

# Optical transmission method flange type torque meter TMOFB series

2024/02/28

## Features



- Optical transformer method flange type torque transducer
- High revolution by bearingless structure.
- Easy to mount and remove by adopting the division structure of stator (antenna).
- To transmit the digital signal by the optical transmission method of the patent, high accuracy (0.1%) and the low noise have been achieved.

## Specification

Specification name	Specification contents
Rated capacity	$\pm 500\text{N}\cdot\text{m} \sim \pm 5\text{ kN}\cdot\text{m}$
Safe overload	240 %R.C.
Ultimate overload	400 %R.C.
Rated output	$\pm 10\text{ V}$
Measurement accuracy	$\pm 0.05\% \text{R.O.}$ (including linearity, hysteresis and repeatability.)
Response frequency	1 kHz
Temp. range, safe	$-10\text{ }^{\circ}\text{C} \sim 60\text{ }^{\circ}\text{C}$
Temp. effect on zero balance	0.05 %R.O./10°C
Temp. effect on output	0.05 %LOAD/10°C
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

## Optical transmission method flange type torque meter TMOFB series

2024/02/28

## 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·cm <sup>2</sup> ]	Mechanical characteristics Torsional rigidity [kN·m/rad]
TMOFB-500NM	±500		10000	0.5	238	834.8
TMOFB-1KNM		±1	10000	0.5	238.2	1715
TMOFB-2KNM		±2	10000	0.5	238.4	3430
TMOFB-3KNM		±3	10000	0.5	238.8	5145
TMOFB-5KNM		±5	6000	0.5	641.8	8577

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]	Weight (Approx.) [kg]
TMOFB-500NM	2.778	4.167	3.175	0.034	750	650	5.2
TMOFB-1KNM	3.333	5.263	3.333	0.033	1500	1300	5.2
TMOFB-2KNM	3.998	6.647	3.498	0.032	3000	2600	5.2
TMOFB-3KNM	4.651	7.143	4	0.031	4500	3900	5.2
TMOFB-5KNM	4.237	6.173	3.289	0.030	7500	6500	10

Parts No.	Weight (Approx.) [kg]	CAD files[DXF]	3D CAD files [STEP]
TMOFB-500NM	3	<a href="#">tmofa_500nm.dxf</a>	<a href="#">TMOFB-500NM.STEP</a>
TMOFB-1KNM	3	<a href="#">tmofa_500nm.dxf</a>	<a href="#">TMOFB-1KNM.STEP</a>
TMOFB-2KNM	3	<a href="#">tmofa_500nm.dxf</a>	<a href="#">TMOFB-2KNM.STEP</a>
TMOFB-3KNM	3	<a href="#">tmofa_500nm.dxf</a>	<a href="#">TMOFB-3KNM.STEP</a>

# Optical transmission method flange type torque meter TMOFB series

2024/02/28

TMOFB-5KNM	3.5	tmofa_5knm.dxf	TMOFB-5KNM.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-169B No.KT52587-1

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

## Options

φ11/ 10-cores shielded cable with connector at both ends (10 m/ 20 m/ 30 m)

Specialized transmitter CSA-562B

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