

PEGASEM 5W-6 Miniwheel

Electronic Measuring Wheel for Low Speed Vehicle Testing



Features

- Measures forward and backward direction
- High distance and speed resolution
- Compact design
- Integrated slip-ring transducer
- Ideal for small vehicles
- Puncture proof tyre
- No tyre pressure monitoring required
- Precise speed information even near zero

Applications

- Recording vehicle dynamics on forklifts
- Testing emergency stop behaviour on escalators
- Brake testing on light trucks and small industrial vehicles
- Distance measurement
- Measuring the turning circle



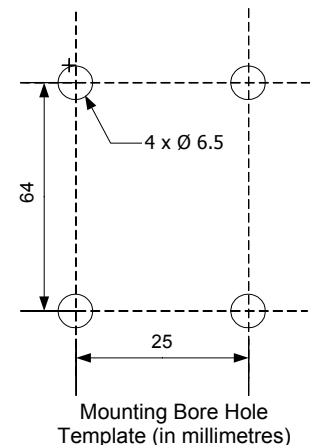
5W-6 Miniwheel with H-adaptor and magnetic holders at the rear of a forklift truck

Overview

The PEGASEM 5W-6 Miniwheel expands the product line of PEGASEM Measuring Wheels allowing for low and extra low speed measurements. It is designed for indoor and outdoor use on smooth surfaces, where exact distance, speed and acceleration measurements are required. A wheel diameter of only 150mm (6 inches) and a swivel angle of 360 degrees make the Miniwheel ideally suited for measuring forklift trucks, escalators, light trucks and hand operated transportation devices. Because the Miniwheel has a compact design, it can often be placed under the vehicle when mounting on the vehicle's body is not desired.

Mounting Options

PEGASEM offer a wide range of accessories to mount the Miniwheel onto different shaped vehicles. The basic model is delivered with a mounting profile that can be attached to any firm upright surface by means of four bolts (M6). The integrated clamping device allows for rapid attachment and exact height alignment to the test vehicle. An optional and convenient non-intrusive attachment is the PEGASEM H-Adapter. The attachment can be configured using magnetic or suction cup holders with integrated flex joints to easily adapt it to plain or heavily curved surfaces. The Miniwheel is also compatible with all elements of the PEGASEM FMS 5th- Wheel Mounting System (see separate data sheet.) If desired we also manufacture special mounting solutions according to your specific requirements.



Measuring Data

The wheel sensor delivers one pulse per two millimetres and an analogue output voltage based on the speed of the vehicle. Different PEGASEM data acquisition units display, record and print distance, speed, acceleration and deceleration values. Various test procedures are supported especially for brake testing. Modifications for customer-specific testing schedules can be implemented on request.

Technical Data

| Mechanical | | | Remarks |
|-------------------------|------------------------|------|--|
| Wheel Diameter | 150 | mm | |
| Swivel Angle | 360 | ° | endless |
| Maximum Speed v_{max} | 50 | km/h | permanent ¹ |
| Peak Speed v_{peak} | 100 | km/h | short term (< 1 minute) ¹ |
| Tyre Type | PUR | | Polyurethane |
| Number of Spokes | 5 | | |
| Ground Clearance | 100 | mm | |
| Typical Thread Pressure | 50 | N | |
| Mass (Weight) | 2,5 | kg | |
| Electrical | | | Remarks |
| Pulse Rate | 256 | | per revolution |
| Distance Resolution | 2 | mm | per pulse |
| Pulses per Metre | appr. 500 ² | | |
| Analogue Output Voltage | 1 | V | per 10 km/h, max. 4 VDC, other scalings available |
| Power Supply Voltage | 5-24 | V | |
| Power Supply Current | <20 | mA | |

¹⁾ On smooth, even surfaces. Fast passing of hard-edged obstacles shortens the maintenance interval. E.g. potholes, stones, uneven gully covers, thresholds etc.

²⁾ The exact value is documented on the factory calibration protocol.

Special Versions

If measurements are required in only one driving direction, the Miniwheel is available without the slip-ring transducer and the swivel joint, e.g. for testing the emergency stop behaviour of an escalator, three wheels are required. One wheel is used for the stairs and two other wheels are used for each handrail. The PEGASEM H-Adapter and suction cups hold the wheels to the escalator side walls. A damper holds one wheel to the stairs, while the other two wheels are held to the handrails by their own weight.



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