

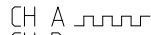
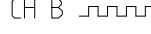
Schleifringdrehmomentsensor, rotierend
Slipring Torque Sensor, rotating**DR-12**

- Nenndrehmoment von 1 N·m ... 5000 N·m
 - Hohe Messgenauigkeit ab 0,1% v. Endwert
 - Integrierte Drehzahl-/ Drehwinkelmessung
 - Antriebs-Innenvierkant
 - Abtriebs-Außenvierkant
 - Sehr kurze axiale Baulänge
 - Hohe Drehsteifigkeit
 - Zuverlässig und robust
 - Einfache Handhabung und Montage
 - Sonderausführungen auf Anfrage
- *Nominal torque from 1 N·m ... 5000 N·m*
 - *High accuracy 0.1% f. scale*
 - *Integrated speed/ angle measurement*
 - *Drive-square socket*
 - *Output-square drive*
 - *Very short axial length*
 - *High torsional stiffness*
 - *Reliable and durable*
 - *Simple handling and assembly*
 - *Special versions on request*



Technische Daten - Specifications

| Artikel-Nr. Article-No. | Nennrehmoment Nominal Torque [N·m] | Grenzdrehzahl Limit Speed [min ⁻¹] | Federkonstante Springrate [N·m/rad] | Massen- trägheits- moment Mass Moment of Inertia [kg·m ²] | | Grenzlängskraft Limit Thrust Load [N] ¹ | Grenzquerkraft Limit Shear Force [N] ² |
|----------------------------|--|--|---|---|------------------------|--|---|
| | | | | Antriebsseite Drive Side | Messseite Test Side | | |
| 101980 | 1 | 2000 | 2,2E+02 | 3,5E-06 | 1,5E-06 | 380 | 5,3 |
| 101981 | 2 | 2000 | 2,2E+02 | 3,5E-06 | 1,5E-06 | 380 | 5,3 |
| 100212 | 5 | 2000 | 5,5E+02 | 3,5E-06 | 1,5E-06 | 690 | 13 |
| 101064 | 12 | 2000 | 6,8E+02 | 3,5E-06 | 1,5E-06 | 840 | 17 |
| 100232 | 25 | 1500 | 4,4E+03 | 1,2E-05 | 1,1E-05 | 2100 | 45 |
| 100233 | 63 | 1500 | 9,2E+03 | 1,2E-05 | 1,1E-05 | 3900 | 115 |
| 114359 | 100 | 1500 | 1,3E+04 | 1,6E-05 | 1,2E-05 | 5200 | 170 |
| 100234 | 160 | 1500 | 1,3E+04 | 1,6E-05 | 1,2E-05 | 5500 | 180 |
| 114360 | 200 | 1500 | 1,3E+04 | 1,6E-05 | 1,2E-05 | 5500 | 180 |
| 100235 | 500 | 1000 | 3,4E+04 | 9,0E-05 | 3,7E-05 | 10000 | 360 |
| 100236 | 1000 | 1000 | 8,7E+04 | 3,5E-04 | 1,0E-04 | 16200 | 680 |
| 100237 | 2000 | 500 | 3,9E+05 | 3,2E-03 | 1,2E-03 | 34100 | 1800 |
| 100238 | 5000 | 500 | 4,7E+05 | 3,3E-03 | 1,3E-03 | 46000 | 2750 |

