

Specifications

Rotary detector for torque transducer "TMHS", "TMHSA", "TMHSB"

△△ This is a rotary detector set for torque transducer "TMHS", "TMHSA", "TMHSB".
The detection of the rotary speed is enabled by installing this article.

By connecting "OPT-563B" which is a dedicated transmitter to "TMHS" "TMHSA"
Rotational speed is displayed on "OPT-563B" and analog output voltage is also output.
(0rpm=0V, MAXrpm=10V)
It is also possible to detect the direction of rotation. (Only when using two sensors)

△△ *When using "TMHSA" "TMHSB" type with "OPT-563B" without using it alone, power supply of 12VDC±2V is required for the rotation detector on the customer side.
In addition, it is necessary to calculate the output pulse signal of 0-5V output from the detector to the rotation speed on the customer side.

【Explanation of the model】

RPM	- Capacity of TMHS*	- Number of sensor	- Cable length
100	←For 100NM~300NM	1	10M ←10m
500	←For 500NM	2	20M ←20m
1K	←For 1KNM	2	30M ←30m
△ 2K	←For 2KNM, 3KNM	↑ When there are two sensors, the detection of the rotary direction is possible.	
△ 5K	←For 5KNM		
△ 10K	←For 10KNM		

【Spec. of rotary detector】

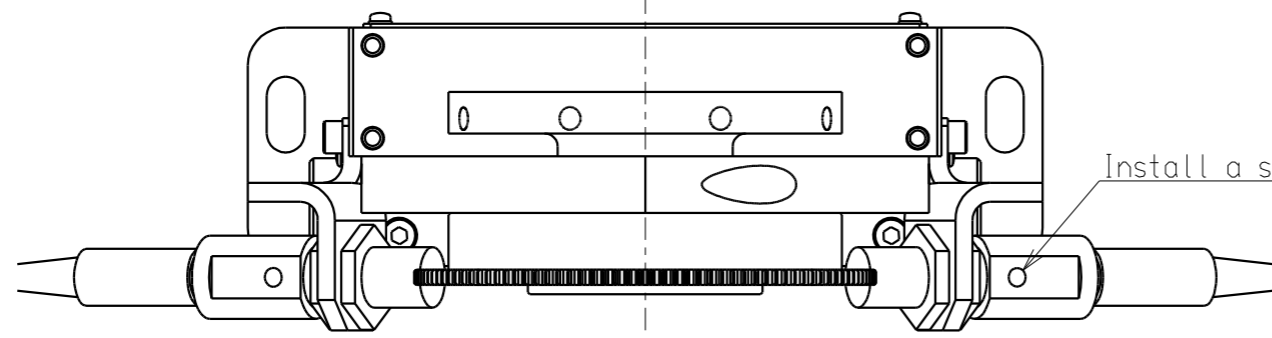
Torque transducer model(Capacity indicated)	100NM	200NM	300NM	500NM	1KNM	△ 2KNM	△ 3KNM	△ 5KNM	△ 10KNM
Mass(Rotor+gear)[kg]	1.9	1.9	1.9	2.3	2.5	5.3	5.3	8.2	13.8
Inertia moment(Rotor+gear)[kg/cm ²]	30.47	30.48	30.50	39.29	44.37	172.30	172.40	386.16	983.16
Response frequency[kHz]	100								
The number of the teeth of gear	120				240				
Resolution[degree/plus]	3				1.5				
Detectable maximum speed[rpm]	25000			22000		16000		14000	12000
Detectable minimum speed[rpm]	6								
Detection distance of gear and sensor[mm]	0.5 ~ 1.5								

【Composition apparatus】

- Sensor:MP-9820
- Gear(Screws are attached)
- Mounting bracket set(Bracket L=1pcs,Bracket R=1pcs,Screws are attached)
- Cable
- Alingment jig

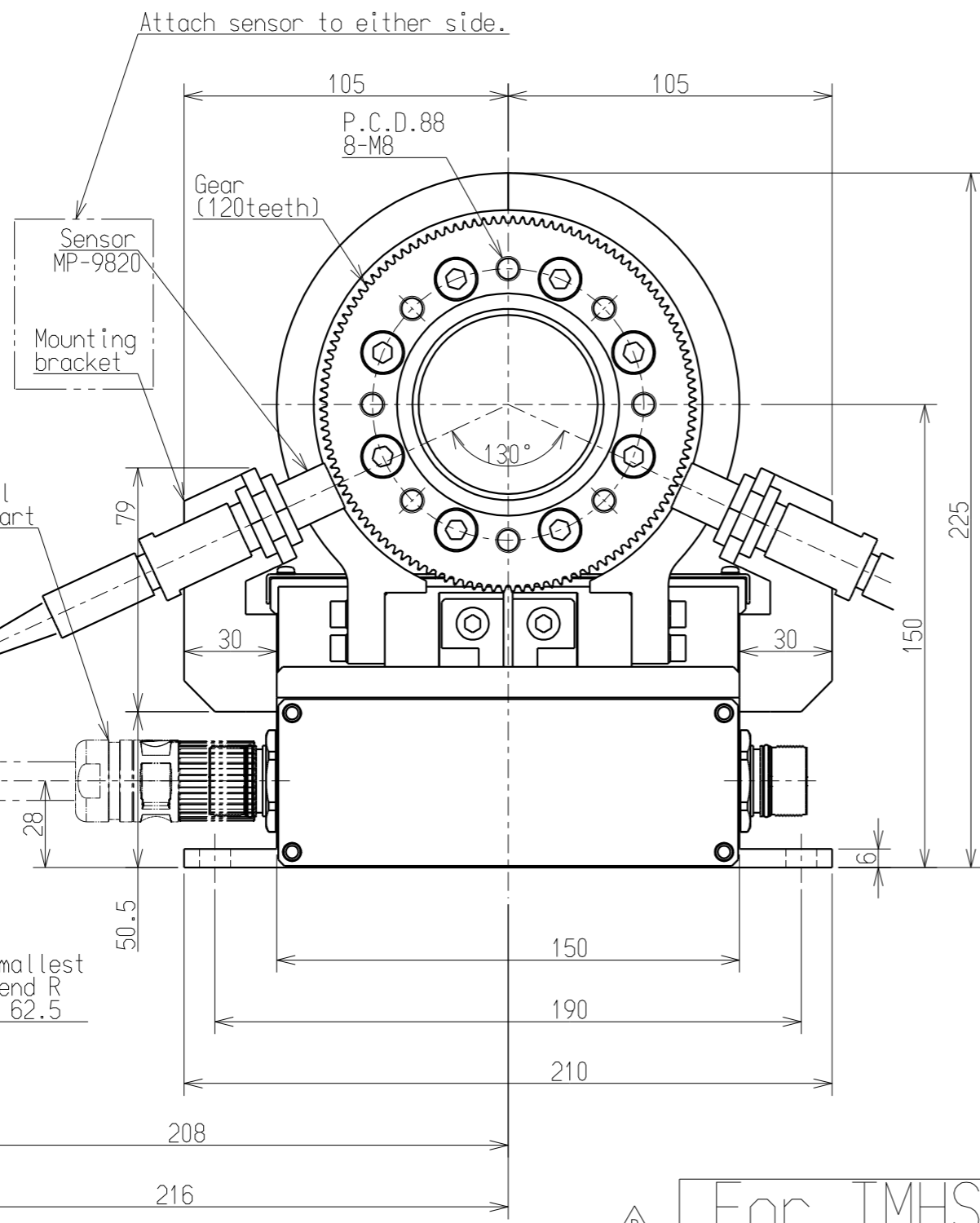
D	2019.02.06	FN19-0061		D	2018.07.11	KN18-0331		B	2017.08.22	KN17-0409		A	2014.11.07	KN14-0474		-	2013.01.28	NEW	
行号 MARK	日付 DATE	変更事項 REASON	ECN NO.	ミネベアミツミ株式会社 MinebeaMitsumi Inc. センシングデバイス事業部 Sensing Device Business Unit	単位 UNIT mm 尺度 SCALE Free	材質 MATERIAL - 表面粗さ SURF.ROUGH. - 熱処理 HEAT TREAT. - 表面処理 FINISH -	作成日 DATE 2019/02/06	品名 DESCRIPTION OUTLINE	型式 MODEL NAME RPM-100~10K	葉番 SHEET 1/17									
				一般公差 TOL	DIMENSION L	TOL	図番 DRAWING NO. KT53515-2	改訂 REV. D											

