

Specifications / flange type Torque Transducer by Optical Transformer method

KT52539-2

1/4

☆ Composition apparatus

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

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.)	±500 N·m	±1 kN·m	±2 kN·m	±3 kN·m
Safe overload	240 %R.C.			
Ultimate overload	400 %R.C.			
Rated output (R. O.)	±10 V			
Accuracy of detected value	±0.05 %R.O.			
Temperature				
Temperature range, safe	-10 °C to 60 °C			
Temperature effect on zero balance	0.05 %R.O./10 °C			
Temperature effect on output	0.05 %LOAD/10 °C			
Characteristics on rotation				
Maximum number of rotation	10000 rpm			
Zero point shift by rotation (noise)	0.5 %R.O.p-p (WB=1kHz)			
Others				
Class of protection	IP54			
Material	Rotor: Alloy steel Stator: Aluminum alloy			
Durability	10 ⁷ times at R.C.			
Weight	Rotor part	Approx 5.2 kg		
	Stator part	Approx 3.0 kg		

☆ Machine characteristics (Rotor part)

Model (Capacity indicated)	500NM	1KNM	2KNM	3KNM
Response Frequency (kHz)	1 kHz			
Inertia moment (kg·cm ²)	97.30	97.50	238.4	238.8
Torsion rigidity (kN·m/rad)	834.8	1715	3460	5145
Torsion peculiar pitch (kHz)	4.255	5.556	3.998	4.651
Bending peculiar pitch (Radial direction) (kHz)	6.452	7.692	6.647	7.143
Bending peculiar pitch (Thrust direction) (kHz)	5.000	5.556	3.498	4.000
Twist angle at R.C. (°)	0.034	0.033	0.032	0.031
Accuracy safe bending lo (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.

						Date	2008. 3. 19		
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									Y.YAMAMOTO
Mark	Date	Reason/ECN.no.	Approved	Checked	Drawn				

