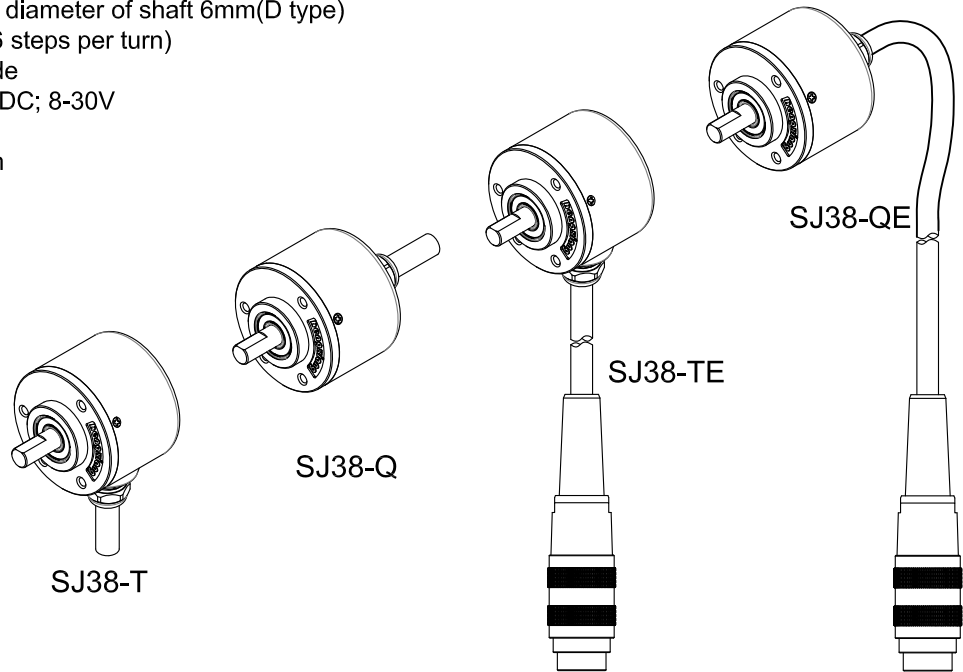


SJ38

Specifications 1/5

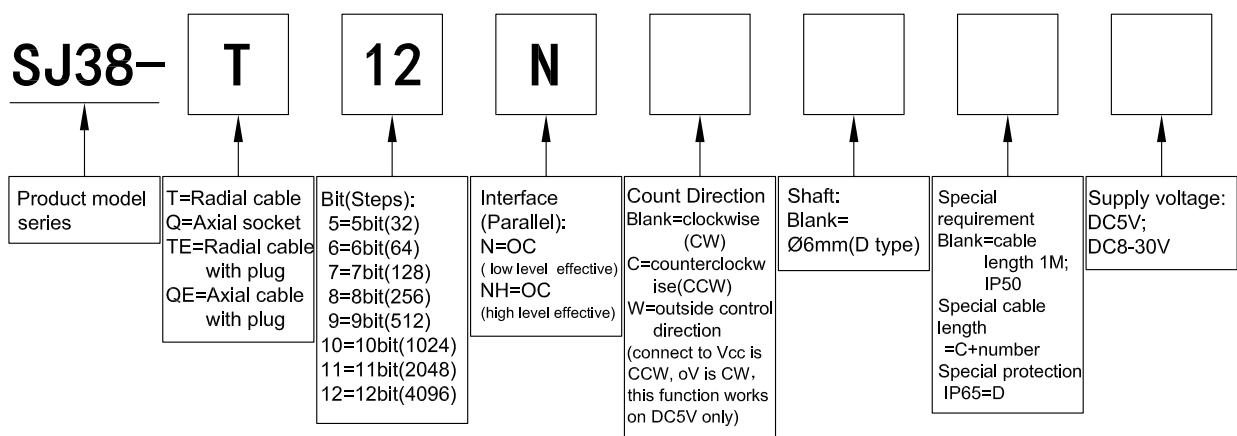
■ Absolute Type-Parallel output (Solid Shaft)