A

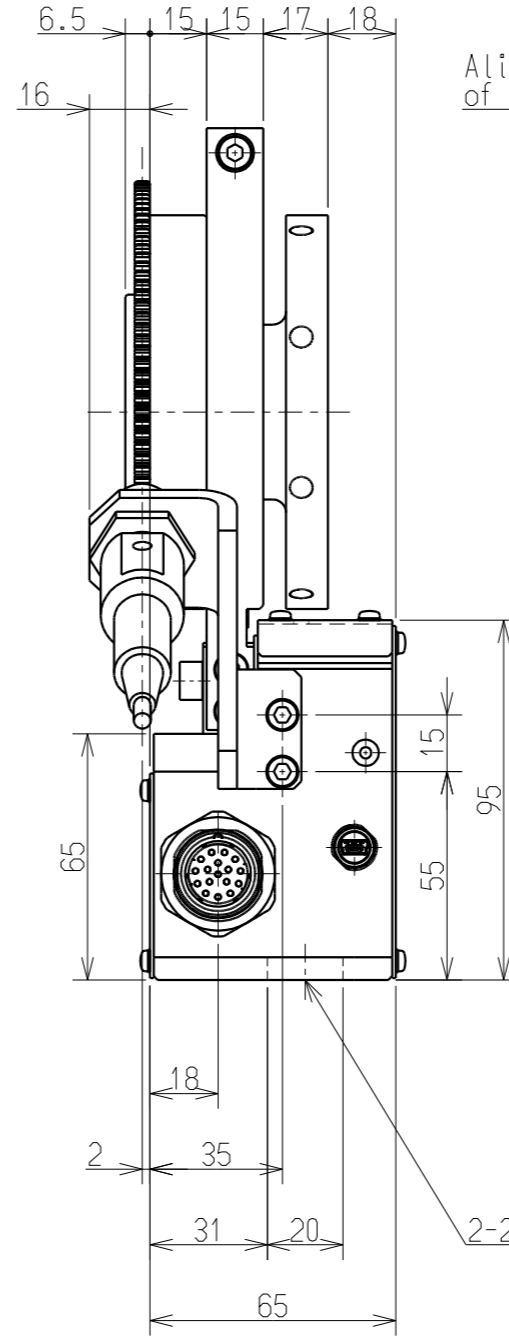


Install a sensor so that an indicator lamp becomes perpendicular to a gear.

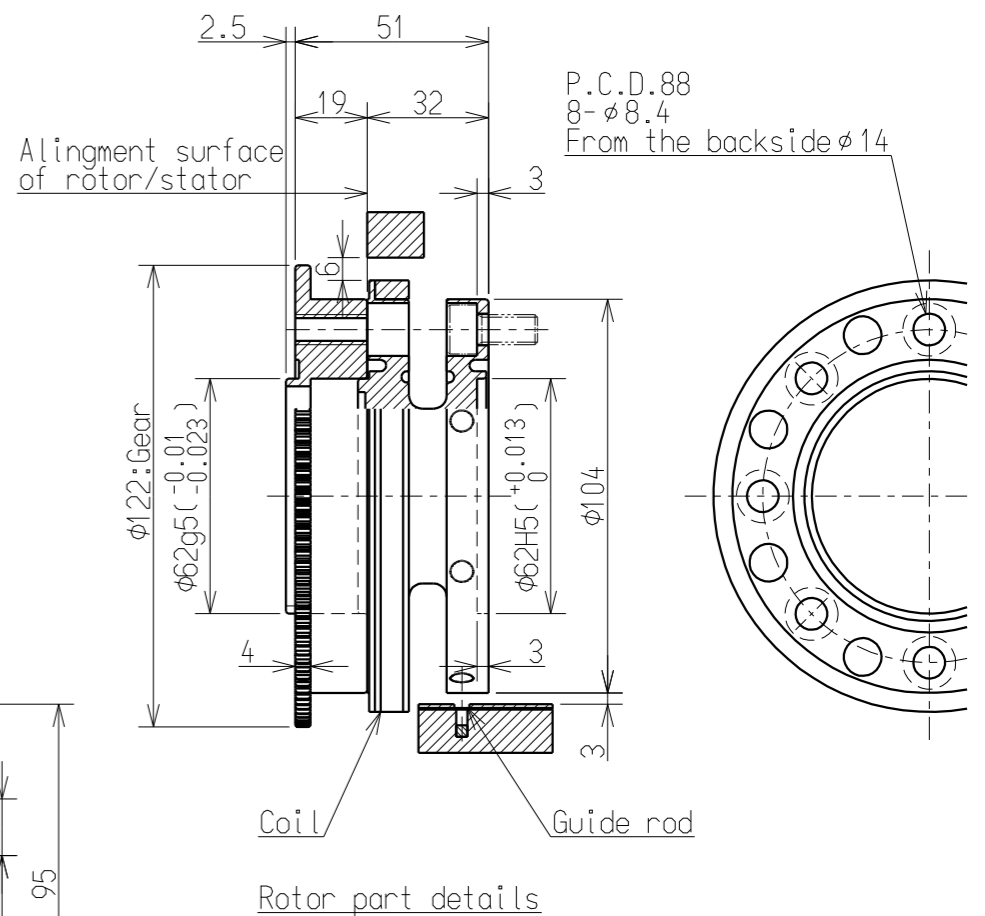
B



C



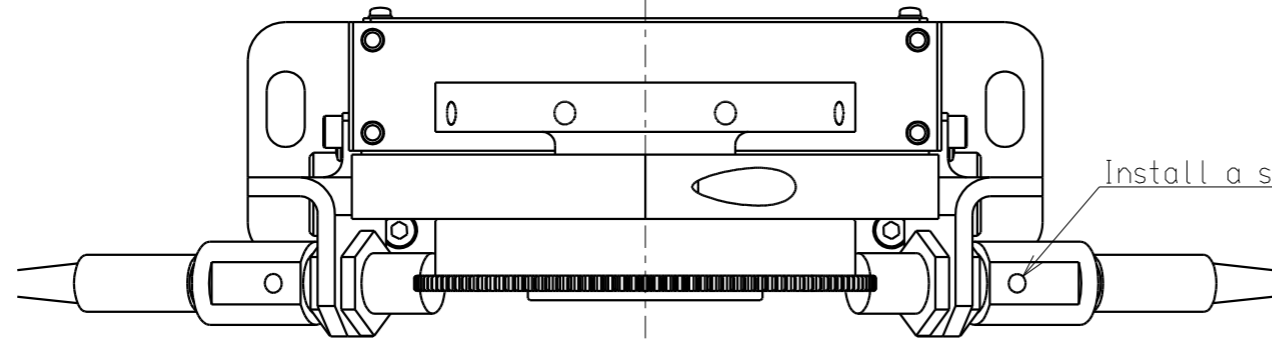
D



△ For TMHSB-100NM~300NM
TYPE : RPM-100- * - *

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	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	12 / 17
	改訂 REV.	D