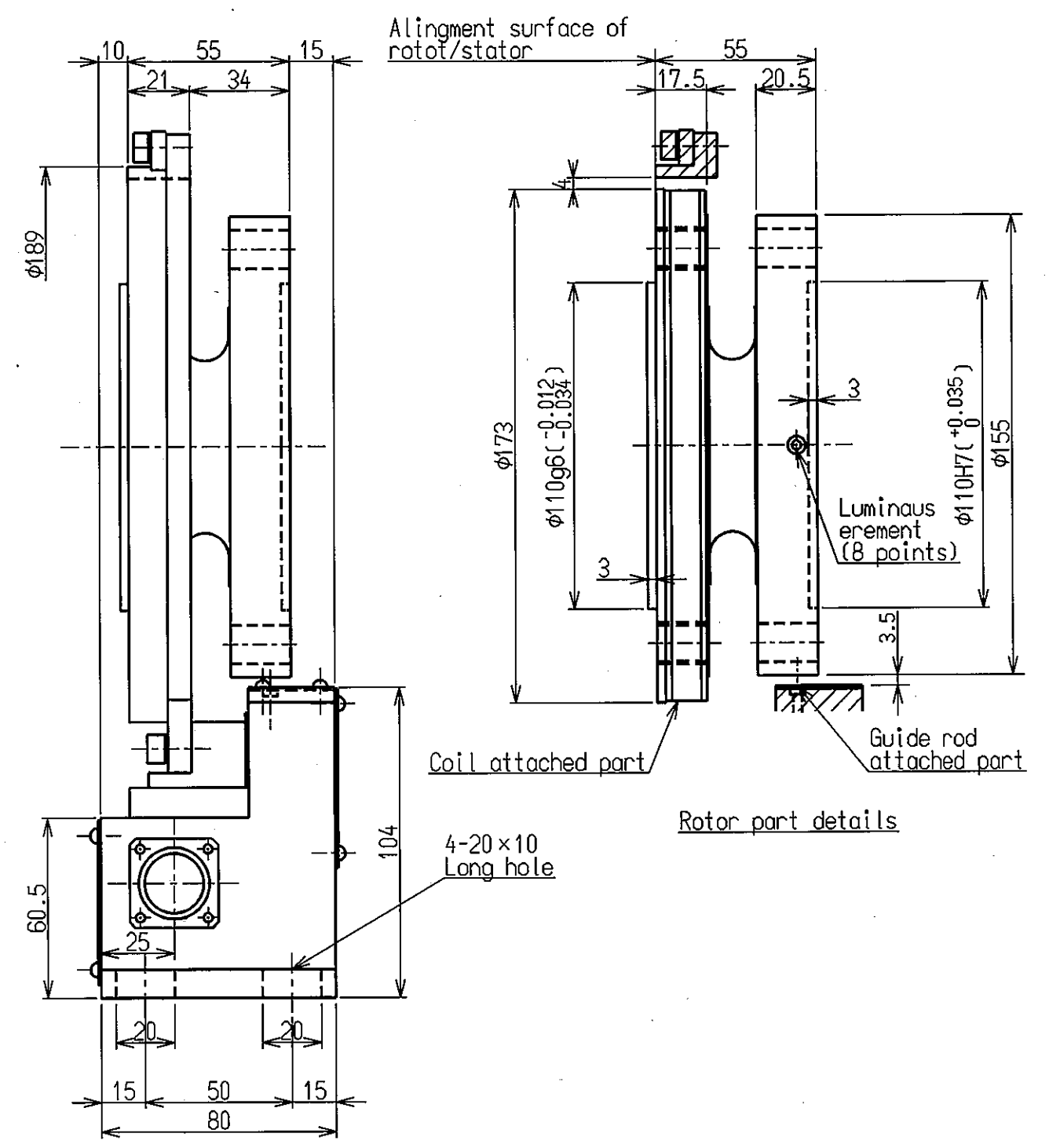
