Leading the Way with Intelligent Motion Control

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RTELLIGENT

MOTION CONTROL PRODUCTS CATALOGUE

RTELLIGENT

Leading the Way with Intelligent Motion Control

MOTION CONTROL PRODUCTS CATALOGUE

Servo system | PLC | IO

MOTION CONTROL PRODUCTS CATALOGUE

Shenzhen Rtelligent Technology Co.,Ltd

About Us

Shenzhen Rtelligent Technology Co., Ltd., located in Shenzhen, China, is a national high-tech enterprise dedicated in R & D, marketing and sales of high performance motion control products based on latest control technologies.

Since its establishment in 2015, the management has been focusing on the field of industrial automation. Our main products include servo system, stepper system, motion control card, etc., which are widely used in high-end intelligent manufacturing indutries such as 3C electronics, new energy, logistics, semiconductor, medical , CNC laser processing , etc.

Rtelligent adheres to deeply understand and meet customer demand, always takes reliable quality and leading technology as its core competitiveness, attaches great importance to and continuously increases R&D investment. At present, it has more than 60 patents for invention, utility model, copyright, trademark information, etc; The products have passed CE and other product quality & safety certification.

Founded in **2015**

2 Major production bases

30+ Offices in China

60+
Core Technology Patents

70+
Sales Countries And Regions

100+
Distributors

10000+
Sales Customers

5million+
Stepper Servo Sales Volume

Management Idea

Strive for innovation and excellence

Talent Concept

Great virtue promotes growth, put people first

Quality Policy

Customer first, quality first, full participation, the pursuit of excellence

CONTENTS

| Motion Control System Solutions Map

Information

ROS · R-AI · SCADA · MES · ERP

Display

IPC · PC · HMI · TP · VTC

Motion Control


Medium and large bus PLC


Mini pulse type PLC


Motion controller

Coupler


IO module


Integrated I/O module

SIEMENS · KEYENCE · Rockwell Automation · BECKHOFF · OMRON · MITSUBISHI ELECTRIC

Compatible with most of control master stations from manufacturers around the world (PLC/PAC/Motion Controller)

Bus Communication

EtherCAT · EtherNet/IP · Modbus RTU · Modbus TCP · CANopen · PROFINET · IO

Stepper & Servo Drive



Stepper drive


AC servo drive


Low voltage servo drive

Stepper & Servo Motor


Stepper motor


AC servo motor


Low voltage servo motor

Transmission Products


Linear module


Hollow rotary actuator


Linear stage


Gear box


Electric screwdriver

Sensing


Encoder

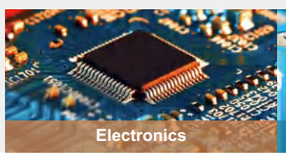

Industrial Camera


Temperature Sensor

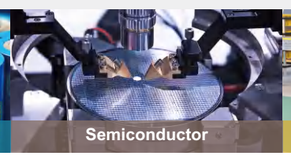

Limit Sensor

.....

Application


Electronics


Lithium battery industry

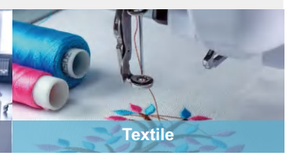

Semiconductor


Logistics & Warehousing


Photovoltaic industry


CNC laser processing


Biomedical


Textile

AC SERVO SYSTEM

EtherCAT®

CANopen®

Modbus

RTELLIGENT

AC Servo Drive

R5 Series Servo Drive Naming Rule

R 6 L 028 M – Z
① ② ③ ④ ⑤ ⑥

① Product series R: R series servo S: S series servo (economic version) D: D series low voltage DC servo	② Product version 5: 5th generation servo 6: 6th generation servo	③ Voltage level D: 110VAC L: 220VAC H: 380VAC
④ Rated current 028: 2.8A 042: 4.2A 076: 7.6A 120: 12.0A	⑤ Function code Default: Pulse type E: EtherCAT bus type P: Profinet bus type C: CANopen bus type M: RS485 Modbus bus type	⑥ Relay type Omitted: No brake relay Z: Wth brake relay

*Model naming rules are only used for model meaning analysis. For specific optional models, please refer to the details page.

More Flexible & Convenient Supporting Solutions

- **R5 series**
  •Supports EtherCAT communication •Supports STO •CSP mode with a minimum synchronization period of 500μs
  50W — 2300W

- **R6 series**
  •Supports various bus protocols. • High response frequency. • Short positioning time. • Supports frequency division output. • Supports analog control
  50W — 3000W — 7500W
  R6D(110V) R6L(220V) R6H(380V)

The perfect combination of
economy *and*
performance
meets the requirements of diverse occasions

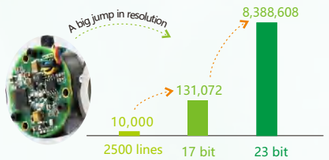
Highlights of the New generation of R6 AC Servo System

High Performance

The new generation of servos incorporates a powerful **R-AI** algorithm, with performance **1.5** times higher than the previous generation;
Adopting a new high-performance main control chip to improve communication interaction capabilities, the EtherCAT high-speed communication cycle can reach **125us**;
The RS series has more advanced high and low frequency vibration suppression capabilities, supports two-way probe auxiliary functions, latch position function, and has better performance in trajectory control such as interpolation and cam.

High Precision

The new generation of servo motor encoders adopt high-speed communication protocols, with optional 17-bit and 23-bit absolute encoders and higher resolution; **high-resolution** encoders bring higher position feedback accuracy.



Multi-turn absolute encoder with external battery power supply can still remember the position when the drive is powered off

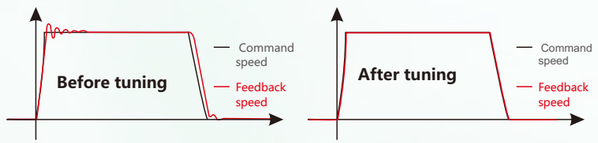
STO

With safe torque off function: no output contactor is required to prevent electric shock or mechanical damage in the event of a fault, **thereby protecting personal and equipment safety**.

Easy Configure

Auto-tuning

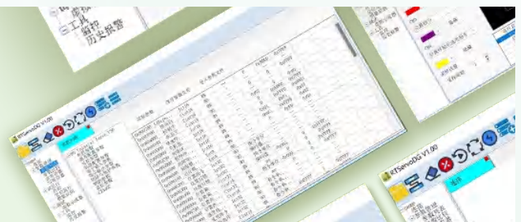
Based on the powerful **R-AI** algorithm, inertia self-identification can be realized which greatly shortens the system positioning time and supports the selection of rigidity levels.



New debugging software interface and function design, easy to use and debug;

The drive is connected to the PC via the Type-C interface for debugging and monitoring parameters;

The operation panel can also directly debug and modify the drive parameters.



High Rigidity

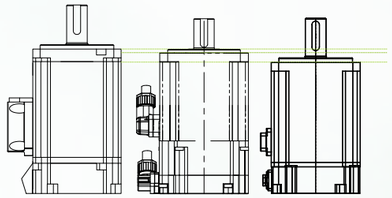
The **integrated structure design of front flange** effectively avoids resonance, improves structural strength, rigidity and energy efficiency, and ensures motor consistency by optimizing the internal structure.

Highly Reliable

Lock type connector, greatly improves reliability against water vapor, oil pollution, vibration, etc., protection level up to **IP67**

Compact Size

With a shorter body design and smaller installation size, the body length is shortened by about **10%** compared to the previous generation of products.



Take 400w as an example

Specifications	RSNA	RSHA	RSDA
Flange	60	60	60
Shaft diameter	14	14	14
Length	98 Brake127	96 Brake123	89 Brake119

Unit(mm)

Customizable

With independent development, design, and manufacturing capabilities, we can **customize** different drive functions and motor requirements according to customer needs.

R6 Series

Rtelligent sixth generation general purpose high-performance AC servo R6 series, based on ARM+FPGA architecture, using powerful R-AI 2.0 algorithm, in a variety of high-end applicationsCombined with better performance. Product standard analog control, frequency division output and other functions, support all kinds of bus protocols, is the best choice for a variety of high-end automation equipment industry.

EtherCAT

Pulse command

RS485

PROFINET
Stay tuned

01 **High performance**

02 **High precision**

03 **STO**

04 **Easy to debug**

05 **Frequency dividing output**

06 **Analogue control**

R6 Servo Drive Specifications

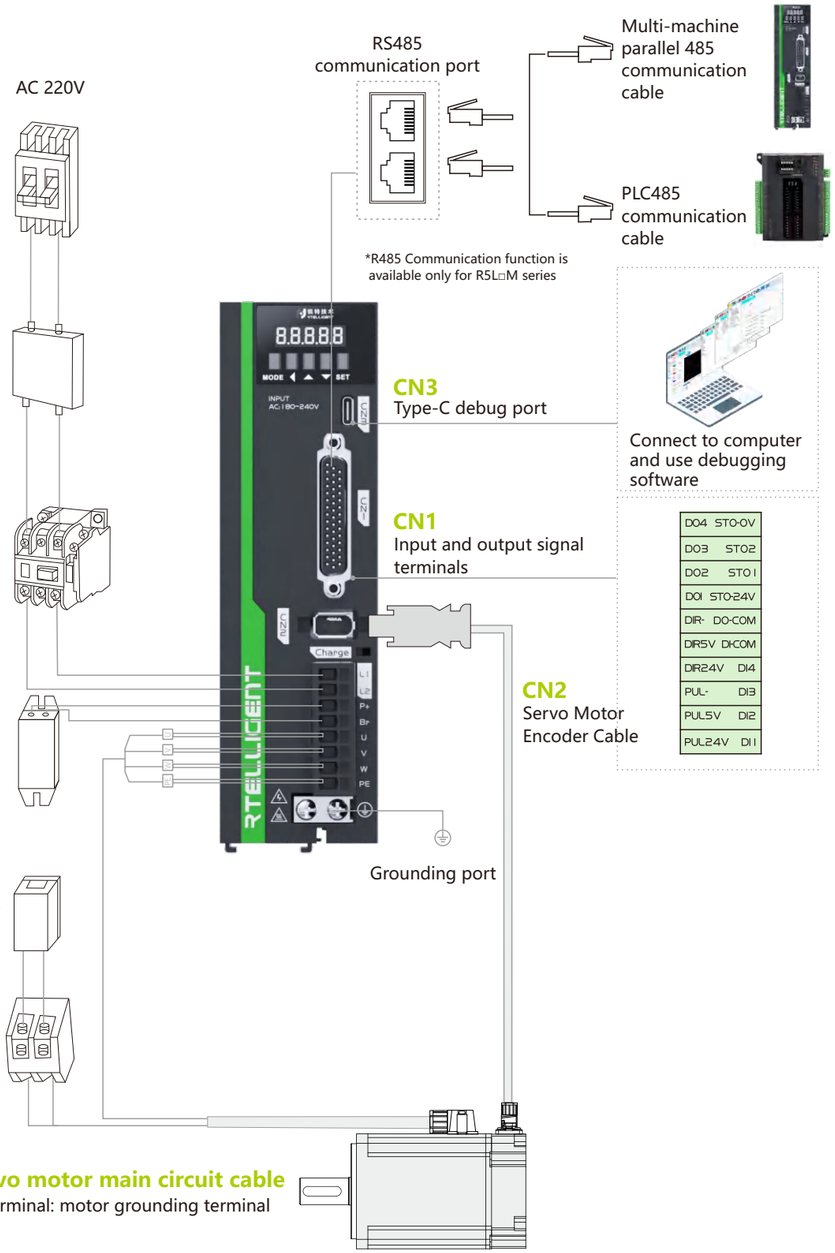
Basic Specifications

Item	R6L028M	R6L028E	R6L042M	R6L042E	R6L076M	R6L076E	R6L120M	R6L120E
Communication function	RS485	EtherCAT	RS485	EtherCAT	RS485	EtherCAT	RS485	EtherCAT
Overload capacity	Support 3 times overload							
Applicable power (W)	100~400		750		1000~2000		2000~3000	
Rated current (A)	2.8		4.2		7.6		12.0	
Maximum current (A)	8.4		12.6		22.8		36.0	
Input power	Single phase 220VAC ± 10%, 50/60Hz						Single phase/3 phase 220VAC±10%, 50/60Hz	
Size code	Type A		Type B		Type B		Type C	
Dimensions (mm)	175*156*40		175*156*51		175*156*51		196*176*72	
Brake resistor function	No brake resistor		With brake resistor（75W，50Ω）				With brake resistor (100W，50Ω)	

Technical Specifications

Item	Description
Control mode	IPM PWM control, SVPWM drive mode
Encoder type	Match 17-bit magnetic encoders and 23-bit optical absolute encoders
Pulse input spec.	5V differential pulse /2000KHz 24V single-ended pulse /200KHz
Analog input spec.	2 channels, -10 to +10V analog input channels Note: Only the R6 general servo version has an analog interface
General input	9 channels, supporting 24V common positive or common negative
General output	4 channels of single-ended +2 channels of differential output, single-ended (200mA) supported/differential (200mA) supported
Encoder output	ABZ 3-channel differential output (5V)+ABZ 3-channel single-ended output (5-24V) Note: Only the R6 general servo version has an encoder frequency division output interface

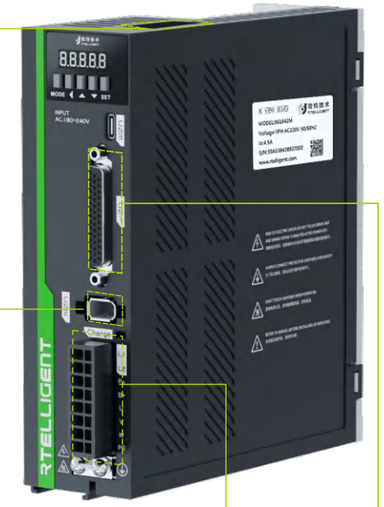
R6 Series Pulse Type (Including RS485) Drive Wiring Diagram



R6 Series Pulse Type (Including RS485) Drive Port Definition

RS485 modbus communication interface definition

Signal name		Pin number	Function
Communication signal	RS485+	1	RS485 communication port
	RS485-	2	
	-	3	-
	-	4	-
	-	5	
	-	6	-
	DGND	7	GND signal
	-	8	-



Encoder terminal definition

Signal name	Pin number	Function
+5V	1	Power output positive pole: +5V
GND	2	Power output negative pole: 0V
-	3	-
-	4	
SD+	5	Encoder bus signal
SD-	6	
FG	-	Terminal metal housing

Main circuit interface definition

Terminal marking	Terminal name	Function
L1、L2、L3	Power supply input terminal	Servo drive power supply input terminal, single-phase 220VAC
P+、Br	Brake resistor terminal	External brake resistor connection terminal
U、V、W、PE	Servo motor connection terminal	The servo motor connection terminals must be connected to the motor U, V, W, and PE terminals accordingly.

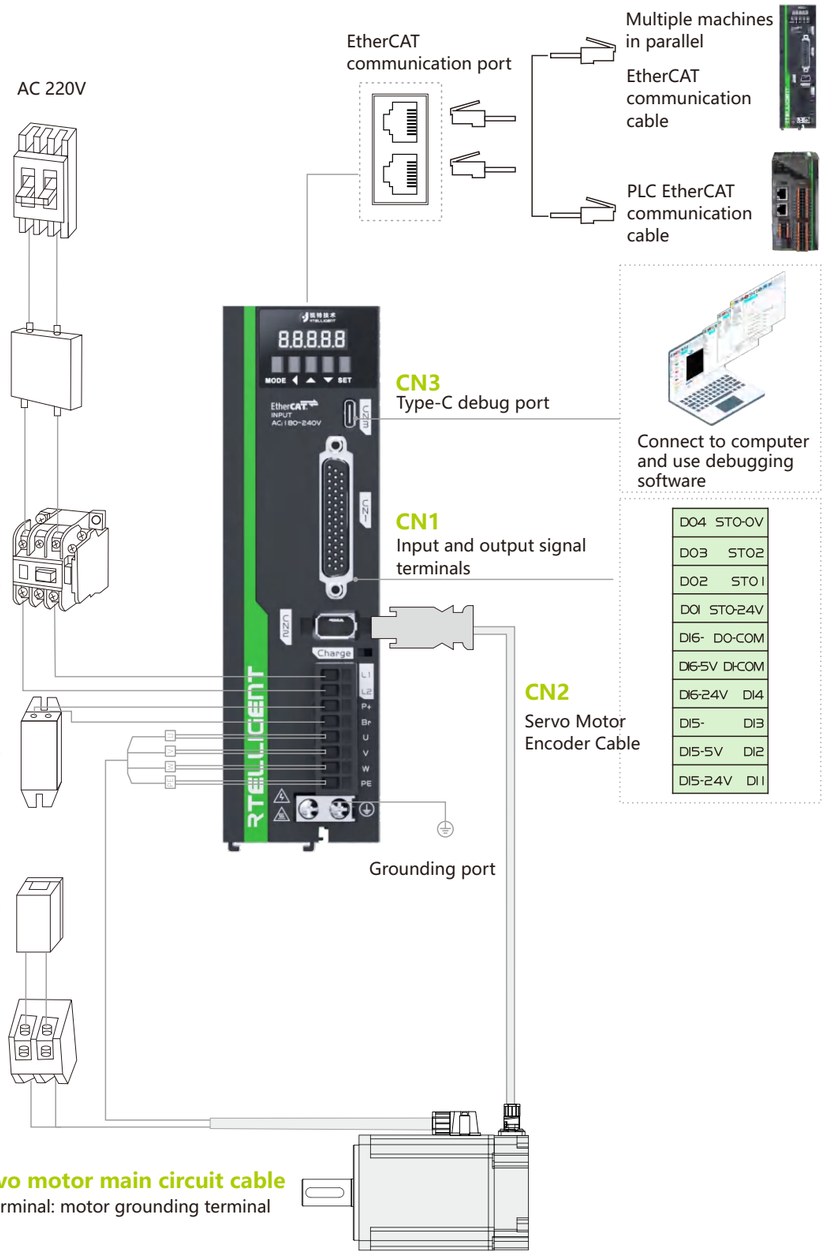
*Note: Only R6L120 has L3 functionality.

