

5 S P - 0 0 8 1

TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED
INCREMENTAL ENCODER SPECIFICATION					

[1]MODEL - 5/2
MSK - 015 - 1024 - 00
 MODEL FUNCTION No. OUTPUT PULSE GEAR

[2]NAME
 KIT TYPE MAGNETIC ENCODER

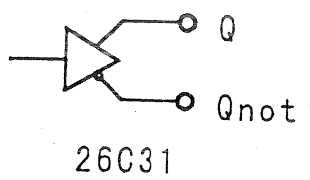
[3]EXTERNAL VIEW
 5-201066

[4]OUTPUT SIGNALS
 DUAL SQUARE WAVE IN QUADRATURE WITH INDEX SIGNAL

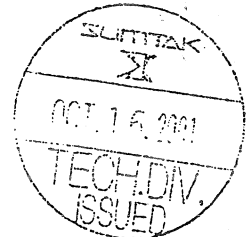
- [5]MECHANICAL SPECIFICATION
- 5-1)SLEW SPEED 18000 min⁻¹
 - 5-2)ALLOWABLE INPUT ANGLE ACCELERATION 10000 rad/s²
 - 5-3)MOMENT OF INERTIA 6.3 × 10⁻⁴ kg·m²
 - 5-4)WEIGHT APPROX. 0.2 kg (SENSOR. WITHOUT CABLE)
 APPROX. 0.6 kg (GEAR)
 - 5-5)AIR GAP 0.15 = 0.1 mm

- [6]ENVIRONMENTAL SPECIFICATION
- 6-1)VIBRATION RESISTANCE 98 m/s²
 (10~2000 Hz 2 HOURS EACH IN X, Y, Z DIRECTIONS)
 - 6-2)SHOCK RESISTANCE 196 m/s²
 (11 ms, 2 TIMES EACH IN X, Y, Z DIRECTIONS)
 - 6-3)OPERATING TEMPERATURE 0~-85 °C
 - 6-4)STORAGE TEMPERATURE -20~-90 °C
 - 6-5)CONSTRUCTION IP54
 - 6-6)HUMIDITY 95 %RH (-40 °C, 8 HOURS)

- [7]ELECTRICAL SPECIFICATION
- 7-1)SUPPLY VOLTAGE DC5 ± 0.5 V (RIPPLE LESS THAN 3%)
 - 7-2)CURRENT REQUIREMENT 100 mA Max. (NO LOAD)
 - 7-3)OUTPUT CIRCUIT LINE DRIVER (RS-422A)



REFERENCE



(和文 5 S P - 0 0 8 1)

PROVIDE
 PHOTO

DRAWN BY JUL. 9, 1999 H. Kanno	CHECKED BY JUL. 9, '99 K. Shibusawa	APPROVED BY JUL. 9, '99 M. Yamashita	DRAWING No. 5 S P - 0 0 8 1
--------------------------------------	---	--	--------------------------------

SSP-0081

3
3

TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED

[9]CABLE AND CONNCTION

- 9-1)CABLE 5GP-0023
 (4-TWISTED PAIRS, PACKAGE SHIELD)
- 9-2)CABLE LENGTH 1000⁺⁵⁰₀ mm
- 9-3)CABLE DIAMETER φ 5 mm
- 9-4)CONNECTOR 5559-10P (MOLEX)
- 9-5)MATCHING CONNECTOR 5559-10R 1PC (MOLEX)
 (ATTACHED) 5556 T2L 10 pcs (MOLEX)
- 9-6)CONNECTION

PIN No.	SIGNAL	SYMBOL	COLOR OF CABLE
1	+5 V	Vcc	WHITE
2	0 V	0 V	BLACK
3	A	PCA	RED
4	\bar{A}	*PCA	PINK
5	B	PCB	GREEN
6	\bar{B}	*PCB	BLUE
7	C	PCC	YELLOW
8	\bar{C}	*PCC	ORANGE
9	-	---	---
10	-	SS	SHIELD

※SHIELD IS NOT CONNECTED TO THE CASE.

