

1. Absolute Type-Parallel output (Hollow shaft,Through hole)

1.1 Introduction:

KJ58 is a robust large bore through shaft design with compact structure, high protection grade and high safety, commonly used in industrial automation.

1.2 Feature:

- Encoder external diameter Ø58mm、thickness 30mm、diameter of shaft up to Ø25mm;
- Adopt non-contact photoelectric principle;
- Multiple electrical interfaces available;
- Gray code parallel output absolute position information;
- Resolution per turn up to 12Bits(4096)

1.3 Application:

Textile, packaging, motor, elevator, CNC and other automation control fields.

1.4 Connection:

- Radial cable (STD length 1000mm)
- Radial socket (M12*1 17P Male-connector)

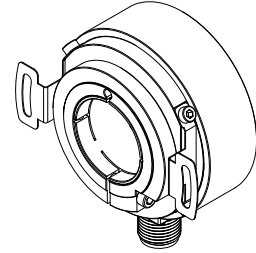
1.5 Protection:

IP65

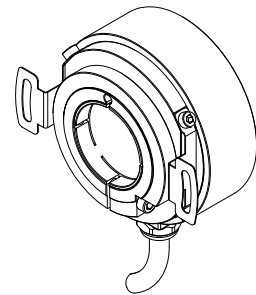
1.6 Weight:

About 180g

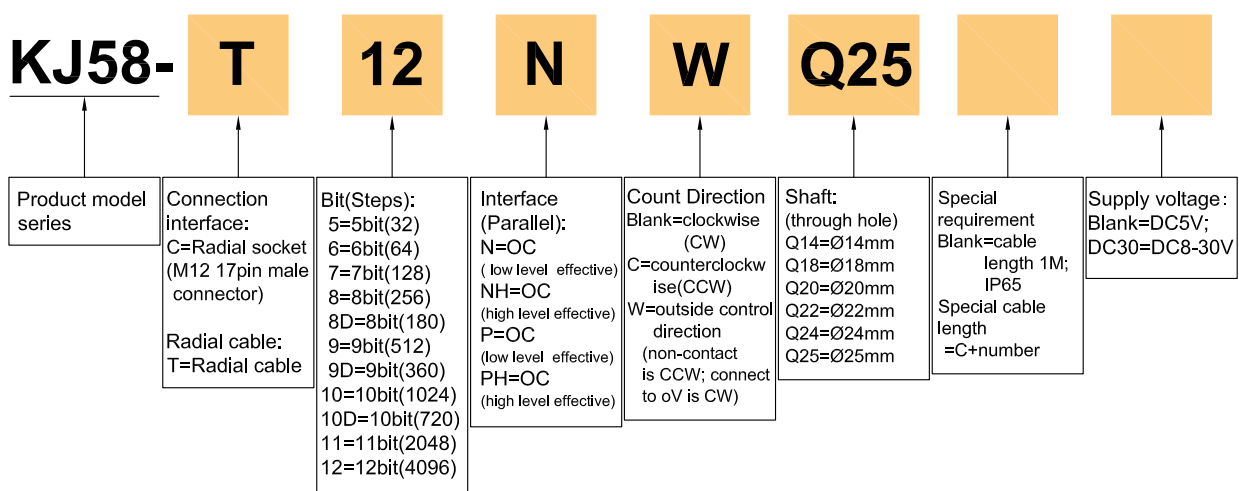
KJ58-C



KJ58-T



2. Model Selection Guide



3. Resolution Output Table

	bit											
	12	11	10	9	8	7	6	5	4	3	2	1
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	1	1
31	0	0	0	0	0	0	0	1	0	0	0	0
32	0	0	0	0	0	0	1	1	0	0	0	0
37	0	0	0	0	0	0	1	1	0	1	1	1
38	0	0	0	0	0	0	1	1	0	1	0	1
63	0	0	0	0	0	0	1	0	0	0	0	0
64	0	0	0	0	0	1	1	0	0	0	0	0
75	0	0	0	0	0	1	1	0	1	1	1	0
76	0	0	0	0	0	1	1	0	1	0	1	0
127	0	0	0	0	0	1	0	0	0	0	0	0
128	0	0	0	0	1	1	0	0	0	0	0	0
151	0	0	0	0	1	1	0	1	1	1	0	0
152	0	0	0	0	1	1	0	1	0	1	0	0
217	0	0	0	0	1	0	1	1	0	1	0	1
218	0	0	0	0	1	0	1	1	0	1	1	1
255	0	0	0	0	1	0	0	0	0	0	0	0
256	0	0	0	1	1	0	0	0	0	0	0	0
435	0	0	0	1	0	1	1	0	1	0	1	0
436	0	0	0	1	0	1	1	0	1	1	1	0
511	0	0	0	1	0	0	0	0	0	0	0	0
512	0	0	1	1	0	0	0	0	0	0	0	0
871	0	0	1	0	1	1	0	1	0	1	0	0
872	0	0	1	0	1	1	0	1	1	1	0	0
1023	0	0	1	0	0	0	0	0	0	0	0	0
1024	0	1	1	0	0	0	0	0	0	0	0	0
2046	0	1	0	0	0	0	0	0	0	0	0	1
2047	0	1	0	0	0	0	0	0	0	0	0	0
4094	1	0	0	0	0	0	0	0	0	0	0	1
4095	1	0	0	0	0	0	0	0	0	0	0	0