Control signal terminal definition (CN1)

Function	Signal	Pin number	Signal definition	Default Function	Illustration
External pulse interface	PUL+	3	5V pulse +	-	Independent 5V 24V pulse Direction control Signal interface
	PUL-	4	pulse -		
	DIR+	5	5V direction +		
	DIR-	6	direction -		
	24VPUL+	16	24V pulse +		
	24VDIR+	17	24V direction +		
Universal input interface	IN1	2	Input 1	Servo enable	Below 24V Support common anode or Common cathode Mixed use of NPN and PNP is not supported
	IN2	7	Input 2	Positive limit	
	IN3	8	Input 3	Negative limit	
	IN4	9	Input 4	Alarm clear	
	IN5	10	Input 5	Pulse inhibit	
	IN6	11	Input 6	Origin input	
	IN7	12	Input 7	Start back to zero	
	IN8	13	Input 8	Emergency stop	
	IN9	14	Input 9	Gain switching	
	INCOM	1	Input common port		
Common cathode universal output interface	OUT1	32	Output 1	Servo ready	Below 24V Common cathode output Current not exceeding 200
	OUT2	33	Output 2	Positioning completed	
	OUT3	34	Output 3	Alarm output	
	OUT4	35	Output 4	Return to zero complete	
	OUTCOM-	31	Output common port		

Function	Signal	Pin number	Signal definition	Default Function	Illustration
general differential output interface	DFOUT5+	18	Output 5 +	brake	Below 24V Differential output The current does not exceed 200mA
	DFOUT5-	19	Output 5 -		
	DFOUT6+	20	Output 6 +	Internal command stop	
	DFOUT6-	21	Output 6 -		
encoder output interface	DFEA+	23	Encoder A+	-	5V differential output
	DFEA-	24	Encoder A-		
	DFEB+	25	Encoder B+		
	DFEB-	26	Encoder B-		
	DFEZ+	27	Encoder Z+		
	DFEZ-	28	Encoder Z-		
	EA	36	Single-ended EA	-	Collector output
	EB	37	Single-ended EB		
	EZ	29	Single-ended EZ		
	GND	30	Single-ended GND		
analog input interface	AN1+	39	Analog channel 1+	-	-10V~+10V Analog input
	AN1-	40	Analog channel 1-		
	AN2+	44	Analog channel 2+		
	AN2-	43	Analog channel 2-		
	ANGND	41	Analog quantity GND		

R6 Series EtherCAT Communication Drive Wiring Diagram



R6 Series EtherCAT Communication Drive Port Definition

Communication interface definition

Pin number	Signal name	Function
1	TX+	Data send +
2	TX-	Data send-
3	RX+	Data receive+
4	NULL	-
5	NULL	-
6	RX-	Data receive-
7	NULL	-
8	NULL	-

Encoder terminal definition

Signal name	Pin number	Function
+5V	1	Power output positive pole：+5V
GND	2	Power output negative pole：0V
BAT+	3	Encoder cell
BAT-	4	
SD+	5	Encoder bus signal
SD-	6	
FG	-	Terminal metal housing

Main circuit interface definition

Terminal marking	Terminal name	Function
L1、L2、L3	Power supply input terminal	Servo drive power supply input terminal, single-phase 220VAC
P+、Br	Brake resistor terminal	External brake resistor connection terminal
U、V、W、PE	Servo motor connection terminal	The servo motor connection terminals must be connected to the motor U, V, W, and PE terminals accordingly.

*Note: Only R6L120E has L3 functionality.

Control signal terminal definition (CN1)

Function	Signal	Pin number	Signal definition	Default Function	Illustration
Universal input interface	DI1	2	Input 1	-	Below 24V Support common anode or Common cathode Mixed use of NPN and PNP is not supported
	DI2	7	Input 2	-	
	DI3	8	Input 3	Emergency stop	
	DI4	9	Input 4	Positive	
	DI5	10	Input 5	Negative	
	DI6	11	Input 6	Origin switch	
	DI7	12	Input 7	Probe 1	Below 24V Common cathode output Current not exceeding 50mA
	DI8	13	Input 8	Probe 2	
	DI9	14	Input 9	No function	
	DI-COM	1	Input common port	---	
Common cathode universal output interface	DO1	32	Output 1	Servo is ready	
	DO2	33	Output 2	Positioning completed	
	DO3	34	Output 3	Malfunction	
	DO4	35	Output 4	Homing is completed	
	DO-COM-	31	Output common port	---	
Universal differential output interface	DO5+	18	Output 5 +	brake	Below 24V Differential output Current not exceeding 200mA
	DO5-	19	Output 5 -		
	DO6+	20	Output 6 +	Internal command stop	
	DO6-	21	Output 6-		

Function	Signal	Pin number	Signal definition	Default Function	Illustration
Encoder output interface	DFEA+	23	Encoder A+	-	5V differential output
	DFEA-	24	Encoder A-		
	DFEB+	25	Encoder B+		
	DFEB-	26	Encoder B-		
	DFEZ+	27	Encoder Z+		
	DFEZ-	28	Encoder Z-		
	EA	36	Single-ended EA	-	Collector output
	EB	37	Single-ended EB		
	EZ	29	Single-ended EZ		
	GND	30	Single-ended GND		
STO Security Interface	STO1	15	Control input of STO1	-	Disable STO function: STO is connected to STO-24V Enable the STO function: STO connects to STO-0V
	STO2	22	Control input of STO2		
	STO-24V	38	STO-0V		
	STO-0V	42	Internal 24V power supply		

R5 Series

Rtelligent's 5th-generation high-performance servo R5 series is based on a powerful R-AI algorithm and a new hardware solution. With the rich experience Rtelligent has accumulated in servo development and application over the years, it has created a servo system with the characteristics of high performance, easy application, and low cost. The product has a wide range of applications in various high-end automation equipment industries such as 3C, lithium batteries, photovoltaics, logistics, semiconductors, medical, and lasers.

EtherCAT

Pulse command

RS485

PROFINET
Stay tuned

01
Power range 0.05kw-2.3kw

02
High dynamic response

03
Auto tunning

04
Rich IO interfaces

05
STO safety function

06
Convenient panel operation

R5 Servo Drive Specifications

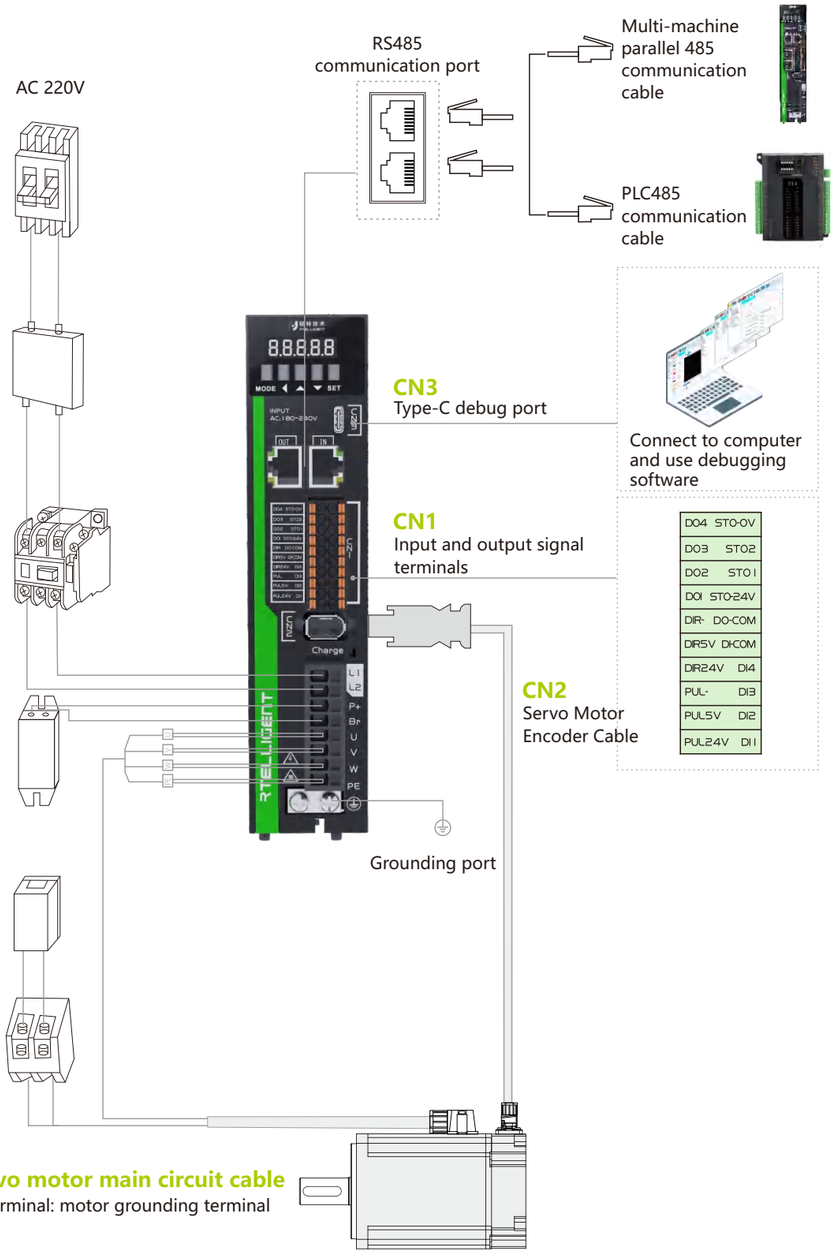
Basic Specifications

Item	R5L028M	R5L028E	R5L042M	R5L042E	R5L076M	R5L076E
Communication function	RS485	EtherCAT	RS485	EtherCAT	RS485	EtherCAT
Overload capacity	Support 3 times overload		Support 3 times overload		Support 3 times overload	
Applicable power (W)	50~400		750		1000~2000	
Rated current (A)	2.8		4.2		7.6	
Maximum current (A)	8.4		12.6		22.8	
Input power	Single phase 220VAC ± 10%, 50/60Hz					
Size code	Type A		Type B		Type B	
Dimensions (mm)	175*156*40		175*156*51		175*156*51	
Brake resistor function	No brake resistor		With brake resistor（75W，50Ω）		With brake resistor（75W，50Ω）	

Technical Specifications

Item	Description
Control mode	IPM PWM control, SVPWM drive mode
Encoder feedback	Absolute encoder
Isolation function	Power supply/communication isolation; encoder input isolation; digital input/output isolation
Protection function	Overvoltage, undervoltage, overcurrent, overload, overheating, overspeed, communication abnormality, register abnormality, encoder error, etc.
Display and operation	5-digit LED display, 5-digit key operation DC bus indicator
Parameter setting	Button or RTServoStudioV5
Power-off retention	Keep all optional parameters
Digital input (4 channels DI)	Positive direction travel limit, reverse direction travel limit, latch signal, origin signal, etc. Note: Pin functions can be assigned through software configuration parameters to input valid logic levels
Digital output (4 channels DO)	Servo ready, alarm output, brake release, command completion output, positioning completion output, speed reached, torque limit reached, etc. Note: Pin functions can be assigned through software configuration parameters to output valid logic levels

R5 Series Pulse Type (Including RS485) Drive Wiring Diagram



R5 Series Pulse Type (Including RS485) Drive Port Definition

RS485 modbus communication interface definition

Signal name		Pin number	Function
Communication signal	RS485+	1	RS485 communication port
	RS485-	2	
	-	3	-
	-	4	-
	-	5	
	-	6	-
	DGND	7	GND signal
	-	8	-

Encoder terminal definition

Signal name	Pin number	Function
+5V	1	Power output positive pole：+5V
GND	2	Power output negative pole：0V
-	3	-
-	4	
SD+	5	Encoder bus signal
SD-	6	
FG	-	Terminal metal housing

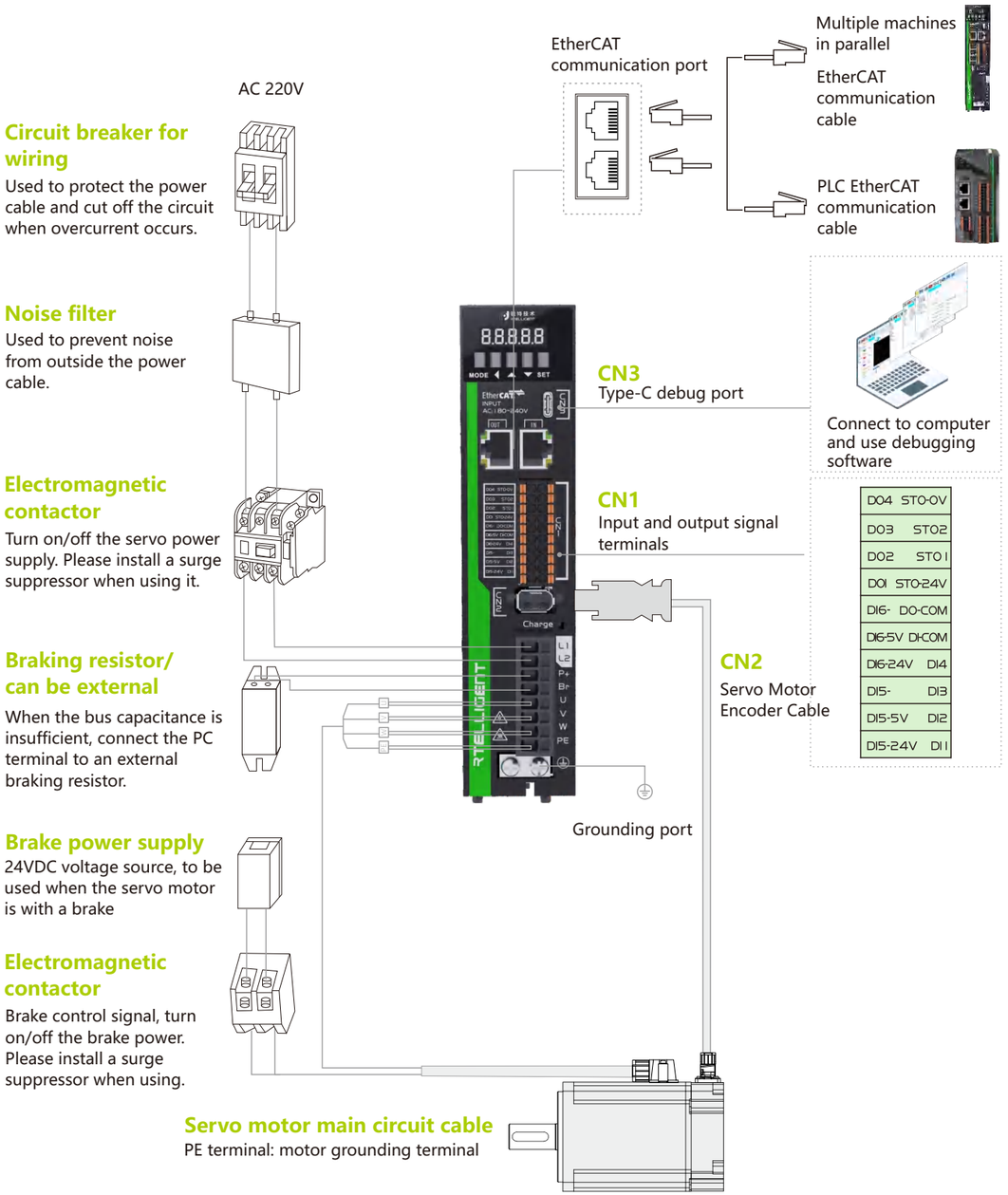
Main circuit interface definition

Terminal marking	Terminal name	Function
L1、L2、	Power supply input terminal	Servo drive power supply input terminal, single-phase 220VAC
P+、Br	Brake resistor terminal	External brake resistor connection terminal
U、V、W、PE	Servo motor connection terminal	The servo motor connection terminals must be connected to the motor U, V, W, and PE terminals accordingly.