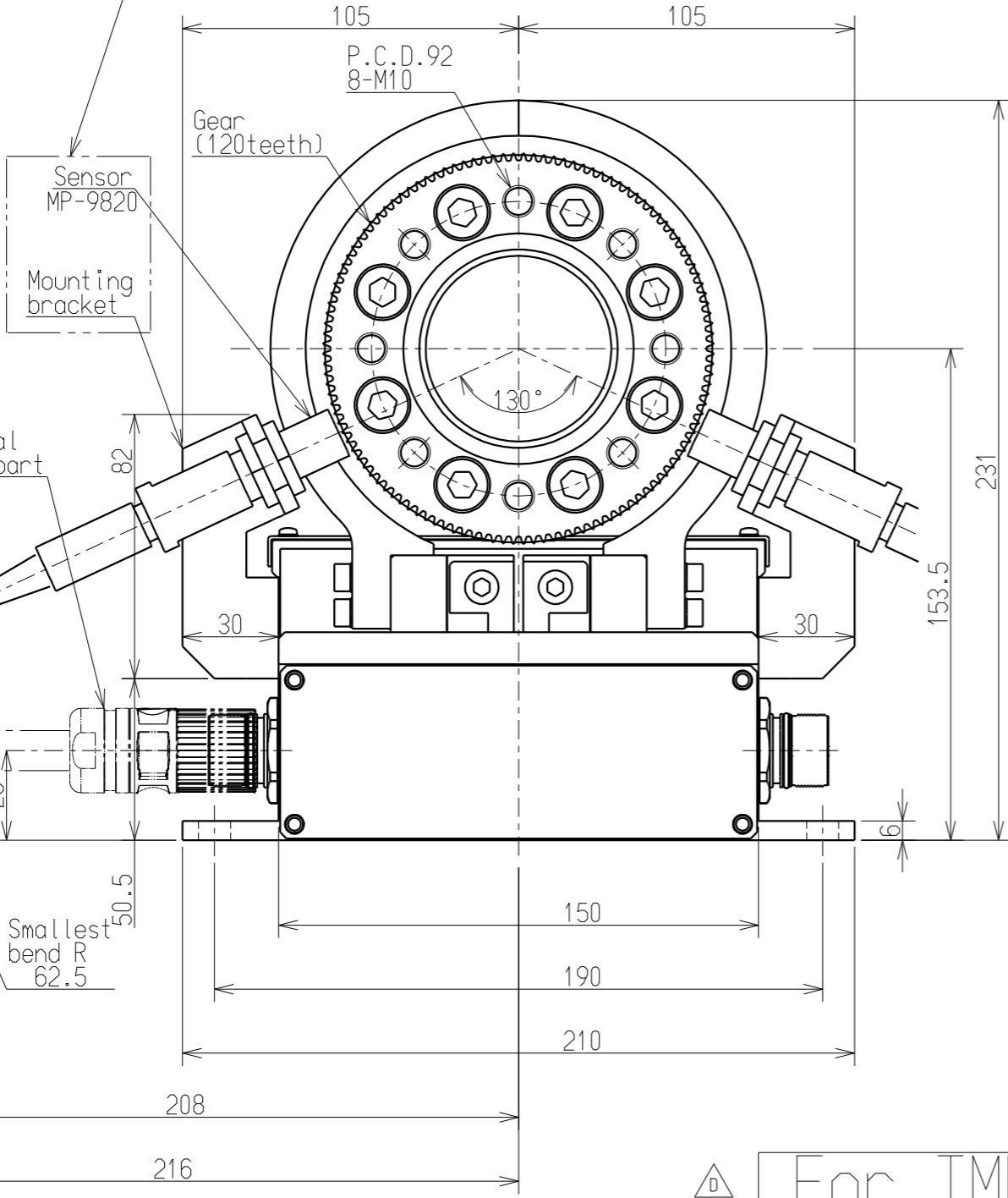
A



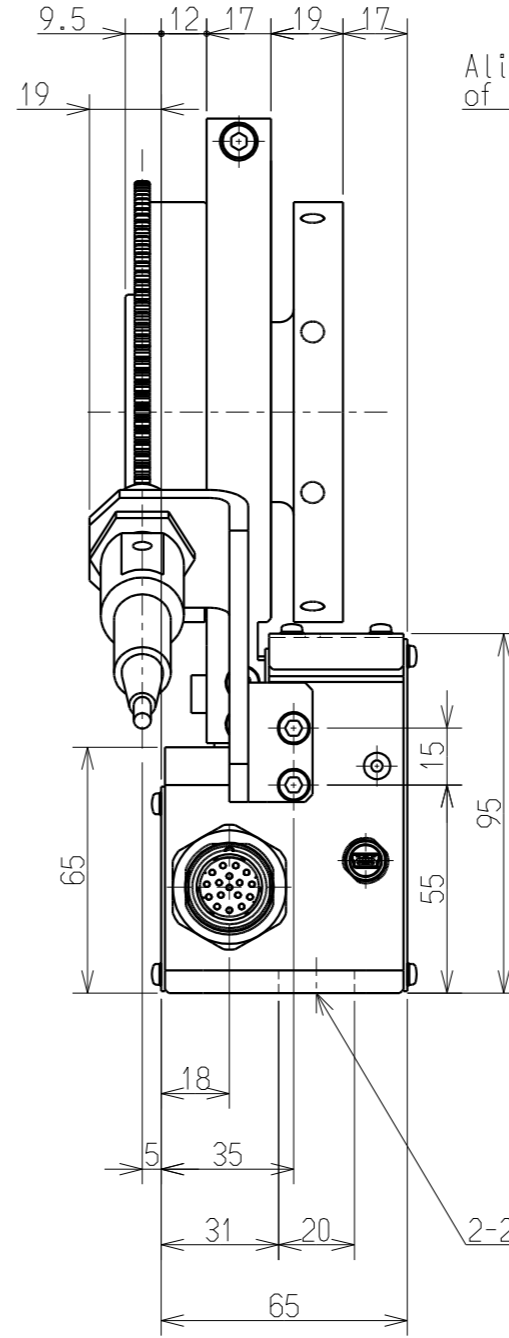
Install a sensor so that an indicator lamp becomes perpendicular to a gear.

B

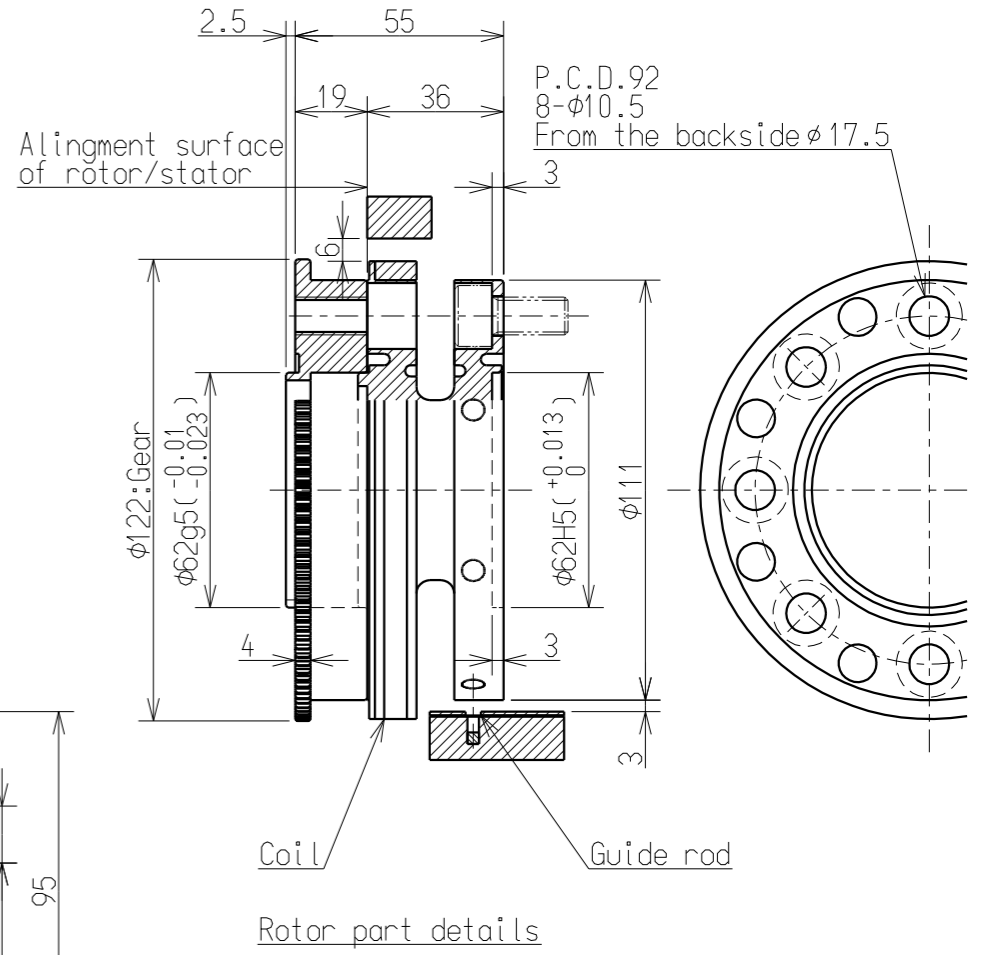
Attach sensor to either side.



