



## US100 series Servo Catalog



**Shenzhen UniMAT Automation Technology Co.,Ltd**

Add:5/F,Building 15-16,Wisdomland Business Park,Road 2 Nantou port,Nanshan District,  
Shenzhen,China

TEL:0086-755-86582719 FAX:0086-755-26504049

E-mail:globalsales@unimat.com.cn globalsales2@unimat.com.cn globalsales1@unimat.com.cn

Web:www.unimat.com.cn

4000-300-890

UniMAT



## Corporate Profile

UniMAT Automation Technology Co., Ltd established in 2005. With the philosophy "based on quality, morality, and be surpassing by heart with concentrated attention", we are now in the leading fleet of China Industrial Automation. We focus on the field of core control, create UniMAT brand, self-research and self-production PLC, HMI, servo driver, converter, industry specialized controllers and other automation products. We also provide systematic comprehensive solutions for equipment production and system integration.

Our enterprise has good relationship with colleges and universities and has built research centers in Shenzhen and Wuhan. 35% of our employees are R&D engineers. All of these help our company win the title of "state-level high-tech enterprise" and "software enterprise". Over the past few years, our products are widely used in the field of metallurgy, chemical engineering, environmental protection, renewable energy, electric vehicles, logistics etc. We are dedicated ourselves to develop Chinese high-end equipment manufacturing.

We pay serious attention to the product quality, providing 3-year free quality warranty for PLC products and 18-month quality warranty for other products.

At present, we have set up over 20 branches in Beijing, Shanghai, Guangzhou and other cities to form service site nationwide. At the same time, our international business has expanded to more than 20 countries and districts, and won good reputation widely.

Our mission is using technology to enhance human productivity, and striving for being a global respected leading enterprise in industry automation field.

### Company Mission

To improve Human Productivity through Technology Development

### Company Vision

Become the Global Leading and Respected Provider of Automatic products and service

### Value

Integrity, Responsibility, Cooperation, Innovation

### Quality Warranty

ISO 9001:2008 Management system  
 TQC production and quality control system  
 All products CE Certificated

## Product short introduction

US100 Servo Drive use the most advanced control algorithm to realize the electric current loop, speed loop, position loop control, with good self-adapted ability, can be configured with multi motors. Widely application in the area of High actuation and high speed, such as NC machine, printing machine, packing machine, paper machine, textile machinery, industrial robot and automatic production line, etc.

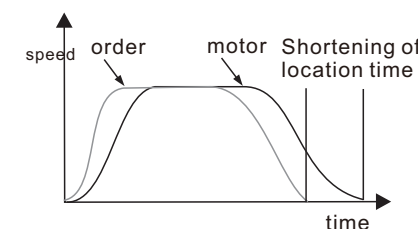
### Product features

- Wide speed adjustment range, the highest speed can be 6000r/min.
- Overload capacity: the servo drive has the characteristics of super overload ability and anti-load perturbation ability and high startup torque.
- Position control mode, pulse+direction; AB quadrature pulse; CW/CCW pulse control.
- Multi Zero return function, drive the device automatically to accomplish original point fix.
- Gain switch, satisfied with the different working requirement, more accurate and fast.
- Internal simple motion controller  
 Built-in 8 section position related control parameters, include each section position, speed, inner position instruction multi-section execute choice and coordinate digital input port signal to make the position change control
- Internal digital Input/Output  
 Easy adjustment, can check the DI/DO terminal status by function code, can set the DI/DO logic level.  
 Multi-function, can allocate the DI/DO terminal function by function code.

## Function

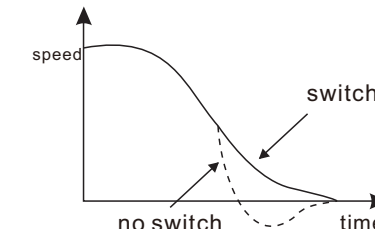
### Gain adjustment

Add Feed forward compensation, much shorten positioning time



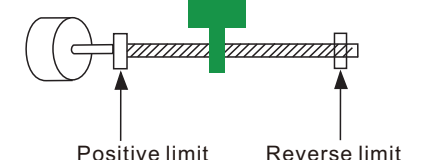
### Gain Switch

Improve the transition characteristic when the motor speed up to restrain the over adjustment and under adjustment



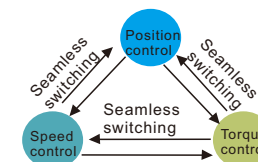
### Stroke position

When the machine movable part is out of the removable range, Servo let the motor to stop immediately.



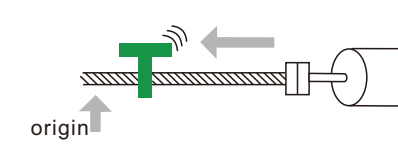
### High performance

Position control, speed control, torque control, Arbitrary control, origin regression, can be switched at random.