Control signal terminal definition (CN1)

Functional classification	Signal name	Signal Definition	Default function	Description
External pulse interface	PUL5V	5V pulse +	-	Independent 5V 24V pulse Direction control Signal interface
	PUL-	pulse -		
	DIR5V	5V direction +		
	DIR-	direction -		
	PUL24V	24V pulse positive		
	DIR24V	24V direction positive		
Universal input interface	DI1(SV-ON)	Input 1	Servo enabled	Below 24V, supports common anode or common cathode, does not support mixed use of NPN and PNP
	DI2(POT)	Input 2	Positive limit	
	DI3(NOT)	Input 3	Negative limit	
	DI4(ALMRST)	Input 4	Alarm cleared	
	DI-COM	Input common terminal	-	
Universal common cathode output interface	DO1(ALM)	Output 1	Alarm output	Below 24V, common cathode output, current does not exceed 200mA
	DO2(INP)	Output 2	Positioning completed	
	DO3(ZERODONE)	Output 3	Return to zero completed	
	DO4(BRK)	Output 4	Brake	
	DO-COM	Output common ground	-	
STO safety interface	STO-24V	-	-	Disable STO function: Connect STO to STO-24V Enable STO function: Connect STO to STO-0V
	STO1	-	-	
	STO2	-	-	
	STO-0V	-	-	

R5 Series EtherCAT Communication Drive Wiring Diagram



R5 Series EtherCAT Communication Drive Port Definition

Communication interface definition

Signal name		Pin number	Function
Communication signal	TX+	1	Data send +
	TX-	2	Data send-
	RX+	3	Data receive+
	-	4	-
	-	5	-
	RX-	6	Data receive-
	-	7	-
	-	8	-

Encoder terminal definition

Signal name	Pin number	Function
+5V	1	Power output positive pole：+5V
GND	2	Power output negative pole：0V
-	3	-
-	4	
SD+	5	Encoder bus signal
SD-	6	
FG	-	Terminal metal housing

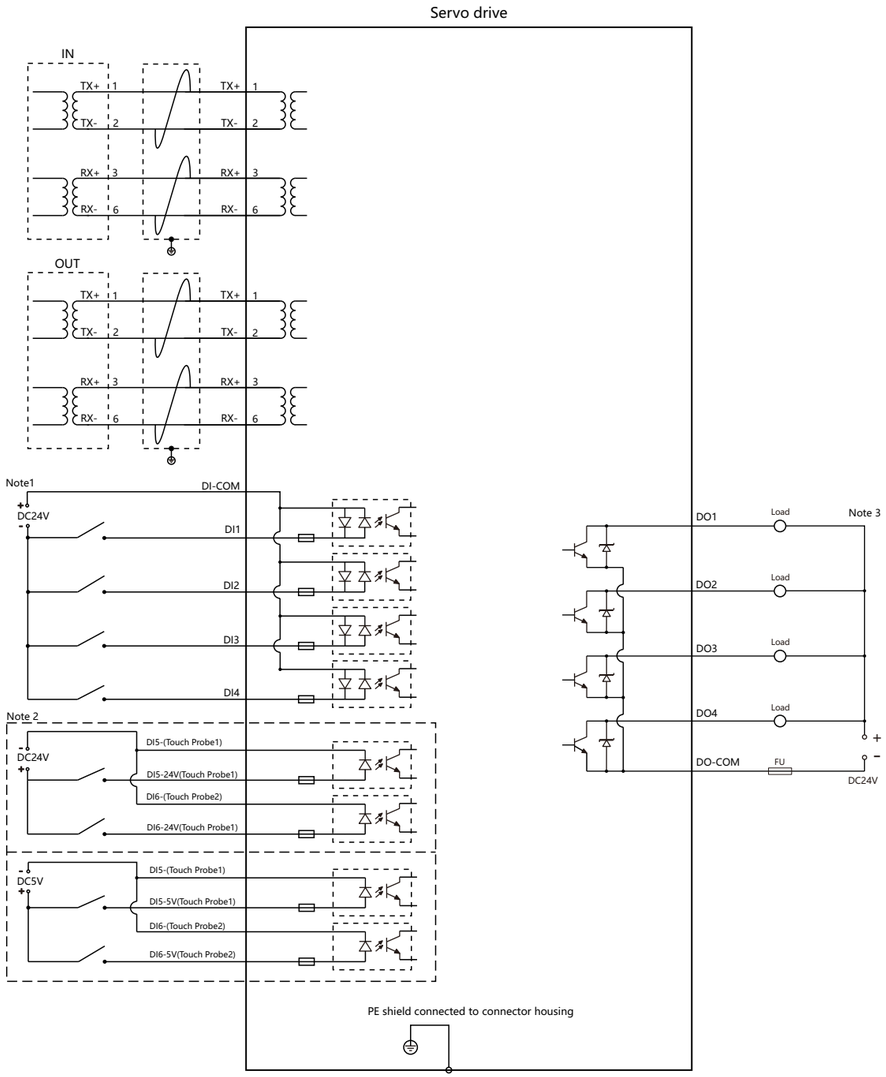
Main circuit interface definition

Terminal marking	Terminal name	Function
L1、L2、	Power supply input terminal	Servo drive power supply input terminal, single-phase 220VAC
P+、Br	Brake resistor terminal	External brake resistor connection terminal
U、V、W、PE	Servo motor connection terminal	The servo motor connection terminals must be connected to the motor U, V, W, and PE terminals accordingly.

Control signal terminal definition (CN1)

Functional classification	Signal name	Signal Definition	Default function	Description
Differential interface	DI5-5V	D15 positive	Probe 1	Differential input
	DI5-	D15 negative		
	DI6-5V	D16 positive	Probe 2	
	DI6-	D16 negative		
	DI5-24V	DI5-24V positive	-	
	DI6-24V	DI6-24V positive		
Universal input interface	DI1(SV-ON)	Input 1	Servo enable	Below 24V, supports common anode or common cathode, does not support mixed use of NPN and PNP
	DI2(POT)	Input 2	Positive limit	
	DI3(NOT)	Input 3	Negative limit	
	DI4(HM)	Input 4	Alarm clear	
	DI-COM	Input common terminal	-	
Universal common cathode output interface	DO1(ALM)	Output 1	Alarm output	Below 24V, common cathode output, current does not exceed 200mA
	DO2(INP)	Output 2	Positioning completed	
	DO3(ZERODONE)	Output 3	Return to zero completed	
	DO4(BRK)	Output 4	Brake	
	DO-COM	Output common ground	-	
STO safety interface	STO-24V	-	-	Disable STO function: Connect STO to STO-24V Enable STO function: Connect STO to STO-0V
	STO1	-	-	
	STO2	-	-	
	STO-0V	-	-	

R5 Series EtherCAT Communication Type Drive Control Mode Wiring Diagram



Note 1: Below 24V, common anode or common cathode is supported, and mixing of NPN and PNP is not supported;

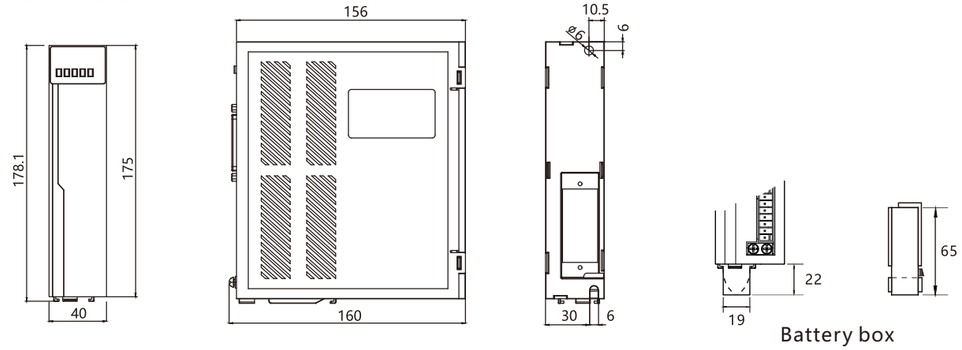
Note 2: Differential input, 24V and 5V cannot be used together, choose one;

Note 3: Below 24V, common cathode output, current does not exceed 50mA.

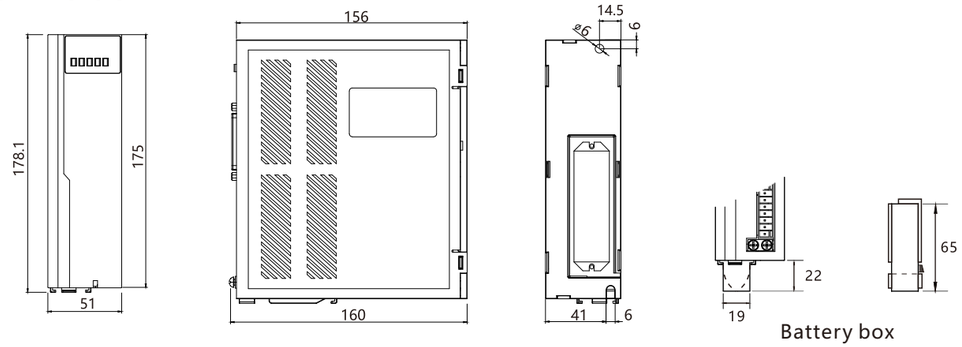
R Series Servo Drive Installation Dimensions

Size code	Dimensions (mm)	Mounting hole (mm)	Battery box (mm)
A	175x156x40	Ø6	65x19x22
B	175x156x51	Ø6	65x19x22
C	196*176*72	Ø6	65x19x22

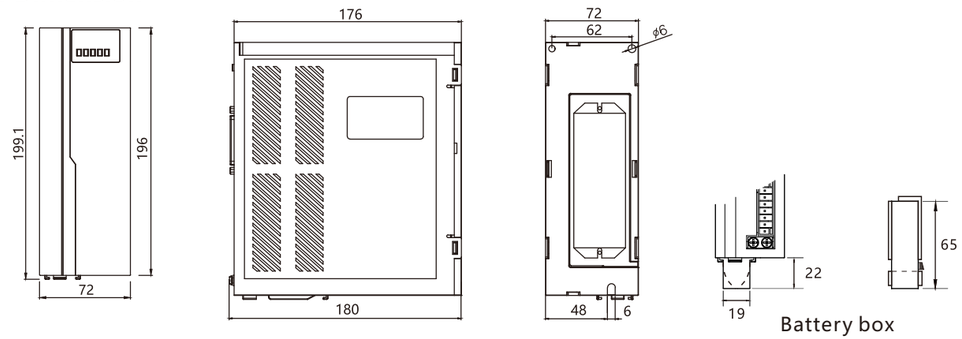
SizeA Drive Dimension



SizeB Drive Dimension



SizeC Drive Dimension



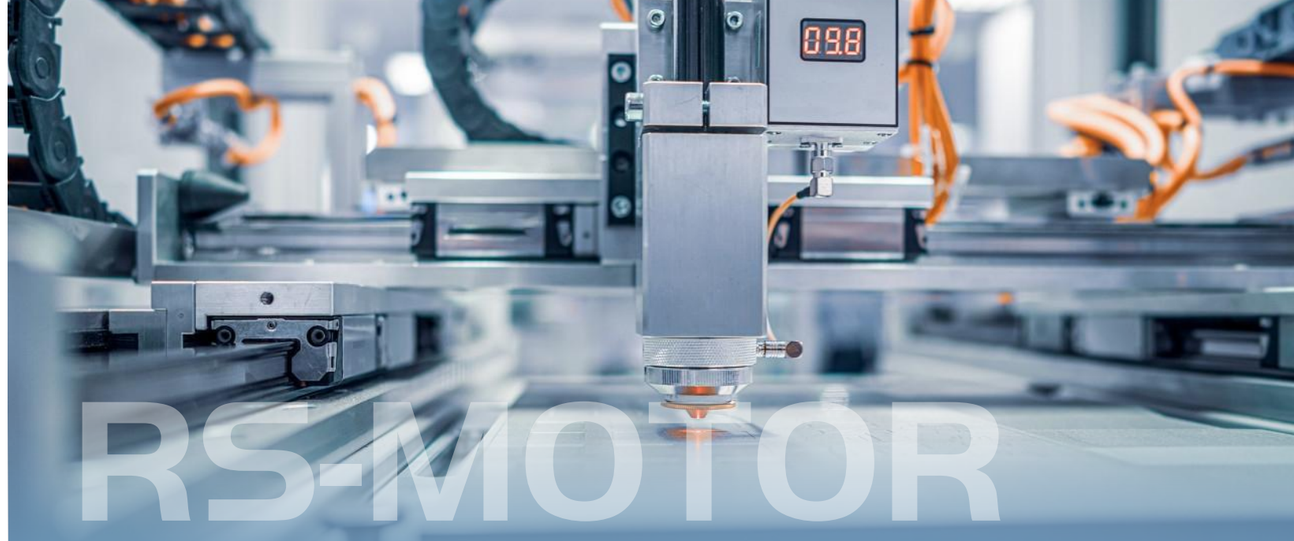
AC Servo Motor

Naming Rule

RSNA ① M ② 06 ③ J ④ 13 ⑤ 30 ⑥ A ⑦ – Z ⑧

① Product series	④ Encoder resolution J: 17 bits magnetic programmed single figure absolute value G:17 bits magnetic programmed multi-turn absolute value L: 23-bit optical multi-turn absolute value	⑥ Motor rated speed 30: 3000rpm
② Motor inertia code S:small inertia M:medium inertia H:large inertia		⑦ Output mode A: Wire type C: Connector type
③ Motor flange size 06: 60mm 13: 130mm	⑤ Motor rated torque 13: 1.3N·m 150: 15N·m	⑧ Brake code Z: With brake

*Model naming rules are only used for model meaning analysis. For specific optional models, please refer to the details page.



RS-MOTOR

Shorter Body with Super Power

Magnetic encoder optical encoder single-turn multi-turn

Various types of encoders are available. Including Magnetic, Optical, Multiturn Absolute.

Z Permanent magnet brake Z-axis applications

Fast start/stop, low heat generation.
Suitable for Z-axis application environment, in the event of drive power failure or alarm, holding brake, to protect the workpiece locking, avoiding the free slip

Wide range of products, flexible matching, to meet the needs of different working conditions

- **RSNA Series** 50W – 1000W
- **RSDA Series** 200W – 1000W
- **RSM Series** 850W – 3800W

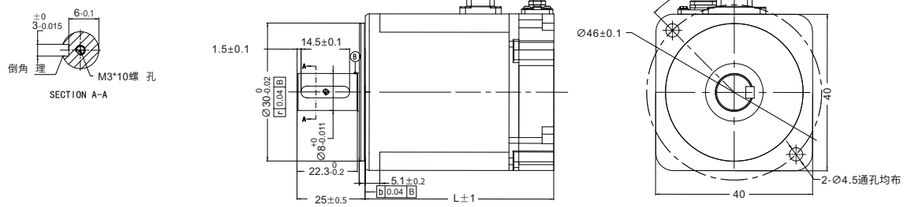
RSNA Series Servo Motor

■ Motor Specifications

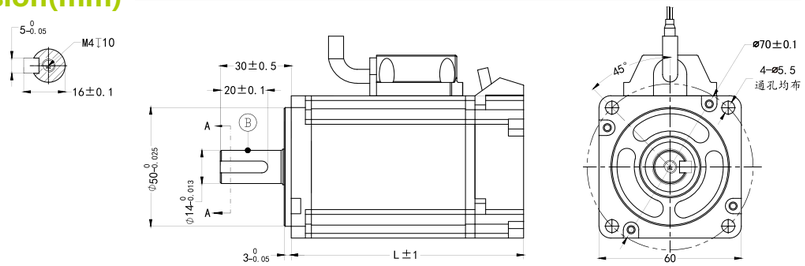
Motor	RSNA-M04J0130C V3.1	RSNA-M04J0330C V3.1	RSNA-M 06J0630A	RSNA-M 06J1330A	RSNA-M 08J2430A	RSNA-M 08J3230A
Rated power (W)	50	100	200	400	750	1000
Rated voltage (V)	220	220	220	220	220	220
Rated current (A)	0.9	1.3	1.9	2.3	4.2	5.6
Rated torque (N·m)	0.16	0.32	0.64	1.27	2.39	3.20
Maximum torque (N·m)	0.48	0.96	1.92	3.81	7.17	9.60
Rated speed (rpm)	3000	3000	3000	3000	3000	3000
Maximum speed (rpm)	6000	6000	6000	6000	6000	6000
Back EMF (V/Krpm)	12.3	17.5	26.6	37.0	35.7	34.6
Torque constant (N·m/A)	0.18	0.25	0.33	0.55	0.57	0.57
Wire resistance (Ω,20℃)	12.0	13.16	10.72	6.60	2.03	1.26
Wire inductance (mH,20℃)	12.5	13.14	21.04	20.56	10.20	6.86
Rotational inertia(X10^{-4}kg.m^2)	0.05	0.1	0.26	0.61	1.71	2.11
Length L (mm)	61.5	81.5	80 Brake 109	98 Brake 127	107 Brake 144	127 Brake 163

*The encoder comes standard with 17bit magnetic encoding, 23bit optical encoding is optional, and multi-turn absolute value specifications are available.

