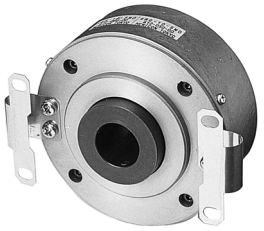
BUILT-IN TYPE

SBT Model



Big Size Built-in Model

- Suitable for Big Machine Motors.
- Mountable for The Shaft φ14~φ26 mm.

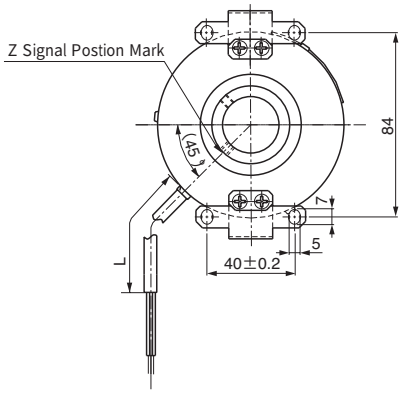
Model

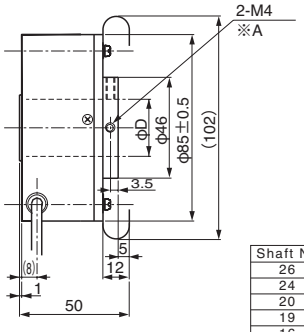
SBT – □□ – □□□ – □□ –050–01

- Resolution
- Output Mode
  - No Indication : Voltage Output
  - C : Open Collector Output
  - D : Line Driver Output
- Hollow Shaft Diameter
  - 14 : φ14
  - 16 : φ16
  - 19 : φ19
  - 20 : φ20
  - 24 : φ24
  - 26 : φ26
- Signals — 2M : AB90° Phase Difference + Zero Signal

01	100 P/R	05	500 P/R	10	1000 P/R
02	200 P/R	0512	512 P/R	38	3800 P/R
036	360 P/R	06	600 P/R		

External Dimension



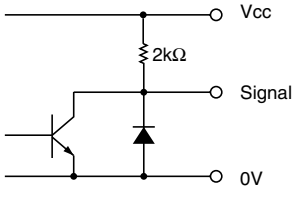


※A

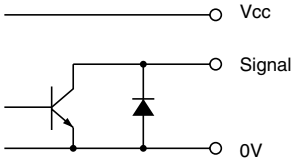
Shaft No	φD	Screw Diameter
26	φ26H7	M4×5
24	φ24H7	M4×5
20	φ20H7	M4×8
19	φ19H7	M4×8
16	φ16H7	M4×10
14	φ14H7	M4×10

Circuit of Output Signal

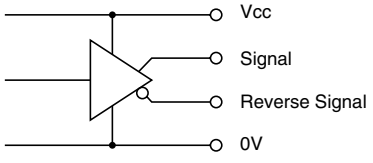
2M



2MC



2MD



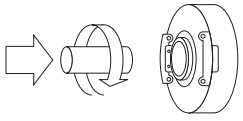
Electrical Spec.

TYPE		2M	2MC	2MD
Supply Voltage		DC 4.5 ~ 13.2 V		DC 4.5 ~ 5.25 V
Requirement		80 mA Max	60 mA Max	150 mA Max
Output Voltage	"H"	Within –1 Power Volt	———	2.5 V or More
	"L" ※1	0.5 V Max		
Maximum Output Current		20 mA MAX		
Rise & Fall Time		1 μs Max		200 ns Max
Maximum Frequency Response		200 kHz		
Withstanding Voltage of Output Tr.		———	50 V MAX.	———

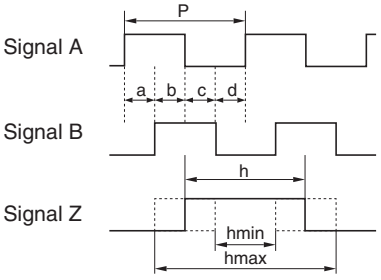
※1）at Maximum Output Current

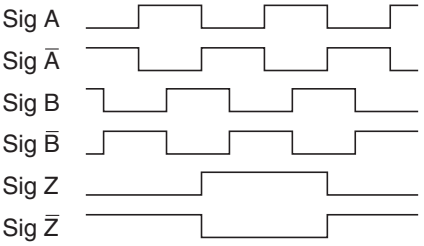
Wave Form.

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.





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

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

Wave Ratio (Duty); 50 ± 25 (%)

Electrical Connections

2M 2MC

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 B̄
Green	Signal A	Yellow	Signal Z
Blue	Signal Ā	Orange	Signal Z̄
Shielding Braid	NC		

Mechanical Spec.

Starting Torque		19.6×10^{-3}N • m Max
Angular Acceleration		1×10^{4} rad/s^2
Shaft Loading	Thrust axial	19.6N
	Radial	29.4N
Moment of Inertia		8×10^{-5}kg • m^2
Maximum RPM		3600r/min
Net Weight		1kg Max

Environmental Spec.

Operating Temperature	–10℃ ~ +50℃ : 3600r/min +70℃ : 3000r/min
Storage Temperature	– 20℃ ~ +80℃
Humidity	RH 85% Max No Condensation
Vibration	10~55 Hz / 1.5mm 2 h
Shock	490m/s^2,11ms X, Y, Z Each 3 times