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D^x-Speed

integrated • flexible • interference-free

Wireless wheel speed acquisition directly on the wheel

productive testing

messtec + sensor masters award

At the messtec + sensor masters 2019 trade show, the D^x-Speed system took first place in the sensor category and won the coveted messtec + sensor masters award. It was recognized as an innovative system for wirelessly measuring wheel speed that does not require any additional mechanical connection.

Dˣ-Speed - Wireless wheel speed acquisition

Wheel speed measurement without reference point

The Dˣ-Speed system conveniently acquires the wheel speed directly on vehicle wheels. The system does not require a stator or additional reference point and delivers measurement results – both on the test bench and outdoors – even in harsh conditions such as mud, snow and dust. The accouracy ist typically better than 0.5%. Impacts against the axle also will not affect the results. **This means that even driving over sleepers is possible!**

Aquaplaning tests without angle encoder

At last there is a system for the precise measurement of aquaplaning without a stator rod – the Dˣ-Speed. Compact in its mechanical design, it captures every change in the wheel speed and thus exactly the moment at which aquaplaning occurs. This makes the tests simple, and at the same time very accurate. Up to four wheels can be simultaneously measured in sync with multiple sensors, cable-free and on all wheel types!

Easy to work with

The mechanical construction of the Dˣ-Speed system is simple – allowing for an easy installation and convenient transport, as no bulky stator rod has to be accommodated.

Short set-up times

CAEMAX offers optional Peiseler plates with corresponding collets for the Dˣ-Speed sensors. As a result, the set-up times remain short – the system can be installed and ready to use in just a few minutes.

Synchronous acquisition from four wheels or axles

With four Dˣ-Speed sensors, the telemetry receiver unit (Dˣ-RCI) synchronously acquires the measured values from all four wheels. The data appear in real time and can be collected and processed via CAN or analog.

Dˣ-Receiver Unit (RCI)

Dˣ-antenna for mounting on side mirror

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Specifications

Dˣ-Speed	
Maximum RPM	±7200 1/min
Accuracy	< 0.5 % at 0 °C to 50 °C
Signal frequency	16 Hz (others on request)
Temperature range	-10 °C to +65 °C
Weight	400 g
Dimensions	Diameter: 140 mm, height: 36 mm

Dˣ-Telemetry Transmitter Unit (SCT)	
Transmission frequency	Dˣ: 13 frequencies in the 868-MHz-Band Dˣ-HT: 17 frequencies in the 2.4-GHz-Band
Aggregate sampling rate	Max. 4.6/5.0 kHz per channel (868-MHz-/2.4-GHz-Band)
Resolution	16 bit
Synchronized measurements	Up to 4 Dˣ-Speed sensors
Ingress protection rating	IP 68
Power voltage	Battery with 40 h operating time
Transmission power	Max. 10 dBm

Dˣ-Telemetry Receiver Unit (RCI)	
Antenna inputs	2 independent receivers in diversity mode
Display	2.83 inch color display, 320 x 240 px
Auto-zero	Remote controllable
CAN interface	CAN 2.0b acc. to ISO 11898, max. 1 MBaud
Analog output	6 BNC sockets
Configuration	Up to 4 Dˣ-Speed
Power voltage	9-36 Volt DC
Temperature range	-20 °C to +65 °C
Dimensions	Approx. 170 x 130 x 53 mm (without antenna)
Weight	Approx. 0.8 kg

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