4. Output Mode

Interface(Parallel)	Output circuit	Output wave form
<p>OC (NPN)</p>		
<p>OC (PNP)</p>		

5. Electrical Characteristics

Parameter Item	Interface (Parallel)	OC(NPN)	OC(PNP)
Supply voltage		DC5V±5%; DC8V-30V±5%	
Allowable ripple		≤3%rms	
Consumption current		100mA Max	
Output code		gray code	
Precision		[360/(resolutionx4)]°	
Top response frequency		100kHz Max	
Output capacity	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	

6. Mechanical Characteristics

Shaft	Ø14mm; Ø18mm; Ø20mm; Ø22mm; Ø24mm; Ø25mm(stainless steel)
Starting torque	Less than 12×10^{-3} N·m
Inertia moment	Less than 11×10^{-6} kg·m ²
Shaft load	Radial 30N; Axial 20N
Slew speed	≤3000 rpm
Bearing Life	1.5×10^9 revs at rated load(10000hrs at 2500RPM)
Shell	Die cast aluminum
Weight	about 180g (With package)

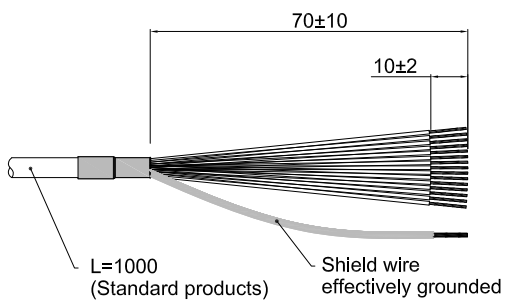
7. Environmental Specifications

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	IP65

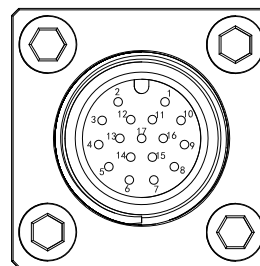
8. Wiring table

Socket Pin No. & Color	Resolution4096	Resolution2048	Resolution1024 (720)	Resolution512 (360)	Resolution256 (180)	Resolution128	Resolution64	Resolution32
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 (outside control direction: non-contact is CCW; connect to 0V is CW)							
2=C=black	OV							
1=B=red	DC5V & DC8-30V							
0=A=shielding	GND							