C



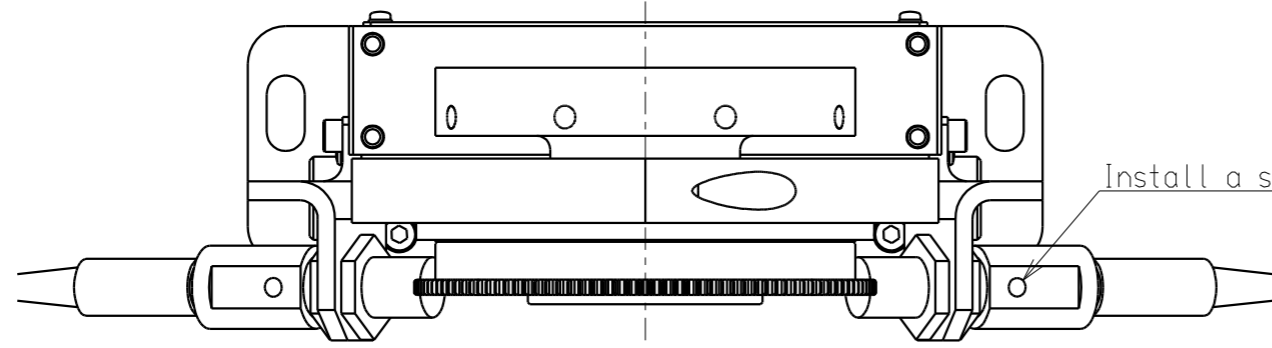
D



△ For TMHSB-500NM
TYPE : RPM-500 - * - *

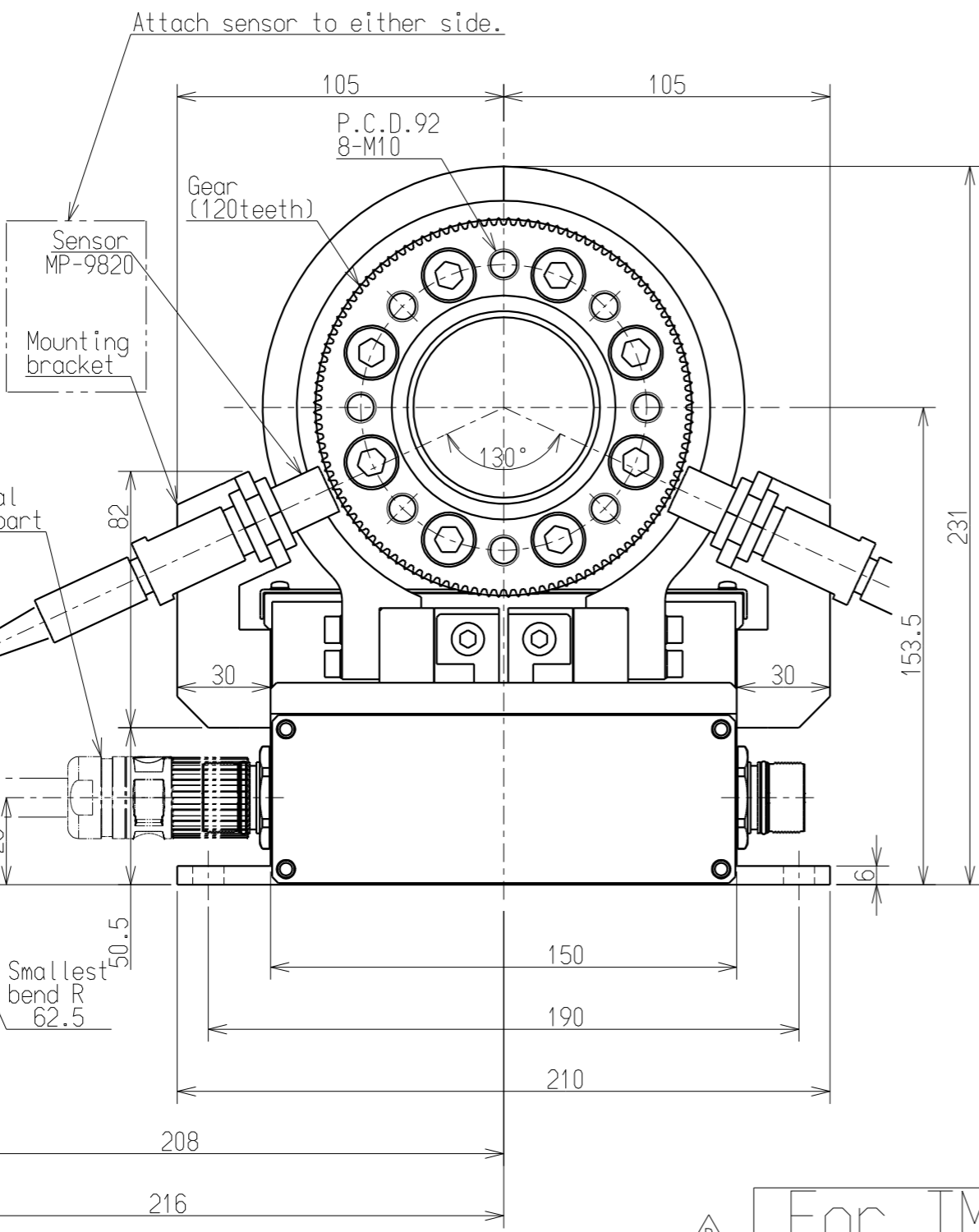
ミネベアミツミ株式会社 MinebeaMitsumi Inc. センシングデバイス事業部 Sensing Device Business Unit	作成日 DATE	2019/02/06
	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	13 / 17
	改訂 REV.	D

A

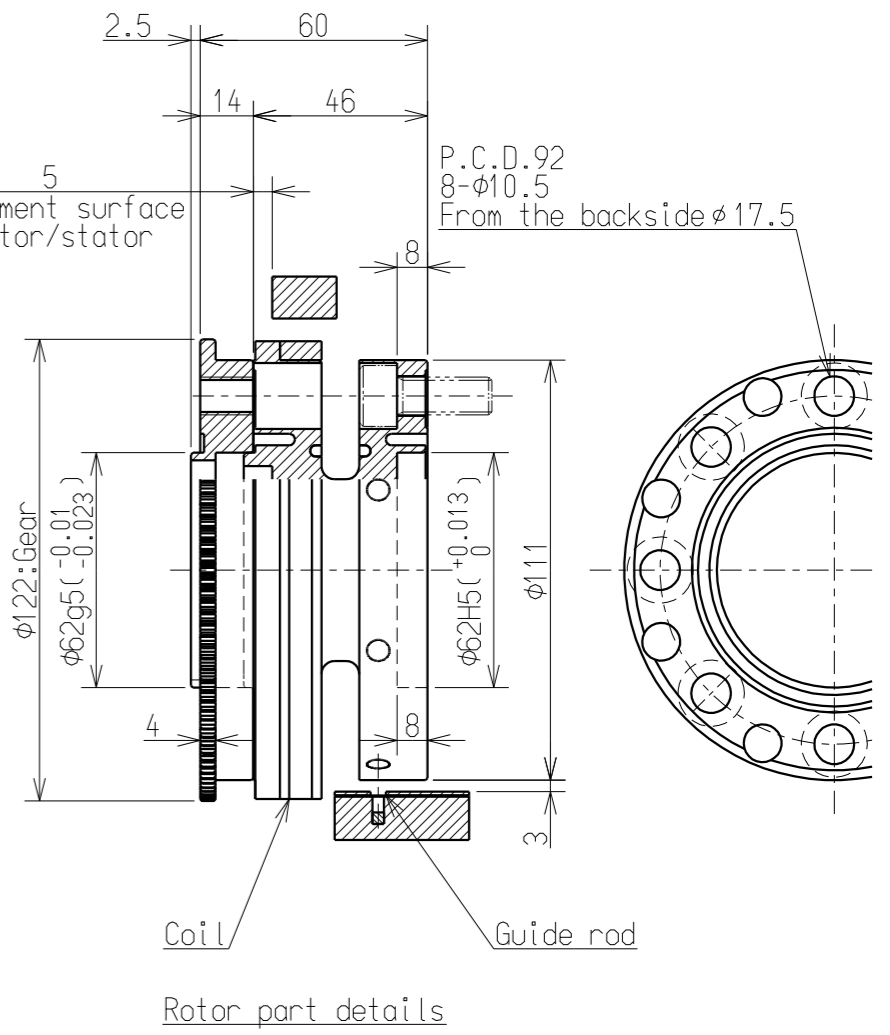
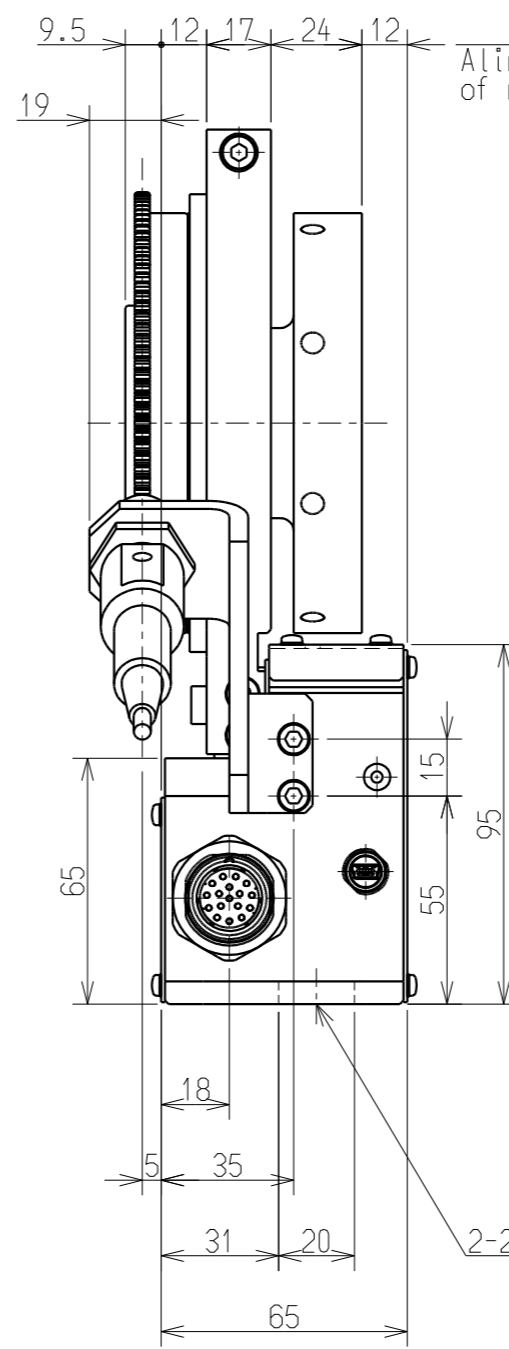


Install a sensor so that an indicator lamp becomes perpendicular to a gear.

