10 years Encoder manufacture
Create first-class quality
Customer service in good faith

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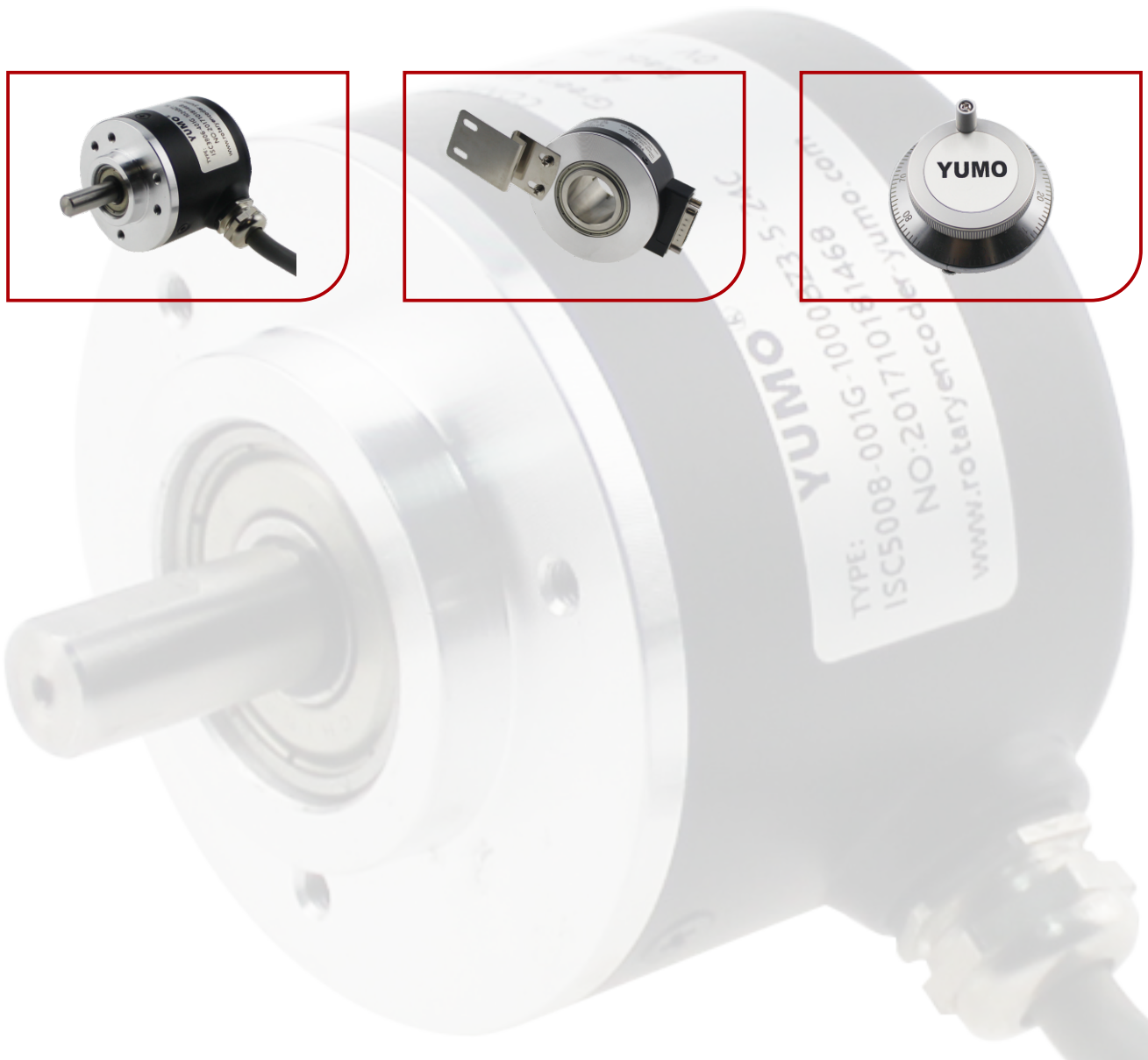
Professional Encoder Manufacturer

CHINA YUMO ELECTRIC CO.,LIMITED



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Company Profile

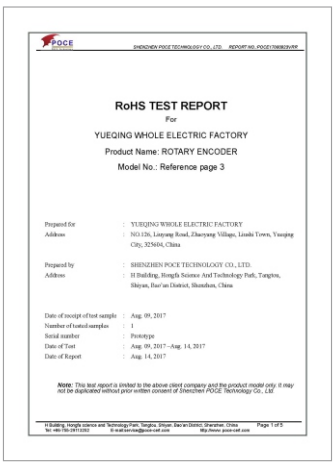
CHINA YUMO ELECTRIC CO., LIMITED is an international automation company integrated with R&D , manufacturing and sales .

Since our foundation in 2007, the spirit of the original that "the pursuit of high quality leading to the world" has motivated us to supply encoders that correspond to customers demand with quick delivery and the best quality as a leading encoder manufacturer.

Besides a comprehensive range of standard products , YUMO can also offer specific customized solution according to meet the actual requirements .

YUMO encoders has passed CE , RoHS certificate and are widely used in automation control field like servo motor, CNC machine tools , automotive, glass, ceramic , elevator , paper ,food machinery , textile machinery , packing machinery , wind power generation and etc.

In the future, along with social progressing, demand for advanced rotational position control is more and more required. YUMO will do effort to develop further research and we will continue to challenge the technological innovation. It is our dream and task that our rotary encoder is used all over the world and sustain progressing of society and happiness of people by our rotary encoder solution.



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Encoder introduction

Encoder introduction

Incremental encoder is a motion sensor integrated with mechanical , optical and electric technology. It can transfer the angle motion ,angle speed and other mechanical motion value into electric pluses or digital signal output by photoelectric transform. The rotary encoder adopts optical electric scanning principle, its reading system is based on the rotation of radial index plate which is consisted of alternate non-opaque window and opaque window . The encoder will provide a signal output with phase difference of 90°in order to determine the direction . The Advantage of incremental encoder is simple structure, the average life could reach more than 10000hrs, high anti-interference ability, high reliability, suitable for long-distance transmission. The disadvantage is could not output the absolute position of the shaft rotation.

Absolute encoder

Absolute encoder is a digital directly output sensor. When the code-wheel in different position, every light sensor according to by light or not to convert a level signal, and this signal will come into binary number. The feature of the absolute encoder is no need a counter to read out a fixed digital code which is correspond to the position on the shaft . N bit absolute encoder have N numbers of code channels in the code-wheel, and more code channels higher resolution.

Caution for using

It may cause of malfunction if below instructions are not followed

1. Encoder is consisted of precision components, therefore please treat this product carefully. Do not put strong impact when insert coupling into shaft. Do not connect and cut circuit off during power on, it may result in damage to the encoder.
2. Do not connect encoder and drive rigidly to one another at shafts and flanges. Always use couplings to prevent shaft overload.
3. To mount a hollow shaft encoder, we recommend the use of a pin and with torque stop slot or a stator coupling.
4. In order to be able to compensate an axial and radial misalignment of the shaft , the encoder flange must not be fixed rigidly. Fix the flanges by means of a stator coupling as torque support or by means of a cylindrical pin.
5. For the installation , please check the assembly dimension of mate target , and then try to make the offset between them not occur.
6. When the power source is a switching power , please install the surge absorber in power line and wire should be short in order not to be influenced by noise. Depending on the application the maximum allowed cable length can be shorter , especially in areas with strong electrical noise.
7. Do not let the strong impact loads on the encoder, otherwise the error pulse may occur as if the code-wheel is revolving. Please fix the encoder firmly when mount it to avoid malfunction by residual vibration.
8. If use the cable of encoder and high voltage line or power cable in the same conduit, it may cause a malfunction or mechanical trouble. Please keep the encoder connection cables as far away from the power cables as possible and running them in parallel or use separated conduit.
9. Please check wire and response frequency when extend wire, distortion of waveform or residual voltage increment by line resistance or capacity between lines.

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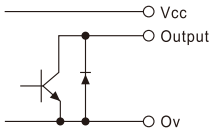
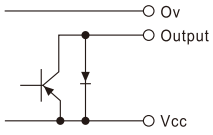
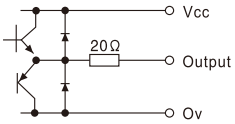
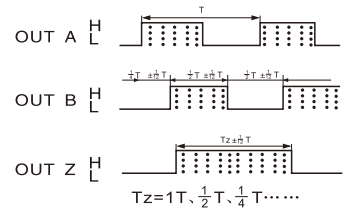
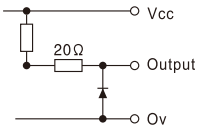
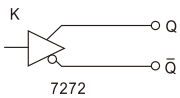
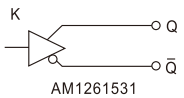
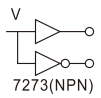
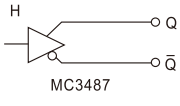
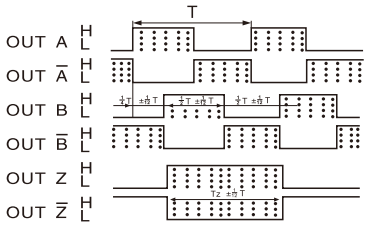
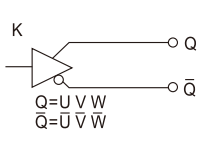
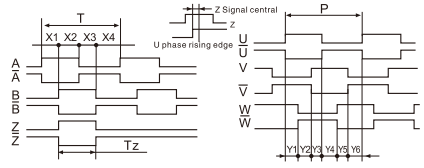
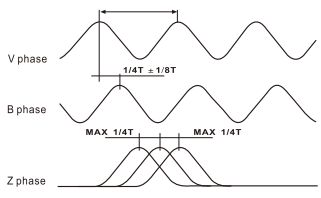
Version of type series

1	I (Incremental encoder)		J (Absolute encoder)	
2	S (Solid shaft)	H (hollow shaft)	C (Cone shaft)	N (No shaft)
3	C (Common type)	H (Shock resistance type)	M (Manual type)	S (Airtight type)
	A (Through hole hollow shaft)	N (Synchronous flange type)	W (Sine wave type)	F (Flameproof type)
	L (Flange adapters type)	R (High response frequency)	T (Wide working temperature range)	

Output circuit, output diagram and output wave

Output circuit	Code	Output diagram	Output wave
Open collector NPN output	C		Have the same output wave as F when a resistance between output point and Vcc
Open collector PNP output	CP		
Push pull output	F		
Voltage output	E		
Line driver output		    Q=A.B.Z. Q̄=Ā.B̄.Z̄.	
With UVW phase to check and measure the magnetic pole position of AC motor		 	Wave Ratio: x1+x2=0.5T±0.1T X3+x4=0.5T±0.1T Phase difference Xn≥0.5T (n=1,2,3,4) Z signal Width: Tz=0.5T Signal position accuracy :A,B phase absolute angle deviation ⩽0.2T Periodic Deviation ⩽0.05T T=360°/N (N is output pulse number of each spin) Period P=360°/N1±1.5° (N1=2,3,4) Phase difference:Yn=P/6±1.5° (n=1,2,3,4,5,6) No Stipulation on phase A, B and U, V,W The relationship between Z and U :C⩽±1° (mechanical angle) 90°phase difference signal and Zero signal from axle (Blade spring end), The wave picture of clockwise spinning of the shaft
Sine wave output (Analog)	Z		T=1/1 Rotary pulses

Rotary direction: Incremental encoder form the shaft end, The clockwise spin is forward spin, signal A leads signal B 90°. Anti-clockwise spin is backwards spin, signal B leads signal A 90°

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Contents

ISC25 series Solid-Shaft Incremental Rotary Encoder **YUMO®**

◆ Application

- Measure the distance, automatic control , robot, X-Y labor ,printing, curtained door, shoe machine , textile machine and etc.

