JUNMA SERVO SYSTEM

Save space, save wiring, save time

» Compact size

» MECHATROLINK-II

» Tuning-less concept

Advanced Industrial Automation

OMRON

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A new concept in drive simplicity

The Junma ultra-compact servo series draws on our world-leading servo-drive technology to open up new dimensions in drive simplicity. The Junma is probably the first servo drive that is fully tuning-less and program-less. It features a built-in MECHATROLINK-II motion bus, allowing the servos to be easily daisy-chained and controlled through a single cable. The Junma can save you up to 30% of cabinet space and drastically reduces cabling and set-up time.

The Junma ML-II series also shares other performance characteristics that have made Omron-Yaskawa servos leading products worldwide. Like fast response, high speed, high torque, high accuracy and proven reliability.

Key features at a glance:

- Pocket-size servo with smallest footprint 15x4.5 cm
- Tuning-less technology built-in for immediate start-up
- Built-in MECHATROLINK-II motion bus reduces cabling and allows remote servo configuration and diagnosis
- High starting torque: 300% for 3 secs.

Save space, save wiring, save time

From multiple cables...

to only one cable
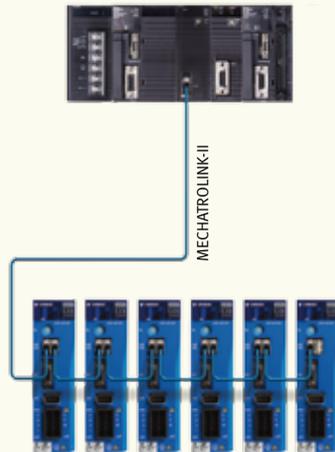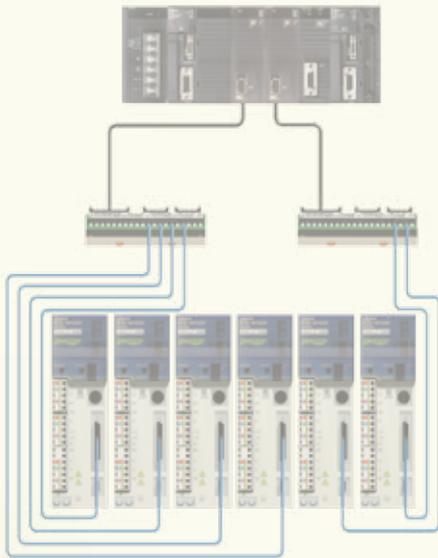
MECHATROLINK-II

30% less cabinet space

Easy connection: single cable only!
With their built-in MECHATROLINK-II motion bus, just a single cable is needed to connect servos together. So you not only save on wiring and installation time, you also significantly reduce the chance of connection errors. Reliability is increased since the single-cable connection is much more rugged than a multiple-wiring solution.
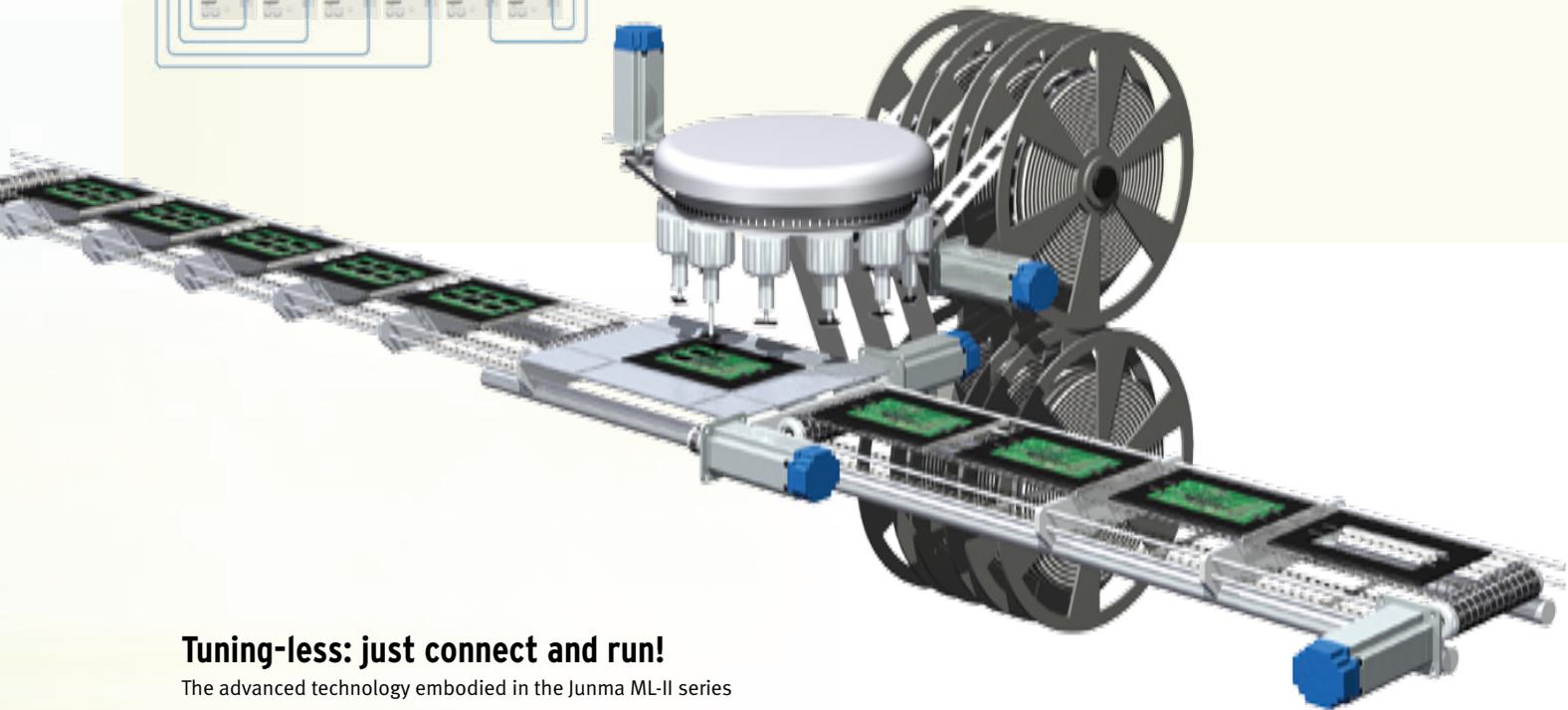
Tuning-less: just connect and run!

The advanced technology embodied in the Junma ML-II series makes the dream of the no-tuning servo solution a reality.
No gain parameters need to be set. Just connect up to the motor and you're ready to go.

The "Tuning-Less" algorithm consists of two major components:
- adjusts internal speed loop calculation to always obtain the same response characteristics
- "Auto Notch" changes parameters in the notch filter in order to suppress mechanical resonance

### Tuning-Less effect example

The test is done with a rotor inertia ratio of 0% (no load) and 1000% (load inertia 10 times rotor).
The graphs are showing position deviation and output torque test results, where the same dynamic response is achieved.

