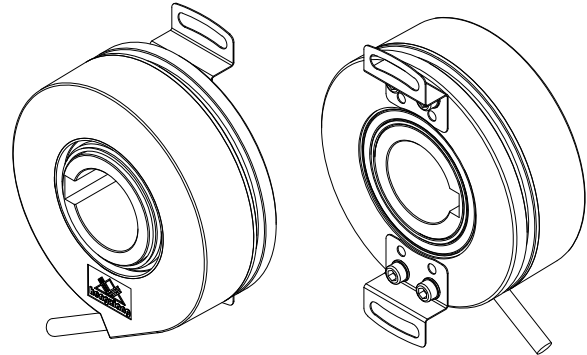


KC76

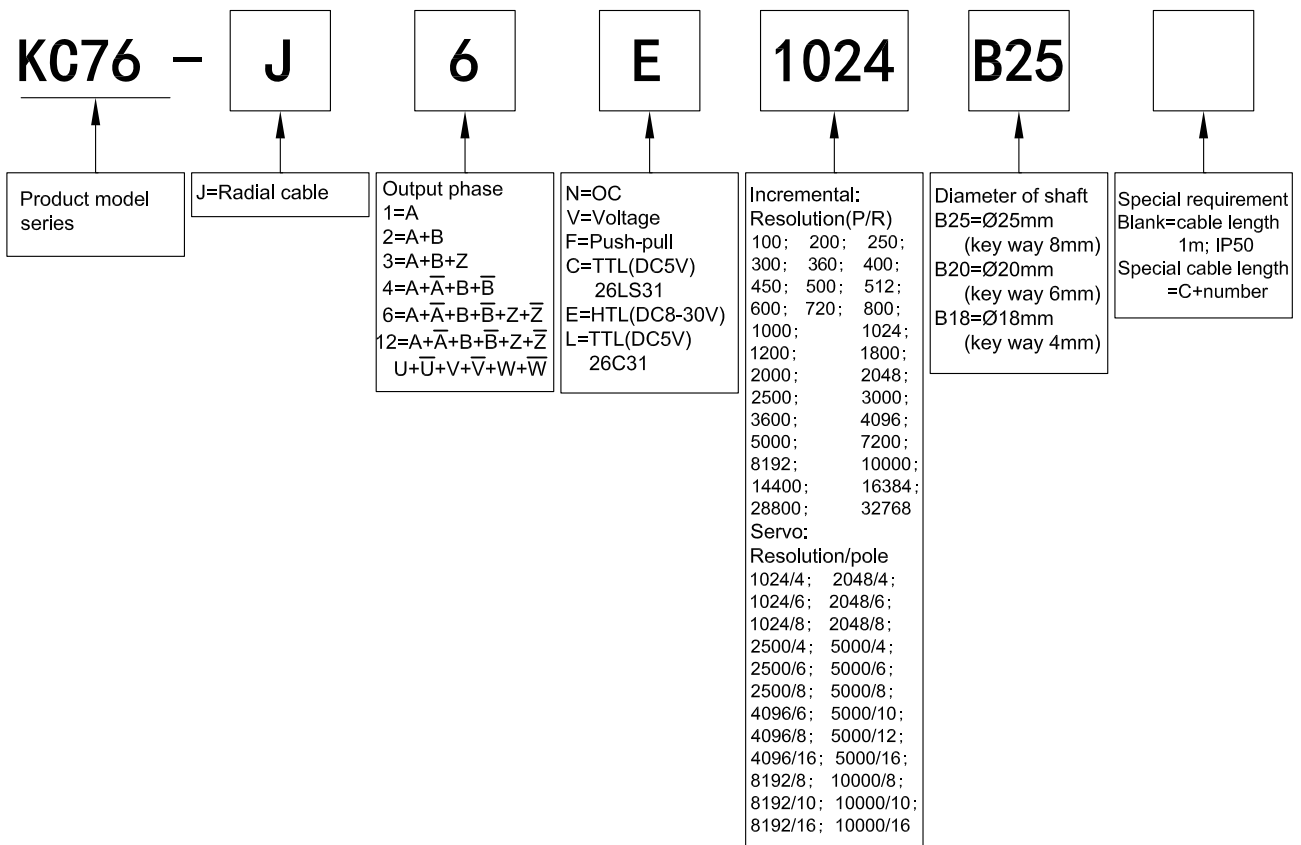
Specifications 1/6

- Incremental Type (Hollow shaft with key way,through hole)
 - Feature: shaft with key way for assembling, sturdy and durable, optional various output mode, long service life, etc
 - Application: servo motor, elevator field, packing machinery, production line, etc, for automation control
 - External dimensions: external diameter $\phi 76.5\text{mm}$, thickness 28mm, diameter of shaft $\phi 18$; $\phi 20$; $\phi 25\text{mm}$ optionally
 - Resolution: up to 32768P/R
 - Supply voltage: DC5V; DC8-30V
 - Protection: IP50
 - Cable length: 1000mm
 - Weight: about 360g



