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Steering Effort Sensor KMT-CLSx

Ultra slim sensor body design for seamless integration with minimal extension of steering column

- All functions of the steering wheel are preserved
- Steering torque range ±100 Nm or ±200 Nm
- Precision of torque measurement of 0.1% FS
- Steering angle range ± 1440° via CAN output
- Rotational velocity range ±1000°/sec
- Acceleration in x,y,z direction, +/-5g
- Rotational acceleration
- Data output: CAN and analog
- Online monitoring of all channels in physical values (OLED display)
- Inductive power supply by control unit

The new steering effort sensor CLSx is designed for applications in any car or commercial vehicle steering system. All functions of the original multi-function steering wheel can be used with the mounted CLSx incl. the airbag function.

All measuring dimensions are converted with 16 bit (inside: 24 bit) and will be transfered failure-free. An OLED display is integrated in the receiver unit and you can see all measuring values in physical dimensions. The CLSx acquires extremly accurate torque, steering angle and steering angle speed. Additional you can acquire accelerations in x, y and z direction plus the rotation acceleration.

The exactness of the torque is about 0.1 %. The power will be supplied inductively.The power for the whole system is supplied from the control unit and can be provided in a range from 9 V to 36 V.

Technical Data	
Steering Torque	
Measuring Principle	Temperature compensated strain gauge application
Measurement Range	±100 Nm or ±200 Nm (choose when ordering) - optional: ± 50 Nm or ± 250 Nm
Accuracy	0,1 % FS
Bandwidth	0 ... 800 Hz
Steering Angle	
Measuring Principle	Incremental angle encoder
Measurement Range	±1440° (via CAN output)
Accuracy	0,045°
Bandwidth	0 … 800 Hz, sample rate 5 kHz
Rotational Velocity	
Measuring Principle	Calculated from angle
Measurement Range	CAN: ±1.000°/s
Bandwidth	0 … 800 Hz, sample rate 5 kHz
Acceleration	
x, y and z	in the center of the steering column, measurement range up to ±5g in x, y and z direction
Rotational acceleration	±10.000°/sec^2
General Data	
Sensor height	approx. 30mm (w/o adapters)
Sensor weight	approx. 0.6kg (w/o adapters)
Overload	>100% of specified torque
Mech. breaking torque	> 500 Nm
Adaption	Special customized adaption for each vehicle possible
Working temperature	-20°C ... +80 °C
Control Unit	
Power supply	9 ...36 V DC
CAN-Output	freely configurable
Analog output	free configurable, max. ± 10 V
Auto zero	Triggered by push button via control unit or by remote control