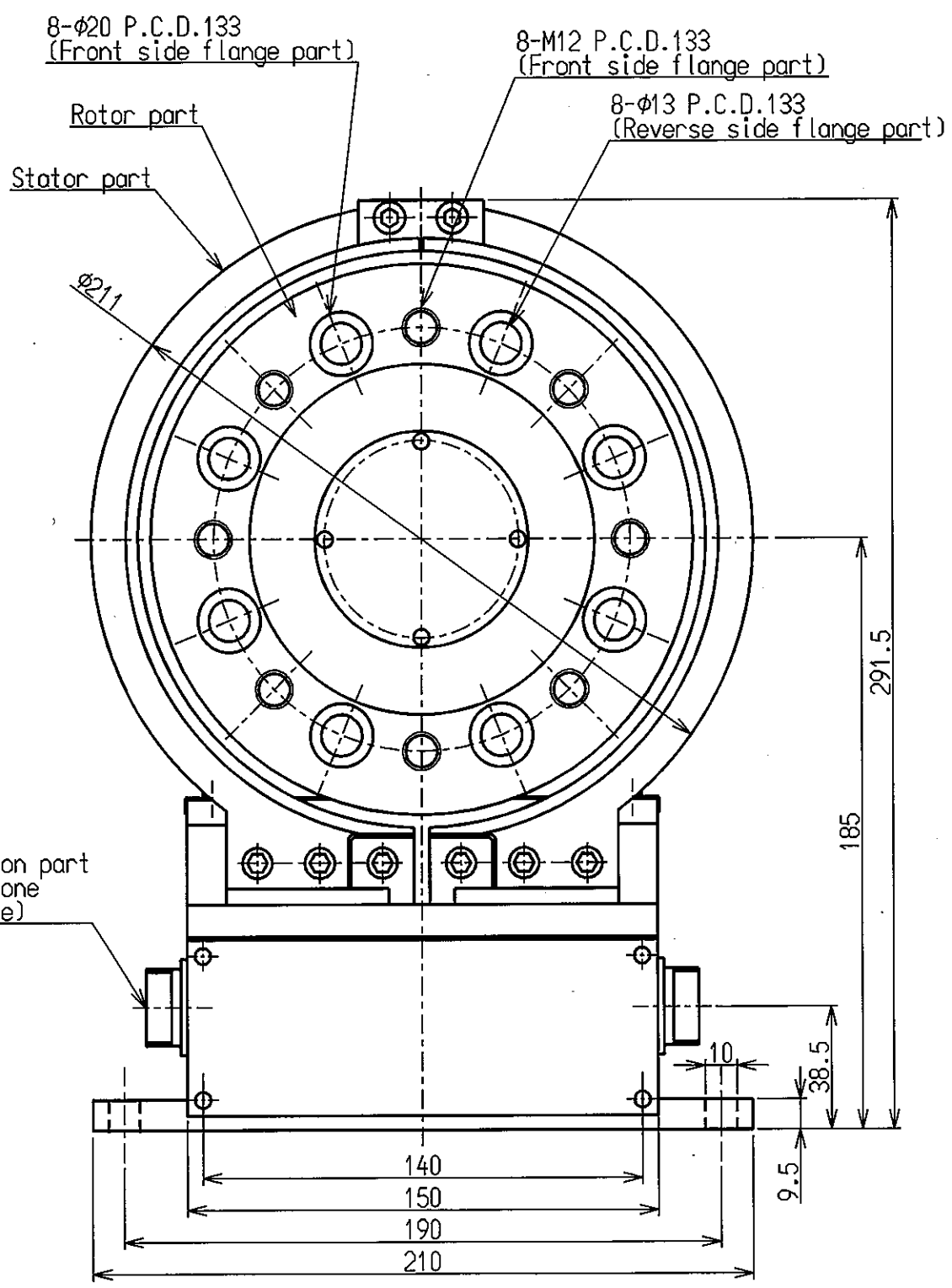
★ Spec. of transmitter

