

DIGITAL FLEET TRANSFORMATION BEGINS WITH A CONNECTOR

EC15 – THE FUTURE OF HEAVY TRANSPORT COMMUNICATION FROM PHILLIPS EUROPE

The transport industry is now at the heart of digitalization. Safety systems, telematics, and remote fleet management tools are no longer optional – they have become integral to daily operations.

As these technologies advance, components that have long been in the background are gaining importance. One such component is the communication connector, which determines whether data from a vehicle and trailer reach their destination quickly, reliably, and completely. In the era of ADAS systems, 360° cameras, and real-time route planning, the EC15 connector paves the way for digital fleet transformation and prepares fleets for the arrival of autonomous vehicles.

The EC15 replaces the traditional 15-pin connector without the need to modify the entire system. It supports all current electrical functions while providing room for future growth.

A Global Solution Designed Around the Clock

Fleet operators expect not only cost minimization but also remote monitoring of every aspect of vehicle operation – from tire pressure and fuel consumption to camera feeds and cargo sensor data. The volume of information that must be transmitted in real time is growing rapidly.

The EC15 demonstrates how modern transport technologies are evolving. Its development

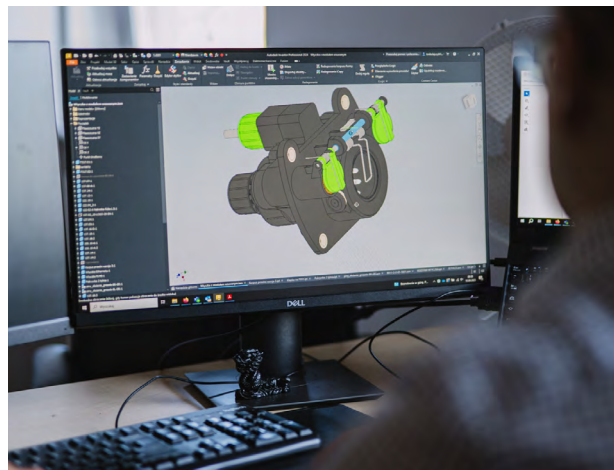
involved parallel work by R&D teams in Europe and the United States. Using a “follow the sun” model – conducting research and testing continuously across time zones – development ran 24 hours a day. This accelerated validation and allowed immediate adaptation to market-specific requirements. The result is a connector that maintains compatibility with the traditional ISO 12098 standard while offering a Single Pair Ethernet architecture with bandwidths of up to 40 Gb/s.

Engineer Stanislaw Kita, Head of R&D, presents the result of several years of work on the EC15 connector, enabling data transfer between tractor and trailer.





The EC15 ensures stable data transfer in all situations, even when multiple systems are operating simultaneously (e.g., monitoring, diagnostics, camera, and ADAS).



The EC15 maintains functionality in changing weather conditions (cold, heat, moisture, dust).

Telematics and Data Management

Modern transport is first and foremost about managing information. Imagine a fleet of refrigerated trucks making international deliveries. A vehicle traveling on a highway in Germany could be monitored in real time by a fleet manager in Poland. The EC15 allows simultaneous transmission of temperature sensor data from the trailer, onboard camera feeds, vehicle diagnostic signals, and GPS location. In the event of a refrigeration system failure, the operator can respond immediately—redirecting the driver to the nearest service point or arranging a transfer before losses occur.

The EC15 forms the foundation for modern fleet communication infrastructure, combining proven electrical functionality with Ethernet capabilities – up to 40 Gb/s.



The EC15 is also critical for safety. Road trains increasingly operate in congested urban areas where driver-assistance solutions are essential. ADAS systems use data from wide-angle cameras, radars, and soon LiDAR sensors. Each of these components generates information streams requiring high bandwidth. The EC15 provides the infrastructure to support real-time collaboration—without delays that could be decisive in a critical moment. This ensures that the driver has a complete, uninterrupted view of the situation, even in challenging urban conditions.

Fleets in the Harshest Conditions

Another application of the EC15 is in long-haul vehicles operating in northern Scandinavia or other regions with extreme climates. Engineers designed the EC15 to withstand such conditions – it has been tested for temperatures from -40°C to +85°C and is resistant to moisture, dust, and UV radiation. For operators, this means reduced downtime and higher overall fleet profitability.

Another advantage of the EC15 is lower operating costs. Traditional systems often required extra adapters and cables, increasing the risk of damage and failures. The EC15 integrates multiple signals at a single point, reducing the number of components that require maintenance. Practically, this means fewer service visits and shorter downtime. For large operators with hundreds of vehicles, savings can reach tens of thousands of euros annually.

Looking to the Future

The EC15 is designed with the future in mind. It already supports cameras, sensors, and diagnostic systems, but its potential extends much further. As autonomous technologies develop, demand for data transfer will only grow. The

connector prepares fleets in advance for features currently being tested on roads, such as automated platooning or advanced autopilot modes. Operators who adopt the EC15 can avoid costly upgrades in the coming years.

The official presentation of the EC15 will take place at Solutrans 2025 in Lyon from November 18–22, one of Europe's premier events for heavy vehicles and transport innovations. In Hall 3, Booth D125, Phillips Europe experts responsible for the system's development will demonstrate its operation and answer questions from fleet operators, commercial vehicle manufacturers, and aftermarket distributors. It's also an opportunity to discuss the future of digital communication in transport and practical directions for its development.

The new connector is more than just an electrical component. In the context of digital fleet transformation, it becomes the foundation for communication between the vehicle and the entire fleet management ecosystem. The EC15 combines traditional electrical functionality with Ethernet potential, ensuring transmission stability, safety, and future readiness. It's an investment that translates into lower costs, higher fleet efficiency, and a competitive edge. ■

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