Rigid load inertia 0%

Rigid load inertia 1000%

Positioning time: 410 ms

Positioning time: 410 ms
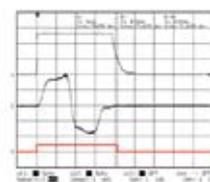
Position deviation
Torque
Positioning cycle

The optimum positioning combination: Junma ML-II + NCF

Complete and compact positioning system

In a minimum of space you can have a complete and powerful PTP system when combining the CJ1W-NCF71 unit and the Junma servo. This configuration offers 16-axis positioning with linear and circular interpolation, as well as interrupt feeding. The NCF and the Junma offer the ideal solution for applications where space is tight.

Full transparency from a remote host

When the Junma is controlled by an NCF positioning unit, the servo drive is fully transparent to a remote PC. This is achieved over MECHATROLINK-II from Junma to PLC and over any serial or Ethernet link between PLC and PC. Hence complying fully with Omron Smart Platform.

CJ1 series PLC

CJ1W-NCF71

Junma MECHATROLINK-II

NCF features and benefits

- 16-axes, point-to-point positioning controller over MECHATROLINK-II
- Easy, fast and reliable setup
- Optimised for positioning applications
- Simplified wiring to drives
- Integration into OMRON Smart Platform: Function Blocks, Smart Active Parts, CX-One
- Available for CS1 and CJ1 PLC series

PLC open

A global standard for industrial control programming, PLCopen provides a standardized programming interface to harmonise the way people design and operate industrial-control.

Drive version with Pulse train control available

- Save even more time and use 44% less space
- No need for servo parameter setting
- Ultra-compact
- Cost effective
- Position and speed controlled by pulse input
- Built-in tuning-less technology
- Output range from 100W to 750W
- Position resolution 10.000 steps per revolution

UP TO 16 AXES

OMRON

Junma Servo system

A new concept in drive simplicity
Save space, save wiring, save time

- Ultra compact drive size reduces panel space
- Tuning-less technology, no gain parameters need to be set
- Peak torque 300% of nominal for 3 seconds
- High response, high speed, high torque and high accuracy
- Drive version with MECHATROLINK-II port built-in
- MECHATROLINK-II simplifies wiring and reduces installation time
- MECHATROLINK-II provides access to the system from one point
- Pulse control Drive version available, fully "Parameter-less" just plug and run

Ratings
- 230 VAC Single-phase 100 W to 750 W (2.39 Nm)

System Configuration

Junma MECHATROLINK-II Servo Drive Configuration

CJ-series PLC

Personal computer software: CX-One

CJ1 series
Position control unit
CJ1W-NCF71

PLC open
motion control

Junma ML-II Servo Drive

Junma ML-II Servo Drive

Junma ML-II Servo Drive

Junma ML-II Servo Drive

Junma ML-II Servo Drive

MECHATROLINK-II

Terminator

Encoder cable

Power cable

Junma Servo Motor
3,000 rpm
(100-750 W)

Encoder cable

Power cable

Junma PULSE Servo Drive Configuration

Junma Pulse Servo Drive

SJDE-☐APA-OY

Position control unit

Connector terminal block
General purpose controller
(with pulse output)

Motor Type Designation

SJME - 02 A M B 4 1 - OY

JUNMA servomotor

Capacity

Code	Output (W)
01	100
02	200
04	400
08	750

Voltage
A: 200 VAC

OMRON YASKAWA Motion Control BV

Brake specifications
1 : No brake
C : 24VDC brake

Shaft end specifications
4 : Straight, key

Design procedure
B : Standard

Feedback specifications
M : Analogue output encoder
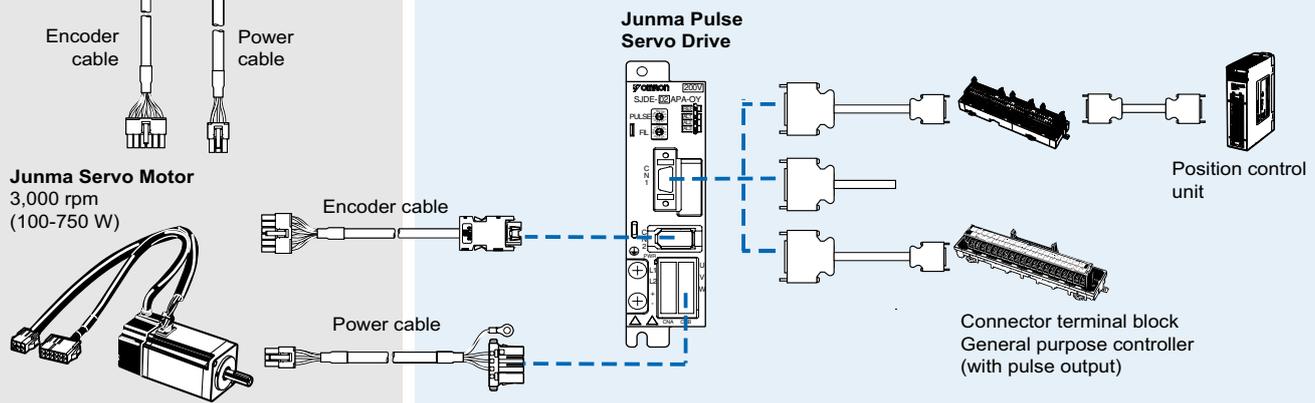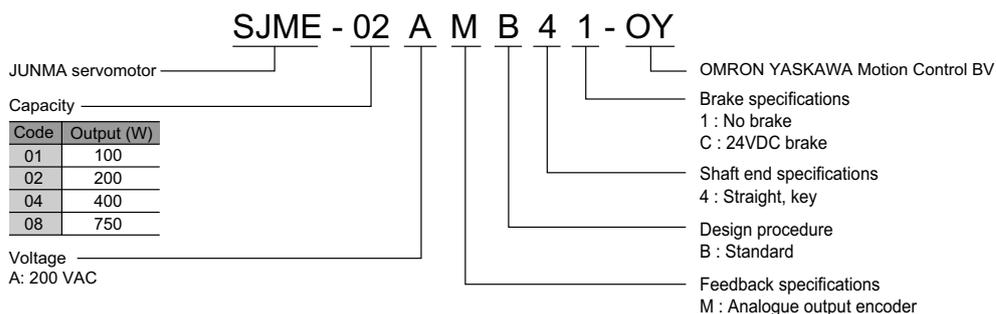
Servomotor Specifications