Output load resistance	Resistance load more than 2 k Ω Output capacity load less than 0.1 μ F
Zero point adjustment range	± 15 %R.O.
Non-Linearity	± 0.01 %R.O.
Check	Approx. 80 %R.O.
Frequency response range	DC to 1 kHz (1 Hz, 10 Hz, 30 Hz, 50 Hz, 100 Hz, 300 Hz, 500 Hz, 1 kHz)
Indicator part	Output voltage display 0 to 10.000 Digital indication (Green LED) Sampling Approx. 4 times/s
Alarm function	Alarm output when position gap of rotor and stator, and the luminescence part of rotor and stator to become dirty (Photo-coupler output)
Remote function	CHECK
Operating temp.range	0 °C to 40 °C
Temp. characteristics at zero point	± 0.025 %R.O./10°C
Temp. characteristics of span	± 0.025 %R.O./10°C
Operating humidity range	Less than 85 %RH(Dew condensation not to be allowed)
Power supply voltage	AC85 V to AC132 V
Power supply frequency	50/60 Hz
Power consumption	Approx. 100 VA (at AC100 V)
Weight	Approx. 2.5 kg

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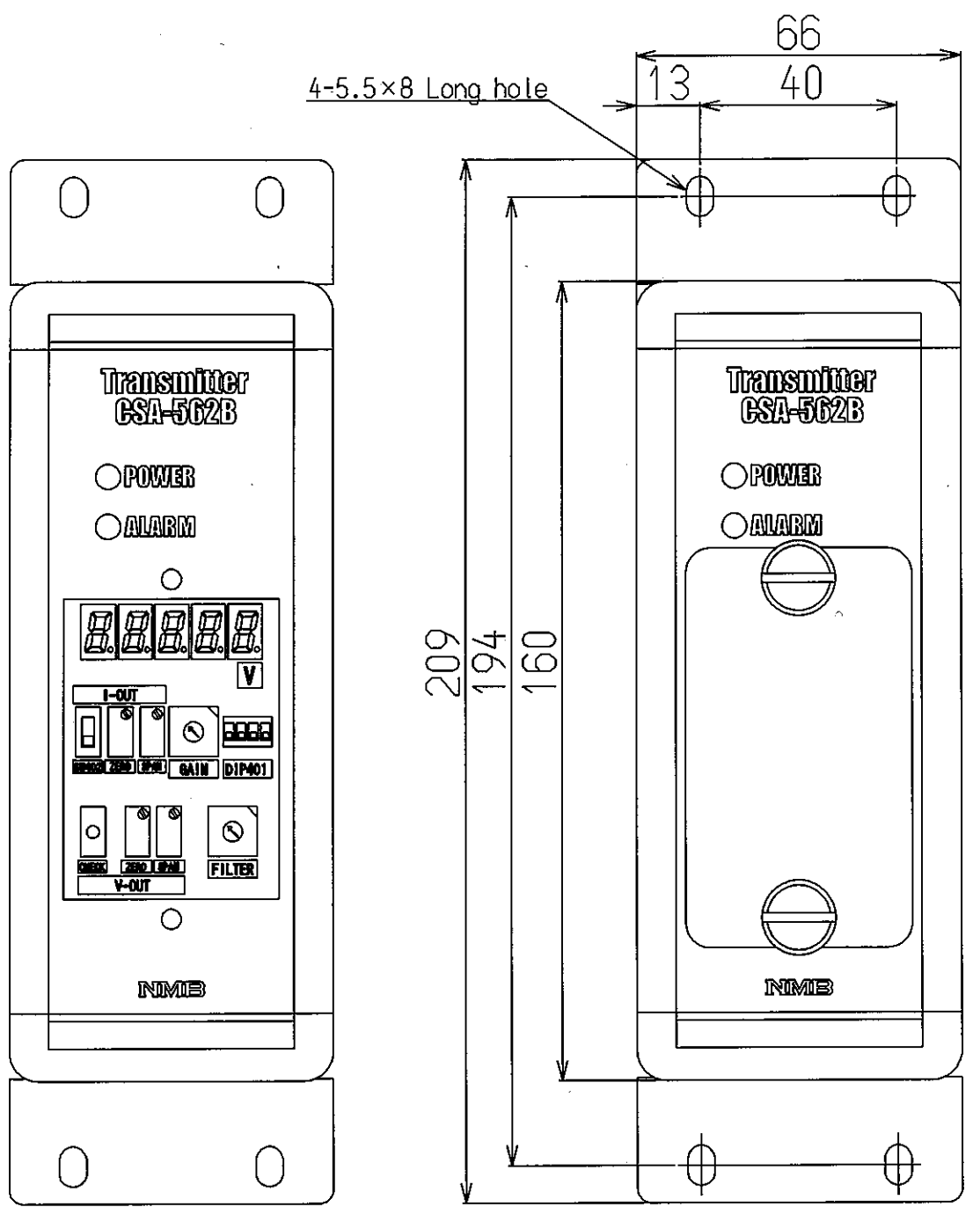