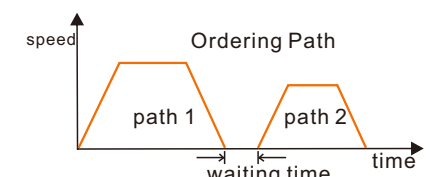
### Origin regression

Complete the Origin location automatically



### Inner multi-step position

Flexible inner position program function



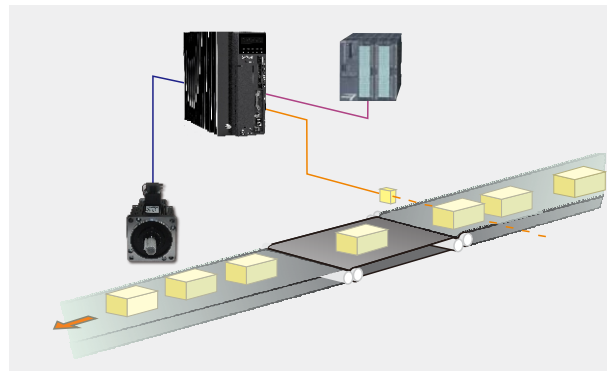
## Servo Drive software

### Function introduction

- Easy to upload and download the software,
- Debug on-line, status monitor, I/O control, pointing control
- Fault monitor find the fault easily
- Real monitor by the simulation digital OSC



## Application Cases

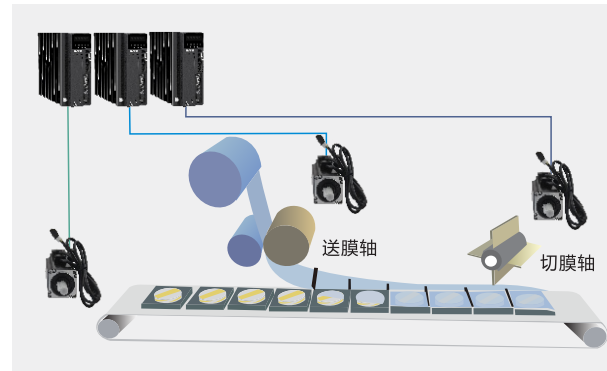


### Function Description

After conveyed belt transmit material pass the equipment, which put the material in the same distance, ensure the whole system satisfy the Processing requirements.

### Application area

Material preparing machine and laser printing product line



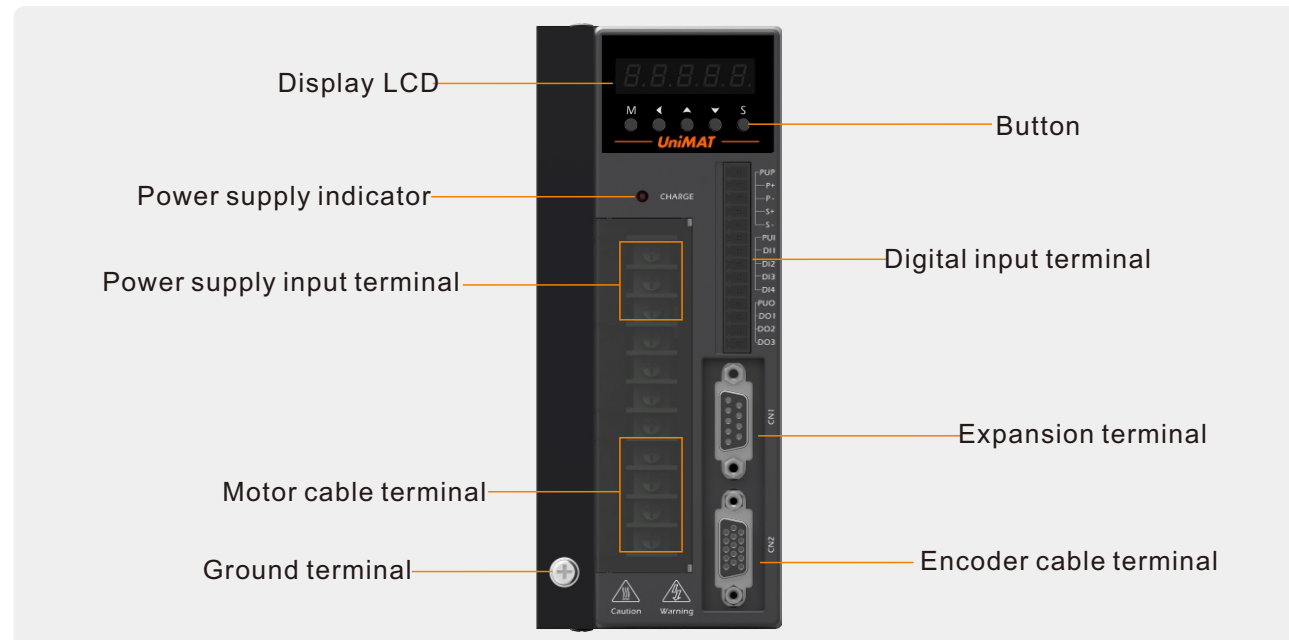
### Function Description

Send the pulse signal to sending slick axis and cutting slick axis by materiel sending axis servo motor's encode pulse feedback the signal, ensure the system accordance and stability, ensure the whole system satisfied processing requirement.

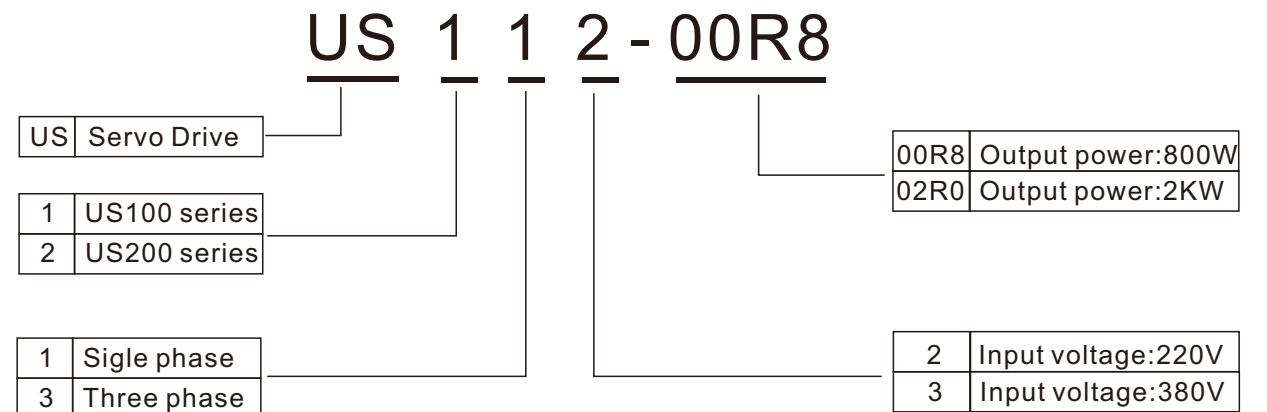
### Application area

Slick cutting machine, materiel sending machine, cutting machine and angle bending machine