- Feature: small, output gray code without reading error, direction can be controlled by outside
- Application: automation control like motor,CNC,package machine, industrial assembly line,etc.
- External dimensions: external diameter Ø38mm, thickness 28mm, diameter of shaft 6mm(D type)
- Resolution: 12bit(4096 steps per turn)
- Output code: Gray code
- Supply voltage: DC5VDC; 8-30V
- Protection: IP50; IP65
- Cable length: 1000mm
- Weight: about 130g



■ Model Guide

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

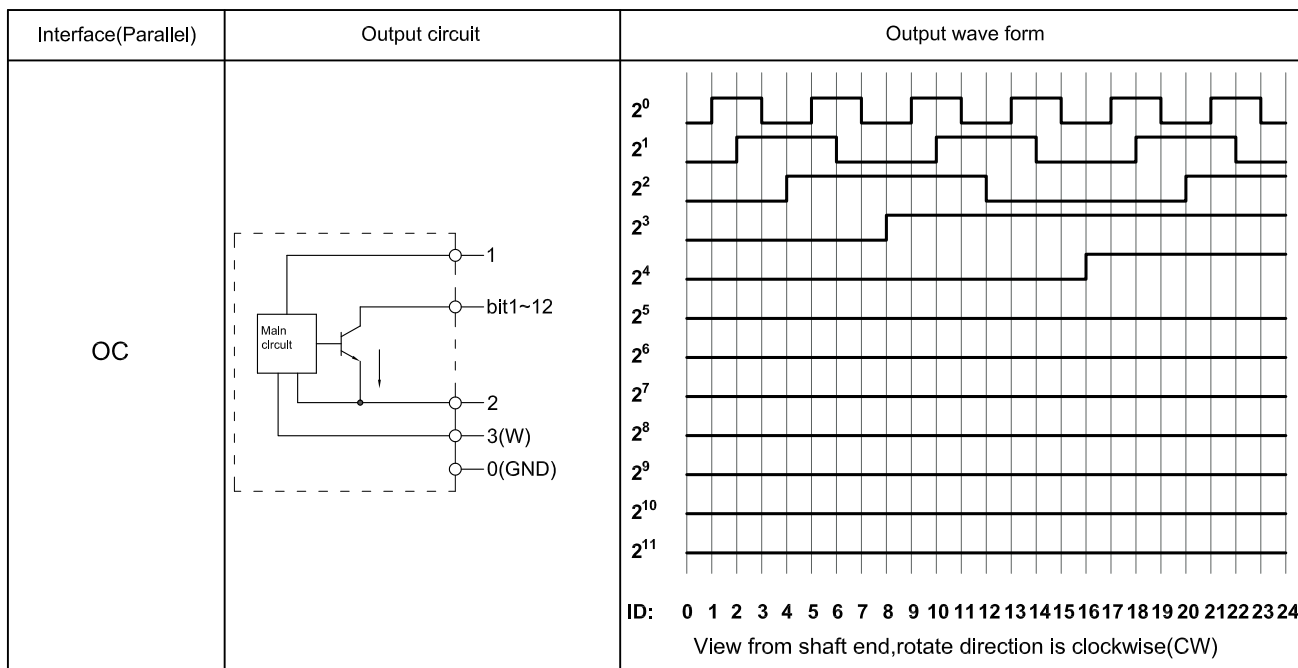


- If need coupling(accessory at specifications 5/5)

SJ38

Specifications 2/5

Output Mode



Connection (The shielding wire is not connected to encoder)

