

FAG-Cadence Sensor Bottom Bracket

Reliable sensor technology

An excellent choice: With products from the SCHAEFFLER VELOSOLUTIONS range – innovative solutions for bikes - Schaeffler gives you easier cycling. The new generation of FAG cadence sensor inner bearing is characterized in particular by a speed signal with very high resolution. These characteristics are vital for the quality of the output signal and the rapid response of the motor controller in e-bikes. This gives the rider optimum assistance in any situation. This means not only a high level of comfort, dynamics and cycling pleasure but also maximum efficiency, leading to increased range. A MUST for e-bikes and pedelecs. We can develop many new ideas together.

Advantages

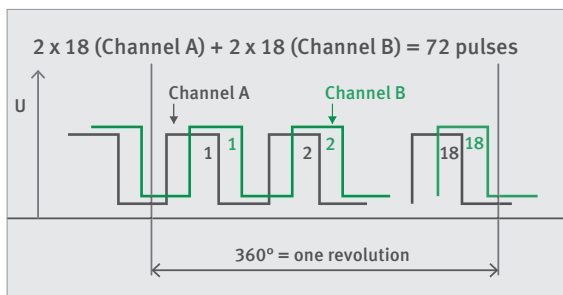
- Optimum rider assistance in any situation through precise recognition of cadence
- Integrate forward and reverse cadence detection
- Robust design with deep groove ball bearings sealed on both sides
- Corrosion-resistant and maintenance-free throughout the operating life
- Easily and rapidly mounted in all bike types

Features

- Contact-free measurement of speed and direction of rotation
- Up to 72 pulses in evaluation of rising and falling flanks
- Voltage supply between 4 and 16 volt
- Various plug types and cable lengths
- Various shaft and spindle lengths from 116 to 132 mm



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Specimen diagram: Signal output at 72 pulses

Function of signal output

- The sensors detect the cadence value and pedal direction.
- The signal in channel A emits a rectangular signal, followed by the signal in channel B with a 90° electric phase shift. Reverse pedaling can be easily detected. In this case, channel A follows channel B with a 90° phase shift.
- Signal output: Up to 72 pulses in evaluation of rising and falling flanks.

Technical data

BBRS – FAG-Cadence Sensor Bottom Bracket	
Shaft- and spindle length	116 mm - 132 mm
Shaft surface	Zinc plated
Crank mounting	ISO6695:2015
Ball bearings	Sealed ball bearings
Certification	DIN EN ISO 4210-2:2015 (Terrain bicycle, City)
Housing width	68 mm
Thread dimension	BSA 1, 375 x 24
Material bearing shell	Glass fiber reinforced plastic
Bearing shell Finish	Black
Sealing integrity	IP 66 (EN 60529)
Sealing integrity inside/inside	IP 63 (EN 60529)
Measurement method	Magnetic

Options

Encoder cadence - 32 pulses	
Encoder cadence	32
Signal output - digital	2,5 ± 2 Volt
Voltage supply	Analog: +7...16 V DC
Encoder cadence - 32 or 72 pulses	
Encoder cadence	32 or 72 pulses (2 channels A and B each with 18 rising and falling flanks)
Signal output - digital	Open Collector TTL with pull-up resistance
Voltage supply	Digital: +4...16 V DC
Encoder cadence - 32 pulses	
Encoder cadence	32 pulses
Signal output - digital	Open Collector
Voltage supply	Digital: +4...16 V DC

Further information

Plug variants	e.g. Julet
Cable lengths	from 100 mm
Weight	approx. 290 g

Schaeffler offers customised solutions on request.