◆ Features

- Miniature size, easy assembling
- quadrature output channel (A&B) + index signal

◆ Ordering Information

ISC25 04 - 001E - 360 BZ 2 - 5 L

- **ISC25**: ISC serial no. Φ25mm housing
- **04**: Shaft diameter 04=Φ4mm
- **001E**: Cable lead out : E= Cable lead out behind
- **360**: Pulses P/R 100 200 250 360 400 500 ,1000,1024
- **BZ**: Output signal A=A phase B=A,Bphase BZ=A,B Zphases ABZ=ABZ A-B-Z-phase
- **2**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

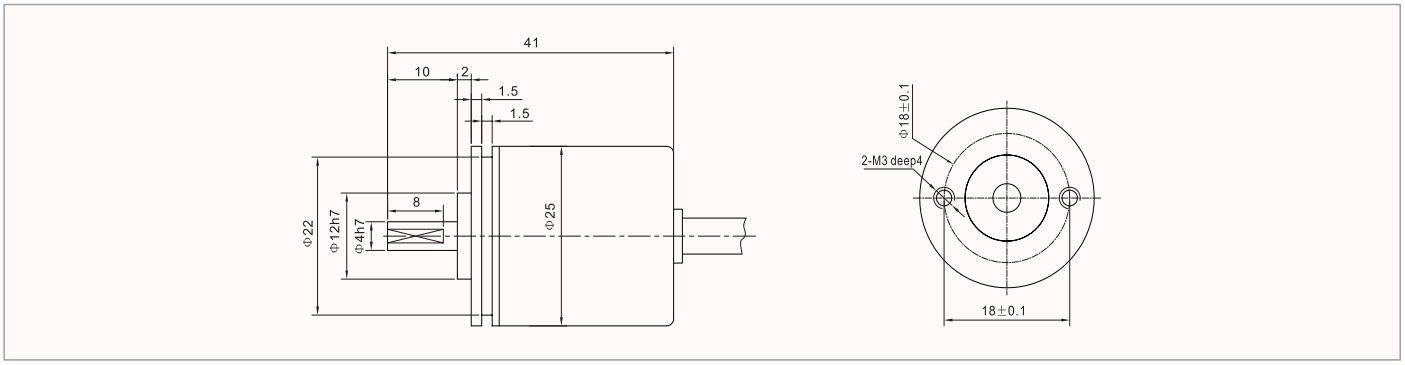
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	150kHz	150kHz	150kHz	150kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.03Nm	Radial:15N, Axial:10N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-25~80℃	-30~85℃	IP51	60g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Measure the distance, robot, X-Y working, curtained door, shoe machine , textile machines

◆ Features

- Miniature size, easy assembling
- 2 quadrature output channel (A&B)
- Full impulses under 1024, it is suitable for narrow area application

◆ Ordering Information

ISC30 04 - 001E - 100 B 2 - 5 L

- **ISC30**: ISC serial no. Φ30mm housing
- **04**: Shaft diameter 04=Φ4mm 05=Φ5mm 06=Φ6mm
- **001E**: Cable lead out : G= Cable lead out at side E= Cable lead out behind
- **100**: Pulses P/R 100 200 250 360 400 500 and etc.
- **B**: Output signal A=A phase B=A,Bphase BZ=A,B Zphases ABZ=ABZ,A-B-Z-phases
- **2**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

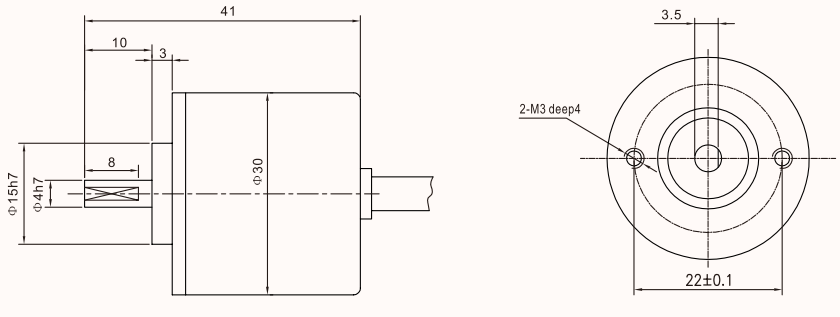
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	150kHz	150kHz	150kHz	150kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.03Nm	Radial:15N, Axial:10N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-25~80℃	-30~85℃	IP51	70g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Measure the distance, automatic control , robot, X-Y labor ,printing, curtained door, shoe machine , textile machine and etc.

◆ Features

- Miniature size, easy assembling
- 2 quadrature output channel (A&B) + index signal

◆ Ordering Information

ISC38 08 - 001E - 360 B Z 3 - 5 L

- **ISC38**: ISC serial no. Φ38mm housing
- **08**: Shaft diameter 05=Φ5mm 06=Φ6mm 08=Φ8mm
- **001E**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **360**: Pulses P/R 100 200 250 360 400 500 ,1000,2000. 2048 2500 .....
- **B Z**: Output signal A=A phase B=A,Bphase BZ:A,B Zphases ABZ:A,B Z, A-B-Z- phases
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

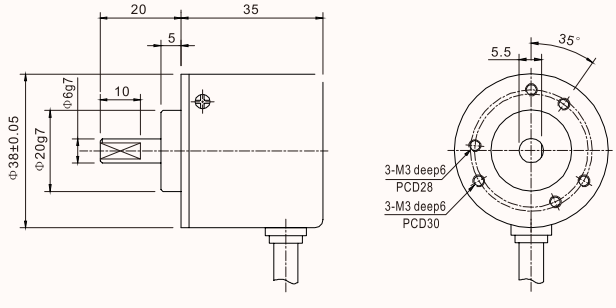
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	200kHz	200kHz	200kHz	200kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.03Nm	Radial:15N, Axial:10N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~90℃	-35~95℃	IP51	100g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Measure the distance, angle, position acceleration , automatic control , robot, X-Y labor ,printing, molding machine, packing machine, machine tool and etc.

◆ Features

- Miniature size, easy assembling
- 2 quadrature output channel (A&B) + index signal
- Resolution up to 3600 pulses

◆ Ordering Information

ISC50 08 - 001G - 1024 BZ 3 - 5 L

- **ISC50**: ISC serial no. Φ50mm housing
- **08**: Shaft diameter 08=Φ8mm 10=Φ10mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 3600 4096 5000 ……
- **BZ**: Output signal A=A phase B=A,Bphase BZ=A,B Zphase ABZ=ABZ A-B-Z- phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

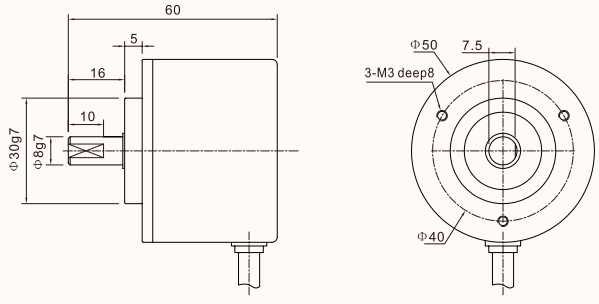
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.01Nm	Radial:60N, Axial:30N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	250g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Automatic control , control of transport vehicles, robot, X-Y labor ,printing, fork truck , CNC tooling machine and etc.

◆ Features

- High reliability, long life, strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal
- Square flange be used in numerical control machine

◆ Ordering Information

ISC58 10 - 001G - 1024 BZ 3 - 5 L

- **ISC58**: ISC serial no. Φ58mm housing
- **10**: Shaft diameter 06=Φ6mm 08=Φ8mm 10=Φ10mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 3600 4096 5000 10000
- **BZ**: Output signal A=A phase B=A,Bphase BZ:A,B Zphase ABZ=ABZ,A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

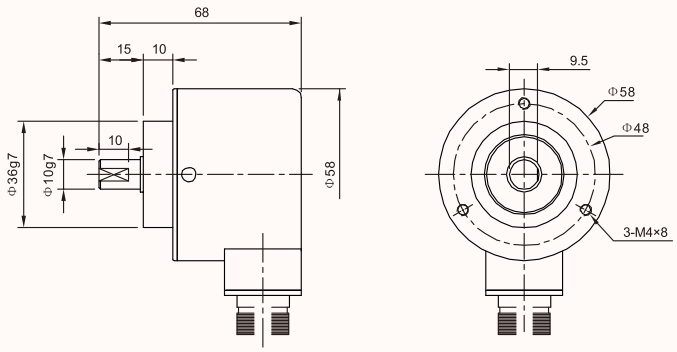
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:20N, Axial:10N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	270g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper net
7Pin Plug	3	5	2	-	-	-	1	4	6
9Pin Plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



ISC60 series Solid-Shaft Incremental Rotary Encoder **YUMO®**

◆ Application

- Tensile stress control, cross-table positioning , valve position control, robot, X-Y labor ,printing machine and etc.

◆ Features

- High reliability, long life, strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal
- Square flange be used in numerical control machine

◆ Ordering Information

ISC60 08 - 001G - 1024 BZ 3 - 5 L

- **ISC60**: ISC serial no. Φ60mm housing
- **08**: Shaft diameter 05=Φ05mm 06=Φ6mm 08=Φ8mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 3600 4096 5000
- **BZ**: Output signal A=A phase B=A,Bphase BZ:A,B Zphase ABZ=ABZ,A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

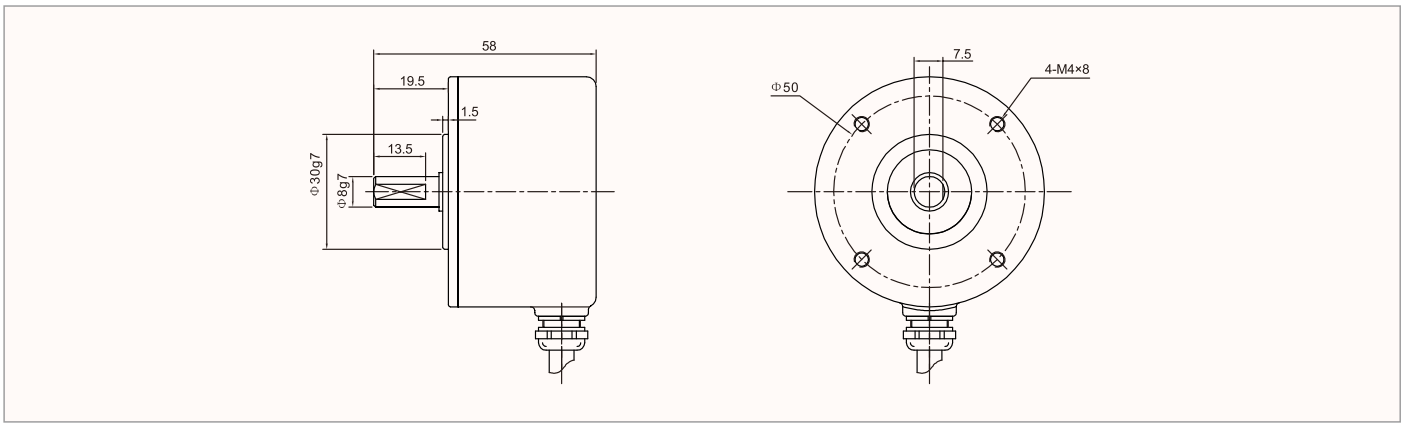
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:80N, Axial:40N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	270g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper net
7Pin Plug	3	5	2	-	-	-	1	4	6
9Pin Plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



◆ Application

- Measure the distance and measure the speed , position at CNC tooling machines, robot, X-Y labor ,printing machine and etc.

