

SENSOR KITAS 4

(2185.21)



The KITAS 4 (2185.21) is a speed sensor for the smart tachograph system that complies with the legislation under the Implementing Regulation (EU) 2018/502 (Annex 1C / 1C V2). All vehicles in the EU that are subject to the provisions of the regulation have to be equipped with a smart tachograph system latest since June 15th of 2019.

In addition, the KITAS 4 sensor is also interoperable with tachograph systems according to Annex 1B¹⁾ of Regulation (EC) No. 1266/2009.

Its Hall-IC allows the KITAS 4 sensor to record the vehicle's gearbox speed without contact. The signals are then processed by microprocessors of the latest generation. In addition to the signal output in the form of a real-time signal, an encrypted data signal is made available to the tachograph. For this purpose, a new type of security processor is used which, in addition to the latest cryptographic algorithms, employs advanced security key management.

A new level of tamper detection is achieved by comparing the two signals in the tachograph and the additionally innovative extended data communication possibilities of KITAS 4.

¹⁾ currently not compatible to all Annex 1B tachographs

General Features

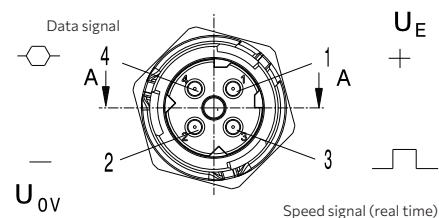
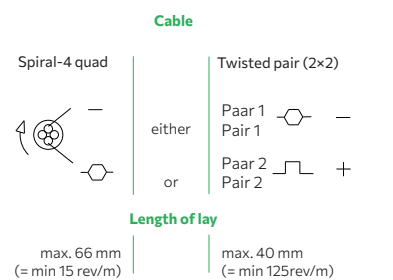
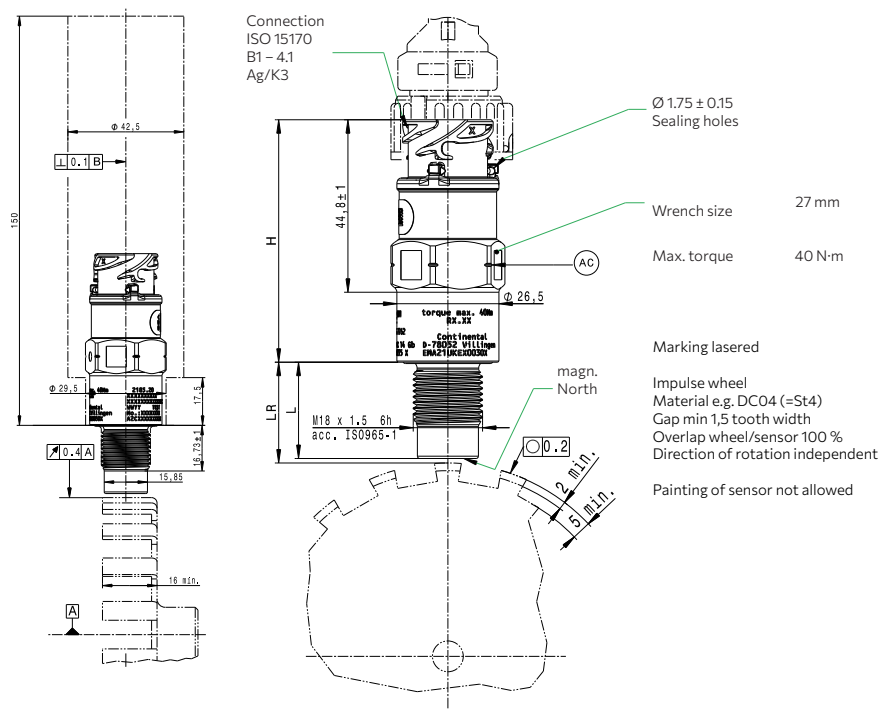
- / Legal basis: (EU) 2018/502 (Annex 1C / 1C V2) and (EU) 165/2014 respectively
- / Common Criteria certified: EAL4+ augmented by ATE_DPT.2 and AVA_VAN.5.
- / Interoperable with tachograph1) systems according to (EC) 1266/2009
- / EMC approval according to UN ECE R10 Rev.06
- / REACH directive EG 1907/2006
- / End of life directive 2000/53/EC & amendments
- / UKCA certification EMA21UKEX0030X
- / The sensor is not designed according to ISO 26262 (Road vehicles - Functional safety)
- / Comprehensive security concept for tamper detection
- / Latest generation security processor with extended cryptographic key management
- / Contactless measuring method with Hall IC

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- / Microcontroller-based signal acquisition and processing, with external field detection
- / Intelligent power management
- / Can be integrated into vehicle gearboxes in conjunction with combustion engine or electric motor
- / Sealing to gearbox with integrated O-ring seal
- / Interface according to ISO 16844-3 with extended command set
- / Optional sealing of the connector/housing
- / Standard plug according to ISO 15170-1



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TECHNICAL INFORMATION

Operating voltage U_E	6,5 V to 9 V
Power Consumption	max. 15 mA
Operating temperature	-40 °C to +145 °C or +120 °C ADR (T4)
General temp. restriction for ATEX applications	max. +120 °C to +145 °C for 6 250 h)
Storage temperature	-40 °C to +120 °C
(Pin 3) output signal	Real time signal
(Pin 3) signal format	Rectangular
(Pin 3) output level	$U_{L \text{ max}} = 0,8 \text{ V}$ (at $I = 250 \mu\text{A}$) $U_{H \text{ min}} = U_E - 1,5 \text{ V}$ (at $I =$ $-150 \mu\text{A}$)
Frequency range	1 Hz to 2 000 Hz (1:1 divider) 1 Hz to 500 Hz (4:1 divider)
(Pin 4) Data signal	Bi-directional interface acc. to ISO 16844-3 with extensi- ons
(Pin 4) Data level	$U_{\text{low out}} = 1.0 \text{ V}$ (at $I = 1 \text{ mA}$) $U_{\text{High out}} = 5.4 \text{ V}$ (at $I = -20 \mu\text{A}$) $U_{\text{low in}} = 1.2 \text{ V}$ (at $I = -1 \text{ mA}$) $U_{\text{High in}} = 5.2 \text{ V}$ (at $I = -0.5 \text{ mA}$)
ESD resistance	Air discharge: $\pm 15 \text{ kV}$ Contact discharge: $\pm 8 \text{ kV}$
Short circuit strength	32 V for 1 min at 25 °C

EMC immunity	ISO 7637 / CISPR 25 / ISO 11452
Dimensions (L in mm)	18 / 18.6 / 19.8 / 23.8 / 25 / 33.8 / 62 / 63.2 / 88.8 / 113.8
Variants	Input signal splitter / Optimized external field
Weight	ca. 59 g to 90 g
Vibration resistance	10 Hz to 3.5 kHz, 228m/s ² (max)
Shock stability	1 000 g
Air gap	0.8 mm to 2.0 mm
Gear interface	M18 × 1.5 thread Sealing via O-ring
External magnetic field	< 5 mT
Sensor standard plug connection	Acc. to ISO 15170-1
Housing	Anodized aluminum
Protection class	ISO 20653:2013 IP6K7 + IP6K9K with connected harness Security seal based on IPX9K with restrictions
Fixation torque	Max. 40 N·m
Wrench size	27 mm

09/2025 | We reserve the right to make changes in availability as well as technical changes without prior notice.



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