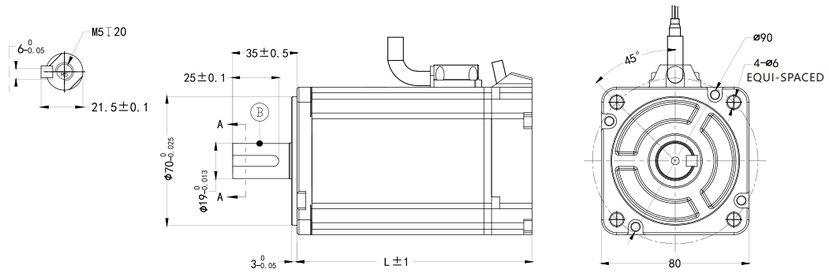
■ Frame 40 Dimension(mm)



■ Frame 60 Dimension(mm)

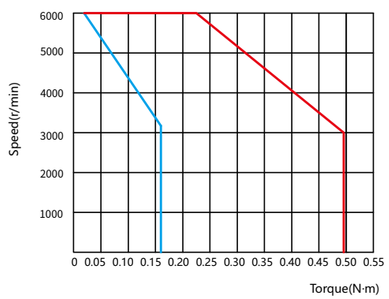


■ Frame 80 Dimension(mm)

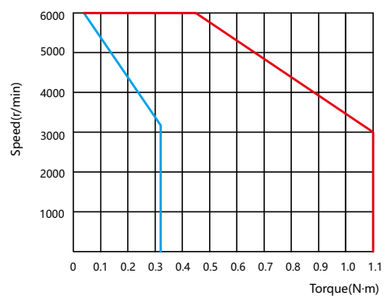


■ Torque-speed Characteristic Curve

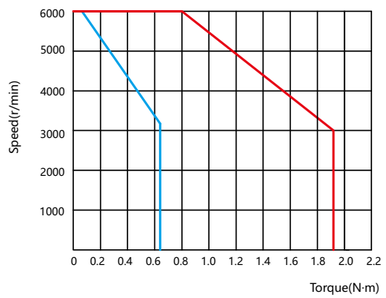
A Continuous operating region — B Short-time operating region



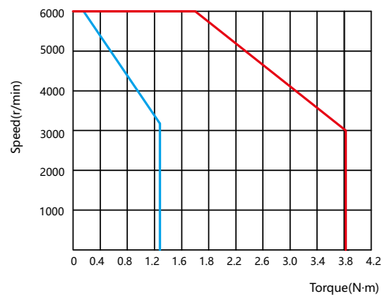
RSNA-M04J0130C V3.1



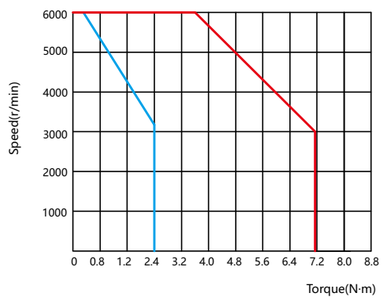
RSNA-M04J0330C V3.1



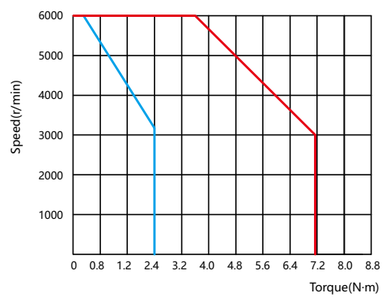
RSNA-M06J0630A



RSNA-M06J1330A



RSNA-M08J2430A



RSNA-M08J3230A

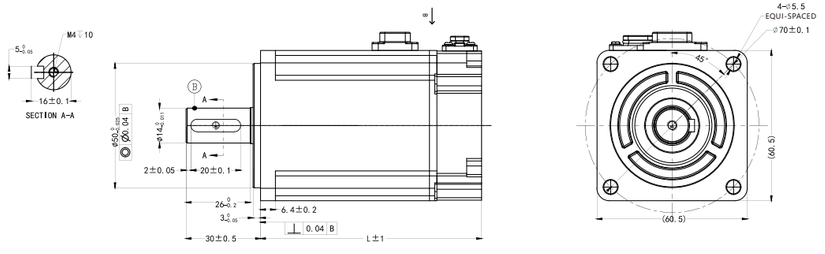
RSDA Series Servo Motor

Motor Specifications

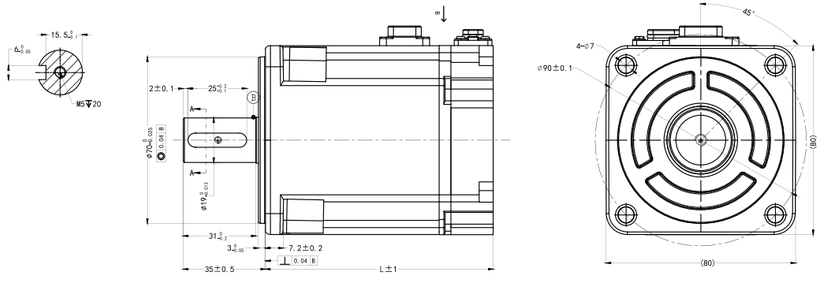
Motor	RSDA-H06J0630C V3.1	RSDA-H06J1330C V3.1	RSDA-H08J2430C V3.1	RSDA-H08J3230C V3.1
Rated power (W)	200	400	750	1000
Rated voltage (V)	220	220	220	220
Rated current (A)	1.9	2.5	4.9	4.9
Rated torque (N·m)	0.64	1.27	2.39	3.2
Maximum torque (N·m)	1.28	2.54	4.78	4.8
Rated speed (rpm)	3000	3000	3000	3000
Maximum speed (rpm)	4000	5000	5000	5000
Back EMF (V/Krpm)	23.1	38.7	33.7	45
Torque constant (N·m/A)	0.33	0.5	0.49	0.65
Wire resistance (Ω,20℃)	6.8	5.5	1.4	1.5
Wire inductance (mH,20℃)	9.6	9.7	4.52	5.5
Rotational inertia(X10^{-4}kg.m²)	0.2 Brake 0.25	0.5 Brake 0.55	1.5 Brake 1.7	1.9 Brake 2.1
Length L (mm)	70.5 Brake 100.5	89 Brake 119	97 Brake 135	109 Brake 147

*The encoder comes standard with 17bit magnetic encoding, 23bit optical encoding is optional, and multi-turn absolute value specifications are available.

Frame 60 Dimension(mm)

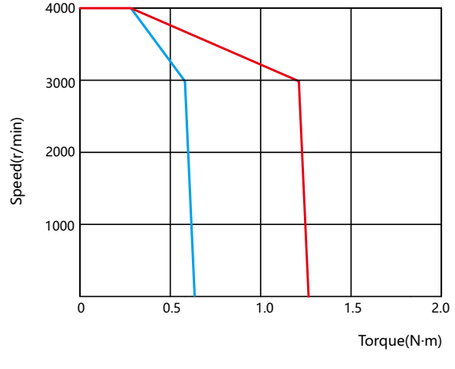


Frame 80 Dimension(mm)

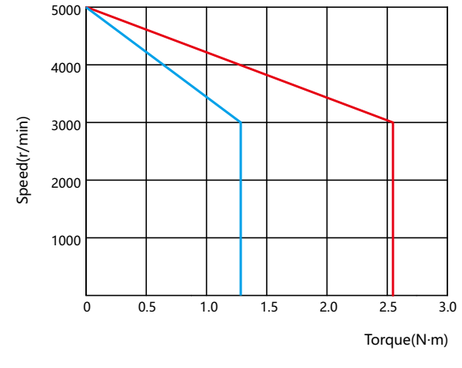


Torque-speed Characteristic Curve

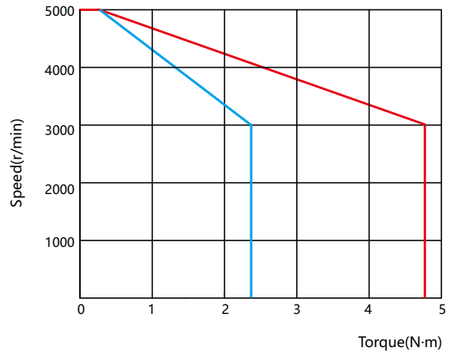
A Continuous operating region — B Short-time operating region



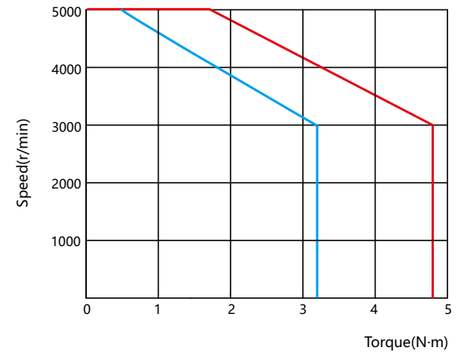
RSDA-H06J0630C V3.1



RSDA-H06J1330C V3.1



RSDA-H08J2430C V3.1



RSDA-H08J3230C V3.1

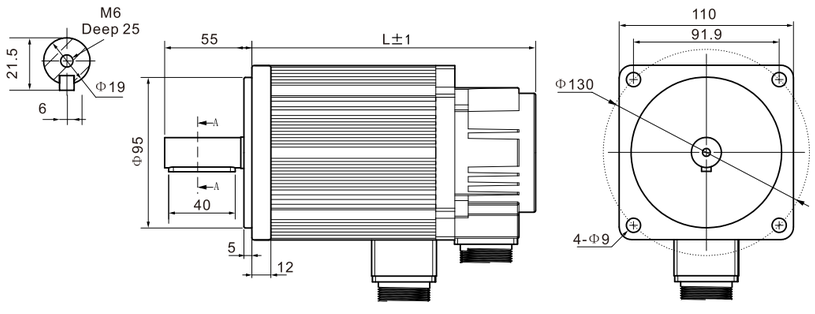
RSM Series Servo Motor

Motor Specifications

Motor	RS□- M11G4030A	RS□-M11G5030A	RS□-M11G6030A
Rated power(kW)	1.2	1.5	1.8
Rated voltage(V)	220	220	220
Rated current(A)	5.0	6.0	7.0
Rated torque(N·m)	4.0	5.0	6.0
Maximum torque(N·m)	12	15	18
Motor pole pair	4	4	4
Encoder specification	17bit	17bit	17bit
Rated speed(rpm)	3000	3000	3000
Maximum speed(rpm)	3500	3500	3500
Reverse potential(V/Krpm)	56.5	58	56.5
Line resistance(Ω,20°C)	1.5	1.0	0.8
Line inductance(mH,20C)	6.9	5.0	3.9
Rotational inertia(X10^{-4}kg.m^2)	7.8	9.2	10.8
Weight(kg)	5.2	6.0 Brake 7.3	6.7 Brake 8.0
Length L(mm)	189	204 Brake 279	219 Brake 294

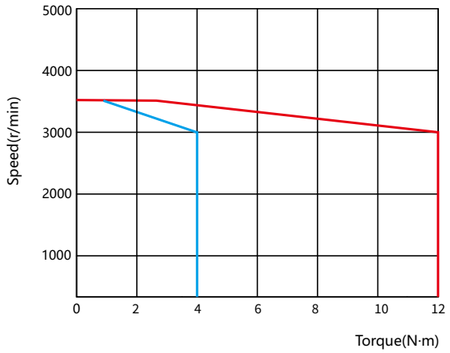
*17 bit magnetic encoder and 23 bit optical enoder for option

Frame 110 Dimension(mm)

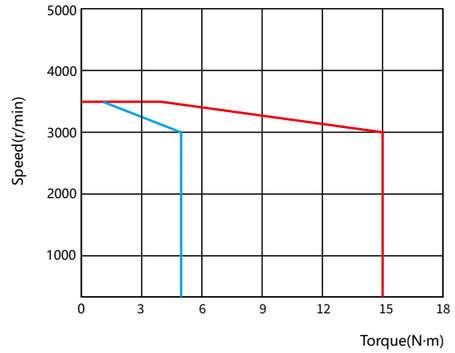


Torque-speed Characteristic Curve

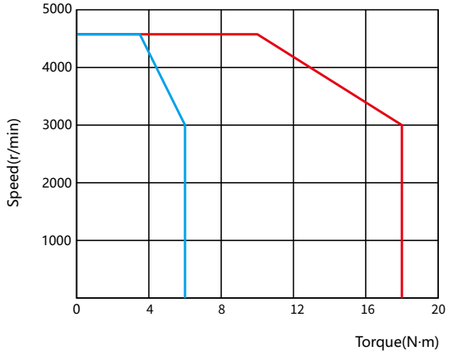
A Continuous operating region B Short-time operating region



RS□- M11G4030A



RS□- M11G5030A



RS□-M11G0630A

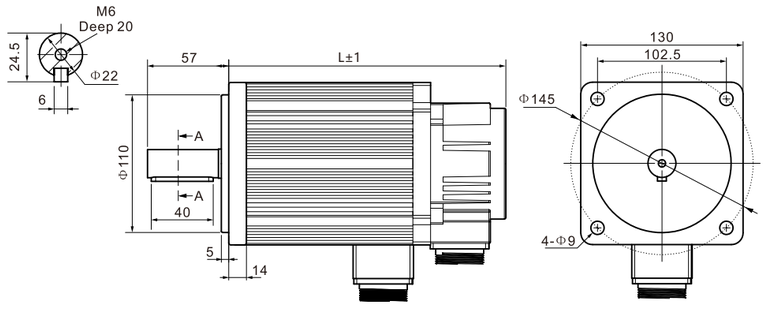
RSM Series Servo Motor

Motor Specifications

Motor	RS□-M 13G4025A	RS□-M 13G6025A	RS□-M 13G7725A	RS□-M 13G10025A	RS□-M 13G15015A	RS□-M 13G15025A
Rated power(kW)	1.0	1.5	2.0	2.6	2.3	3.8
Rated voltage(V)	220	220	220	220	220	220
Rated current(A)	4.0	6.0	7.5	10	9.5	13.5
Rated torque(N·m)	4.0	6.0	7.7	10	15	15
Maximum torque(N·m)	10	18	22	25	30	30
Motor pole pair	4	4	4	4	4	4
Encoder specification	17bit	17bit	17bit	17bit	17bit	17bit
Rated speed(rpm)	2500	2500	2500	2500	1500	2500
Maximum speed(rpm)	3000	4000	3000	3500	3000	3500
Reverse potential(V/Krpm)	67	65	68	70	114	67
Line resistance(Ω,20°C)	2.0	1.21	1.01	0.73	1.1	0.49
Line inductance(mH,20C)	9.5	3.87	2.94	2.45	4.46	1.68
Rotational inertia($X10^{-4}kg.m^2$)	9.6	1.25	1.53	1.94	2.77	2.77
Weight(kg)	5.5	7.4 Brake 9.0	8.3 Brake 9.9	9.8 Brake 11.4	12.6 Brake 14.2	11.7 Brake 13.3
Length L(mm)	166	179 Brake 236	192 Brake 249	209 Brake 290	241 Brake 322	231 Brake 303

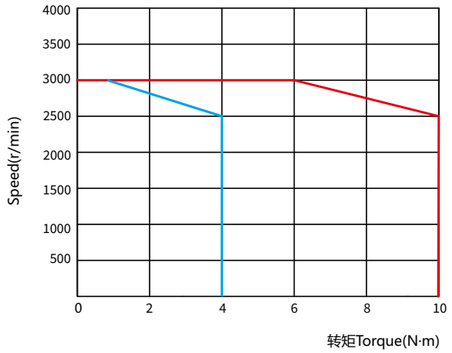
*17 bit magnetic encoder and 23 bit optical enoder for option

Frame 130 Dimension(mm)

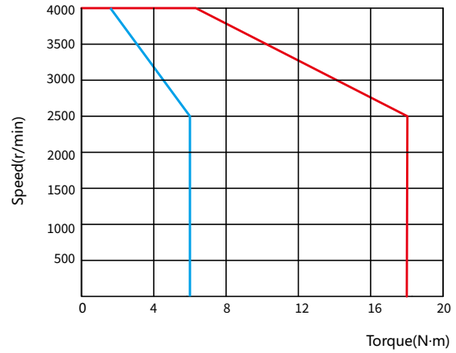


Torque-speed Characteristic Curve

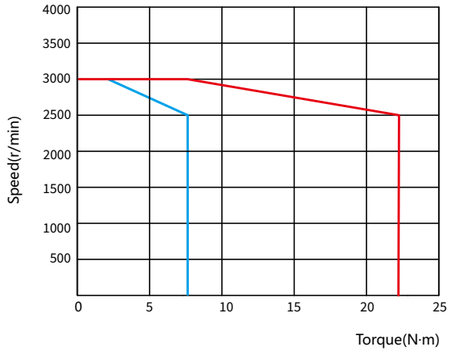
A Continuous operating region B Short-time operating region



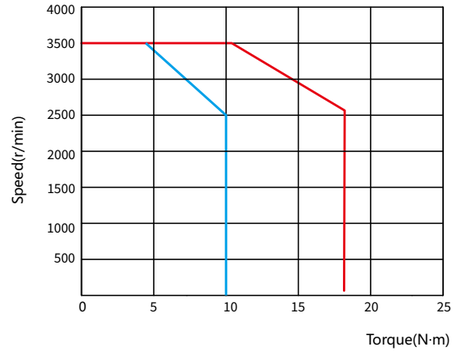
RS□- M13G4025A



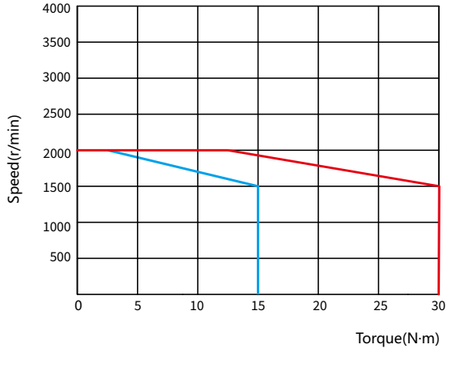
RS□- M13G6025A



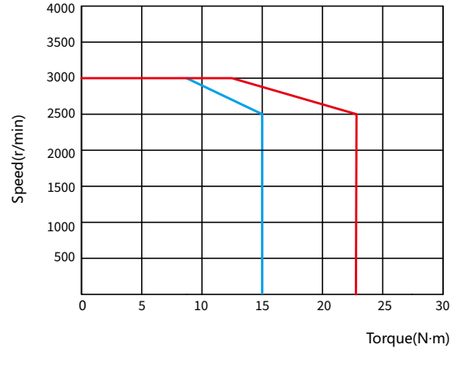
RS□- M13G7725A



RS□- M13G10025A



RS□- M13G15015A



RS□- M13G15025A

LOW-VOLTAGE SERVO SYSTEM

EtherCAT RS485 CANopen

separate type

Integrated type

compact size

RTELLIGENT

Low-volatage DC Servo Drive

D5V series low-voltage servo drive is the fifth general-purpose low-voltage servo drive independently developed by Rtelligent. The product uses a new algorithm and hardware platform to support RS485, CANopen, EtherCAT communication, support internal PLC mode, with three basic control modes (position control, speed control, torque controlSystem). The power range of this series of products is 0.1 ~ 1.5KW, suitable for a variety of low voltage and high current servo applications.