ミネベア株式会社 MINEBEA CO.,LTD. 計測機器事業部					単位 UNIT mm 尺度 SCALE 1/2		材質 MATERIAL 表面粗さ SURF.ROUGH.		作成日 DATE 2008.3.20 品名 DESCRIPTION OUTLINE(TM)		
					公差 TOL 寸法 L. 公差 $L \le 4 \pm 0.1$ <math>4 < L \le 16 \pm 0.2</math> <math>16 < L \le 63 \pm 0.3</math> <math>63 < L \le 250 \pm 0.5</math> <math>250 < L \le 1000 \pm 0.8</math> 角度 DEG ± 0.5		熱処理 HEAT TREAT. 表面処理 FINISH		品番 PART NO.(MODEL NO.) 葉番 SHEET TMOFB-500NM~3KNM 3/4 図番 DRAWING NO. 改訂 REV. KT52539-2 -		
符号 MARK	日付 DATE	変更事項 REASON	ECN NO.	担当 ENGINEER	承認 APPROVED	YAMAMOTO					

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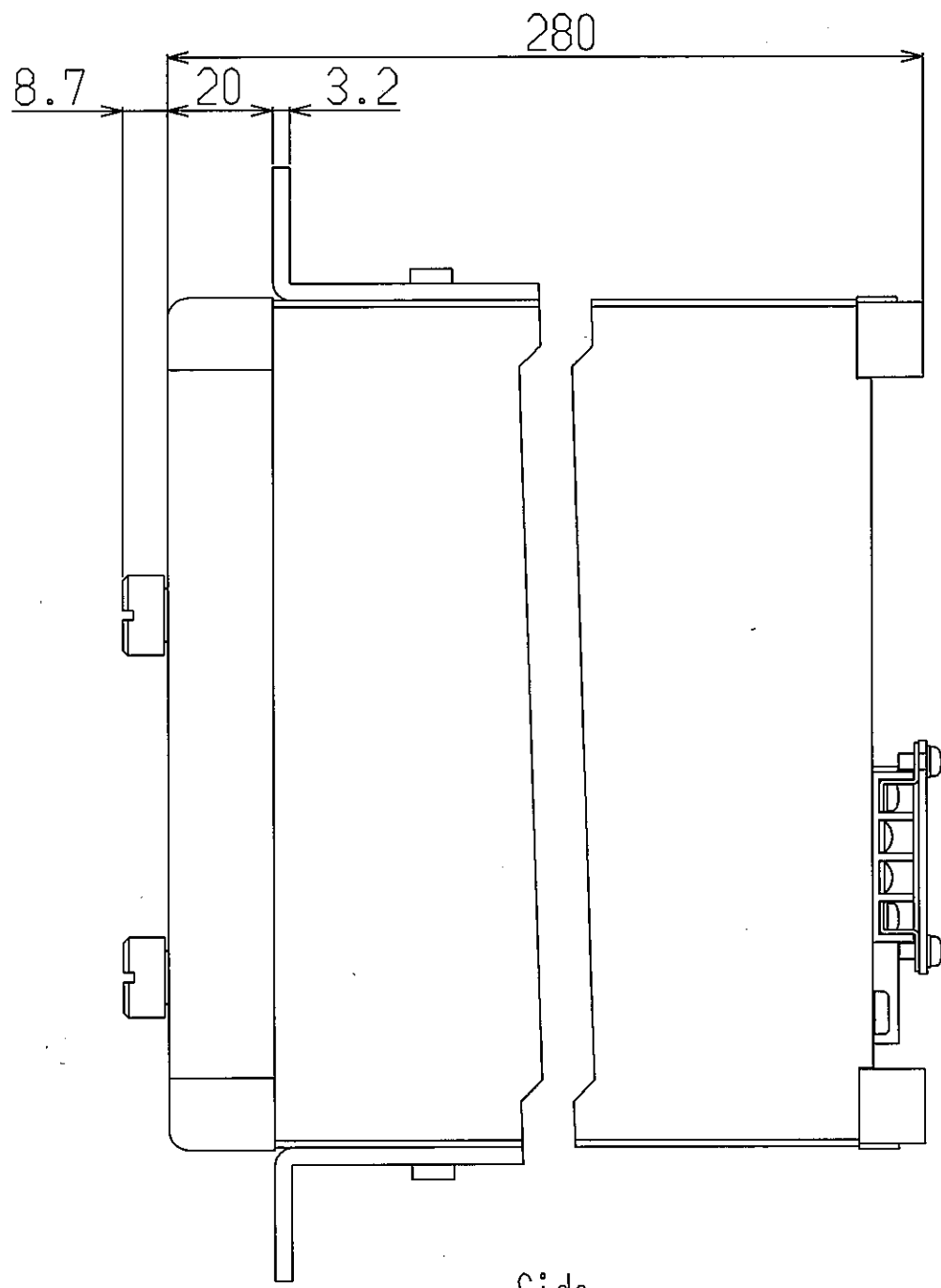
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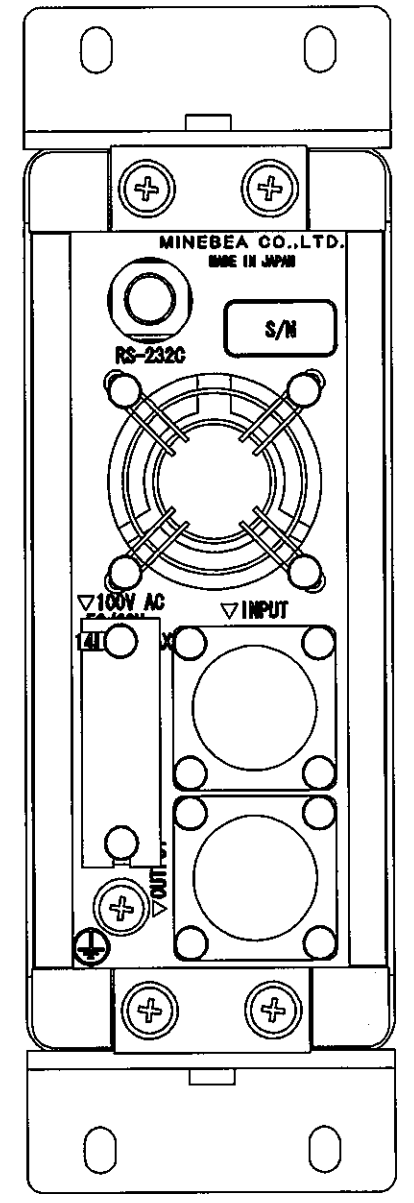


Adjustment part

Front
(The reference sample of silk)



Side



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S
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F

					ミネベア株式会社 MINEBEA CO.,LTD. 計測機器事業部		単位 UNIT mm	材質 MATERIAL	作成日 DATE 2008.3.19
					APPROVED CHECKED DRAWN		尺度 SCALE 3/4	表面粗さ SURF.ROUGH.	品名 DESCRIPTION OUTLINE (AMP)
					YAMAMOTO		寸法 L 公差	熱処理 HEAT TREAT.	品番 PART NO. (MODEL NO.) 葉番 SHEET CSA-562B 4/4
符号 MARK	日付 DATE	変更事項 REASON	ECN NO.	担当 ENGINEER	承認 APPROVED		表面処理 FINISH	図番 DRAWING NO. KT52539-2	改訂 REV. -
							公差 TOL		