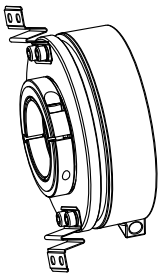
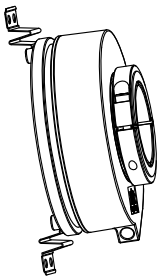
K76 Specifications 1/4

Incremental Type (Hollow shaft、through hole)

- Feature：Thin type,sturdy and durable ,optional various output mode ， long service life ， low price , etc
- Application：textile industry、motor、packing machinery、production line , etc , for auromation control
- External dimensions：external diameter φ76.5mm，thickness 37mm，diameter of shaft 30、28、25、22、20、18mm,optionally
- Resolution：up to 32768P/R
- Supply voltage：DC5V & DC8-30V
- Protection：IP50
- Cable length：1000mm
- Weight：about 360g



K76-J
clamping ring at prior
(BQ)



K76-J
clamping ring at rear
(B)

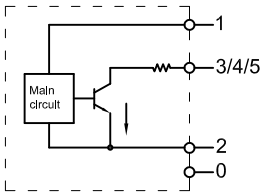
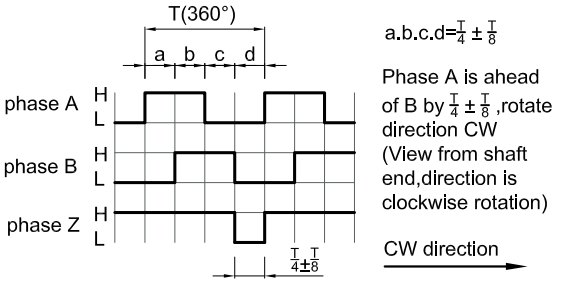
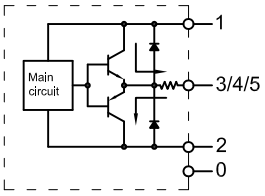
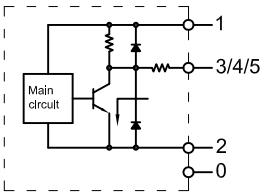
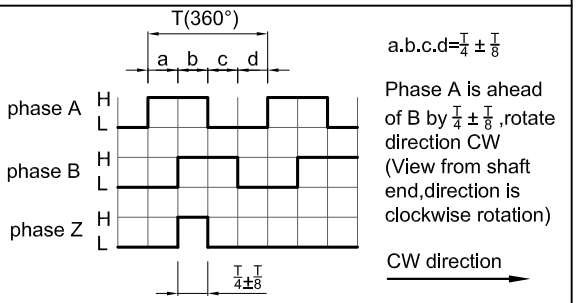
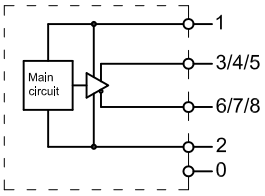
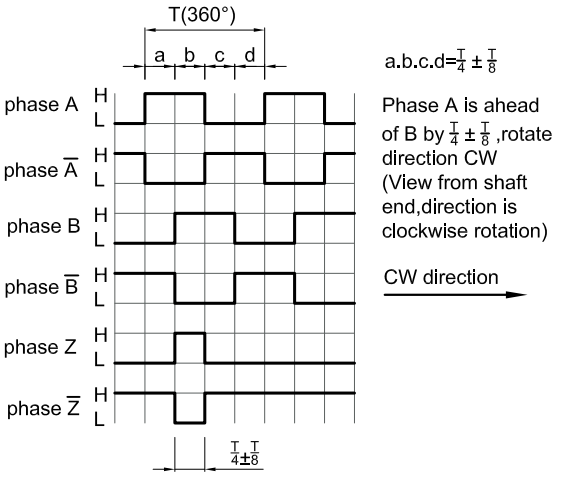
Model Guide

- Model form（filled required parameters in the box as following ）

K76 –	J	6	E	2048	B30	
Product model series	J=cable out from side	Output phase 1=A 2=A+B 3=A+B+Z 4=A+$\overline{A}$+B+$\overline{B}$ 6=A+$\overline{A}$+B+$\overline{B}$+Z+$\overline{Z}$	N=NPN Open collector (low level effective) NH=NPN Open collector (high level effective) V=Voltage output (high level effective) VL=Voltage output (low level effective) F=push-pull output (low level effective) C=Line driver 26LS31 E=Line driver HD7	Pulse per revolution（P/R） 100; 200; 250; 300; 360; 400; 450; 500; 512; 600; 720; 800; 1000; 1024; 1200; 1800; 2000; 2048; 2500; 3000; 3600; 4096; 5000; 7200; 8192; 14400; 16384; 28800; 32768;	Diameter of shaft clamping ring at rear: B30=Ø30mm B28=Ø28mm B25=Ø25mm B22=Ø22mm B18=Ø18mm clamping ring at prior: BQ30=Ø30mm BQ28=Ø28mm BQ25=Ø25mm BQ22=Ø22mm BQ18=Ø18mm	Special requirement Blank=cable length 1m, IP50 Special cable length =C+number

