



Rotierender Miniatur-Drehmomentsensor mit Analogausgang

Typ DR-2493

Rotation torque sensor, analog output

- Aktiver Ausgang ±5V
- Grenzfrequenz 1kHz
- active output signal ±5V
- 1kHz cut-off frequency



| Artikel-Nr. art. No. | Messbereich nominal torque [Nm] | Vierkant square | max. Drehzahl max. speed [min ⁻¹] | Federkon- stante springrate [Nm/rad] | Messen- trägheits- moment of inertia J in [kg cm ²] | | zul. Axiallast max. thrust load [N] |
|-------------------------|---------------------------------------|--------------------|--|---|--|------------------------|--|
| | | | | | Antriebsseite drive side | Messseite test side | |
| 106753 | 0,1 | 1/4" | 3000 | 75 | 0,0130 | 0,0012 | 15 |
| 106754 | 0,2 | | 3000 | 75 | 0,0130 | 0,0012 | 20 |
| 106755 | 0,5 | | 3000 | 240 | 0,0130 | 0,0012 | 30 |
| 106756 | 1 | | 4000 | 440 | 0,0130 | 0,0012 | 40 |
| 106757 | 2 | | 4000 | 650 | 0,0131 | 0,0013 | 50 |
| 106758 | 5 | | 4000 | 650 | 0,0131 | 0,0013 | 50 |
| 106759 | 10 | | 4000 | 1630 | 0,0132 | 0,0014 | 50 |
| 106760 | 15 | | 4000 | 2996 | 0,0134 | 0,0015 | 100 |
| 106761 | 20 | | 4000 | 2996 | 0,0134 | 0,0015 | 100 |
| 106762 | 35 | 3/8" | 3000 | 0,008 x 10 ⁶ | 0,073 | 0,073 | 1300 |
| 106763 | 50 | | 3000 | 0,012 x 10 ⁶ | 0,074 | 0,074 | 1600 |
| 106764 | 63 | | 3000 | 0,017 x 10 ⁶ | 0,074 | 0,074 | 1900 |
| 106765 | 100 | 1/2" | 2500 | 0,031 x 10 ⁶ | 0,139 | 0,079 | 2600 |
| 106766 | 160 | | 2500 | 0,059 x 10 ⁶ | 0,142 | 0,083 | 3200 |
| 106767 | 200 | | 2500 | 0,059 x 10 ⁶ | 0,142 | 0,083 | 3200 |
| 106768 | 300 | 3/4" | 2500 | 0,112 x 10 ⁶ | 0,899 | 0,578 | 5500 |
| 106769 | 500 | | 2500 | 0,222 x 10 ⁶ | 0,918 | 0,597 | 7500 |
| 106770 | 1000 | 1" | 1500 | 0,451 x 10 ⁶ | 2,141 | 0,747 | 10000 |
| 106771 | 2000 | 1 1/2" | 1000 | 1,264 x 10 ⁶ | 32,533 | 5,848 | 18000 |
| 106772 | 5000 | | 1000 | 4,294 x 10 ⁶ | 33,129 | 6,444 | 32000 |





TECHNISCHE DATEN - specifications

DR-2493

| | | |
|--|----------|---|
| Genauigkeitsklasse - <i>accuracy class</i> | % v.E | 0,25 |
| Reproduzierbarkeit n. DIN 1319 - <i>nonrepeatability</i> | % | ±0,05 |
| Versorgung - <i>supply voltage</i> | VDC | 12 ... 28 |
| Stromaufnahme - <i>supply current</i> | mA | <60 |
| Ausgangssignal - <i>output signal</i> | V | ±0 ... 5 |
| Belastbarkeit - <i>output current max.</i> | mA | 5 kurzschlussfest <i>short circuit resist.</i> |
| Eingang Kontrollaufschaltung - <i>calibration control</i> | V | L <2,0; H>3,5 |
| Nenntemp.bereich - <i>nominal temp. range</i> | °C | +5 ... +45 |
| Gebrauchstemp.bereich - <i>service temp. range</i> | °C | 0 ... +60 |
| Temp. koeff. des Kennwertes - <i>temp. coeff. of sensitivity</i> | % v.E./K | +0,02 |
| Temp. koeff. des Nullsignals - <i>temp. coeff. of zero</i> | % v.E./K | ±0,05 |
| Gebrauchsmoment (statisch) - <i>service torque</i> | % v.E. | 150 |
| Grenzmoment (statisch) - <i>limit torque</i> | % v.E. | 200 |
| Bruchmoment (statisch) - <i>ultimate torque</i> | % v.E. | >300 |
| Schwingbreite - <i>bandwidth</i> (DIN 50100) | % | 70 (Spitze - Spitze) – (<i>top - top</i>) |
| Schutzart - <i>level of protection</i> (DIN 40 050) | | IP 50 |

