

# WPT Sensors

Type CWPTA...

## Wheel Pulse Transducers

Incremental wheel pulse transducers for acquisition of wheel rotation and calculation of wheel speed, distance travelled, and vehicle speed.

- Easy installation
- Compact design and low weight
- Rugged housing
- Reverse-polarity protection
- Protection standard IP67

### Description

WPT sensors are universally adaptable sensors for the acquisition of vehicle wheel speed. The sensors deliver 1 000 pulses per rotation (standard, other values on request). WPT sensors are ultra-compact and extremely light in weight. For maximum flexibility, the incremental transducer unit of the WPT can be exchanged quickly and easily.

Output signals generated by the WPT sensors provide the basis from which wheel rotation speed, acceleration, distance, and speed are calculated (measurements of this kind are afflicted with slip and dependent of the dynamic wheel circumference).

### Application

WPT sensors can be applied for the following measurements:

- Wheel slip measurement
- Acceleration and braking tests
- ABS testing
- Measurement of difference between wheel speeds when using more than one wheel pulse transducer (e.g. with all-terrain vehicles)

### Technical Data

#### Characteristic Mechanical Data

Permissible rotational speed		
Maximum	min <sup>-1</sup>	6 000
Continuous operation	min <sup>-1</sup>	3 000
Available pulse values		
Standard	pulses/rev	1 000
On request	pulses/rev	1 ... 3 600
Operating temperature range	°C	-40 ... 85
Protection standard		IP67
Shock resistance(DIN IEC 68-2-27)	m/s <sup>2</sup>	2 500
	ms	6
Vibration resistance (DIN IEC 68-2-6)	m/s <sup>2</sup>	100
	Hz	10 ... 2 000



#### Characteristic Electrical Data

Permissible load/channel, max.	mA	±20
Pulse frequency, max.	kHz	300
Reverse-polarity protection		yes
Output signal <sup>1)</sup>		2 channels A+B 90° shifted 1 zero impulse/ rotation
Connectors <sup>2)</sup>		8 pin M12

#### Electrical Data RS-422 (TTL compatible)

Power supply, U <sub>B</sub>	VDC	5 ... 30
Power consumption without load		
Typical	mA	40
Maximum (with inversion)	mA	90
Signal level		
High (min.)	V	2,5
Low (max.)	V	0,5
Rising and falling time (max.)	ns	200
Short-circuit proof outputs		max. 1 connected channel

<sup>1)</sup> all signals with inversion

<sup>2)</sup> radial flange connector on the housing, pins separately sealed, IP67 in unplugged condition

## Dimensions

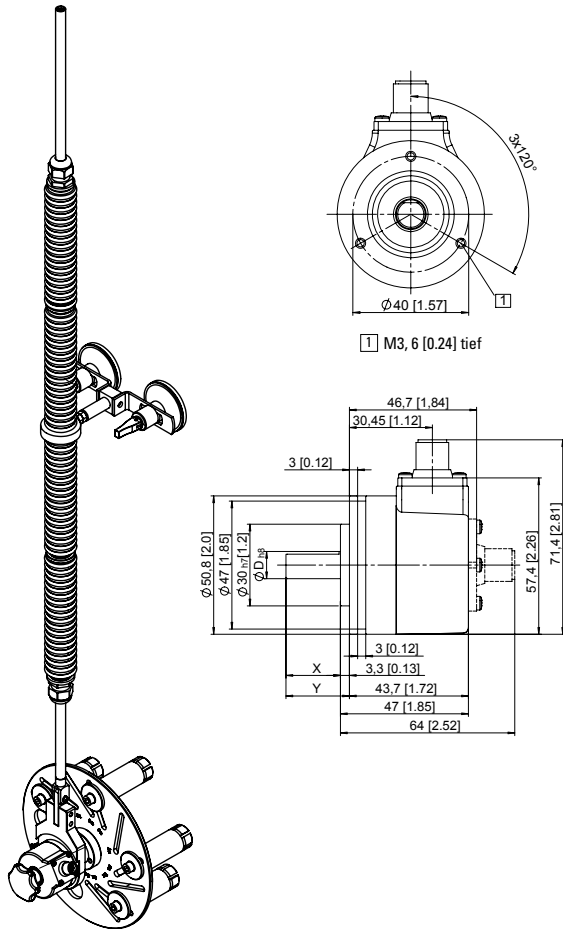


Fig. 1: Dimensions WPT sensor (left side: including holder WPT)

## Mounting

WPT sensors mount to the wheel lug nuts via adjustable collets. The torsional protection rod (which maintains rotation around the wheel axis) is affixed to the vehicle body with suction holders (Art.No. KCD11968).



Fig. 2: WPT sensor mounted at the front wheel

## Included Accessories

- Power cable, l = 5 m
- Holder WPT
- Open-end wrench 10-13
- Hexagon wrench
- Transport case
- Inlay for transport case
- Foam cover inlay
- Multimedia-CD incl. software & manuals

## Type/Art. No.

- KCD14921
- KCD17165
- KCD11281
- KCD11291
- KCD15176
- KCD15178
- KCD15181
- KCD11343

## Optional Accessories

- Collets 17 mm, 5 pcs
- Collets 19 mm, 5 pcs
- Collets 21 mm, 5 pcs
- Centering star 5-lug
- Centering star 4-lug
- Centering star 3-lug
- Suction holder for fixing the safety line
- Signal cable, l = 5 m, IP67, Open End
- Signal cable, l = 10 m, IP67, Open End,
- Signal cable, l = 5 m, 3 pin Lemo
- Signal cable, l = 10 m, 9 pin D-Sub

## Type/Art. No.

- KCD10070
- KCD10071
- KCD10072
- KCD11294
- KCD11293
- KCD11295
- KCD16908
- KCD14897
- KCD14898
- KCD14915
- KCD15083

Further specifications on request

## Ordering Key

Type CWPTA

### Sensor Head

10 pulses	1
100 pulses	2
250 pulses	3
1 000 pulses*	4
2 000 pulses	5
3 600 pulses	6

### Signal cable

5 m*	1
10 m	2

### Holder

Holder passenger car*	1
Holder truck	2

\* Standard configuration

## Ordering Example

Type CWPTA411

WPT sensor, 1 000 pulses, 5 m cable, holder passenger car

CWPTA\_000-811e-02.12

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

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