



HS40A

Encoder modules



● Application

- Stepping motor
- Automated equipment

● Feature

- Reliable sturdy design
- Small size
- Easy mounting

● Resolution

600, 625, 720, 800, 1000, 1024, 1200, 1250, 1440, 1600, 2000, 2048, 2400, 2500, 2880, 3200, 4000, 4096, 16000, 16384P/R

● Electrical Spec

Resolution	600 ~ 4096			4800 ~ 16384
Output circuit	Z \square VH、Z \square VT Z \square OH、Z \square OT	Z \square PH、Z \square PT	Z \square LH、Z \square LT	Z \square LH、Z \square LT
Supply voltage	8 ~ 28V、4.5 ~ 5.5V			8 ~ 28V、4.5 ~ 5.5V
Supply current (Max.)	80mA		100mA	110mA
Signal	A, B, Z		A+,A-,B+,B-,Z+,Z-	A+,A-,B+,B-,Z+,Z-
Rise/Fall time (Max.)	250ns*	50ns		10ns
Frequency	300kHz	500kHz		1.5MHz
Outout voltage	"H"	VCC – 2V		2.4V min.
	"L"	0.5V Max.		0.5V Max.
Max. output current	20mA	100mA	20mA、100mA	20mA

*Pull up Resistance = 2k Ω

● Mechanical Spec

Hollow diameter	Φ 5, 6, 6.35, 8mm
Housing material	PC
Max. R.P.M.	7500 rpm *
Net weight	60g

*R.P.M = Frequency * 60 / Resolution

● Environmental Spec

Operating temp.	-20 ~ +85 $^{\circ}$ C
Storage temp.	-20 ~ +85 $^{\circ}$ C
Operating humidity	RH 85% Max. non-collecting
Shock	490 m/s ² , 3Dx2 times
Vibration	1.2mm,10~55KHz, 3Dx30min.
Protection	IP 40



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● Connection

Signal : A, B, Z (UL2464 、AWG 26 、5pin + Shield)

JST-S6B-ZR-SM4A-TF (Compatible headers)

Red	Black	White	Green	Yellow	Blue
Vcc	Gnd	A	B	Z	Shield

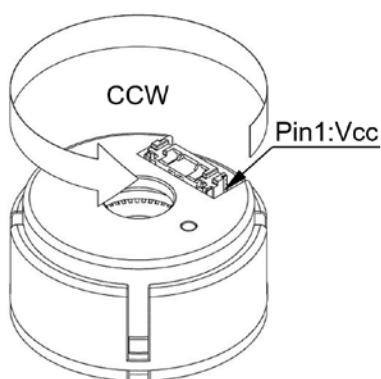
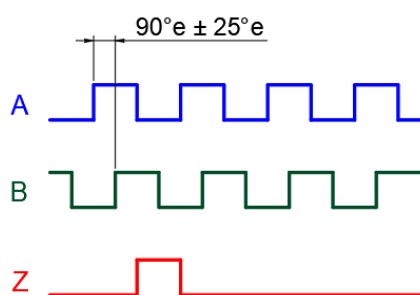
Signal : A+, A-, B+, B-, Z+, Z- (UL2517 、AWG 28 、8pin + Shield)

Molex-5023860970 (Compatible headers)

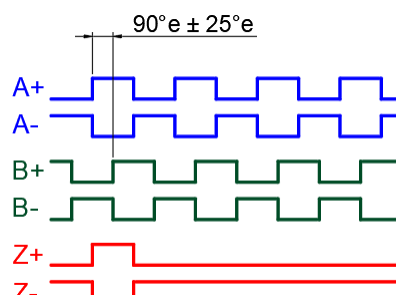
Red	Black	White	White/Black	Green	Green/Black	Yellow	Yellow/Black	Blue
Vcc	Gnd	A+	A-	B+	B-	Z+	Z-	Shield

● Output Waveform

Shaft rotation CCW
A leads B

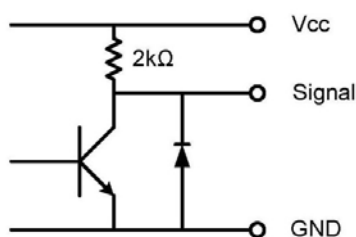


Shaft rotation CCW
A leads B

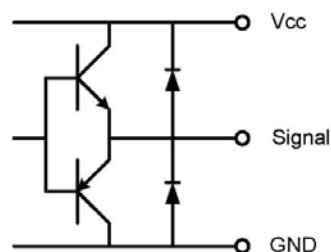


● Output Circuit

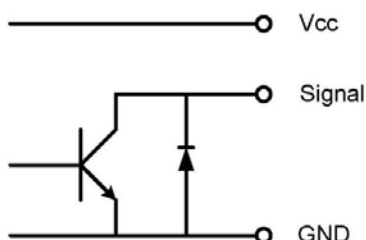
Voltage output



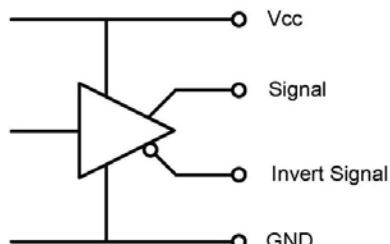
Push pull



Open collector



Line driver 5V =>(26C31) 、28V(7272)





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Ordering Information

HS40A - XXXX - X X X X - X X - NXXX

Resolution	
600	~ 16000

Phase	
Z	A, B, Z

Hollow	
5	5mm
6	6mm
6.35	6.35mm
8	8mm

Type No.	
001	, 002 , 003 ...

