

Specifications

Flange type Torque Transducer by Optical Transformer method

- ★ Composition apparatus
- 1) Torque Transducer Model : TMOFB-□ NM
 - 2) Exclusive signal cable Model : CAC-169A- *M(selectable from 10m,20m) 【Option】
CAC-169B-30M(30m) 【Option】
 - 3) Exclusive transmitter Model : CSA-562B 【Option】

The following spec. is fulfilled when an exclusive signal cable and exclusive transmitter are combined and adjusted.

★ Spec. of torque transducer

Model(Capacity indicated)	500NM	1KNM	2KNM	3KNM
Performance				
Rated capacity(R.C.)	±500Nm	±1kNm	±2kNm	±3kNm
Safe overload	240 %R.C.			
Ultimate overload	400 %R.C.			
Rated output(R.O.)	±10 V			
Accuracy of detected value (include Nonlinearity,Hysteresis,Repeatability)	±0.05 %R.O.			
Temperature				
Safe temperature range	-10 ℃ to 60 ℃			
Temperature effect on zero balance	0.1 %R.O./10℃			
Temperature effect on output	0.1 %LOAD/10℃			
Characteristics on rotation				
Maximum number of rotation	10,000 rpm			
Zero point shift by rotation(noise)	0.5 %R.O.p-p(WB=1kHz)			
Others				
IP class	IP54			
Material	Rotor : Alloy steel			
	Stator : Aluminum alloy			
Fatigue life	10 ⁷ times with rated load			
Mass	Rotor part	5.2kg		
	Stator part	3.0kg		

★ Machine characteristics(Rotor part)

Model(Capacity indicated)	500NM	1KNM	2KNM	3KNM
Response Frequency [kHz]	1			
Inertia moment [kg·cm ²]	238.0	238.2	238.4	238.8
Torsion rigidity [kN·m/rad]	834.8	1715	3430	5145
Torsion peculiar pitch [kHz]	2.778	3.333	3.998	4.651
Bending peculiar pitch(Radial direction) [kHz]	4.167	5.263	6.647	7.143
Bending peculiar pitch(Thrust direction) [kHz]	3.175	3.333	3.498	4.000
Twist angle at R.C. [°]	0.034	0.033	0.032	0.031
Accuracy safe bending load [N]	750	1500	3000	4500
Accuracy safe thrust load [N]	650	1300	2600	3900

- Accuracy safety bending/thrust load is load value(actual measurement) which generate output error 0.1%R.O.
- Accuracy safety bending load is the result of loading at position 200mm from flange edge.
- All are the guarantee value over static load.

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					ミネベア株式会社 MINEBEA CO.,LTD.		計測機器事業部		単位 UNIT mm 尺度 SCALE Free		材質 MATERIAL -		作成日 DATE 2014.11.24	
					APPROVED		CHECKED		DRAWN		表面粗さ SURF.ROUGH. -		品名 DESCRIPTION	
					F. IDE		S. UCHIBORI		Y. Kobayashi		熱処理 HEAT TREAT. -		品番 PART NO.(MODEL NO.) TMOFB-500NM~3KNM	
					F. IDE		S. UCHIBORI		Y. Kobayashi		表面処理 FINISH -			
符号 MARK	日付 DATE	変更事項 REASON	ECN NO.	担当 ENGINEER	承認 APPROVED							図番 DRAWING NO. KT53864-2		改訂 REV. -

