

Torque Transducer

Type DRWPL (waterproof IP 67)

with Speed or Angle detection



Special features:

- waterproof (IP67)
- contactless
- build-in measurement amplifier
- single supply voltage
- wide application range
- small outline
- low moment of inertia
- speed detection (option)
- angle detection (option)

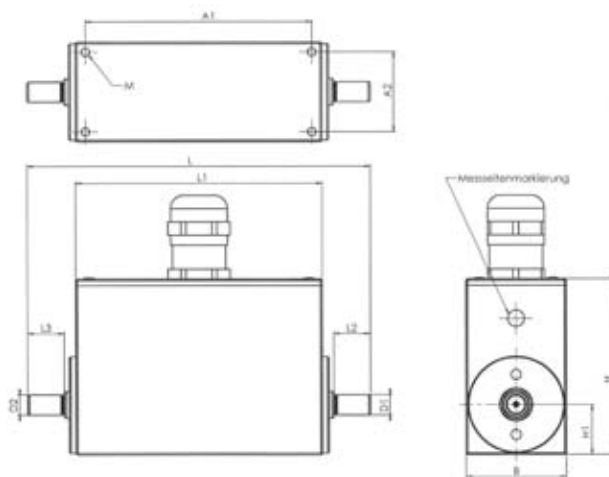
Description:

The torque transducers series DRWPL are prepared with several sealings, so that they correspond with the international protection IP67. For varying applications these transducers are available also with optional speed or

angle detection. The integrated measurement amplifier is supplied with 12V DC and outputs an analog signal of 0 to $\pm 10V$, which is galvanic isolated against supply voltage.

| | | | |
|--------------------------------|--|-------------------------------|--|
| Supply Voltage: | 12V DC $\pm 10\%$ | Option Speed: | (n) |
| Current Consumption: | approx. 200mA | rev. max.: | up to 10 000 rpm * |
| Rise Time 10-90%: | 2ms | Output: | Open- Collector |
| Limit Frequency -3dB: | 200Hz | Internal Pull Up | 10k Ω (5 V level) |
| Voltage Output: | 0 to $\pm 10V$ | External Pull Up | 24 V max / 20mA |
| Internal Resistance: | 100 Ω | Pulses/rev.: | 60 |
| Ripple: | < 100mVss | Option Angle: | (w) |
| Nonlinearity: | < 0,1% | rev. max.: | up to 3 000 rpm ** |
| Hysteresis: | < 0,1% | Output: | Open- Collector |
| Maximum Measurement Fault: | 0,1% (of full scale) | Internal Pull Up | 10k Ω (5 V level) |
| Operating Temperature: | 0-60°C | External Pull Up | 24 V max / 20mA |
| Compensated Temperature Range: | 5-45°C | Pulses/rev.: | 360 |
| Temperature Fault | | Resolution: | 1° |
| Zero Point: | 0,02%/K | Phase shift: | Channel A 90° at right spin of propulsion side |
| Sensitivity: | 0,01%/K | | |
| Mechanical Overload: | 100% | | |
| Internal protection: | IP 67 DIN 40050 | | |
| Cable length: | 2,5m (Standard) | | |
| Connection: | 6 pin coupler socket | | |
| with option speed or angle: | 12 pin coupler socket or with flying leads | With suitable external wiring | * 20.000 rpm ** 15.000 rpm (or speed max.) |

Mechanische Abmessungen:



| Type | DRWPL-I | DRWPL-II | DRWPL-III | DRWPL-IV |
|-------------------------------------|--|-------------|----------------|---------------|
| Measurement range: [Nm] | 0,1/0,2/0,5/1/2 | 5/10/20/50 | 50/100/200/300 | 500/1000/1500 |
| Abmessungen: | Different measurement ranges on demand | | | |
| L [mm] | 103 | 160 | 205 | 310 |
| L1 [mm] | 74 | 92 | 105 | 126 |
| L2 [mm] | 11 | 30 | 45 | 85 |
| L3 [mm] | 11 | 30 | 45 | 85 |
| B [mm] | 30 | 50 | 77 | 120 |
| H [mm] | 53 | 68 | 95 | 112 |
| H1 [mm] | 15 | 25 | 40 | 52 |
| D1 Ø g6 [mm] | 6 | 15 | 26 | 45 |
| D2 Ø g6 [mm] | 6 | 15 | 26 | 45 |
| A1 [mm] | 68 | 82 | 95 | 105 |
| A2 [mm] | 24 | 40 | 68 | 105 |
| M | M3 x 5 deep | M4 x 8 deep | M4 x 8 deep | M6x10 deep |
| General tolerances DINz768-m | | | | |
| weight approx.: [g] | 280 | 920 | 4925 | 8000 |
| Drehzahl max.[1/min] | 20.000 | 10.000 | 5.000 | 1.900 |

Technical Specifications:

The values for axial load and radial load refer to the non-fixed case

| Type | Measurement Range [Nm] | Spring Constant C [Nm/rad] | Mass Moment of Inertia J [g·cm ²] | Max Axial Load[N] | Max Radial Load[N] |
|-----------|------------------------|----------------------------|---|-------------------|--------------------|
| DRWPL-I | 0,1 | 390 | 35 | 140 | 1,5 |
| | 0,2 | 390 | 35 | 140 | 1,5 |
| | 0,5 | 400 | 35 | 160 | 2 |
| | 1 | 470 | 35 | 210 | 3,5 |
| | 2 | 600 | 35 | 210 | 6,5 |
| DRWPL-II | 5 | 935 | 220 | 930 | 10 |
| | 10 | 2020 | 225 | 930 | 20 |
| | 20 | 3630 | 225 | 930 | 50 |
| | 50 | 5810 | 230 | 930 | 110 |
| DRWPL-III | 50 | 11030 | 1560 | 1820 | 60 |
| | 100 | 22200 | 1570 | 1820 | 130 |
| | 200 | 37400 | 1600 | 1820 | 250 |
| | 300 | 45800 | 1630 | 1820 | 380 |
| DRWPL-IV | 500 | 204847 | 11820 | 4160 | 522 |
| | 1000 | 288551 | 12053 | 4160 | 1019 |
| | 1500 | 325736 | 12319 | 4160 | 1502 |

Ordering example: DRWPL-I-0,2-w-2,5m

Torque transducer Type DRWPL-I measurement range 0,2Nm, option speed detection and 2,5m measurement cable with flying leads

Available Accessories: supply and display unit, couplings