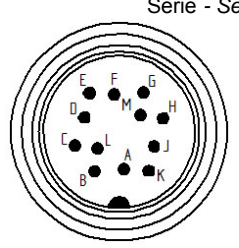
| DR-12 | | |
|---|---|--------------------------------------|
| Genauigkeitsklasse - Accuracy class | % v. E - f. s. | 0,1 |
| Reproduzierbarkeit - Repeatability (DIN 1319) | % | ±0,05 |
| Speisespannung DMS - Excitation voltage SG | VDC | 2 ... 12 |
| Speisespannung Winkel - Excitation voltage angle | VDC | 5 |
| Brückenwiderstand - Bridge resistance | Ω | 350 |
| Nennkennwert - Nominal sensitivity | mV/V | 1 [1 N·m; 0,5] ±0,1% |
| Referenztemperatur - Reference temperature | °C | 23 |
| Nenntemperaturbereich - Nominal temperature range | °C | 5 ... 50 |
| Gebrauchstemperaturbereich - Service temperature range | °C | -10 ... 60 |
| Temp. koeff. des Nullsignals - Temp. coeff. of zero signal | % v. E./K - f. s./K | ±0,04 |
| Temp. koeff. des Kennwerts - Temp. coeff. of sensitivity | % 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 |
| Standzeit der Bürsten ca. - Durability of brushes | Umdr. - rev. | 5x10 ⁷ |
| Schwingbreite - Bandwidth (DIN 50100) | % v. E - f. s. | 70 (Spitze - Spitze) - (peak - peak) |
| Drehzahl-/Drehwinkelmessung, 2 x 360 Impulse, 90° versetzt, 5V TTL - Speed/angle measurement, 2 x 360 impulses, 90° displaced, 5V TTL | Rechtsdrehung - CW-turn CH A  CH B  | |
| Schutzart - Level of protection (DIN EN 60529) | IP50 | |
| Elektrischer Anschluss - Electrical connection | 12-polig Serie 581 - 12-pin series 581 ³ | |

¹ Ungelagerte Welle - Unsupported shaft

² Ungelagerte Welle - Unsupported shaft

³ Kabeldose bei Erstausslieferung im Lieferumfang enthalten - Female cable connector in scope of delivery at first delivery

Anschlussbelegung - Pin Connection

| 12-polig - 12-pin | DR-12 | |
|-------------------|--|--|
| Pin A | Speisung (-) - Excitation (-) |  <p>Serie - Series 581</p> <p>Draufsicht - Top view</p> |
| Pin B | Speisung (+) - Excitation (+) | |
| Pin C | Signal (+) - Signal (+) | |
| Pin D | Signal (-) - Signal (-) | |
| Pin E | Speisung Winkel (GND) - Excitation angle (GND) | |
| Pin F | Speisung Winkel (5V) - Excitation angle (5V) | |
| Pin G | Signal Winkel A (5V TTL) - Signal angle A (5V TTL) | |
| Pin H | Signal Winkel B (5V TTL) - Signal angle B (5V TTL) | |
| Pin J | Signal Winkel (GND) - Signal angle (GND) | |
| Pin K | Kontrollsignal (Option) - Control signal (option) | |
| Pin L | NC | |
| Pin M | Schirm - Shield | |

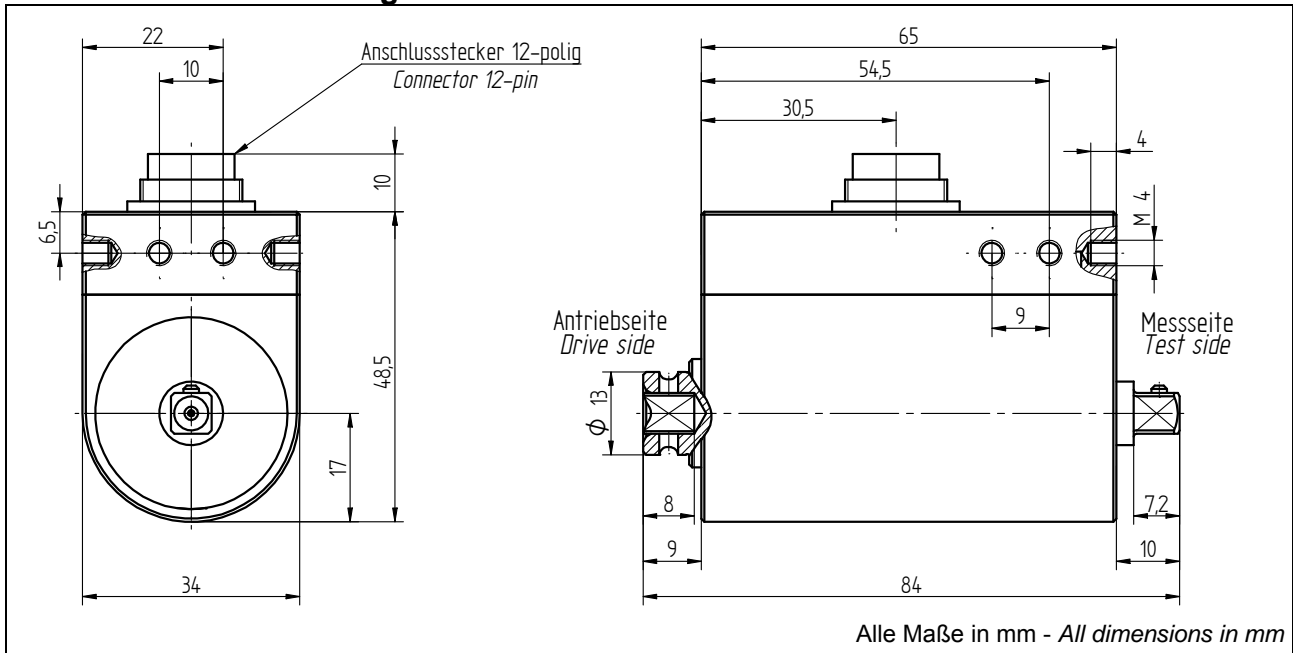
Optionen/ Zubehör - Options/ Accessories

