



www.fleet.vdo.com

# Sensor

## KITAS 4.0 (2185.20)

The KITAS 4.0 (2185.20) is a speed sensor for the smart tachograph system that complies with the legislation under the Implementing Regulation (EU) 2018/502 (Annex 1C). 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 4.0 sensor is also interoperable with tachograph systems according to Annex 1B of Regulation (EC) No. 1266/2009.

Its Hall-IC allows the KITAS 4.0 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 4.0.

### General Features

- Legal basis: (EU) 2018/502 (Annex 1C) and (EU) 165/2014 respectively.
- Safety certified according to Common Criteria requirements EAL4+, AVA\_VAN.5, ATE\_DPT.2.
- Interoperable with tachographnote1) systems according to (EC) 1266/2009.
- EMC approval according to UN ECE R10 Rev.05
- REACH directive EG 1907/2006.
- End of life directive 2000/53/EC & amendments.
- The sensor is not designed according to ISO26262 (Road vehicles - Functional safety).
- Security concept for tamper detection.
- Latest generation security processor with extended cryptographic key management.
- Contactless measuring method with Hall IC.
- 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.
- Standard plug according to ISO 15170-1.
- Sealing of the connector/housing as option.

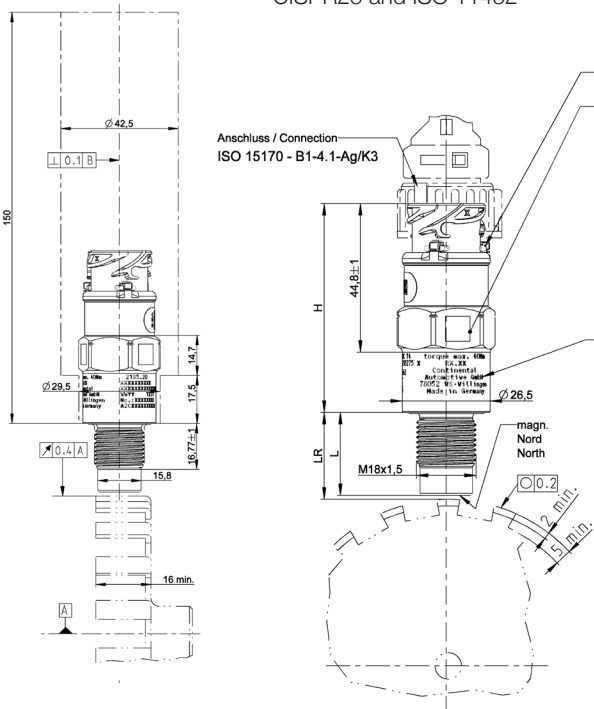
note1) currently not compatible to all Annex 1B tachographs

# Sensor

## KITAS 4.0 (2185.20)

### Technical information

Operating voltage	6,5 ... 9 volts	Dimensions (L in mm)	18 / 18.6 / 19.8 / 23.8 / 25
Power consumption	max. 15 mA		33.8 / 62 / 63.2 / 88.8 / 113.8
Operating temperature	-40 °C ... + 145 °C	Variants	Input signal splitter
Storage temperature	-40 °C ... + 145 °C		Optimized external field
(Pin 3) Output signal	Real-time signal	Weight	approx. 59 bis 90 g
(Pin 3) Signal format	Rectangular	Vibration resistance	10-3.5kHz, 228 m/s <sup>2</sup> (max)
(Pin 3) Output level	$U_L \text{ max} = 0,8V \text{ (@ } I = 250 \mu A)$ $U_H \text{ min} = U_E - 1,5V \text{ (@ } I = -150 \mu A)$	Shock stability	1,000 g
Frequency range	1 Hz - 2,000 Hz	Air gap	0.8 - 2.0mm
(Pin 4) Output signal	Bi-directional interface according to ISO16844-3 with extensions	Protection class	ISO20653 IP6K9K (Exception sealing film)
(Pin 4) Output level	$U_{\text{low out}} = 1.0V \text{ @ } I = 1mA$ $U_{\text{high out}} = 5.4V \text{ @ } I = -20\mu A$ $U_{\text{low in}} = 1.2V \text{ @ } I = -1mA$ $U_{\text{high in}} = 5.2V \text{ @ } I = -0.5mA$	Sensor standard plug connection	According to ISO 15170-1
ESD resistance	Air discharge = +/- 15kV Contact discharge = +/- 8kV	External magnetic field	< 5mT
Short circuit strength	28 Volt, 1 min	Housing	Anodized aluminum
EMC immunity	Tests according to ISO 7637, CISPR25 and ISO 11452	Gear interface	M 18 x 1.5 thread Sealing via O-ring
		Torque	Max. 40Nm
		Key-width	SW27



Lesbarkeit muß bis zur ersten Koppelung mit digitalem Tachographen gewährleistet sein  
 Readability: must be ensured until the first pairing with digital tachograph  
 2D-Data Matrix Code (ECC 200 with separator and data identifiers reg. ANSI MH10.8.2)  
 Lesbarkeit / readability: quality class C(2), ISO/IEC 15415  
 Symbol size 22x22

Content/Inhalt DMC:  
 dddddd DUNS - Identifikations-Hersteller Nr. / number identifying Manufacturer (9 digits)  
 -> Für Continental Automotive GmbH ist die DUNS Nummer 340833090  
 m..m Continental A2C-No., 13 digits  
 -> A2C-Nummer der Gebervariante mit Logistik-Index/ A2C-Number of Sensor variant with logistics index  
 yyyyyyy (No) serial number (= approval authority), 8 digits  
 -> fortlaufende (No) Seriennummer / continual (No) serial number  
 zzzzzz Produktionsdatum / date of production (DDMMYY), 6 digits  
 -> Fertigungsdatum des Gebers / date of production Sensor

Format: 12Vddd dddd#1Pmmmmmmmmmm#Syyyyyy#1Dzzzzzz  
 Example/Beispiel: 12V340833090#1PA2C1637160020#S00000003#111218

