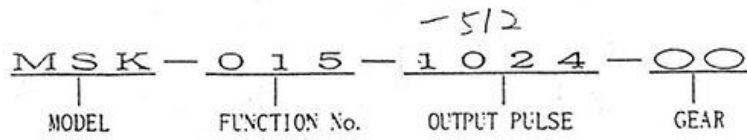


TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED
INCREMENTAL ENCODER SPECIFICATION					

5SP-0081

[1]MODEL



[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

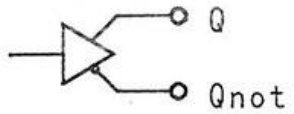
- 5-1)SLEW SPEED 18000 min<sup>-1</sup>
- 5-2)ALLOWABLE INPUT ANGLE ACCELERATION 10000 rad/s<sup>2</sup>
- 5-3)MOMENT OF INERTIA 6.3×10<sup>-4</sup> kg·m<sup>2</sup>
- 5-4)WEIGHT APPROX. 0.2 kg (SENSOR, WITHOUT CABLE)  
APPROX. 0.6 kg (GEAR)
- 5-5)AIR GAP 0.15±0.1 mm

[6]ENVIRONMENTAL SPECIFICATION

- 6-1)VIBRATION RESISTANCE 98 m/s<sup>2</sup>  
(10~2000 Hz 2 HOURS EACH IN X, Y, Z DIRECTIONS)
- 6-2)SHOCK RESISTANCE 196 m/s<sup>2</sup>  
(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)



26C31

REFERENCE



(和文 5SP-0081)

PROVIDE

PHOTO

DRAWN BY JUL. 9, 1999 H. Kanno	CHECKED BY JUL. 9, '99 K. Shibuya	APPROVED BY JUL. 9, '99 M. Yamashita	DRAWING No. 5SP-0081	1 3
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WARE. H

SUMITAK

SSP-0081

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<sup>+50</sup>/<sub>0</sub> mm
- 9-3)CABLE DIAMETER                       $\phi$  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

