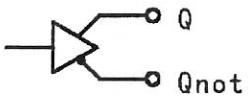


TITLE		REV.	REVISIONS	DATE	REVISED	APPROVED
INCREMENTAL ENCODER SPECIFICATION		(2)	Slow speed change	Feb. 7, '02	K. Shibuya	M. Yamashita
5 S P - 0 0 8 1	[1]MODEL	$\text{MSK} - \text{015} - \text{1024} - \text{00}$ <p style="text-align: center;"> MODEL FUNCTION No. OUTPUT PULSE GEAR </p>				
	[2]NAME	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 $\text{@ } 18000$ $\pm 2000 \text{ r/min.}$ 5-2)ALLOWABLE INPUT ANGLE ACCELERATION 10000 rad/s^2 5-3)MOMENT OF INERTIA $6.3 \times 10^{-4} \text{ kg} \cdot \text{m}^2$ 5-4)WEIGHT APPROX. 0.2 kg (SENSOR, WITHOUT CABLE) APPROX. 0.6 kg (GEAR) 5-5)AIR GAP $0.15 \pm 0.1 \text{ mm}$				
	[6]ENVIRONMENTAL SPECIFICATION	6-1)VIBRATION RESISTANCE 98 m/s^2 (10~2000 Hz 2 HOURS EACH IN X, Y, Z DIRECTIONS) 6-2)SHOCK RESISTANCE 196 m/s^2 (11 ms, 2 TIMES EACH IN X, Y, Z DIRECTIONS) 6-3)OPERATING TEMPERATURE $0 \sim +85 \text{ }^\circ\text{C}$ 6-4)STORAGE TEMPERATURE $-20 \sim +90 \text{ }^\circ\text{C}$ 6-5)CONSTRUCTION IP54 6-6)HUMIDITY 95 %RH (+40 °C, 8 HOURS)				
	[7]ELECTRICAL SPECIFICATION	7-1)SUPPLY VOLTAGE $\text{DC} 5 \pm 0.5 \text{ V}$ (RIPPLE LESS THAN 3%) 7-2)CURRENT REQUIREMENT 100 mA Max. (NO LOAD) 7-3)OUTPUT CIRCUIT LINE DRIVER (RS-422A)				
	PROVIDE					
	PHOTO	26C31 (和文 5 S P - 0 0 8 1)				
	WARE:H	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING No.	
	JUL. 9. 1999 H. Kanno	JUL. 9. '99 K. Shibuya	JUL. 9. '99 M. Yamashita	5 S P - 0 0 8 1		

REFERENCE
ONLY

HEIDENHAIN K.K.
13.7.29
CUSTOMER SUPPORT Dept.



5 S P - 0 0 8 1

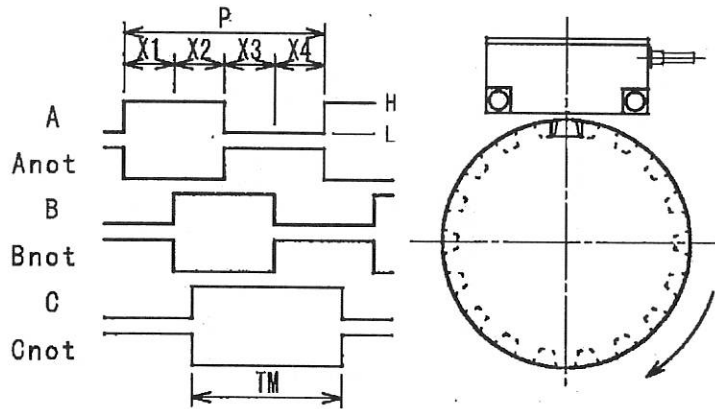
TITLE	REV.	REVISIONS	DATE	REVISED	APPROVED

- 7-4) OUTPUT VOLTAGE [H] $\geq 2.4 \text{ V}$ ($V_{CC}=4.5 \text{ V}$)
- 7-5) OUTPUT VOLTAGE [L] $\leq 0.4 \text{ V}$ ($V_{CC}=5.5 \text{ V}$)
- 7-6) RISE/FALL TIME $\leq 100 \text{ nS}$ (CABLE 1 m END)
@ 18000
- 7-7) FREQUENCY RESPONSE (A, B, C) $0 \sim 42000 \text{ r/min.}$
- 7-8) BY-PASS CAPACITOR $0.15 \mu\text{F}$
(CONNECTED BETWEEN 0 V, +5 V AND CASE)

REFERENCE
ONLY

[8] OUTPUT WAVEFORM 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 $X_n \geq 0.09T$ ($n=1, 2, 3, 4$)
- 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

HEIDENHAIN K.K.
'13. 7. 29
CUSTOMER SUPPORT Dept.

