

DR-2531

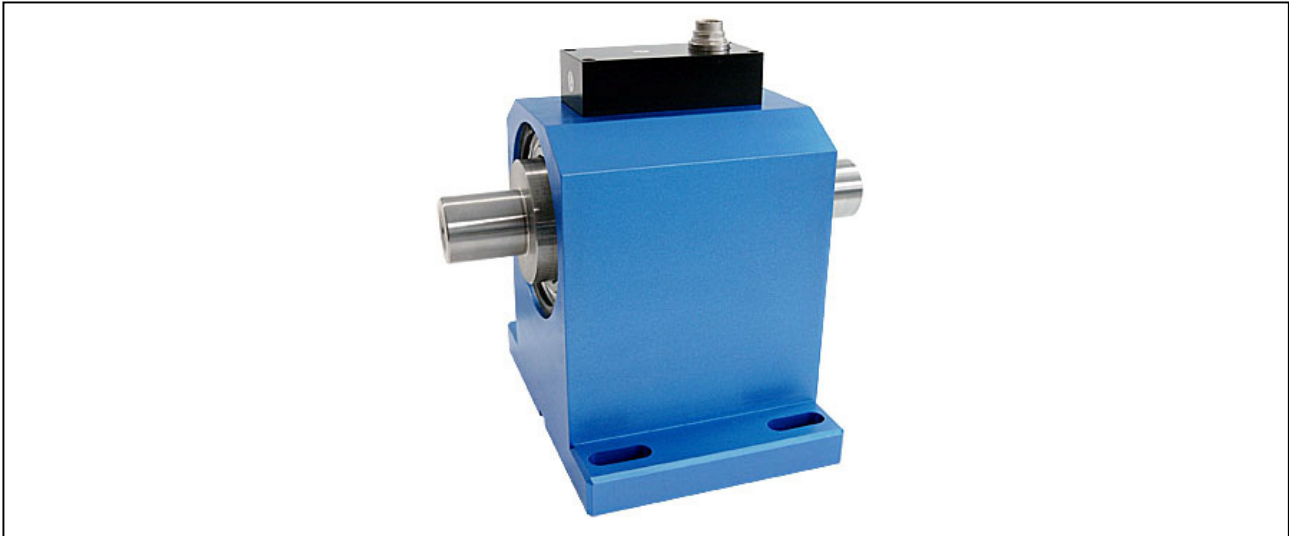
**2-Bereichs-Drehmomentsensor, Analogausgang
- Dual-Range Torque Sensor, Analog Output**

- Aktiver Ausgang $\pm 5\text{ V}$ - Active output signal $\pm 5\text{ V}$
- Messrate 5 kSample pro Kanal - Sample rate 5 kSample per channel

DR-2831

2-Bereichs-Drehmomentsensor, RS485-Schnittstelle - Dual-Range Torque Sensor, RS485-Interface

- RS485-Schnittstelle - RS485-interface
- Auto-Identifikation von: Messbereich, Serien- Nr., Kalibrierdatum - Auto identification of: measuring range, serial number, date of calibration



Diese Sensoren haben eine berührungslose und digitale Signalübertragung von Rotor zu Stator, also ohne Signalverfälschung und wartungsfrei.

These sensors have a contactless and digital signal transmission from rotor to stator, which means no signal falsification and maintenance-free.

