NEVER STOP

Scalable, flexible, easy and above all, reliable

What makes our control, motion, drive, servo and inverter solutions so special is that they are designed to deliver high performance and total reliability.
With Omron Yaskawa's motion and drive products in your automation system, your systems never fail, and your production never stops.

Check the statements of our customers regarding the importance of reliability at:
www.never-stop.info

Motion & Drives – Table of contents

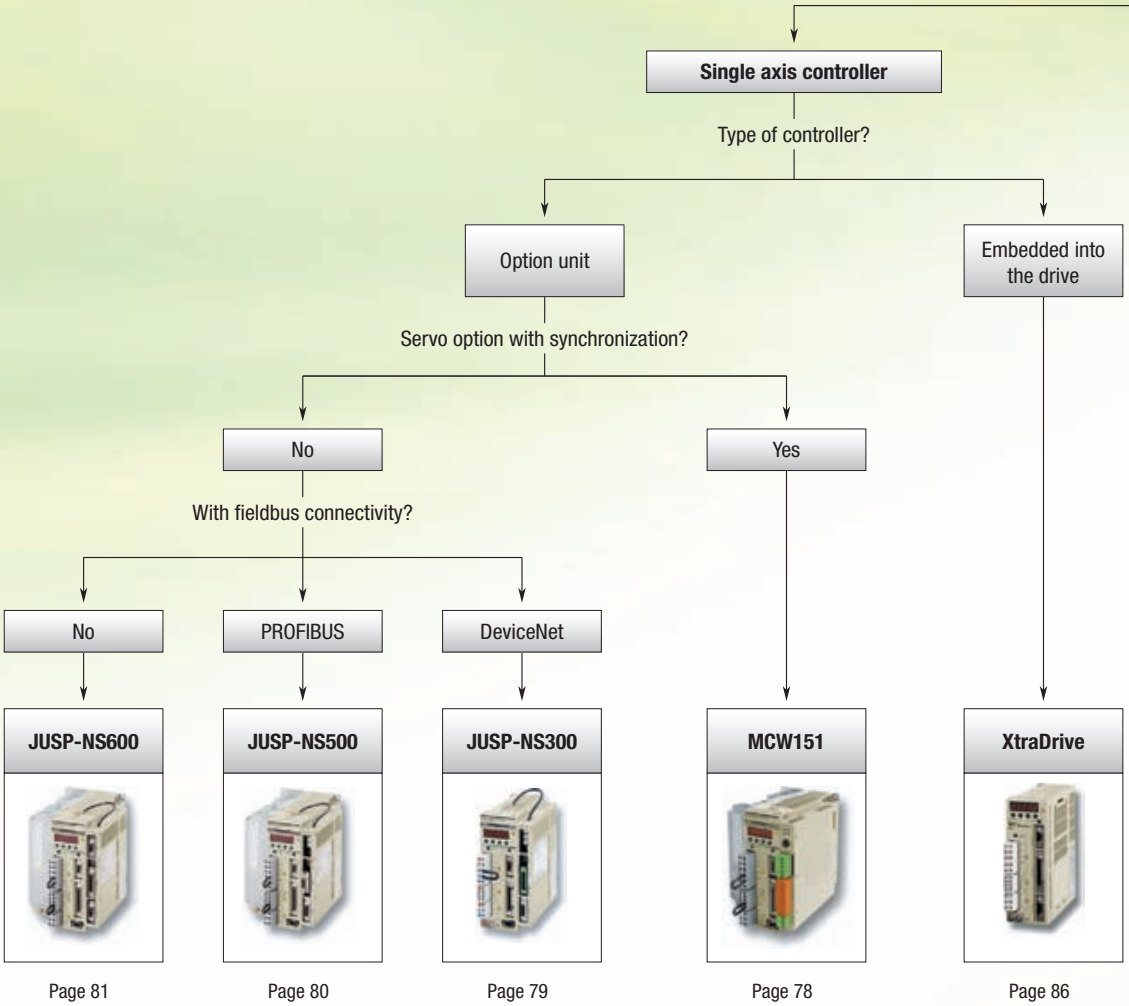
TOTAL FREEDOM IN MOTION CONTROL

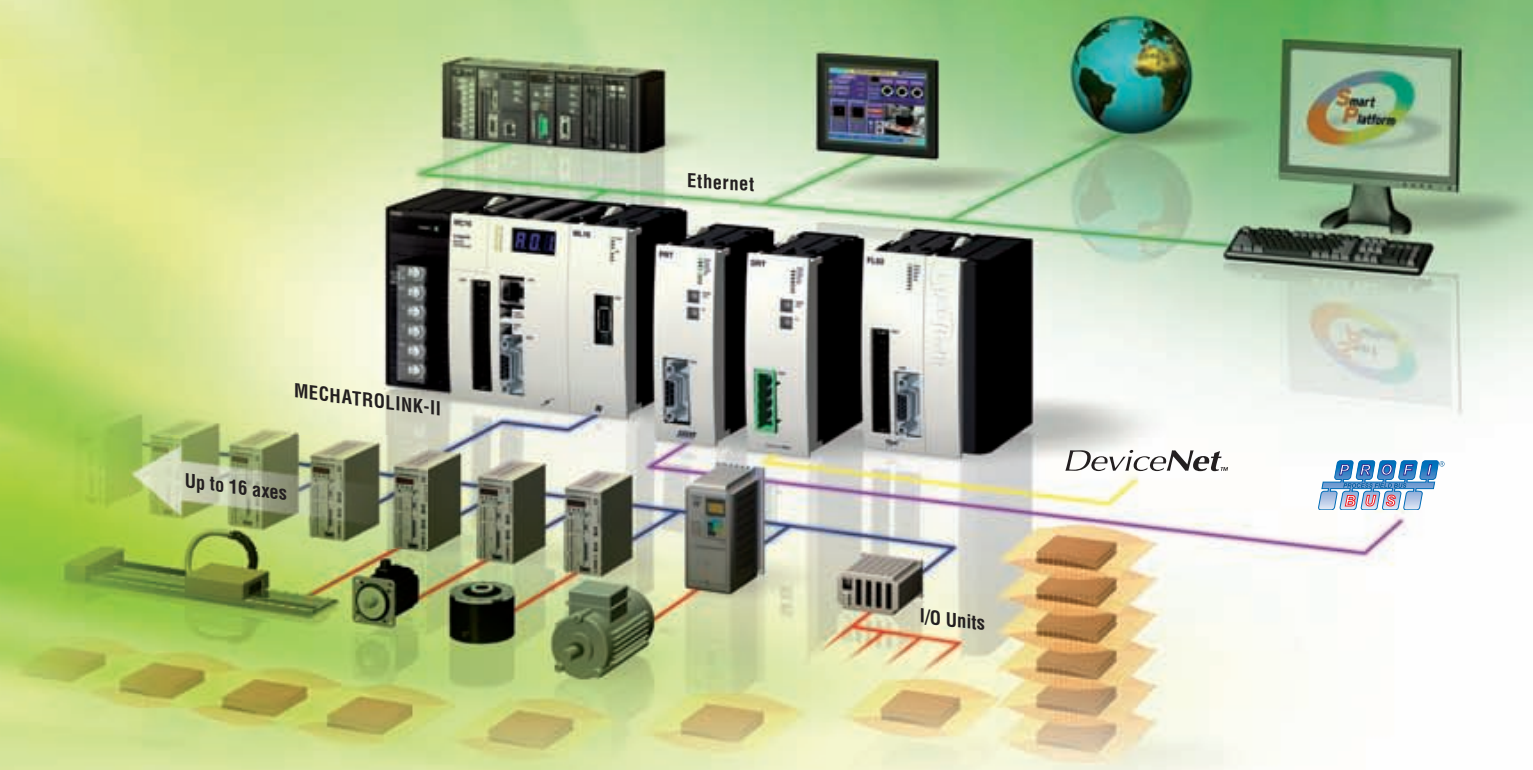
Trajexia – the advanced motion controller that puts you in control

Trajexia is the motion platform that offers you the performance of a dedicated motion system,
the ease of use you get from an automation specialist and the peace of mind you have from a global player.

- 16 axes advanced motion coordination over a robust and fast motion link
- Each axis can run complex interpolation moves, e-cams and e-gearboxes
- Advanced debugging tools including trace and oscilloscope functions

Check how Trajexia can give you total freedom in motion control at:
www.trajexia.com





Which motion architecture do you need?

Multi-axis controller

Controller inside the Omron PLC?

Stand-alone controller

Yes

Control over MECHATROLINK?

No

Yes

Control method?

With synchronization?

Pulse train

Analog output

No

Yes

Trajexia

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NCs

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MCs

Please contact your Omron representative

NC_71

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MCH72

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Multi-axes motion controllers				
				
Order code	**Trajexia**	**CJ1W-MCH72**	**CJ1W-NC_71**	**CJ1W-NC_**
	Flexible concept of advanced motion control over MECHATROLINK-II motion bus and traditional interfaces	Flexible concept of advanced motion control over MECHATROLINK-II motion bus in PLC format	Point-to-point positioning controller over MECHATROLINK-II motion bus	Point-to-point positioning controller
Axes control method	MECHATROLINK-II motion bus, analog output and pulse-train	MECHATROLINK-II motion bus	MECHATROLINK-II motion bus	Pulse train output
Number of axes	16 servos + 8 inverters	30 axes	2, 4, 16	1, 2, 4
Applicable servo drive	Sigma II	Sigma II, Sigma V	Sigma II	SmartStep, Sigma II
Application	Advanced motion, e-cam, e-gearbox, phase shift, registration	Advanced motion, e-cam, e-gearbox, phase shift, registration	From simple PTP to multi axis PTP coordinated systems.	Point to point applications
Servo control mode	Position, speed and torque	Position, speed and torque	Position, speed and torque	Open loop position with linear interpolation
PLC series	Stand alone motion solution. Ethernet, PROFIBUS-DP and DeviceNet connectivity	CJ1 PLC	CJ1 and CS1 PLCs	CJ1 and CS1 PLCs
Page	73	75	76	77

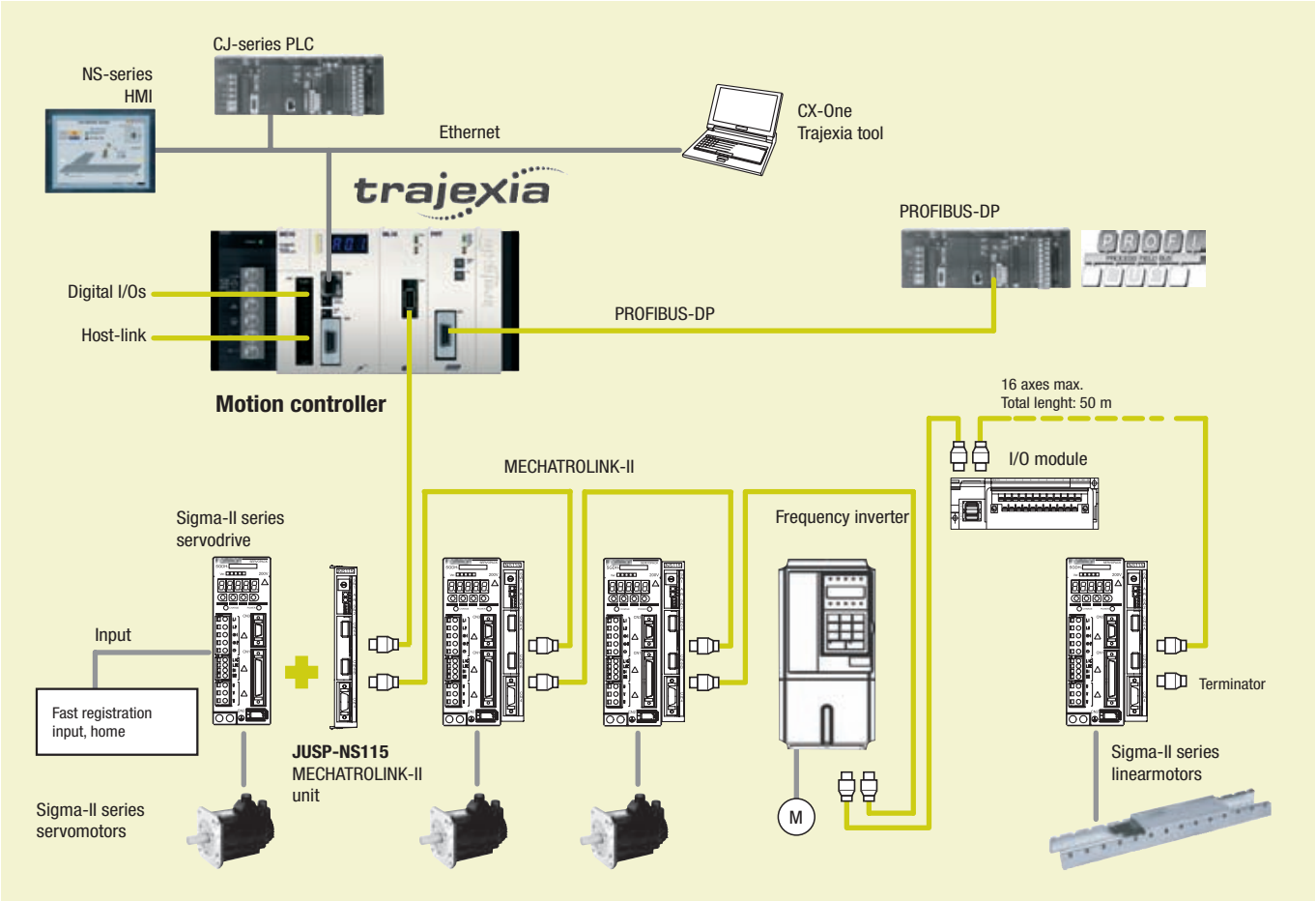
Servo based motion controllers					
					
Order code	**R88A-MCW151**	**XtraDrive**	**JUSP-NS300**	**JUSP-NS500**	**JUSP-NS600**
	Advanced motion in a compact package	All in one! Servo drive and motion controller integrated	Position controller over DeviceNet	Position controller over PROFIBUS-DP	Position controller over serial link
Axes control method	Direct connection to servo drive	Integrated into the servo drive	Direct connection to servo drive	Direct connection to servo drive	Direct connection to servo drive
Connectivity	DeviceNet, PROFIBUS, Hostlink	PROFIBUS	DeviceNet	PROFIBUS	RS-485/RS-422
Digital I/O	8 DI, 6 DO, 2 registration inputs, 1 encoder in 1 pulse out + servo I/Os	Servo inputs + expansion available	Uses the servo I/O and adds 2 additional DO and 1 DI	Uses the servo I/O and adds 2 additional DO and 1 DI	Uses the servo I/O and adds 8 additional DI and 6 DO
Application	Advanced motion, e-cam, ELS, phase shift, registration	Advanced motion	Point to point with registration capability	Point to point with registration capability	Point to point with registration capability
Servo control mode	Position, speed and torque. Open loop for additional axis	Position, speed and torque	Position and speed		
Applicable servo drive	Sigma II	XtraDrive	Sigma II		
Page	78	86	79	80	81

The advanced motion controller that puts you in control

Trajexia is Omron's new motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player. Trajexia puts you in full control to create the best machines today and… tomorrow.

- 16 axes advanced motion coordination over a robust motion link
- Each axis can run complex interpolation moves, eCAMs and eGEAR
- Advanced debugging tools including trace and oscilloscope
- Multi-tasking – capable of running up to 14 tasks simultaneously
- Open – Ethernet built-in, PROFIBUS-DP and DeviceNet as options

System configuration



Ordering information

Trajexia motion controller

Name	Order code
Trajexia motion controller unit. Controls up to16 servos and 8 inverters, Ethernet port built-in.	TJ1-MC16
Trajexia motion controller unit. Controls up to 4 axes, Ethernet port built-in.	TJ1-MC04
Power supply for Trajexia controller 100-240 VAC	CJ1W-PA202
Power supply for Trajexia controller 24 VDC	CJ1W-PD022

Trajexia – axes control modules

Name	Order code
Trajexia MECHATROLINK-II master unit (up to 16 axes)	TJ1-ML16
Trajexia MECHATROLINK-II master unit (up to 4 axes)	TJ1-ML04
Trajexia flexible axes unit (for 2 axes)	TJ1-FL02

Trajexia – communication modules

Name	Order code
Trajexia PROFIBUS-DP slave unit	TJ1-PRT
Trajexia DeviceNet slave unit	TJ1-DRT

MECHATROLINK-II - related devices

Name	Remarks	Order code
Distributed I/O modules	64-point input and 64-point output	JEPMC-IO2310
	Analog input: -10 V to +10 V, 4 channels	JEPMC-AN2900
	Analog output: -10 V to +10 V, 2 channels	JEPMC-AN2910
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II interface unit	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
	For Varispeed V7 inverter (For inverter's version supported contact your Omron sales office)	SI-T/V7
	For Varispeed F7, G7 inverter (For inverter's version supported contact your Omron sales office)	SI-T

I/O Cables

	Remarks	Length m	Order code
I/O cable for JEPMC-IO2310	With connector on the IO2310 side	0.5	JEPMC-W5410-05
		1.0	JEPMC-W5410-10
		3.0	JEPMC-W5410-30

Servo system

Note: Refer to servo systems section for detailed information.

Frequency inverters

Note: Refer to frequency inverters section for detailed information.

Computer software

Specifications	Order code
Trajexia motion perfect and CX-Drive V1.2 or higher	TJ1-Tools

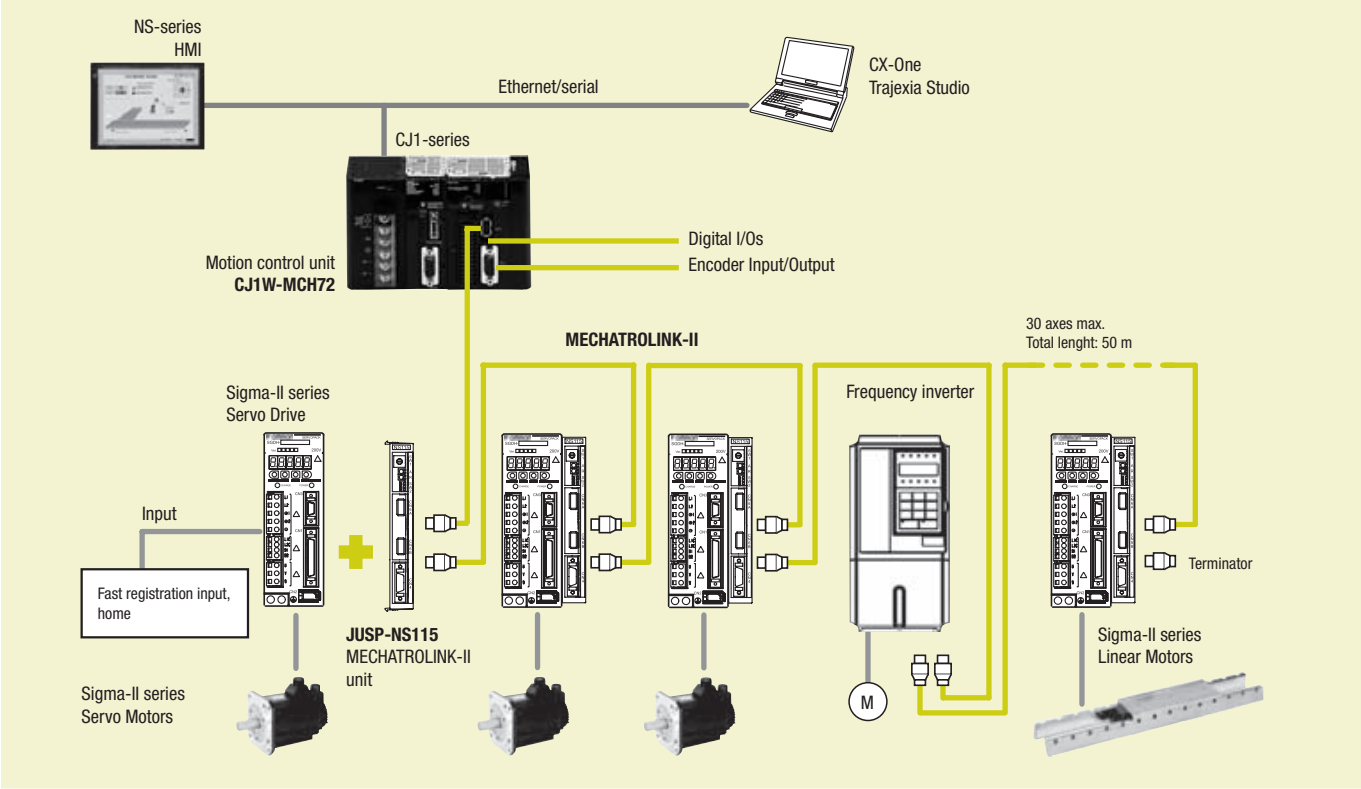
For full specifications please refer to chapter software on page 518.