| Artikel-Nr. - Article-No. | Bezeichnung - Description | | |
|---------------------------|--|----------------|-----|
| 100218 | Kontrollsignal - Control signal | % v. E - f. s. | 100 |
| 41382 | Kabeldose 12-polig Serie 581 - Female cable connector 12-pin series 581 | | |
| 45598 | Winkeldose 12-polig Serie 682 - Female angled connector 12-pin series 682 | | |
| 10267 | Anschlusskabel, 3 m, 12-polig Serie 581, freien Lötenden - Connection cable, 3 m, 12-pin series 581, free soldered ends | | |
| 10374 | Anschlusskabel winklig, 3 m, 12-polig Serie 682, freien Lötenden - Connection cable angled, 3 m, 12-pin series 682, free soldered ends | | |

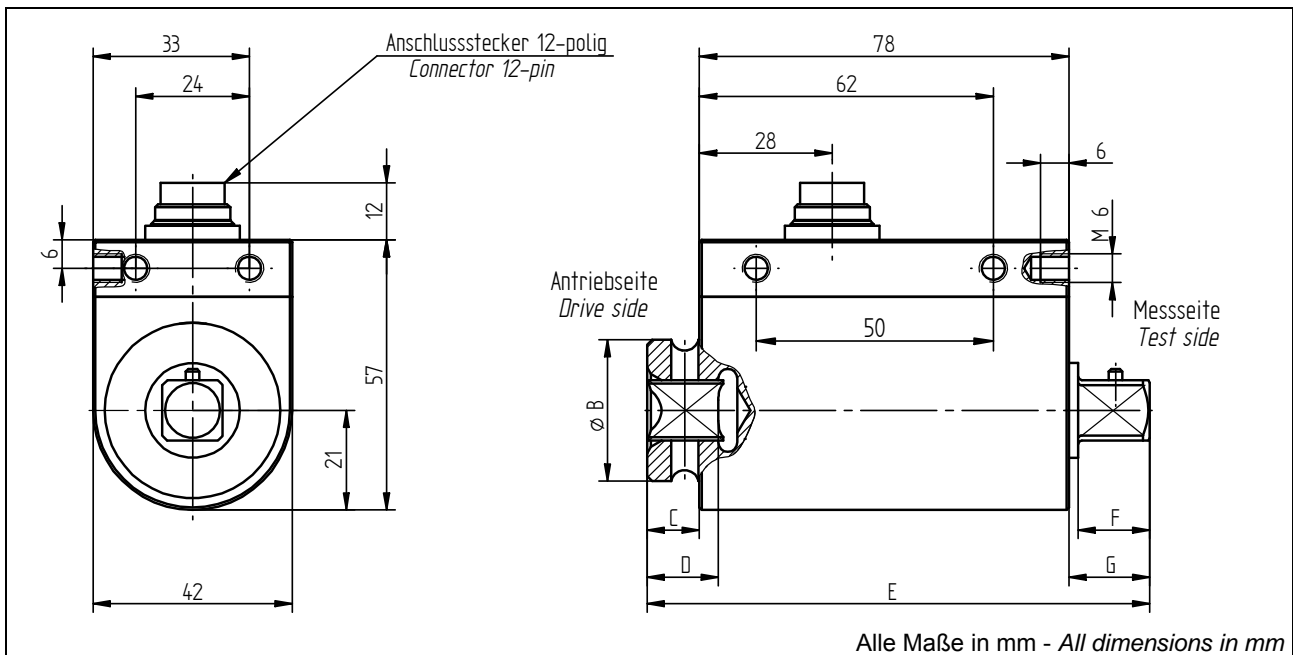
Option Kalibrierungen - Option Calibrations