Voltage		230 V			
Servomotor Model SJME- □		01A□	02A□	04A□	08A□
Rated Output[*1]	W	100	200	400	750
Rated Torque[*1, *2]	N·m	0.318	0.637	1.27	2.39
Instantaneous Peak Torque[*1]	N·m	0.955	1.91	3.82	7.16
Rated Current[*1]	Arms	0.84	1.1	2.0	3.7
Instantaneous Max. Current[*1]	Arms	2.5	3.3	6.0	11.1
Rated Speed[*1]	min^{-1}		3000		
Max. Speed[*1]	min^{-1}		4500		
Torque Constant	N·m/Arms	0.413	0.645	0.682	0.699
Rotor Moment of Inertia (JM)	kg·m^{2}x10^{-4}	0.0634	0.330	0.603	1.50
Allowable load inertia[*3]	kg· m^{2}x10^{-4}	0.6	3.0	5.0	10.0
Rated Power Rate	kW/s	16.0	12.3	26.7	38.1
Rated Angular Acceleration	rad/s^2	50200	19300	21100	15900
Encoder	Standard	Analogue output encoder			
Allowable radial load		78	245	245	392
Allowable thrust load		54	74	74	147
Approx. mass	kg (without brake)	0.5	0.9	1.3	2.6
	kg (with brake)	0.8	1.5	1.9	3.5
Brake specifications — Rated voltage		24 VDC ±10%			
Holding Brake Moment of Inertia	kg·m^{2}x10^{-4}	0.0075	0.064		0.171
Power consumption (at 20°C)	W	6	6.9		7.7
Current consumption (at 20°C)	A	0.25	0.29		0.32
Static friction torque	N·m (minimum)	0.318	1.27		2.39
Rise time for holding torque	ms (max)		100		
Release time	ms (max)		80		
Basic Specifications — Time Rating		Continuous			
Thermal Class		Class B			
Vibration Class		15 μm or below			
Withstand Voltage		1500 VAC for one minute			
Insulation resistance		500 VDC, 10 MΩ min.			
Enclosure		Totally-enclosed, self-cooled, IP55 (excluding shaft opening and connectors)			
Vibration Resistance		Vibration acceleration 49 m/s²			
Usage / storage temperature		0 to +40° C / -20 to 60° C without freezing			
Usage / storage humidity		20 to 80% RH (non-condensing)			
Altitude		1000 m or less above sea level			
Mounting		Flange-mounted			

Note: *1. These items and speed/torque characteristics quoted in combination with an SJDE servo drive are at an armature winding temperature of 100°C. Other values quoted at 20°C.
*2: The rated torques listed here are the values for the continuous allowable torque at 40°C with an aluminium heatsink (250 mm x 250 mm x 6 mm) attached.
*3. Value usig the appropriate SJDE drive without of external regeneration unit

Torque-Speed Charecteristics

(A : Continuous Duty Zone   B : Intermittent Duty Zone)

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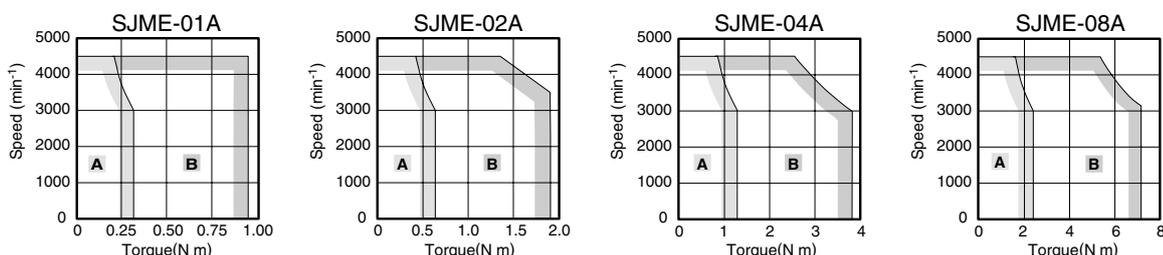
Servomotor / Servo Drive Combination

Junma Servomotor						Junma servo drive	
	Voltage	Rated Torque	Capacity	Model without brake	Model with brake	MECHATROLINK-II	Pulse Control
SJME- (3000 min⁻¹)	200 V	0.318 Nm	100 W	SJME-01AMB41-OY	SJME-01AMB4C-OY	SJDE-01ANA-OY	SJDE-01APA-OY
		0.637 Nm	200 W	SJME-02AMB41-OY	SJME-02AMB4C-OY	SJDE-02ANA-OY	SJDE-02APA-OY
		1.27 Nm	400 W	SJME-04AMB41-OY	SJME-04AMB4C-OY	SJDE-04ANA-OY	SJDE-04APA-OY
		2.39 Nm	750 W	SJME-08AMB41-OY	SJME-08AMB4C-OY	SJDE-08ANA-OY	SJDE-08APA-OY

Servo Drive Type Designation

SJDE - 02 A N A - OY

JUNMA servo drive

Applicable servomotor capacity

Code	Output (W)
01	100
02	200
04	400
08	750

Power supply voltage
A: 200 VAC

OMRON YASKAWA Motion Control BV

Design revision
A: Standard

Control Interface specification
N: MECHATROLINK-II
P: Pulse train input
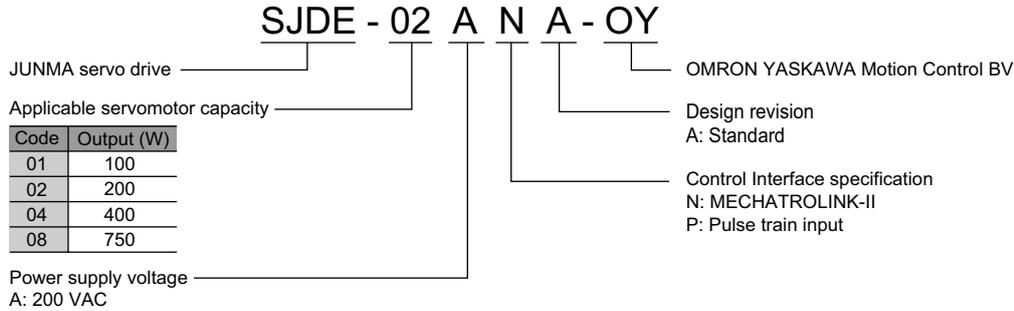
Servo Drive Specifications