- Must choose supply voltage：DC5V & DC8-30V
- Must choose clamping ring at prior (BQ) or clamping ring at rear (B) when choosing diameter of shaft

Output Mode

Output type	Output circuit	Output wave form	Connection
N NPN Open collector			0=GND 1=red=DC5V& DC8-30V 2=black=OV 3=white=A 4=green=B 5=yellow=Z
F Push-pull output			
V Voltage output			
C Line driver 26LS31 (DC5V) E Line driver HD7 (DC8-30V)			0=shielding=GND 1=red=DC5V & DC8-30V 2=black=OV 3=white=A 4=green=B 5=yellow=Z 6=white/black=$\overline{A}$ 7=green/black=$\overline{B}$ 8=yellow/black=$\overline{Z}$

Electrical Characteristics

Parameter / Output type / Item			N Opencollector (NPN)	V Voltage output	F Push-pull output	C Difference,Line driver (26LS31)	E Difference,Line driver (HD7)
Supply voltage			DC+5V±5% & DC8V-30V±5%			DC+5V±5%	DC8-30V±5%
Consumption current			100mA Max			200mA Max	100mA Max
Allowable ripple			≤3%rms				
Top response frequency			100KHz			200KHz	300KHz
Output	Output current	Input	≤30mA	Load resistance 2.2K	≤30mA	≤±20mA	≤±50mA
		Output	—		≤10mA		
	Output voltage	"H"	—	—	≥[(Supply voltage)-2.5V]	≥2.5V	≥Vcc-3 VDC
		"L"	≤0.4V	≤0.7V(less than 20mA)	≤0.4V(30mA)	≤0.5V	≤ 1V VDC
	Load voltage		≤DC30V	—		—	
Rise & Fall time			Less than 2us(cable length：2m)			Less than 1us (Cable length：2m)	≤100ns
Insulation strength			AC500V 60s				
Insulation resistance			10MΩ				
Mark to space ratio			45% to 55%				
Phase shift between A & B			90°±10° (low speed,frequency ≤1000Hz)				
			90°±20° (high speed,frequency >1000Hz)				
Origin motion			Low level available	High level available	Low level available	—	
GND			not connect to encoder				

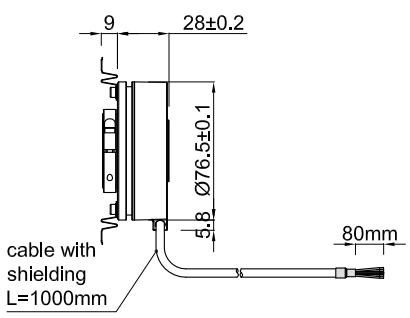
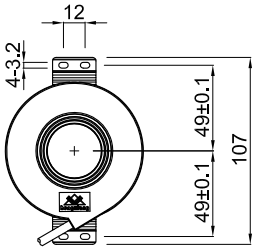
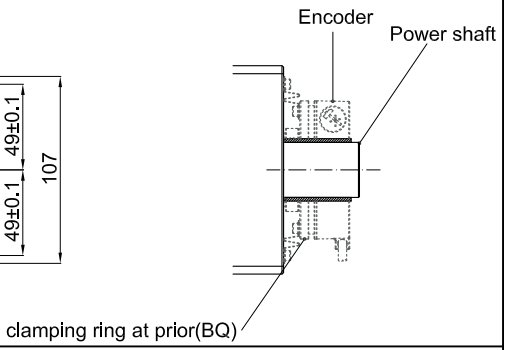
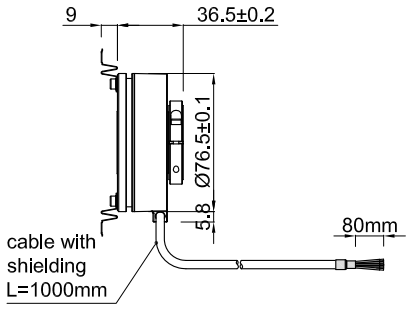
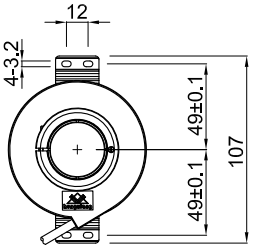
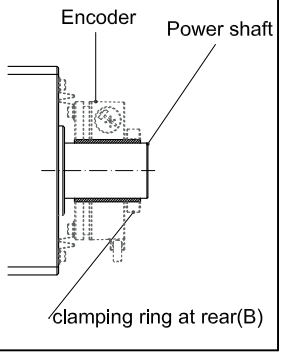
Mechanical Characteristics