## Ports Description

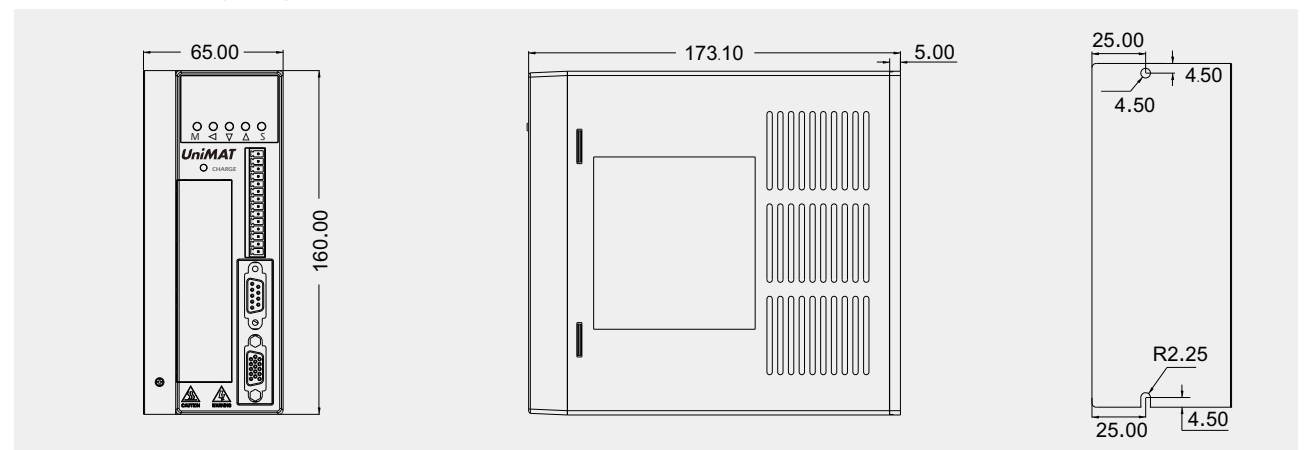


## Drive Name regulation

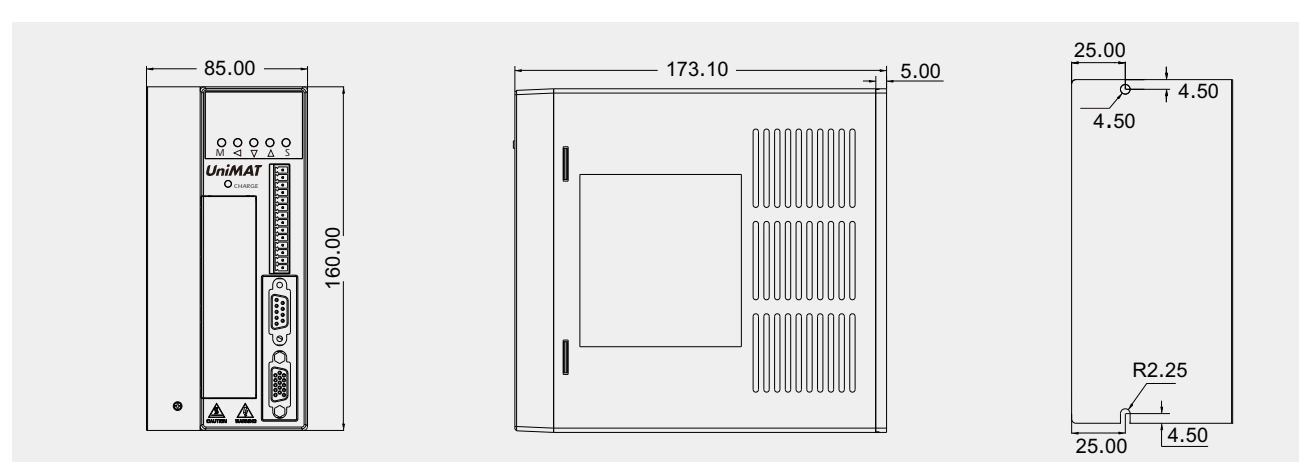


## Dimension

### US112 -00R8(mm)



### US132 -02R0(mm)

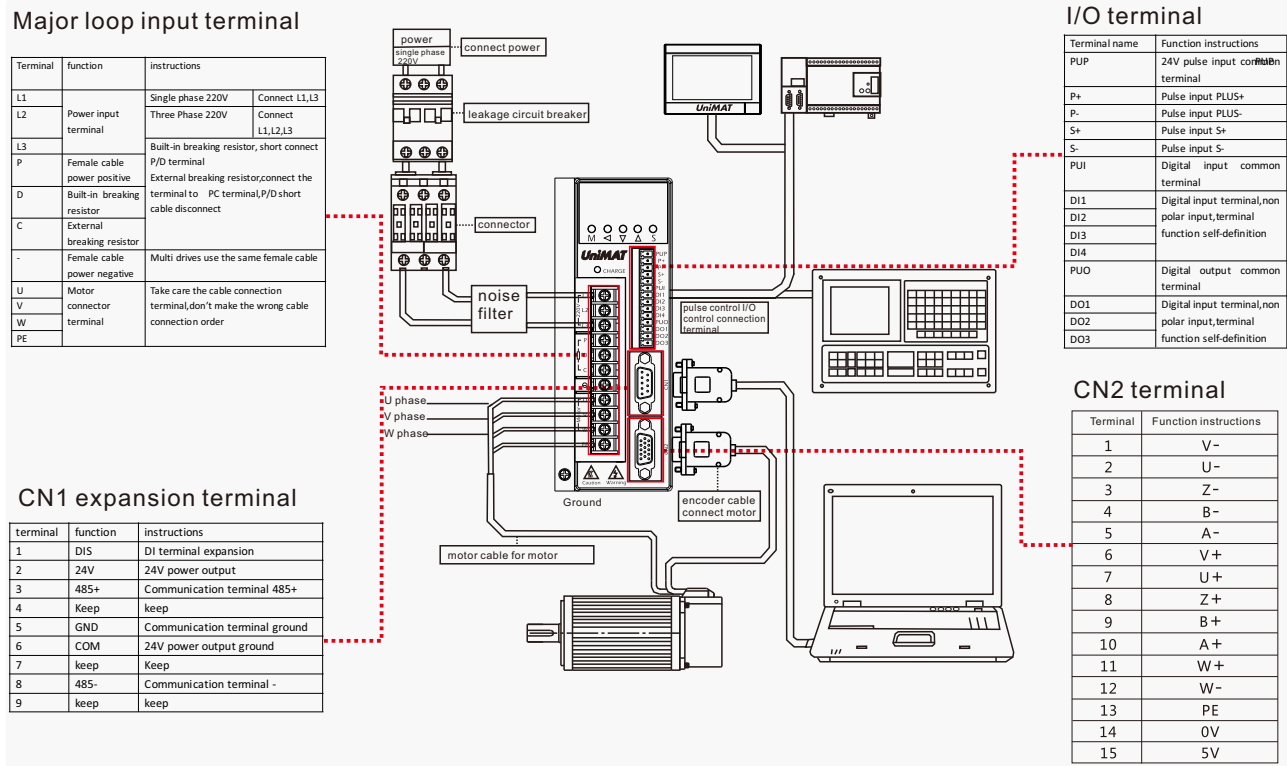




Specification

Part No.		US112-00R8	US132-02R0	US133-05R5
Power Supply	Rated voltage	Single phase AC220V	Single/ Tri-phase AC220V	Tri-phase AC380V
	Voltage range	AC170V~253V 50/60Hz		AC323V~437V 50/60Hz
Control		SVPWM control		
Internal function	Feedback	2500 optical-electricity encoder		
	Display,operation	5 bit 7-section LED, 5 function keys		
	Control mode	Position, speed, multi-section, point		
	Brake	Built-in brake resistance, external resistance is optional		
Digital input/output	Input	5channels non-polarity digital input port, function self-definition		
	output	3channels non-polarity open-collector output, self-definition		
Position mode	Frequency type	pulse+direction , CW/CCW , A+B phase		
	Max. frequency	500KHz ( difference pulse),200KHz ( open collector )		
	Gear ratio	1~32767/1~32767		
Speed mode	internal speed	Communication control , I/O terminal control		
	point control	I/O terminal control		
Speed frequency response		600Hz		
Speed ratio		1:5000		
Communication port		RS485		
Environment	Temperature	working : 0~45℃ Storage : -40~80℃		
	Humidity	Less 90% ( non condensing )		