Junma MECHATROLINK-II Servo Drive

| Servo Drive Type	SJDE-□		01ANA-OY	02ANA-OY	04ANA-OY	08ANA-OY
Applicable servomotor	**SJME-□**		**01A□**	**02A□**	**04A□**	**08A□**
Basic specifications	Max. Applicable Motor capacity	W	100	200	400	750
	Continuous output current	Arms	0.84	1.1	2.0	3.7
	Max. output current	Arms	2.5	3.3	6.0	11.1
	Input power supply (Main circuit and control circuit)	Voltage	Single-phase, 200 to 230 VAC, + 10 to -15%　(50/60 Hz)			
		Capacity KVA	0.40	0.75	1.2	2.2
	Control Method		PWM control, sine wave current drive system			
	Feedback		Analogue incremental encoder (13 bits incremental equivalent)			
	Allowable load inertia*1	kg· m²	0.6×10^{-4}	3.0×10^{-4}	5.0×10^{-4}	10.0×10^{-4}
	Usage / storage temperature		0 to +55° C / -20 to 70° C			
	Usage / storage humidity		90%RH or less (non-condensing)			
	Altitude		1000m or less above sea level			
	Vibration/shock Resistance		4.9m/s² (0.5G) / 19.6m/s² (2G)			
	Configuration		Base mounted			
	Approx. mass	Kg	1.0			1.4
Built-in functions	Dynamic brake (DB)		Operated at main power OFF, servo alarm, servo OFF.(OFF after motor stops; ON when motor power is off.)			
	Regenerative processing		Optional (If the regenerated energy is too large, install a regenerative unit JUSP-RG08D)			
	Over-travel (OT) prevention function		P_OT, N_OT			
	Emergency stop		Emergency stop (E-STP)			
	LED display		4 LEDs (PWR, RDY, COM, ALM)			
	MECHATROLINK-II monitor		MECHATROLINK-II under communication : COM LED (Light ON)			
	Servo ON/OFF monitor		At Servo OFF : RDY LED (Light OFF), at Servo ON : RDY LED (Light Blinks)			
	Power supply status monitor		Control / main-circuit power-supply OFF state: PWR LED (Light OFF) Control / main-circuit power-supply ON state: PWR LED (Light ON)			
	Electronic gearing		0,01< A/B<100			
	Protection		Overcurrent, overvoltage, undervoltage, overload, main circuit sensor error, board temperature error, excessive position error overflow, overspeed, encoder signal error, overrun protection, system error, parameter error			
	MECHATROLINK Communication	Comm. protocol	MECHATROLINK-II			
		Transmission rate	10 Mbps			
		Transmission cycle	1ms, 1.5ms, 2ms, 3ms, 4ms			
		Data length	17 byte and 32 byte			
	Command input	MECHATROLINK communication	MECHATROLINK-II commands (For sequence, motion, data setting/reference, monitor, adjustment, and other commands)			
	Sequence Input signal	Fixed input	5 points　(fixed layout: external latch signal, zero return reduced speed signal, forward drive inhibiting signal, reverse run inhibiting signal, emergency stop signal)			
	Sequence Output signal	Fixed output	2 points　(fixed layout: servo alarm, brake interlock)			

Note: *1. Value without external regeneration unit

Junma Pulse Servo Drives

| Servo Drive Type	SJDE- □	01APA-OY	02APA-OY	04APA-OY	08APA-OY
Applicable servomotor	**SJME-□**	**01A□**	**02A□**	**04A□**	**08A□**
Basic specifications — Max. Applicable Motor capacity	W	100	200	400	750
Continuous output current	Arms	0.84	1.1	2.0	3.7
Max. output current	Arms	2.5	3.3	6.0	11.1
Input power supply (Main circuit and control circuit)	Voltage	Single-phase, 200 to 230 VAC, + 10 to -15% (50/60 Hz)			
	Capacity KVA	0.40	0.75	1.2	2.2
Control Method		PWM control, sine wave current drive system			
Feedback		Analogue incremental encoder (10000 steps per revolution)			
Allowable load inertia[*1]	kg· m²	0.6×10^{-4}	3.0×10^{-4}	5.0×10^{-4}	10.0×10^{-4}
Usage / storage temperature		0 to +55° C / -20 to 70° C			
Usage / storage humidity		90%RH or less (non-condensing)			
Altitude		1000 m or less above sea level			
Vibration/shock Resistance		$4.9 m/s^2$ (0.5G) / $19.6 m/s^2$ (2G)			
Configuration		Base mounted			
Cooling method		Forced cooling (built-in fan)			
Approx. mass	Kg	0.5		1.0	
Built-in functions — Dynamic brake (DB)		Operated at main power OFF, servo alarm, servo OFF.(OFF after motor stops; ON when motor power is off.)			
Regenerative processing		Optional (If the regenerated energy is too large, install a regenerative unit JUSP-RG08D)			
LED display		5 (PWE, REF, AL1, AL2, AL3)			
Reference filter		Select one of eight levels with FIL switch			
Protection		Speed errors, overload, encoder errors, voltage errors, overcurrents, disablement of the built-in cooling fan, system errors			
I/O Signals — Input signal for reference Designated pulse type and pulse resolution with PULSE switch.	Pulse type	Select one of the following signals: 1. CCW + CW 2. Sign + pulse train 3. CCW + CW (logic reversal) 4. Sign + pulse train (logic reversal)			
	Pulse resolution	Select one of the following signals: 1. 1000 pulses/rev (Open collector/line driver) 75 kpps max. 2. 2500 pulses/rev (Open collector/line driver) 187.5 kpps max. 3. 5000 pulses/rev (Line driver) 375 kpps max. 4. 10000 pulses/rev (Line driver) 750 kpps max.			
Clear input signal		Clears the positioning error when turned ON			
Servo ON input signal		Turns the servomotor ON or OFF			
Alarm output signal		OFF if an alarm occurs. (Note: OFF for 2s when power is turned ON)			
Brake output signal		External signal to control brakes. Turn ON to release the brake			
Positioning completed output signal		ON if the current position is equal to the reference position ±10 pulses.External signal to control brakes.			
Origin output signal		ON if the motor is at the origin. (Width: 1/500 rev) (Note:Use the pulse edge that changes the signal from OFF to ON)			

Note: *1. Value without external regeneration unit

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Dimensions

Junma servomotors

SJME-01 (200V, 100W)

Model	L	LL	Approx. Mass (kg)
SJME-01AMB41-OY	119	94	0.5
SJME-01AMB4C-OY	164	139	0.8

Units: mm

Note: Only for servomotors with brakes
Holding brake torque = Motor rated torque
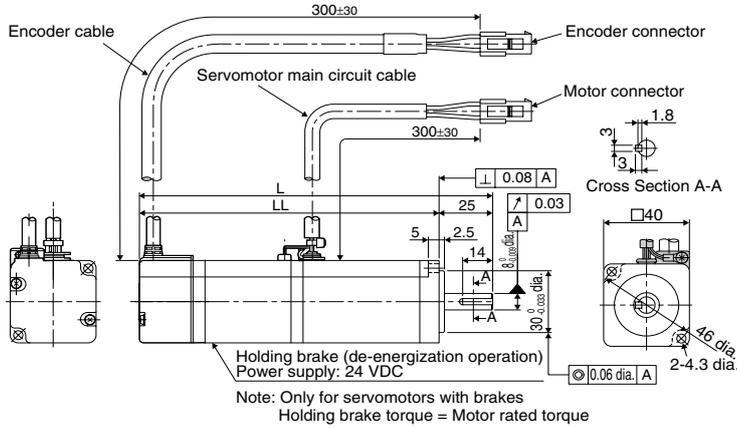
SJME-02, 04, 08 (200V, 200 to 750W)

Model	L	LL	LR	LG	LE	S	LB	LC	LD	LF	LA	LZ	QK	Approx. Mass (kg)
SJME-02AMB41-OY	125.5	95.5	30	6	3	$14^{\,0}_{-0.011}$	$50^{\,0}_{-0.039}$	60	-	-	70	5.5	20	0.9
SJME-02AMB4C-OY	165.5	135.5												1.5
SJME-04AMB41-OY	148.5	118.5							-	-				1.3
SJME-04AMB4C-OY	188.5	158.5												1.9
SJME-08AMB41-OY	173	133	40	8	3	$16^{\,0}_{-0.011}$	$70^{\,0}_{-0.046}$	80	35	20	90	7	30	2.6
SJME-08AMB4C-OY	216	176												3.5

