



BRIEF INFORMATION

Acoustic Vehicle Alerting System (AVAS)

- Sound warning system designs for the vehicles with silent engine for PEV (pure electric vehicle), HEV (hybrid electric vehicle) and FCV (fuel cells vehicles)
- Simple engine sound
- Space-saving and compact sensor
- Lightweight single box system
- Low power consumption

PRODUCT FEATURES

Customer benefits

Vehicles can normally be recognized acoustically in road traffic by the sound of their engines. However, electrically powered vehicles all sound more or less silent. This makes them dangerous for pedestrians, blind people, cyclists and other road users. Our acoustic warning system has therefore been developed for e-vehicles and generates a sound that is oriented towards the internal combustion engine.

Application

In the USA, all new electric and hybrid models operating in purely electric mode below 30 kilometers per hour already have to systematically emit sounds. From July 2019, the installation of a pedestrian warning system is mandatory for all newly developed electric and hybrid cars in the European Union. From July 2020, all newly registered electric models will have to be equipped with an acoustic vehicle warning system. For vehicles in the EU, the sound limit will be 20 km/h. Cars driving below this speed must then emit a sound. When driving faster than this, the rolling noise generated by the tires on the road is sufficient as a warning.

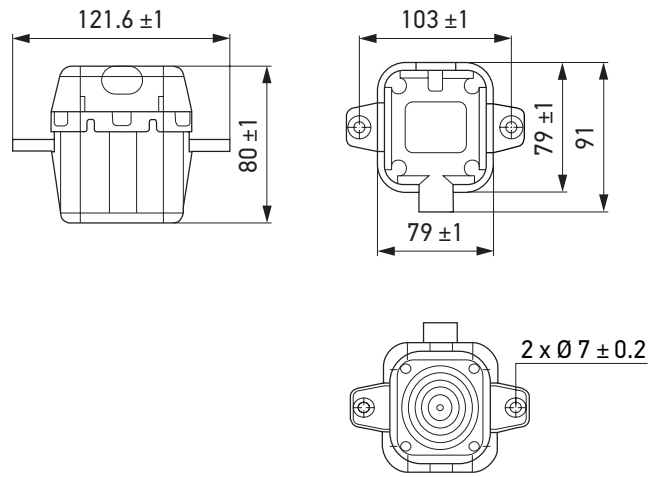
DESIGN AND FUNCTION

Sound fades-in and fades-out at a given speed threshold and the AVAS pedestrian warning system also has to automatically generate an audible signal when the vehicle is reversing. Real-time signal communication between AVAS system and the CAN Bus. The driver can easily activate or deactivate the system by means of a switch. When restarting, this AVAS must automatically be set on the „ON“ position. The AVAS consists of a dustproof and waterproof housing.

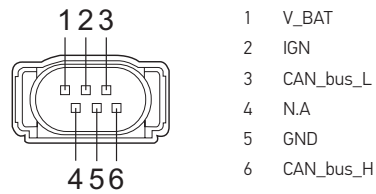
TECHNICAL DETAILS

Technical data	
Operating Voltage	9–16 V
Current consumption	100 mA (Normal condition)
Maximum current consumption	150 mA
No-load current in idle mode	100 µA
Weight	350 g
Operating Temperature	-40°C to +85°C
CAN	Diagnostic (based on UDS standard)
Speaker	2 inch (Impedance 4 Ω)
Mute function	Support On/ Off status via CAN
Frequency Range	160 Hz–5 kHz
Sound pressure level	65 ± 5 dB at 1 m Generation 0 km/h–30 km/h (T.B.D) Minimum frequency shift speed: 0.8 % (km/h)
Operating vehicle speed	0 to 20 km/h
Protection class	IP 6K9K
Full Digital Amp	32 bits sampled at max 96 kHz
Enclosure volume	0.4 L
Housing material	PBT-GF15
Thermal overload protection	Yes
Connector	TYCO 114-18063-126
Mating Connector	TYCO 1-967616-1