B



C



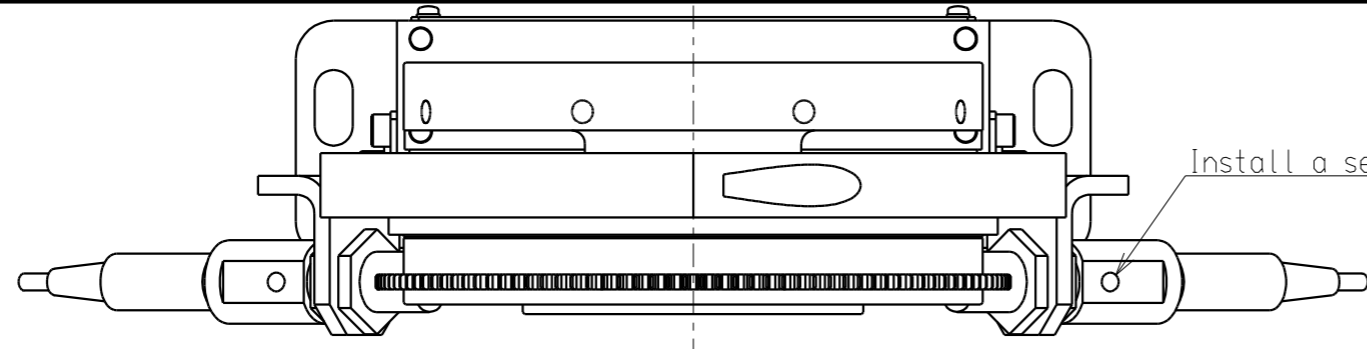
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For TMHSB-1KNM
TYPE : RPM-1K- * - *

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	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	14 / 17
	改訂 REV.	D

1 2 3 4 5 6

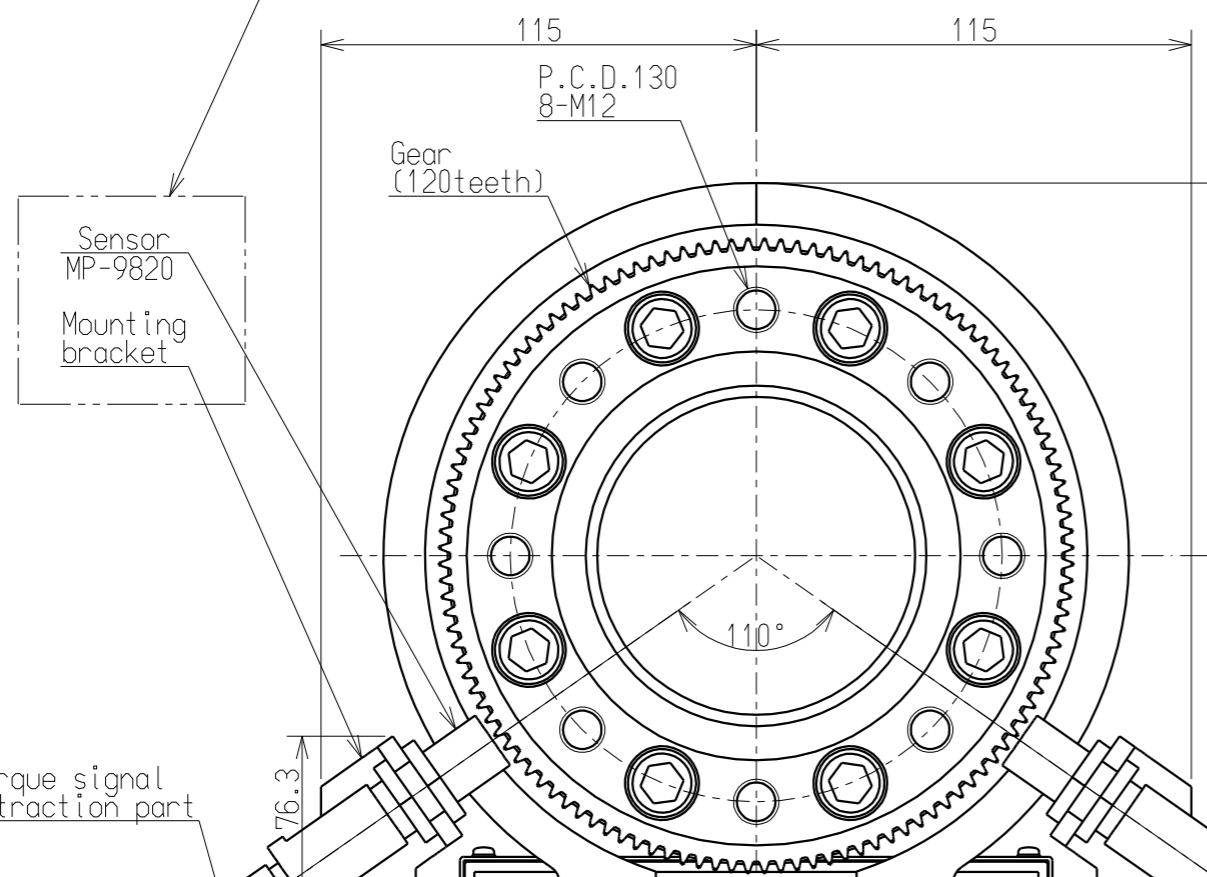
A



Install a sensor so that an indicator lamp becomes perpendicular to a gear.

B

Attach sensor to either side.



Sensor
MP-9820
Mounting
bracket

115 115
P.C.D.130
8-M12
Gear
(120teeth)