Trajexia motion controller integrated with your PLC

Trajexia, the family of advanced motion controllers that put you in control, now has a compact and integrated version. Meet Trajexia-PLC, the motion controller that has all the flexibility and modularity of Omron PLCs, plus the outstanding motion-control features of the Trajexia platform.

- Controls up to 30 servos and inverters over MECHATROLINK-II.
- Full connectivity to the same range of servo drives and inverters as other Trajexia controllers.
- Supports incremental, absolute encoder and pulse train
- Embedded and configurable I/Os: 16 digital inputs and 8 outputs
- The CJ1-MCH72 motion CPU uses the same advanced programming language as the Trajexia standalone CPUs and the new monitoring and debugging tool, TRAJEXIA Studio.

Ordering information



Motion controller

Name	Order code
MECHATROLINK-II Trajexia motion control unit	CJ1W-MCH72

MECHATROLINK-II - Related devices

Name	Remarks	Order code
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II interface units	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
	For Varispeed V7 inverter (For inverter version support contact your Omron sales office)	SI-T/V7
	For Varispeed F7, G7 inverter (For inverter version support contact your Omron sales office)	SI-T
MECHATROLINK-II repeater	When 17 or more axes are connected to the MECHATROLINK-II the repeater is required	JEPMC-REP2000

Servo system

Note: Refer to servo systems section for detailed information

Frequency inverters

Note: Refer to frequency inverters section for detailed information

Computer software

Specifications	Order code
Trajexia Studio V1.0 or higher (Available with CX-One license)	CX-ONE

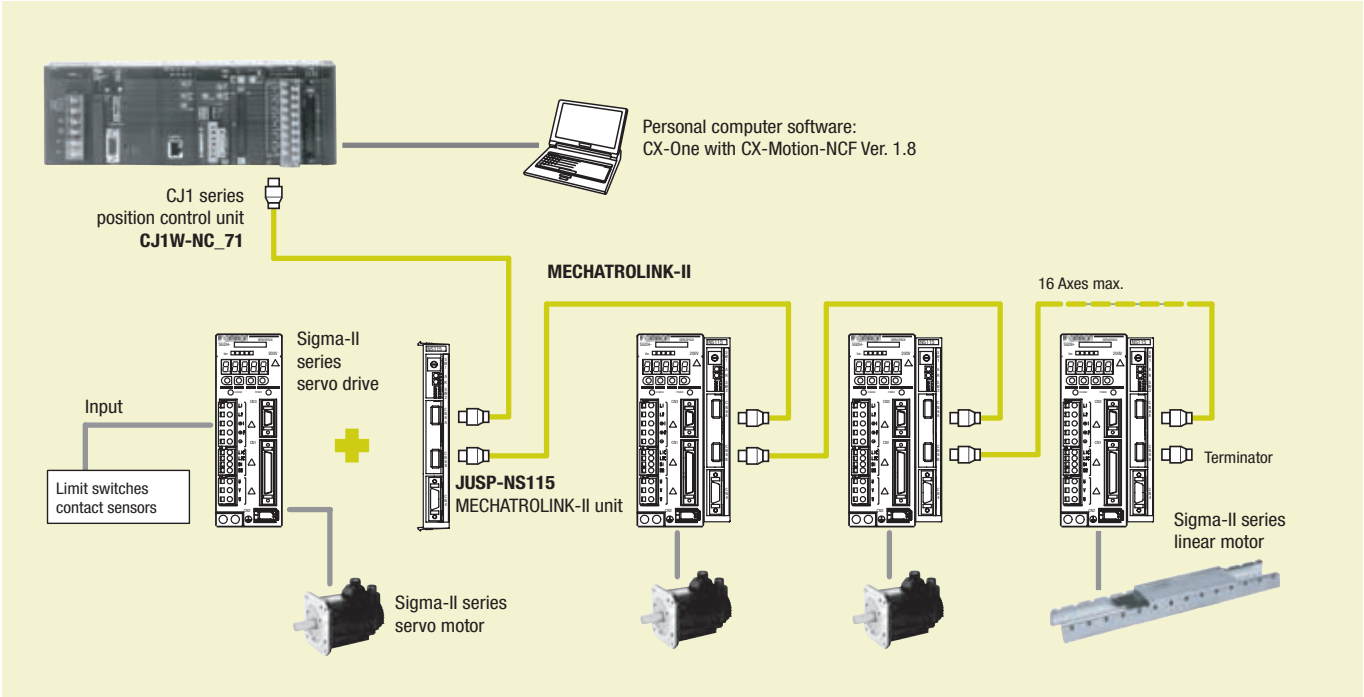
For full specifications please refer to chapter software on page 518.

2, 4 and 16-axis point-to-point positioning controller over MECHATROLINK-II

NC_71 is a powerful controller for point-to-point applications. It is based on MECHATROLINK-II motion bus, which reduces programming and development and maintenance costs. Supports PLC open function blocks.

- Simplified wiring. Data routing to all servo drives (MECHATROLINK)
- Integration into Omron Smart Platform: FBs, SAPs, CX-One
- Servo drives full control and parameter access via MECHATROLINK
- Easy, fast, reliable, optimised for positioning applications
- Advanced PTP: 8-axis (4 dim.+ 4 dim.) interpolator (16 axis version)

Ordering information



Position controller unit

Name	Order code
MECHATROLINK-II position controller unit 2-axis	CJ1W-NC271
MECHATROLINK-II position controller unit 4-axis	CJ1W-NC471
MECHATROLINK-II position controller unit 16-axis	CJ1W-NCF71

MECHATROLINK-II related devices

Name	Remarks	Order code
MECHATROLINK-II interface unit	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30

Servo system

Note: Refer to servo systems section for more information

Computer software

Specifications	Order code
CX-One version 3 or higher	CX-ONE

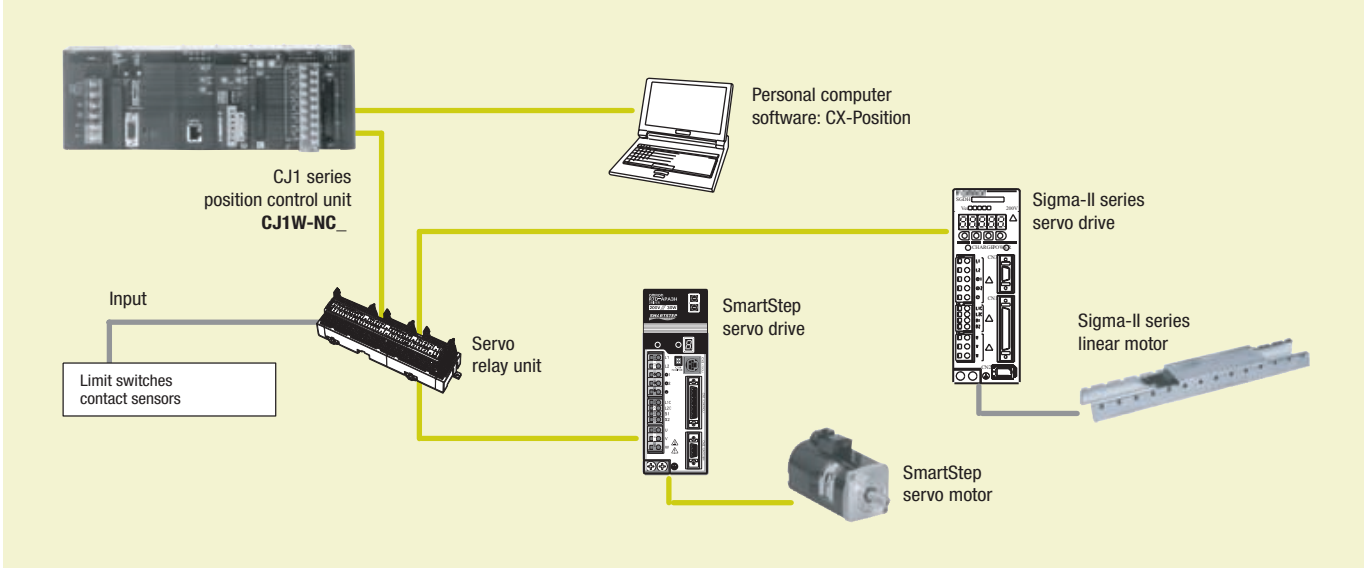
For full specifications please refer to chapter software on page 518.

4-axis point-to-point positioning controller with pulse train output

The NC motion controllers support positioning control via pulse-train outputs. Positioning is performed using trapezoidal or S-curve acceleration and deceleration. Ideal for controlling simple positioning in stepper motors and servos with pulse-train input.

- Positioning can be carried out by direct ladder commands
- Positioning using trapezoidal and S curve
- Interrupt feeding function
- Positioning points are saved in internal flash memory
- Origin search and backlash compensation functions

Ordering information



Position control unit

Name	Order code
1 axis position control unit. Open-collector output	CJ1W-NC113
2 axes position control unit. Open-collector output	CJ1W-NC213
4 axes position control unit. Open-collector output	CJ1W-NC413
1 axis position control unit. Line-driver output	CJ1W-NC133
2 axes position control unit. Line-driver output	CJ1W-NC233
4 axes position control unit. Line-driver output	CJ1W-NC433

Servo drive cables

Note: Refer the selected servo systems section for cable and servo relay units information.

Computer software

Specifications	Order code
CX-One version 1.1 or higher	CX-ONE

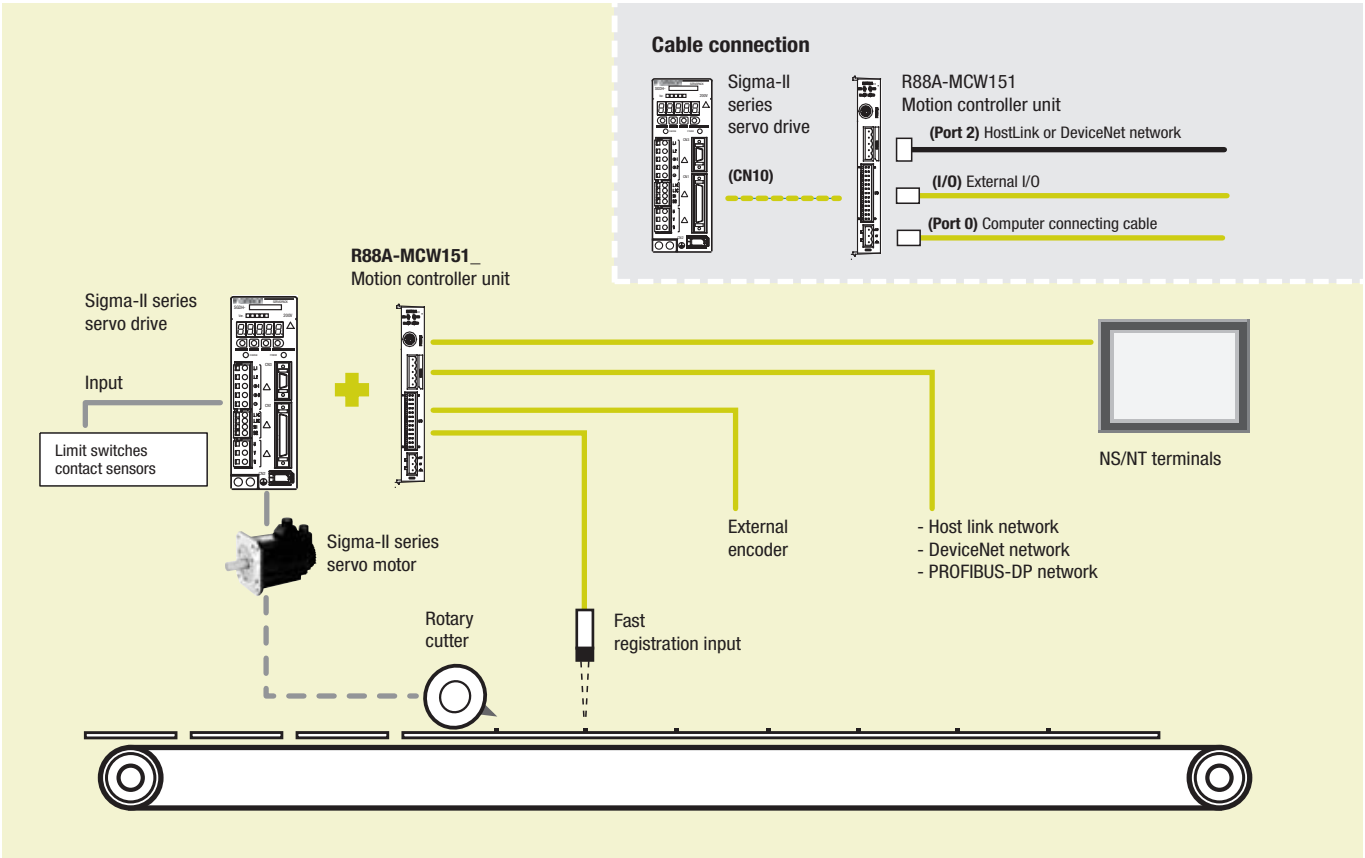
For full specifications please refer to chapter software on page 518.

Motion pure in a compact package

The MCW151 is a powerful servo-based controller. Complex motions such as cams, gears, linked axes and interpolation are made easy with a comprehensive BASIC command set.

- Controls 1 real axis, 1 virtual axis and a configurable third axis
- One pulse-train output to control an additional axis
- User-friendly and intuitive BASIC motion programming
- Multi-tasking programming
- 2 fast-registration inputs

Ordering information



Motion controller unit

Name	Order code
1.5 axis advanced motion controller with host link interface	R88A-MCW151-E
1.5 axis advanced motion controller with DeviceNet interface	R88A-MCW151-DRT-E

PROFIBUS connectivity

Name	Order code
PROFIBUS-DP module interface for R88A-MCW151-E motion controllers	PRT1-SCU11

Serial cables (for Port 0, 1)

Name	Order code
Programing cable, 2 m. (Port 0)	R88A-CCM002P4-E
Spliter cable, 1 m (Port 0 & 1). Combined with R88A-CCM002P4-E cable allows using motion perfect and a general purpose application.(e.g. terminal)	R88A-CCM001P5-E

Connectors

Specification	Order code
I/O connector (Included in package)	B2L 3.5/26 SN SW (Weidmüler)
Power connector (Included in package)	MSTB 2.5/3-ST-5.08 (Phoenix)
Port 2 connector (Included in package)	MSTB 2.5/5-ST-5.08 (Phoenix)

Note: For a complete view of DeviceNet network accesories, refer to Automation systems catalogue or contact your Omron representative.

Computer software

Specifications	Order code
Motion perfect	MOTION TOOLS CD
EDS file	

Servo System

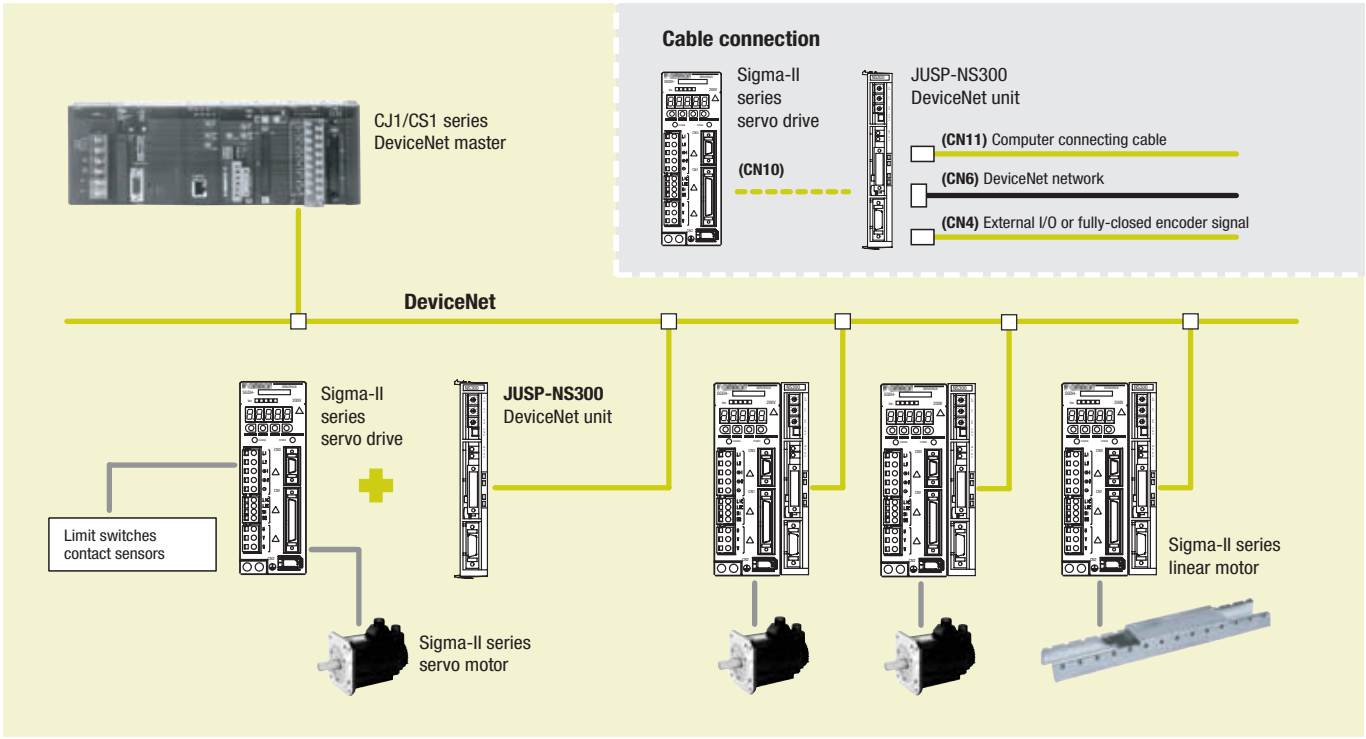
Note: Refer to the servo systems section for more information

Position controller over DeviceNet

The NS300 is the drive-based solution for simple and reliable positioning using DeviceNet.