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

1800-SSS 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 ⁺⁵⁰/₀ 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.

**REFERENCE
ONLY**

[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

WARE.H

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING No.
JUL. 9. 1999 H. Kanono	JUL. 8. 1999 K. Shibuya	JUL. 9. 1999 M. Yamashita	55SP-0081

SSUMTAK

HEIDENHAIN K.K.

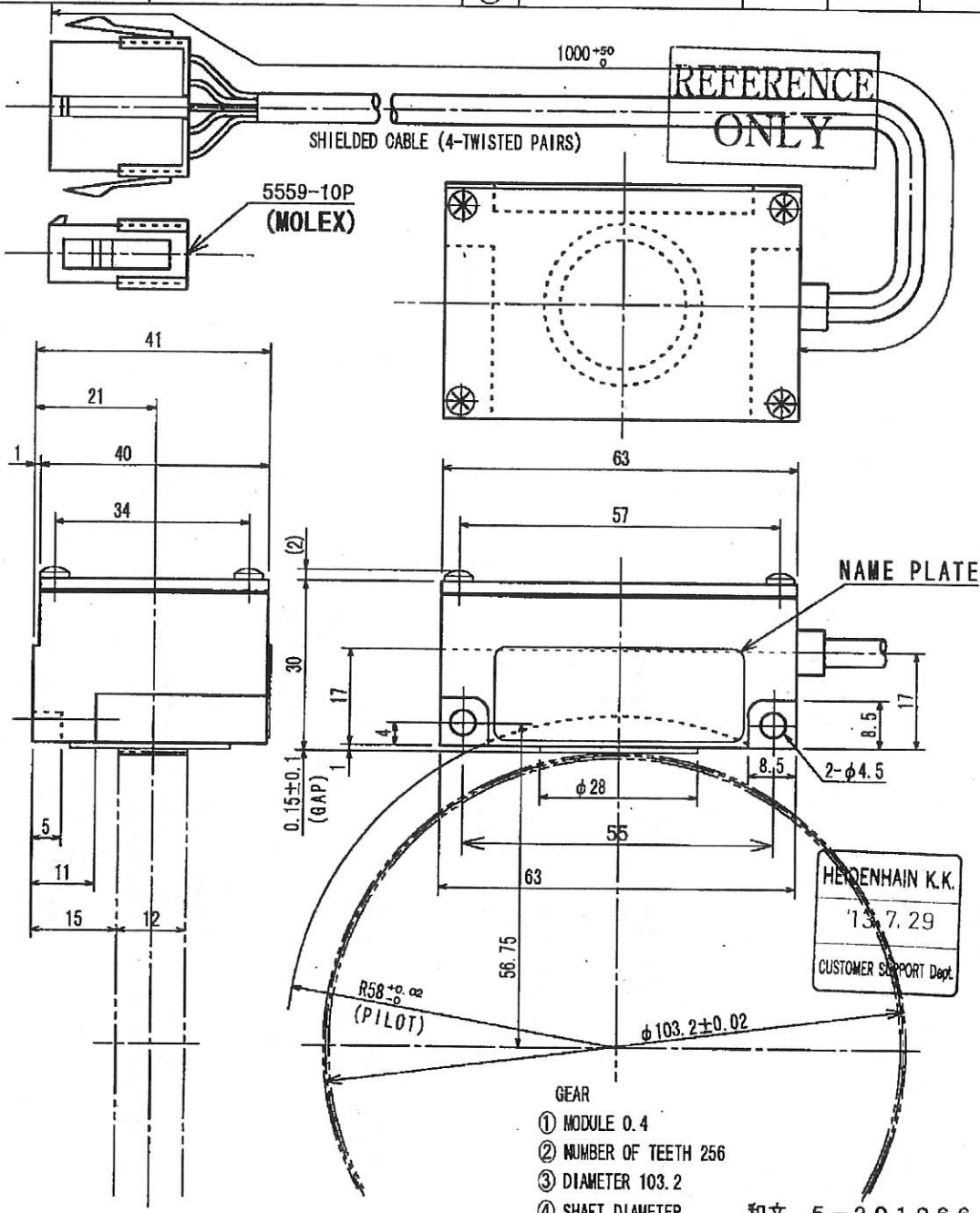
'13. 7. 29

CUSTOMER SUPPORT Dept.

				3
				3

DRAWING NO.
5-201066

CONNECTION DRAWING NO.	MARK	REVISIONS	DATE	REVISED BY	APPROVED BY
	○				
	○				
	○				



HEIDENHAIN K.K.
13.7.29
CUSTOMER SUPPORT Dept.

PROVIDE				
PHOTOGRAPH				
WAREHOUSING				

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