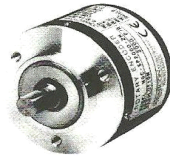


SHAFT TYPE

NOC-S Model



Mechanism for The Shaft Load Resistance (for General Use)

- Standard Low Cost Versions of 10~2500 P/R and 5000 P/R.

Model

NOC-S [] - **2 M** [] - [] - [] - [] **00**

Resolution

Style	10	10P/R	600	600P/R
S:Shaft	20	20P/R	1000	1000P/R
	30	30P/R	1024	1024P/R
	40	40P/R	1250	1250P/R
	50	50P/R	1800	1800P/R
	60	60P/R	2000	2000P/R
	100	100P/R	2048	2048P/R
	200	200P/R	2500	2500P/R
	250	250P/R	3600	3600P/R
	300	300P/R	4096	4096P/R
	360	360P/R	5000	5000P/R
	500	500P/R		

Outer diameter shaft

Option

- 8 : $\phi 8$
- 9525 : $\phi 9.525$
- 10 : $\phi 10$

Cable Length

- 050 : 500mm (Standard)
- 100 : 1000mm
- 300 : 3000mm

Output Mode

- No Indication : Voltage Output
- C : Open Collector Output
- HC : Open Collector Output / High Voltage
- HCP : PNP Mode Open Collector Output / High Voltage
- HT : Push-Pull Output / High Voltage
- D : Line Driver Output Standard C-MOS
- WT : Push-Pull Output / Wide Voltage

Signals

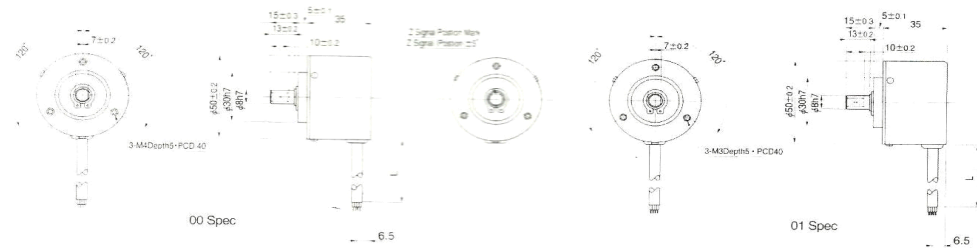
- 2M : AB90° Phase Difference + Zero Signal

No Indication : Other than D output

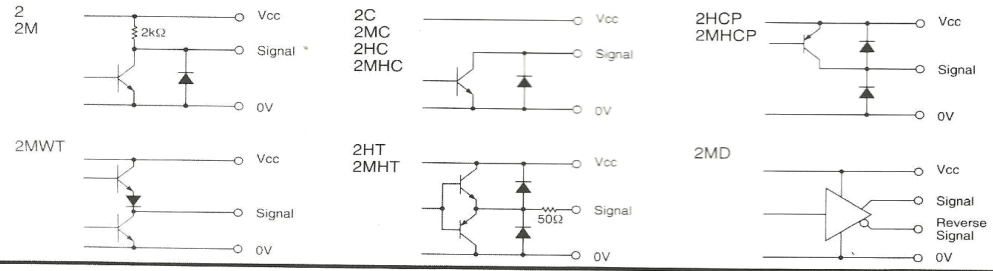
No Indication : D output with LS

C : D output with C-MOS

External Dimension



Circuit of Output Signal



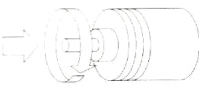
Electrical Spec.

※1) at Maximum Output Current ※2) Maximum Source Current

TYPE	2 • 2M	2C•2MC	2HC•2MHC	2HCP•2MHCP	2HT•2MHT	2MD	2MWT
Supply Voltage	DC4.5 ~ 13.2 V		DC10.8 ~ 26.4 V			DC4.5~5.5V (C-MOS)	DC 4.75~30V
Requirement	90 mA Max	70 mA Max	100 mA Max	90 mA Max	70 mA Max (C-MOS)	60 mA Max	
Output Voltage	"H" Within -1 Power Volt			Within -1※2 Power Volt	Within -3 Power Volt	2.5 V or More	Within -2.5 Power Volt
	"L" ※1	0.5 V Max			3 V Max	0.5 V Max	0.4 V Max
Maximum Output Current	20 mA MAX			40 mA MAX	20 mA MAX	30 mA MAX	
Rise & Fall Time	1 μs Max				200 ns Max	3 μs Max	
Maximum Frequency Response	200 kHz		50 kHz	200 kHz	100 kHz		
Withstanding Voltage of Output Tr.	50 V MAX.						

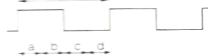
Wave Form.

CW → Rotating Toward Clockwise Viewed from an Arrow




Rising point of A-Signal is always at one point while Z-Signal is at H-Level in CW.

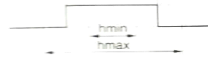
Signal A



Signal B



Signal Z




$P = \frac{1}{1 \text{Resolution}}$


$a, b, c, d = \frac{P}{4} \pm \frac{P}{8} \quad \frac{P}{2} \leq h \leq \frac{3P}{2}$

Wave Ratio (Duty); 50 ± 25 (%)


Sig A




Sig A̅




Sig B




Sig B̅



Sig Z



Sig Z̅



Electrical Connections

	Color of Lead Wire	Description
2	Red	Power Source
2M	Black	0V Common
2C	Green or Blue	Signal A
2MC	White	Signal B
2HC	Yellow	Signal Z
2MHC	Shielding Braid	NC

2MD	Color of Lead Wire	Description	Color of Lead Wire	Description
	Red	Power Source	White	Signal B
	Black	0V Common	Gray	Signal B̅
	Green	Signal A	Yellow	Signal Z
	Blue	Signal A	Orange	Signal Z̅
	Shielding Braid	NC		

Mechanical Spec.

Starting Torque	9.8×10 ⁻³ N • m Max
Angular Acceleration	1×10 ⁵ rad/s ²
Shaft Loading	Thrust axial 49N
	Radial 78.4N
Moment of Inertia	3×10 ⁻⁶ kg • m ²
Maximum RPM	5000r/min
Net Weight	200g Max

Environmental Spec.

Operating Temperature	-10°C ~ +70°C
Storage Temperature	-30°C ~ +85°C
Humidity	RH 85% Max No Condensation
Vibration	10~55 Hz / 1.5mm 2 h
Shock	980m/s ² , 11ms X, Y, Z Each 3 times
Degree of Protection	IP50