

SHAFT TYPE

NOC-SP Model



Heavy Duty Model 50mm Diameter Encoder (IP65)

•Standard Versions of 10~10000P/R for High Accurate Application.



Model NOC-SP -2M - - - - E

Style
S: Shaft
P: Dust-Proof & Water-Proof

Resolution

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	10000	10000P/R

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

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

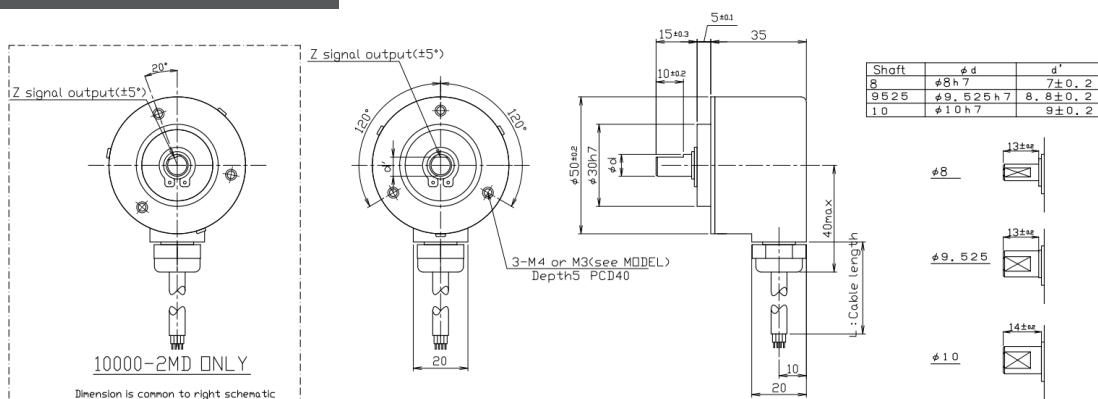
Outer diameter shaft
8 : φ8
*(9525 : φ9.525)
*(10 : φ10)
* Option

Complying with RoHS
00 : PCD40 3-M4 Depth 5
01 : PCD40 3-M3 Depth 5

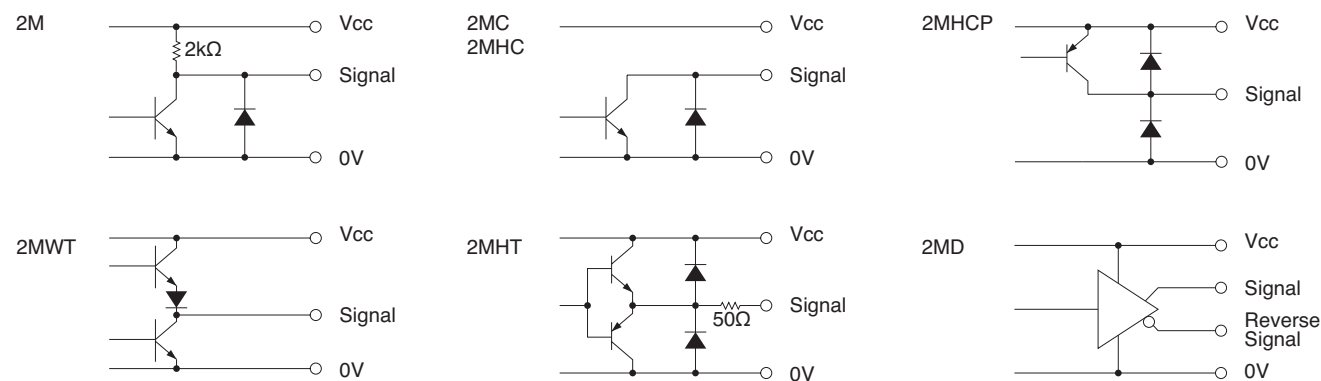
Signals 2M : AB90° Phase Difference + Index Signal

*10000 P/R(Line Driver Only)

External Dimension



Output Circuit



Electrical Spec

TYPE	*1) at Maximum Sink Current				*2) Maximum Source Current		
	2M	2MC	2MHC	2MHCP	2MHT	2MD	2MWT
Power Supply(Vcc)	DC4.5~13.2 V			DC10.8~26.4 V		DC4.5~5.5V (C-MOS)	DC 4.75~30V
Current Consumption	90 mA Max	70 mA Max		100 mA Max	90 mA Max	70 mA Max (C-MOS)	60 mA Max
Output Voltage	"H"	Vcc-1V Min	Vcc-1V Min		Vcc-3V Min	2.5 V Min	Vcc-2.5V Min
	"L" *1	0.5 V Max			3 V Max	0.5 V Max	0.4 V Max
Maximum Sink Current	20 mA				40 mA	20 mA	30 mA
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

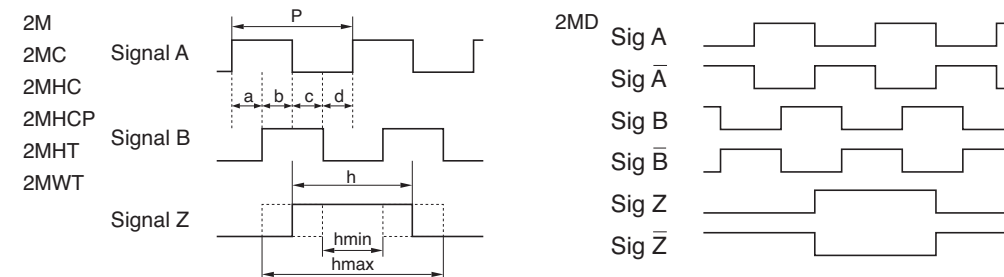
CW → Rotating Toward Clockwise Viewed from an Arrow

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

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

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

Wave Ratio (Duty); 50 ± 25 (%)



Electrical Connections

Model	Color	Signal	Color	Signal
2M	Red	Power Supply(Vcc)		
2MC	Black	0V		
2MHC	Green or Blue	Signal A	White	Signal B
2MHCP	White	Signal B	Gray	Signal B
2MHT	Yellow	Signal Z	Yellow	Signal Z
2MWT	Shield	NC	Orange	Signal Z

Mechanical Spec

Starting Torque	9.8X10 ⁻³ N · m Max
Angular Acceleration	1X10 ⁵ rad/s ²
Shaft Loading	Thrust : 49N
	Radial : 78.4N
Moment of Inertia	3X10 ⁻⁶ kg · m ²
Maximum Permissible Speed	Instantaneous : 5000min ⁻¹ Continuous : 3000min ⁻¹
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 X, Y, Z Each 2h
Shock	980m/s ² , 11ms X, Y, Z Each 3 times
Ingress Protection	IP65