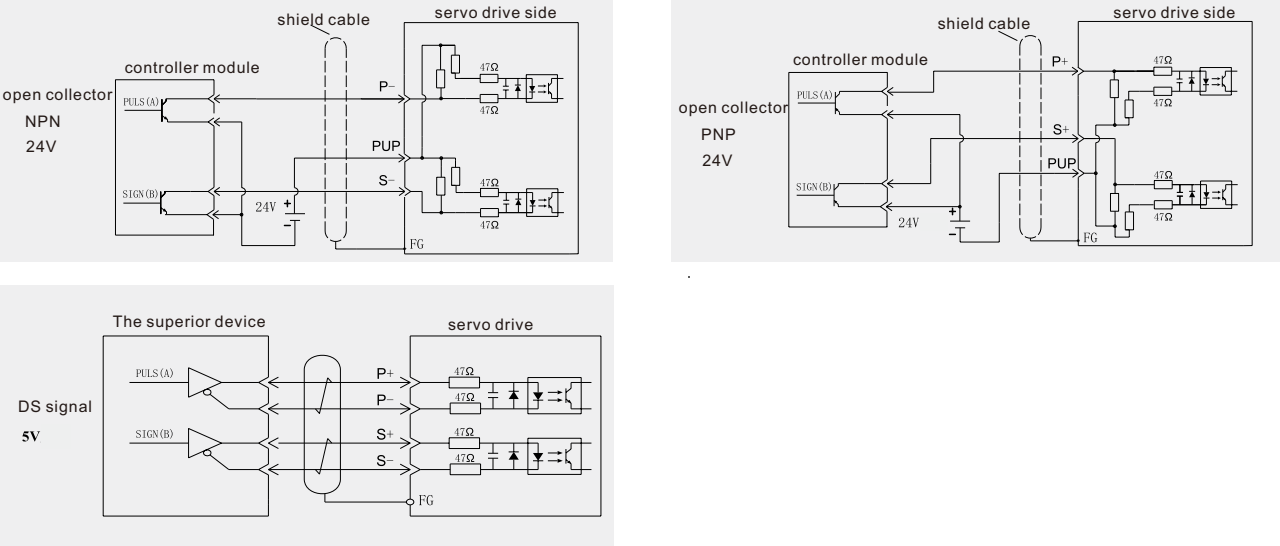
Typical Application Diagram



Pulse Input port Circuit

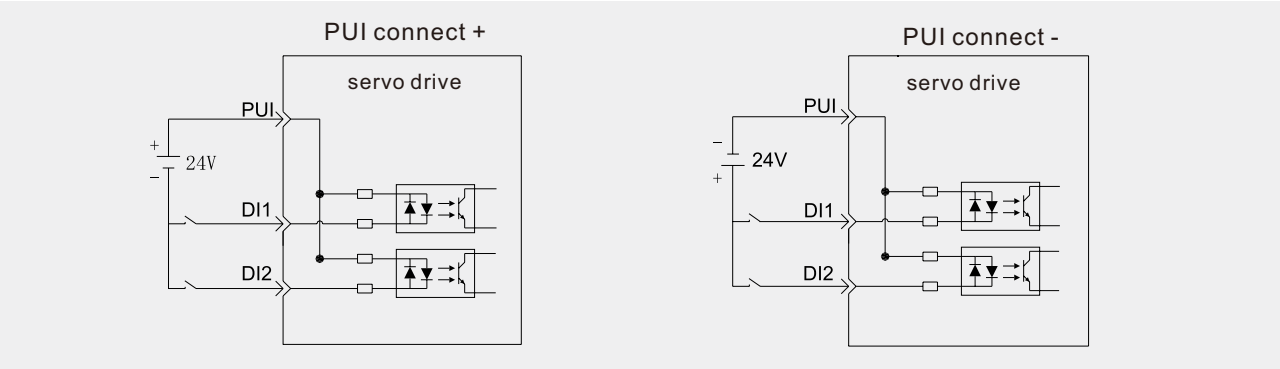
Two groups pulse input port circuit(PUP,P+,P-S+,S-),supports DS signal(500KHz) and open collector Signal(200KHz),use the 24V power supply(supply 100mA current only) or the power supply from user's end,connect the pulse common terminal PUP,no need the esoteric current-limiting resistance .Generally Speaking, PLC from European(Such as Siemens PLC) with PUP, PLC from Japanese system(such as Mitsubishi,Panasonic) with NPN.

Following three wiring for choice.



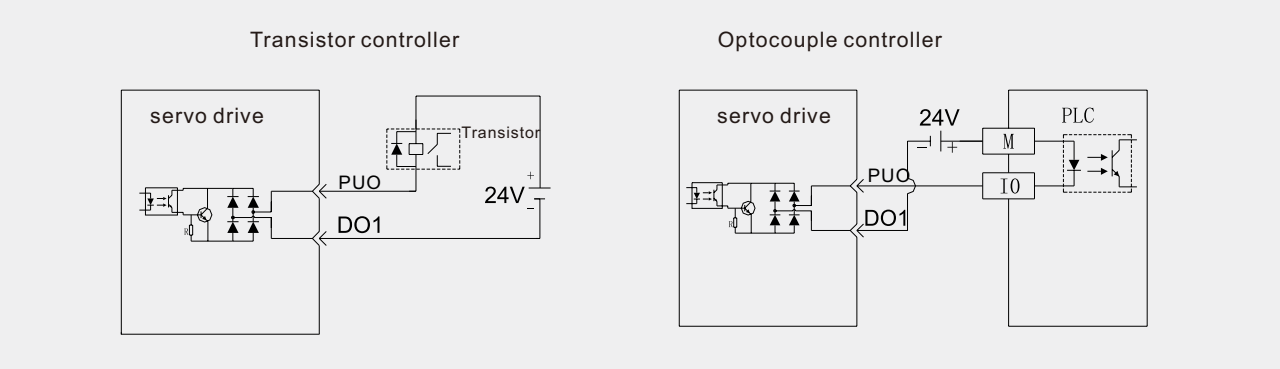
Digital Input port circuit

Following five loop digital inputs DI1-DI5 terminal circuit instruction,each DI port provided for clients planning use.working diagram is as follows:



Digital output port circuit

Following three loop digital outputs DO1-DO3 terminal circuit instruction,each DO port provided for clients planning use.working diagram is as follows:

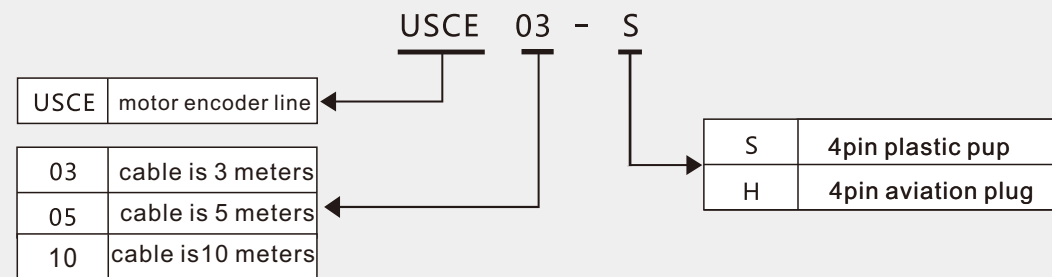




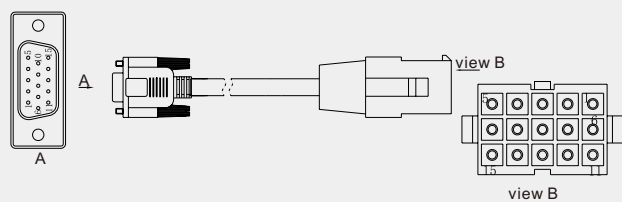
## Servo cable

For the convenience of users to use the servo drive, our company provided the corresponding cable for user selection. Please according to the servo motor and the servo driver model to select. The standard cable is 3 meters, and 5 meters, 10 meters, 15 meters, 20 meters of cable can be customized.