| Artikel-Nr. - Article-No. | Bezeichnung - Description | Stufen - Steps | Norm - Norm |
|---------------------------|---|----------------|------------------------------|
| 400676 | Linearitätsdiagramm - Linearity diagram | 25% | Werksnorm - Factory standard |
| 400664 | Linearitätsdiagramm - Linearity diagram | 10% | |
| 400961 | Werkskalibrierung - Proprietary calibration | 3 | VDI/DE 2646 |
| 400700 | Werkskalibrierung - Proprietary calibration | 5 | |
| 400688 | Werkskalibrierung - Proprietary calibration | 8 | |
| | DAkKS-Kalibrierung - DAkKS-Calibration | | auf Anfrage - on request |

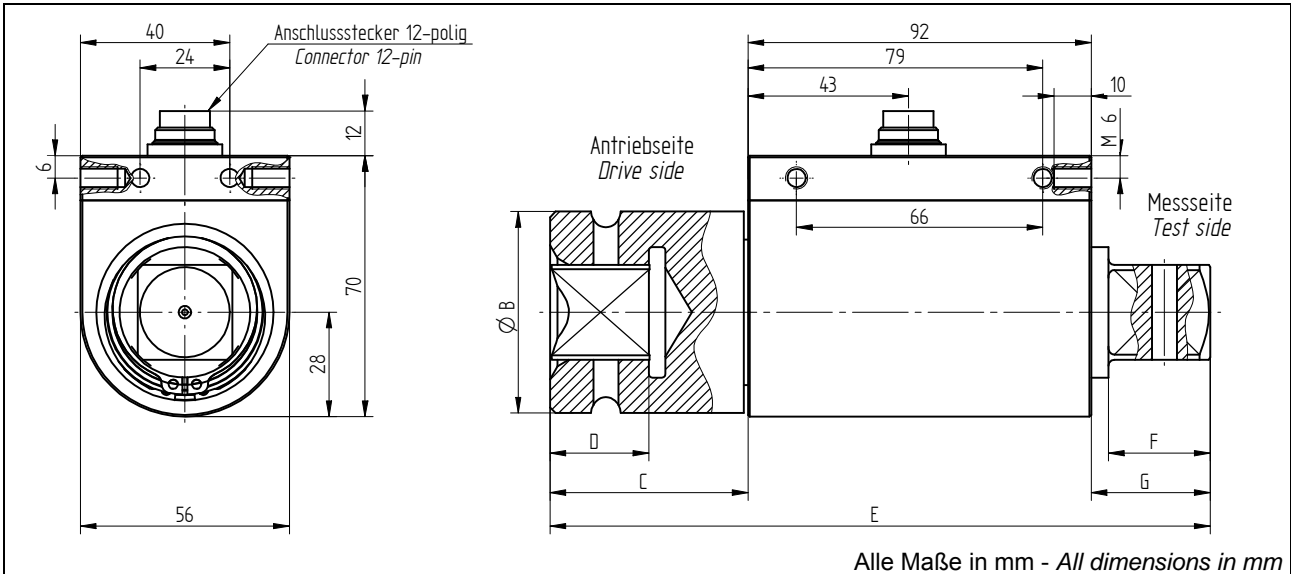
Mechanische Abmessungen – Dimensions



| | |
|---|--------------------------|
| Nenn Drehmoment Nominal Torque [N·m] | Vierkant - Square |
| 1 / 2 / 5 / 12 | 1/4" |