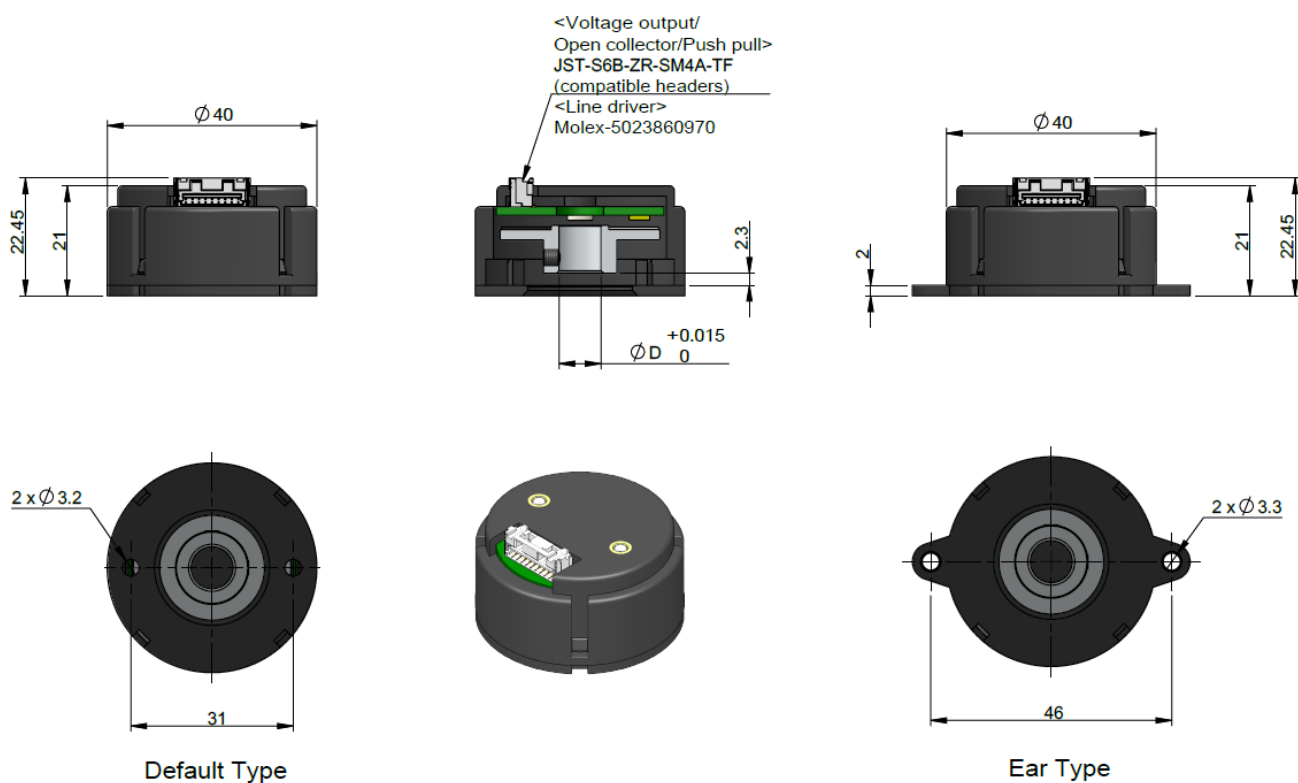
Base	
D	Default
E	Ears

Cover	
H	Hole on cover
C	Closed cover

Supply voltage	
H	8~28V
T	TTL (5V)

Output circuit	
V	Voltage output(NPN)
O	Open collector(NPN)
P	Push pull
K	Push pull(with inverted signal)
L	Line driver

Mechanical Drawing





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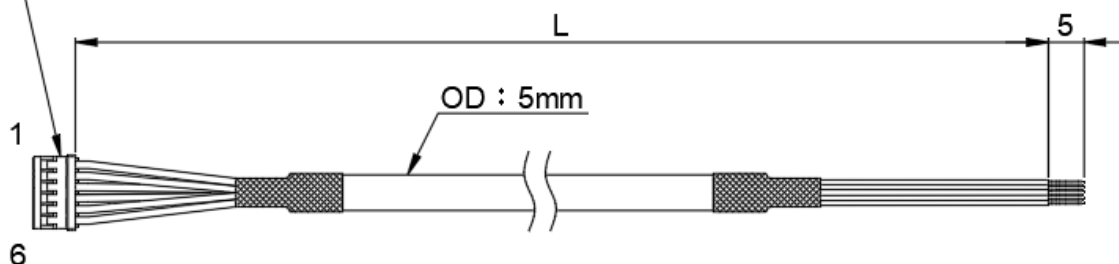
● Cable Introduction

