Optical transmission method torque meter TMOS series

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Features

- Optical transformer method non-contact type torque transducer
- Making to low noise by digital signal transmission (ground brushless)
- Improve the stiffness and durability by the latest structural analysis technology.
- Easy to improving the performance and increase the capacity of the existed unit because of the same size.
- Improve the long term stability by applying the special gage.
- As equiping with the bearing mechanism, the installation of intermediate shaft receiving is unneccessary.

Specification

Specification name	Specification contents
Rated capacity	±3 kN·m, ±5 kN·m
Safe overload	150 %R.C.
Ultimate overload	200 %R.C.
Rated output	0 V ~ ±10 V
Measurement accuracy	±0.1 %R.O. (including non-linearity, hysteresis and rRepeatability) (For the combination with MINEBEA'stransmitter CSA-562B)
Maximum rotation	8 000 rpm
Temp. range, safe	-10 ℃~80 ℃
Temp. effect on zero balance	0.1 %R.O./10 ℃
Temp. effect on output	0.1 %LOAD/10 ℃
Zero shift by rotation	0.5 %R.O.p-p (WB=1 kHz)
Difference of bearing temp. by rotation	Double bearing part : 60 ℃ or less/at maximum speed Single bearing part : 40 ℃ or less/at maximum speed
Difference of bearing temp. by rotation (Single bearing part)	

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Response frequency	1 kHz or more at shaft end opened.
Inertia moment of rotor	TMOS-3KNM: 238.1 kg·cm2, TMOS-5KNM: 241.9 kg·cm2
Torsion riidity of shaft	TMOS-3KNM: 396.6 kN·m/rad, TMOS-5KNM: 440.8 kN·m/rad
Permissible load at shaft end	TMOS-3KNM: 215.7 N], TMOS-5KNM: 441.3 N
Permissible static load at shaft end	
Class of protection	IP40 or equivalent
Material (Rotor part)	Alloy steel
Material (Stator part)	Alloy steel + Alluminium alloy

Table of P/N

Parts No.	Rated capacity [kN·m]	Maximum rotation speed [rpm]	Zero shift by rotation [%R.O.p-p]	Mechanical characteristics Inertia moment [kg·cm2]	Mechanical characteristics Torsional rigidity [kN·m/rad]	Mechanical characteristics [N]
TMOS-3KNM	±3	8000	0.5	238.1	396.6	215.7
TMOS-5KNM	±5	8000	0.5	241.9	440.8	441.3

Parts No.	Weight(Approx.) [kg]	Weight (Approx.) [kg]	CAD files[DXF]	3D CAD files [STEP]
TMOS-3KNM	80	19	tmos.dxf	TMOS-3KNM.STEP
TMOS-5KNM	80	19	tmos.dxf	TMOS-5KNM.STEP

Options

Transmitter for torque transducer with optical transmission method (CSA-562B)