◆ Features

- High reliability, long life, strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal
- Square flange be used in numerical control machine

◆ Ordering Information

ISC70 08 - 001G - 2000 BZ 3 - 5 L

- **ISC70**: ISC serial no. Φ70mm housing
- **08**: Shaft diameter 06=Φ06mm 08=Φ8mm 10=Φ10mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **2000**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 3600 4000 5400
- **BZ**: Output signal A=A phase B=A,Bphase BZ:A,B Zphase ABZ=ABZ,A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

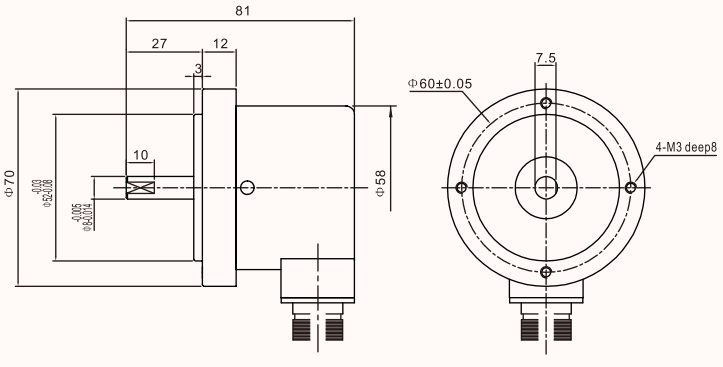
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:80N, Axial:40N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	275g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper net
7Pin Plug	3	5	2	-	-	-	1	4	6
9Pin Plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



◆ Application

- Measure the speed and the rotational speed, textile machines, embroidery machines , robot, X-Y labor ,printing machine and etc.

◆ Features

- High reliability, long life, strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal

◆ Ordering Information

ISN40 06 - 001G - 1000 BZ 3 - 5 L

- **ISN40**: ISN serial no. Φ40mm housing
- **06**: Shaft diameter 05=Φ06mm 06=Φ06mm 08=Φ8mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1000**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 ……
- **BZ**: Output signal A=A phase B=A,Bphase BZ:A,B Zphase ABZ=ABZ,A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

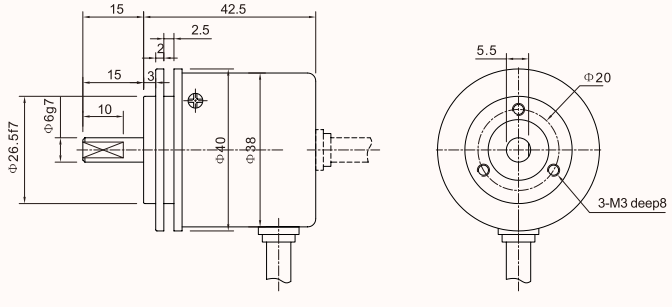
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	100kHz	100kHz	100kHz	100kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.04Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-25~80℃	-30~85℃	IP51	200g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆Application

- Measure the speed , tensile stress control, length dimension with measuring wheel, embroidery machines , textile machine and etc.

◆Features

- High reliability, long life, strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal

◆Ordering Information

ISN44 08 - 001E - 360 BZ 3 - 5 L

- **ISN44**: ISN serial no. Φ44mm housing
- **08**: Shaft diameter 05=Φ05mm 06=Φ06mm 08=Φ8mm ……
- **001E**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **360**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 ……
- **BZ**: Output signal A=A phase B=A,Bphase BZ:A,B Zphases ABZ:A,B Z, A-B-Z- phases
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

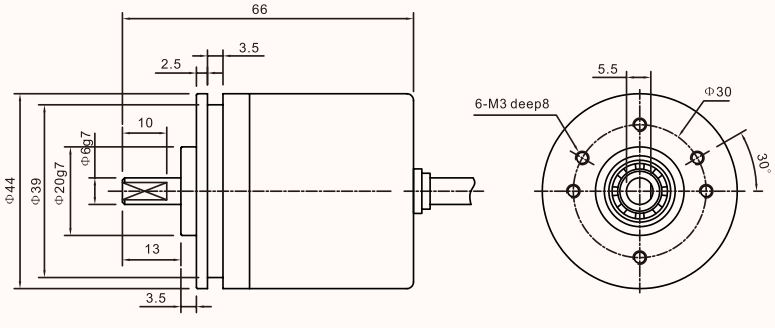
◆Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	100kHz	100kHz	100kHz	100kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.04Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-25~80℃	-30~85℃	IP51	200g

◆Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆Dimensions(mm)



◆Application

- Be used in area of automatic control, measurements, robotic X-Y labor and printing.
- Square flange, be used in numerical control machine.

◆Features

- Flange adapters, long working life, high shock.
- 2 quadrature output channel (A&B)
- Full impulses under 1024, it is suitable for narrow area application

◆Ordering Information

ISL58 09 - 102C - 1024 B Z 3 - 5-30 C

- **ISL58**: ISLserial no. Φ58mm Square flange
- **09**: Shaft diameter 08=Φ08mm 09=Φ09mm 10=Φ10mm 15=Φ15mm .....
- **102C**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000.....
- **B Z**: Output signal A=A phase B=A,Bphase BZ=A,BZphases ABZ=ABZ,A-B-Z- phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5-30**: Supply Voltage 5: +5V DC 5-24:5~24 VDC
- **C**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

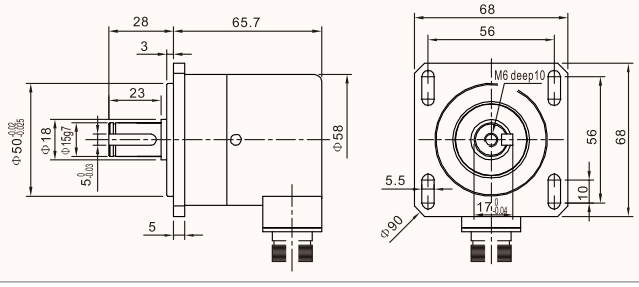
◆Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.12Nm	Radial:85N, Axial:50N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	400g

◆Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper net
7Pin Plug	3	5	2	-	-	-	1	4	6
9Pin Plug	5	3	2	7	6	8	1	4	9

◆Dimensions(mm)



◆ Application

- Be used in automatic control, measurements, robotic, X-Y labor and printing.

◆ Features

- High reliability, long life, strong anti- interference ability and wide range temperature adaption.
- Adapted 4 bearings design, can be hung on the synchronous wheel , and ISL68 contain soft connector to ensure the encoder spindle without damage.

◆ Ordering Information

ISL68 15 - 102C - 1024 B Z 3 - 5-30 C

- **ISL68**: ISLserial no. Φ68mm Square flange
- **15**: Shaft diameter 15=Φ15mm
- **102C**: Cable lead out : C= Plug connection at side; G= Cable lead out at side; H=Plug connection behind; E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000(Other number of pulse available on request)
- **B Z**: Output signal A=A phase; B=A,Bphase; BZ=A,BZphases; ABZ=ABZ,A-B-Z- phase
- **3**: Width of Z signal Blank=no Z phase; 1: TZ=1T; 2: TZ=1/2T; 3: TZ=1/4T
- **5-30**: Supply Voltage 5: +5V DC; 5-24:5~24 VDC
- **C**: Output Form E:Voltage; L: Line Driver 26LS31/TTL; K;Line driver 7272; F: Push-Pull; C: Open Collector NPN; CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

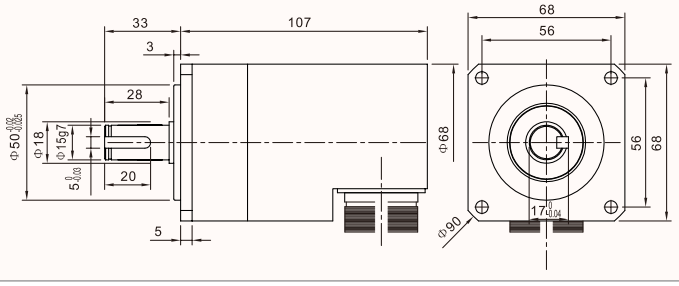
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	150kHz	150kHz	150kHz	150kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.12Nm	Radial:85N, Axial:50N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~80℃	-35~95℃	IP51	600g

◆ Connection Table(17pin plug)

Subscript	1	3	6	14	16	15	9	5	8	12
Subscript	A	B	C	E	F	H	K	N	P	R
Color	Green	Yellow	White	Purple	Purple	Red	Black	Brown	Orange	Gray
Signal	A	Z	B	NC	NC	Vcc	Gnd	A/	Z/	B/

◆ Dimensions(mm)



◆Application

- Widely used in servomechanism , especially for servomotor.

◆Features

- Taper shaft design to ensure the firm connection
- Wide resolution range and no requirement about signal adjustment
- With ABZ UVW 6channels signal output , and can be connect to Line Drive （26LS31）RS422， offer 12 channels signal , and compatible with TTL

◆Ordering Information

IHU48 | 08 | - | 001G | - | 1024 | BZ | 4P | - | 5 | L

- IHU48: IHU serial no. Φ48mm housing
- 08: Hollow diameter 06=Φ6mm 08=Φ8mm 10=Φ10mm
- 001G: Cable lead out : C= Plug connection at side G= Cable lead out at side
- 1024: Pulses P/R 1000 1024 1250 2000 2048 2500 4000 4096 5000
- BZ: Output signal A=A phase B=A,Bphase BZ=ABZphases BZU:ABZ UVW, A-B-Z- U-V-W-
- 4P: 2P=2pairs of magnetic pole 3P=3pairs of magnetic pole 4P=4pairs of magnetic pole 5P=5pairs of magnetic pole
- 5: Supply Voltage 5: 5V DC
- L: Output Method L: Line Driver 26LS31/TTL

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

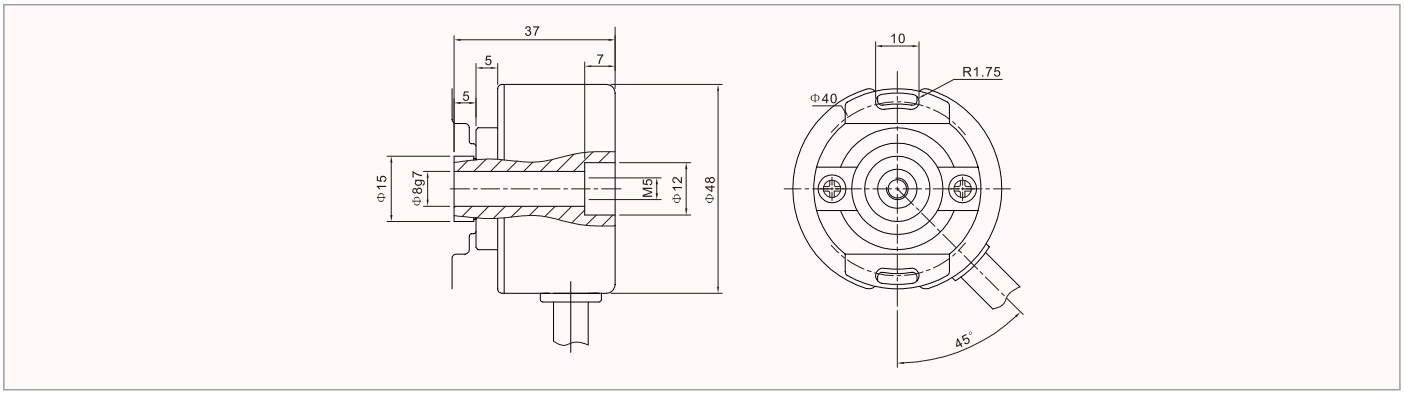
◆Technical Specifications

Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.02Nm	Radial:20N, Axial:10N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-40~85℃	-40~85℃	IP50	120g

◆Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	U	V	W	Ū	V̄	W̄	Vcc	GND
Color	Green	White	Yellow	Green/ Black	White/ Black	Yellow/Black	Brown	Gray	Orange	Brown/Black	Gray/ Black	Orange/ Black	Red	Black

◆Dimensions(mm)



◆ Application

- Measure the length or speed of target by wheel type , automatic control , robot, X-Y labor ,printing, packing machine and etc.

