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Steering Effort Sensor CLS for Automobiles and Trucks

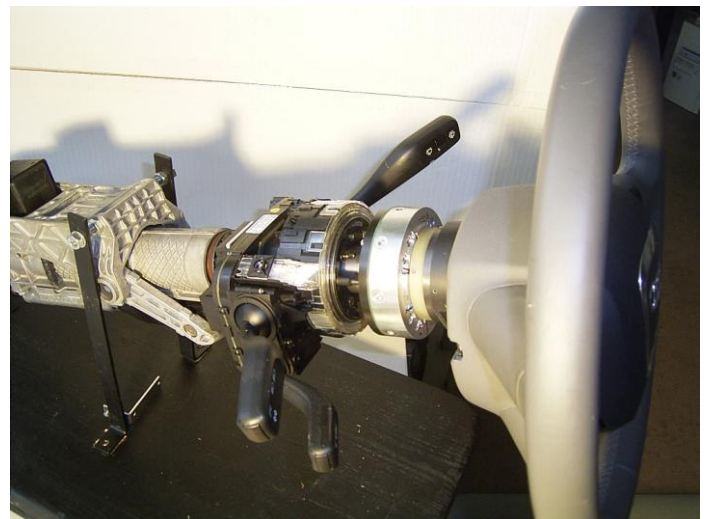


*Small, flexible and high-precision:
The new steering effort sensor KMT-CLS*

Measurements at the original steering wheel: The new steering effort sensor CLS

The new steering effort sensor **KMT-CLS** is designed for applications in any car or commercial vehicle steering system. The KMT-CLS sensor is available with a torque range of $\pm 100\text{Nm}$ and $\pm 200\text{Nm}$, the range for the steering angle is $\pm 1340^\circ$. At the CAN output in addition the rotational steering velocity ($\pm 1000^\circ/\text{s}$) is available. The control unit simultaneously provides a free configurable CAN output for the data transmission off all values and two analog outputs for steering angle and torque. In addition torque and angle can be metered on two displays of the control unit. The zero balance of steering angle and torque is also initiated at the control unit. All features of multi-function steering wheels can be maintained because there is no change on the original steering wheel necessary. Up to six electrical signals can be conveyed through the KMT-CLS. The power for the whole system is supplied from the control unit and can be provided in a range from 9V to 36V.

- ▶ Steering torque range $\pm 100\text{ Nm}$ or $\pm 200\text{ Nm}$
- ▶ Steering angle range $\pm 1340^\circ$
- ▶ Rotational velocity range $\pm 1000^\circ/\text{sec}$
- ▶ CAN and analog output
- ▶ Optimum signal resolution 0,04 Nm, 0,04°
- ▶ Changeable adaption for any car and truck manufacturer
- ▶ All features of multi-function steering wheels can be used with the CLS mounted (including airbag)
- ▶ Power supplied by the control unit



KMT-CLS Sensor in a standard application, located between steering wheel and steering column

Technical Data



Sensor

Steering Torque

| | |
|---------------------|-----------------------------------------------------|
| Measuring Principle | Temperature compensated strain gage application |
| Measurement Range | ± 100 Nm or ± 200 Nm (choose when ordering) |
| Accuracy | 0,2 % FS |
| Bandwidth | 0 ... 800 Hz |

Steering Angle

| | |
|---------------------|--------------------------------------------------|
| Measuring Principle | Incremental Angle Encoder |
| Measurement Range | CAN: $\pm 1.340^\circ$ analog: $\pm 1.000^\circ$ |
| Accuracy | CAN: $0,04^\circ$ analog: $0,65^\circ$ |
| Bandwidth | 0 ... 800 Hz |

Rotational Velocity

| | |
|---------------------|-------------------------------------------------------|
| Measuring Principle | Calculated from the angle (available only at CAN bus) |
| Measurement Range | CAN: $\pm 1.000^\circ/\text{s}$ |
| Bandwidth | 0 ... 800 Hz |

General Data

| | |
|-----------------------|-------------------------------------------------------------------|
| Overload | >100% of the nominal steering torque |
| Mech. breaking torque | > 500 Nm (mechanical protection at breakage) |
| Adaption | Special adaption sets for any car or truck manufactures available |
| External-Ø | max. 100 mm |
| Height | 65 mm without adapter |
| Required place | ca. 96 mm, depends on the situation |
| Weight | 1,4 kg |
| Working temperature | -20 ... +80 °C |

Control Unit

| | |
|---------------|------------------------------------------------------------------------------------------------|
| Power supply | 9 ...36 V DC |
| CAN-Output | Free configurable CAN output for the data transmission |
| Analog output | Torque: ± 10 V (= ± 100 Nm or ± 200 Nm) Angle: ± 10 V (= $\pm 1000^\circ$) |
| Auto zero | With push-button for torque and angle at the panel |

