Motion transducers MT .../e KFZ

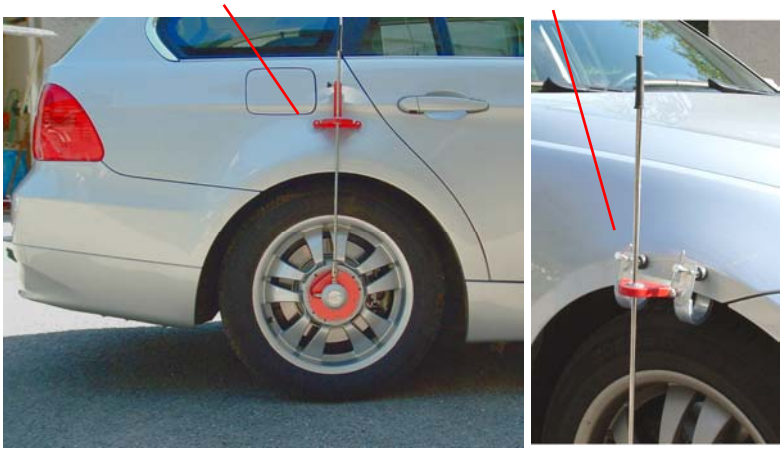
The MT .../e KFZ series transducers are designed specially for collecting data on rotational speed of (car) wheels. These transducers are mainly used for acceleration and slip measurements, prolonged testing as well as for track distance measurements and crash tests. Custom designed test systems also use this type of pulse generators. Main features of Peiseler MT .../e KFZ motion transducers: high precision, robust metal casing, largely unaffected by weather and environmental conditions, short time needed for mounting onto car wheels.
For decades, these pulse generators have been used worldwide for vehicle test purposes.

MT100/e KFZ-RS with PEISELER MOUNTING PLATE fitted to a car wheel

Operating principle:

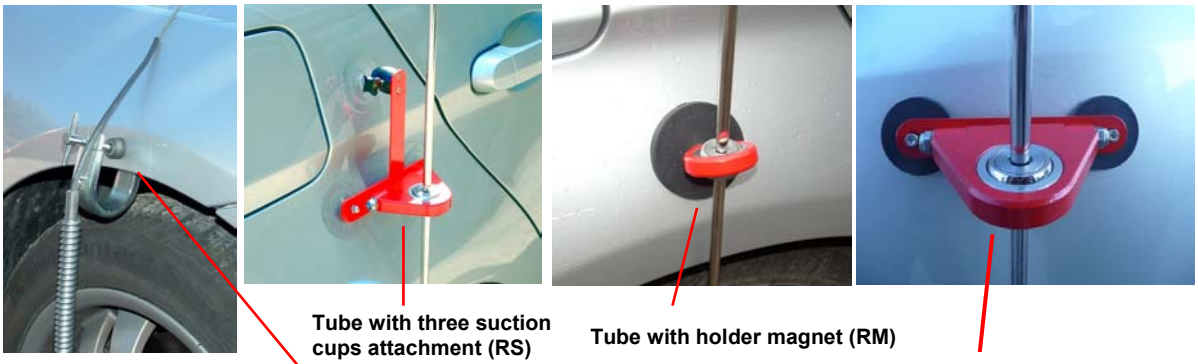
The car motion to be measured is transferred to a dented disc rotating inside the transducer's casing. Resolution of measurement is determined by the number of slots of this disc. A light beam from a LED light source is directed toward a spot on the slotted disc. The pulses of light passing through the slots are received by a light-sensitive photo-transistor behind the disc and are converted into electrical signals. Upon further conversion, these signals are available, on two channels, as square wave pulses.

Wheel speed sensor MT...KFZ-RS with tube and suckers



Installation:

A „Peiseler plate assembly" is fitted to the lug nuts of a car wheel and serves as a carrier for the motion transducer. The fender is used as a fixed point to which the transducer is linked by either - a helical spring with fender clamp (-FK type) or by a tube with ball joint type tube-holder fastened with suckers or magnet (-RS, RK, RM, RM2 type). The transducer supplies n pulses per wheel revolution on two channels as well as a signal for identification of the sense of rotation.



