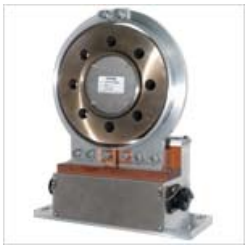
Optical transmission method flange type torque meter TMHFB series

2024/02/28

Features



・Optical transformer flange type torque transducer
・High revolution by bearingless structure.
・Easy to mount and remove by adopting the division structure of stator (a part of antenna).
・To transmit the digital signal by the optical transmission method of the patent, high accuracy (0.05 %) and the low noise have been achieved.

Specification

Specification name	Specification contents
Rated capacity	±100 N·m ~ ±10 kN·m
Safe overload	240 %R.C.
Ultimate overload	400 %R.C.
Rated output	±10 V
Measurement accuracy	±0.05 %R.O. (±0.03 %R.O. for high accuracy model) (including linearity, hysteresis and repeatablity.)
Temp. range, safe	-10 ℃ ~ 60 ℃
Temp. effect on zero balance	0.05 %R.O./10℃
Temp. effect on output	0.05 %LOAD/10℃
Zero shift by rotation	0.5 %R.O.p-p (WB=1 kHz)
Class of protection	IP54 or equivalent
Material (Rotor part)	Alloy steel
Material (Stator part)	Alluminium alloy

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Table of P/N

Parts No.	Rated capacity [N·m]	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]
TMHFB-100NM	±100		15000	0.5	96.94	90.32
TMHFB-200NM	±200		15000	0.5	96.96	188.1
TMHFB-500NM	±500		15000	0.5	97.3	834.8
TMHFB-1KNM		±1	15000	0.5	97.5	1715
TMHFB-2KNM		±2	10000	0.5	238.5	3430
TMHFB-3KNM		±3	10000	0.5	238.8	5145
TMHFB-5KNM		±5	6000	0.5	641.8	8577
TMHFB-10KNM		±10	6000	0.5	644.2	12920

Parts No.	Mechanical characteristics Torsional peculiar pitch [KHz]	Mechanical characteristics Bending peculiar pitchTorsional rigidity [KHz]	Mechanical characteristics Bending peculiar pitchThrust direction [KHz]	Mechanical characteristics Twist angle at rated capacity [°]	Mechanical characteristics Twist angle at rated capacity [N]	Mechanical characteristics Accuracy safe thrust load [N]	W (Ap
TMHFB-100NM	1.833	1.645	1.481	0.063	150	130	3
TMHFB-200NM	2.183	1.667	1.715	0.061	300	260	3
TMHFB-500NM	4.255	6.452	5	0.034	750	650	3
TMHFB-1KNM	5.556	7.692	5.556	0.033	1500	1300	3
TMHFB-2KNM	4.348	6.897	3.846	0.032	3000	2600	5.2
TMHFB-3KNM	4.651	7.143	4	0.031	4500	3900	5.2

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TMHFB-5KNM	4.237	6.173	3.289	0.03	7500	6500	10
TMHFB-10KNM	4.768	6.757	3.571	0.044	15000	13000	10

Parts No.	Weight (Approx.) [kg]	CAD files[DXF]	3D CAD files [STEP]
TMHFB-100NM	2.8	tmhfb_200nm.dxf	TMHFB-100NM.STEP
TMHFB-200NM	2.8	tmhfb_200nm.dxf	TMHFB-200NM.STEP
TMHFB-500NM	2.8	tmhfb_1knm.dxf	TMHFB-500NM.STEP
TMHFB-1KNM	2.8	tmhfb_1knm.dxf	TMHFB-1KNM.STEP
TMHFB-2KNM	3	tmhfb_3knm.dxf	TMHFB-2KNM.STEP
TMHFB-3KNM	3	tmhfb_3knm.dxf	TMHFB-3KNM.STEP
TMHFB-5KNM	3.5	tmhfb_5knm.dxf	TMHFB-5KNM.STEP
TMHFB-10KNM	3.5	tmhfb_10knm.dxf	TMHFB-10KNM.STEP

Associated Specification sheet

Specification sheet
Power conversion box DBX-001 for connecting with OPT-563B

Power conversion box to connect with OPT-563B DBX-001 No.353DBX001

Specification sheet
Cable

Connecting cable CAC-169A-10M/-20M No.KT52476-1

Connecting cable CAC-169B-30M No.KT52587-1

Options

φ11/ 10-cores shielded cable with connector at the both end. (Selectable from CAC-169A-10 m / -20 m or CAC-169B-30 m)

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Specialized transmitter CSA-562B

Power conversion box DBX-001 for connecting with OPT-563B