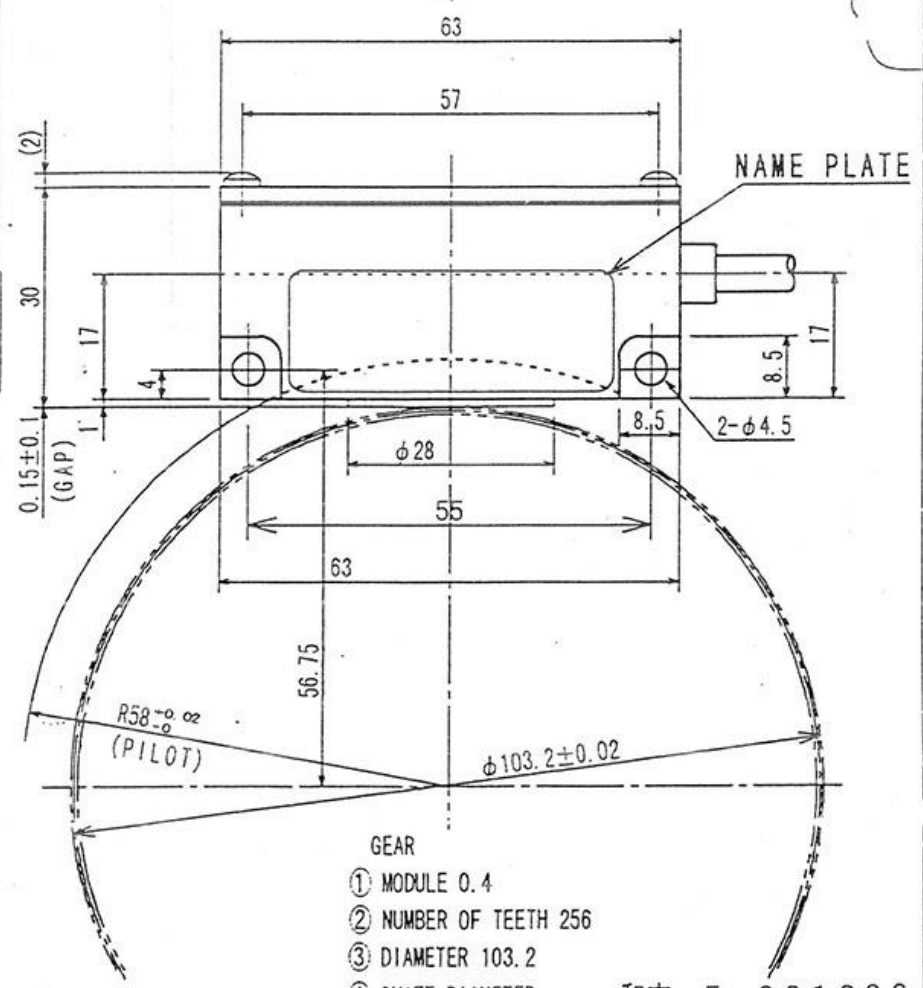
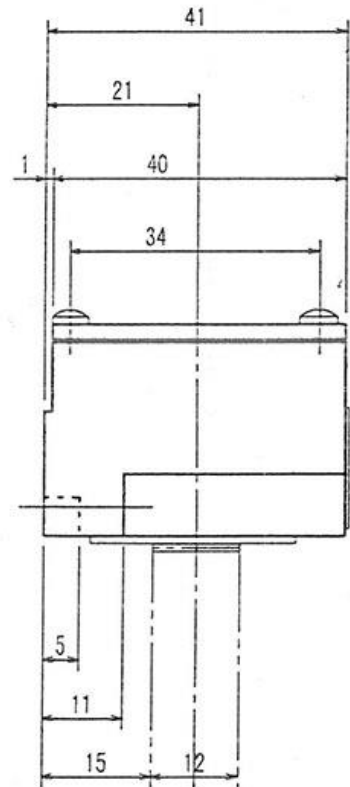
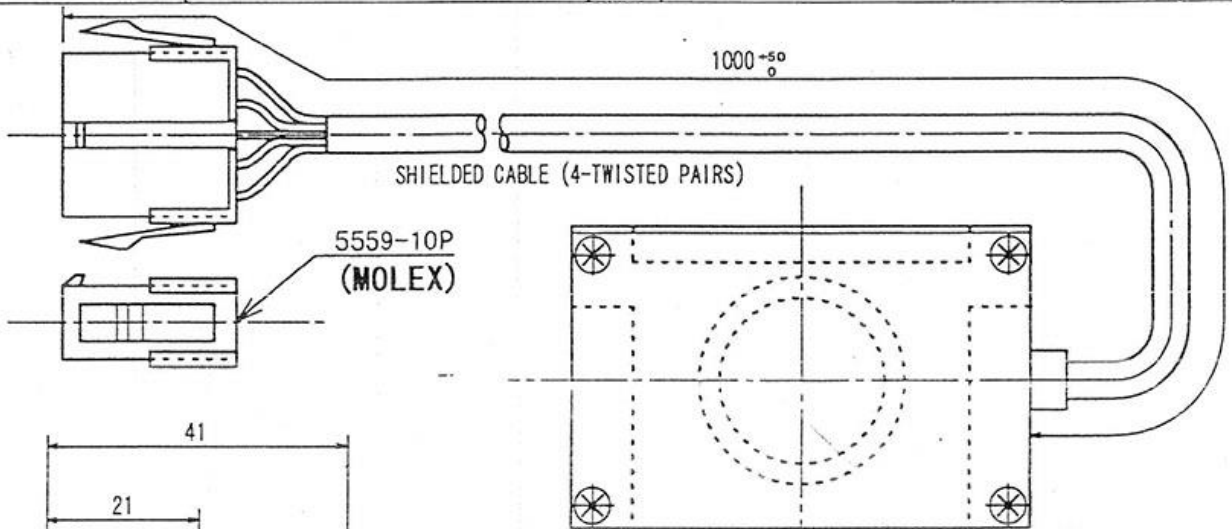
REFERENCE



WARE. H	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING No. SSUMTAK	5SP-0081	3/3
	JUL. 9. 1999	JUL. 9. '99	JUL. 9. '99			

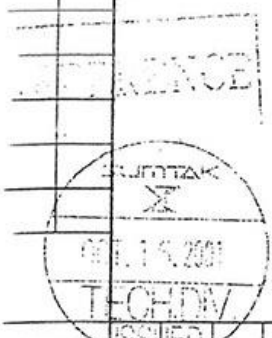
H. Kanno    K. Shibuya    M. Yamashita

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

和文 5-201066



PROVIDE	D	C	B	A	DWG. NO. . TYPE. NORM.	NAME OF PART	MATERIAL	DIMENSIONS	REMARKS
					TYPE	DRAWN BY		CHECKED BY	Jul. 9. '99 K. Shibuya
					MSK-015-1024-00	DESIGNED BY	JUL. 8. 1999 H. Kanno	APPROVED BY	Jul. 9. '99 M. Yamashita
PHOTOGRAPH					<b>SUMITAK</b> CO., LTD.			UNITS	3RD. ANGLE
					SCALE	TITLE		mm	PROJECTION
WAREHOUSING					1 / 1	MAGNETIC ENCODER EXTERNAL VIEW		DRAWING NO.	5-201066

TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED

5 S P - 0 0 8 1

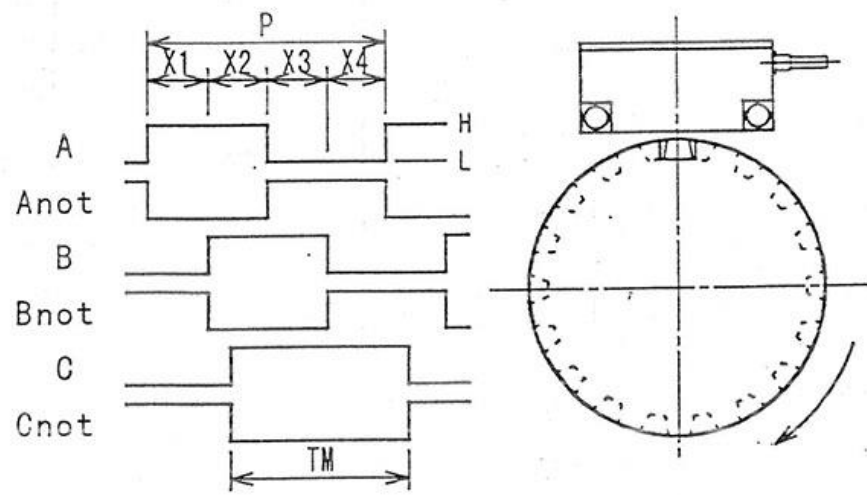
2

3

- 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 RESPONCE (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

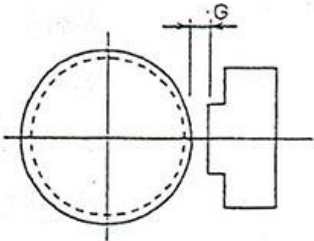
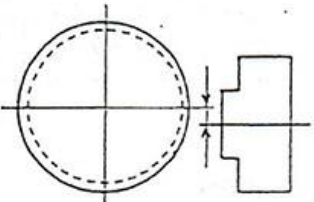
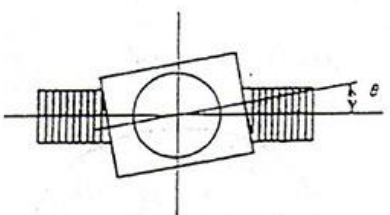
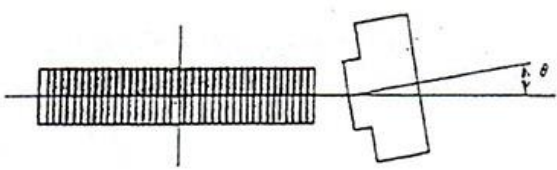
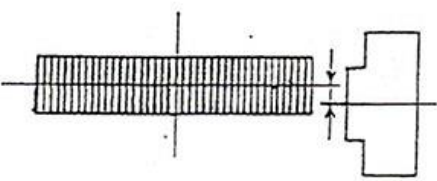