Model Guide

- Model form (filled required parameters in the box as following)
- Must choose supply voltage: DC5V; DC8-30V
- The installation of leaf spring please refer to Page 5



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Specifications 2/6

Output Mode

Output type	Output circuit	Output wave form	Connection
OC		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	0=GND 1=red=DC5V; DC8-30V 2=black=OV 3=white=A 4=green=B 5=yellow=Z
Push-Pull		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	
Voltage		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	
TTL HTL		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	

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Specifications 3/6

● Output Mode

Output type	Output circuit	Output wave form	Connection
TTL		<p> $a, b, c, d = \frac{T}{4} \pm \frac{I}{8}$ $e = T \pm \frac{I}{2}$ f: center of phase Z to rise point of phase U, that is $\pm 0.3^\circ$ </p> <p>CCW direction → (Viewed from shaft end when installing)</p> <p>A.B.Z.U.V.W $\bar{A}, \bar{B}, \bar{Z}, \bar{U}, \bar{V}, \bar{W}$</p>	<ul style="list-style-type: none"> 0=shielding=GND 1=red=DC5V 2=black=OV 3=white=A 4=green=B 5=yellow=Z 6=white/black=\bar{A} 7=green/black=\bar{B} 8=yellow/black=\bar{Z} 9=blue=U 10=gray=V 11=pink=W 12=blue/black=\bar{U} 13=gray/black=\bar{V} 14=pink/black=\bar{W}

■ Electrical Characteristics

Parameter Item	Output type	OC		Voltage		Push-pull		TTL(26LS31)		TTL(26C31)		HTL(HD7)	
		Supply voltage		DC+5V±5%; DC8V-30V±5%						DC+5V±5%			
Consumption current		100mA Max						120mA Max					
Allowable ripple		≤3%rms											
Top response frequency		100KHz						200KHz				300KHz	
Output capacity	Output current	Input	≤30mA	Load resistance 2.2K	≤30mA	≤±20mA		≤±50mA					
		Output	—		≤10mA								
	Output voltage	"H"	—	—	≥[(Supply voltage)-2.5V]	≥2.5V		≥V _{CC} -3 V _{DC}					
		"L"	≤0.4V	≤0.7V(less than 20mA)	≤0.4V(30mA)	≤0.5V		≤1V V _{DC}					
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° (frequency in low speed)											
		90°±20° (frequency in high speed)											
Origin motion		Low level available	High level available	Low level available	—								
GND		not connect to encoder											

■ Mechanical Characteristics

Shaft	Ø18mm; Ø20mm; Ø25mm(stainless steel)
Starting torque	Less than 80×10^{-3} N·m
Inertia moment	Less than 100×10^{-6} kg·m ²
Shaft load	Radial 70N; Axial 50N
Slew speed	≤3000 rpm
Shell	Die cast aluminum
Weight	about 360g

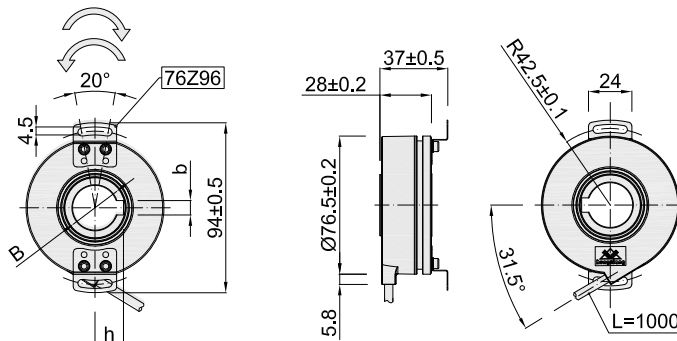
■ Environmental Specifications

Environmental temperature	Operating: -20~+85°C(repeatable winding cable: -10°C); Storage: -25~+90°C
Environmental humidity	Operating and storage: 35~85%RH(noncondensing)
Vibration(endure)	Amplitude 0.75mm, 5~55Hz, 2h for X, Y, Z direction individually
Shock(endure)	1960m/s ² , 11ms three times for X, Y, Z direction individually
Protection	IP50