Technical drawing



Pin assignment



RANGE OVERVIEW



AVAS

- Single sound source
- Simple virtual engine sound*
- 1 channel speaker
- High speed CAN

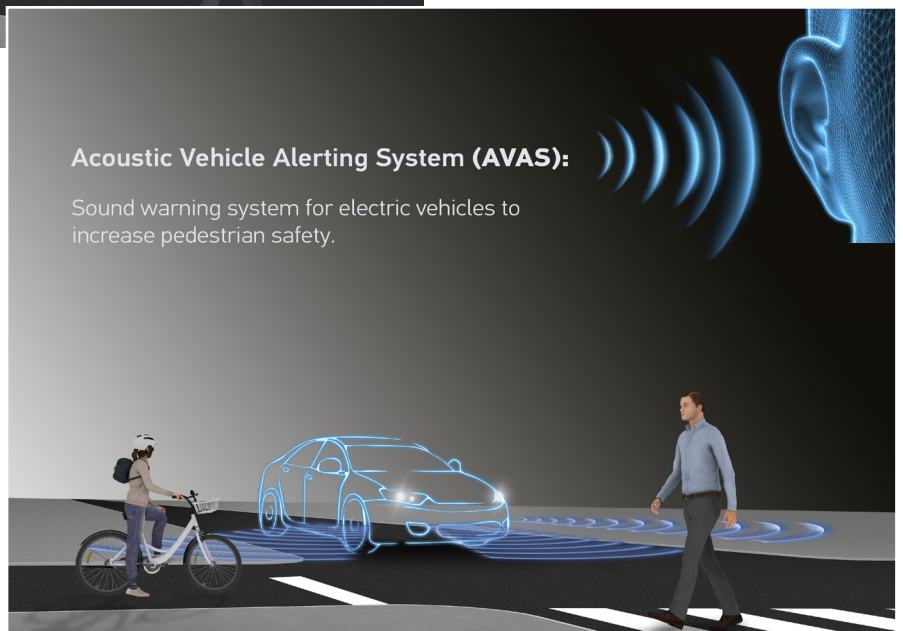
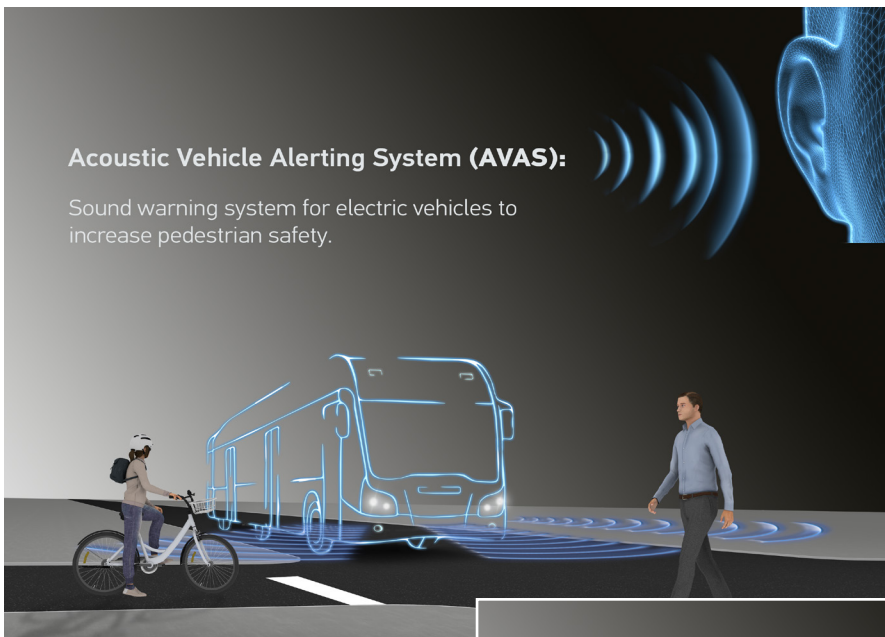
1 Piece

3SL 015 329-007



*Customized sounds possible on request

EXAMPLE OF USE



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Subject to technical and price modifications.