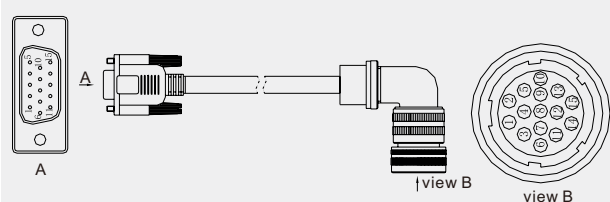
### Encoder line naming rules



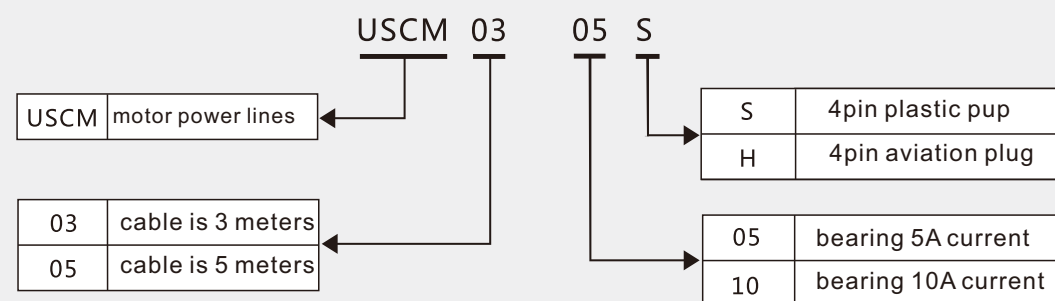
USCE\*\*S



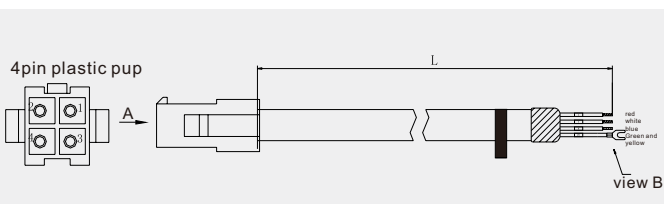
USCE\*\*H



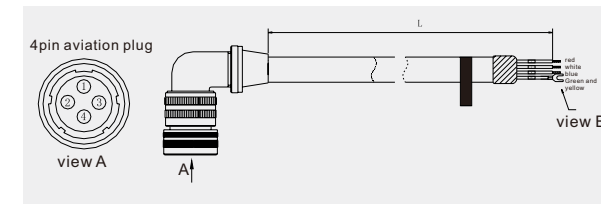
## Motor power lines naming rules



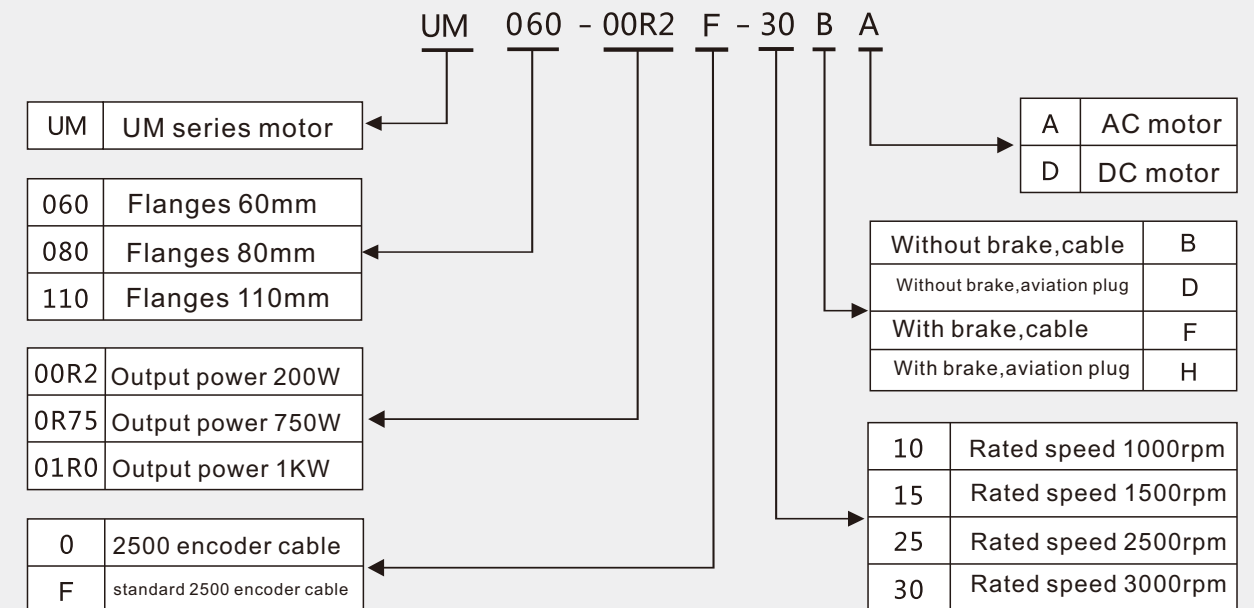
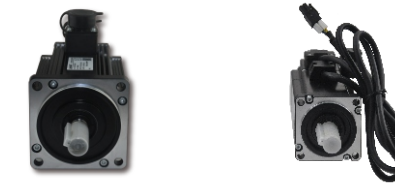
USCM\*\*-05S