Units: mm

Note: Only for servomotors with brakes
Holding brake torque = Motor rated torque
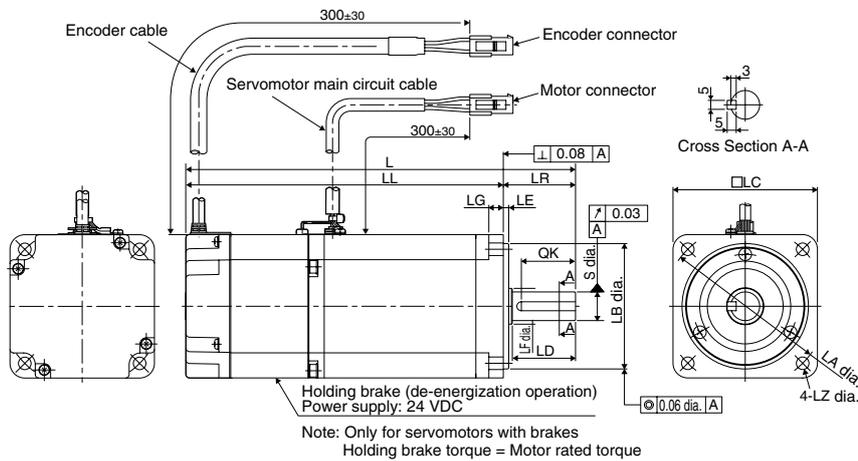
Servomotor connectors

Encoder Connector Specifications
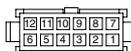
Plug:
5559-12P-210
Terminal:
5558T2(chained) or
5558T2L(detached)
(Manufacture: Molex Japan Co., Ltd)

1	PG5V	Red
2	PG0V(GND)	Black
3	Phase A+	Blue
4	Phase A-	Blue/White
5	Phase B+	Yellow
6	Phase B-	Yellow/White
7	Phase /Z	Purple
8	Phase U	Gray
9	Phase V	Green
10	Phase W	Orange
11	-	-
12	FG	Shield

Motor Connector Specifications
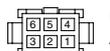
Plug:
5559-06P-210
Terminal (No.1 to 3, 5, 6):
5558T(chained) or 5558TL(detached)
Grounding Pin (No.4):
30490-2002(chained) or
30490-2012 (detached)
(Manufacture: Molex Japan Co., Ltd)

	No brake		With brake	
1	Phase U	Red	Phase U	Red
2	Phase V	White	Phase V	White
3	Phase W	Blue	Phase W	Blue
4	F G	Green/Yellow	F G	Green/Yellow
5	-	-	Brake	Red
6	-	-	Brake	Black

AC Servo Systems

Junma MECHATROLINK-II servo drives

SJDE-01, 02, 04ANA-OY (200V, 100 to 400W)

Model	Cooling Fan
SJDE-01ANA-OY	Not mounted
SJDE-02ANA-OY	Not mounted
SJDE-04ANA-OY	Mounted

Approx. mass : 1kg

Units in mm

SJDE-08ANA-OY (200V, 750W)

Approx. mass : 1.4 kg

Units in mm

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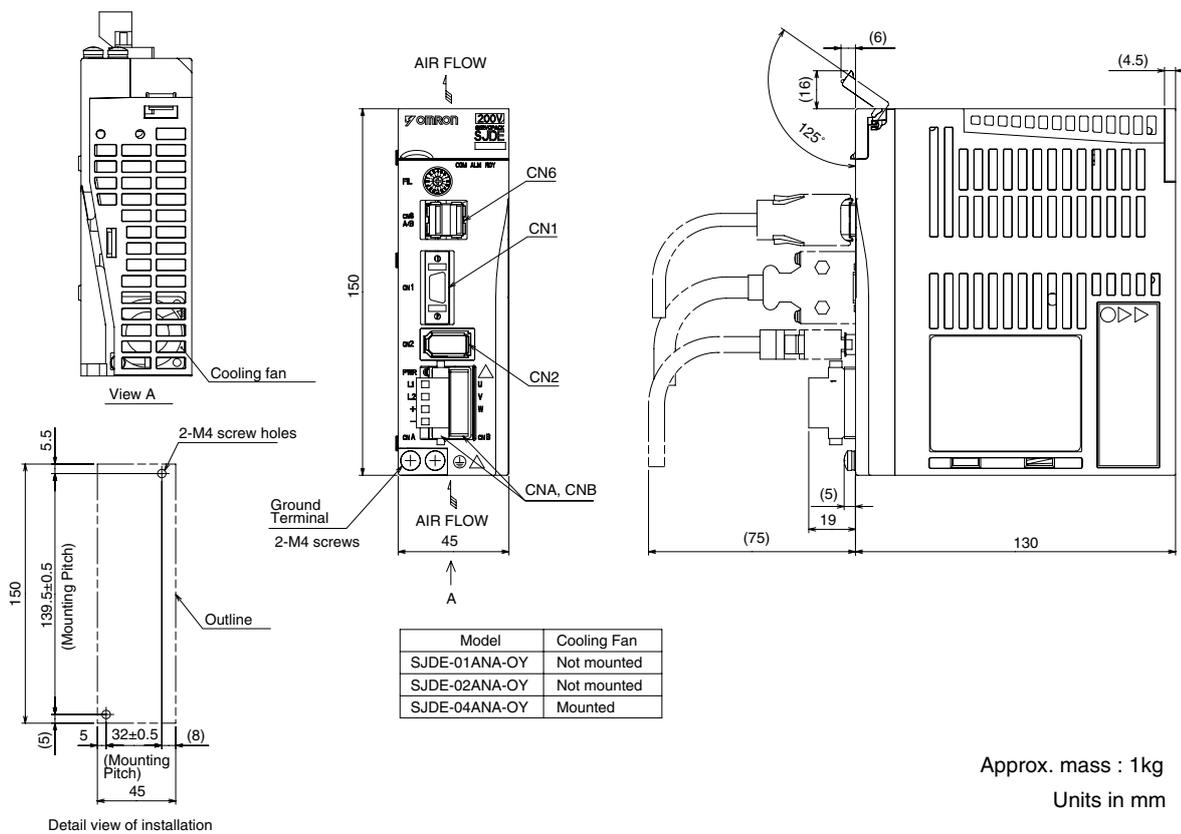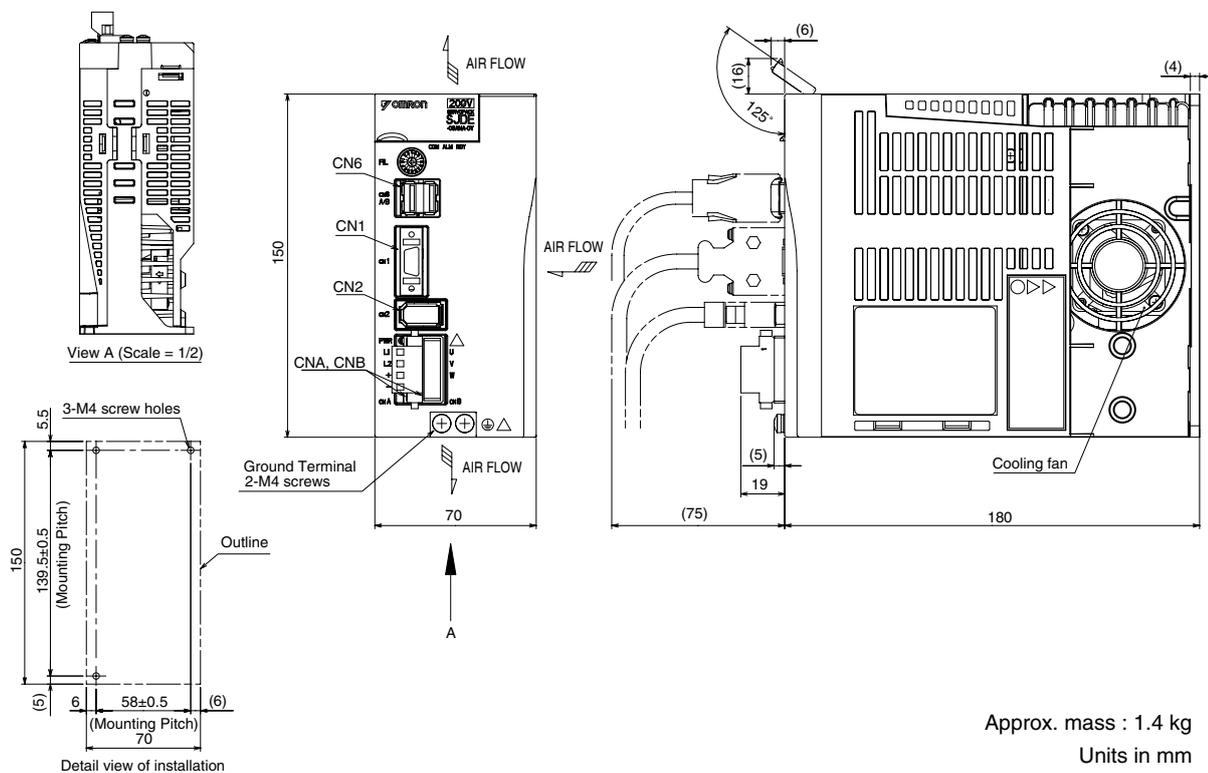
Junma pulse control servo drives

