

SHAFT TYPE

NOC-SP_{Model}

Mechanism for The Shaft Load Resistance (IP65)

- Standard Low Cost Versions of 10~2500 P/R and 5000 P/R, and Also The 10000 P/R Version for High Accurate Application.

Model

NOC-SP - 2 M - - -

Style	Resolution	Output Mode	Outer diameter shaft	Cable Length	
10	10P/R	600	600P/R		
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	1000	10000P/		

10000 P/R(Line Driver Only)

S: Shaft
P: Dust-Resistant & Water-Resistant

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

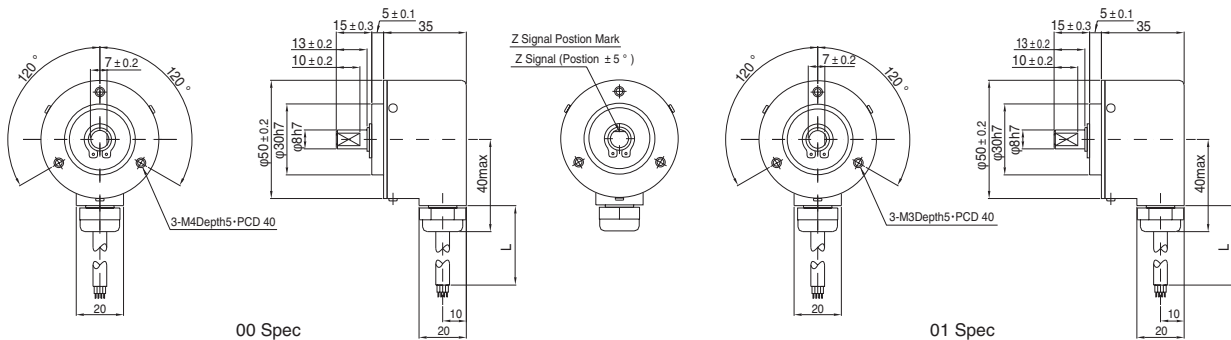
050 : 500mm (Standard)
100 : 1000mm
300 : 3000mm

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

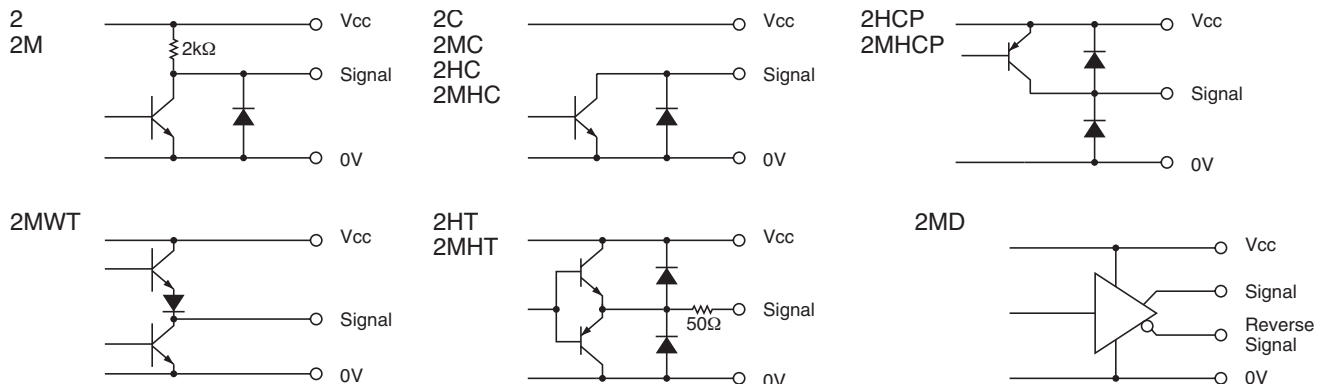
00: PCD40 3-M4 Depth 5
01: PCD40 3-M3 Depth 5
No Indication : Other than D output
No Indication : D output with LS
C : D output with C-MOS

Signals 2M : AB90° Phase Difference + Zero Signal

External Dimension



Circuit of Output Signal



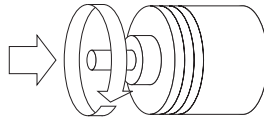
Electrical Spec.

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

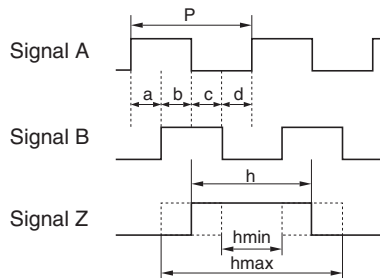
TYPE		2 • 2M	2C•2MC	2HC•2MHC	2HCP•2MHCP	2HT•2MHT	2MD	2MWT
Supply Voltage		DC4.5 ~ 13.2 V		DC10.8 ~ 26.4 V			DC4.5~5.5V (C-MOS)	DC 4.75~30V
Requirement		90 mA Max	70 mA Max		100 mA Max	90 mA Max	70 mA Max (C-MOS)	60 mA Max
Output Voltage	"H"	Within -1 Power Volt			Within -1 ² Power Volt	Within -3 Power 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(~5000P/R) 1 MHz (10000P/R)		100 kHz
Withstanding Voltage of Output Tr.			50 V MAX.					

Wave Form.

CW → Rotating Toward Clockwise Viewed from an Arrow



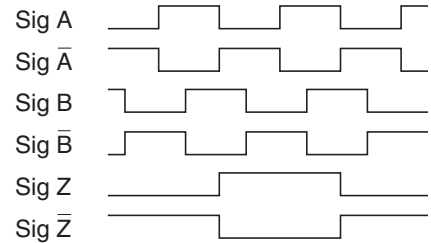
Rising point of A-Signal is always at one point while Z-Signal is at H-Level in CW.



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

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

Wave Ratio (Duty); 50 ± 25 (%)



Electrical Connections

	2MHC 2M 2C 2MC 2HT 2HC	2MHC 2HCP 2MHCP 2HT 2MHT	Color of Lead Wire	Description
			Red	Power Source
			Black	0V Common
			Green or Blue	Signal A
			White	Signal B
			Yellow	Signal Z
			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 B
	Green	Signal A	Yellow	Signal Z
	Blue	Signal A	Orange	Signal Z
	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		Maximum : 5000r/min Continuous : 3000r/min
Net Weight		250g 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	IP65