End of Line Test System

Our End of Line Test (EOLT) systems for the automotive industry provides the final check that gives you peace of mind that quality and production targets are being met. Building on over 20 years of success, our EOLT systems go beyond simple electric continuity checks. We support functional tests, electro mechanical tests, presence or absence tests, and color checks. All at speed and in perfect sync with your Manufacturing Execution System (MES). Trelleborg's basic EOLT System consists of an industrial PC and proprietary EOLT software in a National Electrical Manufacturers Association (NEMA) enclosure. Additional hardware and software modules are added to support required tests and features. The EOLT system connects to the automobile wire harness to simultaneously interrogate each of the systems under test. The EOLT system may be delivered as a stand-alone system, incorporating features such as Human-Machine Interface (HMIs), finger swipes, Barcode readers, and label machines, or integrated as part of a broader system.

Camera Test System

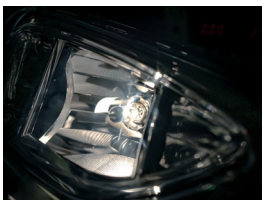
360° camera-based vision systems are the key to safety, driver assistance, accident avoidance, assisted parking and reversing monitoring. Trelleborg is a leader in designing custom automated End of Line test (EOLT) systems for fascia mounted cameras, as well as side and review mirror cameras. Our engineers have developed custom camera hardware and software for testing analog and digital cameras, including the latest 360° surround view digital camera technology. Trelleborg has developed a robust testing mechanism for verifying the functionality and alignment of rear and front mounted vehicular cameras. Using a properly designed test target and holding fixture, Trelleborg's EOLT camera test system can check for multiple functions in a fast and accurate manner.

Trelleborg's camera test software can be easily configured to account for alignment, precision tolerances, fish-eye lens distortion, ambient lighting conditions and depth of field problems. The hardware required to interface the cameras with a Windows PC is a simple plug and play device.

Lamp Test System

Lamps and lighting on the automobile fascia and interiors are a crucial part of safety and performance. Trelleborg's End of Line Test (EOLT) lamp test provides a 100% test, to ensure no harness leaves the factory with a malfunctioning light.

The EOLT lamp test system can measure both lamp current and voltage of a wide range of LED, halogen and incandescent lamps used in headlights, taillights, fog lights, daytime running lamps, grill lights, emblem lights, dome lights and interior lights.



Designed to withstand the rigors of a factory environment, Trelleborg's Lamp Test module hardware connects via USB plug to an industrial Windows PC for an easily configurable and customized system.

Sensor and Electromechanical Test System

Trelleborg provides state-of-the-art testing for all modern automobiles. We keep up with the latest features and functions and continually develop, update, and refine tests so you don't have to.

Active Parking Assist Test System

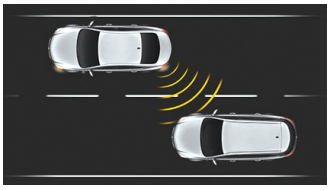
Active Parking Assist (APA) sensors, which are mounted in front and rear bumper fascia, use ultrasonic proximity detection to measure the distance between nearby objects and the vehicle.
In order to test the sensor functions, a target must be placed at a specific distance from each sensor to verify proper alignment and distance measurement. Our electrical and mechanical engineers can design and install the fixtures needed to develop a complete testing and tracking system for your APA sensors. Our engineers have experience with a range of communication protocols used in the automotive industry such as KWP (Key Word Protocol), CAN (Controller Area Network) and LIN (Local Interconnect Network).

Our Active Parking Assist Test System can easily be configured to account for distance and sensor range. Using the parts configuration masking feature of Trelleborg's EOLT Software, the system can test harnesses with differing numbers of sensors and lamps.Trelleborg's RPA (Rear Parking Assist) and FPA (Front Parking Assist) Test Software saves all sensor measurement and communications status messages for each test that is run. Using the built-in database features available in the our EOLT Software, any part of the testing can easily be viewed and verified.

Blind Zone Alert Sensor Test System

Blind Spot Detection (BSD) and the Side Blind Zone Alert (SBZA) radar sensors help the driver safely pass other vehicles. The system uses two radar sensor modules that continuously monitor the presence, direction and speed of vehicles in the lanes around the vehicle. If a vehicle moves into the blind spot, a warning indicator lights up. If the driver doesn't react to the indicator, an audio alarm goes off to provide additional warning.