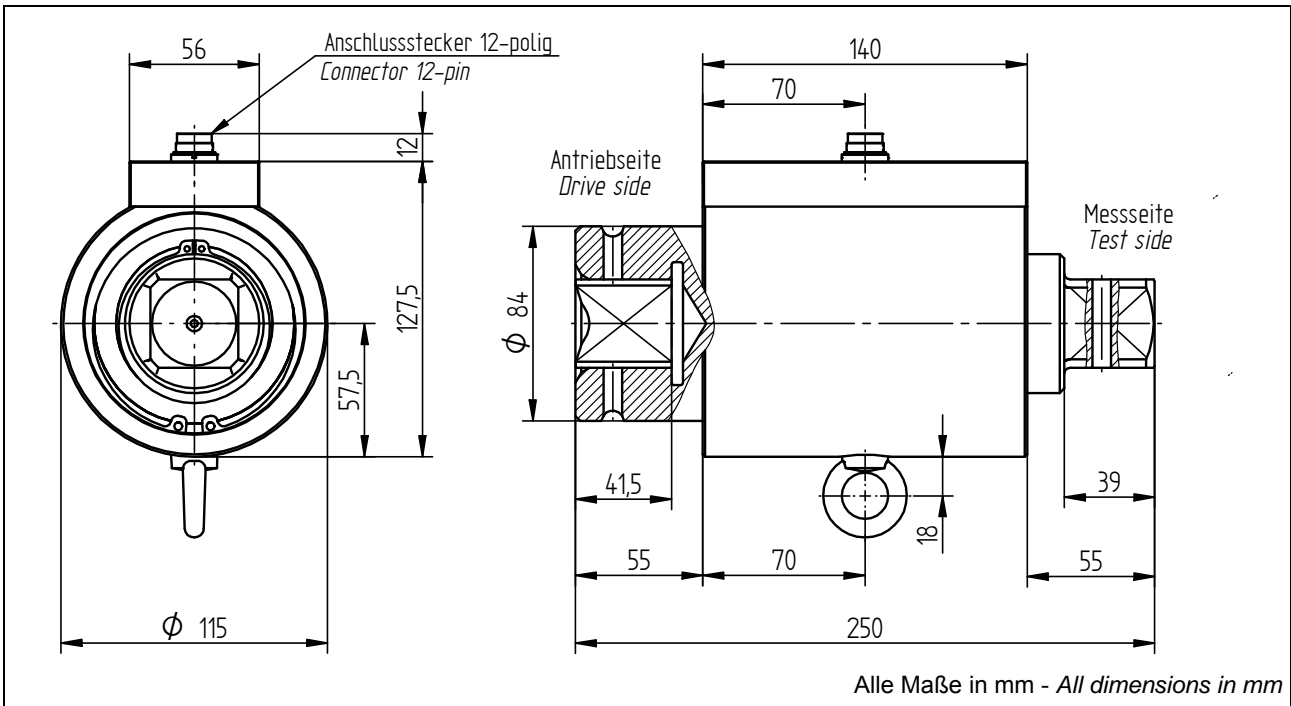


| Nenn Drehmoment Nominal Torque [N·m] | Vierkant - Square | Abmessungen - Dimensions [mm] | | | | | |
|---|----------------------------------|--|----------|----------|----------|----------|----------|
| | | B | C | D | E | F | G |
| 25 / 63 | 3/8" | 22 | 11 | 12,2 | 100,8 | 10,4 | 11,8 |
| 100 / 160 / 200 | 1/2" | 29,8 | 12 | 15 | 106 | 15,1 | 16 |



Alle Maße in mm - All dimensions in mm

| Nenn Drehmoment Nominal Torque [N·m] | Vierkant - Square | Abmessungen - Dimensions [mm] | | | | | |
|--|-------------------------|----------------------------------|----|------|-----|------|----|
| | | B | C | D | E | F | G |
| 500 | 3/4" | 44 | 18 | 24,9 | 135 | 22,9 | 25 |
| 1000 | 1" | 54 | 53 | 29,9 | 177 | 27,4 | 32 |



Alle Maße in mm - All dimensions in mm

| Nenn Drehmoment Nominal Torque [N·m] | Vierkant - Square |
|--|-------------------|
| 2000 / 5000 | 1 1/2" |