◆ Features

- High reliability , long life , strong anti-interference ability
- 2 quadrature output channel (A&B) + index signal

◆ Ordering Information

ISA52 08 - 001G - 1024 BZ 3 - 5 L

- **ISA52**: ISA serial no. Φ52mm housing
- **08**: Hollow diameter 06=Φ06mm 08=Φ8mm ……
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side H=Plug connection behind E= Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 1000 1024 2000 2048 2500 3600 4096 5000 ……
- **BZ**: Output signal A=A phase B=A,Bphase BZ=A,B Zphase ABZ=ABZ,A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

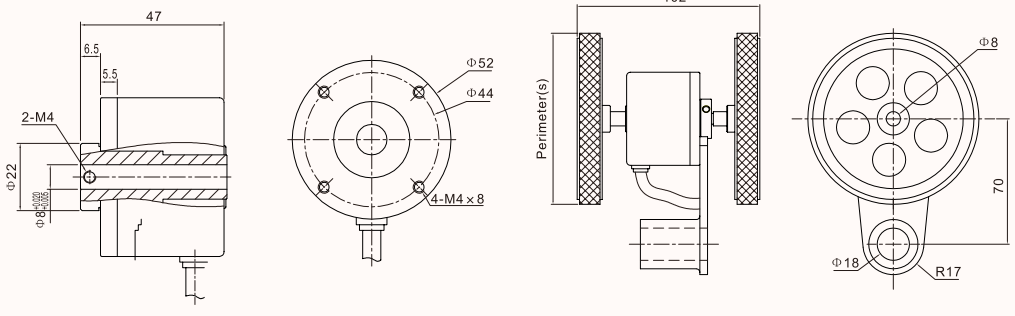
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	250g

◆ Connection Table(17pin plug)

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Automatic control, measurements, robotic X-Y labor and printing machines.

◆ Features

- High reliability, long life, strong anti-interference ability and wide range of temperature adaption.

◆ Ordering Information

IHC38 | 08 | - | 102G | - | 1024 | B Z | 5 | C

- IHC38: serial no. IHC38= Half Hollow, IHA38=Full Hollow
- 08: Hollow diameter 05=Φ5mm, 06=Φ6mm, 06.35=Φ6.35mm, 08=Φ8mm
- 102G: Cable lead out : G= Cable lead out at side
- 1024: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 3600 .....
- B Z: Output signal A=A phase, B=A,Bphase, BZ:ABZphase, ABZ=ABZ,A-B-Z-phase
- 5: Supply Voltage 5: +5V DC, 5-24:5~24 VDC
- C: Output Form E:Voltage, L: Line Driver 26LS31/TTL, K;Line driver 7272, F: Push-Pull, C: Open Collector NPN, CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

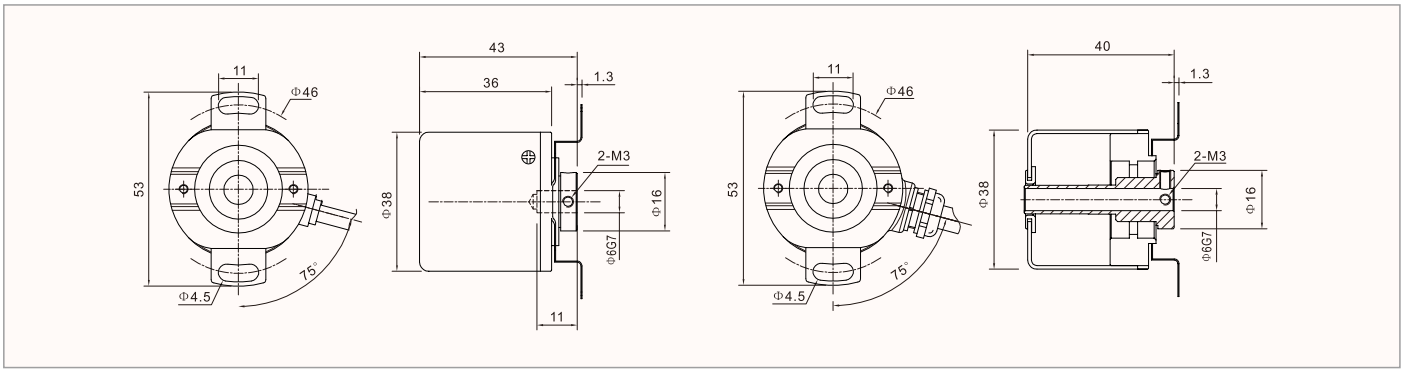
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:50N, Axial:20N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	100g

◆ Connection Table(17pin plug)

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- Used in area of automatic control, measurements, robotic X-Y labor and printing and packing.

◆ Features

- High reliability, long life, strong anti interference ability and wide range of temperature adaption.
- Multiple ways of wiring connection.

◆ Ordering Information

IHA60 | 12 | - | 501C | - | 1024 | B Z | 3 | 5-30 | C

- **IHA60**: IHAserial no. Φ60mm housing
- **12**: Hollow diameter 08=Φ8mm 10=Φ10mm 12=Φ12mm 15=Φ15mm .....
- **501C**: Cable lead out : C=Plug connection at side G=Cable lead out at side H=Plug connection behind E=Cable lead out behind
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000.....
- **B Z**: Output signal A=A phase B=A,Bphase BZ=A,BZphase ABZ=ABZ,A-B-Zphase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5-30**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **C**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

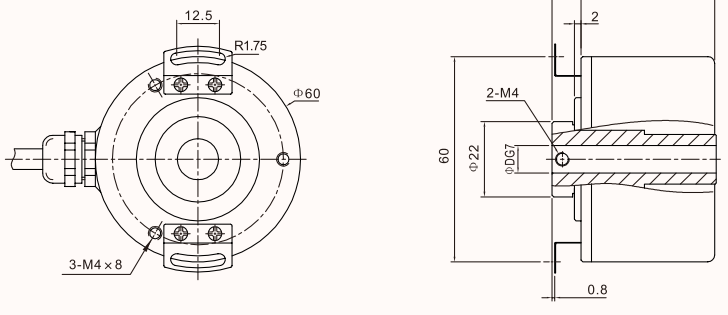
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.12Nm	Radial:85N, Axial:50N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP50	300g

◆ Connection Table(17pin plug)

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)



◆ Application

- sed in area of automatic control, measurements, elevator, printing and packing.

◆ Features

- High reliability, long life, strong anti-interference ability and wide range of temperature adaption.
- Keyway fixation, easy to install and inner diameter changeable.

◆ Ordering Information

IHA80 30 - 501J - 1024 B Z 3 - 5-30 C

- **IHA80**: IHA serial no. Φ80mm housing
- **30**: Hollow diameter 18=Φ18mm 20=Φ20mm 30=Φ30mm
- **501J**: Cable lead out : G= Rubber edge output D=Metal edge output J=Computer plug
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000……
- **B Z**: Output signal A=A phase B=A,Bphase BZ=A,BZphase ABZ=ABZ A-B-Z-phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5-30**: Supply Voltage 5: +5V DC 5-24:5~24 VDC
- **C**: Output Form E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull C: Open Collector NPN CP: Open collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

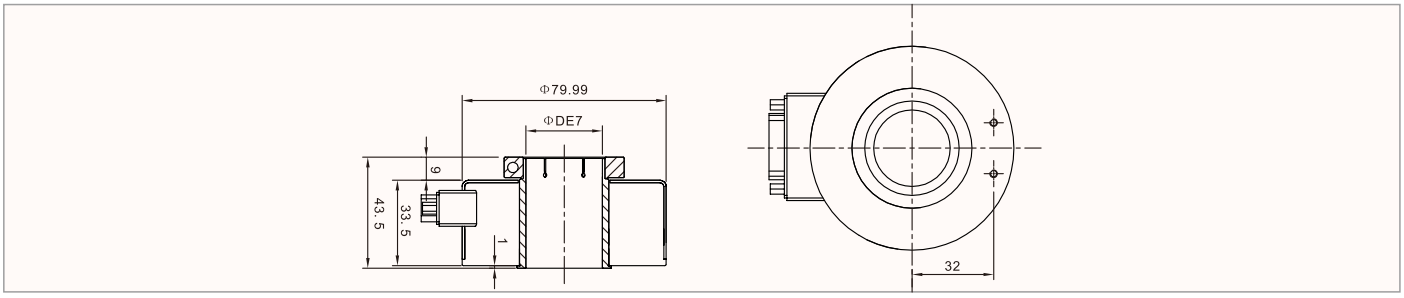
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<1Nm	Radial:20N, Axial:10N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP50	500g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper Web
DB15 plug	4	2	9	-	-	-	7	5	8
DB15 plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



◆ Application

- Used in area of automatic control, measurements, elevator, television, and printing and packing.

◆ Features

- High reliability, long life, strong anti-interference ability and wide range of temperature adaption.
- Keyway fixation, easy to install and inner diameter changeable.

◆ Ordering Information

IHA90 20 - 501J - 1024 B Z 3 - 5-30 C

- **IHA90**: IHA serial no. Φ90mm housing
- **20**: Hollow diameter 20=Φ20mm 30=Φ30mm 40=Φ40mm
- **501J**: Cable lead out : G= Rubber edge output D=Metal edge output J=Computer plug
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000……
- **B Z**: Output signal A=A phase B=A,Bphase BZ=A,B,Zphase ABZ=ABZ , A-B-Z-Phase……
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5-30**: Supply Voltage 5: +5V DC 5-24:5~24 VDC
- **C**: Output Method E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull NPN+ PNP C: Open Collector NPN CP: Open Collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

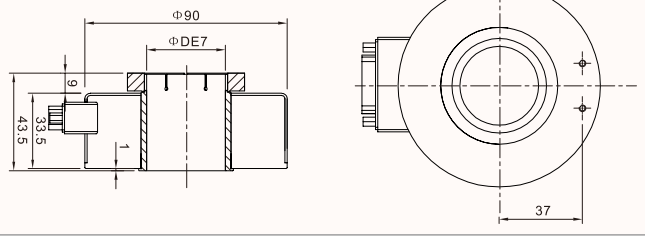
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<1Nm	Radial:20N, Axial:10N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP50	500g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper Web
DB15 plug	4	2	9	-	-	-	7	5	8
DB15 plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



◆ Application

- Used in area of automatic control, measurements, elevator, television, and printing and packing.