Artikel Nr. Option - options

| | | | |
|--------|--|-----------------------------------|---|
| 101560 | Winkelmessung, 360 Impulse 2xTTL 90° versetzt - <i>anglecontrol 360 imp., 2 tracks, 90°-shifted</i> | Rechtsdrehung <i>CW - turn</i> | CH A  CH B  |
| 103562 | Ausgangssignal - <i>output signal</i> | V | ±0 ... 10 |

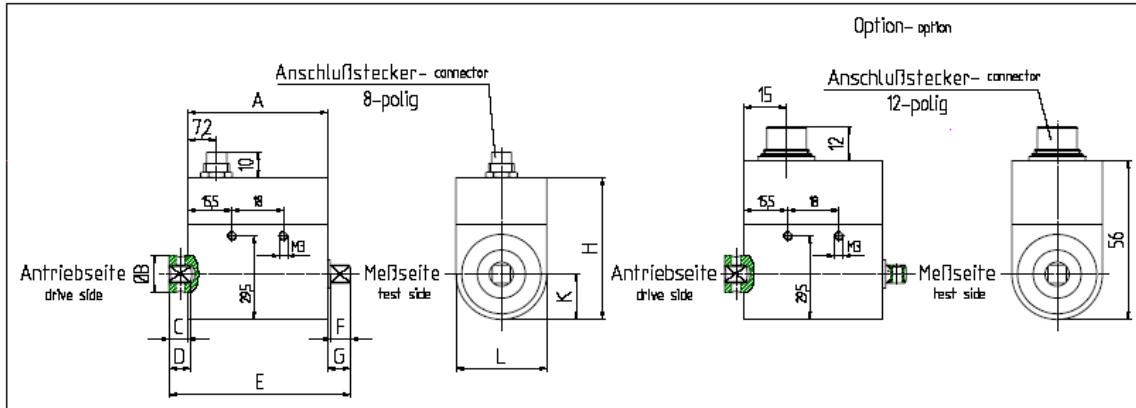
Anschlussbelegung - connection

| 8-polig 8-pin | 12-polig 12-pin | 8-polig / 12-polig – 8-pin / 12 pin | |
|------------------|--------------------|--------------------------------------|--------------------|
| - | Pin A | NC | - |
| Pin 7 | Pin B | Option Winkel B – <i>angle B</i> | TTL |
| Pin 3 | Pin C | Sign. (+) - <i>signal (+)</i> | ±5 V |
| Pin 4 | Pin D | Sign. (GND) - <i>signal (GND)</i> | 0 V |
| Pin 2 | Pin E | Vers (GND) - <i>excitation (GND)</i> | 0 V |
| Pin 1 | Pin F | Vers (+) - <i>excitation (+)</i> | 12 ... 28 V |
| Pin 6 | Pin G | Option Winkel A – <i>angle A</i> | TTL |
| - | Pin H | NC | - |
| - | Pin J | NC | - |
| Pin 5 | Pin K | Kontrolle - <i>cal. control</i> | L < 2,0V; H > 3,5V |
| Pin 8 | Pin L | NC | - |
| - | Pin M | Gehäuse - <i>housing</i> | - |

