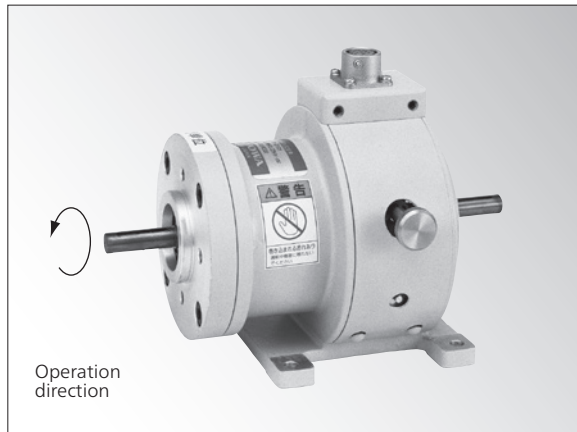


High-speed Torque Transducer



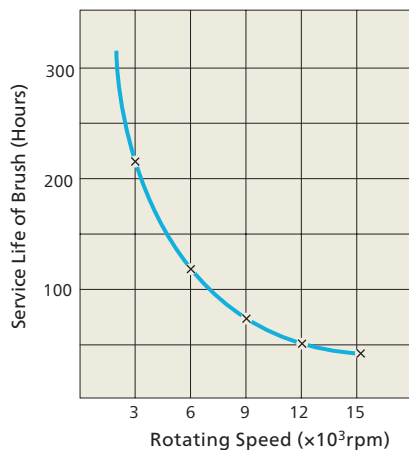
Possible to measure 0.2 N·m torque by 15000 rpm at maximum.

- Overload prevention stopper is provided.
- Mounting legs will be removed as required

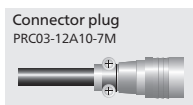
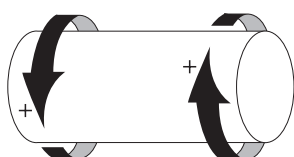
TP-M series high-speed torque transducers allow torque to be measured at a maximum 15000 rpm, and are available with a rated capacity ranging from 0.2 to 5 N·m. An overload prevention stopper avoids large torque generated in motor startup, etc. While all models are the stationary type with mounting legs, these legs will be easily removed. About measurement instruments, carrier-type strain amplifiers, DPM series, are recommended.

*For DPM series, see page 3-5 and 3-7.

Service Life of Brush



Note: Worn brushes will be replaced for value. Contact us.



Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within ±0.2% RO
Hysteresis	Within ±0.2% RO
Rated Output	0.75 mV/V ±1% (2, 5 KCM) 1 mV/V ±1% (10KCM) 1.5 mV/V ±1% (20, 50KCM)

Environmental Characteristics

Safe Temperature	0 to 60°C
Compensated Temperature	0 to 60°C
Temperature Effect on Zero	Within ±0.02% RO/°C (20, 50KCM: Within ±0.01% RO/°C)
Temperature Effect on Output	Within ±0.02%/°C (20, 50KCM: Within ±0.01%/°C)

Electrical Characteristics

Safe Excitation	4 V AC or DC
Recommended Excitation	1 to 4 V AC or DC
Input Resistance	350 Ω ±0.5%
Output Resistance	350 Ω ±0.5%
Rotation-induced Noise	12 × 10 ⁻⁶ strain _{pp} or less
Cable	TT-04, 4-conductor (0.3 mm ²) chloroprene shielded cable, 7.6 mm diameter by 5 m long, terminated with connector plugs at both ends (Shield wire is not connected to the case.)

Mechanical Properties

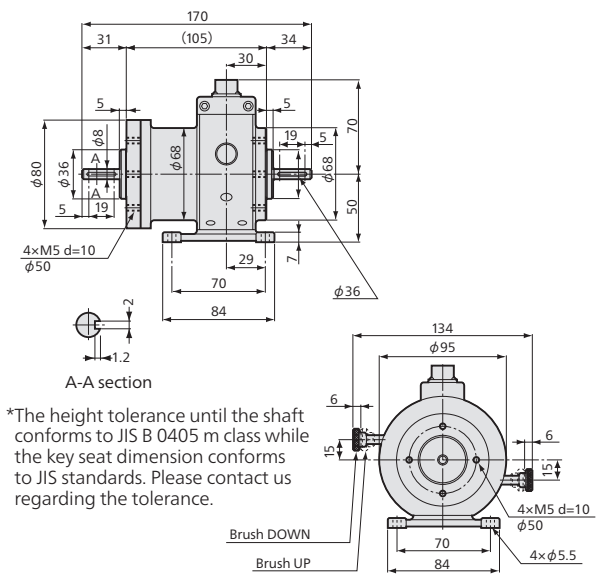
Safe Overloads	150% (Stopper activates at 150%, Ultimate torque with stopper 150% + 2 N·m)
Operating Speed	3000 to 15000 rpm
Torsion Angle	See table below.
Torsion Spring Constant	See table below.
Moments of Inertia	Approx. 0.35 × 10 ⁻⁴ kg·m ²
Weight	Approx. 1.1 kg

Optional Accessories

Dedicated flexible couplings FC-1B/FC-2B (Page 2-140)
Brush carrier TBC-T

Models	Rated Capacity	Torsion Angle (Rated) (Approx.)	Torsion Spring Constant (Approx.)
TP-2KCM	0.2 N·m	0.0098 rad	20.4 N·m/rad
TP-5KCM	0.5 N·m	0.012 rad	41.7 N·m/rad
TP-10KCM	1 N·m	0.016 rad	62.5 N·m/rad
TP-20KCM	2 N·m	0.016 rad	125 N·m/rad
TP-50KCM	5 N·m	0.015 rad	333 N·m/rad

Dimensions



Dynamic measurement

TP-M
Recommended products for combination