SJDE-01, 02APA-OY (200V, 100 to 200W)

Mounting Hole Diagram

2-M4 screw holes

AIR FLOW

Cooling fan

AIR FLOW

CN1

CN2

CNB

CNA

Ground Terminal
2-M4 screws

4.5 dia.holes

Approx. mass : 0.5 kg

Units in mm

SJDE-04APA-OY (200V, 400W)

Mounting Hole Diagram

2-M4 mounting holes

Visible outline

AIR FLOW

Cooling fan

AIR FLOW

CN1

CN2

CNB

CNA

Ground Terminal
2-M4 screws

4.5 dia.holes

Approx. mass : 0.5 kg

Units in mm

SJDE-08APA-OY (200V, 800W)

Mounting Hole Diagram

2-M4 mounting holes

Visible outline

AIR FLOW

Cooling fan

AIR FLOW

CN1

CN2

CNB

CNA

Ground Terminal
2-M4 screws

4.5 dia.holes

Approx. mass : 1 kg

Units in mm

AC Servo Systems

Ordering Information

Junma Servo Motor configuration
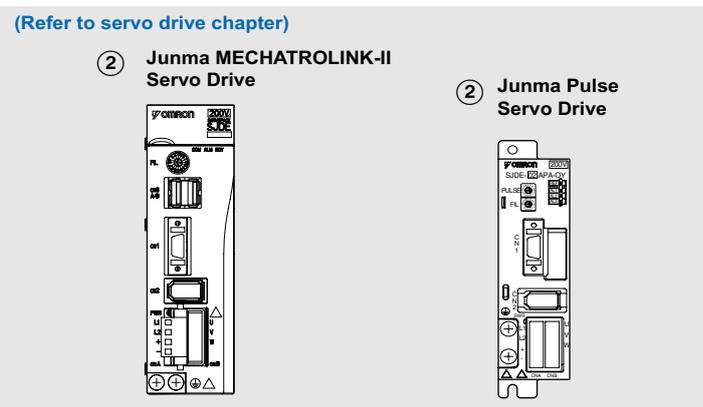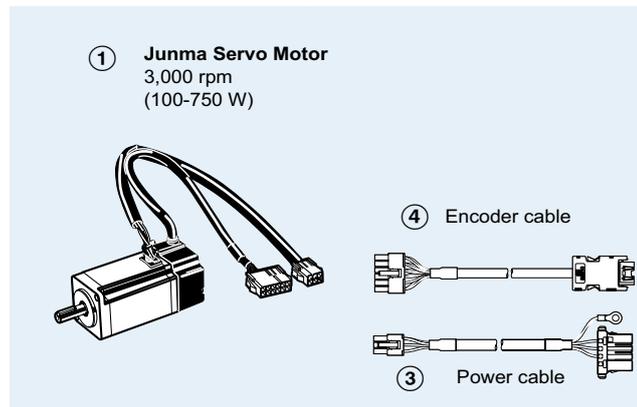
① **Junma Servo Motor**
3,000 rpm
(100-750 W)

④ Encoder cable

③ Power cable

(Refer to servo drive chapter)

② **Junma MECHATROLINK-II Servo Drive**

② **Junma Pulse Servo Drive**

Servomotors and Servo drives

Symbol	Specifications					① Servomotor model	② Servo drive model	
	Voltage	Encoder and Design		Rated Torque	Capacity		Mechatrolink-II	Pulse Control
①②	1 Phase 200 VAC	Analogue Incremental Encoder	Without brake	0.318 Nm	100 W	SJME-01AMB41-OY	SJDE-01ANA-OY	SJDE-01APA-OY
				0.637 Nm	200 W	SJME-02AMB41-OY	SJDE-02ANA-OY	SJDE-02APA-OY
				1.27 Nm	400 W	SJME-04AMB41-OY	SJDE-04ANA-OY	SJDE-04APA-OY
		Straight shaft with key		2.39 Nm	750 W	SJME-08AMB41-OY	SJDE-08ANA-OY	SJDE-08APA-OY
			With brake	0.318 Nm	100 W	SJME-01AMB4C-OY	SJDE-01ANA-OY	SJDE-01APA-OY
				0.637 Nm	200 W	SJME-02AMB4C-OY	SJDE-02ANA-OY	SJDE-02APA-OY
				1.27 Nm	400 W	SJME-04AMB4C-OY	SJDE-04ANA-OY	SJDE-04APA-OY
				2.39 Nm	750 W	SJME-08AMB4C-OY	SJDE-08ANA-OY	SJDE-08APA-OY

