



RaceConnect telemetry system from Bosch Motorsport

Professional data transmission solution for all motorsport classes

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- ▶ Robust and secure radio communications link between the vehicle and pit
- ▶ Straightforward, ready-to-use solution
- ▶ Modular system architecture

Abstatt – Often in motorsport, one hundredth or even just a few thousandths of a second can be the difference between winning and losing. When developing and setting up their racing cars, the teams' engineers are therefore always working at the extreme physical and technical limits of what is possible. Among the most important tools they use are telemetry systems, which send data and measured values from the vehicle to the racing team's back-end computers. These computers may be located directly in the pit or in the team's engineering department and are used to make extremely fine adjustments to the vehicle's setup during training, qualifying, and throughout the race. "With RaceConnect Bosch Motorsport has now developed an end-to-end telemetry system that provides racing teams with a live transmission, storage and processing solution that is not tied to a particular location", says Timo Blon, Director Portfolio Strategy and Systems Engineering at Bosch Motorsport. It enables all measurement data and parameters from the vehicle, chassis, and powertrain that are critical for successful racing to be analyzed and optimized quickly and efficiently. Many racing teams are already successfully deploying the RaceConnect solution.

Simply installed for maximum benefit

To use the new telemetry system, teams integrate the LTE65 telemetry modem from Bosch in their vehicles as the transmitter unit. The extremely compact and lightweight module is simply connected directly to the vehicle electronics using the standardized Ethernet or RS232 interface. The modem then uses the LTE cellular network to transmit all the required data using end-to-end encryption to the cloud of the RaceConnect architecture. From there, the data is then sent – likewise via LTE and with end-to-end encryption – to the data engineers and rac-

ing team for further processing. A single LTE65 modem unit is needed per vehicle. RaceConnect customers can operate as many modems in parallel as they like and analyze the data provided. This significantly reduces the time, effort, and expenditure for racing teams deploying multiple vehicles. Each telemetry modem can be configured and managed quickly and easily in the cloud using a convenient and clearly structured user interface. Bosch maintains the firmware and keeps it up to date so customers can always deploy the very latest version on their system via regular updates. An experienced support team is always ready to help customers with configuration and any issues that may arise when operating the telemetry system.

Compact, lightweight and robust modem

Bosch has specially designed the LTE65 modem for use in motorsport. “The electronic systems we develop and manufacture in-house offer features like low latency and extremely reliable data communication even at high vehicle speeds and in situations in which the cellular network coverage fluctuates,” says Blon. The compact system measures only 114 x 65.5 x 22 mm, weighs just 180 g, and provides protection against dust and water ingress with an IP67 rating. It is fully compatible with diagnostic tools and has a built-in emergency power supply that can bridge temporary voltage drops in the vehicle’s electrical system. The system meets all data security requirements and is, of course, certified for use in the LTE cellular network.

Holistic package for all motorsport classes

Bosch offers the RaceConnect telemetry system as a complete package. Customers get two LTE65 modems with SIM cards and data plans included – either for the cellular network in Europe or the USA – as well as access to the RaceConnect portal. In future it will also be possible to receive the data via a Web-based portal. “Thanks to the system’s enormous flexibility and ease of use, RaceConnect is ideal for all motorsport classes with the appropriate regulations, from IndyCar to sports car racing, as well as for testing the vehicle’s setup in the run-up to a race,” says Timo Blon.

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About Bosch Engineering GmbH

Bosch Engineering GmbH is a wholly owned subsidiary of Robert Bosch GmbH and is headquartered in Abstatt, Germany. As a systems development partner to the automotive industry since 1999, the company with its more than 3,000 associates offers development services for powertrains, safety and convenience systems, and electrical and electronic systems – from the original concept to series production. Specialized in electronics and software, it draws on Bosch's proven large-scale series production technology to develop tailored solutions for a wide variety of applications in passenger cars, commercial vehicles, off-highway and recreational vehicles, and in rail applications, ships, and industry. Bosch Engineering GmbH also coordinates all the Bosch Group's motorsports activities.

Additional information can be accessed at www.bosch-engineering.com

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