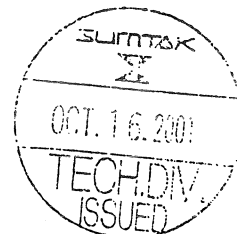
[10]WARRANTY

SUMTAK WARRANTS ITS NEW PRODUCTS AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP UNDER NORMAL USE AND SERVICE FOR PERIOD OF ONE(1) YEAR FROM THE DATE OF ORIGINAL SHIPMENT.

PROVIDE

PHOTO

REFERENCE



DRAWN BY	CHECKED BY	APPROVED BY
JUL. 9. 1999 <i>H. Kanawa</i>	JUL. 9. '99 <i>K. Shibuya</i>	JUL. 9. '99 <i>M. Yamashita</i>

SSUMTAK

DRAWING No.

5SP-0081

WARE. H

3
3

DRAWING NO. 5-201066

CONNECTION DRAWING NO.

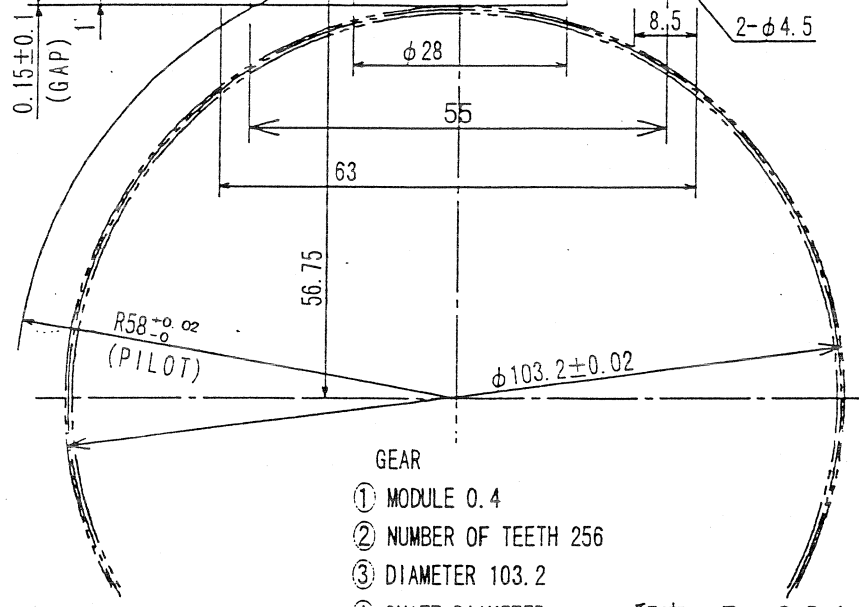
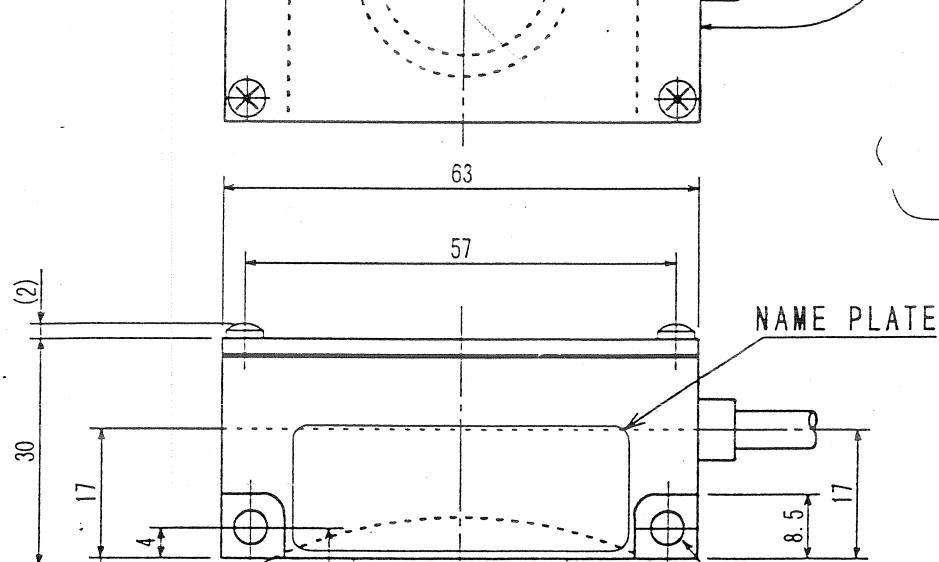
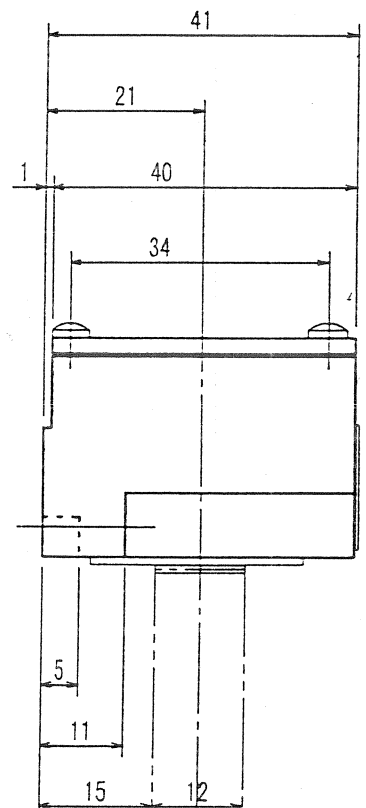
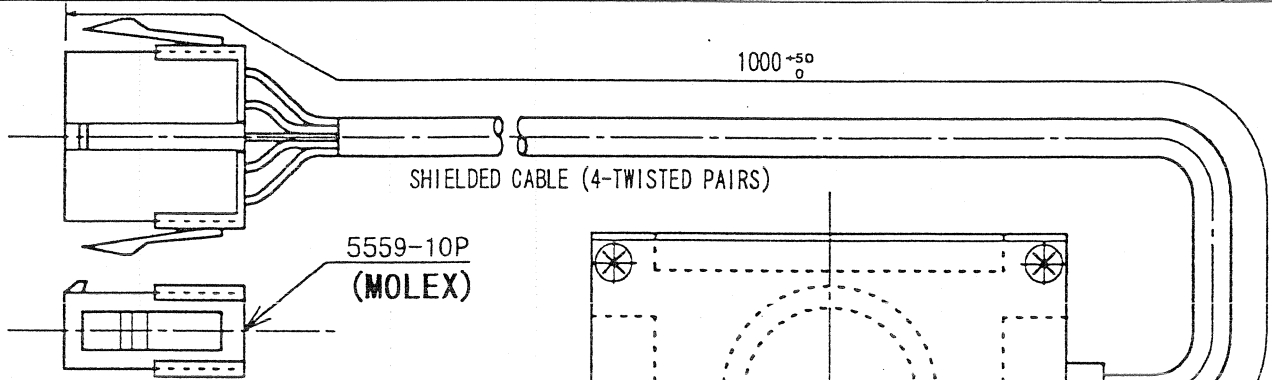
MARK

REVISIONS

DATE

REVISED BY

APPROVED BY



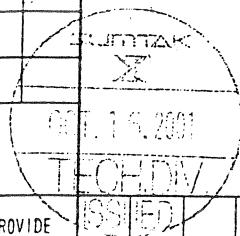
GEAR

- ① MODULE 0.4
- ② NUMBER OF TEETH 256
- ③ DIAMETER 103.2
- ④ SHAFT DIAMETER

NAME PLATE

和文 5-201066

REFERENCE



PROVIDE	D	C	B	A	DWG. NO., TYPE, NORM.	NAME OF PART	MATERIAL	DIMENSIONS	REMARKS
PHOTOGRAPH	CONNECTION CONTENTS				TYPE	DRAWN BY	CHECKED BY	Jul. 9. '99 K. Shibuya	
					MSK-015-1024-00	DESIGNED BY	APPROVED BY	Jul. 9. '99 M. Yamashita	
WAREHOUSING	CONNECTION CONTENTS				SUMITAK CO., LTD.			UNITS	3RD. ANGLE
					SCALE	TITLE	DRAWING NO.	mm	PROJECTION
					1 / 1	MAGNETIC ENCODER EXTERNAL VIEW	5-201066		