| Artikel-Nr. Article-no. DR-2531 | Artikel-Nr. Article-no. DR-2831 | Messbereich Measuring range [N·m] | Max. Drehzahl Max. speed [min ⁻¹] | Federkonstante Springrate [N·m/rad] | Masse- trägheits- moment Mass moment of inertia [kg·m ²] | | Max. Axiallast Max. thrust load [N] |
|---------------------------------------|---------------------------------------|---|---|---|--|------------------------|---|
| | | | | | Antriebsseite Drive side | Messseite Test side | |
| 107587 | 109227 | 5 /0,5 | 12000 | 2,4·10 ² | 9,7·10 ⁻⁶ | 7,9·10 ⁻⁶ | 50 |
| 107776 | 109228 | 10/1 | 12000 | 7,2·10 ² | 1,0·10 ⁻⁵ | 7,9·10 ⁻⁶ | 50 |
| 107779 | 109229 | 20/2 | 12000 | 2,2·10 ³ | 1,1·10 ⁻⁵ | 9,9·10 ⁻⁶ | 300 |
| 107780 | 109230 | 30/3 | 12000 | 2,8·10 ³ | 1,1·10 ⁻⁵ | 9,9·10 ⁻⁶ | 1000 |
| 107781 | 109231 | 50/5 | 12000 | 5,4·10 ³ | 1,4·10 ⁻⁵ | 1,1·10 ⁻⁵ | 1600 |
| 107782 | 109232 | 100/10 | 12000 | 8,0·10 ³ | 1,4·10 ⁻⁵ | 1,2·10 ⁻⁵ | 2600 |
| 107783 | 109233 | 200/20 | 7000 | 3,7·10 ⁴ | 1,3·10 ⁻³ | 8,0·10 ⁻⁴ | 3200 |
| 107784 | 109234 | 300/30 | 7000 | 5,4·10 ⁴ | 1,3·10 ⁻³ | 8,0·10 ⁻⁴ | 7500 |
| 107785 | 109235 | 500/50 | 7000 | 8,1·10 ⁴ | 1,3·10 ⁻³ | 8,0·10 ⁻⁴ | 7500 |
| 107786 | 109236 | 1000/100 | 7000 | 1,9·10 ⁵ | 1,6·10 ⁻³ | 1,1·10 ⁻³ | 10000 |
| 107787 | 109237 | 2000/200 | 5500 | 5,1·10 ⁵ | 5,4·10 ⁻³ | 4,2·10 ⁻³ | 18000 |
| 107790 | 109239 | 5000/500 | 5500 | 7,8·10 ⁵ | 5,5·10 ⁻³ | 4,3·10 ⁻⁴ | 32000 |
| 108970 | 109240 | 10000/1000 | 3500 | 3,1·10 ⁶ | 4,1·10 ⁻² | 3,6·10 ⁻² | 125000 |
| 109583 | 109685 | 20000/2000 | 3500 | 3,7·10 ⁶ | 4,1·10 ⁻² | 3,7·10 ⁻² | 200000 |



Bei der Bestellung bitte den gewünschten Messbereich angeben! Please specify the required meas. range at order!

TECHNISCHE DATEN - SPECIFICATIONS

| Typ - Type | | DR-2531 | DR-2831 |
|---|---------------------|--|--|
| Genauigkeitsklasse - Accuracy class. | % v. E. - f. s. | | 0,1 |
| Reproduzierbarkeit - Repeatability (DIN 1319) | % | | ±0,02 |
| Versorgung - Excitation voltage | V DC | | 12 ... 28 |
| Stromaufnahme - Current consumption | mA | | <60 |
| Ausgangssignal - Output signal | | 0 ... ±5 V | ±25000 digits |
| Belastbarkeit - Output current max. | mA | 5 kurzschlussfest Short circuit resist. | |
| Eingang Kontrollaufschaltung - Input calibration control | V | L <2,0; H >3,5 | per Software |
| Messrate - Sample rate | kSample | 5 | |
| Messrate Kanal A oder B - Sample rate channel A or B | kSample | | 5* |
| Messrate Kanal A und B - Sample rate channel A and B | kSample | | 3,5* |
| Referenztemperatur - Reference temperature | °C | | +23 |
| Nenntemperaturbereich - Nominal temperature range | °C | | +5 ... +45 |
| Gebrauchstemperaturbereich - Service temperature range | °C | | 0 ... +60 |
| Lagerungstemperaturbereich - Storage temperature range | °C | | -10 ... +70 |
| Temp. koef. des Kennwertes - Temp. coeff. of sensitivity | % v. E./K - f. s./K | | ±0,01 |
| Temp. koef. des Nullsignals - Temp. coeff. of zero signal | % v. E./K - f. s./K | | ±0,02 |
| Gebrauchsdrehmoment (statisch) - Service torque (static) | % v. E. - f. s. | | 150 |
| Grenzdrehmoment (statisch) - Limit torque (static) | % v. E. - f. s. | | 200 |
| Bruchdrehmoment (statisch) - Ultimate torque (static) | % v. E. - f. s. | | >300 |
| Schwingbreite - Bandwidth (DIN 50100) | % | | 70 (Spitze - Spitze) - (peak - peak) |
| Schutzart - Level of protection (DIN EN 60529) | | | IP50 |
| Elektrischer Anschluss - Electrical connection | | | 12-polig Serie 581 - 12-pin series 581 |