Item	Parameter
Shaft	Ø18mm；Ø20mm；Ø22mm；Ø25mm；Ø28mm；Ø30mm (optional) (stainless steel 304#)
Starting torque	80×10^{-3} N·m (820gf.cm) Max
Inertia moment	150×10^{-6} kg·m² Max
Shaft load	Radial 70N(accuracy guaranteed 50N); Axial 50N(accuracy guaranteed 40N);
Slew speed	constant 3000min^{-1}(Max); moment 5000min^{-1}(Max)
Shell	Die cast aluminum
Weight	about 360g

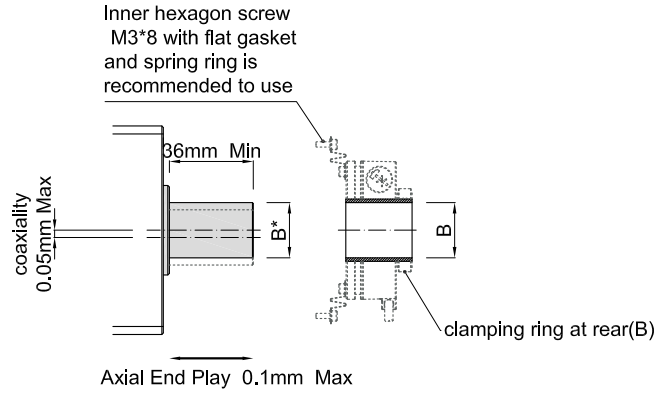
Environmental Specifications

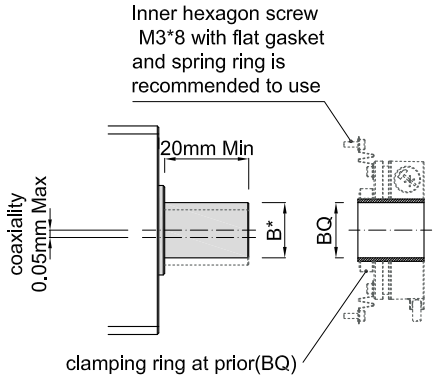
Item	Parameter
Environmental temperature	Operating:—20～+85°C
	Storage:—25～+90°C
Environmental humidity	Operating and storage：35～90％RH(noncondensing)
Vibration(endure)	49m/s²(5G) (5-2000Hz) for 2hours/axis
Shock(endure)	1960m/s²(200G) 11msec,3times/direction
Mounting Temp. Range	Radial Play 0.05mm TIR Max
	Axial End Play 0.1mm Max
	Shaft Inclination 0.1° Max
Protection	IP50

Basic Dimensions

Model	External dimensions	Installation dimensions	Working state diagram
K76-J clamping ring at prior (BQ)			
K76-J clamping ring at rear (B)			

Assembling requirement





Item	Dimension sheet of hollow shfat Ø						Unit
B	30^{H7}	28^{H7}	25^{H7}	22^{H7}	20^{H7}	18^{H7}	mm
B*	30_{g8}	28_{g8}	25_{g8}	22_{g8}	20_{g8}	18_{g8}	mm

B* = requirement of diameter and tolerance for power shaft

Item	Dimension sheet of hollow shfat Ø						Unit
BQ	30^{H7}	28^{H7}	25^{H7}	22^{H7}	20^{H7}	18^{H7}	mm
B*	30_{g8}	28_{g8}	25_{g8}	22_{g8}	20_{g8}	18_{g8}	mm

B* = requirement of diameter and tolerance for power shaft

About vibration

Vibration act on encoder always cause wrong pulse ,so we should pay attention to working place.More pulse per revolution , narrower groovy spacing of grating ,more effect to encoder by vibration,when rev is low or stop , vibration act on shaft or main body would cause grating vibrating ,so encoder might make wrong pulse。