- No programming language is necessary
- Up to 63 drives can be connected in a network
- Supports polling I/O and explicit messages
- Parameters are maintained by the PLC
- Various positioning modes (homing, multistep and speed positioning)

Ordering information



DeviceNet interface unit

Name	Order code
DeviceNet Interface unit with point to point positioning functionality	JUSP-NS300

Serial cable (for CN11)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P4

Connectors

Name	Order code
Connector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973
Connector for CN6. DeviceNet connector with retaining screws	XW4B-05C1-H1-D
Connector for CN6. DeviceNet multi-branching connector with retaining screws	XW4B-05C4-TF-D
Connector for CN6. DeviceNet multi-branching connector (without retaining screws)	XW4B-05C4-T-D

Note: For a complete view of DeviceNet network accesories, refer to networks section or contact your Omron representative.

Computer software

Name	Order code
NS tool	MOTION TOOLS CD
ESD file	

Servo system

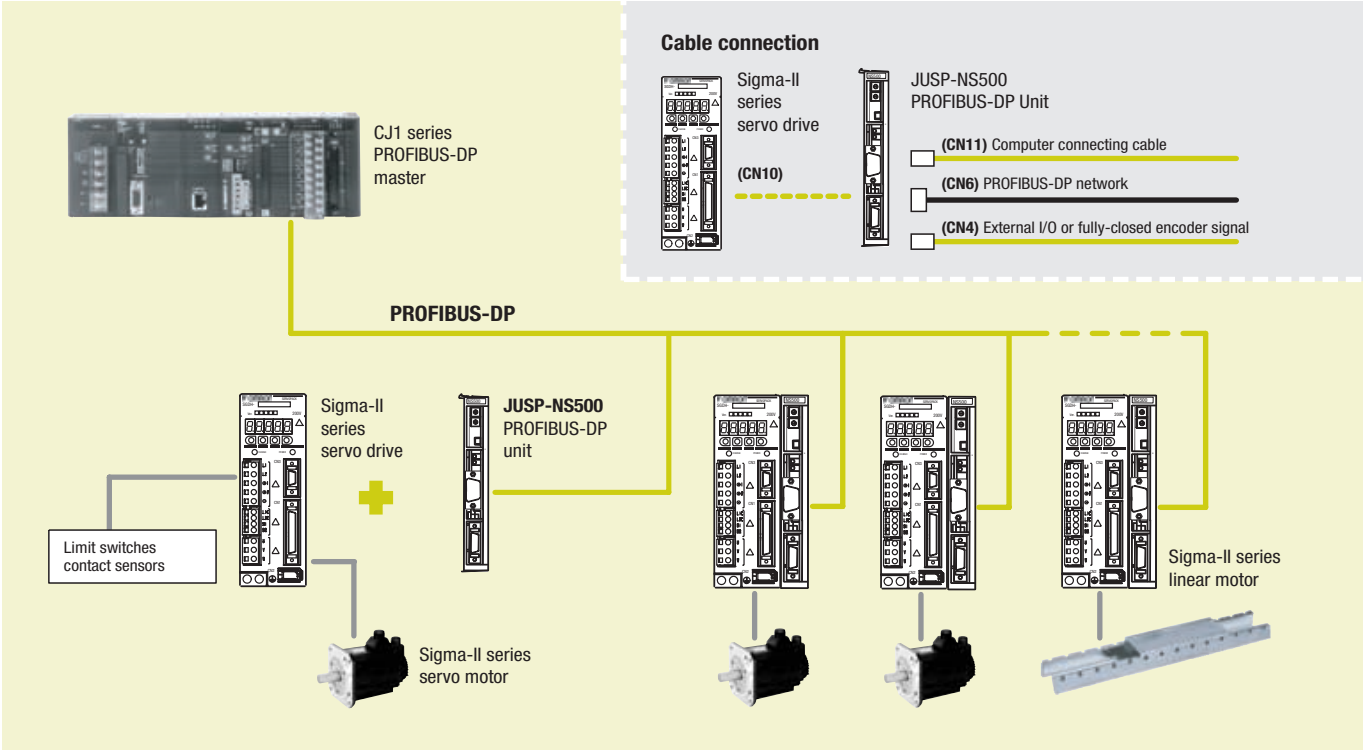
Note: Refer to the Servo systems section for more information.

Position controller over PROFIBUS-DP

The NS500 is a flexible and simple distributed control over PROFIBUS-DP.
It connects directly to the Sigma-II and has several positioning modes, making it simple to configure.

- No programming language is necessary
- Various positioning modes (homing, multistep and speed positioning)
- Connects directly to Sigma-II drives
- Up to 125 servos can be connected
- Fully closed control loop

Ordering information



PROFIBUS-DP interface unit

Name	Order code
PROFIBUS-DP interface unit with point to point positioning functionality	JUSP-NS500

Serial cable (for CN11)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P4

Connectors

Name	Order code
Conector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973

Computer software

Name	Order code
NS tool	MOTION TOOLS CD
GSD file	

Servo system

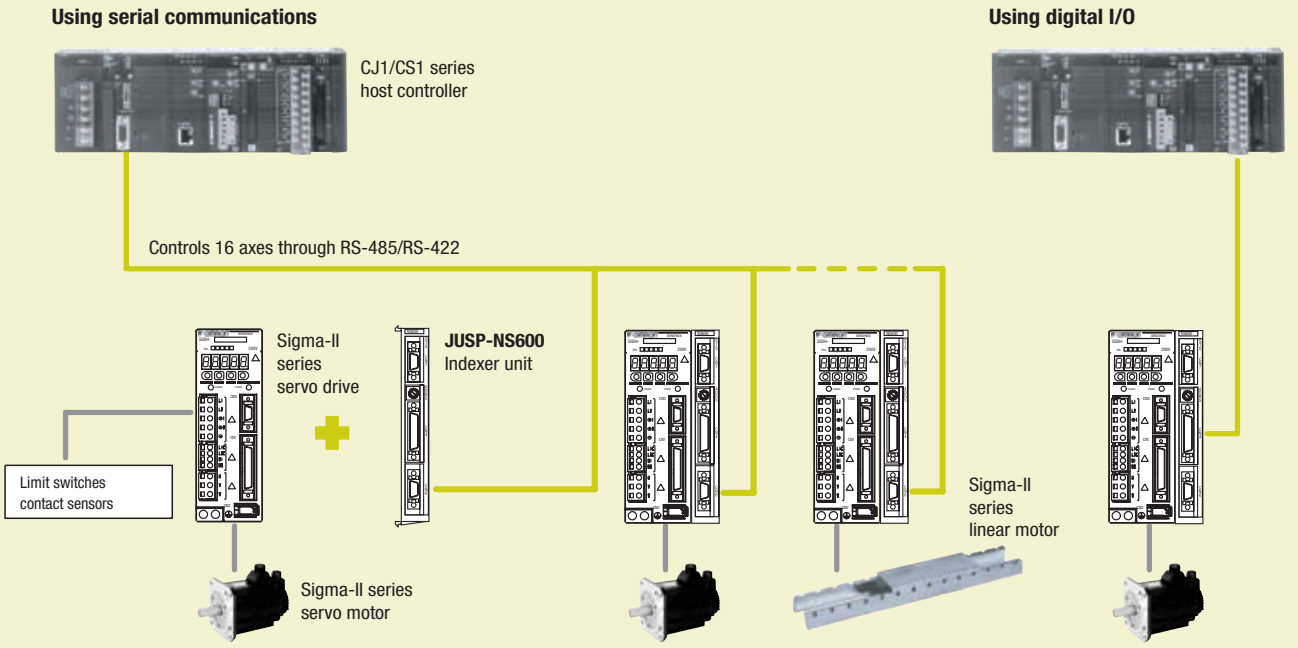
Note: Refer to the Servo systems section for more information.

Position controller over serial link

The NS600 provides flexible and simple distributed control. It connects directly to the Sigma-II and has several positioning modes, making it simple to configure. It supports a standard RS-485/-422 and discrete I/O control

- Direct connection to servo drive
- No programming language is necessary
- Discrete I/O positioning control
- Up to 16 servos can be connected via network
- Parameters are maintained by the PLC

Ordering information



Indexer option unit

Name	Order code
Indexer unit. Versatile point to point positioning	JUSP-NS600

Serial options (for CN7)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P2 or JZSP-CMS02
Parameter unit with 1m cable	2 m	JUSP-OP02A-2 or R88A-PR02W

Control cables (for CN4)

Name		Order code
Relay terminal block		XW2B-40F5-P
Relay terminal block cables	1 m	R88A-CTU001N
	2 m	R88A-CTU002N
General purpose I/O cable (with open end)	1 m	FND-CCX001S
	2 m	FND-CCX002S

Serial cables (for CN6)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P2 or JZSP-CMS02

Connectors

Specification	Order code
Conector for CN4	R88A-CNU01C
Conector for CN6 and CN7	R7A-CNA01R

Computer software

Specifications	Order code
SigmaWin+	MOTION TOOLS CD

Servo system

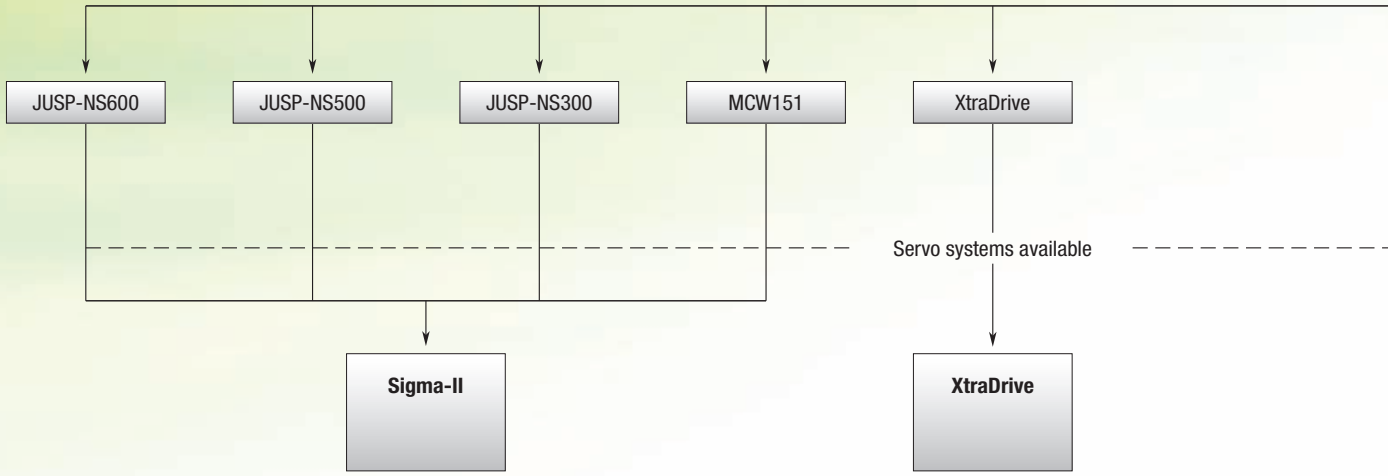
Note: Refer to the Servo systems section for more information.

SAVE SPACE, SAVE WIRING, SAVE TIME

A new concept in drive simplicity

The Junma ML-2 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 tune-less and programless.

- 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



Which motion controller is used?

Trajexia	NCs or other controller with pulse train	MCs or other controller with analog output	NCF71	MCH71
Sigma-II, Junma	**Sigma-II, SmartStep, Junma**	**Sigma-II, XtraDrive**	**Sigma-II, Junma**	**Sigma-II**
Inverters*				
F7 V7		F7 V7		F7 V7

*See inverter chapter

Selection table

Servo drives					
					
	XtraDrive	**Sigma-II**	**SmartStep**	**Junma ML-II**	**Junma Pulse**
	All in one! Servo drive and motion	Designed with ZERO compromise	Servo capability with stepper simplicity	No more parameter set up Save space, save time	No more parameter set up Save space, save time
Ratings 230 V single-phase	30 W to 1,500 W	30 W to 1,500 W	30 W to 800 W	100 W to 750 W	100 W to 750 W
Ratings 400 V single-phase	0.5 kW to 5 kW	0.5 kW to 55 kW	–	–	–
Motors applicable	Sigma linear motors, rotary Sigma-II and SmartStep	Rotary Sigma-II and Sigma linear motors	SmartStep motors	Junma motors	Junma motors
Positioning control	Internal program, pulse train input or via PROFIBUS-DP	Pulse train input or via option unit	Pulse train input	MECHATROLINK-II	Pulse train input
Speed control	Internal program, analog ±10 V or via PROFIBUS-DP	Analog ±10 V or via option unit	–	–	–
Torque control	Internal program, analog ±10 V or via PROFIBUS-DP	Analog ±10 V or via option unit	–	–	–
Page	86	90	95	98	100

Rotary servo motors			
			
	SGMAH	**SGMPH**	**SGMGH**
	Sigma-II rotary motors (6 different motor families to cover all application needs)		
	Low-inertia design for high dynamics	Medium inertia design with flat profile	High torque servo motors
Rated speed	3,000 rpm	3,000 rpm	1,500 rpm
Max speed	5,000 rpm	5,000 rpm	3,000 rpm
Rated torque	0.095 Nm to 2.39 Nm	0.318 Nm to 4.77 Nm	2.84 Nm to 95.4 Nm
Sizes	30 to 800 W	100 to 1500 W	0.45 to 15 kW
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II and XtraDrive
Encoder resolution	13 bits-incremental/ 16 bits-absolute	13 bits-incremental/ 16 bits-absolute	17 bits-incremental and absolute
IP rating	IP55	IP55 (optional IP67)	IP67
Page	103		

Sigma linear servo motors			
			
	SGLGW	**SGLFW**	**SGLTW**
	Coreless GW linear motor construction results in zero attraction force	Iron-core Sigma linear motor, making the difference	Iron-core TW linear motor with magnetic attraction cancellation
Rated force range	13.5 N to 325 N	25 N to 2250 N	300 N to 2,000 N
Peak force range	40 N to 1300 N	86 N to 5400N	600 N to 7500 N
Maximum speed	5 m/sec	5 m/sec	5 m/sec
Design type	Coreless coil	Iron-core coil	Iron-core coil
Magnetic attraction	zero	314 N to 14600 N	zero
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II and XtraDrive
Page	121		

Rotary servo motors					
					
	SGMSH	**SGMUH**	**SGMBH**	**SmartStep motors**	**Junma Motors**
	Sigma-II rotary motors (6 different motor families to cover all application needs)			**SmartStep**	**Junma (SJDE)**
	Low-inertia motors for high dynamics	High speed servo motors	High power applications	Ultra compact motor	Medium inertia compact motor
Rated speed	3,000 rpm	6,000 rpm	1,500 rpm	3,000 rpm	3000 rpm
Max speed	5,000 rpm	6,000 rpm	2,000 rpm	4,500 rpm	4500 rpm
Rated torque	3.18 Nm to 15.8 Nm	1.59 Nm to 6.3 Nm	140 Nm to 350 Nm	0.095 Nm to 2.39 Nm	0.318 to 2.39 Nm
Sizes	1 to 5 kW	1 to 5 kW	22 kW to 55 kW	30 to 800 W	100 to 750 W
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II	SmartStep and XtraDrive	Junma (MLII and Pulse)
Encoder resolution	17 bits-incremental and absolute	17 bits-incremental	17 bits-incremental and absolute	2000 pulses/revolution	13 bits - Analog incremental
IP rating	IP67	IP67	IP44	IP55	IP55
Page	103			114	118

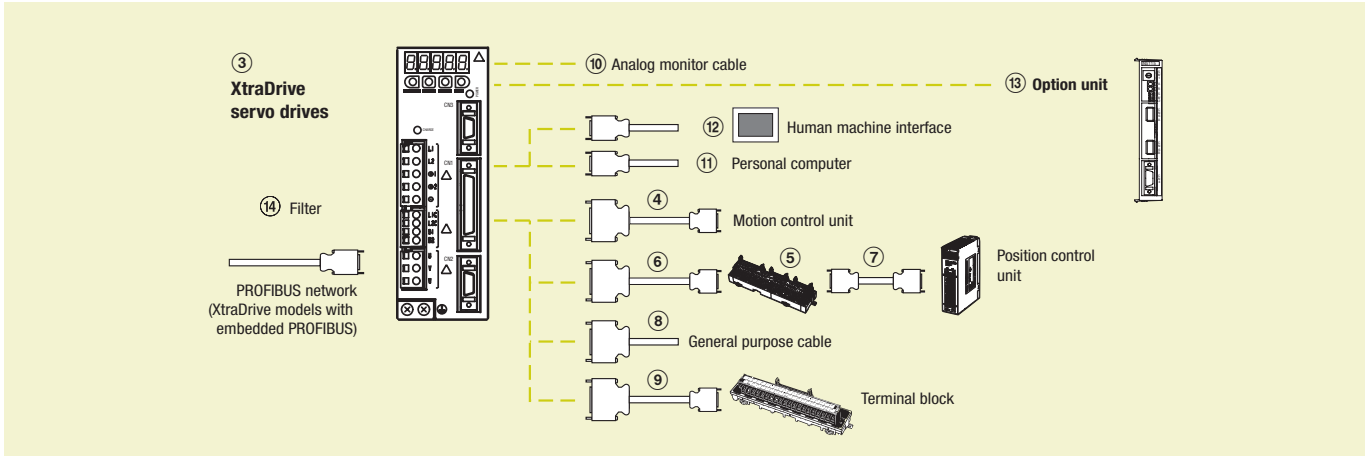
All-in-one servo drive and motion controller integrated

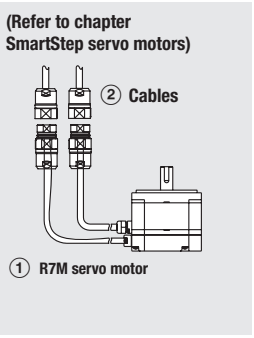
If your application demands the highest accuracy, the shortest cycle time in the most compact size and the ability to connect to PROFIBUS-DP or CAN, then look no further than XtraDrive. Complex motions such as cams, gears and linked axes are also available.

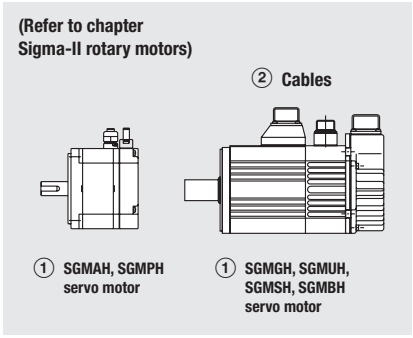
- Patented non-linear technique for tight control
- Very low tracking error with no overshoot and zero settling time
- The ideal drive for linear-motor control
- Supports various servo-motor encoder types
- PROFIBUS-DP embedded

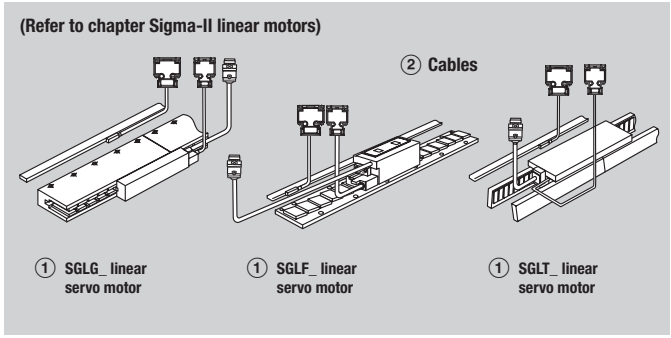
Ordering information

System configuration









Note: The symbols ①②③④⑤... show the recommended sequence to select the components for a servo system.