* Baudratenabhängig, siehe Protokollbeschreibung Dok.-Nr. 090110 - Baud rate-dependent, see protocol description, document no. 090110

Optionen - Options

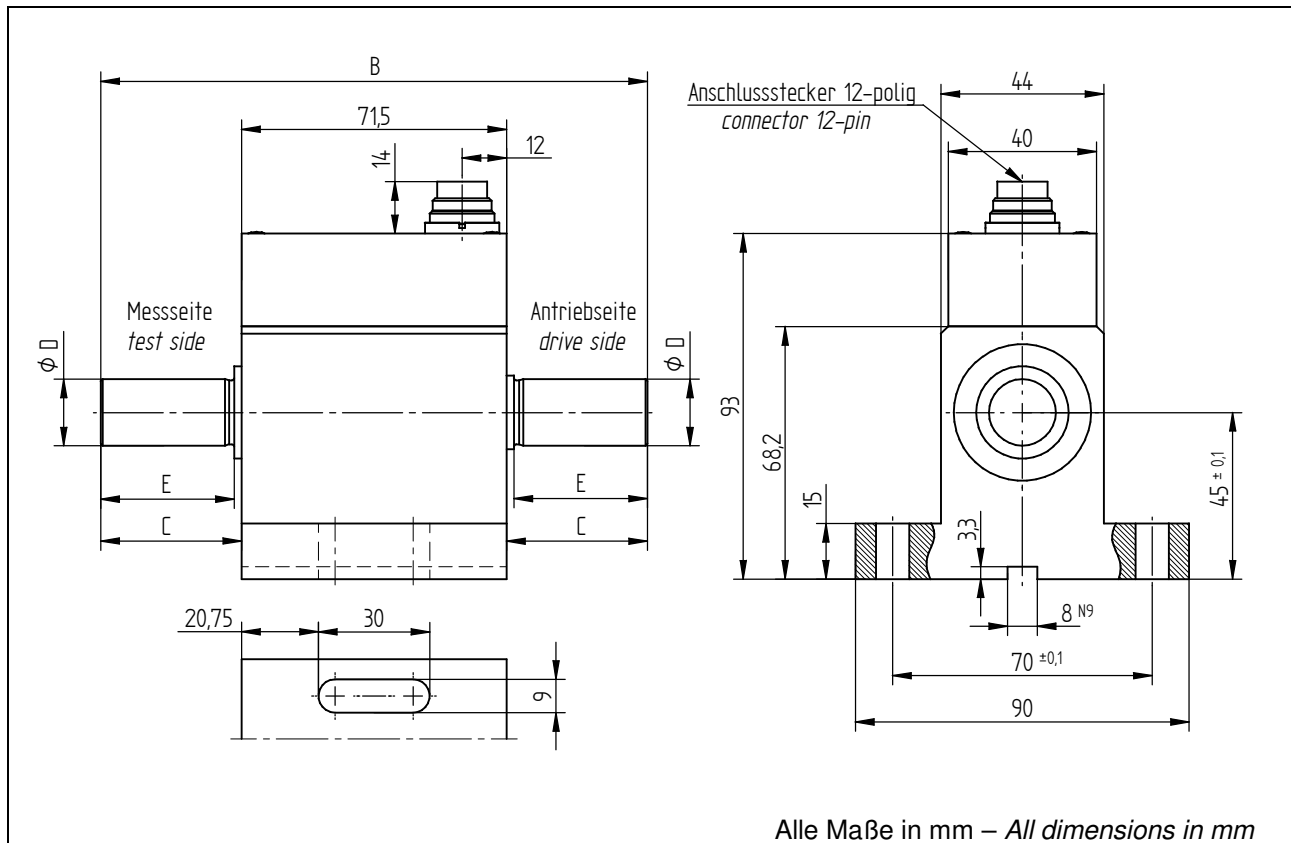
| Artikel-Nr. Article-no. | Bezeichnung - Description | |
|----------------------------|--|---|
| 101560 | Winkelmessung, 360 Impulse 2 x TTL 90° versetzt - Angle control 360 impulses, 2 traces, 90° displaced | Rechtsdrehung - CW-turn CH A  CH B  |
| 104097 | ≥2000 N·m, 60 Impulse 1 x TTL - 60 impulses, 1 trace | |
| 103562 | Ausgangssignal - Output signal | V |
| | | 0 ... ±10 |