◆ Features

- High reliability, long life, strong anti interference ability and wide range of temperature adaption.
- Keyway fixation, easy to install and inner diameter changeable.

◆ Ordering Information

IHA10 | **50** | **-** | **501J** | **1024** | **B Z** | **3** | **5-30** | **C**

- **IHA10**: IHA serial no. Φ100mm Housing
- **50**: Hollow diameter 45=Φ45mm 50=Φ50mm 52=Φ52mm
- **501J**: Cable lead out : G= Rubber edge output D=Metal edge output J=Computer plug
- **1024**: Pulses P/R 100 200 250 360 400 500 600 1000 1024 1200 2000 2500 2500 4096 5000 10000 .....
- **B Z**: Output signal A=A phase B=A,Bphase BZ=A,BZphase ABZ=ABZ,A-B-Z-Phase
- **3**: Width of Z signal Blank=no Z phase 1: TZ=1T 2: TZ=1/2T 3: TZ=1/4T
- **5-30**: Supply Voltage 5: +5V DC 5-24:5~24 VDC
- **C**: Output Method E:Voltage L: Line Driver 26LS31/TTL K;Line driver 7272 F: Push-Pull NPN+ PNP C: Open Collector NPN CP: Open Collector PNP

※Voltage is for 5-24VDC with ABZ 3 Phase.
※Line driver 26LS31/TTL is for 5VDC with ABZ A-B-Z 6 phase.
※Line driver 7272 is for 5-24VDC with ABZ A-B-Z 6 phase.
※Push-Pull is for 5-24VDC with ABZ 3 phase.
※Open Collector NPN is for 5-24VDC with ABZ 3 phase.
※Open Collector PNP is for 5-24VDC with ABZ 3 phase.

◆Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

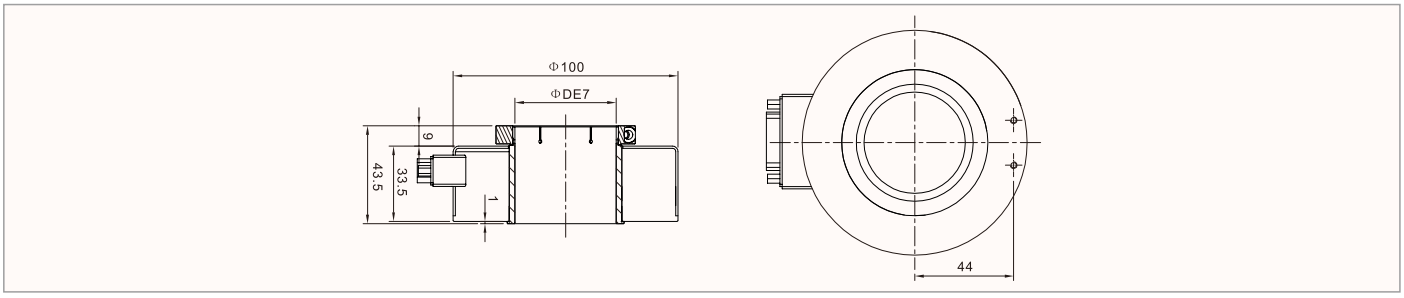
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
5000	<1Nm	Radial:20N, Axial:10N	50G/11-ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP50	550g

◆ Connection Table

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND	Shielded
Color	Green	White	Yellow	Brown	Gray	Orange	Red	Black	Copper Web
DB15 plug	4	2	9	-	-	-	7	5	8
DB15 plug	5	3	2	7	6	8	1	4	9

◆ Dimensions(mm)



◆ Application

- Used of motorized spindle , DC motor , Servo motor

◆ Features

- Miniature size , low cost
- Access data by a special matrix, high correction ability , reliability and long life
- Different material for optional: Film, stainless steel, glass

◆ Ordering Information

DK22 04 - 256 B - 5 L

- **DK22**: DK serial no. Disk external 22=Φ22mm 27=Φ27mm 50=Φ50mm ……
- **04**: Hole size 05=Φ05mm 06=Φ6mm 08=Φ8mm ……
- **256**: Pulses P/R 100,120,200,250,256,360, 1000,5000…
- **B**: Output signal B=A,Bphase
- **5**: Supply Voltage 5: 5V DC 5-24:5~24 VDC
- **L**: Output Form E:Voltage L: Line Driver 26LS31/TTL F: Push-Pull K：Line driver 7272 C: Open Collector NPN CP: Open collector PNP

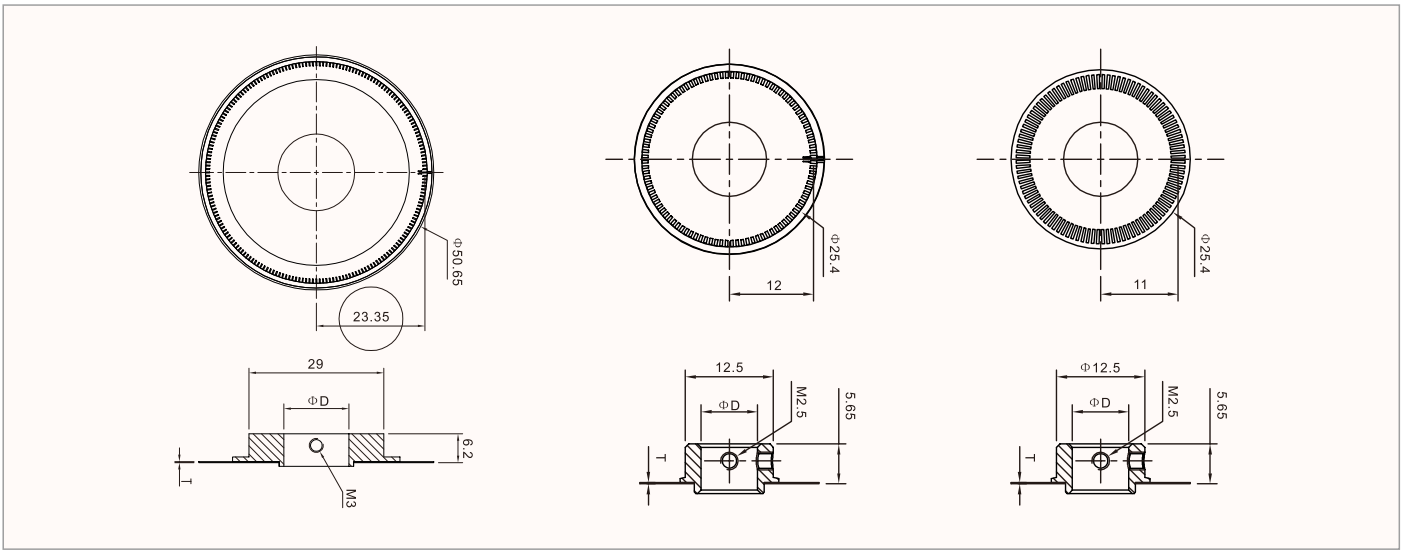
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. If with grating base max hole size 10mm, without grating base max hole size 17mm

◆ Technical Specifications

Specification	Code	Metal grating	Metal grating	Glass grating
Storage temperature	Ts	-40~100℃	-40~85℃	-40~100℃
Working temperature	TA	-40~100℃	-40~85℃	-40~100℃
Speed	-	30,000RPM	30,000PRM	12,000RPM
Humidity	-	-	Non condensing	-
Accelerated speed	-	250,000Rad/Sec2	250,000Rad/Sec2	100,000Rad/Sec2
Disk thickness	T	≥0.05mm	0.178mm	≥0.6mm

◆ Dimensions(mm)



◆ Application

- Motorized spindle , DC Motor , Servo motor

◆ Features

- 2 Channels quadrature output , quick and easy assembly
- Cost-effective , ideal for small motor system

◆ Ordering Information

HTK22	04	-	001G	256	B	-	5	E
HKT serial no. Φ22mm housing	Shaft diameter 02=Φ02mm 03=Φ3mm 04=Φ4mm ……		Cable lead out : C= Plug connection at side G= Cable lead out at side	Pulses P/R 100,200,300	Output signal B=A,Bphase		Supply Voltage 5: 5V DC	Output Form E:Voltage L: Line drive

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC option

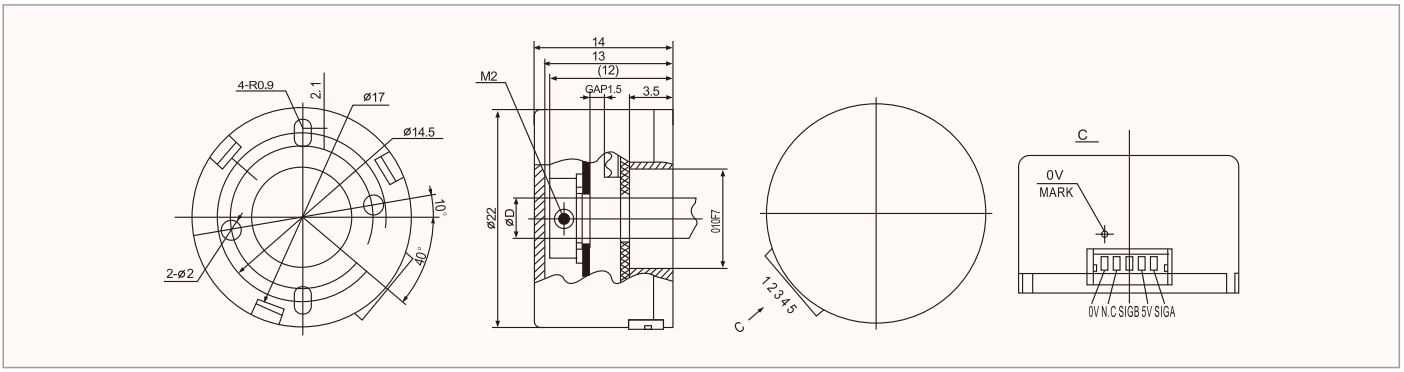
◆ Technical Specifications

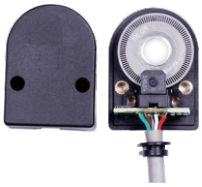
Electrical Specification				
Output circuit	Voltage output			
Power Vcc	5VDC			
Current Consumption	≤35mA			
High-level output	Min Vcc*85%			
Low-level output	Max 0.3V			
Rise Time Tr	Max 200ns			
Fall Time Tr	Max 50ns			
Max Responding Frequency	100kHz			
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
12000	<0.05Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}$ Kgm^2	-40~85℃	-40~85℃	IP50	100g

◆ Connection Table(17pin plug)

Voltage output	0V	NC	B	Vcc	A
Cable code	1	2	3	4	5

◆ Dimensions(mm)





◆ Application

- Motorized spindle , DC Motor , Servo motor, printers, plotters, tape drives, positioning tables ,and automatic handles.