Servo motors, power & encoder cables

Note: ①② Refer to the Servo motors chapter for detailed motor specifications and selection.

Servo drives

Symbol	Specifications		Compatible servo motors ①			Order code			
			Sigma-II rotary	SmartStep	Sigma linear motors	XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM
③	1 phase 200 VAC	30 W	SGMAH-A3A_	R7M-A03030-_	–	XD-P3-MN01	XD-P3-MN01-E	–	–
		50 W	SGMAH-A5D_	R7M-A05030-_	SGLGW-30A050_	XD-P5-MN01	XD-P5-MN01-E	–	–
		100 W	SGMAH-01A_, SGMPH-01A_	R7M-A10030-_, R7M-AP10030-_	SGLGW-30A080_, SGLGW-40A140_	XD-01-MN01	XD-01-MN01-E	XD-01-MSD0	XD-01-MSD0-E
		200 W	SGMAH-02A_, SGMPH-02A_	R7M-A20030-_, R7M-AP20030-_	SGLFW-20A_, SGLFW-35A120_, SGLGW-40A253A_, SGLGW-60A140_	XD-02-MN01	XD-02-MN01-E	XD-02-MSD0	XD-02-MSD0-E
		400 W	SGMAH-04A_, SGMPH-04A_	R7M-A40030-_, R7M-AP40030-_	SGLGW-40A365A_, SGLGW-60A253A_	XD-04-MN01	XD-04-MN01-E	XD-04-MSD0	XD-04-MSD0-E
		750 W	SGMAH-08A_, SGMPH-08A_	R7M-A75030-_, R7M-AP75030-_	SGLFW-35A230_, SGLFW-50A200_, SGLGW-60A365A_	XD-08-MN	XD-08-MN01-E	XD-08-MSD0	XD-08-MSD0-E

Symbol	Specifications		Compatible servo motors ①			Order code			
			Sigma-II rotary	SmartStep	Sigma linear motors	XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM
③	1 phase 200 VAC	1.5 kW	SGMPH-15A_	–	SGLFW-50A380_, SGLFW-1ZA200_, SGLGW-90A200A_	XD-15-MN	XD-15-MN00-E	–	–
	3 phase 400 VAC	0.5 kW	SGMGH-05D_, SGMAH-03D_, SGMPH-02D_/04D_	–	SGLFW-35D_	XD-05-TN	XD-05-TN00-E	XD-05-TSD0	XD-05-TSD0-E
		1.0 kW	SGMGH-09D_, SGMSH/UH-10D_, SGMAH-07D_, SGMPH-08D_	–	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	XD-10-TN	XD-10-TN00-E	XD-10-TSD0	XD-10-TSD0-E
		1.5 kW	SGMGH-13D_, SGMSH/UH-15D_, SGMPH-15D_	–	SGLFW-50D380_, SGLFW-1ZD200_	XD-15-TN	XD-15-TN00-E	XD-15-TSD0	XD-15-TSD0-E
		2.0 kW	SGMGH-20D_, SGMSH-20D_	–	SGLTW-35D320_, SGLTW-50D320_	XD-20-TN	XD-20-TN00-E	XD-20-TSD0	XD-20-TSD0-E
		3.0 kW	SGMGH-30D_, SGMSH/UH-30D_	–	SGLFW-1ZD380_, SGLTW-40D400_	XD-30-TN	XD-30-TN00-E	XD-30-TSD0	XD-30-TSD0-E
		5.0 kW	SGMGH-44D_, SGMSH/UH-40D_, SGMSH-50D_	–	SGLTW-40D600_, SGLTW-80D400_	XD-50-TN	XD-50-TN00-E	–	–

Note: SGLGW-_ linear motor combination is made considering the use of standard magnets. Refer to the linear motors chapter for details.

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
④	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M1
			2 m	R88A-CPW002M1
			3 m	R88A-CPW003M1
			5 m	R88A-CPW005M1
	Control cable (2 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M2
			2 m	R88A-CPW002M2
			3 m	R88A-CPW003M2
			5 m	R88A-CPW005M2
	Terminal block (4 axes)	Motion control unit C200HW-MC402-E	–	R88A-TC04-E
	Servo drive connecting cable (1 axis)		1 m	R88A-CMUK001J3-E2
	PLC unit control cables (4 axes)		1 m	R88A-CMX001S-E
			1 m	R88A-CMX001J1-E
⑤	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3, or C200HW-NC113 Position control unit	–	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, or C200HW-NC213/413 Position control unit	–	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 CQM1-CPU43	–	XW2B-20J6-3B (1 axis)
		CJ1M-CPU22/23	–	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)
⑥	Cable to servo drive	Servo relay units XW2B-_ 0J6-_ B	1 m	XW2Z-100J-B4
			2 m	XW2Z-200J-B4
⑦	Position control unit connecting cable	C200H-NC112	0.5 m	XW2Z-050J-A1
			1 m	XW2Z-100J-A1
		C200H-NC211	0.5 m	XW2Z-050J-A2
			1 m	XW2Z-100J-A2
		CQM1-CPU43-V1 and CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11
⑦	Position control unit connecting cable	CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU22/23	0.5 m	XW2Z-050J-A27
			1 m	XW2Z-100J-A27
⑧	Control cable	For general purpose controllers	1 m	R88A-CPW001S or JZSP-CKI01-1
			2 m	R88A-CPW002S or JZSP-CKI01-2
⑨	Relay terminal block cable	General-purpose controller	1 m	R88A-CTW001N
			2 m	R88A-CTW002N
	Relay terminal block		–	XW2B-50G5

Cable (for CN5)

Symbol	Name	Order code
⑩	Analog monitor cable	R88A-CMW001S or DE9404559

Options (for CN3)

Symbol	Name	Order code
⑪	Computer connecting cable	R88A-CCW002P2 or JZSP-CMS02

Human machine interface

Symbol	Name	Order code
⑫	4.1" HMI monochrome	NT3S-ST126B-E

Option units (for CN10)

Symbol	Name	Order code
⑬	IO card, 8 inputs/8 outputs	XDIO-08

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑭	XD-P3-M_, XD-P5-M_, XD-01-M_, XD-02-M_	4 A	250 VAC single-phase	R88A-FIW104-SE
	XD-04-M_	7A		R88A-FIW107-SE
	XD-08-M_	15 A		R88A-FIW115-SE
	XD-15-M_	25 A		R88A-FIW125-SE
	XD-05-T_, XD-10-T_, XD-15-T_	6 A	400 VAC three-phase	R88A-FIW4006-SE
	XD-20-T_, XD-30-T_	10 A		R88A-FIW4010-SE
	XD-50-T_	20 A		R88A-FIW4020-SE

Battery backup for absolute encoder

Name	Order code
Battery (required for servo motors with absolute encoder)	JZSP-BA01 ER6VC3 (3.6V)

Connectors

Specification		Order code
Control I/O connector (For CN1)		R88A-CNU11C or JZSP-CKI9
XtraDrive 200V connector kit. (For 200V motors SGMAH/PH-__A___D-OY and R7M-A_-D)	Connectors included	XD-CN200K-DE
	DE9406973 SPOC-17H-FRON169 SPOC-06K-FSDN169	
XtraDrive 400V connector kit. (For 400V motors SGMAH/PH-__D___D-OY)	Connectors included	XD-CN400K-DE
	DE9406973 SPOC-17H-FRON169 LPRA-06B-FRBN170	
Sigma-II Drive encoder connector (For CN2)		DE9406973 or R88A-CNU01R
Hypertac encoder connector IP67 (For motors SGMAH/PH-_____D-OY and R7M-A_-D)		SPOC-17H-FRON169
Hypertac power connector IP67, 200V. (For 200V motors SGMAH/PH-__A____D-OY and R7M-A_-D)		SPOC-06K-FSDN169

Specification	Order code
Hypertac power connector IP67, 400V. (For 400V motors SGMAH/PH-__D____D-OY)	LPRA-06B-FRBN170
Military encoder connector IP67 (For motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E20-29S
Military power connector IP67 (For 400V motors SGMGH-(05/10/13)D_, SGMSH-(10/15/20)D_, SGMUH-(10/15)D_)	MS3108E18-10S
Military power connector IP67 (For 400V motors SGMGH-(20/30/44)D_, SGMSH-(30/40/50)D_, SGMUH-(30/40)D_)	MS3108E22-22S
Military brake connector IP67 (For 400V servo motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E10SL-3S

Computer software

Specifications	Order code
XtraWare	MOTION TOOLS

Specifications

Single-phase, 230 V

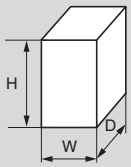
Servo drive type			XD-P3-M_	XD-P5-M_	XD-01-M_	XD-02-M_	XD-04-M_	XD-08-M_	XD-15-M_
Applicable servo motor		SGMAH-_	A3A_	A5A_	01A_	02A_	04A_	08A_	15A_
		SGMPH-_	–	–	01A_	02A_	04A_	08A_	–
		R7M-_	A03030-_	A05030-_	A10030-_	A20030-_	A40030-_	A75030-_	–
		R7M-_	–	–	AP10030-_	AP20030-_	AP40030-_	AP75030-_	–
Basic specifications	Max. applicable motor capacityW		30	50	100	200	400	750	1500
	Continuous output currentA(rms)		0.44	0.64	0.91	2.1	2.8	5.7	11.6
	Max. output currentA(rms)		1.3	2.0	2.8	6.5	8.5	13.9	28
	Input power	Main circuit	For single-phase, 200 to 230 VAC +10 to -15%						
	Supply	Control circuit	For single-phase, 200 to 230 VAC +10 to -15%						
	Control method		Single phase full-wave rectification/IGBT/PWM/sine-wave current drive method						
	Feedback		Serial encoder (incremental/absolute value)						
	Conditions: Usage/storage temperature		0 to +55°C/-20 to 85°C						
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)						
	Conditions: Altitude		1000 m or less above sea level						
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2						
	Configuration		Base mounted						
	Approx. weight (kg)		0.8				1.1	1.7	3.8

Three-phase, 400 V

Servo drive type			XD-05-T_	XD-10-T_	XD-15-T_	XD-20-T_	XD-30-T_	XD-50-T_
Applicable servo motor		SGMAH-_	03D_	07D_	–	–	–	–
		SGMPH-_	02D_, 04D_	08D_	15D_	–	–	–
		SGMGH-_	05D_	09D_	13D_	20D_	30D_	44D_
		SGMSH-_	–	10D_	15D_	20D_	30D_	40D_/50D_
		SGMUH-_	–	10D_	15D_	–	30D_	40D_
Basic specifications	Max. applicable motor capacitykW		0.45	1.0	1.5	2.0	3.0	5.0
	Continuous output current A(rms)		1.9	3.5	5.4	8.4	11.9	16.5
	Max. output currentA(rms)		5.5	8.5	14	20	28	40.5
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60Hz)					
	Supply	Control circuit	24VDC+ 15%					
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method					
	Feedback		Serial encoder (incremental/absolute value)					
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C					
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)					
	Conditions: Altitude		1000 m or less above sea level					
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2					
	Configuration		Base mounted					
	Approx. weight (kg)		2.8			3.8		5.5

Dimensions

Servo drives

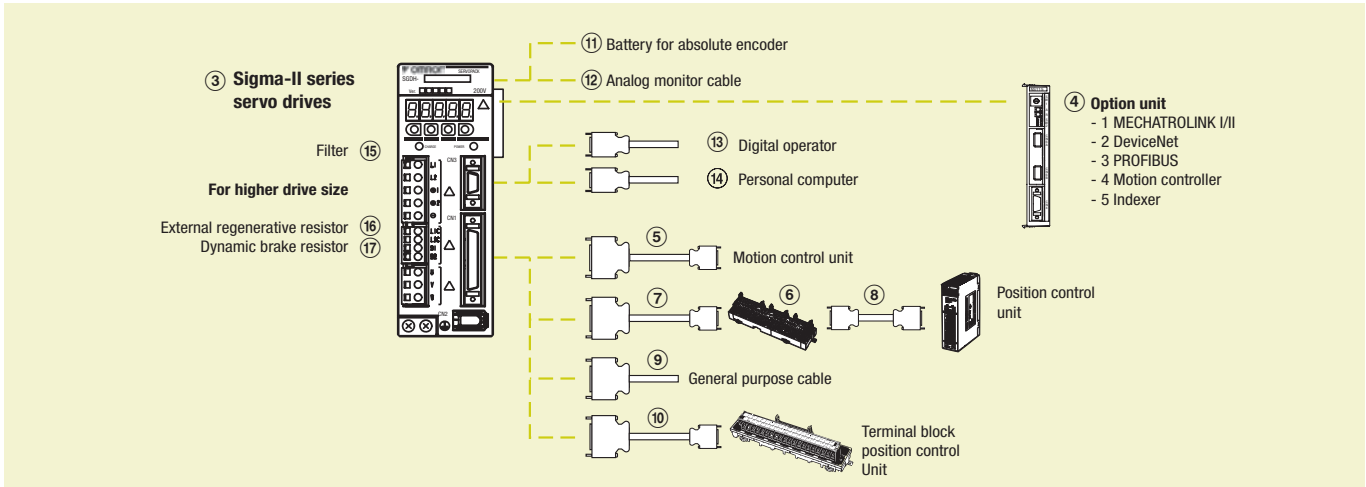
Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	XD-P3-M_	160	55	130	
	50 W	XD-P5-M_				
	100 W	XD-01-M_				
	200 W	XD-02-M_				
	400 W	XD-04-M_	160	75	130	
	750 W	XD-08-M_	160	90	180	
	1.5 kW	XD-15-M_	250	110	180	
3-phase 400 VAC	0.5 kW	XD-05-T_	160	110	180	
	1.0 kW	XD-10-T_				
	1.5 kW	XD-15-T_				
	2.0 kW	XD-20-T_	250	110	180	
	3.0 kW	XD-30-T_				
	5.0 kW	XD-50-T_	250	125	230	

Designed with ZERO compromise

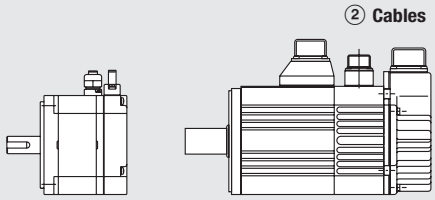
The Sigma II servo series was designed with ZERO compromise on quality, reliability or performance. The servo amplifiers are ultra-compact with pulse and analog inputs as standard, plus an auto-tuning function. Plug-in option cards offer enhanced functionality such as indexing and complex motions such as cams, gears and linked axes.

- 300% peak current for 3 seconds
- Automatic motor recognition with auto-tuning function
- Analog and pulse inputs for speed, torque and position control
- Option units for field buses, MECHATROLINK-II, servos and motion controller and indexers
- Trace function allowing oscilloscope function

Ordering information



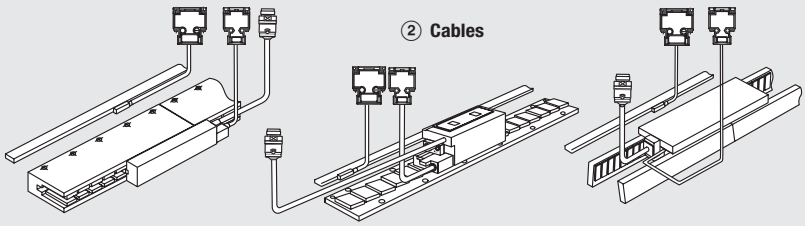
(Refer to chapter Sigma-II rotary motors)



① SGMAH, SGMPH servo motor

① SGMGH, SGMUH, SGMSH, SGMBH servo motor

(Refer to chapter Sigma-II linear motors)



① SGLG_ linear servo motor

① SGLF_ linear servo motor

① SGLT_ linear servo motor

Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a Sigma-II servo system

Servo motors, power & encoder cables

Note: ①② Refer to the servo motors chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Compatible rotary servo motors ①	Compatible linear motors ①	Order code
③	1 Phase 200 VAC	30 W	SGMAH-A3A_	–	SGDH-A3AE-OY
		50 W	SGMAH-A5D_	SGLGW-30A050_	SGDH-A5AE-OY
		100 W	SGMAH-01A_, SGMPH-01A_	SGLGW-30A080_, SGLGW-40A140_	SGDH-01AE-OY
		200 W	SGMAH-02A_, SGMPH-02A_	SGLFW-20A_, SGLFW-35A120_, SGLGW-40A253A_,SGLGW-60A140_	SGDH-02AE-OY
		400 W	SGMAH-04A_, SGMPH-04A_	SGLGW-40A365A_, SGLGW-60A253A_	SGDH-04AE-OY
		750 W	SGMAH-08A_, SGMPH-08A_	SGLFW-35A230_, SGLFW-50A200_, SGLGW-60A365A_	SGDH-08AE-S-OY
		1500 W	SGMPH-15A_	SGLFW-50A380_, SGLFW-1ZA200_, SGLGW-90A200A_	SGDH-15AE-S-OY

Symbol	Specifications		Compatible rotary servo motors ①	Compatible linear motors ①	Order code
③	3 Phase 400 VAC	0.5 kW	SGMGH-05D_, SGMAH-03D_, SGMPH-02D_/04D_	SGLFW-35D_	SGDH-05DE-0Y
		1.0 kW	SGMGH-09D_, SGMSH/UH-10D_, SGMAH-07D_, SGMPH-08D_	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	SGDH-10DE-0Y
		1.5 kW	SGMGH-13D_, SGMSH/UH-15D_, SGMPH-15D_	SGLFW-50D380_, SGLFW-1ZD200_	SGDH-15DE-0Y
		2 kW	SGMGH-20D_, SGMSH-20D_	SGLTW-35D320_, SGLTW-50D320_	SGDH-20DE-0Y
		3 kW	SGMGH-30D_, SGMSH/UH-30D_	SGLFW-1ZD380_, SGLTW-40D400_	SGDH-30DE-0Y
		5 kW	SGMGH-44D_, SGMSH/UH-40D_, SGMSH-50D_	SGLTW-40D60_, SGLTW-80D400_	SGDH-50DE-0Y
		6 kW	SGMGH-55D_	–	SGDH-60DE-0Y
		7.5 kW	SGMGH-75D_	SGLTW-80D600_	SGDH-75DE-0Y
		11 kW	SGMGH-1AD_	–	SGDH-1ADE-0Y
		15 kW	SGMGH-1ED_	–	SGDH-1EDE-0Y
		22 kW	SGMBH-2BD_	–	SGDH-2BDE
		30 kW	SGMBH-3ZD_	–	SGDH-3ZDE
		37 kW	SGMBH-3GD_	–	SGDH-3GDE
		45 kW	SGMBH-4ED_	–	SGDH-4EDE
		55 kW	SGMBH-5ED_	–	SGDH-5EDE

Option units (for CN10)

Symbol	Name	Order code
④	1.5 axis advanced motion controller with host link interface	R88A-MCW151-E
	1.5 axis advanced motion controller with DeviceNet interface	R88A-MCW151-DRT-E
	MECHATROLINK-I interface unit	JUSP-NS100
	MECHATROLINK-II interface unit	JUSP-NS115
	DeviceNet interface unit with positioning fuctionality	JUSP-NS300
	PROFIBUS-DP interface unit with positioning fuctionality	JUSP-NS500
	Indexer unit. versatile point to point positioning	JUSP-NS600

Note:④ Refer to the servo drive option unit chapter for detailed specifications and selection