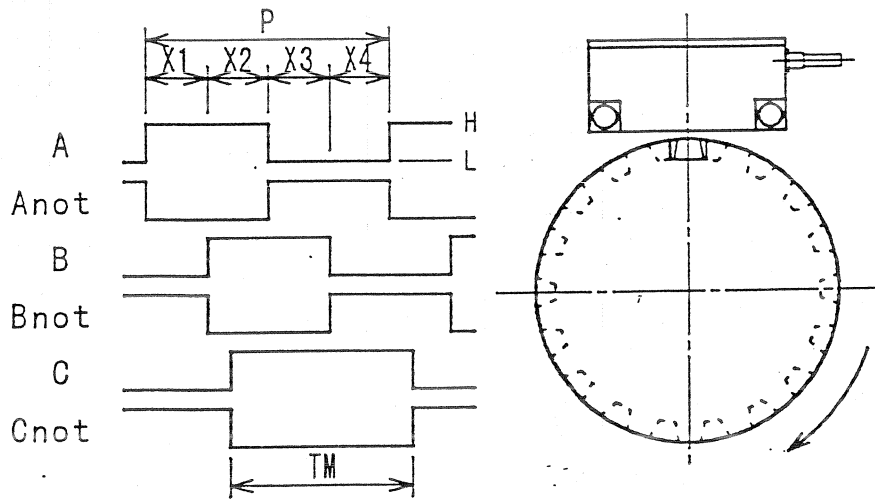
5 S P - 0 0 8 1

TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED

- 7-4) OUTPUT VOLTAGE [H] $\cong 2.4 \text{ V}$ ($V_{cc}=4.5 \text{ V}$)
- 7-5) OUTPUT VOLTAGE [L] $\cong 0.4 \text{ V}$ ($V_{cc}=5.5 \text{ V}$)
- 7-6) RISE/FALL TIME $\cong 100 \text{ nS}$ (CABLE 1 m END)
- 7-7) FREQUENCY RESPONSE (A, B, C) $0 \sim 307.2 \text{ kHz}$
 $0 \sim 300 \text{ Hz}$
- 7-8) BY-PASS CAPACITOR $0.15 \mu\text{F}$
(CONNECTED BETWEEN 0 V, +5 V AND CASE)

[8] OUTPUT WAVEFROM AND DIVISION ACCURACY

- 8-1) PITCH $1.0T \pm 0.2T$ ($T=360^\circ/1024$)
- 8-2) SYMMETRY $X1+X2=0.5T \pm 0.2T$
 $X2+X3=0.5T \pm 0.2T$
- 8-3) PHASE SHIFT $Xn \geq 0.09T$ ($n=1, 2, 3, 4$)
- 8-4) SIGNAL WIDTH OF C CHANNEL $T_M=0.5 \sim 4T$
(POSITIONAL RELATIONSHIP OF A&B CHANNELS AND C CHANNEL IS NOT SPECIFIED)

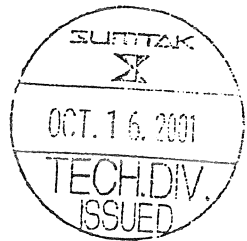


THIS FIGURE SHOWS THE WAVEFORMS WHEN A GEAR IS ROTATED CW VIEWING INDEX SLIT SIDE.

PROVIDE

PHOTO

REFERENCE



WARE. H	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING No.	5 SP - 0 0 8 1	2 / 3
	JUL. 9. 1999 H. Kanno	JUL. 9. '99 K. Shibuya	JUL. 9. '99 M. Yamashita			