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CUS3xx AUMOVIO ultrasonic sensor

The ultrasonic sensor is completing our automated driving and parking product portfolio. This is a sensor dedicated to being used in low-speed maneuvering situations and it measures the time of flight to an object using the Echo-Localization principle.

The sensor sends an ultrasound echo (wave) and receives a signal (wave reflection by an object) after a certain period. The time of flight is converted to a measured distance. The ultrasonic signal processing software, designed by AUMOVIO, located in the ECU, interprets these measurements, and determines the appropriate actions to take, from warning the driver of nearby objects up to automated parking.

The AUMOVIO ultrasonic sensor performs parking slot detection and parking distance control using a parallel firing concept which provides ultra near range detection and resolution. It is also ASIL B validated to enable safety functions.

Benefits:
– High noise immunity
– ASIL-B according to ISO26262
– Near field detection
– Paintable
– Compliance with AK2 ME requirements
– Powerful signal processing ARM Cortex-M0 & DSP
– Self-diagnostics:
  • Blindness recognition
  • Dirt/Ice detection
– Signal filtering

Supported functions:
– Driver warning functions
– Low speed collision avoidance
– Automated parking
– Further applications possible

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Key technical data:

Detection / measurement ranges (for pole)	<15cm - 550cm
Detection times	First time <140ms (avg), Refresh time <35ms (avg)
Opening angles	120° x 60° (horizontal x vertical)
Supply Voltage Range	+6.8V ... +19 V
Operating Temperature Range	-40 ... +95°C
Storing temp range	-40 ... +95°C
IP classification	IP6K9K
Diameter	15.5 mm
Radial version Length x Width x Height	44 x 28 x 26 [mm]
Axial version Lenght x Width x Height	38 x 28 x 36 [mm]
Frequency	52 KHz
Car communication	DSI3 interface
Car connectivity BUS	Daisy chain, 4 pins per sensor

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