Power cables

Symbol	Specifications			Model	Appearance
③	Power cable for Junma servomotors without brake SJME-0□AMB41-OY	Flexible cables (Standard) Shielded Cable Bending radius (Dynamic) > 10xDiameter Bending cycles > 5 Million	1.5 m	JZSP-CHM000-01-5E	
			3 m	JZSP-CHM000-03-E	
			5 m	JZSP-CHM000-05-E	
			10 m	JZSP-CHM000-10-E	
			15 m	JZSP-CHM000-15-E	
			20 m	JZSP-CHM000-20-E	
		Non flexible cables	3 m	R7A-CAZ003S	
			5 m	R7A-CAZ005S	
			10 m	R7A-CAZ010S	
	Power cable for Junma servomotors with brake SJME-0□AMB4C-OY	Flexible cables (Standard) Shielded Cable Bending radius (Dynamic) > 10xDiameter Bending cycles > 5 Million	1.5 m	JZSP-CHM030-01-5E	
			3 m	JZSP-CHM030-03-E	
			5 m	JZSP-CHM030-05-E	
			10 m	JZSP-CHM030-10-E	
			15 m	JZSP-CHM030-15-E	
			20 m	JZSP-CHM030-20-E	
		Non flexible cables	3 m	R7A-CAZ003B	
			5 m	R7A-CAZ005B	
			10 m	R7A-CAZ010B	

Encoder cables

Symbol	Specifications			Model (Flexible)	Appearance
④	Encoder cable for Junma servomotors SJME-0□AMB4□-OY	Flexible cables (Standard) Shielded Cable Bending radius (Dynamic) > 10xDiameter Bending cycles > 5 Million	1.5 m	JZSP-CHP800-01-5E	
			3 m	JZSP-CHP800-03-E	
			5 m	JZSP-CHP800-05-E	
			10 m	JZSP-CHP800-10-E	
			15 m	JZSP-CHP800-15-E	
			20 m	JZSP-CHP800-20-E	
		Non flexible cables	3 m	R7A-CRZ003C	
			5 m	R7A-CRZ005C	
			10 m	R7A-CRZ010C	

Connectors for power and encoder cables

Specifications			Model (Omron)	Model (Yaskawa)
Connectors for making power cables	Drive side (CNB)	Manufacturer: JST (04JFAT-SAYGF-N)	R7A-CNZ01A	JZSP-CHM9-2
	Motor side	Manufacturer: Molex (5557-06R-210)	R7A-CNZ02A	JZSP-CHM9-1
Connectors for making encoder cables	Drive side (CN2)	Manufacturers 3M and Molex	R7A-CNZ01R	JZSP-CHP9-2
	Motor side	Manufacturer: Molex (57026-5000)	R7A-CNZ02R	JZSP-CHP9-1
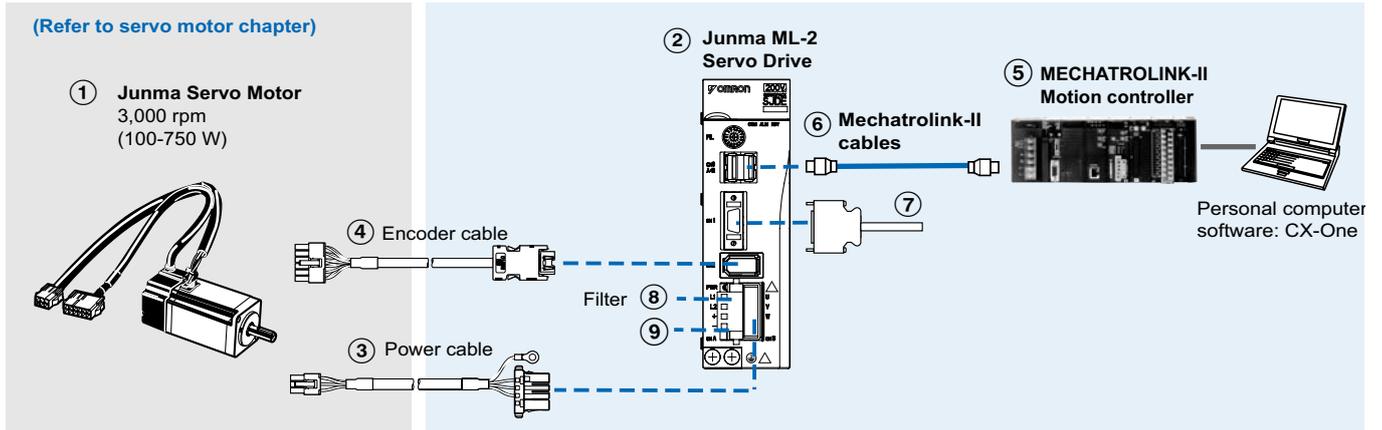
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Junma MECHATROLINK-II Servo Drive Configuration

Servomotors and Servo drives

Symbol	Specifications					① Servomotor model	② Servo drive model
	Voltage	Encoder and Design		Rated Torque	Capacity		
①②	1 Phase 200 VAC	Analogue Incremental Encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMB41-OY	SJDE-01ANA-OY
				0.637 Nm	200 W	SJME-02AMB41-OY	SJDE-02ANA-OY
				1.27 Nm	400 W	SJME-04AMB41-OY	SJDE-04ANA-OY
				2.39 Nm	750 W	SJME-08AMB41-OY	SJDE-08ANA-OY
			With brake	0.318 Nm	100 W	SJME-01AMB4C-OY	SJDE-01ANA-OY
				0.637 Nm	200 W	SJME-02AMB4C-OY	SJDE-02ANA-OY
				1.27 Nm	400 W	SJME-04AMB4C-OY	SJDE-04ANA-OY
				2.39 Nm	750 W	SJME-08AMB4C-OY	SJDE-08ANA-OY

Power and encoder cables

Note: ③④ Refer to the Junma servo motor section for motor cables or connectors selection

Mechatrolink-II Motion controllers

Symbol	Name	Model
⑤	Position Controller Unit for CJ1 PLC	CJ1W-NCF71
	Position Controller Unit for CS1 PLC	CS1W-NCF71
	Trajexia stand-alone motion controller	TJ1-MC16

Mechatrolink-II cables

Symbol	Specifications		Model
⑥	Mechatrolink-II Terminator resistor		JEPMC-W6022
	Mechatrolink-II Cables	0.5 m	JEPMC-W6003-A5
		1 m	JEPMC-W6003-01
		3 m	JEPMC-W6003-03
		5 m	JEPMC-W6003-05
		10 m	JEPMC-W6003-10
		20 m	JEPMC-W6003-20
		30 m	JEPMC-W6003-30

Cables for I/Os (for CN1)

Symbol	Name	Compatible units		Model
⑦	Control cable	Cable for servo drive I/O signals	1 m	R7A-CPZ001S or JZSP-CHI003-01
			2 m	R7A-CPZ002S or JZSP-CHI003-02
			3 m	JZSP-CHI003-03