110°

Torque signal
extraction part

Smallest
bend R
41

28

Smallest
bend R
62.5

50.5

150

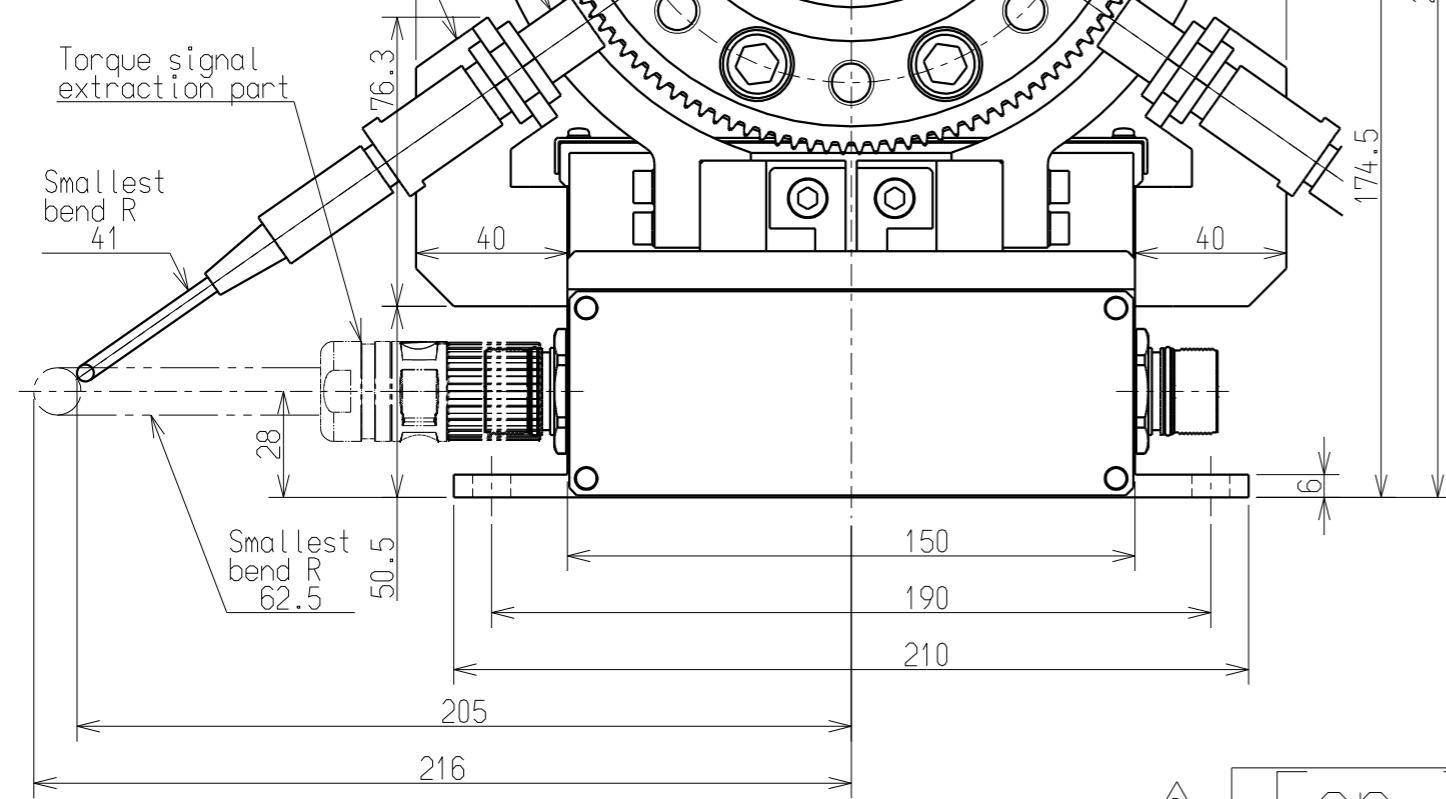
190

210

205

216

C



76.3

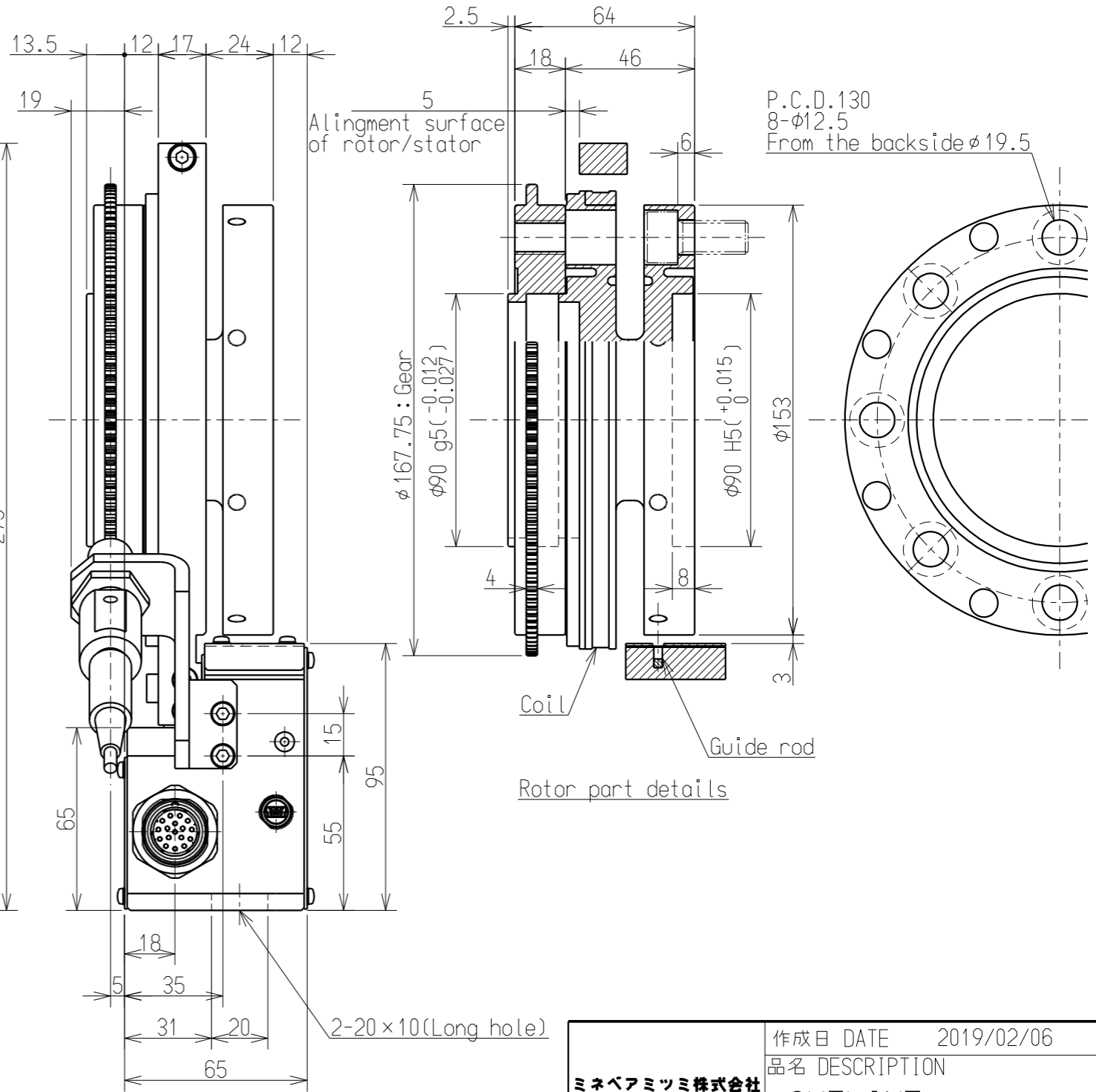
40

40

174.5

273

D



13.5 12 17 24 12

19

Alignment surface
of rotor/stator

2.5

64

18

46

P.C.D.130
8-φ12.5
From the backside φ19.5

φ167.75 : Gear

φ90 g5 (-0.012
-0.027)

5

4

Coil

Rotor part details

Guide rod

φ90 H5(+0.015
0)

φ153

3

65

15

55

95

18

5

35

31

20

65

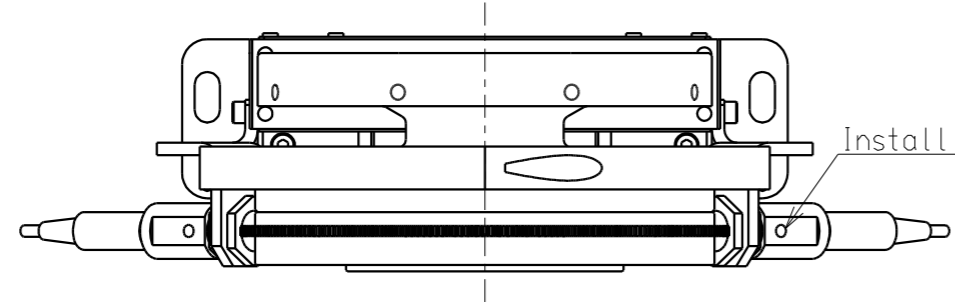
2-20×10(Long hole)



For TMHSB-2K, 3KNM
TYPE : RPM-2K- * - *

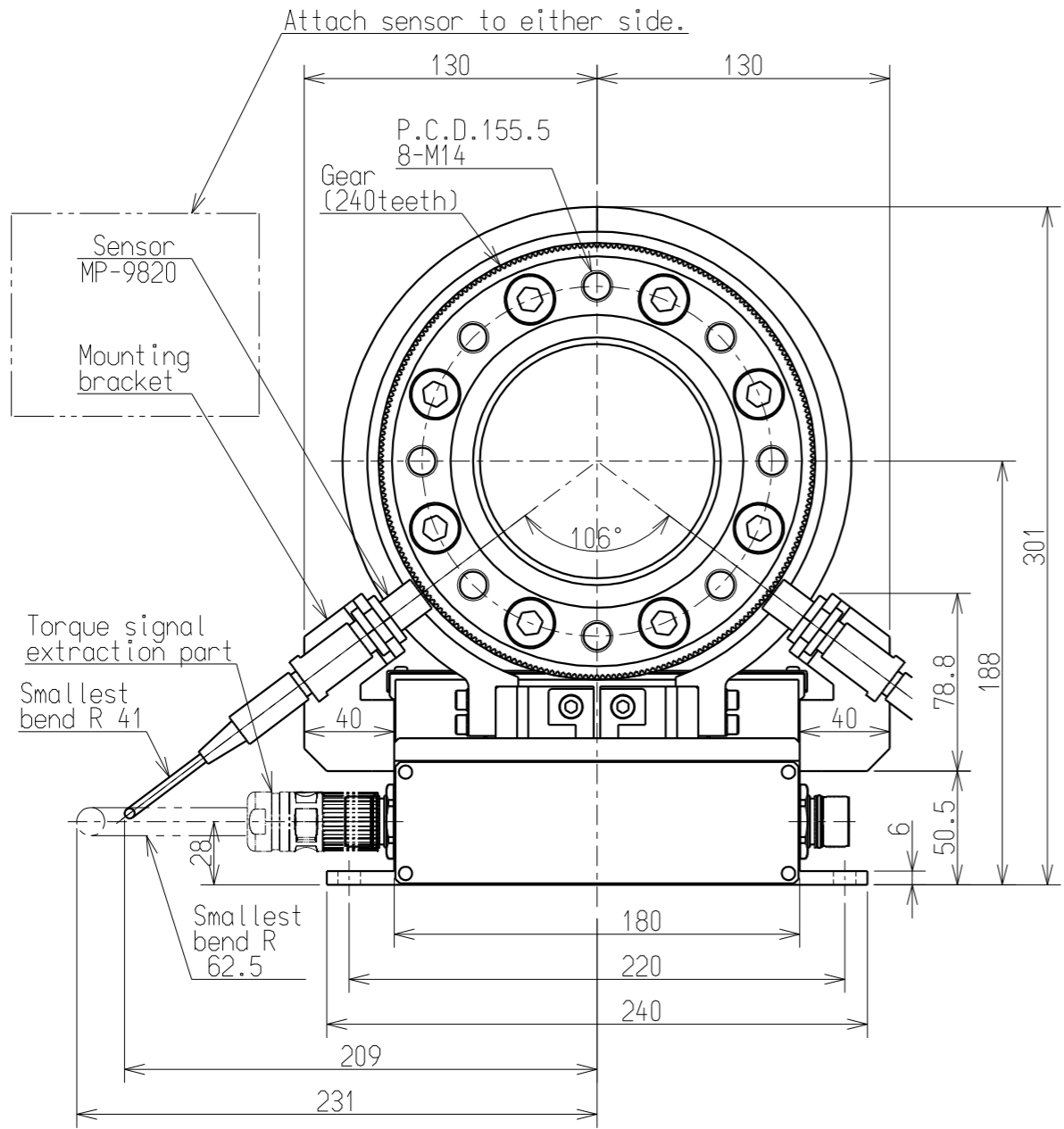
ミネベアミツミ株式会社 MinebeaMitsumi Inc. センシングデバイス事業部 Sensing Device Business Unit	作成日 DATE	2019/02/06
	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	15 / 17
	改訂 REV.	D

