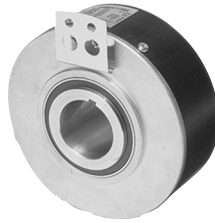


**BUILT-IN TYPE**

**SBH** Model



**Large Size Model**

- Shaft Can be Up to 30.
- High Resolution 10000 P/R.

**Model**

**SBH** - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - **30-050-00**

Resolution

0512	512 P/R
1024	1024 P/R
4096	4096 P/R
8192	8192 P/R
100	10000 P/R

Line Driver Only

Output Mode

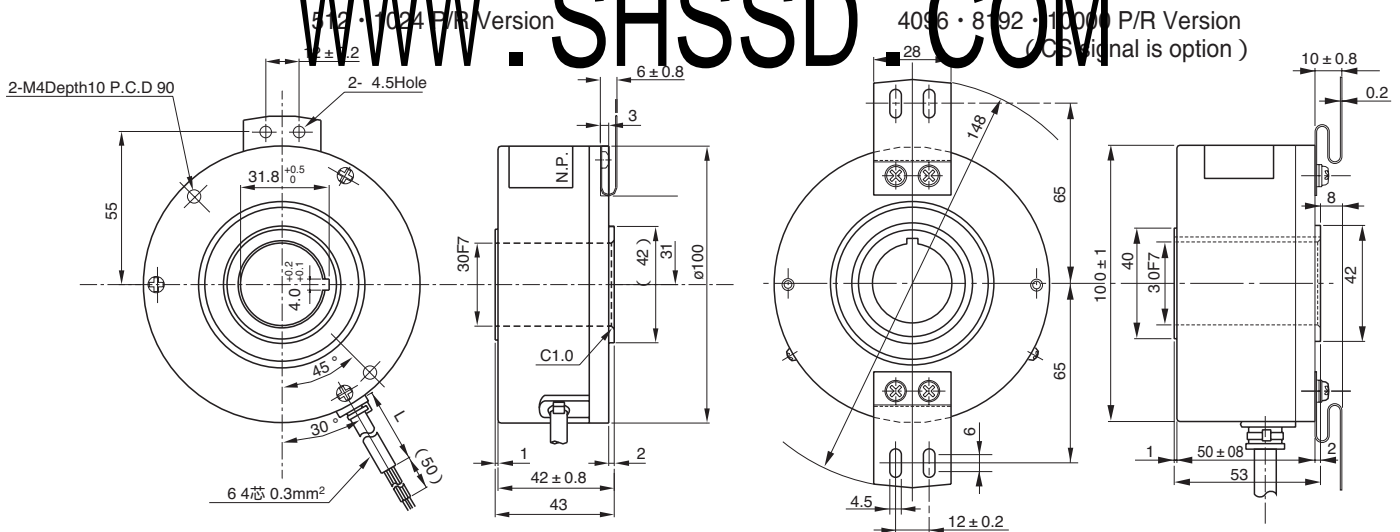
- No Indication : Voltage Output
- C : Open Collector Output
- D : Line Driver Output
- T : Push-Pull Output

Signals

- 2 : AB90° Phase Difference
- 2M : AB90° Phase Difference + Zero Signal

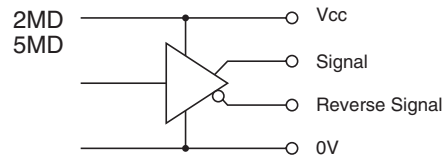
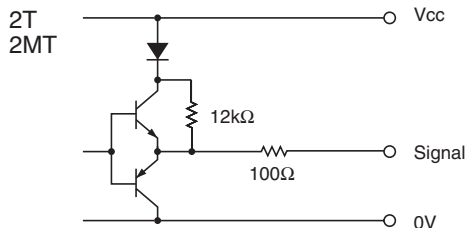
**External Dimension**

**WWW.SHSSD.COM**



Ask Our Sales Organization for Detailed Explanation.