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
⑤	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M1
			2 m	R88A-CPW002M1
			3 m	R88A-CPW003M1
			5 m	R88A-CPW005M1
	Control cable (2 axes)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M2
			2 m	R88A-CPW002M2
			3 m	R88A-CPW003M2
			5 m	R88A-CPW005M2
	Terminal block (4 axes)	Motion control unit C200HW-MC402-E	–	R88A-TC04-E
	Servo drive connecting cable (1 axis)		1 m	R88A-CMUK001J3-E2
	PLC unit control cables (4 axes)		1 m	R88A-CMX001S-E
			1 m	R88A-CMX001J1-E
⑥	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3, or C200HW-NC113 position control unit	–	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, or C200HW-NC213/413 position control unit	–	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 CQM1-CPU43	–	XW2B-20J6-3B (1 axis)
		CJ1M-CPU22/23	–	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)
⑦	Cable to servo drive	Servo relay units XW2B-_0J6-_B	1 m	XW2Z-100J-B4
			2 m	XW2Z-200J-B4
⑧	Position control unit connecting cable	C200H-NC112	0.5 m	XW2Z-050J-A1
			1 m	XW2Z-100J-A1
		C200H-NC211	0.5 m	XW2Z-050J-A2
			1 m	XW2Z-100J-A2
		CQM1-CPU43-V1 and CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11

Symbol	Description	Connect to	Length	Order code
⑧	Position control unit connecting cable	CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU22/23	0.5 m	XW2Z-050J-A27
			1 m	XW2Z-100J-A27
⑨	Control cable	For general purpose controllers	1 m	R88A-CPW001S
				JZSP-CKI01-1
			2 m	R88A-CPW002S
				JZSP-CKI01-1
⑩	Relay terminal block cable	General purpose controller	1 m	R88A-CTW001N
			2 m	R88A-CTW002N
	Relay terminal block		–	XW2B-50G5

Battery backup for absolute encoder (for CN8)

Symbol	Name	Order code
⑪	Battery for 30 W to 5 kW drives	JZSP-BA01
	Battery for 6 kW to 15 kW drives	JZSP-BA01-1

Cable (for CN5)

Symbol	Name	Order code
⑫	Analog monitor cable	R88A-CMW001S or DE9404559

Options (for CN3)

Symbol	Name	Order code
⑬	Parameter unit with cable	JUSP-OP02A-2 or R88A-PR02W
⑭	Computer connecting cable	R88A-CCW002P2 or JZSP-CMS02

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑮	SGDH-A3AE-0Y,SGDH-A5AE-0Y, SGDH-01AE-0Y, SGDH-02AE-0Y	4 A	250 VAC single-phase	R88A-FIW104-SE
	SGDH-04AE-0Y	7A		R88A-FIW107-SE
	SGDH-08AE-S-0Y	15 A		R88A-FIW115-SE
	SGDH-15AE-S-0Y	25 A		R88A-FIW125-SE
	SGDH-05DE-0Y, SGDH-10DE-0Y,SGDH-15DE-0Y	6 A	400 VAC three-phase	R88A-FIW4006-SE
	SGDH-20DE-0Y, SGDH-30DE-0Y	10 A		R88A-FIW4010-SE
	SGDH-50DE-0Y	20 A		R88A-FIW4020-SE
	SGDH-60DE-0Y, SGDH-75DE-0Y	30 A		R88A-FIW4030-SE
	SGDH-1ADE-0Y, SGDH-1EDE-0Y	55 A		R88A-FIW4055-SE
	SGDH-2BDE, SGDH-3ZDE, SGDH-3GDE	180 A		FN258-180-07
	SGDH-4EDE, SGDH-5EDE	250 A		FN359-250-99

External regenerative resistor

Symbol	Applicable servo drive	Specifications	Order code
⑯	SGDH-60DE-0Y to -75DE-0Y	18 Ω , 880 W	JUSP-RA18
	SGDH-1ADE-0Y to -1EDE-0Y	14.25 Ω , 1760 W	JUSP-RA19
	SGDH-2BDE	9 Ω, 3600 W	JUSP-RA12
	SGDH-3ZDE	6.7 Ω, 3600 W	JUSP-RA13
	SGDH-3GDE	5 Ω, 4800 W	JUSP-RA14
	SGDH-4EDE	4 Ω, 6000 W	JUSP-RA15
	SGDH-5EDE	3.8 Ω, 7200 W	JUSP-RA16

DB resitor units

Symbol	Servo drive model	Specifications. star wiring	Order code
⑰	SGDH-2BDE, SGDH-3ZDE	180 W, 0.8 Ω	JUSP-DB03
	SGDH-3GDE	180 W, 0.8 Ω	JUSP-DB04
	SGDH-4EDE	180 W, 0.8 Ω	JUSP-DB05
	SGDH-5EDE	300 W, 0.8 Ω	JUSP-DB06

Connectors

Specification	Order code
Control I/O connector (For CN1)	R88A-CNU11C or JZSP-CKI9
Sigma-II drive encoder connector (For CN2)	JZSP-CMP9-1
Communications connector (For CN3)	R7A-CNA01R

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters. (CX-Drive version 1.11 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One version 1.1 or higher)	CX-ONE

For full specifications please refer to chapter software on page 518.

Specifications

Single-phase, 230 V

Servo drive type		SGDH-_	A3AE-OY	A5AE-OY	01AE-OY	02AE-OY	04AE-OY	08AE-S-OY	15AE-S-OY
Applicable servo motor		SGMAH-_	A3A_	A5A_	01A_	02A_	04A_	08A_	–
		SGMPH-_	–	–	01A_	02A_	04A_	08A_	15A_
Basic specifications	Max. applicable motor capacity W		30	50	100	200	400	750	1500
	Continuous output current A(rms)		0.44	0.64	0.91	2.1	2.8	5.7	11.6
	Max. output current A(rms)		1.3	2.0	2.8	6.5	8.5	13.9	28
	Input power	Main circuit	For single-phase, 200 to 230 VAC + 10 to -15%					220 to 230 VAC +10 to -15% (50/60 Hz)	
	Supply	Control circuit	For single-phase, 200 to 230 VAC + 10 to -15%						
	Control method		Single phase full-wave rectification/IGBT/PWM/sine-wave current drive method						
	Feedback		Serial encoder (incremental/absolute value)						
	Conditions: Usage/storage temperature		0 to +55°C/-20 to 85°C						
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)						
	Conditions: Altitude		1000 m or less above sea level						
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2						
	Configuration		Base mounted						
	Approx. weight kg		0.8				1.1	1.7	3.8

Three-phase, 400 V (up to 15 kW)

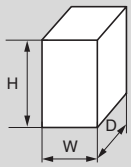
Servo drive type		SGDH-_	05DE-OY	10DE-OY	15DE-OY	20DE-OY	30DE-OY	50DE-OY	60DE-OY	75DE-OY	1ADE-OY	1EDE-OY
Applicable servo motor		SGMGH-_	05D_	09D_	13D_	20D_	30D_	44D_	55D_	75D_	1AD_	1ED_
		SGMSH-_	–	10D_	15D_	20D_	30D_	40D_/50D_	–	–	–	–
		SGMUH-_	–	10D_	15D_	–	30D_	40D_	–	–	–	–
Basic specifications	Max. applicable motor capacitykW		0.45	1.0	1.5	2.0	3.0	5.0	6.0	7.5	11	15
	Continuous output currentA(rms)		1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
	Max. output currentA(rms)		5.5	8.5	14	20	28	40.5	55	65	70	85
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60 Hz)									
	Supply	Control circuit	24 VDC + 15%									
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method									
	Feedback		Serial encoder (incremental/absolute)									
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C									
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)									
	Conditions: Altitude		1000 m or less above sea level									
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2									
	Configuration		Base mounted									
	Approx. weight kg		2.8			3.8		5.5	15		22	

Three-phase, 400 V (from 22 kW to 55 kW)

Servo drive type		SGDH-_	2BDE	3ZDE	3GDE	4EDE	5EDE
Applicable servo motor		SGMBH-_	2BD_A	3ZD_A	3GD_A	4ED_A	5ED_A
Basic specifications	Max. applicable motor capacitykW		22	30	37	45	55
	Continuous output currentA(rms)		58	80	100	127	150
	Max. output currentA(rms)		120	170	210	260	310
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60 Hz)				
	Supply	Control circuit	24 VDC+ 15%				
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method				
	Feedback		Serial encoder (incremental/absolute)				
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C				
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)				
	Conditions: Altitude		1000 m or less above sea level				
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2				
	Configuration		Base mounted				
	Approx. weight kg		40		60	65	

Dimensions

Servo drives

Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	SGDH-A3AE-0Y	160	55	130	
	50 W	SGDH-A5AE-0Y				
	100 W	SGDH-01AE-0Y				
	200 W	SGDH-02AE-0Y				
	400 W	SGDH-04AE-0Y	160	75	130	
	750 W	SGDH-08AE-S-0Y	160	90	180	
	1.5 kW	SGDH-15AE-S-0Y	250	110	180	
3-phase 400 VAC	0.5 kW	SGDH-05DE-0Y	160	110	180	
	1.0 kW	SGDH-10-DE-0Y				
	1.5 kW	SGDH-15AE-0Y				
	2.0 kW	SGDH-20DE-0Y	250	110	180	
	3.0 kW	SGDH-30DE-0Y				
	5.0 kW	SGDH-50DE-0Y	250	125	230	
	6.0 kW	SGDH-60DE-0Y	350	230	235	
	7.5 kW	SGDH-75DE-0Y				
	11 kW	SGDH-1ADE-0Y	450	260	285	
	15 kW	SGDH-1EDE-0Y				
	22 kW	SGDH-2BDE	500	370	348	
	30 kW	SGDH-3ZDE				
	37 kW	SGDH-3GDE	475	500	348	
	45 kW	SGDH-4EDE	475	550	348	
	55 kW	SGDH-5EDE				

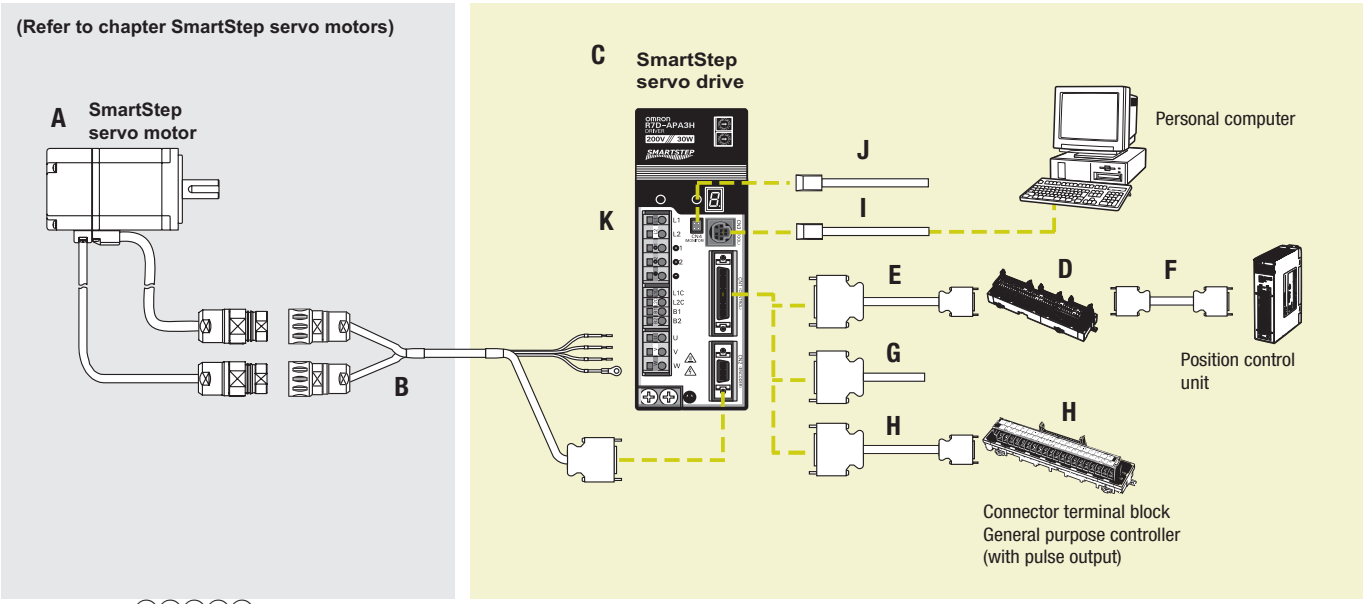
Servo capability with stepper simplicity

SmartStep is designed and engineered to provide you with an easy way to migrate from steppers to servos in minutes. It accepts pulse-train input, can be configured quickly via simple dip switches and has an online auto-tuning function. Thus, the SmartStep offers all the simplicity and cost-effectiveness of a stepper with the added advantages of the servo drive capability.

- Output range from 30 W to 750 W
- 300% peak current over nominal
- Control via pulse train (speed and position)
- Position resolution of 8,000 steps per revolution
- On-line auto-tuning with 10 levels of rigidity

Ordering information

(Refer to chapter SmartStep servo motors)



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a SmartStep servo system

Servo motors, power & encoder cables

Note: ①② Refer to the SmartStep servo motor chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Order code		
			SmartStep drive model	Compatible servo motors ①	
				Cylindrical type	Flat type
③	200 VAC	30 W	R7D-APA3H	R7M-A03030-_	–
		50 W	R7D-APA5H	R7M-A05030-_	–
		100 W	R7D-AP01H	R7M-A10030-_	R7M-AP10030-_
		200 W	R7D-AP02H	R7M-A20030-_	R7M-AP20030-_
		400 W	R7D-AP04H	R7M-A40030-_	R7M-AP40030-_
		750 W	R7D-AP08H	R7M-A75030-_	R7M-AP75030-_

Control cables (For CN1)

Symbol	Name	Compatible units	Available lengths	Order code*1
④	Servo relay unit	Use with position control units (does not support communications functions.) Units: CS1W-NC113/133, CJ1W-NC113/133, C200HW-NC113, and C200H-NC112	–	XW2B-20J6-1B (1 axis)
		Use with position control units (does not support communications functions.) Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433, C200HW-NC213/413, C500-NC113/211, and C200H-NC211		XW2B-40J6-2B (2 axes)
		Use with position control units (does not support communications functions.) Units: CQM1H-PLB21, and CQM1-CPU43-V1		XW2B-20J6-3B (1 axis)
		Use with position control units (supports communications functions.) Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433		XW2B-40J6-4A (2 axes)
		Use with CJ1M-CPU22/23 (does not support communications functions.)		XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)

Symbol	Name	Compatible units	Available lengths	Order code*1
⑤	Cable to servo drive	Does not support communications functions. (for the XW2B-__J6-_B)	1 m or 2 m	XW2Z-___J-B5
		Supports communications functions. (for the XW2B-__J6-4B)		XW2Z-___J-B7
⑥	Cable to position control unit	CQM1H-PLB21 and CQM1-CPU43-V1	0.5 m or 1 m	XW2Z-___J-A3
		C200H-NC112		XW2Z-___J-A4
		C200H-NC211 and C500-NC113/211		XW2Z-___J-A5
		CS1W-NC113 and C200HW-NC113		XW2Z-___J-A8
		CS1W-NC213/413 and C200HW-NC213/413		XW2Z-___J-A9
		CS1W-NC133		XW2Z-___J-A12
		CS1W-NC233/433		XW2Z-___J-A13
		CJ1W-NC113		XW2Z-___J-A16
		CJ1W-NC213/413		XW2Z-___J-A17
		CJ1W-NC133		XW2Z-___J-A20
		CS1W-NC233/433		XW2Z-___J-A21
		CJ1M-CPU22/23		XW2Z-___J-A26
⑦	Control cable	For general-purpose controllers	1 m or 2 m	R88A-CPU___S
⑧	Connector terminal block cable	For general-purpose controllers		R88A-CTU___N
	Connector terminal block		–	XW2B-40F5-P

*1 Replace the placeholder "_" by cable length from colum "Available lenghts".

Cable for CN3

Symbol	Name	Order code
⑨	Computer monitor cable	R7A-CCA002P2

Cable for CN4

Symbol	Name	Order code
⑩	Analog monitor cable	R88A-CMW001S

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑪	R7D-APA3H, R7D-APA5H, R7D-AP01H, R7D-AP02H	4 A	250 VAC Single phase	R88A-FIW104-E
	R7D-AP04H	7 A		R88A-FIW107-E
	R7D-AP08H	15 A		R88A-FIW115-E

Connectors

Specifications		Order code
Control I/O connector (For CN1)		R88A-CNU01C
SmartStep connectors kit	Models included in kit	R7A-CNA00K-DE
SmartStep encoder connector (For CN2)	R7A-CNA01R	
Hypertac power connectors female	SPOC-06K-FSDN169	
Hypertac encoder connectors female	SPOC-17H-FRON169	

External regeneration resistor

Specification	Order code
220 W, 47 Ω	R88A-RR22047S

Parameter unit & computer software

Specifications	Order code
Parameter copy unit (with cable)	R7A-PR02A
Configuration and monitoring software tool for servo drives and inverters. (CX-Drive version 1.11 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One version 1.1 or higher)	CX-ONE

Specifications

General specifications

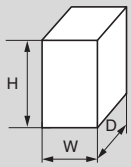
Item	Specification
Ambient operating temperature	0 to 55°C
Ambient operating humidity	90% max. (with no condensation)
Ambient storage temperature	-20 to 85°C
Ambient storage humidity	90% max. (with no condensation)
Storage/operating atmosphere	No corrosive gases.
Vibration resistance	10 to 55 Hz in X, Y, and Z directions with 0.1-mm double amplitude or acceleration of 4.9 m/s^2 max., whichever is smaller
Impact resistance	Acceleration 19.6 m/s^2 max., in X, Y, and Z directions, three times
Insulation resistance	Between power line terminals and case: 0.5 MΩ min. (at 500 VDC)
Dielectric strength	Between power line terminals and case: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and case: 500 VAC for 1 min
Protective structure	Built into panel (IP10).
International standards	Approval obtained for UL, cUL, and EN (EMC directive and low-voltage directive)

Performance specifications

Item	200 VAC input type					
	30 W	50 W	100 W	200 W	400 W	750 W
	R7D-APA3H	R7D-APA5H	R7D-AP01H	R7D-AP02H	R7D-AP04H	R7D-AP08H
Continuous output current (rms)	0.42	0.6	0.89	2.0	2.6	4.4
Momentary maximum output current (rms)	1.3	1.9	2.8	6.0	8.0	13.9
Control power supply	Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz					
Main-circuit power supply	Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz (Three-phase 200/230 VAC can be used with the 750 W model.)					
Control method	All-digital servo					
Speed feedback	2,000 pulses/revolution incremental encoder					
Inverter method	PWM method based on IGBT					
PWM frequency	11.7 kHz					
Weight	0.8	0.8	0.8	0.8	1.1	1.7
Compatible motor voltage	200 V					
Compatible motor capacity	30 W	50 W	100 W	200 W	400 W	750 W
Command pulse response	250 kHz					
Applicable servo motor (R7M-)	A03030	A05030	A10030 AP10030	A20030 AP20030	A40030 AP40030	A75030 AP75030

Dimensions

Servo drives

Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	R7D-APA3H	160	55	130	
	50 W	R7D-APA5H				
	100 W	R7D-AP01H				
	200 W	R7D-AP02H				
	400 W	R7D-AP04H	160	75	130	
	750 W	R7D-AP08H	160	90	180	

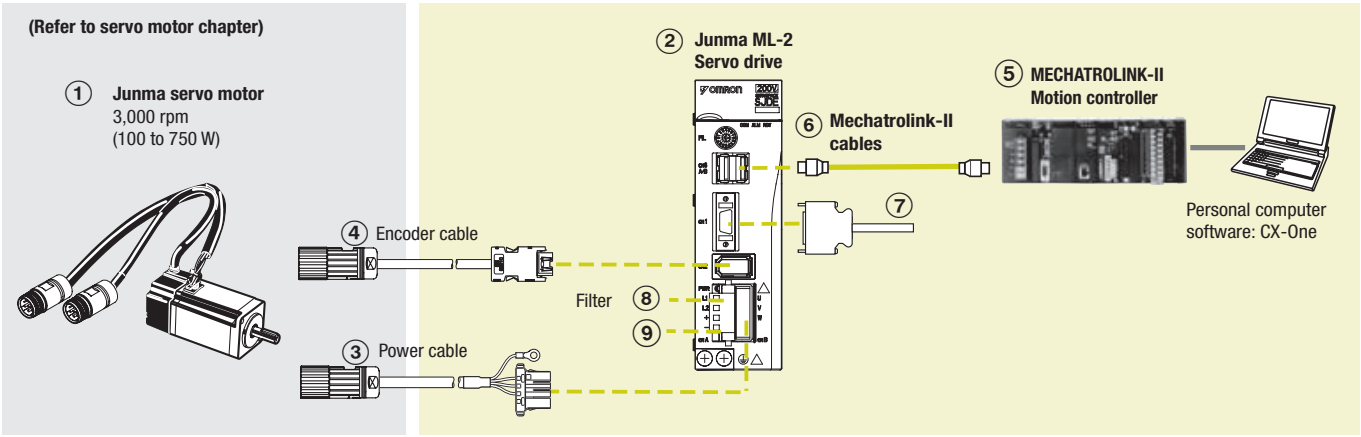
A new concept in drive simplicity – save space, save wiring, save time

Junma compact servo drive with built-in MECHATROLINK-II significantly reduces wiring and set-up time, while saving up to 30% of cabinet space. The Junma series is the first in the world to be fully tuning-free and programless.