Socket Pin No.	Resolution4096	Resolution2048	Resolution1024	Resolution 512	Resolution 256	Resolution 128	Resolution 64	Resolution 32
15=R=pink/black	bit1(2 ⁰)	not connect	←	←	←	←	←	←
14=P=gray/black	bit2(2 ¹)	bit1(2 ⁰)	not connect	←	←	←	←	←
13=O=blue/black	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)	not connect	←	←	←	←
12=N=yellow/black	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)	not connect	←	←	←
11=M=green/black	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)	not connect	←	←
10=L=white/black	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)	not connect	←
9=K=pink	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)	not connect
8=I=gray	bit8(2 ⁷)	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)	bit1(2 ⁰)
7=H=blue	bit9(2 ⁸)	bit8(2 ⁷)	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)	bit2(2 ¹)
6=G=yellow	bit10(2 ⁹)	bit9(2 ⁸)	bit8(2 ⁷)	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)	bit3(2 ²)
5=F=green	bit11(2 ¹⁰)	bit10(2 ⁹)	bit9(2 ⁸)	bit8(2 ⁷)	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)	bit4(2 ³)
4=E=white	bit12(2 ¹¹)	bit11(2 ¹⁰)	bit10(2 ⁹)	bit9(2 ⁸)	bit8(2 ⁷)	bit7(2 ⁶)	bit6(2 ⁵)	bit5(2 ⁴)
3=D=brown	W (direction control)							
2=C=black	OV							
1=B=red	DC5V; DC8-30V							
0=A=shielding	GND							

■ Electrical Characteristics

Parameter Item	Interface (Parallel)	OC	OC
Supply voltage		DC5V±5%; DC8V-30V±5%	
Allowable ripple		≤3%rms	
Consumption current		100mA Max	
Output code		gray code	
Precision		[360/(resolution×4)]°	
Top response frequency		100kHz Max	
Output volume	Output current	Input	≤30mA
		Output	—
	Output voltage	"H"	—
		"L"	≤0.4V
	Load voltage	≤DC30V	
Rise & Fall time		Less than 2us (Load resistance 1KΩ、cable length: 2m)	
Output level		Low level available	High level available
Insulation strength		AC500V 60s	
Insulation resistance		10MΩ	
GND		not connect to encoder	

■ Mechanical Characteristics

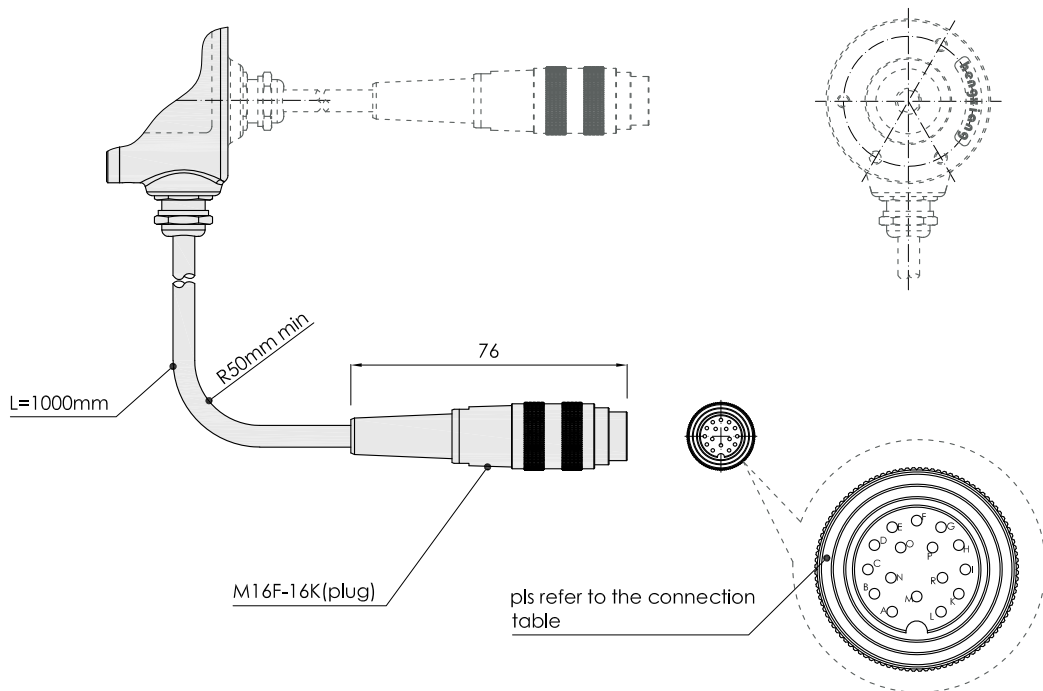
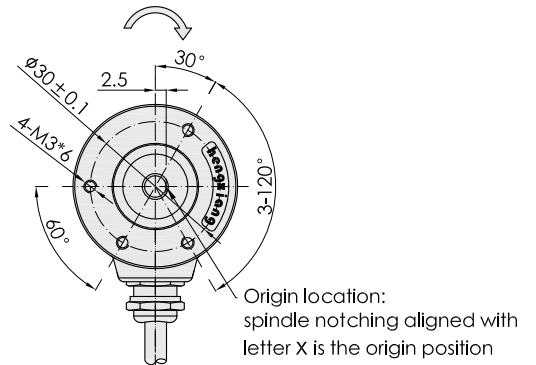
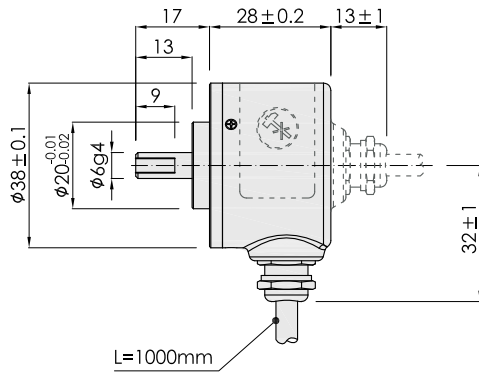
Shaft	Ø6mm(stainless steel)
Starting torque	Less than 4.4×10^{-3} N·m
Inertia moment	Less than 1.5×10^{-6} kg·m ²
Shaft load	Radial 30N; Axial 20N
Slew speed	≤3000 rpm; IP65≤2000 rpm
Bearing Life	1.5×10^9 revs at rated load(10000hrs at 2500RPM)
Shell	Die cast aluminum
Weight	about 130g