**Circuit of Output Signal**

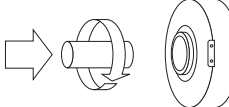


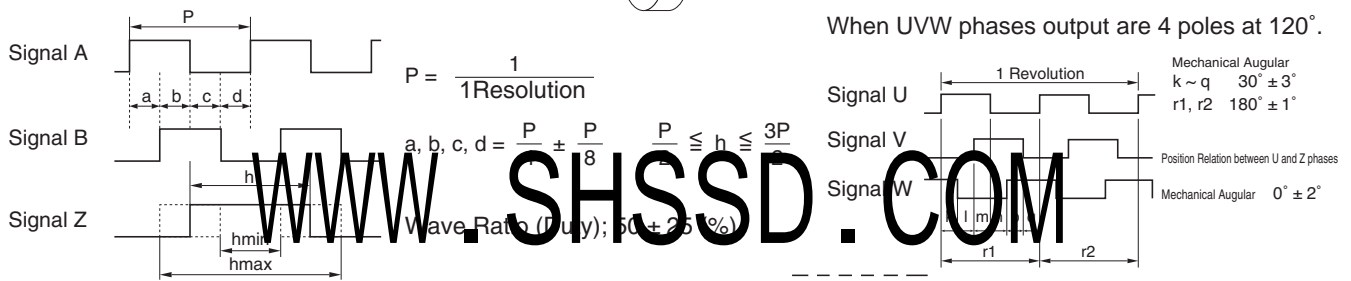
### Electrical Spec.

TYPE		2T	2MT	2MD	2MD(4096P/R)	5MD	6MD
Supply Voltage		DC 10.8 ~ 13.2 V		DC 4.5~5.25 V	DC 12V ± 10%		
Requirement		60 mA Max		150 mA Max	270 mA Max		
Output Voltage	"H"	Within -2.5 Power Supply Volt(VDC)		2.5 V or More	3 V or More		
	"L" <sup>1</sup>	3 V Max		0.5 V Max	3 V Max		
Maximum Output Current		40 mA MAX		20 mA MAX	30 mA MAX		
Rise & Fall Time		0.5 μs Max		200 ns Max	400 ns Max		
Maximum Frequency Response		150 kHz		200 kHz	35 kHz		

※1) at Maximum Output Current

### 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.



### Electrical Connections

2T 2MT	Color of Lead Wire	Description
	Red	Power Source
	Black	0V Common
	Blue or Green	Signal A
	White	Signal B
	Yellow	Signal Z
	Shielding	F. G

2MD 5MD	Color of Lead Wire	Description
	Red	Power Source
	Black	0V Common
	Green	Signal A
	Blue	Signal Ā
	White	Signal B
	Gray	Signal B̄
	Yellow	Signal Z
	Orange	Signal Z̄
	Shielding	F. G

### Mechanical Spec.

	512 · 1024 P/R	4096 · 8192 · 10000 P/R
Starting Torque	7.35×10 <sup>-2</sup> N · m Max	49×10 <sup>-3</sup> N · m Max
Angular Acceleration	1×10 <sup>4</sup> rad/s <sup>2</sup>	1×10 <sup>4</sup> rad/s <sup>2</sup>
Shaft Loading	Thrust axial	19.6N
	Radial	39.2N
Moment of Inertia	1.5×10 <sup>-4</sup> kg · m <sup>2</sup>	1.8×10 <sup>-4</sup> kg · m <sup>2</sup>
Maximum RPM	Continuous 500r/min Instantaneous 2500r/min	500r/min
Net Weight	1kg Max	1kg Max

### Environmental Spec.

Operating Temperature	-10°C ~ +70°C
Storage Temperature	-20°C ~ +80°C
Humidity	RH 85% Max No Condensation
Vibration	50 Hz / 1.5mm 2 h
Shock	490m/s <sup>2</sup> , 11ms X, Y, Z Each 3 times