D5VC Series

D5VE Series

CANopen RS485

Pulse control type low-voltage servo drive

--

Power range up to 1.5kw

Encoder resolution up to 23bits

Excellent anti-interference ability

Better hardware and high reliability

With brake output

EtherCAT

Bus type low-voltage servo drive

--

Power range up to 1.5kw

High speed response frequency, shorter positioning time

Comply with CIA402 standard

Support CSP/CSV/SCT/PP/PT/HM mode

With brake control

D5VC/D5VE Series

Serial Name

D 5 V 120 C

① ② ③ ④ ⑤

① Product Series
R: R series AC servo
S: S series AC servo economic line
D: D series low voltage DC servo

② Product Version
5: The 5th generation

③ Voltage level
L: 220V AC
H: 380V AC
D: 110V AC
V: 24V~70V DC

④ Rated current
120: 12.0A
250: 25.0A
380: 38.0A

⑤ Communication type
Default: pulse
E: EtherCAT
C: CANopen + RS485 Modbus

*Model naming rules are only used for model meaning analysis. For specific optional models, please refer to the details page.

Basic specification

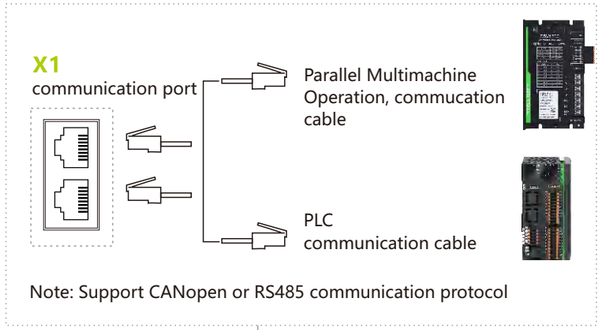
Item	D5V120C	D5V250C	D5V380C	D5V120E	D5V250E	D5V380E
Communication function	CANopen & RS485			EtherCAT		
Overload capacity	3times overload					
Adaptive power	400W	750W	1500W	400W	750W	1500W
Rated current	12A	25A	38A	12A	25A	38A
Maximum current	36A	75A	114A	36A	75A	114A
Input power supply	24~70V DC					
Dimension	175*98*33mm					
Brake resistance function	Brake resistor external connection					

Note: The rated current is reachable data without auxiliary heat dissipation

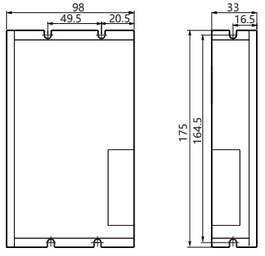
Technical Specifications

Item	Description
Control mode	IPM PWM control, SVPWM drive mode
Encoder feedback	Absolute encoder
Isolation function	Power supply/communication isolation; encoder input isolation; digital input/output isolation
Protection function	Overvoltage, undervoltage, overcurrent, overload, overheating，overspeed, communication abnormality, register abnormality, encoder error, etc
Parameter setting	RTServoStudioV5
Power-off retention	Keep all optional parameters
Digital input (6 DI channels)	Positive travel limit, reverse travel limit, latch signal, origin signal, etc Note: The pin function can be assigned through the software configuration parameters, and the valid logic level can be entered.
Digital output (2 DO)	Servo ready, alarm output, brake release, command complete output, positioning complete output, speed reached, torque limit reached, etc Note: Pin function can be assigned by software configuration parameters, and the output is valid

D5V Series Pulse Type (Including CANopen/ RS485) Drive Wiring Diagram

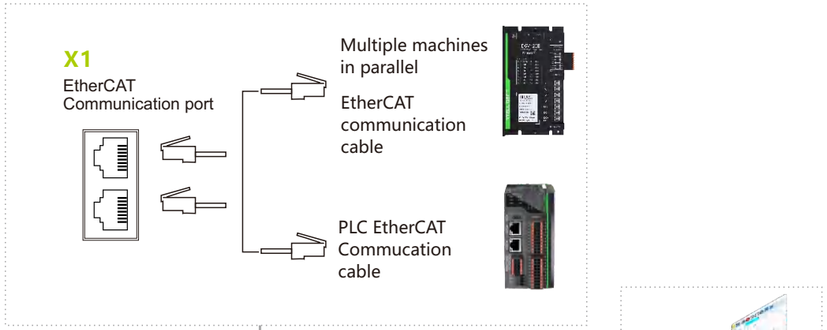


Installation Dimension

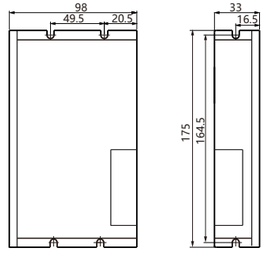


DC+	Voltage: 24-70V DC
DC-	
DC+	Connect the energy consumption brake resistance
RB-	

D5V Series EtherCAT Communication Drive Wiring Diagram



Installation Dimension



DC+	Voltage: 24-70V DC
DC-	
DC+	Connect the energy consumption brake resistance
RB-	

General Integrated Low-voltage Servo Motor

The IDV series is a general integrated low-voltage servo motor developed by Rtelligent. Equipped with position/ speed/torque control mode, support 485 communication to achieve communication control of the integrated motor.

- Working voltage: 18-48VDC, recommended the rated voltage of the motor as working voltage
- 5V dual ended pulse/direction command input, compatible with NPN and PNP input signals.
- The built-in position command smoothing filtering function ensures smoother operation and significantly reduces equipment operating noise.
- Adopting FOC magnetic field positioning technology and SVPWM technology.
- Built-in 17-bit high-resolution magnetic encoder.
- With multiple position/speed/torque command application modes.
- Three digital input interfaces and one digital output interface with configurable functions.

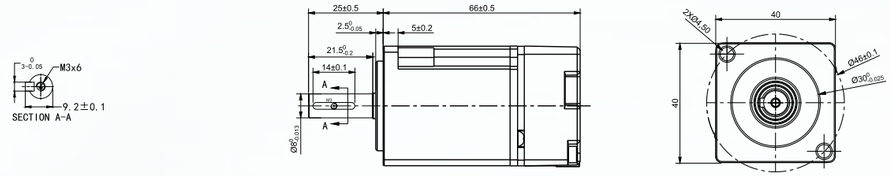
Connection

Technical specification

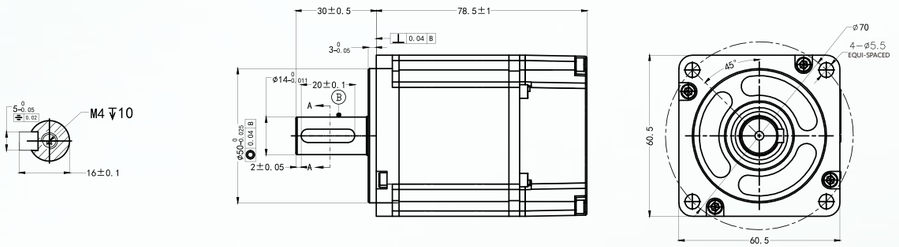
Model No.	IDV50	IDV200	IDV400	IDV750	IDV1000
Rated power (W)	50	200	400	750	1000
Rated voltage (V)	24	48	48	48	48
Rated current (A)	2.7	5.4	10	16.5	31.3
Peak current (A)	3.3	8.1	20	40.7	40.7
Rated torque (N·m)	0.16	0.64	1.27	2.39	3.2
Maximum torque (N·m)	0.19	0.96	2.54	-	4.2
Rated speed (rpm)	3000	3000	3000	3000	3000
Maximum speed (rpm)	4500	4000	5000	5000	5000
Body length L (mm)	66	78.5	96.5	109	134.6

Installation Dimension

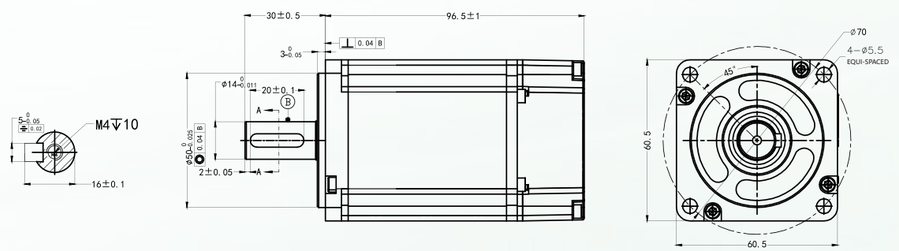
• IDV50



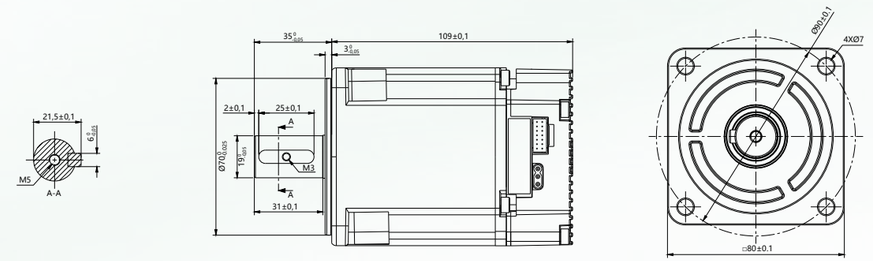
• IDV200



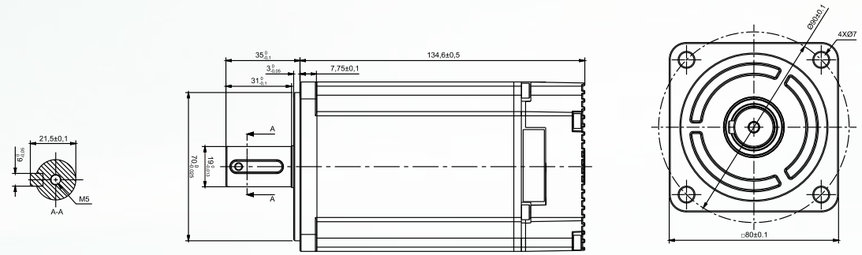
• IDV400



• IDV750



• IDV1000



Low-voltage DC Servo Motor

Rtelligent TSD series low voltage servo motor covers the power range of 0.1~1.5kW, Equipped with communication encoder, higher positioning accuracy. TSD series motor rating Speed 3000rpm, with AC servo of the same specifications of the moment frequency characteristics, can Achieve high performance low voltage servo application requirements

- Five pairs of extremely short body, saving installation space
- Multi-turn absolute encoder with a maximum resolution of 23bit optional
- Permanent magnet lock brake optional for Z-axis applications

Naming Rule

TSW	A	06	J	06	30	A	-	48	Z
①	②	③	④	⑤	⑥	⑦		⑧	⑨

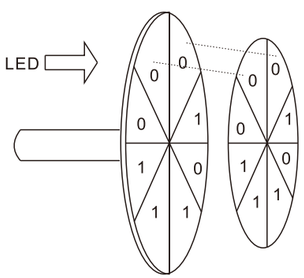
① Serial Name	④ Encoder code J: 17bit magnetic unicyclic absolute encoder G: 17bit magnetic multiturn absolute encoder L: 23bit optical multiturn absolute encoder	⑦ Output mode A: Wire type
② Number of poles A: Five pairs of poles	⑤ Motor rated torque 06: 0.6N·m 13: 1.3N·m	⑧ Motor rated voltage 48: 48V
③ Motor flange size 06: 60mm 13: 130mm	⑥ Motor rated speed 30: 3000rpm	⑨ Brake code Z: With brake

*Model naming rules are only used for model meaning analysis. For specific optional models, please refer to the details page.

Motor with Brake

- Servo motor with brake
  Suitable for Z-axis application environment,
  When the drive is powered off or alarms, the brake will be applied,
  Keep the workpiece locked and avoid free fall
- Permanent magnet brake
  Fast start and stop, low heating
- 24V DC power supply
  Can use drive brake output port control
  The output port can directly drive the relay to control the brake on and off

Absulote Encoder Low-voltage Servo Motor

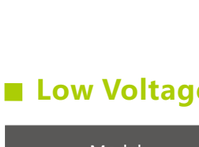


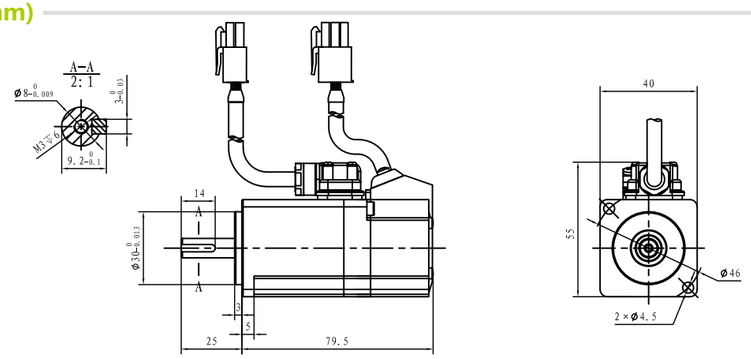
- Absolute encoder servo motor
  Suitable for applications that accurately memorize the position after power failure
  The relative encoder loses position information due to power failure, causing the mechanical position to be externally affected and not at the initial position.
- Working principle
  By encoding each independent position on the encoder, the position is communicated to the drive .
- External power supply battery
  Provides working power for the multi-turn absolute encoder
  When the drive is powerd off, it can still provide working power

Low Voltage Servo Motor 40/60mm Series Technical Specifications

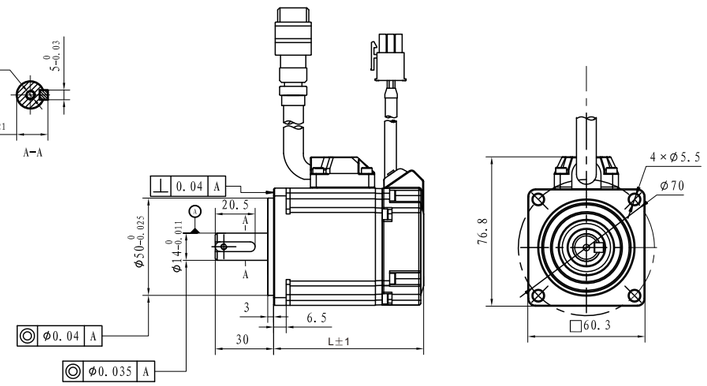
Model	TSWA-04J0330A-48	TSWA-06J0630A-48	TSWA-06J1330A-48	TSWA-06J2030A-48
Rated power (W)	100	200	400	600
Rated voltage (V)	48	48	48	48
Rated current (A)	6.5	6.0	10	15
Rated torque (N.M)	0.32	0.637	1.27	1.91
Maximum torque (N.M)	0.96	1.27	3.81	5.73
Rated speed (rpm)	3000	3000	3000	3000
Maximum speed (rpm)	6000	3200	3200	3200
Back EMF (V/Krpm)	3.0	7.7	7.8	8.5
Torque constant (N.M/A)	0.05	0.106	0.127	0.127
Wire resistance (Ω,20℃)	0.4	0.63	0.39	0.25
Wire inductance (mH,20℃)	0.38	1.12	0.72	0.43
Rotor inertia(X10^{-4}kg.m^2)	0.05 Brake 0.05	0.29 Brake 0.29	0.53 Brake 0.53	0.68 Brake 0.68
Length L (mm)	79.5 Brake 112.5	77.2 Brake 109.2	93.7 Brake 125.7	113.2 Brake 138