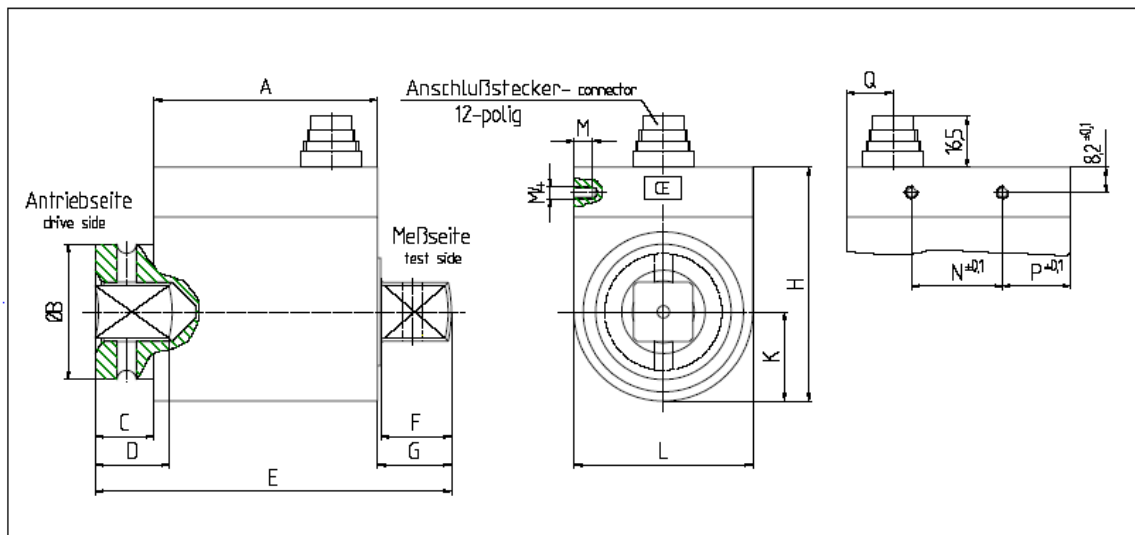


Mechanische Abmessungen – dimensions

DR-2493



| Messbereich nominal torque [Nm] | Vierkant square | Abmessungen dimensions [mm] | | | | | | | | | |
|---------------------------------------|--------------------|-----------------------------------|----|-----|---|----|-----|-----|----|----|----|
| | | A | B | C | D | E | F | G | H | L | K |
| 0 ... 20 Nm | 1/4" | 49 | 13 | 6,8 | 8 | 64 | 7,5 | 8,2 | 50 | 32 | 16 |

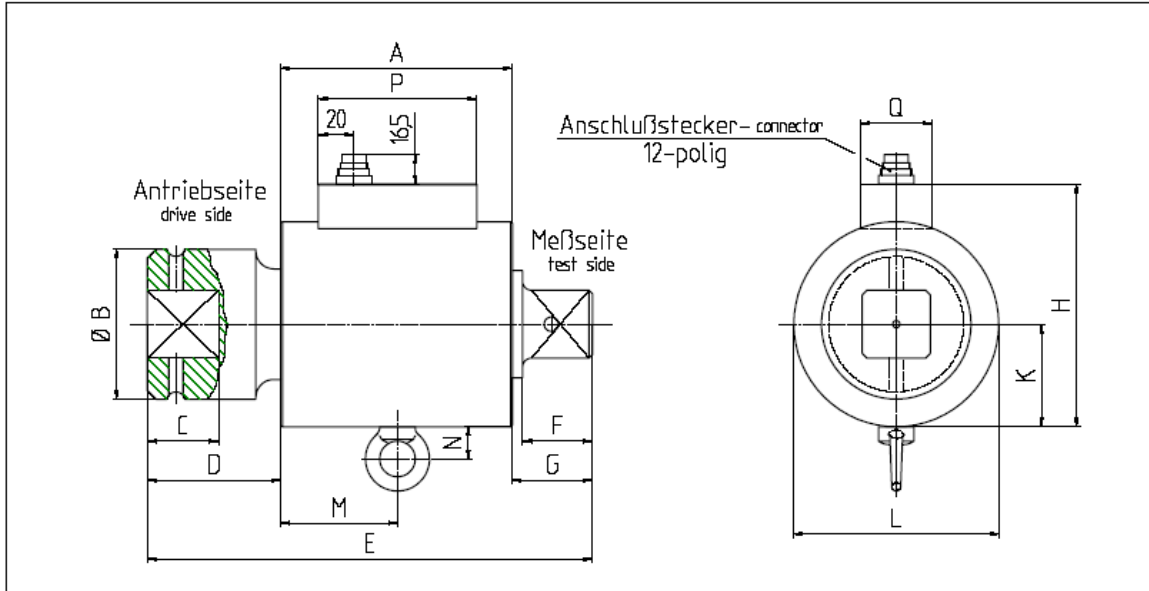


| Messbereich nominal torque [Nm] | Vierkant square | Abmessungen dimensions [mm] | | | | | | | | | | | | | |
|---------------------------------------|--------------------|-----------------------------------|------|----|------|-------|------|----|----|----|----|---|------|----|----|
| | | A | B | C | D | E | F | G | H | L | K | M | N | P | Q |
| 0 ... 63 Nm | 3/8" | 71,5 | 22 | 11 | 11,2 | 94,5 | 10,7 | 12 | 59 | 40 | 20 | 5 | 41,5 | 15 | 12 |
| 0 ... 200 Nm | 1/2" | 71,5 | 29,8 | 13 | 15,9 | 100,5 | 15,4 | 16 | 59 | 40 | 20 | 5 | 41,5 | 15 | 12 |
| 0 ... 500 Nm | 3/4" | 72,5 | 44 | 19 | 23,9 | 115,5 | 22,9 | 24 | 76 | 58 | 29 | 6 | 29,5 | 22 | 15 |
| 0 ... 1000 Nm | 1" | 72,5 | 54 | 29 | 28,6 | 130,5 | 27,6 | 29 | 76 | 58 | 29 | 6 | 29,5 | 22 | 15 |



Mechanische Abmessungen – dimensions

DR-2493



| Messbereich <i>nominal torque</i> [Nm] | Vierkant <i>square</i> | Abmessungen <i>dimensions</i> [mm] | | | | | | | | | | | | | |
|--|---------------------------|--|----|----|----|-----|----|----|-----|-----|------|------|----|----|----|
| | | A | B | C | D | E | F | G | H | L | K | M | N | P | Q |
| 0 ... 5000 Nm | 1 1/2" | 130 | 84 | 40 | 75 | 250 | 39 | 45 | 136 | 115 | 57,5 | 65,5 | 18 | 89 | 40 |