A

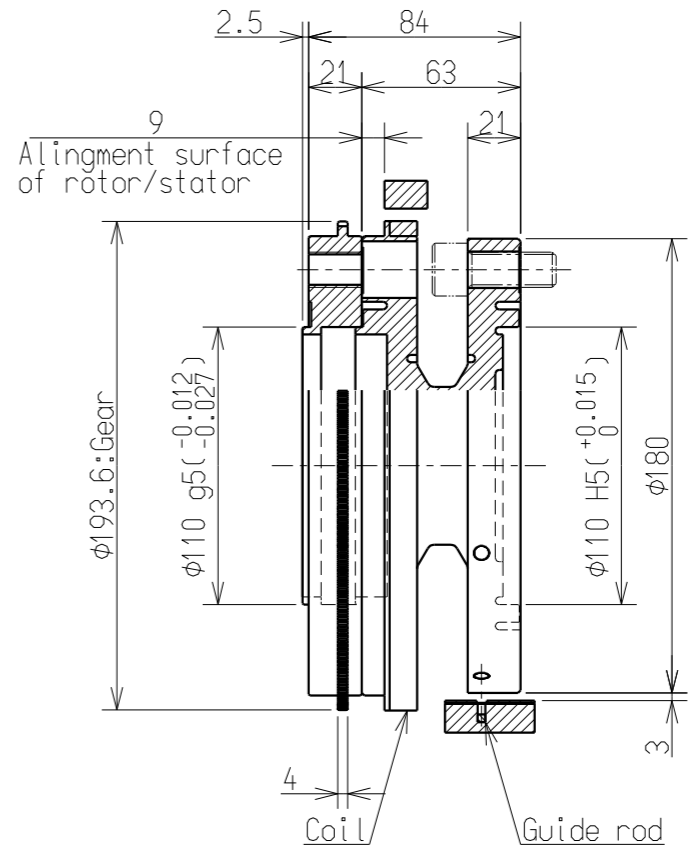
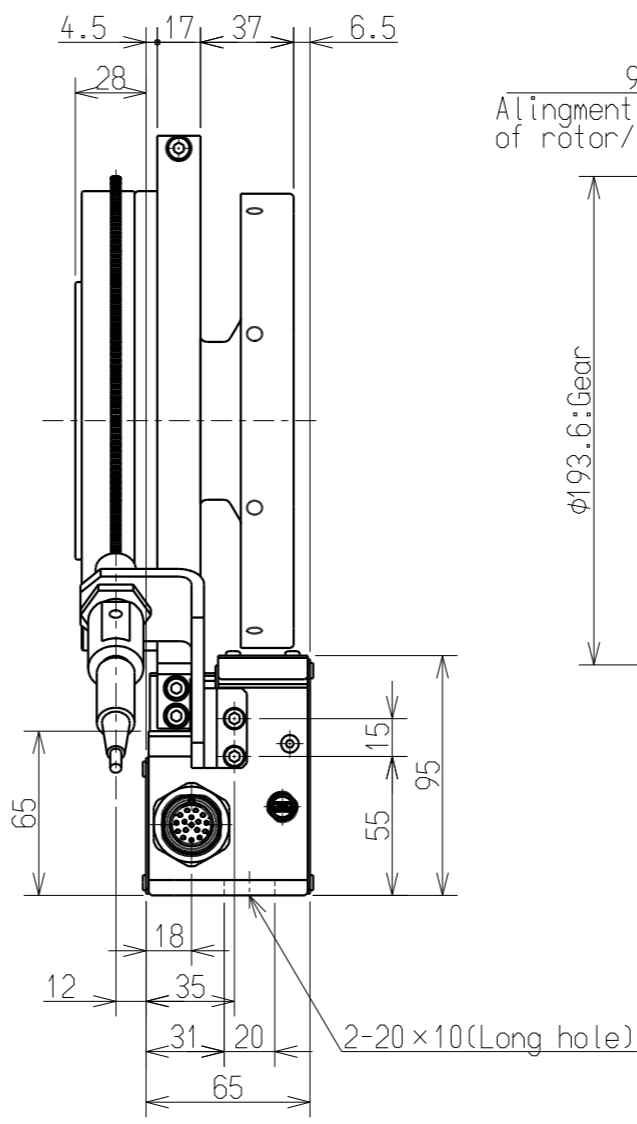


Install a sensor so that an indicator lamp becomes perpendicular to a gear.

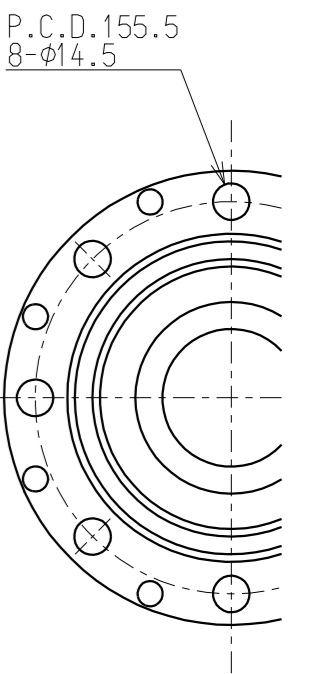
B



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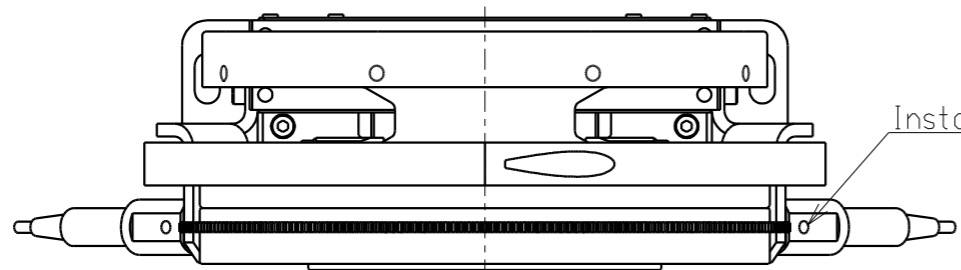
Rotor part details