- Output range from 100 W to 750 W
- Drive with built-in MECHATROLINK-II port
- Tuning-free technology, no gain parameters need to be set
- Peak torque 300% of nominal for 3 seconds
- Position resolution of 8,192 steps per revolution

Ordering information

Junma MECHATROLINK-II servo drive configuration



Servomotors and servo drives

Symbol	Specifications					Order code	
	Voltage	Encoder and design		Rated torque	Capacity	① Servomotor model	② Servo drive model
①②	1 Phase 200 VAC	Analog incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01ANA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02ANA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04ANA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08ANA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01ANA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02ANA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04ANA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08ANA-0Y

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	Order code
⑤	Position controller unit for CJ1 PLC	CJ1W-NCF71
	Position controller unit for CS1 PLC	CS1W-NCF71
	Trajexia PLC motion controller, 30 axes	CJ1W-MCH72
	Trajexia stand-alone motion controller, 16 Axes	TJ1-MC16
	Trajexia stand-alone motion controller, 4 Axes	TJ1-MC04

MECHATROLINK-II cables

Symbol	Specifications		Order code
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		Order code
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	Order code
⑧	SJDE-01ANA-0Y SJDE-02ANA-0Y SJDE-04ANA-0Y	5A	1.7 mA	250 VAC 1-phase	R7A-FIZN105-BE
	SJDE-08ANA-0Y	9A	1.7 mA		R7A-FIZN109-BE

Regenerative unit Model (Option)

Symbol	Specifications	Order code (Omron)	Order code (Yaskawa)
⑨	External regenerative unit (optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Order code (Omron)	Order code (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	Order code
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

For full specifications please refer to chapter software on page 518.

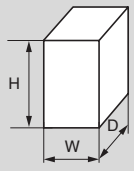
Servo drive specifications

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		Analog incremental encoder (13 bits incremental equivalent)			
	Allowable load inertia*1	$kg \cdot m^2$	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			
	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	1 ms, 1.5 ms, 2 ms, 3 ms, 4 ms			
		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)			

*1 Value without external regeneration unit.

Dimensions

Specifications		Drive model	H	W	D	
1-phase 200 VAC	100 W	SJDE-01ANA-OY	150	45	130	
	200 W	SJDE-02ANA-OY				
	400 W	SJDE-04ANA-OY				
	750 W	SJDE-08ANA-OY	150	70	180	

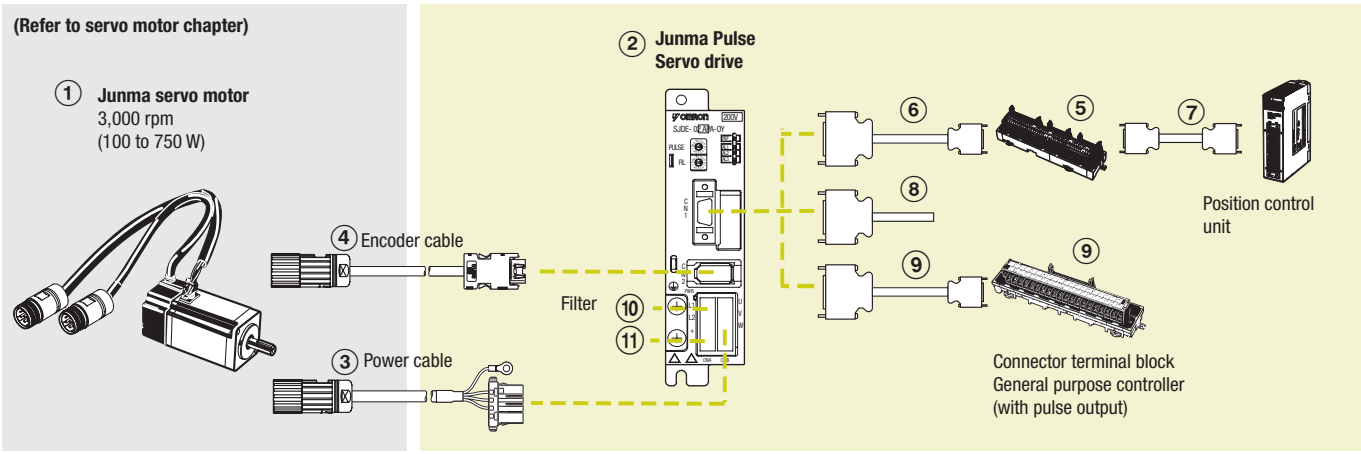
No more parameter set up – save space, save time

Junma series of ultra-compact, pulse-train-controlled servo drives, significantly reduces set-up time, while saving up to 44% of cabinet space. The series is the first in the world to be fully tuning-free and programless.

- Output range from 100 W to 750 W
- Fully "parameterless" drive, just plug and run
- Tuning-free technology, no gain parameters need to be set
- Peak torque 300% of nominal for 3 seconds
- Position resolution of 10,000 steps per revolution

Ordering information

Junma pulse servo drive configuration



Servomotors and servo drives

Symbol	Specifications					Order code	
						① Servomotor model	② Servo drive model
	Voltage	Encoder and design		Rated torque	Capacity		Pulse control
①②	1 Phase 200 VAC	Analog incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08APA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08APA-0Y

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		Order code
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
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	Order code (Omron)	Order code (Yaskawa)
⑪	External regenerative unit (Optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Order code (Omron)	Order code (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

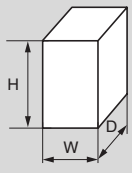
Specifications

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		Analog incremental encoder (10000 steps per revolution)			
	Allowable load inertia *1	$kg \cdot m^2$	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)			

*1 Value without external regeneration unit

Dimensions

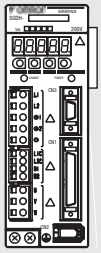
Specifications		Drive model	H	W	D	
1-phase 200 VAC	100 W	SJDE-01APA-OY	120	35	105	
	200 W	SJDE-02APA-OY				
	400 W	SJDE-04APA-OY	120	40	105	
	750 W	SJDE-08APA-OY	120	70	145	

The ideal servo family for motion control. Fast response, high speed, and high accuracy

- 6 different designs provide a complete range of servo motors to meet the power, speed and performance required for each application.
- Peak torque 300% of nominal during 3 seconds
- Automatic motor recognition by servo drive
- IP67 and shaft oil seal available
- High resolution encoders

Ordering information

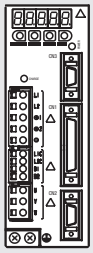
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

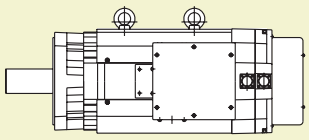
② **Sigma-II servo drive**

Drive options

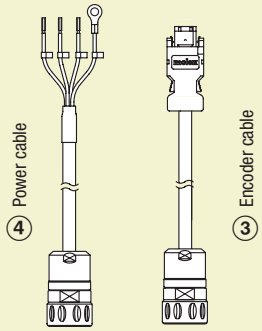


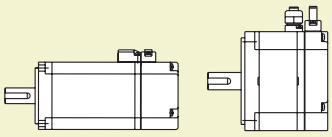
Intelligent servo drive

② **XtraDrive**



① **SGMBH servo motor 1500 rpm (22 kW-55 kW)**

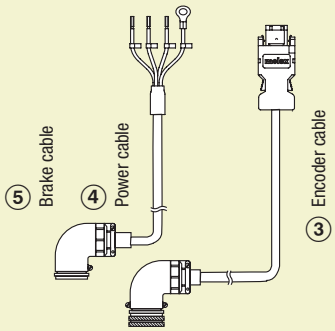


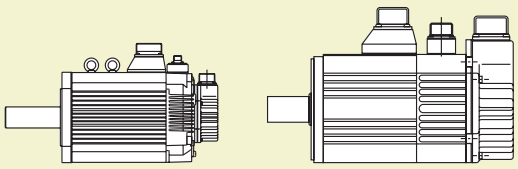


① **SGMAH servo motor 3000 rpm (30-750 W)**

① **SGMPH servo motor 3000 rpm (100-1500 W)**

Power and encoder cables





① **SGMGH servo motor 1500 rpm (450W-15 kW)**

① **SGMUH servo motor 3000 rpm (1-5 kW)**

① **SGMSH servo motor 6000 rpm (1-4 kW)**

Note: The symbols ①②③... show the recommended sequence to select the servo motor and cables

Servo motor

① A select motor from families SGMAH, SGMPH, SGMGH, SGMUH, SGMSH, SGMBH using motor tables in next pages

Servo drive

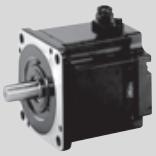
Note: Choosing Sigma-II drive or XtraDrive affects to the encoder cable needed

② Refer to Sigma-II servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories

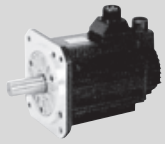
SGMAH - cylindrical servo motors 3000 r/min (30 to 750 W)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	230 V	Incremental encoder (13 bit) Straight shaft with key & tap	Without brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3AAA61D-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5AAA61D-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01AAA61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02AAA61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04AAA61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08AAA61D-OY
			With brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3AAA6CD-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5AAA6CD-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01AAA6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02AAA6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04AAA6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08AAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key & tap	Without brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3A1A61D-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5A1A61D-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01A1A61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02A1A61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04A1A61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08A1A61D-OY
			With brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3A1A6CD-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5A1A6CD-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01A1A6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02A1A6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04A1A6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08A1A6CD-OY
	400 V	Incremental encoder (13 bit) Straight shaft with key	Without brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03DAA61D-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07DAA61D-OY
			With brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03DAA6CD-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07DAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key	Without brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03D1A61D-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07D1A61D-OY
			With brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03D1A6CD-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07D1A6CD-OY

SGMPH - flat type servo motors 3000 r/min (100 to 1500 W)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	230 V	Incremental encoder (13 bit) Straight shaft with key & tap	Without brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01AAA61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02AAA61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04AAA61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08AAA61D-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15AAA61D-OY
			With brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01AAA6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02AAA6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04AAA6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08AAA6CD-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15AAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key & tap	Without brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01A1A61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02A1A61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04A1A61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08A1A61D-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15A1A61D-OY
			With brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01A1A6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02A1A6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04A1A6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08A1A6CD-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15A1A6CD-OY
	400 V	Incremental encoder (13 bit) Straight shaft with key	Without brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02DAA61D-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04DAA61D-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08DAA61D-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15DAA61D-OY
			With brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02DAA6CD-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04DAA6CD-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08DAA6CD-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15DAA6CD-OY
		Absolute Encoder (16 bit) Straight shaft with key	Without brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02D1A61D-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04D1A61D-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08D1A61D-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15D1A61D-OY
			With brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02D1A6CD-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04D1A6CD-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08D1A6CD-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15D1A6CD-OY

SGMGH - servo motors 1500 r/min (0.45 to 15 kW)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake	2.84 Nm	0.45 kW	SGDH-05DE-OY	XD-05-TN	SGMGH-05DCA6F-OY
				5.39 Nm	0.85 kW	SGDH-10DE-OY	XD-10-TN	SGMGH-09DCA6F-OY
				8.34 Nm	1.3 kW	SGDH-15DE-OY	XD-15-TN	SGMGH-13DCA6F-OY
				11.5 Nm	1.8 kW	SGDH-20DE-OY	XD-20-TN	SGMGH-20DCA6F-OY
				18.6 Nm	2.9 kW	SGDH-30DE-OY	XD-30-TN	SGMGH-30DCA6F-OY
				28.4 Nm	4.4 kW	SGDH-50DE-OY	XD-50-TN	SGMGH-44DCA6F-OY
				35.0 Nm	5.5 kW	SGDH-60DE-OY	–	SGMGH-55DCA6F-OY
				48.0 Nm	7.5 kW	SGDH-75DE-OY	–	SGMGH-75DCA6F-OY
				70.0 Nm	11.5 kW	SGDH-1ADE-OY	–	SGMGH-1ADCA6F-OY
				95.4 Nm	15.0 kW	SGDH-1EDE-OY	–	SGMGH-1EDCA6F-OY
			With brake	2.84 Nm	0.45 kW	SGDH-05DE-OY	XD-05-TN	SGMGH-05DCA6H-OY
				5.39 Nm	0.85 kW	SGDH-10DE-OY	XD-10-TN	SGMGH-09DCA6H-OY
				8.34 Nm	1.3 kW	SGDH-15DE-OY	XD-15-TN	SGMGH-13DCA6H-OY
				11.5 Nm	1.8 kW	SGDH-20DE-OY	XD-20-TN	SGMGH-20DCA6H-OY
				18.6 Nm	2.9 kW	SGDH-30DE-OY	XD-30-TN	SGMGH-30DCA6H-OY
				28.4 Nm	4.4 kW	SGDH-50DE-OY	XD-50-TN	SGMGH-44DCA6H-OY
				35.0 Nm	5.5 kW	SGDH-60DE-OY	–	SGMGH-55DCA6H-OY
				48.0 Nm	7.5 kW	SGDH-75DE-OY	–	SGMGH-75DCA6H-OY
				70.0 Nm	11.5 kW	SGDH-1ADE-OY	–	SGMGH-1ADCA6H-OY
				95.4 Nm	15.0 kW	SGDH-1EDE-OY	–	SGMGH-1EDCA6H-OY
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	2.84 Nm	0.45 kW	SGDH-05DE-OY	XD-05-TN	SGMGH-05D2A6F-OY
				5.39 Nm	0.85 kW	SGDH-10DE-OY	XD-10-TN	SGMGH-09D2A6F-OY
				8.34 Nm	1.3 kW	SGDH-15DE-OY	XD-15-TN	SGMGH-13D2A6F-OY
				11.5 Nm	1.8 kW	SGDH-20DE-OY	XD-20-TN	SGMGH-20D2A6F-OY
				18.6 Nm	2.9 kW	SGDH-30DE-OY	XD-30-TN	SGMGH-30D2A6F-OY
				28.4 Nm	4.4 kW	SGDH-50DE-OY	XD-50-TN	SGMGH-44D2A6F-OY
				35.0 Nm	5.5 kW	SGDH-60DE-OY	–	SGMGH-55D2A6F-OY
				48.0 Nm	7.5 kW	SGDH-75DE-OY	–	SGMGH-75D2A6F-OY
				70.0 Nm	11.5 kW	SGDH-1ADE-OY	–	SGMGH-1AD2A6F-OY
				95.4 Nm	15.0 kW	SGDH-1EDE-OY	–	SGMGH-1ED2A6F-OY
			With brake	2.84 Nm	0.45 kW	SGDH-05DE-OY	XD-05-TN	SGMGH-05D2A6H-OY
				5.39 Nm	0.85 kW	SGDH-10DE-OY	XD-10-TN	SGMGH-09D2A6H-OY
				8.34 Nm	1.3 kW	SGDH-15DE-OY	XD-15-TN	SGMGH-13D2A6H-OY
				11.5 Nm	1.8 kW	SGDH-20DE-OY	XD-20-TN	SGMGH-20D2A6H-OY
				18.6 Nm	2.9 kW	SGDH-30DE-OY	XD-30-TN	SGMGH-30D2A6H-OY
				28.4 Nm	4.4 kW	SGDH-50DE-OY	XD-50-TN	SGMGH-44D2A6H-OY
				35.0 Nm	5.5 kW	SGDH-60DE-OY	–	SGMGH-55D2A6H-OY
				48.0 Nm	7.5 kW	SGDH-75DE-OY	–	SGMGH-75D2A6H-OY
				70.0 Nm	11.5 kW	SGDH-1ADE-OY	–	SGMGH-1AD2A6H-OY
				95.4 Nm	15.0 kW	SGDH-1EDE-OY	–	SGMGH-1ED2A6H-OY

SGMSH - servo motors 3000 r/min (1 to 5 KW)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake	3.18 Nm	1.0 kW	SGDH-10DE-OY	XD-10-TN	SGMSH-10DCA6F-OY
				4.9 Nm	1.5 kW	SGDH-15DE-OY	XD-15-TN	SGMSH-15DCA6F-OY
				6.36 Nm	2.0 kW	SGDH-20DE-OY	XD-20-TN	SGMSH-20DCA6F-OY
				9.8 Nm	3.0 kW	SGDH-30DE-OY	XD-30-TN	SGMSH-30DCA6F-OY
				12.6 Nm	4.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-40DCA6F-OY
				15.8 Nm	5.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-50DCA6F-OY
			With brake	3.18 Nm	1.0 kW	SGDH-10DE-OY	XD-10-TN	SGMSH-10DCA6H-OY
				4.9 Nm	1.5 kW	SGDH-15DE-OY	XD-15-TN	SGMSH-15DCA6H-OY
				6.36 Nm	2.0 kW	SGDH-20DE-OY	XD-20-TN	SGMSH-20DCA6H-OY
				9.8 Nm	3.0 kW	SGDH-30DE-OY	XD-30-TN	SGMSH-30DCA6H-OY
				12.6 Nm	4.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-40DCA6H-OY
				15.8 Nm	5.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-50DCA6H-OY
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	3.18 Nm	1.0 kW	SGDH-10DE-OY	XD-10-TN	SGMSH-10D2A6F-OY
				4.9 Nm	1.5 kW	SGDH-15DE-OY	XD-15-TN	SGMSH-15D2A6F-OY
				6.36 Nm	2.0 kW	SGDH-20DE-OY	XD-20-TN	SGMSH-20D2A6F-OY
				9.8 Nm	3.0 kW	SGDH-30DE-OY	XD-30-TN	SGMSH-30D2A6F-OY
				12.6 Nm	4.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-40D2A6F-OY
				15.8 Nm	5.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-50D2A6F-OY
			With brake	3.18 Nm	1.0 kW	SGDH-10DE-OY	XD-10-TN	SGMSH-10D2A6H-OY
				4.9 Nm	1.5 kW	SGDH-15DE-OY	XD-15-TN	SGMSH-15D2A6H-OY
				6.36 Nm	2.0 kW	SGDH-20DE-OY	XD-20-TN	SGMSH-20D2A6H-OY
				9.8 Nm	3.0 kW	SGDH-30DE-OY	XD-30-TN	SGMSH-30D2A6H-OY
				12.6 Nm	4.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-40D2A6H-OY
				15.8 Nm	5.0 kW	SGDH-50DE-OY	XD-50-TN	SGMSH-50D2A6H-OY