Trelleborg's Blind Zone Alert Sensor Test System is designed to test harness continuity, sensor functionality, part revision, software revision, serial number and communications. Our electrical and mechanical engineers can design and implement a complete testing and tracking system for your radar sensors. Our engineers have experience with a range of communication protocols used in the automotive industry such as KWP (Key Word Protocol), CAN (Controller Area Network) and LIN (Local Interconnect Network)



Our Blind Zone Alert Sensor Test System can easily be configured to allow sensor hardware and software revisions. Using the parts configuration masking feature of Trelleborg's EOLT Software, the system can test harnesses with differing numbers of sensors and lamps.

Short Range Radar Test System

The Short Range Radar (SRR) sensors use radar technology at 24 GHz to detect objects in front of, or surrounding the vehicle. These radar sensors are used alone or in conjunction with Side Blind Zone Alert (SBZA) sensors for collision avoidance/mitigation systems. SRR sensors are also used in adaptive cruise control (ACC) systems to monitor the distance between vehicles and adjust the speed accordingly.

Trelleborg's Short Range Radar Sensor Test System is designed to test harness continuity as well as sensor functionality, part revision, software revision, serial number and communications. Our engineers have experience with a range of communication protocols used in the automotive industry such as KWP (Key Word Protocol), CAN (Controller Area Network) and LIN (Local Interconnect Network). Our electrical and mechanical engineers can aid you in designing and implementing a complete testing and tracking system for your SRR sensors.

Our Short Range Radar Sensor Test System can easily be configured to account for sensor hardware and software revisions. Using the parts configuration masking feature of Trelleborg's EOLT Software the system can test harnesses with differing numbers of sensors and lamps. Short Range Radar Sensor Test System Software saves all sensor revision data and communications status messages for each test that is run. Using the built-in database features available in the EOLT Software, any part that has been tested, can be viewed and verified.

Hands Free Lift Gate Module Test System

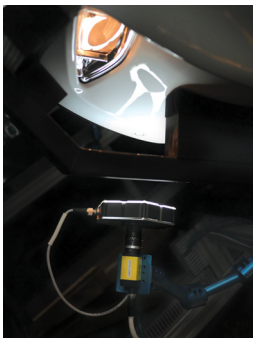
The Hands Free Lift Gate Module (HFM) utilizes two sensors located between the tailpipes to form an electronic field. When broken, the field activates the lift gate. Before the lift gate activates, the gate sensors must detect a shin, then a foot, followed by the shin leaving the sensor area followed by the foot. The distinct order of events helps the system avoid false lift gate triggers.

Trelleborg's Hands Free Lift Gate Module Test System is designed to test harness continuity as well as sensor functionality and communications. Our electrical and mechanical engineers design and implement a complete testing and tracking system for your HFM sensors. Our engineers have experience with a range of communication protocols used in the automotive industry such as KWP (Key Word Protocol), CAN (Controller Area Network) and LIN (Local Interconnect Network).

Trelleborg's Hands Free Lift Gate Module Test System can easily be configured to account for sensor hardware and software revisions. Using the parts configuration masking feature of Trelleborg's EOLT Software, the system can test harnesses with differing numbers of sensors and lamps.

Vision Inspection System

Dozens of rivets, fasteners, and screws on a fascia means dozens of opportunities for mechanical failure. Human operator inspection is tedious, expensive and prone to error. In answer to this, Trelleborg offers automated vision inspection as part of Trelleborg's End of Line Test (EOLT) system or as a stand-alone work cell. High speed camera inspection allows for 100% inspection of dozens of components while maintaining critical cycle time. In addition to checking presence or absence of critical components, cameras can check for over build, under build, orientation, and part color verification.



Our vision systems easily integrate with our other suite of test systems.

Traceability

Traceability is defined as the capability for tracing goods backward along the supply chain and forward along the distribution chain based on identifying characteristics. It is essential to automotive manufacturers and an integral part of any EOLT systems designed by Trelleborg. Using barcode scanners, RFID readers, Label printers, Ethernet communication, PLC input, Trelleborg will work with the customer to develop the crucial link between the customer's MES and the part ID. Test results can be go beyond simple "Pass/Fail" to include archived test results and images from vision inspections.

Contact Us

Trelleborg Applied Technologies delivers innovative and reliable solutions, materials and smart systems that maximizes performance for our customers. Our dedicated and highly skilled staff are always on hand to provide seamless process support from initial idea, through to delivery and beyond.

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