Tube with three suction cups attachment (RS)

Tube with holder magnet (RM)

Wheel speed sensor MT...KFZ-FK with helical spring and fender clamp or fender magnet

Tube with double magnet (RM2)

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peiseler
Peiseler test systems

Technical specifications

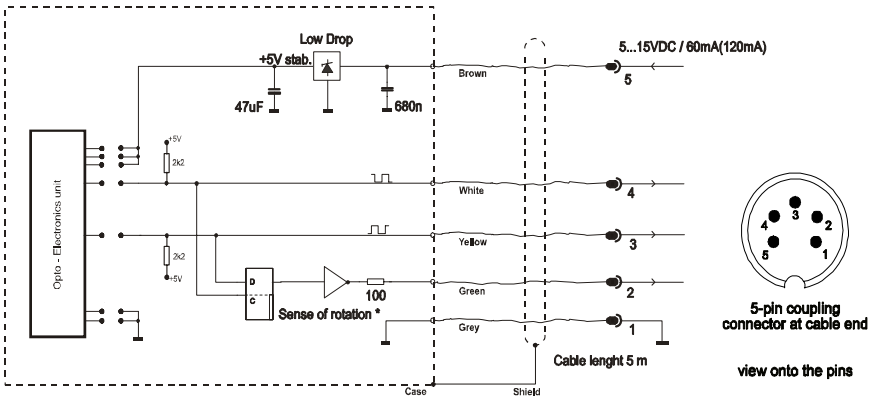
Casing:	anodized aluminium with double ball
Protection:	IP 67
Maximum speed:	Type - FK (cable within spring): 160 km/h Type - RS, RK, RM: 300 km/h
Life:	> 100 000 km
Power supply:	5...15VDC
Reverse Polarity:	max. 15VDC
Current consume.:	max. 60mA (MT1000/e max. 120mA)
Number of pulses:	standard versions: 100, 500, 1000 ppr, *
Temperature range:	-25 °C up +65°C
Pulse output:	two channels with *n* pulses/rev., phase shifted by 90°
Signal for sense of rotation:	square wave signal, polarity depending on mounting direction, protective series resistance 100 Ohms
Pulse ratio:	50 % ± 5 %
Output voltage:	5V square wave pulses
Connection:	cable permanently connected, at end of cable 5-pin plug
Pin assignment:	1: ground 2: signal for sense of rotation 3: pulse channel 1 4: pulse channel 2 (that is processed by Peiseler testers) 5: 5...15VDC
Cable length:	5m (max. length 20 m)
Dimensions:	diameter 69 mm, height 62 mm
Weight:	approx. 1.1kg
Length of guiding tube:	approx. 69 cm; other length upon request.

The relationship between the numbers of pulses and the distance travelled is to be determined by having the car run over a track of known length - or it can be calculated by using the following formula:

$$s = \frac{i * u}{n}$$

s: distance in meters
i : number of pulses measured
n: "nominal" number of pulses per rev.
u: circumference of wheel in meters

One permanently fixed cable is used for both feeding the supply voltage and for transferring the output pulses.



block

5-pin coupling connector at cable end

view onto the pins

Part no.	Description	Part no.	Description
1280 FK	MT 100/e KFZ-FK (helical spring)	1420	Peiseler-Plate for 3-4-5 chucks without centering device)
1281 RS	MT 100/e KFZ-RS (tube)	1425	Centering device for 3 chucks
1281 RM	MT 100/e KFZ-RM (tube and magnet)	1426	Centering device for 4 chucks
1281 RM2	MT 100/e KFZ-RM2 (tube and twin magnet)	1427	Centering device for 5 chucks
1286 RK	MT 100/e KFZ-RK (tube and clamp)	1430	Chuck for lug nuts of 17mm width, l = 60mm
1283 RS	MT 500/e KFZ-RS (tube)	1431	Chuck for lug nuts of 19mm width, l = 60mm
1285 RS	MT 1000/e KFZ-RS (tube)	1432	Chuck for lug nuts of 21mm width, l = 60mm
1291 RK	MT 360/e KFZ-RK (tube and clamp)	1440	Chuck of special sizes upon request (diameter, lengths)

*Other pulse rates plug connections and INDEX output upon request

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