Frame 40 Dimension (mm)





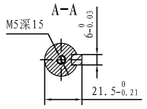
Frame 60 Dimension (mm)

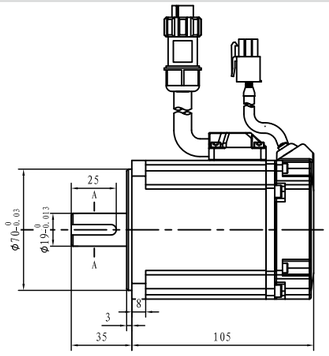


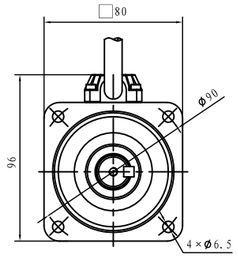
Low Voltage Servo Motor 80/130mm Series Technical Specifications

Model	TSWA-08J2430A-48	TSWA-08J3230A-48	TSMA-13J5030A-48
Rated power (W)	750	1000	1500
Rated voltage (V)	48	48	48
Rated current (A)	20	25	39
Rated torque (N.M)	2.4	3.2	5
Maximum torque (N.M)	4.8	6.4	15
Rated speed (rpm)	3000	3000	3000
Maximum speed (rpm)	3200	3200	—
Back EMF (V/Krpm)	8	8	8.1
Torque constant (N.M/A)	0.12	0.13	0.13
Wire resistance (Ω,20℃)	0.08	0.05	0.026
Wire inductance (mH,20℃)	0.27	0.17	0.10
Rotor inertia($X10^{-4}kg.m^2$)	1.62 Brake 1.72	2.1 Brake 2.2	1.39 Brake 1.39
Length L (mm)	105 Brake 142	119 Brake 156	148 Brake 172

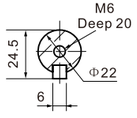
Frame 80 Dimension (mm)

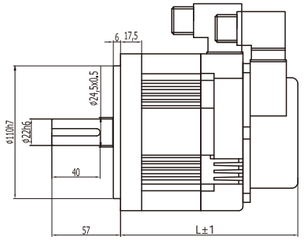


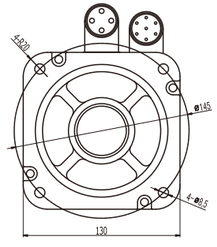




Frame 130 Dimension (mm)





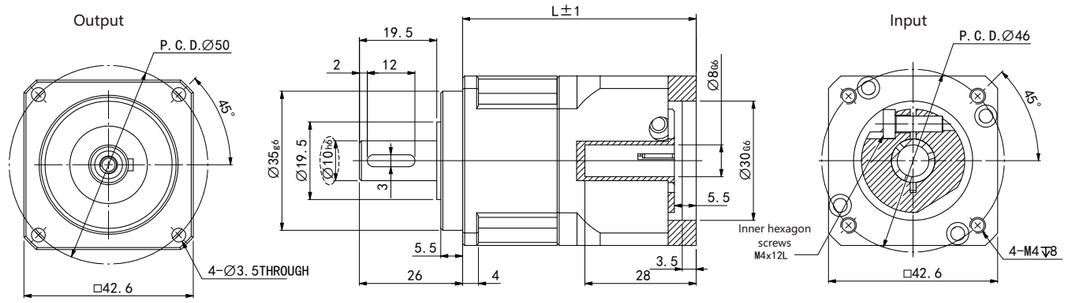


Reducer for Servo Motor

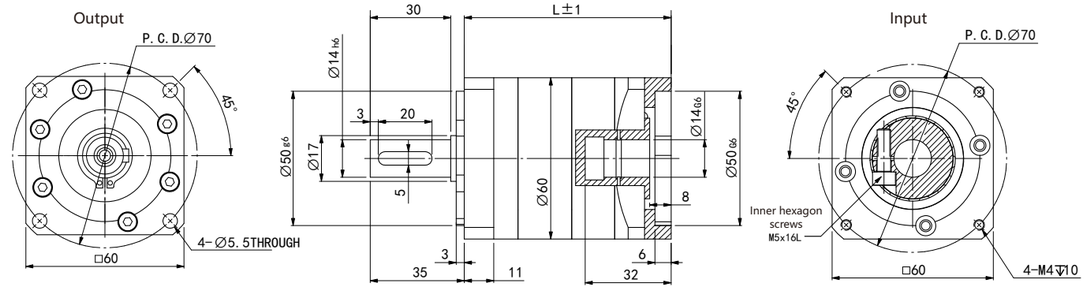
Precision Servo Reducer

Model	Input dimension (Motor insertion end)				Output dimension (Client installation end)				Length	
	Shaft diameter	Boss diameter	Mounting hole distance	Mounting hole size	Shaft diameter	Boss diameter	Mounting hole distance	Mounting hole size	L1	L2
42SPX-□	8	30	P.C.D.46	M4	10	35	P.C.D.50	3.5	59	80
60SPX-□	14	50	P.C.D.70	M4	14	50	P.C.D.70	5.5	77	95
90SPX-□	19	70	P.C.D.90	M5	20	80	P.C.D.100	6.5	110	130

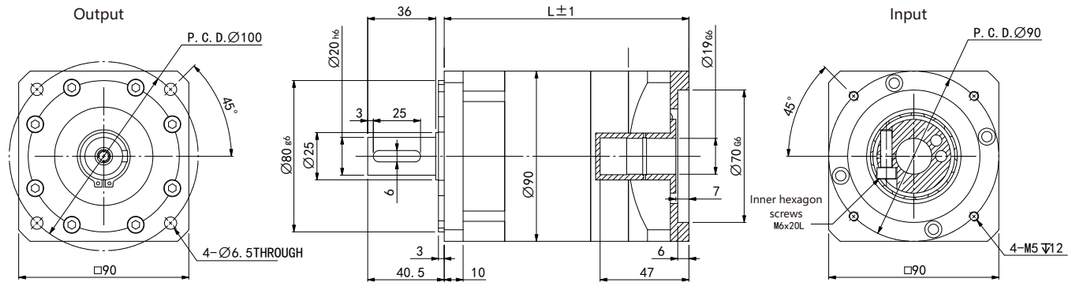
The Size of 42SPX Series (mm)



The Size of 60SPX Series (mm)



The Size of 90SPX Series (mm)



Linear lead screw servo motor

01
High positioning accuracy

02
High response speed

03
High transmission efficiency

04
Save space

05
Highly cost-effective

06
Brake optional

■ Naming Rule

RG 40 – 100W – E G – GZ0802 – L100 C – Z

1 2 3 4 5 6 7 8 9

1 Rtelligent Linear screw servo motor	4 External drive	7 Length of the screw Unit: mm
2 Flange dimension 40: 40mm 60: 60mm 80: 80mm	5 Encoder resolution J: 17 bits magnetic programmed single figure absolute value G:17 bits magnetic programmed multi-turn absolute value L: 23-bit optical multi-turn absolute value	8 C: Connector type
3 Power Unit: W	6 Ball screw Diameter: 8mm Lead: 2mm	9 Brake

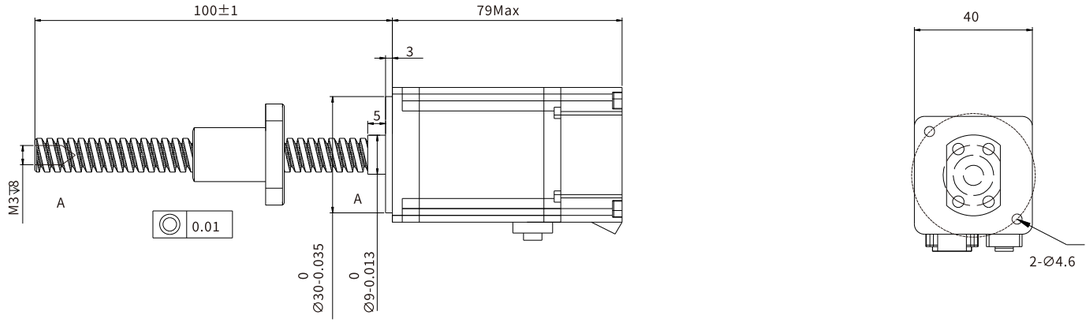
*Model naming rules are only used for model meaning analysis. For specific optional models, please consult with our engineer.

■ Linear lead screw servo motor

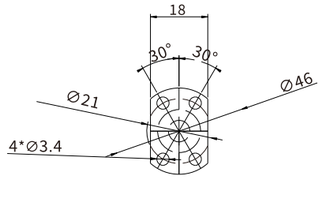
Model	Rated power (W)	Input voltage (V)	Rated current (A)	Rated torque (N·m)	Maximum torque (N·m)	Rated speed (rpm)	Maximum speed (rpm)	Screw diameter (mm)	Pitch of the screw (mm)	Rotor inertia ($X10^{-4}kg.m^2$)	Precision level	Screw length (mm)	Moto body length (mm)
RG40-100W-EG-GZ0802-L100C	100	220	1.0	0.318	0.96	3000	5000	8	2	0.035	C7	100	79 Brake112
RG40-100W-EG-GZ0802.5-L100C									2.5				
RG60-200W-EG-GZ1205-L260C	200	220	1.7	0.64	1.91	3000	6000	12	5	0.280	C7	260	75 Brake113
RG60-400W-EG-GZ1204-L100C	400	220	2.7	1.27	3.81	3000	5000	12	4	0.418	C7	100	92 Brake121
RG60-400W-EG-GZ1205-L100C									5				
RG60-400W-EG-GZ1210-L100C									10				
RG80-750W-EG-GZ1604-L100C	750	220	3.5	2.39	7.17	3000	3600	16	4	1.40	C7	100	98.5 Brake133
RG80-750W-EG-GZ1605-L100C									5				
RG80-750W-EG-GZ1610-L100C									10				
RG80-750W-EG-GZ1616-L100C									16				
RG80-750W-EG-GZ1620-L100C									20				

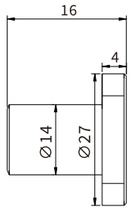
*The length of the lead screw can be customized.

Frame 40 dimension (mm)

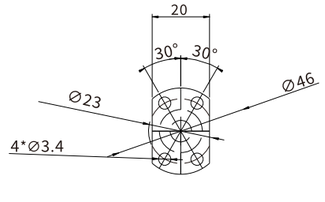


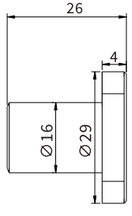
Lead screw nut (Pitch 2)



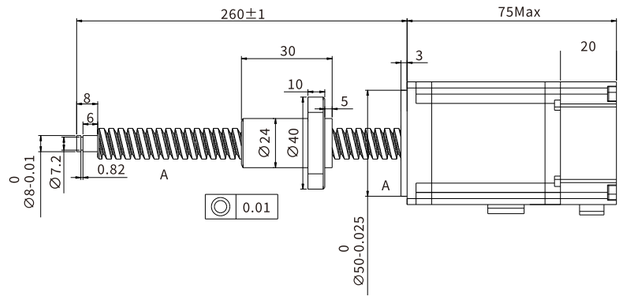


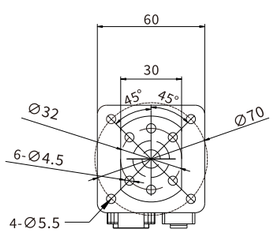
Lead screw nut (Pitch 2.5)



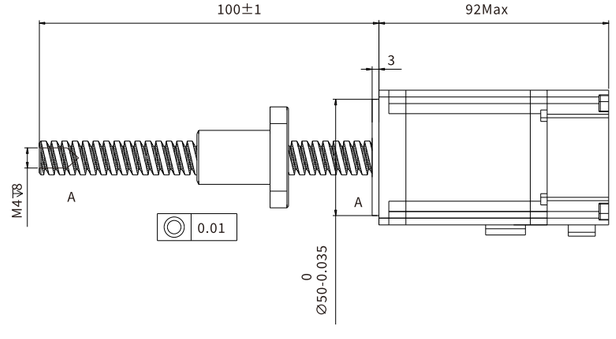


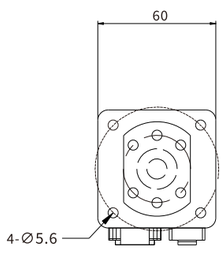
RG60-200W-EG-GZ1205-L260C dimension (mm)



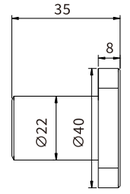


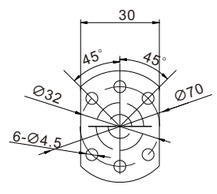
Frame 60 dimension (mm)



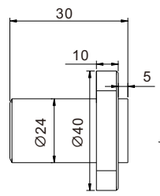


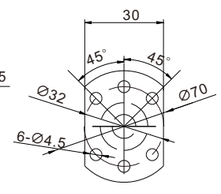
Lead screw nut (Pitch 4)



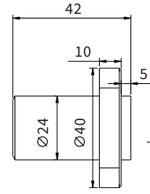


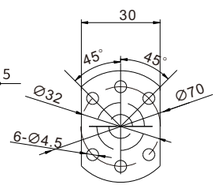
Lead screw nut (Pitch 5)



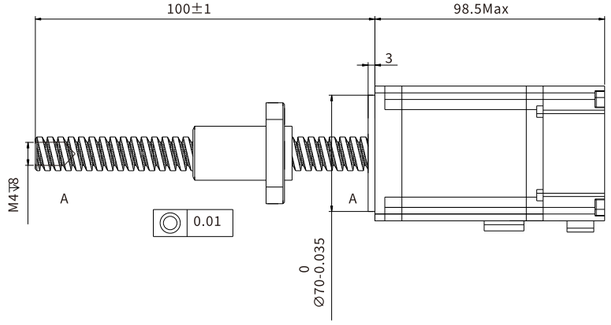


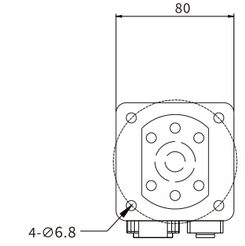
Lead screw nut (Pitch 10)



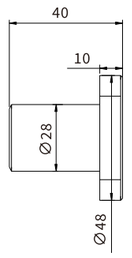


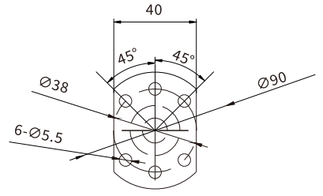
Frame 80 dimension (mm)



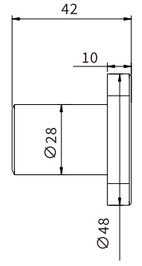


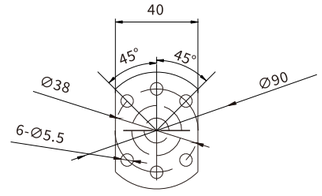
Lead screw nut (Pitch 4)



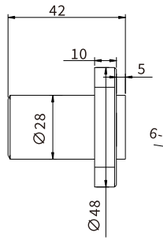


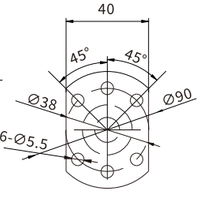
Lead screw nut (Pitch 5)



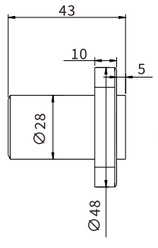


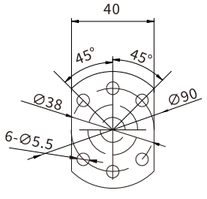
Lead screw nut (Pitch 10)



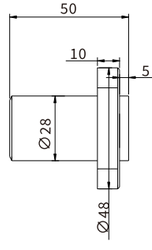


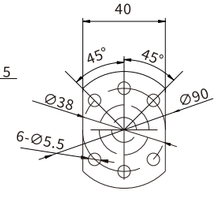
Lead screw nut (Pitch 16)





Lead screw nut (Pitch 20)





Programmable Logic Controller

EtherCAT®

CANopen®

Modbus

EtherNet/IP™

RTELLIGENT

Programmable Logic Controller Series

PLC Products cover medium RM series, small RX series, support logic control and motion control and other functions. Via RS485, Ethernet, EtherCAT and CANOpenAnd other interfaces can realize multi-level network communication. The PLC integrates multi-channel digital input and digital output functions, and supports the expansion of several Rtelligent IO modules. PLC Wide range, suitable for various occasions.

Naming Rule

RM Series

RM 510 - 1616 T
① ② ③ ④

① RM series PLC	③ Input and output points 1616: 16 points input 16 points output
② Type code 5 Medium 500 Series 1: Ethercat type 0: Pulse axis number	④ Output type R: Relay output T: Transistor output

RX Series

RX3U - 32 M R
① ② ③ ④

① Product series RX3U: 3 Axis RX8U: 8 Axis	③ Module type General master controller module
② Input and output points Input and output points total 32 points	④ Output type R: Relay output T: Transistor output

Basic Spec.