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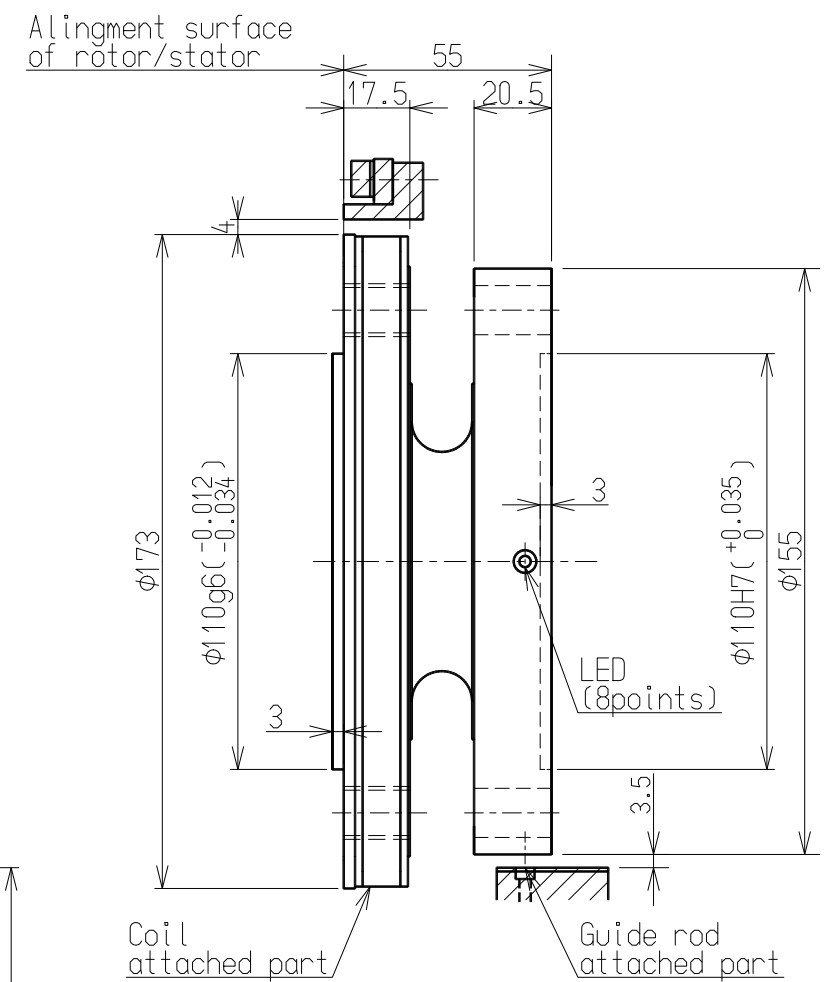
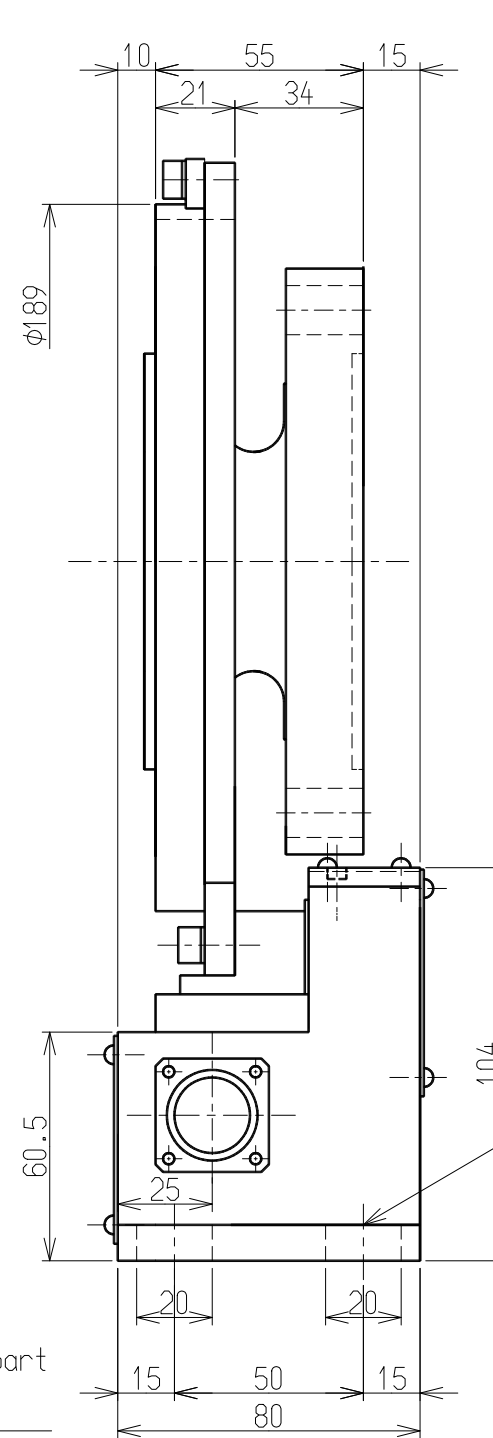
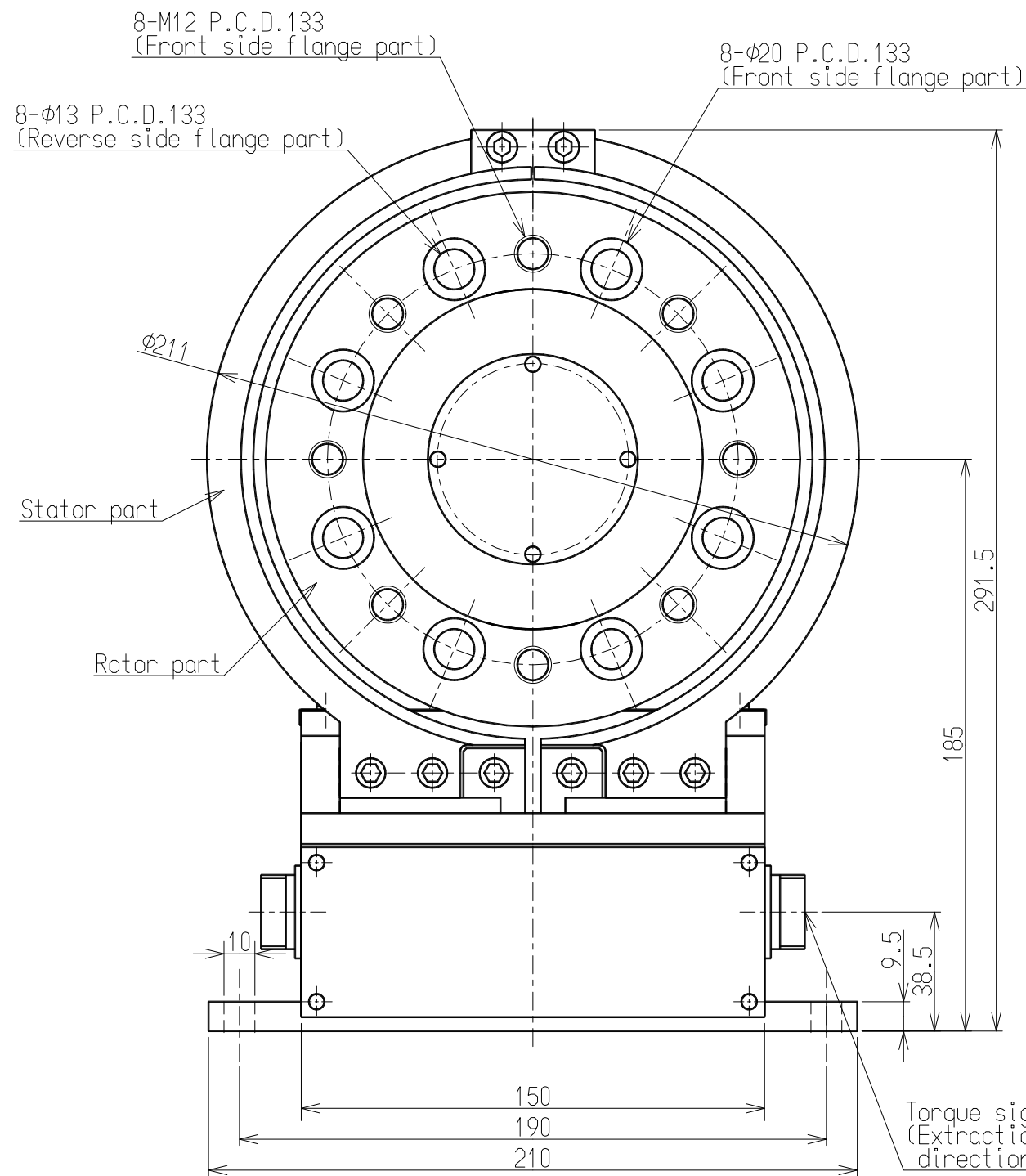
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Rotor part details

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ミネベア株式会社 <small>MINEBEA CO.,LTD.</small> 計測機器事業部 <small>MEASURING COMPONENTS BUSINESS UNIT</small>	作成日 DATE	2014.11.24
	品名 DESCRIPTION	OUTLINE
	品番 PART NO.(MODEL NO.)	TMOFB-500NM~3KNM
	図番 DRAWING NO.	KT53864-2
	葉番 SHEET	2 / 2
	改訂 REV.	-