USCM\*\*-10H



## Servo motor naming rules

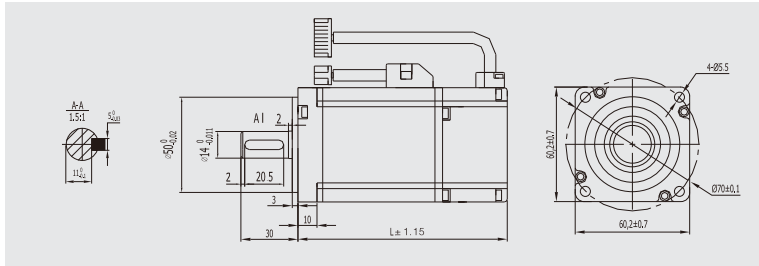


## Servo Motor parameters

Motor parameters Motor model	Rated power (KW)	Rated torque (N·M)	Max torque (N·M)	Rated current (A)	Max current (A)	Rated speed (rpm)	Electric potential (mv/rpm)	Winding resistance (Ω)	Winding inductance (mH)	Electrical time constant (ms)	Rotor inertia (kg·m <sup>2</sup> × 10 <sup>-4</sup> )	Weight (kg)
UM060-00R2F-30BA	0.2	0.637	1.91	1.2	3.6	3000	30.9	6.18	29.3	4.74	0.175	1.16
UM060-00R4F-30BA	0.4	1.27	3.9	2.8	8.4	3000	29.6	2.35	14.5	6.17	0.29	1.6
UM080-0R75F-30BA	0.75	2.39	7.1	3	9	3000	48	2.88	6.4	2.22	1.82	2.9
UM080-01R0F-25BA	1.0	4	12	4.4	12	2500	56	1.83	4.72	2.58	2.97	4.1
UM110-01R2F-30DA	1.2	4	12	5	15	3000	54	1.09	3.3	3	5.4	6
UM110-01R5F-30DA	1.5	5	15	6	18	3000	62	1.03	3.43	3.33	6.3	6.8
UM110-01R8F-30DA	1.8	6	18	6	18	3000	60	0.81	2.59	3.2	7.6	7.9
UM130-01R0F-25DA	1.0	4	12	4	12	2500	72	2.76	6.42	2.32	8.5	6.2
UM130-01R3F-25DA	1.3	5	15	5	15	2500	68	1.84	4.9	2.66	10.6	6.6
UM130-01R5F-25DA	1.5	6	18	6	18	2500	65	1.21	3.87	3.26	12.6	7.4
UM130-02R0F-25DA	2.0	7.7	22	7.5	21.5	2500	68	1.01	2.94	2.91	15.3	8.3
UM130-01R5F-15DA	1.5	10	25	6	15	1500	103	1.5	4.37	2.91	19.4	10.2
UM130-02R6F-25DA	2.6	10	25	10	25	2500	70	0.73	2.45	3.36	19.4	9.8
UM130-02R3F-15DA	2.3	15	30	9.5	19	1500	114	1.1	4.45	4.05	27.7	12.6
UM180-03R0F-15DA	3.0	19	47	7.5	19	1500	170	1.23	7.3	5.93	70	20.5
UM180-04R3F-15DA	4.3	27	67	10	25	1500	172	0.769	4.83	6	96.4	25.5
UM180-05R5F-15DA	5.5	35	70	12	24	1500	181	0.62	4	6.45	122.5	30.5
UM180-07R5F-15DA	7.5	48	96	20	40	1500	156	0.273	2.14	7.8	167.2	40
Number of encoder lines(PPR):2500												
Electrical insulation grade:ClassF												
Protection grade:IP65												

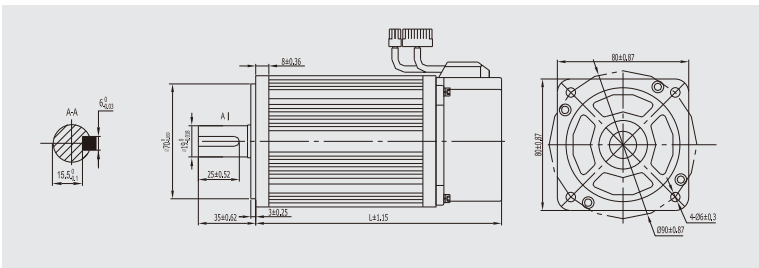
Motor Dimension

60mm Flanges(mm)



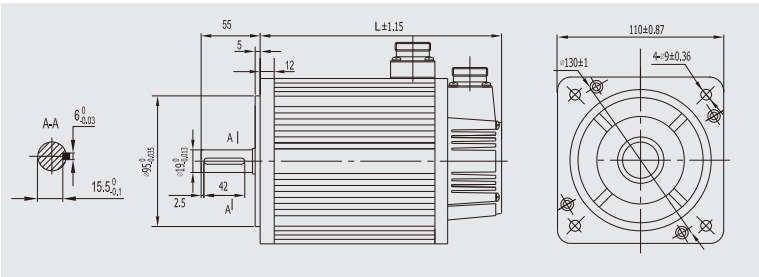
motor power	motor model	L(no brake)	L(with brake)
200W	UM060-00R2F-30BA	116	164
400W	UM060-00R4F-30BA	141	189

