EPCOS Product Brief 2018

Ultrasonic Sensors

Piezo Ultrasonic Sensor Disks for Automotive and Industrial Applications

Applications

Automotive

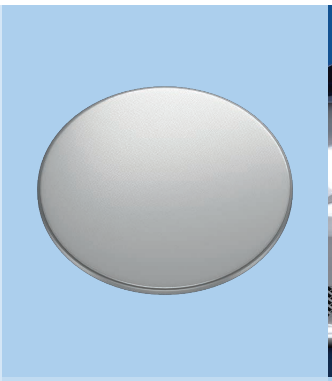
- Ultrasonic park assist systems
- Blind spot assist systems
- Level sensing for fuel or selective catalytic reduction (SCR) tanks
- Interior monitoring and anti-theft systems

Industry

- Flow meters for fluids or gases
- Level sensing for fluids or bulk materials
- Collision avoidance systems
- Mixture metering systems

Features

- Production certified to automotive standard (ISO/TS 16949)
- Customized dimensions upon request
- Stable performance over lifetime
- Accurate sensing
- RoHS-compatible



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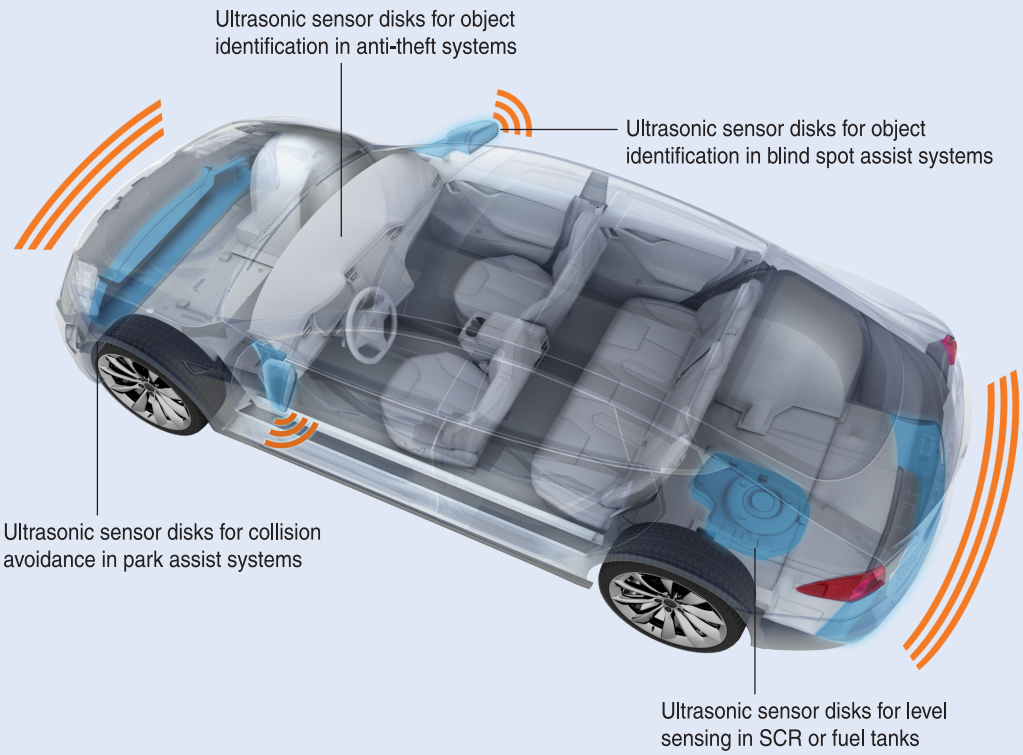
Ultrasonic Sensor Disks for Automotive Applications

Ultrasonic sensor disks for automotive applications



Growing numbers of applications for ultrasonic sensors are creating an expanding market that is strongly influenced by trends like driver assistant systems and autonomous driving. Thanks to its many years of experience in piezo ultrasonic sensors, TDK is playing an important part in the development of this market.

Ultrasonic sensor disks are suitable for a very broad range of cutting-edge automotive applications that require precise contactless sensing. They are the key components for the detection of objects in park assist systems and blind spot applications. In fuel and selective catalytic reduction (SCR) tanks piezo ultrasonic sensor disks enable the measurement of fluids without contact to the aggressive media. They are also used in ultrasonic-based applications to monitor vehicle interiors for occupants, thus providing advanced anti-theft protection.

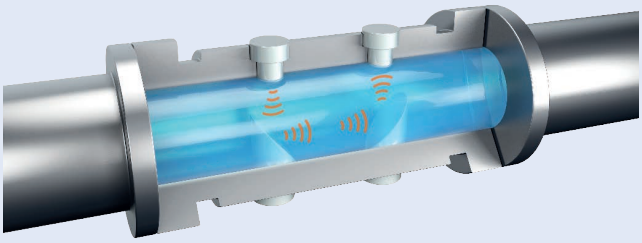
Application-specific ultrasonic sensor disks with customized parameters are available in addition to the standard types.

The development centers and manufacturing plants in Deutschlandsberg, Austria, and Sumperk, Czech Republic, are ISO 9001, ISO/TS 16949, and ISO 14001 certified.

Ultrasonic Sensor Disks for Industrial Applications

Ultrasonic sensor disks for collision avoidance systems in autonomous industrial transport robots

Ultrasonic sensor disks for flow metering systems in gas or fluid tubes



Ultrasonic sensor disks for level sensing systems for fluids or bulk materials in silos

Piezo ultrasonic sensors are an ideal alternative to magnetic and capacitive measurement systems, and support the growing trend toward contactless metering of the levels of fluids or bulk materials.

They are well-suited for a wide range of industrial applications where the contactless detection of objects, levels and flows are needed. For example, transport robots are increasingly being fitted with ultrasonic-based collision avoidance systems in autonomous transport applications. Likewise, piezo ultrasonic sensor disks are used in personal safety applications in industry robots and all kinds of production machinery and equipment. Conventional mechanical systems for fluid and gas flow metering are being replaced on a large scale by contactless ultrasonic metering systems, and many applications for metering the mixing ratio of fluids are now also based on ultrasonic systems.

TDK develops and manufactures customized piezo ultrasonic sensor disks for all these applications.

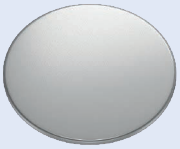
The development centers and manufacturing plants in Deutschlandsberg, Austria, and Sumperk, Czech Republic, are ISO 9001 and ISO 14001 certified.

Ultrasonic sensors

Features

- Sputtering or screen printing
- Wrap-around metallization
- Customized anode designs and dimensions
- Packing according customer request

Technical specifications

	Ordering code	Type	Frequency kHz	Thickness mm	Diameter mm
	B59***Z0205A020	Radial oscillation	200 … 400	0.2 … 4	4 … 8
	B59***Z0405D020	Radial oscillation with wrap-around metallization	200 … 400	0.2 … 4	4 … 8
	B59***Z0505A020	Thickness oscillation	500 … 4000	0.5 … 4	4 … 12
	B59***Z0406D020	Thickness oscillation with wrap-around metallization	500 … 4000	0.5 … 4	4 … 12

Structure of ordering codes: The ordering code for one and the same product can be represented differently in data sheets, data books, other publications and the website of EPCOS, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under www.epcos.com/orderingcodes.

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