<Voltage output / Open collector / Push pull>

JST
ZHR-6
SZH-002T-P0.5

Color :

1. Red
2. Black
3. White
4. Green
5. Yellow
6. Blue



<Wire spec>

AWG26 · UL2464 · Braid shielding

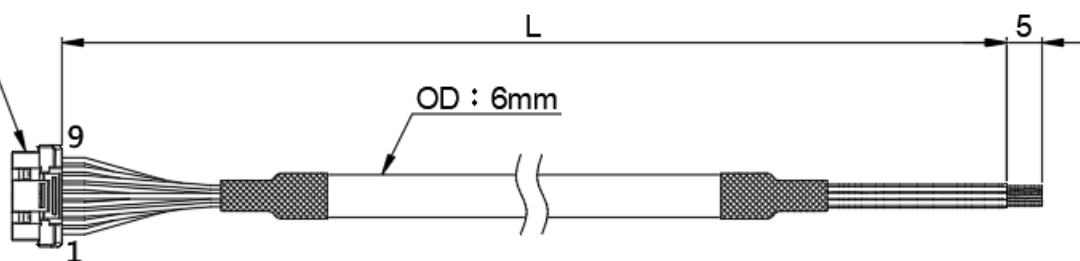
Cable length : 500 · 1000 · 2000mm

<Line driver>

Molex
5023800900
5023810000

Color :

1. Red
2. Black
3. White
4. White/Black
5. Green
6. Green/Black
7. Yellow
8. Yellow/Black
9. Blue



<Wire spec>

AWG28 · UL2517 · Braid shielding

Cable length : 500 · 1000 · 2000mm

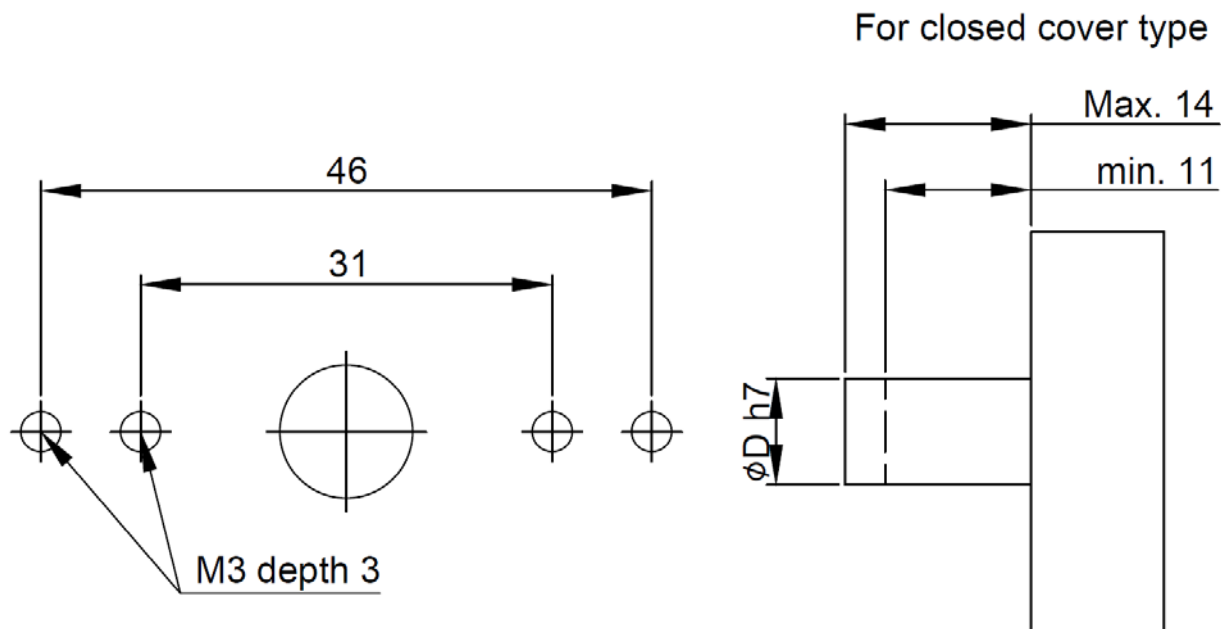


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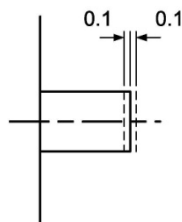
● Setting Dimension

Mounting Screw Size : M3 x 5mm

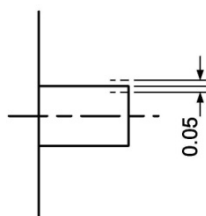


Unit:mm

Axial assembly tolerance



Radial assembly tolerance



Concentric angle tolerance