Cable connection



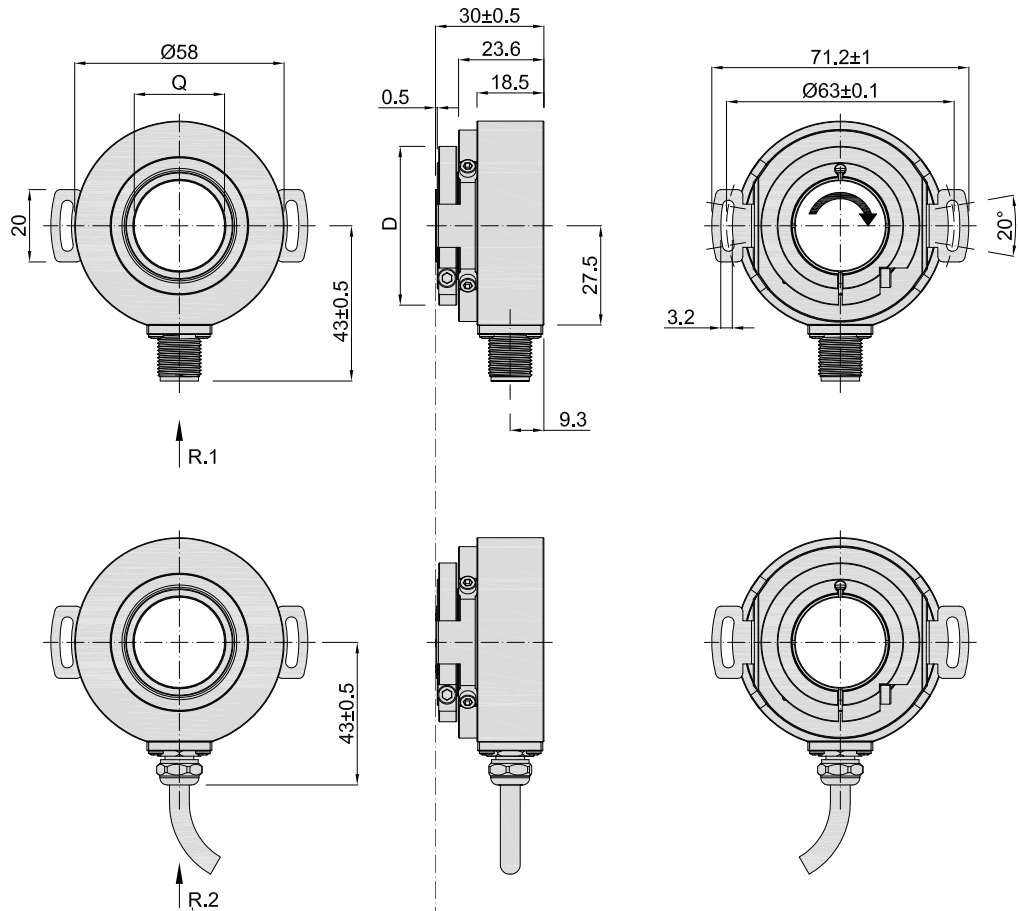
Radial socket connection



M12*1 17P
Male-connector pin Assignment

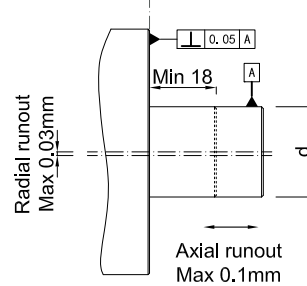
9. Basic dimensions

Q(Shaft)	D
Ø14 ^{G7 (+0.024/+0.006)}	Ø35
Ø18 ^{G7 (+0.028/+0.007)}	Ø37
Ø20 ^{G7 (+0.028/+0.007)}	Ø41
Ø22 ^{G7 (+0.028/+0.007)}	Ø41
Ø24 ^{G7 (+0.028/+0.007)}	Ø44
Ø25 ^{G7 (+0.028/+0.007)}	Ø44



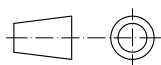
10. Specification for mounting shaft

Mounting screws
Inner hexagon bolt +flat washer Specification: M3*6 Material: stainless steel Quantity: 2



d
Ø14 _{g6} ^(-0.006/-0.017)
Ø18 _{g6} ^(-0.007/-0.020)
Ø20 _{g6} ^(-0.007/-0.020)
Ø22 _{g6} ^(-0.007/-0.020)
Ø24 _{g6} ^(-0.007/-0.020)
Ø25 _{g6} ^(-0.007/-0.020)

Unit: mm





- = Shaft rotation direction of the signal output
- R. 1 = Radial socket(M12x1 17pin male connector)
- R. 2 = Radial cable (standard length 1000)

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.

11. Recommended Accessories

Plug and cable	Brief description	No.	Order No.
	C01=Connection type head A: M12, 17-pin female straight connector; Connection type head B: M12, 17-pin male straight connector; Cable length: 2M 15-core with shield,halogen-free PUR	KJ58C01	44400022
	C02=Connection type head A: M12, 17-pin female straight connector; Connection type head B: M12, 17-pin male straight connector; Cable length: 5M 15-core with shield,halogen-free PUR	KJ58C02	44400023
	C03=Connection type head A: M12, 17-pin female straight connector; Connection type head B: Bare wire end; Cable length: 1M 15-core with shield,halogen-free PUR	KJ58C03	44400024
	C04=Connection type head A: M12, 17-pin female straight connector; Connection type head B: Bare wire end; Cable length: 2M 15-core with shield,halogen-free PUR	KJ58C04	44400025
	C05=Connection type head A: M12, 17-pin female straight connector; Connection type head B: Bare wire end; Cable length: 5M 15-core with shield,halogen-free PUR	KJ58C05	44400026