

# NXP launches new angular sensor compliant with SENT standard

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NXP Semiconductors today announced the release of the KMA215, a programmable angle sensor with digital output, which is compliant with the most recent Single Edge Nibble Transmission (SAE J2716 JAN2010 SENT) standard. The KMA215 is also prepared for the future, already supporting 12bit High-Speed transmission with doubled frame rate, which is under consideration for future SENT releases. Suitable for all automotive applications where a mechanical angle needs to be measured, the KMA215 offers superior ElectroMagnetic Compatibility (EMC) performance and significantly reduces system costs by eliminating the need for external components. It is particularly valuable for all power train applications where high accuracy and robustness is essential.

"The KMA215 angular sensor addresses the rapidly evolving needs of the automotive industry, offering customers a superior EMC performance at a reduced cost, while meeting the most recent SENT protocol," said Guenter Reiniger, marketing manager, automotive [sensors](#) at NXP Semiconductors. "Building on the success of the KMA210 and KMA220, the KMA215 is a strong addition to NXP's family of automotive sensors and offers a robust and reliable solution for the [automotive industry](#), supporting the need to increase the number of electronic applications in the car by enabling multiple information transfer via a single interconnection."

Completely calibrated and ready to use, the KMA215 combines full sensor systems including capacitors in a single package. It meets the most recent SENT protocol, the standard interface in motor management

control units, and delivers a modern mid-sized signal sensor architecture, ensuring accurate digital data processing and transmission. The KMA215 is designed to meet the needs of the worldwide automotive market by complying with the SENT digital protocol, and combines NXP's latest MR and ABCD9 technology. The angular sensor has a push-pull output with pulse shaping, which helps reduce its emission profile without external components.

NXP's robust automotive sensor family enables reliable high-resolution data transmission. The KMA215 comprises Cyclic Redundancy Check (CRC) and Error Detection and Correction (EDC) protection, as well as magnet loss and broken bond wire detection. It operates at temperatures of up to 160 degrees C, in comparison to the industry average of 150°C. This is vital for use in EGR (exhaust gas recirculation) [applications](#), where every degree in temperature counts.

The release of the KMA215 further supports NXP's vision of connecting the car. From telematics and car-to-x communications to smarter infotainment systems, NXP is creating the devices that are making the connected car a reality.

## Key Features

- Digital SENT protocol according to SAE J2716 JAN2010
- High precision sensor for magnetic angular measurement
- Single package sensor module with integrated filters and pulse shaping for excellent ElectroMagnetic Compatibility (EMC)
- Automotive qualified in accordance to AEC-Q100 Rev-G
- Programmable user adjustments ,including angular range and zero angle
- Fail-safe non-volatile memory with write protection using lock bit
- Ready to use without external components

Provided by NXP

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