Anschlussbelegung - Pin connection

| 12-polig - 12-pin | DR-2531 | DR-2831 |
|-------------------|--|--|
| Pin A | NC | NC |
| Pin B | Opt. Winkel B - Opt. angle B TTL | Opt. Winkel B - Opt. angle B TTL |
| Pin C | Signal (+) - Signal (+) ±5 V | NC |
| Pin D | Signal (GND) - Signal (GND) 0 V | NC |
| Pin E | Vers. (GND) - Excitation (GND) 0 V | Vers.(GND) - Excitation (DND) 0 V |
| Pin F | Vers. (+) - Excitation (+) 12 ... 28 V DC | Vers. (+) - Excitation (+) 12 ... 28 V DC |
| Pin G | Opt. Winkel A - Opt. angle A TTL | Opt. Winkel A - Opt. angle A TTL |
| Pin H | Signal 2 (+) - Signal 2 (+) ±5 V | NC |
| Pin J | NC | RS485 |
| Pin K | Kontrolle - Calibration control L <2,0 ; H >3,5 V | NC |
| Pin L | NC | RS485 |
| Pin M | Gehäuse - Housing | Gehäuse - Housing |

Mechanische Abmessungen - Dimensions

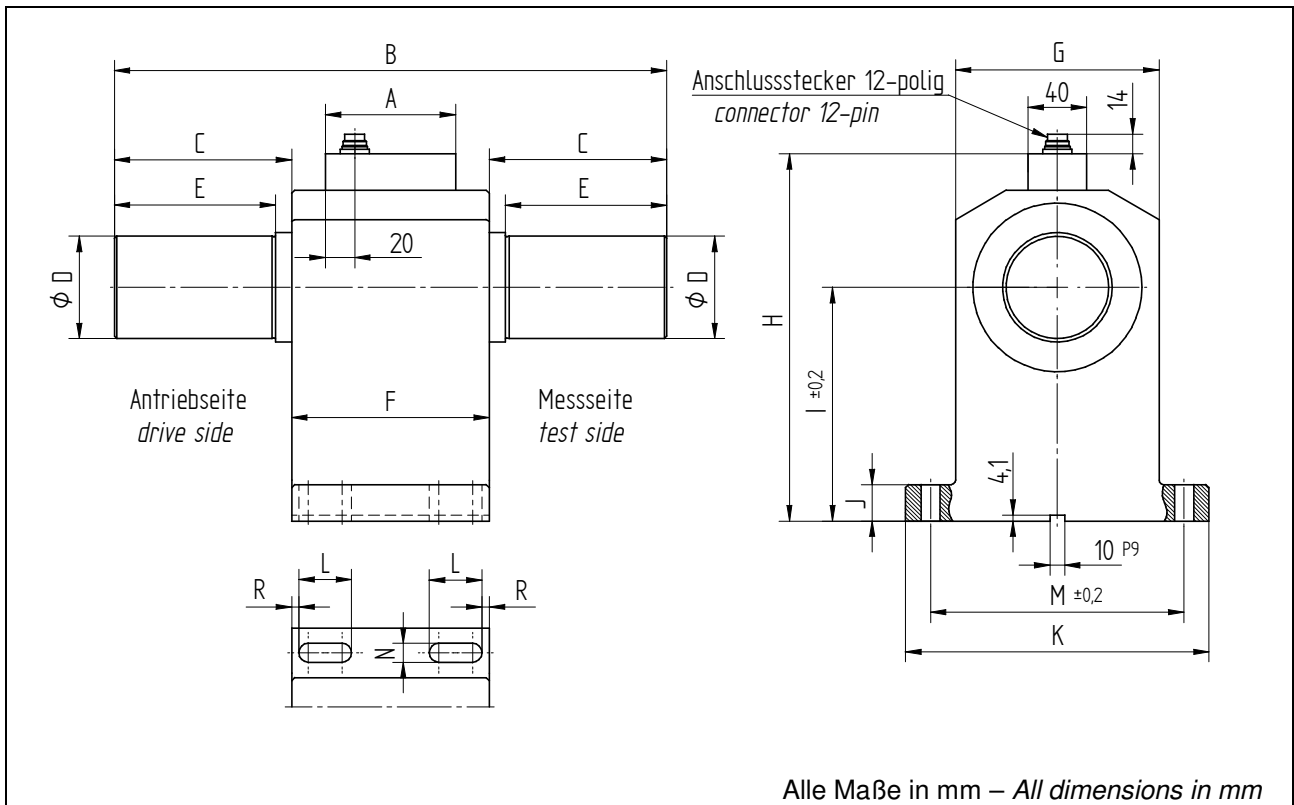
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| Messbereich - Measuring range [N·m] | Abmessungen- Dimensions [mm] | | | |
|---|---------------------------------|----|-------|----|
