

WPT Sensors

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

Type CWPTA...



Kistler DTI technology

With Kistler's new DTI technology, a single end-to-end bus wiring system is all that is required 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 Kistler DTI sensors, or via suitable Kistler DTI converters for use with any existing sensors. The sensor data is collected at the central Kistler 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. Test setup is simpler than ever before thanks to automated sensor detection. The installation position, calibration values and relevant physical parameters are detected automatically by the Kistler measuring software (KiCenter) and can be configured using the GUI.

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Technical Data

Basic mechanical data

Permissible rotational speed		
Maximum	min ⁻¹	6 000
Continuous operation	min ⁻¹	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 ²	2 500
	ms	6
Vibration resistance (DIN IEC 68-2-27)	m/s ²	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 ¹⁾		2 channels A+B 90° shifted 1 zero impulse/rotation
Electrical connection ²⁾		8-pin M12

Electrical data RS-422 (TTL compatible)

Power supply, U _B	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

¹⁾ All signals with inversion

²⁾ Radial flange connector on the housing, pins individually sealed, IP67 in unplugged condition

Dimensions

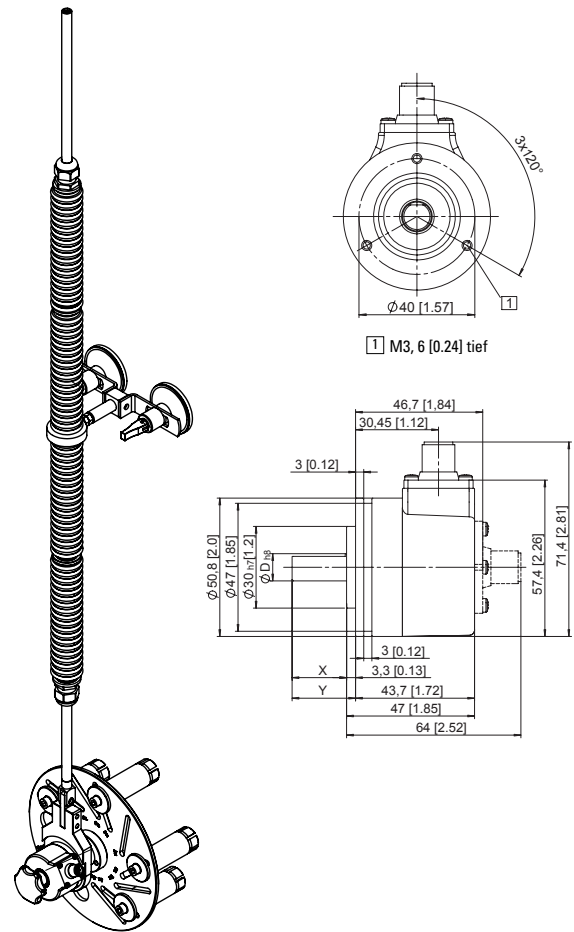


Fig. 1: WPT sensor dimensions (left side: including holder WPT)

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).

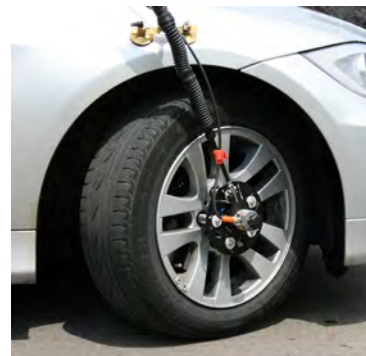


Fig. 2: WPT sensor mounted at the front wheel

CWPTA_000-811e-09.17

Included accessories

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