Model	RM518	RM510	RM418	RX8U	RX3U
Product picture					
EtherCAT slave devices No.	256	256	256	-	-
Bus performance	8 axis 1 ms	8 axis 1 ms	-	-	-
Supports Ethernet	YES	YES	YES	-	-
Supports high-speed input	8 axis 200k	-	8 axis 200k	4 axis 200k+ 4 axis 60k	3 axis 150k
Support high-speed output	8-channel 200K single-phase or 8-channel 200K AB phase	-	8-channel 200K single-phase or 8-channel 200K AB phase	6 channels 60KHz single phase Or 2 channels 30KHz AB phase+ 1 channel 10KHz AB phase	6 channels 60KHz single phaseOr 2 channels 30KHz AB phase
IO expansion	8 IO Modules	8 IO Modules	8 IO Modules	8 IO Modules	-
Communication serial port	RS485*2, CANopen			RS485*2, CAN(Optional)	
Motion control function	Electronic gear / Electronic cam / Interpolation		Interpolation	Interpolation	Interpolation

RM Series Medium PLC with EtherCAT

Rtelligent RM series programmable logic controllers support functions such as logic control and motion control. Using the CODESYS 3.5 SP19 programming environment, the FB/FC function to realize process encapsulation and multiplexing. Multi-level network communication is possible via RS485, Ethernet, EtherCAT and CANOpen interfaces.The PLC body integrates digital inputs and outputs and supports the expansion of 8 Reit IO modules.

01 **High efficiency & Accuracy**

02 **Multiple task management**

03 **Complete function**

04 **Easy networking**

05 **Flexible expansion**

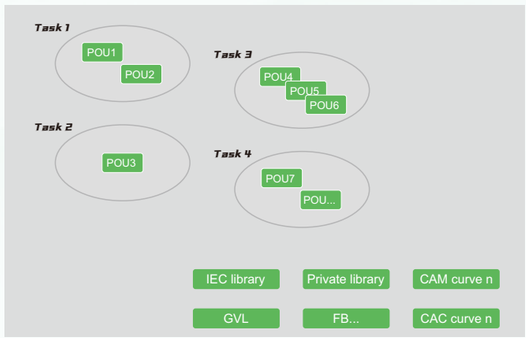
06 **Easy programming**

High Efficiency & Accuracy

Multi-core 64-bit processor for precise equipment control

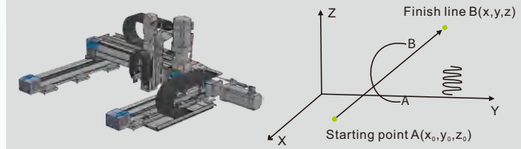
Multitasking Management

Handle multiple tasks simultaneously and execute user instructions



Precise interpolation

For scenarios that require high-precision processing and the need to complete high-speed positioning and transmission along the shortest path, multi-dimensional linear interpolation, circular interpolation and continuous interpolation technologies can be employed to precisely control the motion trajectory.

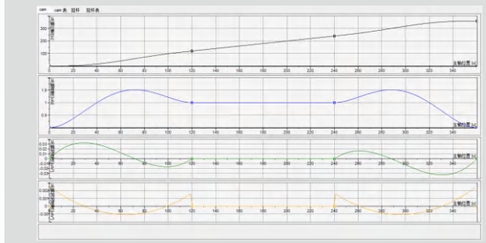


Multi-axis interpolation platform

Linear & circular interpolation

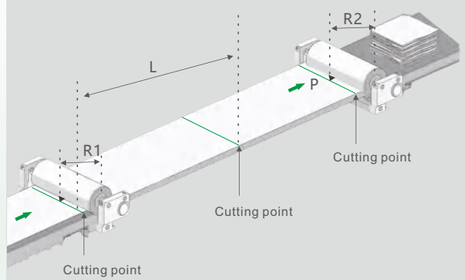
Electronic Cam Function

By converting the action logic of traditional mechanical cams into electronic control, it is possible to effectively address the problems such as insufficient precision of mechanical cams, performance degradation due to wear, and high operating noise.



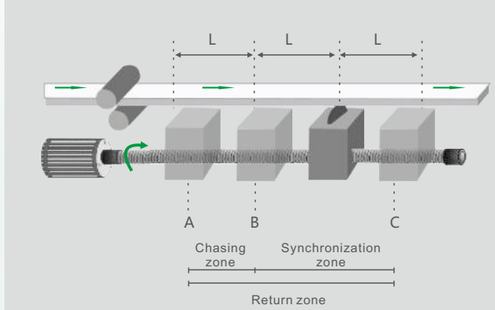
Shear (rotary cutting) function

By pre-setting the cutting length, the number of cutter heads, the synchronization interval, and other process parameters, the rotary cutting cam table can be automatically generated. Within this synchronization interval, the main shaft and the follower shaft will precisely and synchronously operate at the preset speed ratio.

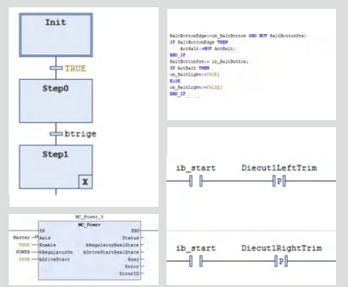


Flying cut function

By pre-setting parameters such as cutting length, waiting position, catching interval, synchronization interval, and return interval, the automatic trimming cam table can be generated. This cam table is applicable to various automated processing scenarios such as cutting and filling.



Support six programming languages

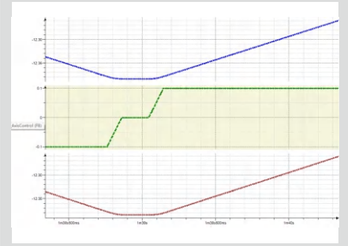


ST、LD、SFC、CFC、FBD、IL

Electronic Cam CAM Table Function

Simple Ladder Diagram Quick Programming Table

Trace Curve Real-time Tracking Table



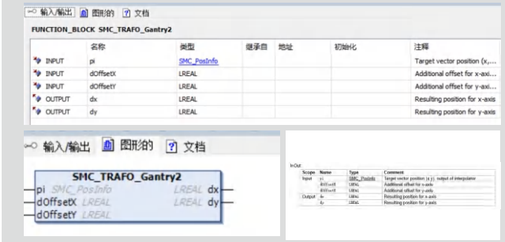
Efficient ST language editor

Online simple debugging

The G-code functionality based on the DIN66025 standard

```
1  N000 G01 X10 Y0 F10 E100 E-100
2  N010 G51 D5
3  N020 G01 X10 Y20
4  N030 G01 X20 Y20
5  N040 G01 X20 Y0
6  N050 G50
7  N060 G01 X30
```

Development of customer-defined process library

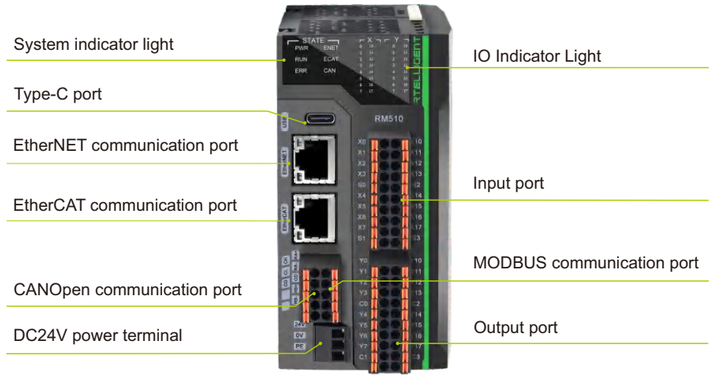


RM500 Series Medium PLC

Rtelligent RM series programmable logic controllers support functions such as logic control and motion control. Using the CODESYS 3.5 SP19 programming environment, the FB/FC function to realize process encapsulation and multiplexing.Multi-level network communication is possible via RS485, Ethernet, EtherCAT and CANOpen interfaces. The PLC body integrates digital inputs and outputs and supports the expansion of 8 Reit IO modules.

- Power input voltage: DC24V
- Number of digital input points: 16 points of bipolar inputs
- Isolation method: photocoupling
- Input filter parameter range: 1ms~1000ms
- Number of digital output points: 16 NPN output points

Connection



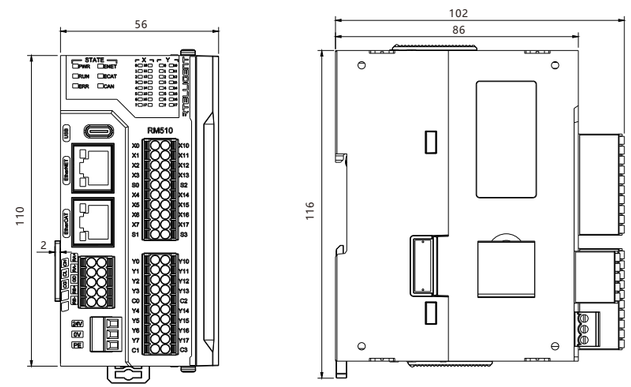
Electrical Parameters

Items	Electrical parameters
Input voltage	24VDC
Permissible supply voltage fluctuation range	20.4V~28.8VDC(-15%~+20%)
24V input power protection	Supports short circuit protection and reverse
Number of digital input points	16-point bipolar input
Isolation method	Optocoupling
Input Impedance	2.4KΩ
Input is ON	Input current greater than 5.8mA/24V for high-speed inputs, 9.9mA/24V for normal inputs
Input is OFF	Input current less than 4.5mA/19V for high-speed inputs and less than 4mA/17V for normal inputs
Filtering parameter	1ms~1000ms
High-speed pulse counting	non
Input common mode	4 points/common (polarity of input power +/- can be changed)
Input level	Drain/source type, S/S to 24V is NPN, S/S to GND is PNP
Isolation	Field and logical grouping isolation
Number of digital output points	16-point NPN output
Maximum permissible current	0.5A/point
Loop supply voltage	24VDC
Circuit insulation	Optoelectronic insulation
ON response time	0.5ms
Output common mode	4 points/common (polarity of output power supply -)
Output level	Low level NPN, com to negative
Short-circuit protection	Each circuit supports short-circuit protection and recovery after power failure

Performance Specifications

Items		Specifications
Basic items	Program capacity	20M bytes
	Data capacity	20M byte, in which 4k byte supports power-off retention
	Zone X (%I)	128 byte
	Zone Y (%Q)	128 byte
	Zone M (%M)	128K byte
	Axis performance	1ms cycle 8-axis synchronization (execution time of motion control calculation)
	Electronic CAM, interpolation	Supports
	Local expansion I/O module	Supports up to 8 local expansion modules
	Real-time clock	Button battery retention (can be replaced by oneself)
Programme	Programming software	CODESYS V3.5 SP19
	Programming language	IEC 61131-3 programming language(LD/ST/SFC/CFC)
Commu-nication	EtherCAT	Transmission speed 100Mbps (100base-TX)
		Supports protocol, EtherCAT master
		Supports up to 128 EtherCAT slave stations. Minimum synchronization period: 500μs
		Slave station supports disabling and scanning
	EtherNet	Transmission speed 100Mbps (100base-TX)
		Support Modbus-TCP master/slave: as master, support 63 slaves; as slave, support 16 masters
		TCP/UDP free protocol, supports up to 16 connections
		Socket, maximum number of connections: 4, support TCP/UDP
		IP address initial value: 192.168.1.3
	CAN	Communication baud rate: 125000bit/s, 250000bit/s, 500000bit/s, 800000bit/s, 1000000bit/s
		Supports the CANOPEN protocol
		Terminal resistance, built-in 120Ω
		Maximum transmission distance: 100m (125,000 bit/s)
		Supported channels: 2
	RS485	Isolation mode: no isolation
		Can be used as Modbus master or slave (ASCII/RTU)
		Number of Modbus-RTU slave stations: supports up to 31 Modbus-RTU slave stations
		Communication baud rate: 9600bit/s, 19200bit/s, 38400bit/s, 57600bit/s, 115200bit/s
		Supports serial port free protocol
		Terminal resistance, external 120Ω
		Maximum transmission distance: 500m (9600bit/s)
	USB	IUSB cable distance: 1.5m
		IUSB communication version: USB2.0, full speed
		IUSB interface: Type-C
		Master/slave: Only master, not slave
User program upgrade	EtherNet	Supports EtherNet monitoring PLC, upload & download user programs
	TF card	Downloading user programs through storage expansion cards is not supported
	Type-C	It does not support Type-C to monitor PLC, upload or download user programs

Installation Dimension

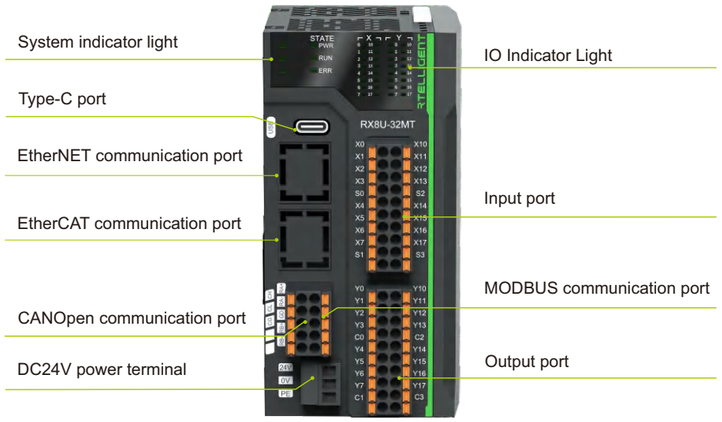


RX Series Pulse-type Small PLC

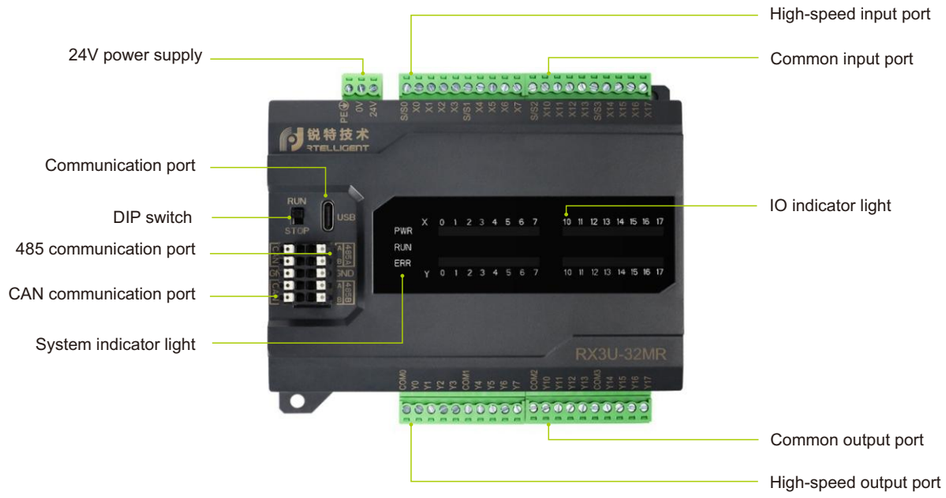
The RX series is the latest pulse PLC developed by Rtelligent. The product comes with 16 switching input points and 16 switching output points, optional transistor output type or relay output type. Host computer programming software compatible with GX Developer8.86/GX Works2, instruction specifications compatible with Mitsubishi FX3U series, faster running. Users can connect programming through the Type-C interface that comes with the product.

- Switching quantity up to 16 in and 16 out, output optional transistor or relay output (RX8U series optional transistor only)
- Comes with a Type-C programming interface, commonly equipped with two RS485 interfaces, a CAN interface (RX8U series CAN interface is optional)
- RS485 supports Mitsubishi interface protocol for communication with touch screens
- The RX8U series can be extended up to 8 rtelligent series IO modules for flexible IO expansion on demand
- Compatible with Mitsubishi FX3U series

Schematic diagram of RX8U series pulse type PLC



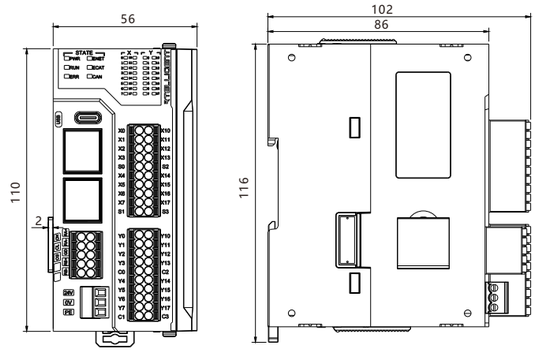
Schematic diagram of RX3U series pulse type PLC



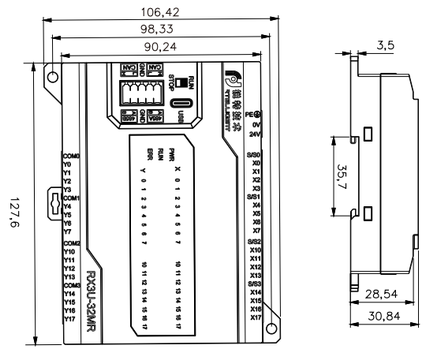
Basic Spec.