PHOTO

REFERENCE

SUMITAK  
X  
OCT. 16. 2001  
TECH.DIV.  
ISSUED

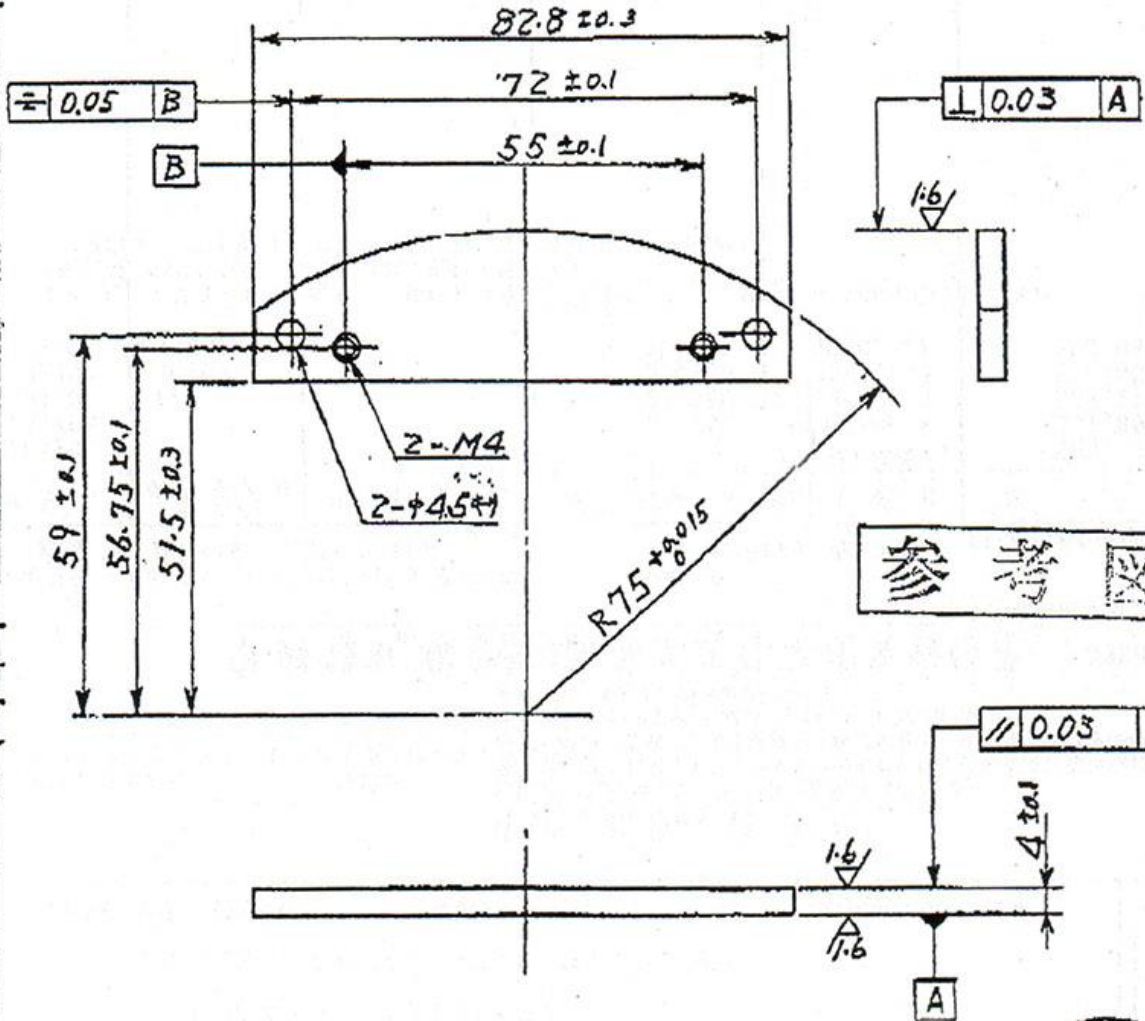
WARE. H	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING No.	5 S P - 0 0 8 1	2 3
	JUL. 9. 1999 H. Kanno	JUL. 9. '99 K. Ohbayashi	JUL. 9. '99 M. Yamashita			

# 組装説明

	TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED										
5-70112	<p>【6】取り付け精度</p> <p>6. 1) 検出器と歯車のギャップ : 0.05 mm以上 0.25 mm以下</p>  <p style="text-align: right;">15條佳</p> <p>6. 2) 検出器と歯車中心位置ズレ : ±0.5 以下</p>  <p>6. 3) 検出器の回転偏角 : ±1.5' 以下</p>  <p>6. 4) 検出器の歯車方向の偏角 : ±1.0' 以下</p>  <p>6. 5) 検出器の歯幅方向の位置ズレ : ±1.0 mm以下</p> 															
2 5																
PROVIDE																
PHOTO																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DRAWN BY</td> <td style="width: 25%;">CHECKED BY</td> <td style="width: 25%;">APPROVED BY</td> <td style="width: 25%;"></td> </tr> <tr> <td>199.9.2 ウザワ</td> <td>199.9.2 カン)</td> <td>199.9.2 渋谷</td> <td>SSUMTAK</td> </tr> </table>	DRAWN BY	CHECKED BY	APPROVED BY		199.9.2 ウザワ	199.9.2 カン)	199.9.2 渋谷	SSUMTAK	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWING No.</td> <td style="width: 50%;"></td> </tr> <tr> <td>5-70112</td> <td></td> </tr> </table>	DRAWING No.		5-70112			2 5
DRAWN BY	CHECKED BY	APPROVED BY														
199.9.2 ウザワ	199.9.2 カン)	199.9.2 渋谷	SSUMTAK													
DRAWING No.																
5-70112																
W.P.E. H																

DRAWING NO. <b>1-801136</b>	CONNECT. DRAWING NO.	MARK	REVISIONS	DATE	RE'D BY	AP'D BY
		○		..		
		○		..		
		○		..		

6.3 / (1.6)



参考図

- 注 1. 各角糸面取り C0.1~C0.5 のこと  
 2. 表面処理: 黒染

出図  
 '97.2.19  
 サムタク(株)  
 技術本部

PROVIDE									SS400			
	D	C	B	A	1/50	OWG. NO. TYPE NORM	NAME OF PART	MATERIAL	DIMENSIONS	REMARKS		
						TYPE	DRAWN BY	CHECKED BY	タギエツカ	大橋		
PHOTOGRAPH						DESIGNED BY	97-2-15 比南尚	APPROVED BY				
						<b>SUMITAK CO., LTD.</b>				UNITS	3 RD. ANGLE	
						SCALE	TITLE	DRAWING NO.				
WAREHOUSING						1/1	センサベース B	1-801136				