◆ Features

- 2 Channels quadrature output , quick and easy assembly
- Cost-effective , ideal for small motor system
- Resolutions up to 1024 counts per revolution, TTL compatible

◆ Ordering Information

HKT30 04 - 001G 256 B - 5 E

- **HKT30**: HKT serial no. Φ30mm housing
- **04**: Shaft diameter 04=Φ04mm 06=Φ6mm 08=Φ8mm .....
- **001G**: Cable lead out : C= Plug connection at side G= Cable lead out at side
- **256**: Pulses P/R 100,200 ,256,360 400,500,1000,1024...
- **B**: Output signal B=A,Bphase
- **5**: Supply Voltage 5: 5V DC
- **E**: Output Form E:Voltage L: Line drive

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC option
3. 1000/1024 PPR is only available with mylar disk

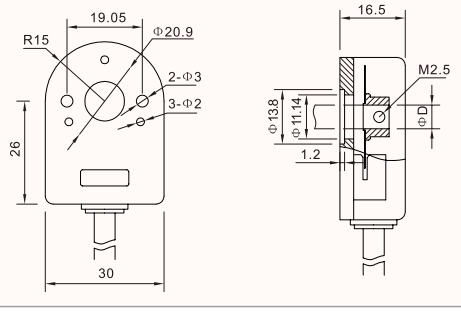
◆ Technical Specifications

Electrical Specification				
Output circuit	Line driver output/ Voltage output			
Power Vcc	5VDC			
Current Consumption	≤65mA			
High-level output	Min Vcc*85%			
Low-level output	Max 0.3V			
Rise Time Tr	Max 200ns			
Fall Time Tr	Max 50ns			
Max Responding Frequency	100kHz			
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
12000	<0.05Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}$ Kgm^2	-20~85℃	-20~85℃	IP50	100g

◆ Connection Table

Line driver output	0V	Vcc	A	Ā	B̄	B	Voltage output	0V	0V	Z	Vcc	B	NC
Code	1	2	3	4	5	6	Code	1	1	2	3	4	5
Color	Black	Red	Green	Brown	Grey	White	Color	Black	Black	Yellow	Red	White	-

◆ Dimensions(mm)



◆ Application

- Motorized spindle , DC Motor , Servo motor, printers, plotters, tape drives, positioning tables ,and automatic handles.

◆ Features

- 2 Channels quadrature output , quick and easy assembly
- Cost-effective , ideal for small motor system
- Resolutions up to 2048 count per revolution, TTL compatible

◆ Ordering Information

HKT56	08	-	001G	2048	B	-	5	E
HKT serial no. Φ56mm housing	Shaft diameter 06=Φ6mm 08=Φ8mm 10=Φ10mm		Cable lead out : C= Plug connection at side G= Cable lead out at side	Pulses P/R 1000,1024,2000,2048	Output signal B=A,Bphase BZ=ABZ phase		Supply Voltage 5: 5V DC	Output Form E:Voltage L: Line drive

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC option

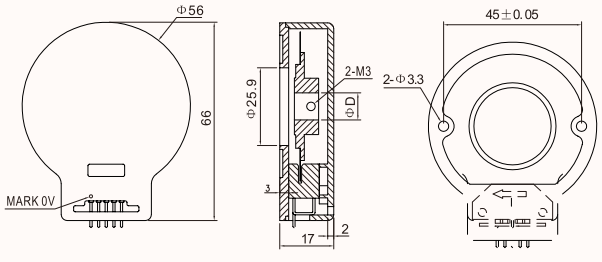
◆ Technical Specifications

Electrical Specification				
Output circuit	Line driver output/ Voltage output			
Power Vcc	5VDC			
Current Consumption	≤65mA			
High-level output	Min Vcc*85%			
Low-level output	Max 0.3V			
Rise Time Tr	Max 200ns			
Fall Time Tr	Max 50ns			
Max Responding Frequency	100kHz			
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
12000	<0.05Nm	Radial:25N, Axial:15N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-40~85℃	-40~85℃	IP50	100g

◆ Connection Table

Line driver output	0V	Vcc	A	$\bar{A}$	$\bar{B}$	B	Z	$\bar{Z}$
Code	1	2	3	4	5	6	7	8
Color	Black	Red	Green	Brown	Grey	White	Yellow	Orange
Voltage output	0V	Z	A	Vcc	B	-	-	-
Code	1	2	3	4	5	-	-	-
Color	Black	Yellow	Green	Red	White	-	-	-

◆ Dimensions(mm)



◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine and etc

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- High reliability , terminal connection type

◆ Ordering Information

ISM6045	001E	-	100	B	-	5	L
Serial no. ISM6045			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

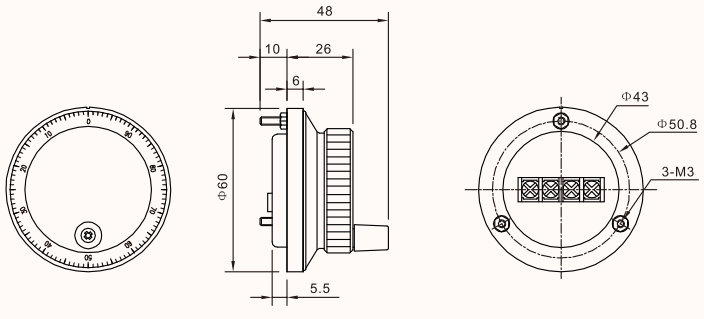
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	10kHz	10kHz	10kHz	10kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	250g

◆ Connection Table

Code	1	2	3	4	5	6
Line driver output	+5V	0V	Sigal A	Sigal A(-)	Signal B	Signal B(-)
Other output	+5V	0V	Sigal A	Signal B	-	-

◆ Dimensions(mm)



◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine and etc

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- High reliability , terminal connection type

◆ Ordering Information

ISM8060	001E	-	100	B	-	5	L
Serial no. ISM8060			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

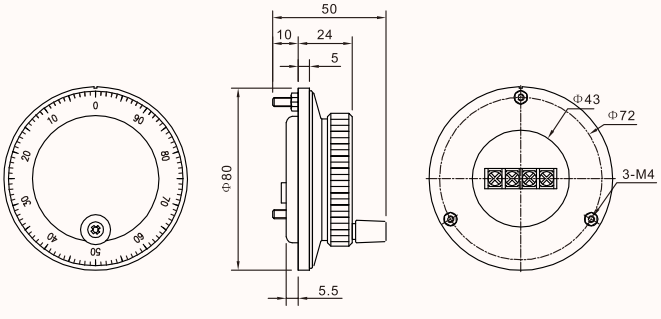
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	10kHz	10kHz	10kHz	10kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	250g

◆ Connection Table

Code	1	2	3	4	5	6
Line driver output	+5V	0V	Sigal A	Sigal A(-)	Signal B	Signal B(-)
Other output	+5V	0V	Sigal A	Signal B	-	-

◆ Dimensions(mm)



◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM1274	001E	-	100	B	-	5	L
Serial no. ISMM1274			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

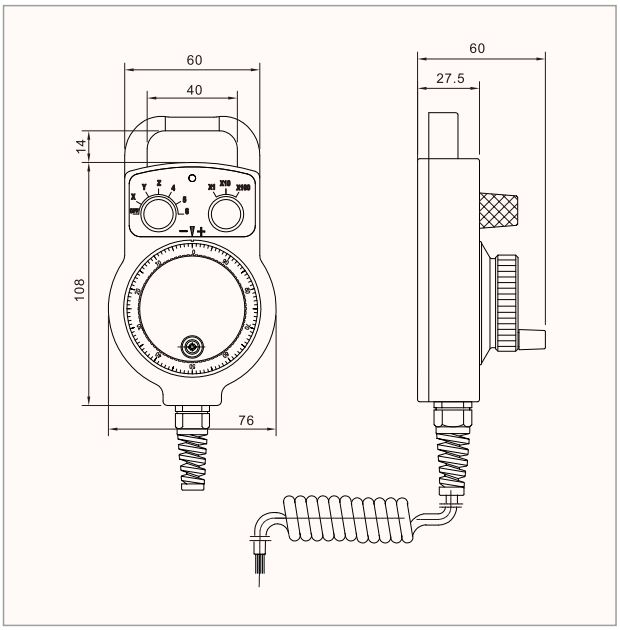
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

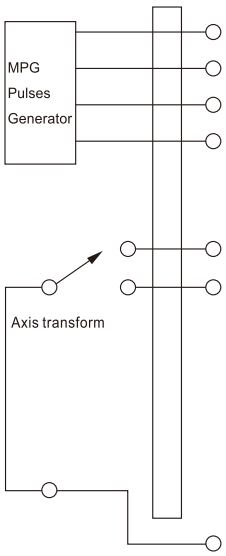
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table



Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Yelow	A	
4	White	B	
5	Green	X	Axis selection
6	Brown	Z	
7	Light Blue	Com-OFF	

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine

◆ Ordering Information

ISMM1468	001E	-	100	B	-	5	L
Serial no. ISMM1468			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

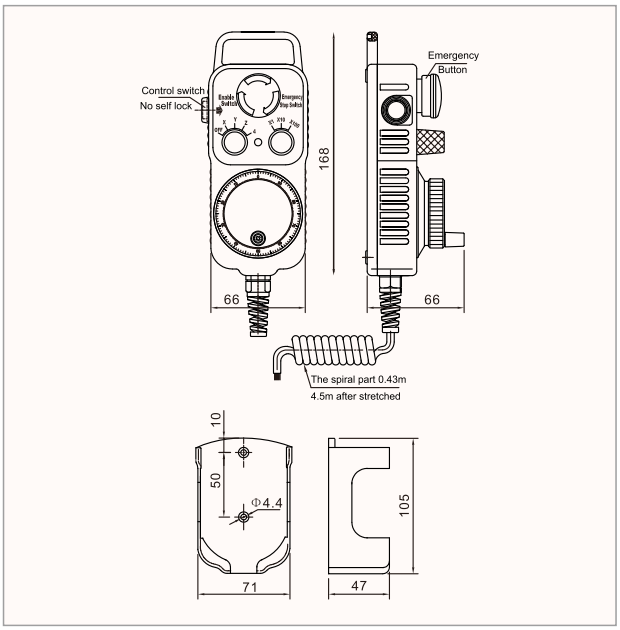
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

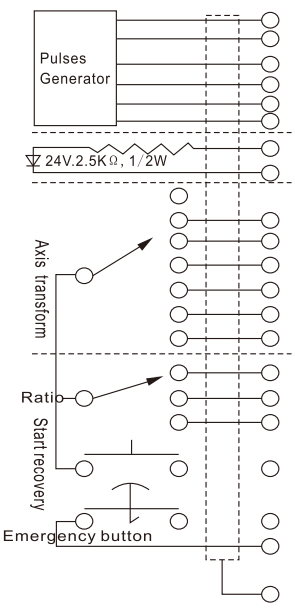
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table



Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	Axis selection
		OFF	
7	Yellow	X	
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	Select multiple
12	Grey/black	X10	
13	Orange	X100	
14	Orange/black	COM	Control
19	Light Blue	C	Emergency button
20	Light blue/black	CN	
			Shielding

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM1469	001E	-	100	B	-	5	L
Serial no. ISMM1469			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

