

## WPT sensors

Type CWPTA...

### Wheel pulse transducers

For detecting wheel rotation to calculate wheel speed, distance traveled, and vehicle speed.

- Easy installation
- Compact design and light weight
- Rugged housing
- Reverse-polarity protection
- Degree of protection IP67
- Optional: DTI function

#### Description

WPT Sensors are universally adaptable sensors for detecting the wheel speed on motor vehicles. The sensors deliver 10 ... 5,000 pulses per rotation (standard, other pulse values available on request).

WPT Sensors are compact and light weight. For maximum flexibility, the incremental transducer for the wheel pulse transducer unit can be exchanged quickly and easily.

Output signals generated by the WPT Sensors form the basis for calculating wheel speed, acceleration, distance, and speed (measurements of this kind are slip-dependent and dependent on the dynamic wheel circumference).

#### Application

WPT Sensors can be used for the following measurement applications, among others:

- Wheel slip measurement
- Acceleration and braking tests
- ABS testing
- Measuring the difference between wheel speeds when using more than one wheel pulse transducer



#### Kistler DTI technology

End-to-end bus wiring system to take the measurement signals from every sensor to the data recorder. DTI converts each signal into a unique, time stamped digital output either directly in the DTI sensors, or via suitable DTI converters for use with any existing sensors. The sensor data is collected at the central DTI logger and is transmitted via Ethernet to your laptop for evaluation.

A single cable is all that is needed to configure the sensors, to transmit and synchronize the measurement data and to supply power. The automated sensor detection simplifies the test setup: installation position, calibration values and relevant physical parameters are detected automatically by the measuring software (KiCenter) and can be configured using the GUI.

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**Technical Data**

**Basic 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/U	10 ... 5,000
Other	pulses/U	on request
Operating temperature range	°C	-40 ... 85
Degree of protection		IP67
Schock resistance (DIN IEC 68-2-27)	m/s <sup>2</sup>	2,500
	ms	6
Vibration resistance (DIN IEC 68-2-27)	m/s <sup>2</sup>	100
	Hz	10 ... 2,000

**General electrical data**

Max. permissible load/channel	mA	±20
Max. pulse frequency	kHz	300
Reverse polarity protection for the power supply		yes
Output signal <sup>1)</sup>		2 channels A+B 90° shifted 1 zero impulse/ rotation
Electrical connection <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	mA	90
Signal level		
High (min.)	V	2.5
Low (max.)	V	0.5
Rise and fall 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 individually sealed, IP67 in unplugged condition

**Dimensions**

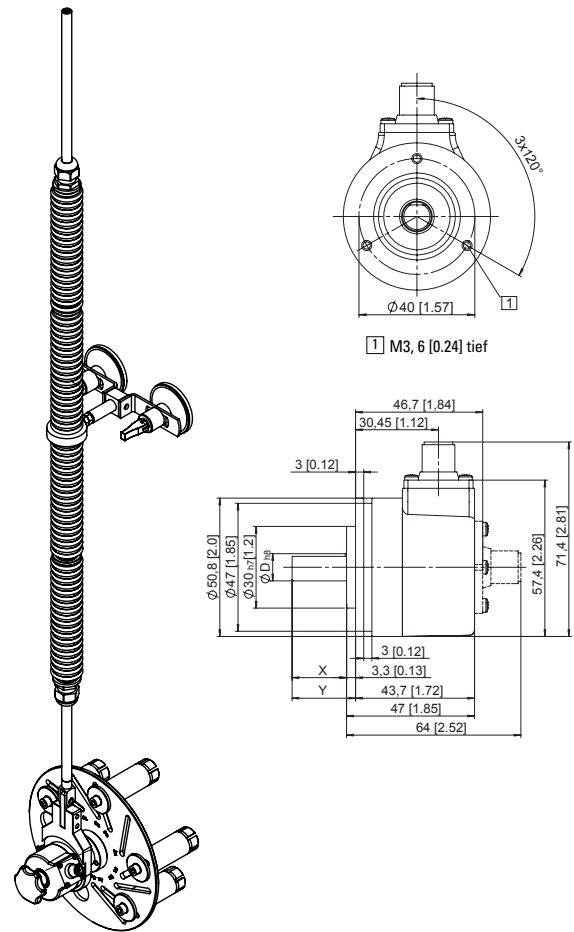


Fig. 1: WPT sensor dimensions (left side: including holder WPT)

**Mounting**

WPT sensors mount to the wheel lug nuts via adjustable collets. The torsional protection rod (which maintains rotation around the wheel axis) is attached to the vehicle body with suction holders (see next page suitable accessories).



Fig. 2: WPT sensor mounted at the front wheel

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**Included accessories**

- Open-end wrench 10-13
- Hexagon wrench
- Transport case, complete
- USB stick software and manuals

**Type/Art. No.**

- 55061923
- 55061933
- 55089428
- 55158846

**Optional accessories**

- Collet 17 mm
- Collet 19 mm
- Collet 21 mm
- Centering star 5-lug
- Centering star 4-lug
- Centering star 3-lug
- Suction holder for attaching the safety line

**Type/Art. No.**

- 22000263
- 22000264
- 22000265
- 18012420
- 18012419
- 18012421
- 55065535

Other specifications as well as truck adaptations available on request

**Ordering key**

Type CWPTA

**Sensor head**

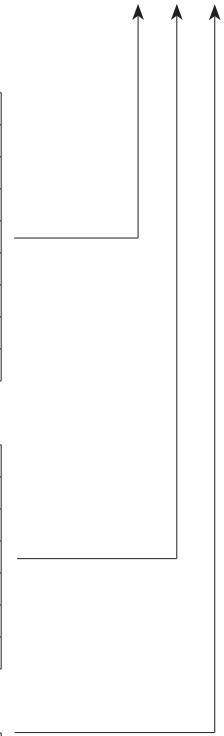
10 pulses	1
100 pulses	2
250 pulses	3
1,000 pulses *	4
2,000 pulses	5
3,600 pulses	6
500 pulses	7
360 pulses	8
5,000 pulses	9

**Signal cable / converter**

Without cable	0
9-pin D-Sub, l = 5 m	1
9-pin D-Sub, l = 10 m	2
Open end, l = 5 m	3
Open end, l = 10 m	4
3-pin LEMO, l = 5 m	5
DTI converter WPT, l = 5 m *	6

**Mount**

Without mount	0
Mount for cars *	1



\* Standard configuration

**Ordering example**

**Type CWPTA461**

WPT sensor, 1,000 pulses, DTI converter WPT, mount for cars

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