80mm Flanges(mm)



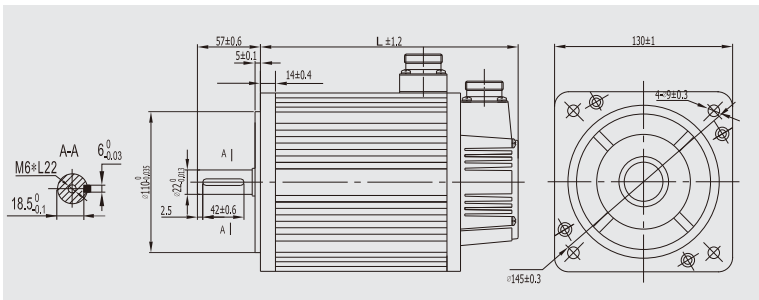
motor power	motor model	L(no brake)	L(with brake)
750W	UM080-0R75F-30BA	151	205
1000W	UM080-01R0F-25BA	191	245

110mm Flanges(mm)



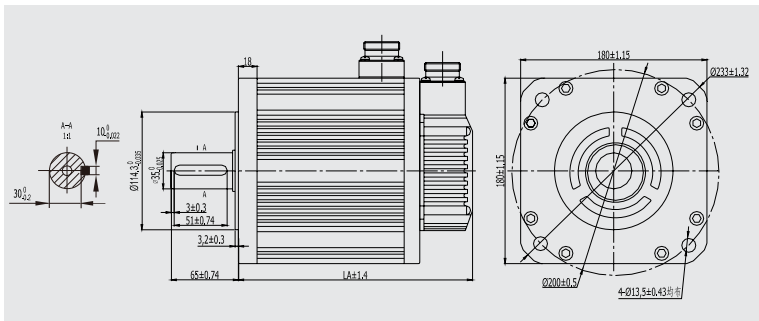
motor power	motor model	L(no brake)	L(with brake)
1200W	UM110-01R2F-30DA	189	263
1500W	UM110-01R5F-30DA	204	278
1800W	UM110-01R8F-30DA	219	293

130mm Flanges(mm)



motor power	motor model	L(no brake)	L(with brake)
1000W	UM130-01R0F-25DA	166	223
1300W	UM130-01R3F-25DA	171	228
1500W	UM130-01R5F-25DA	179	236
2000W	UM130-02R0F-25DA	192	262
1500W	UM130-01R5F-15DA	213	294
2600W	UM130-02R6F-25DA	209	290
2300W	UM130-02R3F-25DA	241	322

180mm Flanges(mm)



电机功率	电机型号	L (无制动器)	L (有制动器)
3000W	UM180-03R0F-15DA	232	304
4300W	UM180-04R3F-15DA	262	334
5500W	UM180-05R5F-15DA	292	364
7500W	UM180-07R5F-15DA	346	418

Servo standard configuration table

Motor						Drive	Cable	
Flanges	Rated torque	Rated speed	Rated power	Brake type	Motor item	Drive item	Encoder cable	Drive cable
60	0.64	3000	200W	No	UM060-00R2F-30BA	US112-00R8	USCE03S	USCM03-05S
				With	UM060-00R2F-30FA			
	1.27	3000	400W	No	UM060-00R4F-30BA			
				With	UM060-00R4F-30FA			
80	2.4	3000	750W	No	UM080-0R75F-30BA			
				With	UM080-0R75F-30FA			
	4.4	2500	1.0KW	No	UM080-01R0F-25BA			
				With	UM080-01R0F-25FA			
110	4	3000	1.2KW	No	UM110-01R2F-30DA	US132-02R0	USCE03H	USCM03-10H
				With	UM110-01R2F-30HA			
	5	3000	1.5KW	No	UM110-01R5F-30DA			
				With	UM110-01R5F-30HA			
	6	3000	1.8KW	No	UM110-01R8F-30DA			
				With	UM110-01R8F-30HA			
	4	2500	1.0KW	No	UM130-01R0F-25DA			
				With	UM130-01R0F-25HA			
	5	2500	1.3KW	No	UM130-01R3F-25DA			
				With	UM130-01R3F-25HA			
	6	2500	1.5KW	No	UM130-01R5F-25DA			
				With	UM130-01R5F-25HA			
130	7.7	2500	2.0KW	No	UM130-02R0F-25DA			
				With	UM130-02R0F-25HA			
	10	1500	1.5KW	No	UM130-01R5F-15DA			
				With	UM130-01R5F-15HA			
	10	2500	2.6KW	No	UM130-02R6F-25DA			
				With	UM130-02R6F-25HA			
	15	1500	2.3KW	No	UM130-02R3F-15DA			
				With	UM130-02R3F-15HA			
180	19	1500	3.0KW	No	UM180-03R0F-15DA	US133-05R5	USCE03H	USCM03-15H
				With	UM180-03R0F-15HA			
	27	1500	4.3KW	No	UM180-04R3F-15DA			
				With	UM180-04R3F-15HA			
	35	1500	5.5KW	No	UM180-05R5F-15DA	US133-07R5		
				With	UM180-05R5F-15HA			
	48	1500	7.5KW	No	UM180-07R5F-15DA			
				With	UM180-07R5F-15HA			

Instructions

- 1.The standard encoder cable is 3 meters, the other length 5 meters, 10 meters, 15 meters,20 meters cable can be customized.
- 2.When internal brake resistance power is low, please connect external brake resistance.