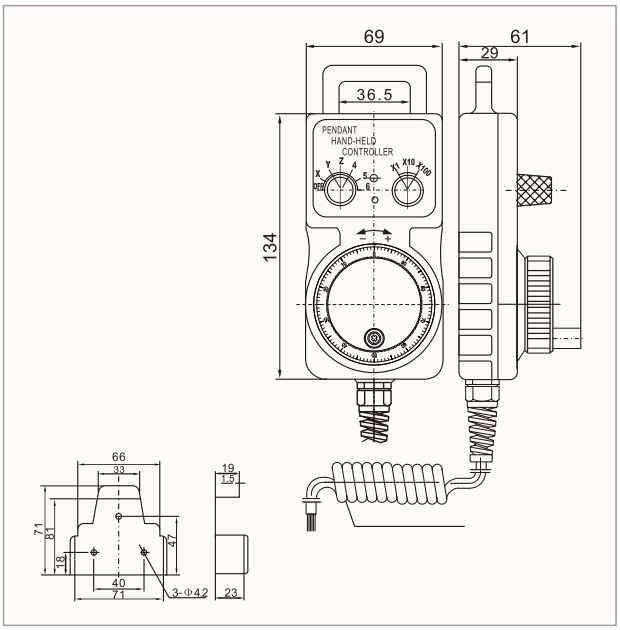
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

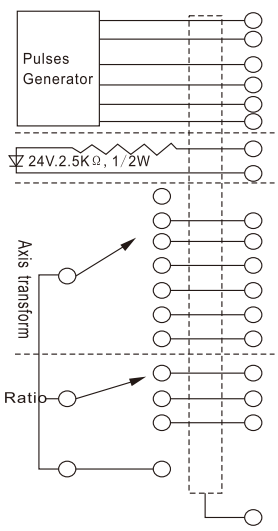
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-25~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table



Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	
		OFF	Axis selection
7	Yellow	X	
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	Select multiple
12	Grey/black	X10	
13	Orange	X100	
14	Orange/black	COM	Control
			Shielding

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM1474	001E	-	100	B	-	5	L
Serial no. ISMM1474			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

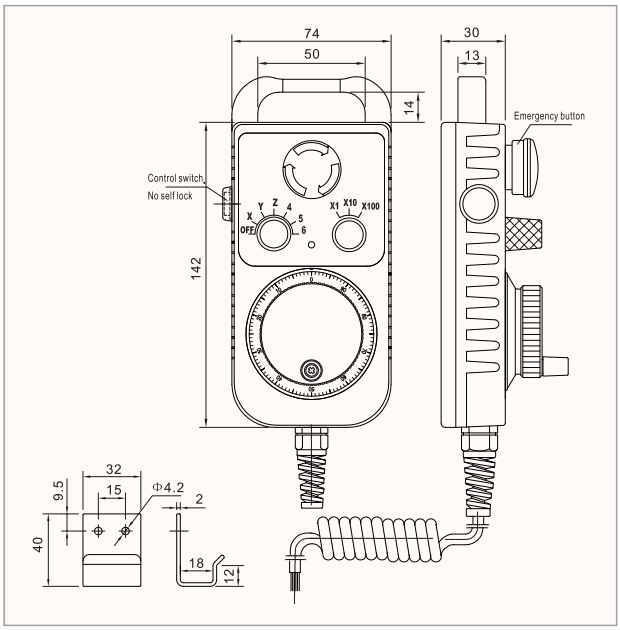
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

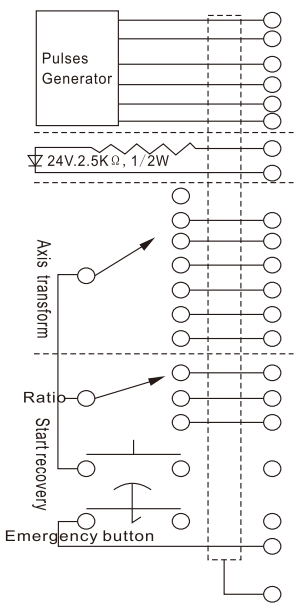
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-25~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table



Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	
		OFF	Axis selection
7	Yellow	X	
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	Select multiple
12	Grey/black	X10	
13	Orange	X100	
14	Orange/black	COM	Control
19	Light Blue	C	Emergency button
20	Light blue/black	CN	Shielding

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM1680	001E	-	100	B	-	5	L
Serial no. ISMM1680			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

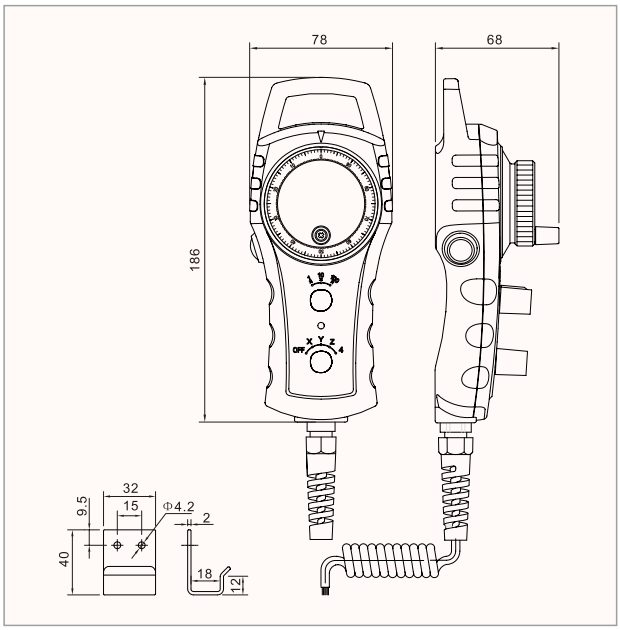
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table

Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	
		OFF	Axis selection
7	Yellow	X	
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	Select multiple
12	Grey/black	X10	
13	Orange	X100	
14	Orange/black	COM	Enable switch

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine

◆ Ordering Information

ISMM2080	001E	-	100	B	-	5	L
Serial no. ISMM2080			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

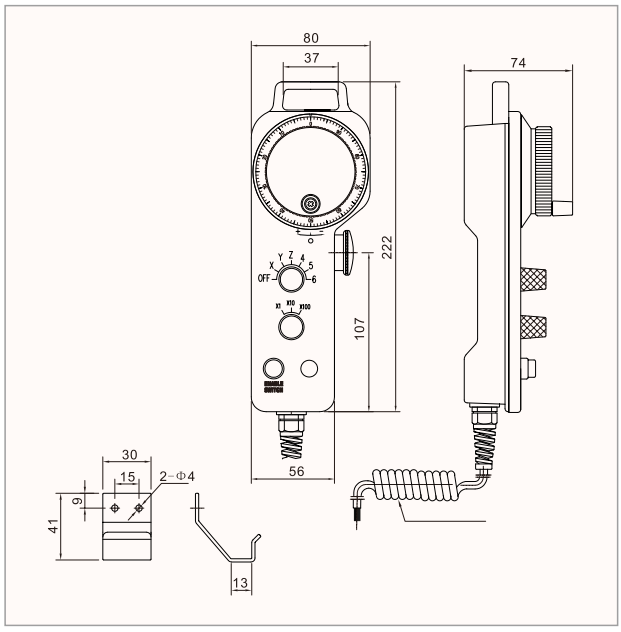
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

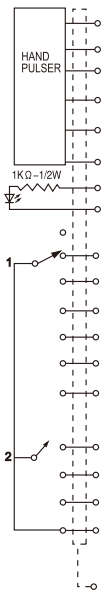
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table



Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	
		OFF	Axis selection
7	Yellow	X	
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	Select multiple
12	Grey/black	X10	
13	Orange	X100	
14	Orange/black	COM	Control
19	Red/Black		Back up
			Shielding

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM2188	001E	-	100	B	-	5	L
Serial no. ISMM2188			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

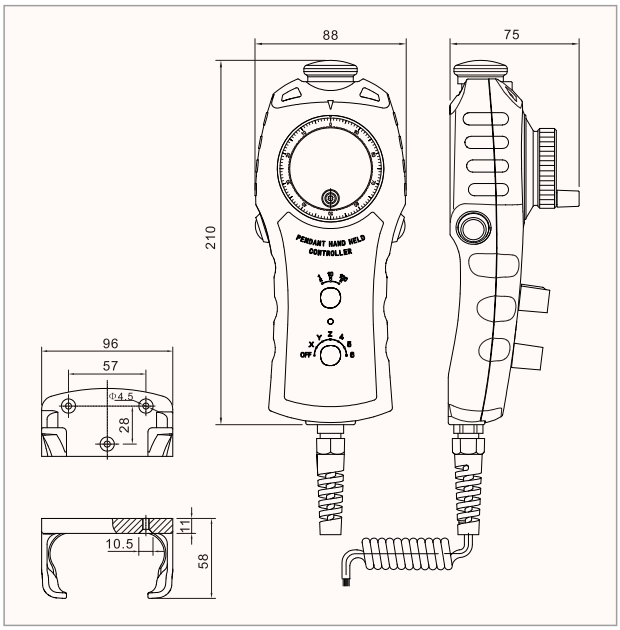
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table

Item	Wire color	Signal	Note
1	Red	+5V	Pulses generator MPG
2	Black	0V	
3	Green	A	
4	White	B	
3*(or 17)	Purple	A-	When Line driver
4*(or 18)	Purple/black	B-	
5	Green/black	+	Indicator
6	White/black	-	
7	Yellow	X	Axis selection
8	Yellow/black	Y	
9	Brown	Z	
10	Brown/black	4	
9*(or 15)	Pink	5	select the 5th, 6th axis
10*(or 16)	Pink/black	6	
11	Grey	X1	
12	Grey/black	X10	Select multiple
13	Orange	X100	
14	Orange/black	COM	Enable switch
19	Blue	NC1	Brake
20	Blue/black	NC2	

◆ Application

- Industrial tolling machinery , zero correction of printing machinery or signal cutting , numerical control machine or signal dividing.

◆ Features

- Suitable for manual pulses input type such as CNC or milling machine
- Plastic case, high electrical resistance. Shaft switching trigger, oil sealed design

◆ Ordering Information

ISMM2189	001E	-	100	B	-	5	L
Serial no. ISMM2189			Pulses P/R 25 or 100	Output signal B=A,Bphase		Supply Voltage 5: 5V DC 12: 12VDC	Output Form E:Voltage L: Line Driver26LS31/TTLK: Line driver 7272

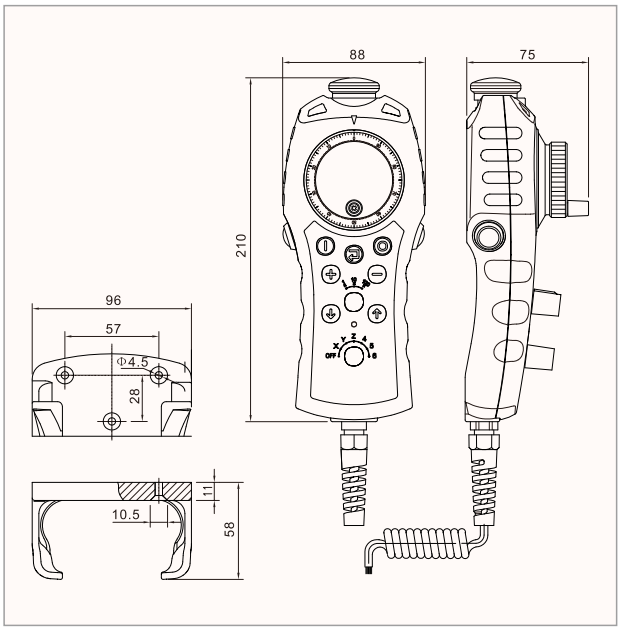
◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number
2. Line Driver is only available with 5V DC,12VDC option

◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 12V
Current	≤100mA	≤100mA	≤100mA	≤120mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 20ns
Max Responding Frequency	20kHz	20kHz	20kHz	20kHz
Mechanical Specification				
Max speed(r/min)	Working Temperature	Storage Temperature	Protection Grade	Weight
600	-25~70℃	-30~85℃	IP50	750g

◆ Dimensions(mm)



◆ Connection Table

Item	Wire color	Signal		Note
1	Red/Black	1	Push button	○
2	Orange/Brown	2		-
3	Yellow/Brown	3		↑
4	Yellow/Pink	4		↵
5	Green/Black	5		+
6	White/Black	6		↓
7	Light Green	7		I
8	Purple/Brown	C		Com port
9	Red	Vcc	MPG Pulses Generator	
10	Black	Gnd		
11	Green	A		
12	White	B		
13	Purple	A-		Line driver
14	Purple/Black	B-		
15	Yellow	X	Axis selection	
16	Yellow/Black	Y		
17	Brown	Z		
18	Brown/Black	4		
19	Pink	5		
20	Pink/Black	6		
21	Grey	X1	Selection multiple	
22	Grey/Black	X10		
23	Orange	X100		
24	Blue	NC1	Brake	
25	Blue/black	NC2		
26	Orange/Black	Com	Com port	

◆ Application

- Automated measurement and automatic control system . Measure the angular displacement and placed speed. The measured value could be output with naturel binaries by the encoder.