Items	Electrical parameters	
Power supply input voltage	DC24V, normal operating voltage range: 20.4~28.8V	
Switching input specifications	RX3U-32MR	RX3U-32MT,RX8U-32MT
Number of digital input points	16-point bipolar input (high-speed input points X0, X1, X3, X4, X5, X6, X7 can only be common anode)	
Isolation method	Photoelectric coupling	
Input impedance	2.4KΩ	
Input is ON	Input current of high-speed input terminal is greater than 5.8mA/24V, input current of common input terminal is greater than 9.9mA/24V	
Input is OFF	Input current of high-speed input terminal is less than 4.5mA/19V, input current of common input terminal is less than 4mA/17V	
Filtering function	With filtering function, the filtering range can be set from 0 to 60ms, default is 10ms	
High-speed counting function	6 channels of single-phase 60K high-speed counting, or 2 channels of 30K AB-phase counting.	
Input level	Sink/source, S/S connected to 24V is NPN, S/S connected to GND is PNP. High-speed counting only supports S/S connected to 24V.	
Isolation	Field and logic group isolation, 500VAC, 1 minute	
Switching output specifications	RX3U-32MR	RX3U-32MT,RX8U-32MT
Number of digital output points	116-point relay output	16-point NPN output
Maximum allowable current	2A per point	0.5A per point
Loop power supply voltage	DC/AC24V~220V	DC24V
Circuit insulation	Relay mechanical insulation	Photoelectric insulation
ON response time	Approximately 10 ms	High-speed output: 10 us, others: 0.5 ms
Output level	Normally open dry contact output, COM can be connected to positive or negative	Low-level NPN, COM connected to negative.

Installation Dimension



RX8U



RX3U

Coupler & IO Modules

Coupler naming rule

R E C1

1 2 3

1 Remote expansion module	
2 EtherCAT communication	
3 Coupler 1 Series	

Digital I/O module naming rule

RE - 16 16 - N

1 2 3 4

1 RE: remote expansion module	3 Digital input I/O count 16: 16 input 32: 32 input 00: 00 input
2 Digital output I/O count 16: 16 output 32: 32 output 00: 00 output	4 Function code N: NPN P: PNP

Analog input/output module naming rule

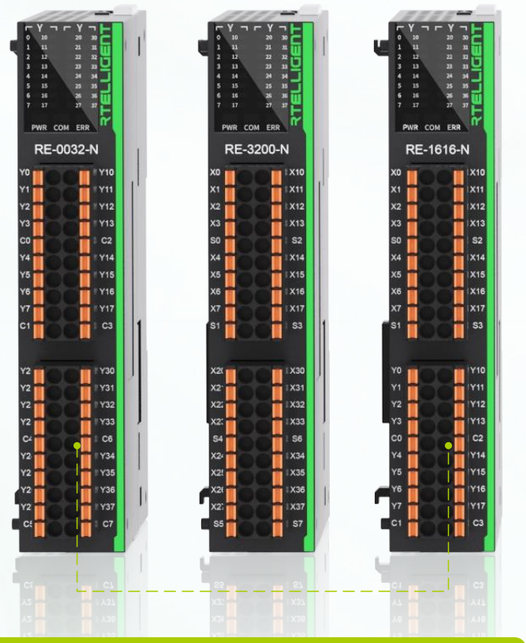
RA - 04 00 - IV

1 2 3 4

1 RA Analog expansion module	3 00: Analog output pints
2 04: Analog input points	4 Function code N: NPN P: PNP IV: Supports current/voltage WT: Weighing TC: thermocouple TR: thermal resistance

Communication coupler module

EtherCAT



Digital I/O module

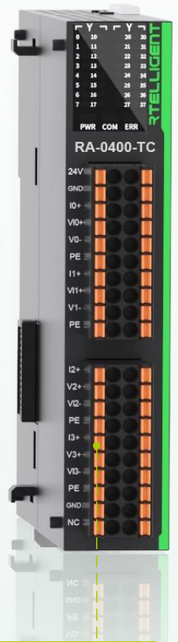
- RE-1616-N: 16-point bipolar digital input、16 point NPN digital output expansion module
- RE-3200-N: 32-point bipolar digital input expansion module
- RE-0032-N: 32-point NPN digital output expansion module
- RE-0808-N: 8-point bipolar digital input、8- point NPN digital output expansion module
- RE-1616-P: 16-point bipolar digital input、16 point PNP digital output expansion module
- RE-0032-P: 32-point PNP digital output expansion module
- RE-0808-P: 8-point bipolar digital input、8- point PNP digital output expansion module

Analog I/O Module

- RA-0400-IV: 4-channel analog input, Supports current/voltage input, configurable with different ranges, 16-bit accuracy
- RA-0004-IV: 4-channel analog output, Supports current/voltage output, configurable with different ranges, 16-bit accuracy

Weighing module

- RA-0200-WT: 2-channel sensor signal input,0.01% module accuracy, 24-bit accuracy



Temperature module

- RA-0400-TC (thermocouple)
- RA-0400-TR (thermal resistance)

Matching Cables

Naming Rule

S E L 4 _ 030
① ② ③ ④ ⑤

① High voltage servo extension cable	④ Number of cable cores
② E: Encode cable M: Motor power cable B: Brake cable	⑤ Length 030: 3000mm
③ S: AMPconnector L: connector	

Single-turn Absolute Servo Encoder Extension Cable

RSNA/TSWA series
SES4-030

VCC	GND	SD+	SD-
RED	WHT	BLU	BLU&WHT

Matching products: servo motor below 1kw with single-turn absolute encoder

RSM series
SEH4-030

VCC	GND	SD+	SD-
RED	WHT	BLU	BLU&WHT

Matching products: servo motor above 1kw with single-turn absolute encoder

Multi-turn Absolute Servo Encoder Extension Cable

RSNA/TSWA series
SES6-030

VCC	GND	PS+	PS-	BAT+	BAT-
RED	BLK	BLU	BLU&BLK	GRN	GRN&BLK

Matching products: servo motor below 1kw with multi-turn absolute encoder

RSM/RSMA series
SEH6-030

VCC	GND	PS+	PS-	BAT+	BAT-
RED	BLK	BLU	BLU&BLK	GRN	GRN&BLK

Matching products: servo motor above 1kw with multi-turn absolute encoder

Motor Power Extenstion Cable

RSNA/ TSWA series
SMS4-030A

U	V	W	PE
RED	WHT	BLK	YEL&GRN

Matching products: AC servo motor bellow 1kw

RSM/RSMA series
SMH4-030

U	V	W	PE
BRN	BLU	BLK	YEL&GRN

Matching products: AC servo motor above 1kw

TSWA/TSMA series Power Extension Cable

DM□4-030-□

U	V	W	PE
RED	WHT	BLK	YEL&GRN

Extension cable model No.	Matching motor power
SES4-030	100W
DMH4-030-10	200W,400W
DMH4-030-15	750W
DMH4-030-30	1kW
DMHM4-030-30	1.2kW,1.5kW

Matching products: TS series low-voltage servo

Servo Brake Cable

SBS2-030 (below 1kw)
(for option)

VCC	GND
RED	BLK

Note: Above 1kw servo motor select SZH2-030

Multi-turn Encoder Battery Box

MR-J3BAT

VCC	GND
RED	BLK

Matching products: servo motor with multi-turn encoder

RSDA-C V3.0/3.1 Series Motor Special Cable

Single-turn Absolute Servo Encoder Extension Cable

SEL4-030C-1K

VCC	GND	SD+	SD-
RED	WHT	BLU	BLU&BLK

Matching products: servo motor below 1kw with single-turn absolute encoder

Multi-turn Absolute Servo Encoder Extension Cable

SEL6-030C-1K

VCC	GND	BAT+	BAT-	SD+	SD-
RED	RED&WHT	BLK	BLK&WHT	BLU	BLU&BLK

Matching products: servo motor below 1kw with multi-turn absolute encoder

Motor Power Extenstion Cable

SML4-030C-1K

U	V	W	PE
RED	WHT	BLK	YEL&GNK

Matching products: AC servo motor bellow 1kw

Motor Pwoer Ext.Cable & Brake Cable Set

SML6-030C

U	V	W	PE	Brake+	Brake-
RED	WHT	BLK	YEL/GRN	BRN	BLU

Matching products: AC servo motor bellow 1kw

Quick Selection Table

AC Servo Drive

Model	Matching motor*	Control type	Power supply voltage	External debug interface
R6L028M	400W AC servo motor	Pulse control /RS485	220VAC	Type-C
R6L042M	750W AC servo motor	Pulse control /RS485	220VAC	Type-C
R6L076M	2kW AC servo motor	Pulse control /RS485	220VAC	Type-C
R6120M	3kW AC servo motor	Pulse control /RS485	220VAC	Type-C
R6L028E	400W AC servo motor	EtherCAT	220VAC	Type-C
R6L042E	750W AC servo motor	EtherCAT	220VAC	Type-C
R6L076E	2kW AC servo motor	EtherCAT	220VAC	Type-C
R6120E	3kW AC servo motor	EtherCAT	220VAC	Type-C
R5L028M	400W AC servo motor	Pulse control /RS485	220VAC	Type-C
R5L042M	750W AC servo motor	Pulse control /RS485	220VAC	Type-C
R5L076M	2kW AC servo motor	Pulse control /RS485	220VAC	Type-C
R5L028E	400W AC servo motor	EtherCAT	220VAC	Type-C
R5L042E	750W AC servo motor	EtherCAT	220VAC	Type-C
R5L076E	2kW AC servo motor	EtherCAT	220VAC	Type-C

The matching motor spec is for reference only, smaller motor is also compatible.

AC Servo Motor

Encoder type	Motor base	Rated current (W)	Rated torque (N.M)	Model	Body length (mm)	Matching pulse type driver	Matching bus type driver	Extension cable *
17bit magnetic single-turn absolute encoder	40	50	0.16	RSNA-M04J0130C	61.5	R6L028M R5L028M S5L082M	R6L028E R5L028E	Encoder cable SES4-030 Motor power cable SMS4-030A Servo brake cable (for option) SBS2-030
		100	0.32	RSNA-M04J0330C	81.5			
	60	200	0.64	RSDA-H06J0630C	70.5			
				RSDA-H06J0630C-Z	100.5			
		400	1.27	RSDA-H06J1330C	98			
				RSDA-H06J1330C-Z	119			
	80	750	2.39	RSDA-H08J2430C	97	R6L042M R5L042M S5L042M	R6L042E R5L042E	
				RSDA-H08J2430C-Z	135			
		1000	3.20	RSDA-H08J3230C	109	R6L120M R6L076M R5L076M S5L076M	R6L120E R6L076E R5L076E	
				RSDA-H08J3230C-Z	147			
17 bit magnetic multi-turn absolute encoder	40	50	0.16	RSNA-M04L0130C	61.5	R6L028M R5L028M S5L082M	R6L028E R5L028E	Encoder cable SES6-030 Motor power cable SMS4-030A battery box MR-J3BAT Servo brake cable (for option) SBS2-030
		100	0.32	RSNA-M04L0330C	81.5			
	60	200	0.64	RSDA-H06L0630C	70.5			
				RSDA-H06L0630C-Z	100.5			
		400	1.27	RSDA-H06L1330C	98			
				RSDA-H06L1330C-Z	119			
	80	750	2.39	RSDA-H08L2430C	97	R6L042M R5L042M S5L042M	R6L042E R5L042E	
				RSDA-H08L2430C-Z	135			
		1000	3.20	RSDA-H08L3230C	109	R6L120M R6L076M R5L076M S5L076M	R6L120E R6L076E R5L076E	
				RSDA-H08L3230C-Z	147			
23bit optical multi-turn absolute encoder	40	50	0.16	RSNA-M04G0130C	61.5	R6L028M R5L028M S5L082M	R6L028E R5L028E	Encoder cable SES6-030 Motor power cable SMS4-030A battery box MR-J3BAT Servo brake cable (for option) SBS2-030
		100	0.32	RSNA-M04G0330C	81.5			
	60	200	0.64	RSDA-H06G0630C	70.5			
				RSDA-H06G0630C-Z	100.5			
		400	1.27	RSDA-H06G1330C	98			
				RSDA-H06G1330C-Z	119			
	80	750	2.39	RSDA-H08G2430C	97	R6L042M R5L042M S5L042M	R6L042E R5L042E	
				RSDA-H08G2430C-Z	135			
		1000	3.20	RSDA-H08G3230C	109	R6L120M R6L076M R5L076M S5L076M	R6L120E R6L076E R5L076E	
				RSDA-H08G3230C-Z	147			

* The standard length of the extention cable is 3 meters, if you need other sizes, pleas specify when ordering.

**For the motor of high power servo motor, please refer to the details page or consult with our engineer.

Low-voltage Servo Motor

Encoder type	Motor base	Rated current (W)	Rated torque (N.M)	Model	Extension cable*	Matching drive	Length (mm)
17bit magnetic single-turn absolute encoder	40	100	0.32	TSWA-04J0330A-48	*	D5V120C D5V120E	79.5
	60	200	0.637	TSWA-06J0630A-48	Encoder cable SES4-030 Motor power cable DM□4-030-□ Brake Cable (Optional) SBS2-030		77.2
		400	1.27	TSWA-06J1330A-48			93.7
		600	1.91	TSWA-06J2030A-48		D5V250C D5V250E	113.2
	80	750	2.40	TSWA-08J2430A-48			105
		1000	3.20	TSWA-08J3230A-48		D5V380C D5V380E	119
	130	1500	5.0	TSMA-13J5030A-48	*		148
17 bit magnetic multi-turn absolute encoder	40	100	0.32	TSWA-04G0330A-48	*	D5V120C D5V120E	79.5
	60	200	0.637	TSWA-06G0630A-48	Encoder cable SES6-030 Motor power cable DM□4-030-□ Battery box MR-J3BAT Brake Cable (Optional) SBS2-030		77.2
		400	1.27	TSWA-06G1330A-48			93.7
		600	1.91	TSWA-06G2030A-48		D5V250C D5V250E	113.2
	80	750	2.40	TSWA-08G2430A-48			105
		1000	3.20	TSWA-08G3230A-48		D5V380C D5V380E	119
	130	1500	5.0	TSMA-13G5030A-48	*		148
23bit optical multi-turn absolute encoder	40	100	0.32	TSWA-04L0330A-48	*	D5V120C D5V120E	79.5
	60	200	0.637	TSWA-06L0630A-48	Encoder cable SES6-030 Motor power cable DM□4-030-□ Battery box MR-J3BAT Brake Cable (Optional) SBS2-030		77.2
		400	1.27	TSWA-06L1330A-48			93.7
		600	1.91	TSWA-06L2030A-48		D5V250C D5V250E	113.2
	80	750	2.40	TSWA-08L2430A-48			105
		1000	3.20	TSWA-08L3230A-48		D5V380C D5V380E	119
	130	1500	5.0	TSMA-13L5030A-48	*		148

*For the model of the low-voltage servo power extension cable, please refer to the P62.
The standard length of the extension cable is 3 meters,if you need other sizes, please specify when ordering.

**For the model of high-power servo motor, please refer to the details page or consult with our engineer.

Power Supply Series

Rtelligent provides 3 types of power supply, DS series switching power supply series, DL series linear power supply series and AT transformer series.

- DS series switching power supply can output regulated voltage, and is known for the features of voltage stabilization.
- DL series are linear power supplies built upon the AT transformer with attached rectifier filter; it is known for the features of small voltage ripple and strong overload capacity.
- AT series transformer is applicable to stepper system of 86 series and above; it outputs low voltage AC with low cost and long service life.

DS Series Switching Power Supply

Model	Power (W)	Output Power Specifications	Dimensions L×W×H (mm)	Weight (kg)
DS100-24	100	DC24V/4A	160×98×40	0.5
DS150-24	150	DC24V/6A	199×98×40	0.6
DS240-24	240	DC24V/10A	199×110×50	0.8
DS350-24	350	DC24V/14A	215×115×50	0.9
DS350-48	350	DC48V/7A	215×115×50	0.9
DS400-48	400	DC48V/8A	261×103×65	1.1
DS500-48	500	DC48V/10A	250×160×80	1.4

AT Series Transformer

Model	Power (W)	Output Power Specifications	Dimensions L×W×H (mm)	Weight (kg)
AT300-60	300	AC60V/5A	120×120×61	3.2
AT500-48	500	AC48V/10A	110×110×71	4.8
AT500-60	500	AC60V/8A	140×140×71	4.8
AT800-68	800	AC68/12A	160×160×67	7.4
AT1200-60	1200	AC60V/20A	180×180×80	10.1

DL Series Linear Power Supply

Model	Power (W)	Output Power Specifications	Dimensions L×W×H (mm)	Weight (kg)
DL200-36-5	200	DC36V/5A	175×112×68	2.5
DL300-36-12	300	DC36V/8A	230×150×65	3.5
DL500-48-12	500	DC48V/10A	230×150×75	5.2

Series Picture

Switching power supply

Transformer

Linear power supply

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