Filters

Symbol	Applicable servo drive	Rated current	Leakage current	Rated voltage	Filter model
⑧	SJDE-01ANA-OY SJDE-02ANA-OY SJDE-04ANA-OY	5A	1.7 mA	250 VAC 1- phase	R7A-FIZN105-BE
	SJDE-08ANA-OY	9A	1.7 mA		R7A-FIZN109-BE

Regenerative Unit Model (Option)

Symbol	Specifications	Model (Omron)	Model (Yaskawa)
⑨	External regenerative unit (Optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Model (Omron)	Model (Yaskawa)
Control I/O connector (for CN1)	R7A-CNA01R	JZSP-CHI9-1
Power input connector (for CNB). (Included in drive the box)	R7A-CNZ01P	JZSP-CHG9-1

Computer Software

Specifications	Model
Configuration and monitoring software tool via ML2 (CX-Drive version 1.3 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One 2.0 or higher)	CX-ONE

Junma Pulse Servo Drive Configuration

(Refer to servo motor chapter)
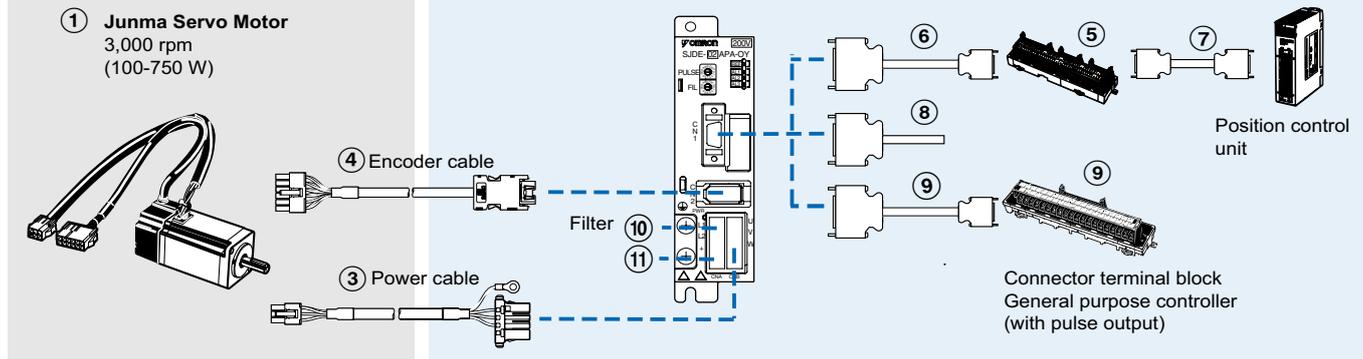
① **Junma Servo Motor**
3,000 rpm
(100-750 W)

② **Junma Pulse Servo Drive**

④ Encoder cable

③ Power cable

Filter ⑩ ⑪

⑥ ⑤ ⑦ Position control unit

⑧

⑨ ⑨ Connector terminal block
General purpose controller
(with pulse output)

Servomotors and Servo drives

Symbol	Specifications					① Servomotor model	② Servo drive model
	Voltage	Encoder and Design		Rated Torque	Capacity		Pulse Control
①②	1 Phase 200 VAC	Analogue Incremental Encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMB41-OY	SJDE-01APA-OY
				0.637 Nm	200 W	SJME-02AMB41-OY	SJDE-02APA-OY
				1.27 Nm	400 W	SJME-04AMB41-OY	SJDE-04APA-OY
				2.39 Nm	750 W	SJME-08AMB41-OY	SJDE-08APA-OY
			With brake	0.318 Nm	100 W	SJME-01AMB4C-OY	SJDE-01APA-OY
				0.637 Nm	200 W	SJME-02AMB4C-OY	SJDE-02APA-OY
				1.27 Nm	400 W	SJME-04AMB4C-OY	SJDE-04APA-OY
				2.39 Nm	750 W	SJME-08AMB4C-OY	SJDE-08APA-OY

Power and encoder cables

Note: ③④ Refer to the Junma servo motor section for motor cables or connectors selection

Control cables (for CN1)

Symbol	Name	Compatible units		Model
⑤	Servo relay unit	Units: CS1W-NC113/133, CJ1W-NC113/133, C200HW-NC113	-	XW2B-20J6-1B (1 axis)
		Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433, C200HW-NC213/413	-	XW2B-40J6-2B (2 axes)
		Units: CQM1H-PLB21 and CQM1-CPU43-V1	-	XW2B-20J6-3B (1 axis)
		Use with CJ1M-CPU21/22/23	-	XW2B-20J6-8A (1 axis)
			-	XW2B-40J6-9A (2 axes)
⑥	Cable to servo drive	For the servo relay unit XW2B-☐☐J6-☐B, XW2B-20J6-8A, XW2B-40J6-9A	1 m	XW2Z-100J-B17
			2 m	XW2Z-200J-B17
⑦	Cable to position control unit	CQM1H-PLB21 and CQM1-CPU43-V1	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A8
			1 m	XW2Z-100J-A8
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A9
			1 m	XW2Z-100J-A9
		CS1W-NC133	0.5 m	XW2Z-050J-A12
			1 m	XW2Z-100J-A12
		CS1W-NC233/433	0.5 m	XW2Z-050J-A13
			1 m	XW2Z-100J-A13
		CJ1W-NC113	0.5 m	XW2Z-050J-A16
			1 m	XW2Z-100J-A16
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A17
			1 m	XW2Z-100J-A17
		CJ1W-NC133	0.5 m	XW2Z-050J-A20
			1 m	XW2Z-100J-A20
		CS1W-NC233/433	0.5 m	XW2Z-050J-A21
			1 m	XW2Z-100J-A21
		CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A26
			1 m	XW2Z-100J-A26

Symbol	Name	Compatible units		Model
⑧	Control cable	For general-purpose controllers	1 m	R7A-CPZ001S or JZSP-CHI003-01
			2 m	R7A-CPZ002S or JZSP-CHI003-02
			3 m	JZSP-CHI003-03
⑨	Connector terminal block cable	For general-purpose controllers	1 m	XW2Z-100J-B19
			2 m	XW2Z-200J-B19
	Connector terminal block		-	XW2B-20G5

Filters

Symbol	Applicable servo drive	Rated current	Leakage current	Rated voltage	Filter model
⑩	SJDE-01APA-OY SJDE-02APA-OY SJDE-04APA-OY	5A	1.7 mA	250 VAC 1- phase	R7A-FIZP105-BE
	SJDE-08APA-OY	9A	1.7 mA		R7A-FIZP109-BE

Regenerative Unit Model (Option)

Symbol	Specifications	Model (Omron)	Model (Yaskawa)
⑪	External regenerative unit (Optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Model (Omron)	Model (Yaskawa)
Control I/O connector (for CN1)	R7A-CNA01R	JZSP-CHI9-1
Power input connector (for CNB). (Included in drive the box)	R7A-CNZ01P	JZSP-CHG9-1

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• Displacement & width-measuring sensors • Vision systems • Safety networks • Safety sensors
• Safety units/relay units • Safety door/guard lock switches

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