■ Environmental Specifications

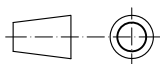
Environmental temperature	Operating: -20~+85°C(repeatable winding cable: -10°C); storage: -25~+90°C
Environmental humidity	Operating and storage: 35~85%RH(noncondensing)
Vibration(endure)	Amplitude 0.75mm, 10~50Hz, 1h for X,Y,Z direction individually
Shock(endure)	49m/s ² , three times for X,Y,Z direction individually
Protection	IP50; IP65

SJ38 Specifications 4/5

Basic Dimensions



Unit: mm



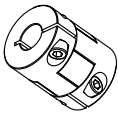
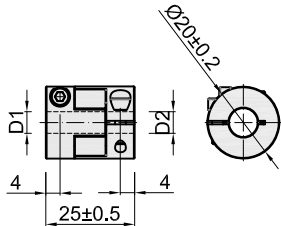

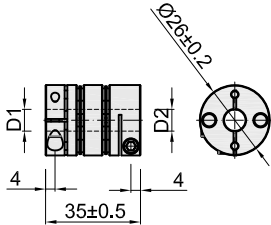
 = Clockwise direction for shaft rotation

SJ38

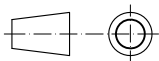
Specifications 5/5

■ Accessory(Need purchase additionally)

● Coupling

M series oldham coupling (general accuracy, or choose W series for higher accuracy) 6M6 No:8700037 6M8 No:8700038			Model	D1	D2
			6M6	$\text{Ø}6^{+0.01}_{+0.03}$	$\text{Ø}6^{+0.01}_{+0.03}$
			6M8		$\text{Ø}8^{+0.01}_{+0.03}$
material: aluminium alloy					
W series plate flexible coupling (high accuracy) 6W6 No:8700041 6W8 No:8700042			Model	D1	D2
			6W6	$\text{Ø}6^{+0.01}_{+0.03}$	$\text{Ø}6^{+0.01}_{+0.03}$
			6W8		$\text{Ø}8^{+0.01}_{+0.03}$
material: aluminium alloy					

Unit: mm



● Assembling requirement



Notice : coaxiality between shaft of encoder and power shaft must be less than 0.03mm, and gradient must be less than 1.0°.

● 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 .