| | B | C | Ø D | E |
| 5/0,5 | 107,5 | 18 | 8 g6 | 17 |
| 10/1 | 107,5 | 18 | 10 g6 | 17 |
| 20/2 30/3 | 111,5 | 20 | 18 h6 | 18 |
| 50/5 100/10 | 147,5 | 38 | 18 h6 | 36 |

Mechanische Abmessungen - Dimensions

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| Messbereich - Measuring range [N·m] | Abmessungen – Dimensions [mm] | | | | | | | | | | | | | | |
|---|----------------------------------|-----|------|--------|-----|-----|-----|-------|-----|----|-----|----|-----|----|----|
| | A | B | C | ØD | E | F | G | H | I | J | K | L | M | N | R |
| 200/20 300/30 500/50 | 89 | 217 | 43,5 | 32 h6 | 38 | 130 | 115 | 190,4 | 112 | 20 | 175 | 30 | 145 | 11 | 5 |
| 1000/100 | 89 | 262 | 66 | 50 h7 | 58 | 130 | 115 | 190,4 | 112 | 20 | 175 | 30 | 145 | 11 | 5 |
| 2000/200 5000/500 | 89 | 377 | 121 | 70 h7 | 110 | 135 | 139 | 251,5 | 160 | 25 | 207 | 36 | 173 | 13 | 5 |
| 10000/1000 20000/2000 | 89 | 470 | 140 | 110 h7 | 120 | 190 | 210 | 343 | 215 | 40 | 300 | 45 | 260 | 17 | 15 |