KC76 Specifications 5/6

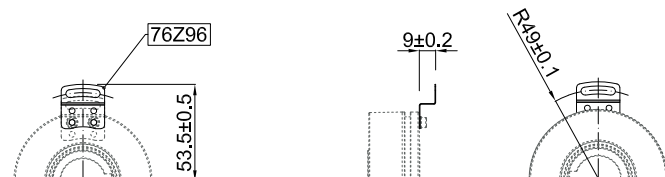
Basic Dimensions

Leaf Spring(76Z96)
Installation 1

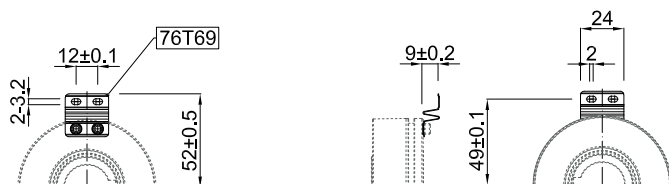


Encoder shaft diameter tolerance		
B	b	h
$\text{Ø}25^{+H7}_{0} (+0.021)$	$8^{+0.098}_{+0.040}$	$15.8^{+0.2}_{0}$
$\text{Ø}20^{+H7}_{0} (+0.021)$	$6^{+0.078}_{+0.030}$	$12.8^{+0.1}_{0}$
$\text{Ø}18^{+H7}_{0} (+0.021)$	$4^{+0.078}_{+0.030}$	$10.8^{+0.1}_{0}$

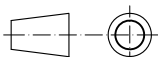
Leaf Spring(76Z96)
Installation 2



Leaf Spring(76T69)
Installation



Unit: mm



76Z96 = Leaf Spring

76T69 = Leaf Spring(used for low-precision high-pulse, unavailable with UVW signal)

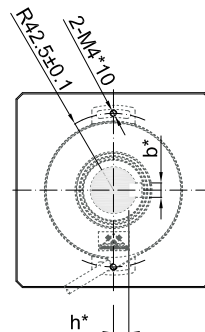
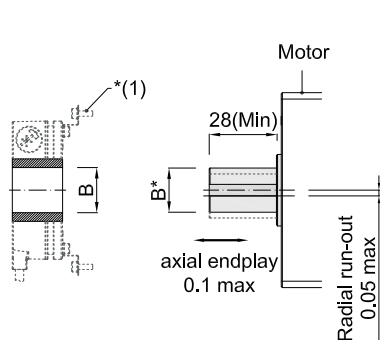
= The shaft rotary direction for encoder without UVW signal

= The shaft rotary direction for encoder with UVW signal

KC76 Specifications 6/6

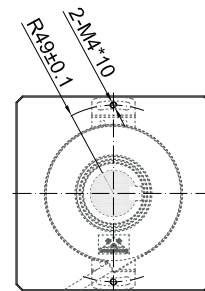
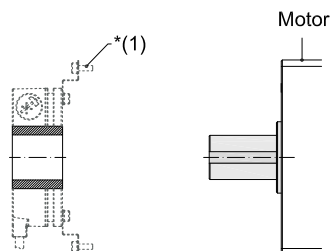
Assembling requirement

Leaf Spring(76Z96)
Installation 1

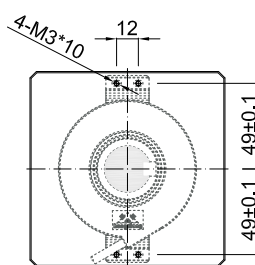
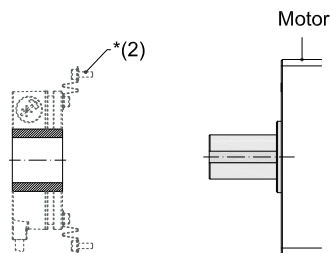


B*	b*	h*
Ø25 _{g6} ^(-0.007/-0.020)	8 ^{H9} / ₀ ^(+0.036/0)	8.5 _{-0.2} ⁰
Ø20 _{g6} ^(-0.007/-0.020)	6 ^{H9} / ₀ ^(+0.036/0)	6.5 _{-0.1} ⁰
Ø18 _{g6} ^(-0.007/-0.020)	4 ^{H9} / ₀ ^(+0.036/0)	6.5 _{-0.1} ⁰

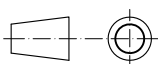
Leaf Spring(76Z96)
Installation 2



Leaf Spring(76T69)
Installation



Unit: mm



Note:

- * (1): Inner hexagon screw M4*8 with flat gasket and spring ring is recommended to use
- * (2): Inner hexagon screw M3*8 with flat gasket and spring ring is recommended to use

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 .