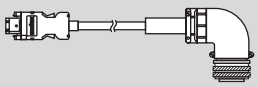
SGMUH - servo motors 6000 r/min (1 to 4 kW)

Symbol	Specifications					Servo motor model	Order code	
							Compatible servo drives ②	
	Voltage	Encoder and design		Rated torque	Capacity		Sigma-II	XtraDrive
① 	400 V	Incremental encoder (17 bit) Straight shaft with key	Without brake	1.59 Nm	1.0 kW	SGMUH-10DCA61-0Y	SGDH-10DE-0Y	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA61-0Y	SGDH-15DE-0Y	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA610Y	SGDH-30DE-0Y	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA61-0Y	SGDH-50DE-0Y	XD-50-TN
			With brake	1.59 Nm	1.0 kW	SGMUH-10DCA6C-0Y	SGDH-10DE-0Y	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA6C-0Y	SGDH-15DE-0Y	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA6C-0Y	SGDH-30DE-0Y	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA6C-0Y	SGDH-50DE-0Y	XD-50-TN

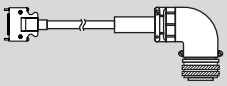
SGMBH - servo motors 1500 r/min (22 to 55 kW)

Symbol	Specifications					Servo motor model	Order code
							Compatible drives ②
	Voltage	Encoder and design		Rated torque	Capacity		Sigma-II
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake flange mount	140 Nm	22 kW	SGMBH-2BDCA61	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZDCA61	SGDH-3ZDE
				236 Nm	37 kW	SGMBH-3GDCA61	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCA61	SGDH-4EDE
			Without brake foot mount	236 Nm	37 kW	SGMBH-3GDCAL1	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCAL1	SGDH-4EDE
				350 Nm	55 kW	SGMBH-5EDCAL1	SGDH-5EDE
			With brake flange mount	140 Nm	22 kW	SGMBH-2BDCA6C	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZDCA6C	SGDH-3ZDE
			With brake foot mount	236 Nm	37 kW	SGMBH-3GDCALC	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCALC	SGDH-4EDE
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake flange mount	140 Nm	22 kW	SGMBH-2BD2A61	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZD2A61	SGDH-3ZDE
				236 Nm	37 kW	SGMBH-3GD2A61	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2A61	SGDH-4EDE
			Without brake foot mount	236 Nm	37 kW	SGMBH-3GD2AL1	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2AL1	SGDH-4EDE
				350 Nm	55 kW	SGMBH-5ED2AL1	SGDH-5EDE
			With brake flange mount	140 Nm	22 kW	SGMBH-2BD2A6C	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZD2A6C	SGDH-3ZDE
			With brake foot mount	236 Nm	37 kW	SGMBH-3GD2ALC	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2ALC	SGDH-4EDE

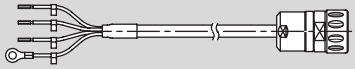
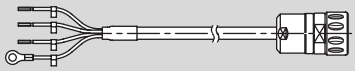
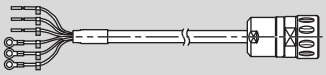
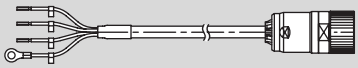
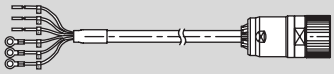
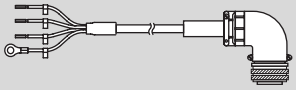
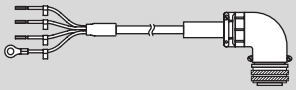
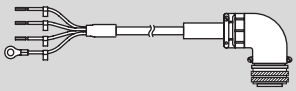
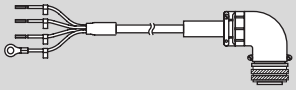
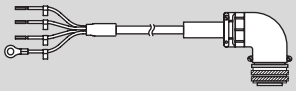
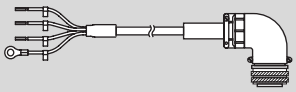
Encoder cables for Sigma-II servo drive

Symbol	Appearance	Specifications		Order code
③		Sigma-II encoder cable for SGMAH/PH servo motors SGMAH-_____D-0Y SGMPH-_____D-0Y	3 m	R88A-CRWA003C-DE
			5 m	R88A-CRWA005C-DE
			10 m	R88A-CRWA010C-DE
			15 m	R88A-CRWA015C-DE
			20 m	R88A-CRWA020C-DE
		Sigma-II encoder cable for SGMGH/SH/UH servo motors SGMGH-_ SGMSH-_ SGMUH-_, SGMBH-_	3 m	R88A-CRWB003N-E
			5 m	R88A-CRWB005N-E
			10 m	R88A-CRWB010N-E
			15 m	R88A-CRWB015N-E
			20 m	R88A-CRWB020N-E

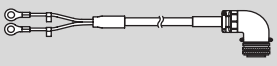
for XtraDrive servo drive

Symbol	Appearance	Specifications		Order code
③		XtraDrive encoder cable for Sigma-II (SGMAH/PH) servo motors SGMAH-_____D-0Y SGMPH-_____D-0Y	3 m	XD-CRWA003-DE
			5 m	XD-CRWA005-DE
			10 m	XD-CRWA010-DE
			15 m	XD-CRWA015-DE
			20 m	XD-CRWA020-DE
		XtraDrive encoder cable for Sigma-II (SGMGH/SH/UH/BH) servo motors SGMGH-_ SGMSH-_ SGMUH-_	3 m	XD-CRWB003N-E
			5 m	XD-CRWB005N-E
			10 m	XD-CRWB010N-E
			15 m	XD-CRWB015N-E
			20 m	XD-CRWB020N-E

Power cables

Symbol	Appearance	Specifications		Order code
④		For 200 V servo motors without brake SGMAH-__A___1D-0Y SGMPH-(01/02/04/08)A__41D-0Y	3 m	R88A-CAWA003S-DE
			5 m	R88A-CAWA005S-DE
			10 m	R88A-CAWA010S-DE
			15 m	R88A-CAWA015S-DE
			20 m	R88A-CAWA020S-DE
		For 200 V servo motors with brake SGMAH-__A___CD-0Y SGMPH-(01/02/04/08)A__4CD-0Y	3 m	R88A-CAWA003B-DE
			5 m	R88A-CAWA005B-DE
			10 m	R88A-CAWA010B-DE
			15 m	R88A-CAWA015B-DE
			20 m	R88A-CAWA020B-DE
		For 200 V servo motors without brake SGMPH-15A___1D-0Y	3 m	R88A-CAWB003S-DE
			5 m	R88A-CAWB005S-DE
			10 m	R88A-CAWB010S-DE
			15 m	R88A-CAWB015S-DE
			20 m	R88A-CAWB020S-DE
		For 200 V servo motors with brake SGMPH-15A___CD-0Y	3 m	R88A-CAWB003B-DE
			5 m	R88A-CAWB005B-DE
			10 m	R88A-CAWB010B-DE
			15 m	R88A-CAWB015B-DE
			20 m	R88A-CAWB020B-DE
		For 400 V servo motors without brake SGMAH-__D___1D-0Y SGMPH-__D___1D-0Y	3 m	R88A-CAWK003S-DE
			5 m	R88A-CAWK005S-DE
			10 m	R88A-CAWK010S-DE
			15 m	R88A-CAWK015S-DE
			20 m	R88A-CAWK020S-DE
		For 400 V servo motors with brake SGMAH-__D___CD-0Y SGMPH-__D___CD-0Y	3 m	R88A-CAWK003B-DE
			5 m	R88A-CAWK005B-DE
			10 m	R88A-CAWK010B-DE
			15 m	R88A-CAWK015B-DE
			20 m	R88A-CAWK020B-DE
		For 400 V servo motors SGMGH-(05/09/13)D_ SGMSH-(10/15/20)D_ SGMUH-(10/15)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWC003S-E
			5 m	R88A-CAWC005S-E
			10 m	R88A-CAWC010S-E
			15 m	R88A-CAWC015S-E
			20 m	R88A-CAWC020S-E
		For 400 V servo motors SGMGH-(20/30)D_ SGMSH-(30/40/50)D_ SGMUH-(30/40)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWD003S-E
			5 m	R88A-CAWD005S-E
			10 m	R88A-CAWD010S-E
			15 m	R88A-CAWD015S-E
			20 m	R88A-CAWD020S-E
		For 400 V servo motors SGMGH-44D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWG003S-E
			5 m	R88A-CAWG005S-E
			10 m	R88A-CAWG010S-E
			15 m	R88A-CAWG015S-E
			20 m	R88A-CAWG020S-E
		For 400 V servo motors SGMGH-55D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWF003S-E
			5 m	R88A-CAWF005S-E
			10 m	R88A-CAWF010S-E
			15 m	R88A-CAWF015S-E
			20 m	R88A-CAWF020S-E
		For 400 V servo motors SGMGH-(75/1A)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWH003S-E
			5 m	R88A-CAWH005S-E
			10 m	R88A-CAWH010S-E
			15 m	R88A-CAWH015S-E
			20 m	R88A-CAWH020S-E
		For 400 V servo motors SGMGH-1ED_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWJ003S-E
			5 m	R88A-CAWJ005S-E
			10 m	R88A-CAWJ010S-E
			15 m	R88A-CAWJ015S-E
			20 m	R88A-CAWJ020S-E

Brake cable (For SGMGH/SH/UH motors)

Symbol	Appearance	Specifications		Order code
⑤		Brake cable only. For 400 V servo motors with brake SGMGH-__D_ SGMSH-__D_ SGMUH-__D_	3 m	R88A-CAWC003B-E
			5 m	R88A-CAWC005B-E
			10 m	R88A-CAWC010B-E
			15 m	R88A-CAWC015B-E
			20 m	R88A-CAWC020B-E

Connectors

Specification	Order code
Hypertac power connector IP67 (for 200 V motors SGMAH/PH-__A____D-OY)	SPOC-06K-FSDN169
Hypertac power connector IP67 (for 400 V motors SGMAH/PH-__D____D-OY)	LPRA-06B-FRBN170
Hypertac encoder connector IP67 (for motors SGMAH/PH-_____D-OY)	SPOC-17H-FR0N169
Military power connector IP67 (for 400 V motors SGMGH-(05/10/13)D_, SGMSH-(10/15/20)D_ , SGMUH-(10/15)D_)) (for SGMBH-_ fan)	MS3108E18-10S
Military power connector IP67 (for 400 V motors SGMGH-(20/30/44)D_, SGMSH-(30/40/50)D_, SGMUH-(30/40)D_)	MS3108E22-22S
Military power connector IP67 (for 400 V motors SGMGH-(55/75/1A/1E)D_)	MS3108E32-17S
Military brake connector IP67 (for 400 V servo motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E10SL-3S
Military encoder connector IP67 (for motors SGMGH-_, SGMSH-_, SGMUH-_, SGMBH-_)	MS3108E20-29S

Specifications

Type SGMAH, 230V/400 V

Ratings and specifications

Applied voltage		230 V						400 V	
Servo motor model SGMAH-_		A3A_	A5A_	01A_	02A_	04A_	08A_	03D_	07D_
Rated output	W	30	50	100	200	400	750	300	650
Rated torque	Nm	0.096	0.159	0.318	0.637	1.27	2.39	0.955	2.07
Instantaneous peak torque	Nm	0.286	0.477	0.955	1.91	3.82	7.16	3.82	7.16
Rated current	A (rms)	0.44	0.64	0.91	2.1	2.8	4.4	1.3	2.2
Instantaneous max. current	A (rms)	1.3	2.0	2.8	6.5	8.5	13.4	5.1	7.7
Rated speed	min^{-1}	3000							
Max. speed	min^{-1}	5000							
Torque constant	Nm/A (rms)	0.238	0.268	0.378	0.327	0.498	0.590	0.837	1.02
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	0.017	0.022	0.036	0.106	0.173	0.672	0.173	0.672
Alowable load moment of inertia (JL)	Multiple of (JM)	30				20			
Rated power rate	kW/s	5.49	11.5	27.8	38.2	93.7	84.8	52.9	63.8
Rated angular acceleration	rad/s^2	57,500	72,300	87,400	60,100	73,600	35,500	55,300	30,800
Aplicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)							
	Option	Incremental/absolute encoder (16 bits: 16384P/R)							
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	0.0085			0.058		0.14	0.058	0.14
Basic specifications	Time rating	Continuous							
	Insulation class	Class B							
	Ambient temperature	0 to +40°C							
	Ambient humidity	20 to 80% (non-condensing)							
	Vibration class	15 µm or below							
	Enclosure	Totally-enclosed, self-cooled, IP55 (excluding shaft opening)							
	Vibration resistance	Vibration acceleration 49 m/s^2							
	Mounting	Flange-mounted							

Type SGMPH, 230V/400 V

Ratings and specifications

Applied voltage		230 V					400 V			
Servo motor model SGMPH-_		01A_	02A_	04A_	08A_	15A_	02D_	04D_	08D_	15D_
Rated output	W	100	200	400	750	1500	200	400	750	1500
Rated torque	Nm	0.318	0.637	1.27	2.39	4.77	0.637	1.27	2.39	4.77
Instantaneous peak torque	Nm	0.955	1.91	3.82	7.16	14.3	1.91	3.82	7.16	14.3
Rated current	A (rms)	0.89	2.0	2.6	4.1	7.5	1.4	1.4	2.6	4.5
Instantaneous max. current	A (rms)	2.8	6.0	8.0	13.9	23.0	4.6	4.4	7.8	13.7
Rated speed	min^{-1}	3000								
Max. speed	min^{-1}	5000								
Torque constant	Nm/A (rms)	0.392	0.349	0.535	0.641	0.687	0.481	0.963	0.994	1.14
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	0.0491	0.193	0.331	2.10	4.02	0.193	0.331	2.10	4.02
Alowable load moment of inertia (JL)	Multiple of (JM)	25	15	7	5		15	7	5	
Rated power rate	kW/s	20.6	21.0	49.0	27.1	56.7	21.0	49.0	27.1	56.7
Rated angular acceleration	rad/s^2	64,800	33,000	38,500	11,400	11,900	33,000	38,500	11,400	11,900
Aplicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)								
	Option	Incremental/absolute encoder (16 bits: 16384P/R)								
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	0.029	0.109		0.875		0.109		0.875	
Basic specifications	Time rating	Continuous								
	Insulation class	Class B								
	Ambient temperature	0 to +40°C								
	Ambient humidity	20 to 80% (non-condensing)								
	Vibration class	15 µm or below								
	Enclosure	Totally-enclosed, self-cooled, IP55 (excluding shaft opening)								
	Vibration resistance	Vibration acceleration 49 m/s^2								
	Mounting	Flange-mounted								

Type SGMGH, 400 V

Ratings and specifications

Applied voltage		400 V									
Servo motor model SGMGH-_		**05D_**	**09D_**	**13D_**	**20D_**	**30D_**	**44D_**	**55D_**	**75D_**	**1AD_**	**1ED_**
Rated output	kW	0.45	0.85	1.3	1.8	2.9	4.4	5.5	7.5	11	15
Rated torque	Nm	2.84	5.39	8.34	11.5	18.6	28.4	35.0	48.0	70.0	95.4
Instantaneous peak torque	Nm	8.92	13.8	23.3	28.7	45.1	71.1	90.7	123	175	221
Rated current	A (rms)	1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
Instantaneous max. current	A (rms)	5.5	8.5	14	20	28	40.5	55	65	70	85
Rated speed	min^{-1}	1500									
Max. speed	min^{-1}	3000								2,000	
Torque constant	Nm/A (rms)	1.64	1.65	1.68	1.46	1.66	1.82	1.74	2.0	2.56	2.64
Rotor moment of inertia (JM)	$kg·m^2x10^{-4}$	7.24	13.9	20.5	31.7	46.0	67.5	89.0	125	281	315
Alowable load moment of inertia (JL)	Multiple of (JM)	5									
Rated power rate	kW/s	11.2	20.9	33.8	41.5	75.3	120	137	184	174	289
Rated angular acceleration	rad/s^2	3,930	3,880	4,060	3,620	4,050	4,210	3,930	3,850	2,490	3,030
Aplicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)									
	Option	Absolute encoder (17 bits: 16384P/R)									
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	2.10			8.50					18.8	37.5
Basic specifications	Time rating	Continuous									
	Insulation class	Class F									
	Ambient temperature	0 to +40°C									
	Ambient humidity	20 to 80% (non-condensing)									
	Vibration class	15 µm or below									
	Enclosure	Totally-enclosed, self-cooled, IP67 (excluding shaft opening)									
	Vibration resistance	Vibration acceleration 24.5 m/s^2									
	Mounting	Flange-mounted									

Type SGMSH, 400 V

Ratings and specifications

Applied voltage		400 V					
Servo motor model SGMSH-_		**10D_**	**15D_**	**20D_**	**30D_**	**40D_**	**50D_**
Rated output	kW	1.0	1.5	2.0	3.0	4.0	5.0
Rated torque	Nm	3.18	4.9	6.36	9.8	12.6	15.8
Instantaneous peak torque	Nm	9.54	14.7	19.1	29.4	37.8	47.6
Rated current	A (rms)	2.8	4.7	6.2	8.9	12.5	13.8
Instantaneous max. current	A (rms)	8.5	14	19.5	28	38	42
Rated speed	min^{-1}	3,000					
Max. speed	min^{-1}	5,000					
Torque constant	Nm/A (rms)	1.27	1.15	1.12	1.19	1.07	1.24
Rotor moment of inertia (JM)	$kg·m^2x10^{-4}$	1.74	2.47	3.19	7.0	9.60	12.3
Alowable load moment of inertia (JL)	Multiple of (JM)	5					
Rated power rate	kW/s	57.9	97.2	127	137	166	202
Rated angular acceleration	rad/s^2	18,250	19,840	19,970	14,000	13,160	12,780
Aplicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)					
	Option	Absolute encoder (17 bits: 16384P/R)					
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.325			2.10		
Basic specifications	Time rating	Continuous					
	Insulation class	Class F					
	Ambient temperature	0 to +40°C					
	Ambient humidity	20 to 80% (non-condensing)					
	Vibration class	15 µm or below					
	Enclosure	Totally-enclosed, self-cooled, IP67 (excluding shaft opening)					
	Vibration resistance	Vibration acceleration 24.5 m/s^2					
	Mounting	Flange-mounted					