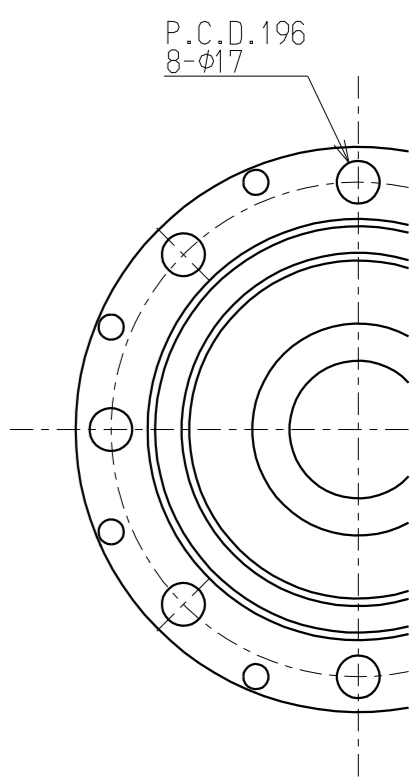
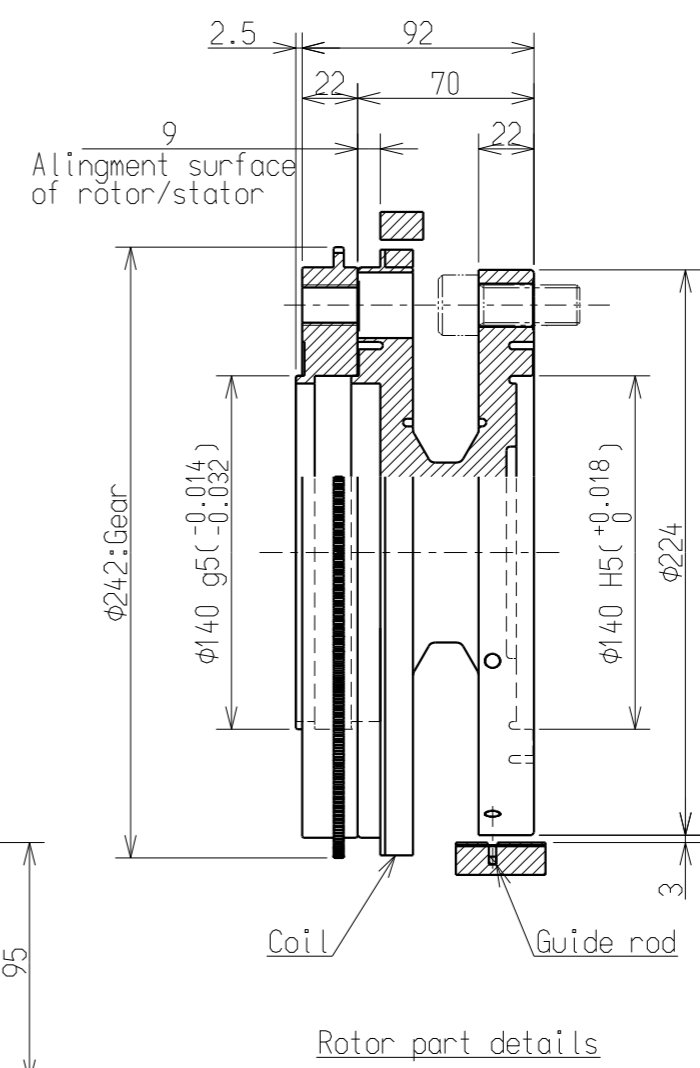
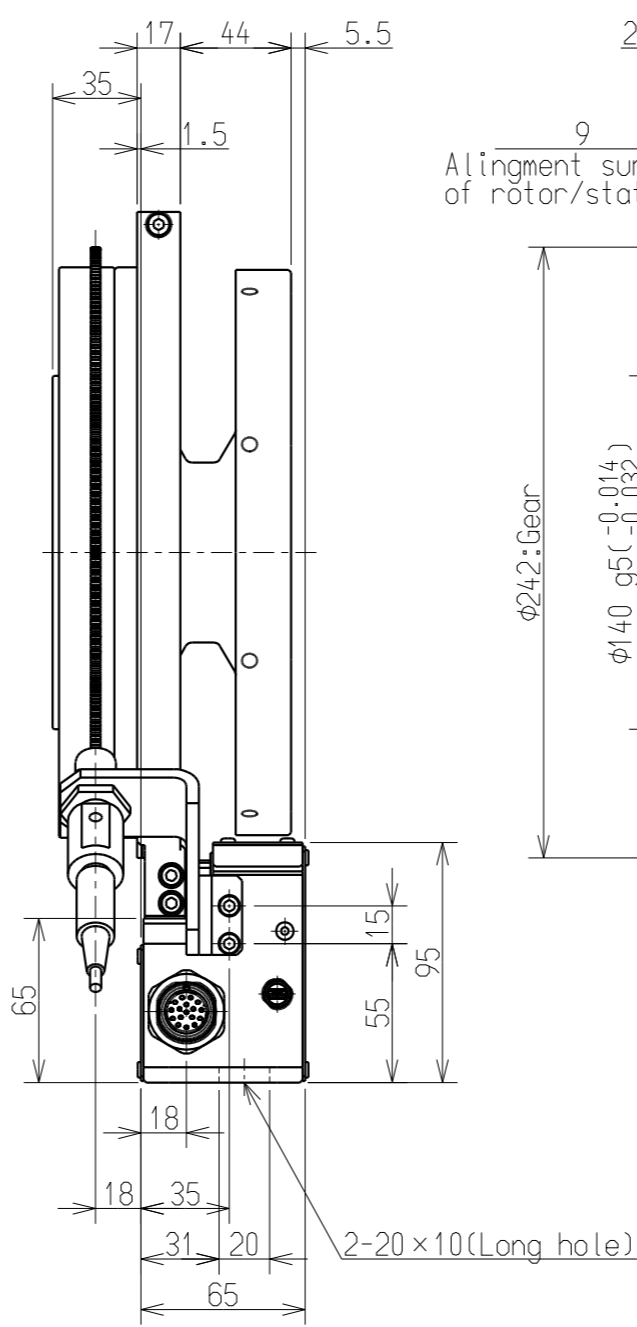
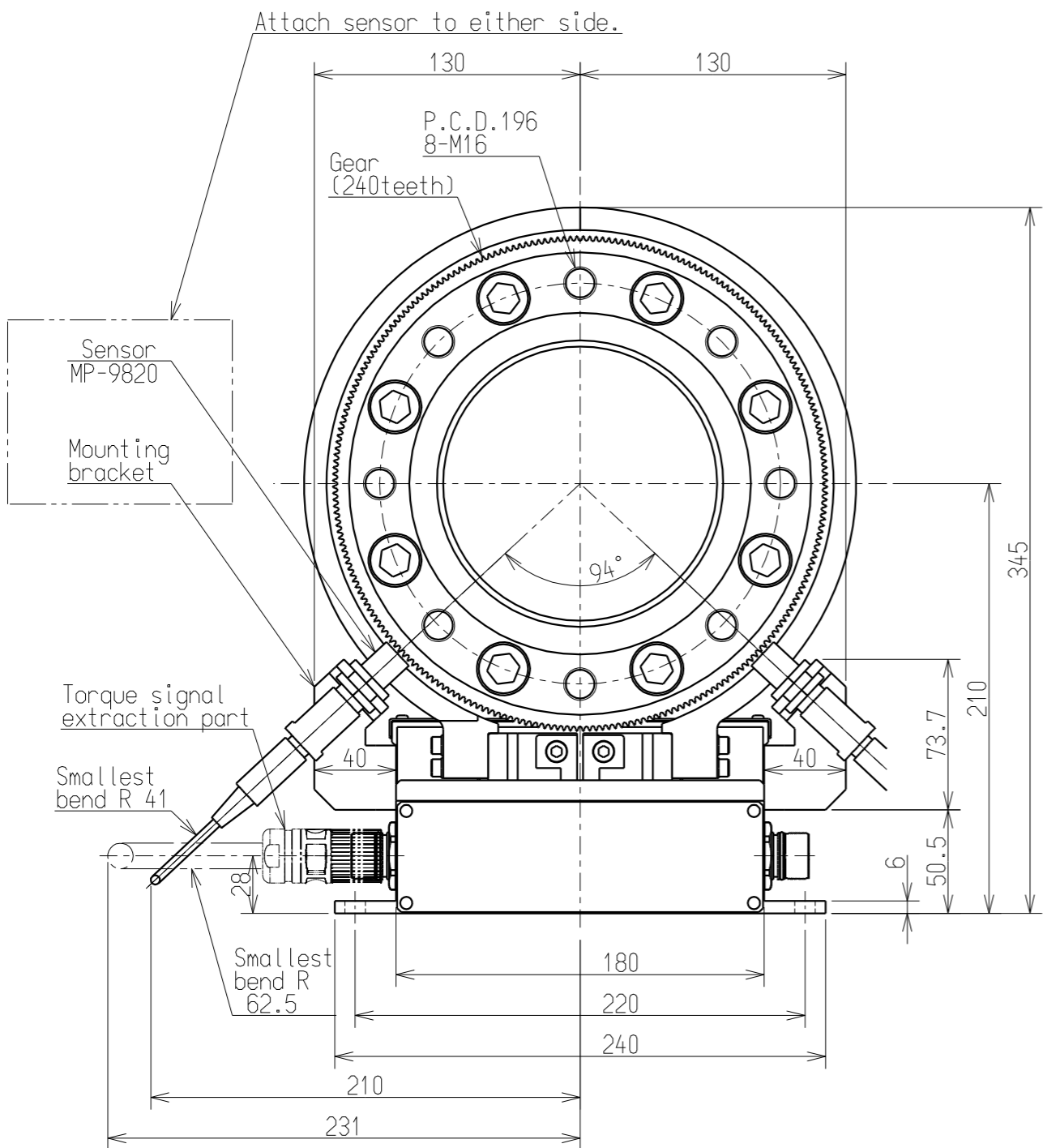
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△ For TMHSB-5KNM
TYPE : RPM-5K - * - *

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	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	16 / 17
	改訂 REV.	D



Install a sensor so that an indicator lamp becomes perpendicular to a gear.



△ For TMHSB-10KNM
TYPE : RPM-10K- * - *

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	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	RPM-100~10K
	図番 DRAWING NO.	KT53515-2
	葉番 SHEET	17 / 17
	改訂 REV.	D