◆ Features

- High strong anti-interference , won't be affect by power off or system shut off and start
- Dust proof, and moisture proof, high shock and vibration resistance

◆ Ordering Information

J3806	-	0010	-	B	M	-	5	-	S
Serial no.		Output digit		Natural Binary	Positive logic		Output voltage		SSI serial

◆ Parameter

Code	Absolute Code					
	Bit	Point for Round	Angle Resolution	Output code	Carry direction	Accuracy
J3806G-0013	13	8192	$360/2^{13}$	Natural Binary	from shaft according to clock wise(CCW)	±1.5
J3806G-0012	12	4096	$360/2^{12}$	Natural Binary	from shaft according to clock wise(CCW)	±3
J3806G-0011	11	2048	$360/2^{11}$	Natural Binary	from shaft according to clock wise(CCW)	±6
J3806G-0010	10	1024	$360/2^{10}$	Natural Binary	from shaft according to clock wise(CCW)	±12

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number

◆ Technical Specifications

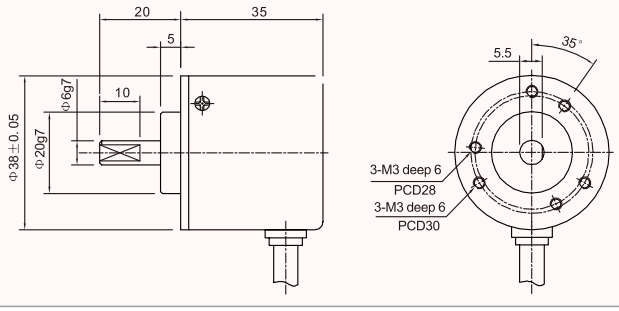
Electrical parameter								
Code	Power	Output signal			Consumption current	Rise/fall time	Response frequency	Insulation resistance
		High level (V)	Low level (V)	Allowed current				
J3806	5VDC	≥2.5	≤1	mA	<100mA	<us	0-1m	>1MΩ

Mechanical parameter									
Revolution	Starting torque 25°	Load of Axis		Working temperature	Consumption current	Storage temperature	Relative humidity	Shock Resistance	Vibration proof
		Axial	Radial						
0-6000r/min	$2*10^{-3}$N/m	10N	20N	mA	-25~100℃	-30~110℃	30~85%	$30m^2/s$(10-200Hz, x,y,z)	$30m^2/s$(11ms, x,y,z)

◆ Connection Table

Color	Red	Black	Green	White	Yellow	Brown	Grey	Orange	Shielded
Voltage E	Vcc	0V	Clock	Date	Backup	–	–	Backup	Shell
Line driver TTL	Vcc	0V	Clock	Date	Backup	–		Backup	Shell

◆ Dimensions(mm)



◆ Application

- Automated measurement and automatic control system . Measure the angular displacement and placed speed. The measured value could be output with naturel binaries by the encoder.

◆ Features

- High strong anti-interference , won't be affect by power off or system shut off and start
- Dust proof, and moisture proof, high shock and vibration resistance

◆ Ordering Information

J5208	-	0010	-	B	M	-	T5	-	S
Serial no.		Output digit		Natural Binary	Positive logic		Output voltage		SSI serial

◆ Parameter

Code	Absolute Code					
	Bit	Point for Round	Angle Resolution	Output code	Carry direction	Accuracy
J5208G-0013	13	8192	$360/2^{13}$	Natural Binary	from shaft according to clock wise(CCW)	±1.5
J5208G-0012	12	4096	$360/2^{12}$	Natural Binary	from shaft according to clock wise(CCW)	±3
J5208G-0011	11	2048	$360/2^{11}$	Natural Binary	from shaft according to clock wise(CCW)	±6
J5208G -0010	10	1024	$360/2^{10}$	Natural Binary	from shaft according to clock wise(CCW)	±12

◆ Note:

1. Please contact sales representative to confirm the correctness and availability of the part number

◆ Technical Specifications

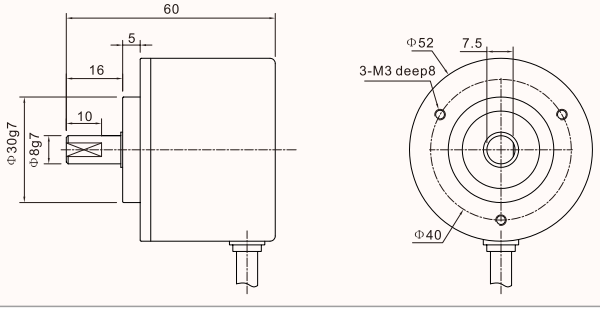
Electrical parameter								
Code	Power	Output signal			Consumption current	Rise/fall time	Response frequency	Insulation resistance
		High level (V)	Low level (V)	Allowed current				
J5208	5VDC	≥2.5	≤1	mA	<100mA	<us	0-1m	>1MΩ

Mechanical parameter								
Revolution	Starting torque 25°	Load of Axis		Consumption current	Storage temperature	Relative humidity	Shock Resistance	Vibration proof
		Axial	Radial					
0-6000r/min	$2*10^{-3}$N/m	10N	20N	-25~100℃	-30~110℃	30~85%	$30m^2/s$(10-200Hz, x,y,z)	$30m^2/s$(11ms, x,y,z)

◆ Connection Table

Color	Red	Black	Green	White	Yellow	Brown	Grey	Orange	Shielded
Voltage E	Vcc	0V	Clock	Date	Backup	–	–	Backup	Shell
Line driver TTL	Vcc	0V	Clock	Date	Backup	–		Backup	Shell

◆ Dimensions(mm)



◆ Application

- Automatic control , measurement, robotics, X-Y working platform, printing machine and etc.

◆ Features

- High reliability, long life, strong anti-interference ability
- Outlet side of metal plug has waterproof protection.

◆ Ordering Information

YMR Z - S - 1000 B - L 5

- **YMR** — Serial no.
- **Z** — Encoder type: Z=Incremental, J=Absolute, D=Potential shape
- **S** — Range: S=Small range 0-1000mm, M=Medium range 0-2000mm, L= Large range 0-5000mm, SL=Super large 0-30m
- **1000** — Pulses P/R: 10 20 25 / 30 40 50 / 60 72 90 / 100 120 125 / ..... / 600 712 900 / 1000 1024 / 1200 2000 / 2048 2500
  - Absolute: 008=8bit, 011=11bit, 013=13bit, 016=16bit
- **B** — Output signal: A=A phase, B=A,Bphase
- **L** — Output Form: A=4-20mA, R1=Potential V=0~5V, R2=Potential V=0~10V, Pro=Profibus dp, S=SSI Bus-type, E:Voltage, L: Line Driver 26LS31/TTL, F: Push-Pull, K: Line driver 7272, C: Open Collector NPN, CP: Open collector PNP
- **5** — Supply Voltage: 5: 5V DC, 5-24:5~24 VDC

◆ Note:

1.Please contact sales representative to confirm the correctness and availability of the part number

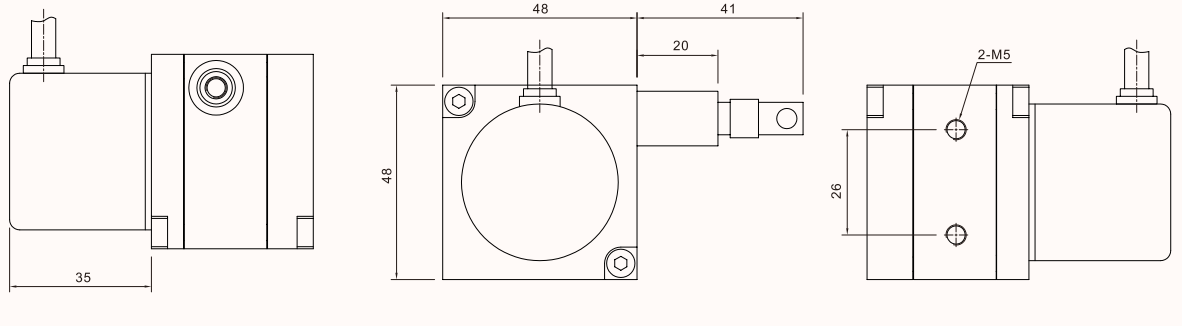
◆ Technical Specifications

Electrical Specification				
Output circuit	Open collector	Voltage output	Push pull output	Line driver output
Power Vcc	5-24	5-24	5±0.25 5-24	5±0.25 5-24
Current	≤80mA	≤80mA	≤80mA	≤150mA
Load current	40mA	40mA	40mA	60mA
High-level output	Min Vcc*70%	Min Vcc-2.5V	Min Vcc-1.5V	Min 3.4V
Low-level output	Max 0.4V	Max 0.4V	Max 0.8V	Max 0.4V
Rise Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Fall Time Tr	Max 1us	Max 1us	Max 1us	Max 200ns
Max Responding Frequency	300kHz	300kHz	300kHz	300kHz
Mechanical Specification				
Max speed(r/min)	Starting Torque	Max. Shaft Loading	Shocking	Vibration
6000	<0.05Nm	Radial:50N, Axial:10N	50G/11ms	10G 10-2000Hz
Rotor Inertia	Working Temperature	Storage Temperature	Protection Grade	Weight
$4*10^{-8}Kgm^2$	-30~85℃	-35~95℃	IP51	100g

◆ Connection Table(17pin plug)

Signal	A	B	Z	Ā	B̄	Z̄	Vcc	GND
Color	Green	White	Yellow	Brown	Grey	Orange	Red	Black

◆ Dimensions(mm)




LR2 Series


LR Series


LR-B Series


LT Series


LT-B Series


LD1 Series


LD2 Series


LD Series


LE2 Series


LDG Series


LP Series


LS Series


LS2 Series


LB Series


LB-B Series

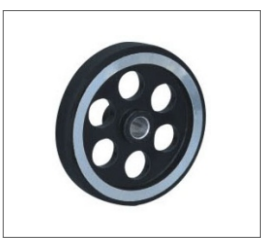

LF Series


LF-B Series


LZ Series


LL Series


LL2 Series


S type 200 encoder wheel series


BH961 Series


BH962 Series


WG01 Bending machine series


WG05 Bending machine series


S2 type 300 encoder wheel series


L type encoder wheel series


30 series L type bracket


38 series L type bracket


50 series L type bracket