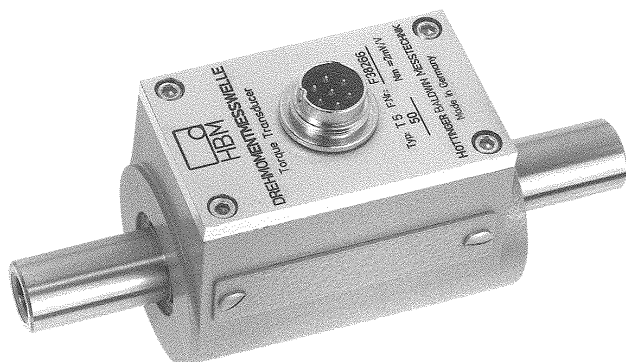


T5

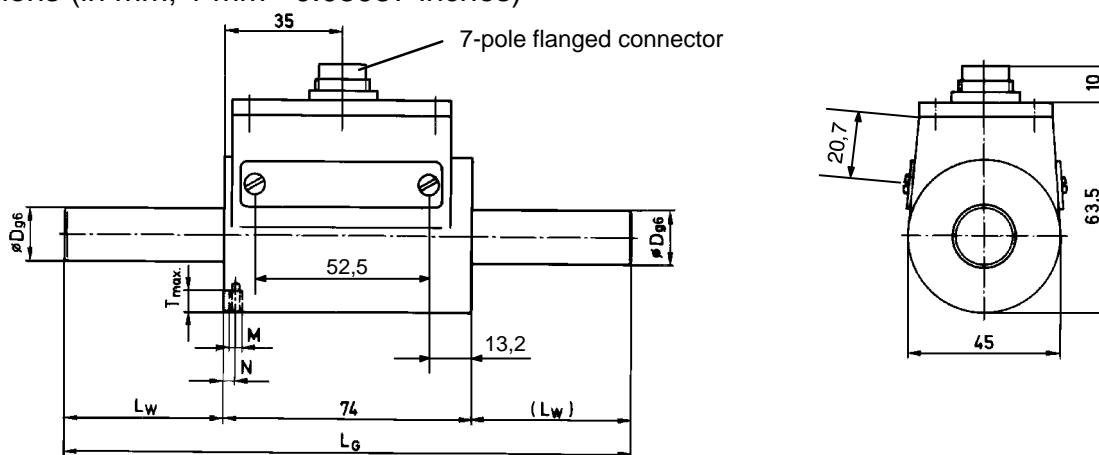
Torque Transducers



Special features

- Measurement of torques in any direction of rotation
- Nominal torques 10 N·m, 20 N·m, 50 N·m, 100 N·m and 200 N·m
- Cylindrical shaft-stubs for no-play friction joints
- Small and handy

Dimensions (in mm; 1 mm= 0.03937 inches)



| Type | L_G | L_W | $\varnothing D_{g6}$ | M | N | T_{max} |
|------------|-------|-------|----------------------|----|-----|-----------|
| T5/10 N·m | 132 | 29 | 14 | M4 | 3.5 | 6 |
| T5/20 N·m | 132 | 29 | 16 | M4 | 3.5 | 6 |
| T5/50 N·m | 158 | 42 | 16 | M4 | 3.5 | 6 |
| T5/100 N·m | 158 | 42 | 20 | – | – | – |
| T5/200 N·m | 168 | 47 | 20 | – | – | – |

Specifications

| Type | | T5 | | | | |
|---|--------------------------------------|------------------------|-----|-----|-------|-----|
| Accuracy class | | 0,1 | | | | |
| Nominal torque | N m | 10 | 20 | 50 | 100 | 200 |
| Nominal sensitivity (nominal output signal at nominal torque) | mV/V | 2 | | | | |
| Sensitivity tolerance | % | < ± 0.2 | | | | |
| Temperature effect per 10 K in the nominal temperature range | % | < ± 0.1 | | | | |
| On output signal (related to actual value) | % | < ± 0.1 | | | | |
| On zero signal (related to nominal sensitivity) | % | < ± 0.1 | | | | |
| Linearity deviation, including hysteresis, related to nominal sensitivity | % | < ± 0.1 | | | | |
| Relative standard deviation of reproducibility according to DIN 1319 (related to variation of output signal) | % | < ± 0.05 | | | | |
| Input resistance at reference temperature | Ω | 350 ± 1.8 | | | | |
| Output resistance at the reference temperature | Ω | 350 ± 1.5 | | | | |
| Maximum permissible excitation voltage | V | 20 | | | | |
| Nominal range of the excitation voltage | V | 0.5...12 | | | | |
| Reference temperature | °C [°F] | +23 [+73.4] | | | | |
| Nominal temperature range | °C [°F] | +10...+60 [+50...+140] | | | | |
| Service temperature range | °C [°F] | -10...+60 [+14...+140] | | | | |
| Storage temperature range | °C [°F] | -50...+70 [-13...+158] | | | | |
| Mechanical values (related to nominal torque) | | | | | | |
| Static limit load | % | 150 | | | | |
| Static breaking load | % | 300 | | | | |
| Bending limit moment¹⁾ | N·m | 1.2 | 2.3 | 6 | 11 | 23 |
| Axial limit force¹⁾ | kN | 0.6 | 1.9 | 3.5 | 5.5 | 8.8 |
| Lateral limit force¹⁾ | N | 9 | 26 | 50 | 80 | 125 |
| Torsion angle at nominal torque, approx. | degrees | | | | 0.85 | |
| Moment of inertia | kg m ² × 10 ⁻³ | 0.041 | | | 0.047 | |
| Maximum permissible speed | rpm | 4000 | | | | |
| Service life of the slipping system, approx. | revol. | 3×10 ⁸ | | | | |
| Vibration amplitude to ISO/R 373 (related to the nominal torque M _N) ²⁾ | % | 70 (Peak-to-peak) | | | | |
| Additional reliability data | | | | | | |
| Mechanical impact test , degree of precision to IEC 68-2-27-1987 | | | | | | |
| Number | n | 1000 | | | | |
| Duration | ms | 3 | | | | |
| Acceleration | m/s ² | 500 | | | | |
| Vibration stress test , degree of precision to IEC 68-2-6-1982 | | | | | | |
| Frequency range | Hz | 5...65 | | | | |
| Duration | h | 1.5 | | | | |
| Acceleration | m/s ² | 50 | | | | |
| Protection class according to EN60529 | | IP50 | | | | |
| Weight, approx. | kg | 0.5 | | 0.6 | | |

¹⁾ Each type of irregular stress can only be permitted with its given limit value (bending moment, side load or axial load, exceeding the nominal speed) if none of the others can occur. Otherwise the limit values must be reduced. If for instance 30 % of the bending moment and also 30 % of the side load are present, only 40 % of the axial load are permitted, provided that the nominal torque is not exceeded. With maximum additional loading, measuring errors of the order of 1 % of the nominal torque can occur.

²⁾ The nominal torque must not then be exceeded.



measurement with confidence