction of any disputes arising hereunder. If a version of this Limited Warranty exists in a different language, the English language version shall prevail to the extent of any inconsistency.