Type SGMUH, 400 V

Ratings and specifications

Applied voltage			400 V			
Servo motor model SGMUH-_			10D_	15D_	30D_	40D_
Rated output		kW	1.0	1.5	3.0	4.0
Rated torque		Nm	1.59	2.45	4.9	6.3
Instantaneous peak torque		Nm	6.5	11	21.5	29
Rated current		A (rms)	2.7	4.1	8.1	9.6
Instantaneous max. current		A (rms)	8.5	14	28	38.5
Rated speed		min^{-1}	6000			
Max. speed		min^{-1}	6000			
Torque constant		Nm/A (rms)	0.81	0.83	0.81	0.80
Rotor moment of inertia (JM)		$kg{\cdot}m^2x10^{-4}$	1.74	2.47	7.0	9.6
Alowable load moment of inertia (JL)		Multiple of (JM)	5			
Rated power rate		kW/s	14.5	24.3	34.3	41.3
Rated angular acceleration		rad/s^2	9130	9910	7000	6550
Aplicable encoder		Standard	Incremental Encoder (17 bits: 16384P/R)			
		Option	–			
Holding brake moment of inertia J		$kg{\cdot}m^2x10^{-4}$	0.25		2.10	
Basic specifications	Time rating		Continuous			
	Insulation class		Class F			
	Ambient temperature		0 to +40°C			
	Ambient humidity		20 to 80% (non-condensing)			
	Vibration class		15 µm or below			
	Enclosure		Totally-enclosed, self-cooled, IP67 (excluding shaft opening)			
	Vibration resistance		Vibration acceleration 24.5 m/s^2			
	Mounting		Flange-mounted			

Type SGMBH, 400 V

Ratings and specifications

Type	SGMBH-_		2BD_A	3ZD_A	3GD_A	4ED_A	5ED_A
Performance	Rated output	kW	22	30	37	45	55
	Rated torque	Nm	140	191	236	286	350
	Stalling torque	Nm	140	191	236	286	350
	Instantaneous peak torque	Nm	280	382	471	572	700
	Rated current	A(rms)	58	80	100	127	150
	Innstantaneous max. current	A(rms)	120	170	210	260	310
	Rated/max. speed	min^{-1}	1500/2000				
	Rotor inertia	$kg{\cdot}m^2$	0.0592	0.0773	0.139	0.151	0.197
Structure	Protective enclosure		IP44				
	Mounting method		Flange		Flange foot mount *1		Foot mount
Encoder		Standard	Incremental, absolute: 17 bits 16384P/R or equivalent *2				
		Option	Absolute: 20 bits 16384P/R or equivalent				
Usage temperature			0 to 40°C				
Usage humidity			20 to 80% (non-condensing)				

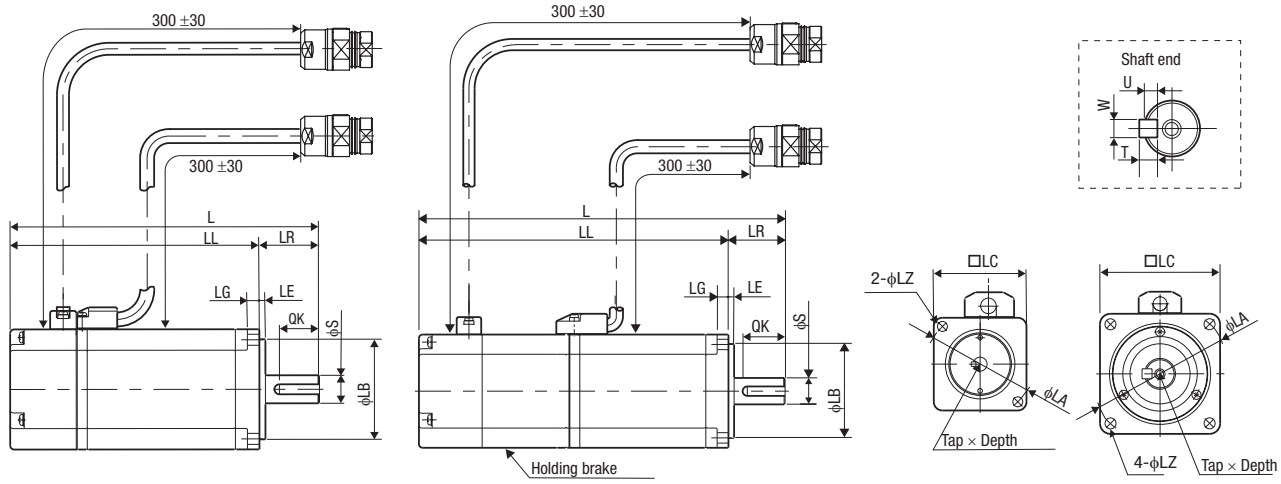
*1 37 kW and 45 kW motors with brakes are foot mount type
*2 The number of output pulses of servo drive is 16384P/R for both 17-bit and 20-bit encoders (no dividing).

Dimensions

Servo motors

Type SGMAH (230/400 V)

Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Order code	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMAH-A3A_A6_D-OY	94.5	69.5	126	101	25	46	30^{h7}	40	2.5	5	4.3	6^{h6}	14	2	2	1.2	M2.5 x 5L
SGMAH-A5A_A6_D-OY	102.0	77	133.5	108.5													
SGMAH-01A_A6_D-OY	119.5	94.5	160	135								8^{h6}		3	3	1.8	M3 x 6L
SGMAH-02A_A6_D-OY	126.5	96.5	166	136	30	70	50^{h7}	60	3	6	5.5	14^{h6}	20	5	5	3	M5 x8L
SGMAH-03D_A6_D-OY	154.5	124.5	194	164													
SGMAH-04A_A6_D-OY																	
SGMAH-07D_A6_D-OY	185	145	229.5	189.5	40	90	70^{h7}	80	3	8	7	16^{h6}	30				
SGMAH-08A_A6_D-OY																	



Models without brake

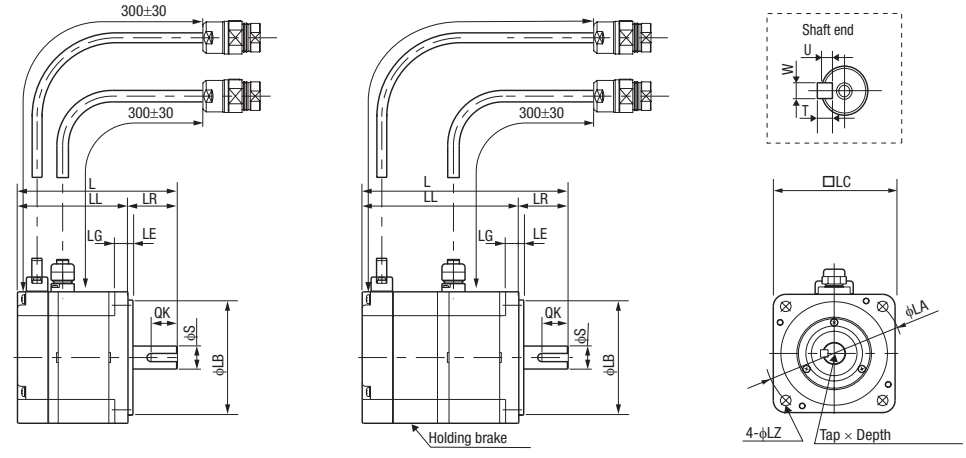
Models with brake

SGMAH-A3,-A5,-01

SGMAH-02 to -08

Type SGMPH (230/400 V)

Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Order code	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMPH-01___6_D-OY	87	62	116	91	25	70	50^{h7}	60	3	6	5.5	8^{h6}	14	3	3	1.8	M3x6L
SGMPH-02___6_D-OY	97	67	128.5	98.5	30	90	70^{h7}	80	3	8	7	14^{h6}	16	5	5	3	M5x8L
SGMPH-04___6_D-OY	117	87	148.5	118.5													
SGMPH-08___6_D-OY	126.5	86.5	160	120	40	145	110^{h7}	120	3.5	10	10	16^{h6}	22				
SGMPH-15___6_D-OY	154.5	114.5	188	148								19^{h6}		6	6	3.5	M6x10L



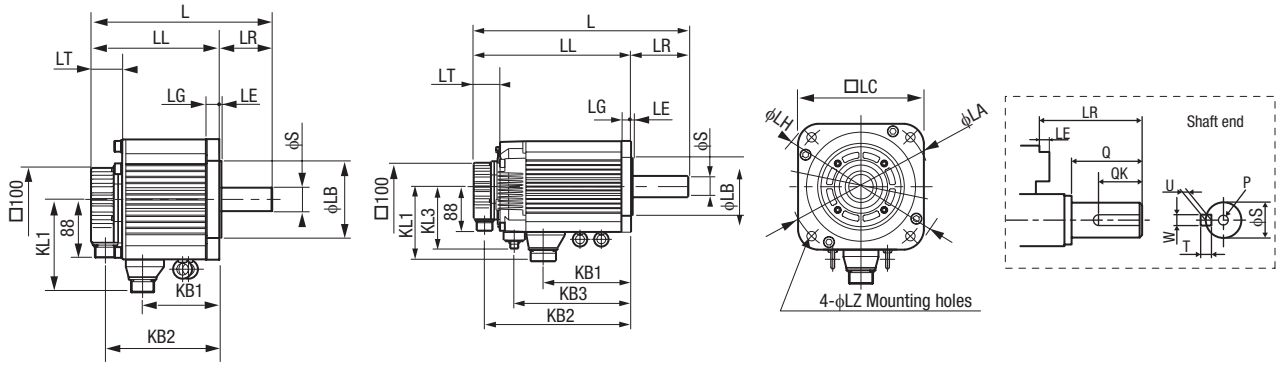
Models without brake

Models with brake

Type SGMGH (400 V)

Dimensions (mm)	Without brake			With brake				LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMGH-05D_A6_-OY	196	138	117	234	176	154	109	98	58	46	65	109	145	110	130	6	12	165	9	19	40	25	5	5	3	M5x12L
SGMGH-09D_A6_-OY	219	161	140	257	199	177	132				88															
SGMGH-13D_A6_-OY	243	185	164	281	223	201	156				112									22			6	6	3.5	

Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMGH-20D_A6_-0Y	245	166	144	296	217	195	137	123	79	47	89	140	200	114.3	180	3.2	18	230	13.5	35	76	60	10	8	5	M12x25L
SGMGH-30D_A6_-0Y	271	192	170	322	243	221	163				115															
SGMGH-44D_A6_-0Y	305	226	204	356	277	255	197				149															
SGMGH-55D_A6_-0Y	373	260	238	424	311	289	231		113		174	150								42	110	90	12			M16x32L
SGMGH-75D_A6_-0Y	447	334	312	498	385	363	305				248															
SGMGH-1AD_A6_-0Y	454	338	316	499	383	362	315	142	116	47	251	168	235	200	220	4	18	270	13.5	42	110	90	12	8	5	M16x32L
SGMGH-1ED_A6_-0Y	573	457	435	635	519	497	415			48	343						20			55			16	10	6	M20x40L

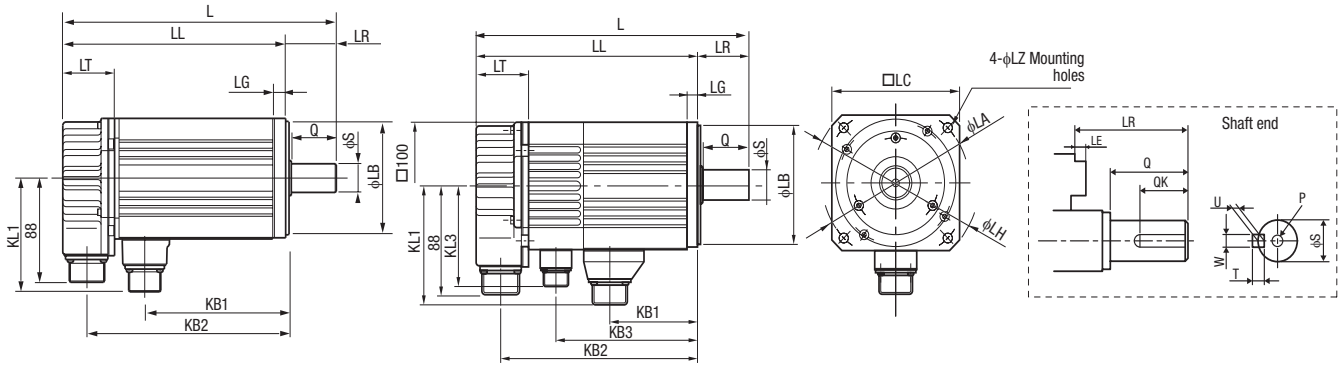


Models without brake

Models with brake

Type SGMSH (400 V)

Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMSH-10D_A6_-0Y	194	149	128	238	193	171	120	85	45	46	76	96	115	95^{h7}	100	3	10	130	7	24^{h6}	40	32	8	7	4	M8x16L
SGMSH-15D_A6_-0Y	220	175	154	264	219	197	146				102															
SGMSH-20D_A6_-0Y	243	198	177	287	242	220	169				125															
SGMSH-30D_A6_-0Y	262	199	178	300	237	216	170	98	63		124	114	145	110^{h7}	130	6	12	165	9	28^{h6}	55	50				
SGMSH-40D_A6_-0Y	299	236	215	337	274	253	207				161															
SGMSH-50D_A_-0Y	339	276	255	377	314	293	247				201															

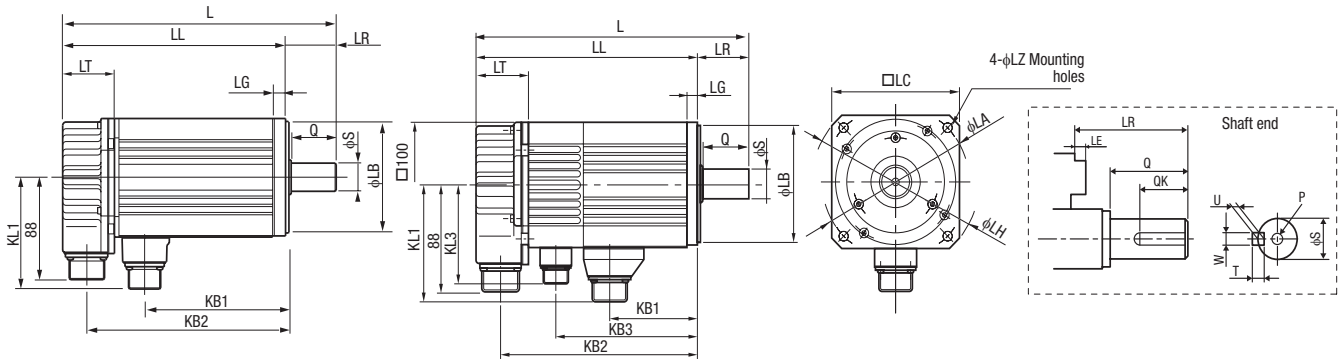


Models without brake

Models with brake

Type SGMUH (400 V)

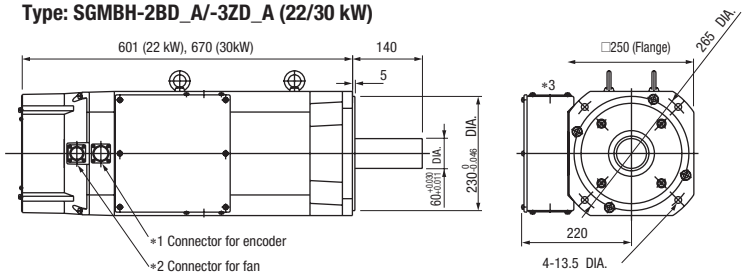
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMUH-10D_A6_-0Y	194	149	128	238	193	171	120	85	45	46	76	96	130	110	116	3.5	10	150	9	24^{h6}	40	32	8	7	4	M8x16L
SGMUH-15D_A6_-0Y	220	175	154	264	219	197	146				102															
SGMUH-30D_A6_-0Y	262	202	181	300	237	219	173	98	60		127	114	165	130	155		12	190	11	28^{h6}	55	50				
SGMUH-40D_A6_0Y	327	269	245	362	302	281	210			71	164															



Models without brake Models with brake

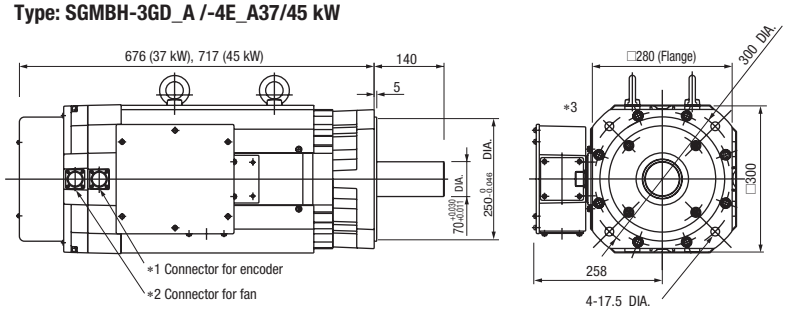
Type SGMBH (400 V)

Type: SGMBH-2BD_A/-3ZD_A (22/30 kW)



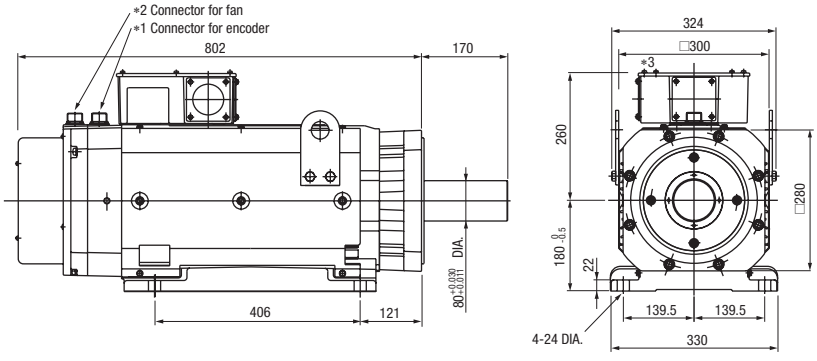
Approx. weight: 120 kg (22 kW)
140 kg (30 kW)

Type: SGMBH-3GD_A /-4E_A37/45 kW



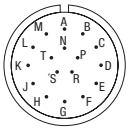
Approx. weight: 230 kg (37 kW)
250 kg (45 kW)

Type: SGMBH-5ED_A (55 kW)



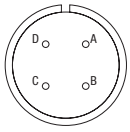
Approx. weight: 350 kg

∗1 Connector for encoder



Receptacle:	97F-3102E20-29P
Plug IP67 (L-shape):	MS3108E20-29S

∗2 Connector for fan



Receptacle:	CE05-2A18-10PD-B
Plug IP67 (L-shape):	MS3108E18-10S

Ultra-compact motor

The SmartStep motors offer the simplicity and cost-effectiveness of a stepper with the added advantages of a servo system.

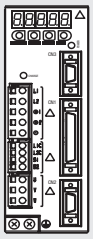
- Sizes 30 W to 800 W, rated speed 3,000 rpm
- Cylindrical and flat servo motor types are available
- Peak torque up to three times continuous torque during 3 seconds
- Easy to install with prebuilt cables
- Motors with brake are available

Ordering information

(Refer to servo drive chapter)

Servodrive controlled by pulses

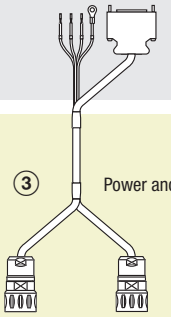
② **SmartStep servo drive**



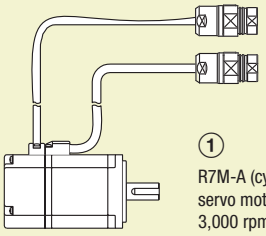
Intelligent servo drive

② **XtraDrive**

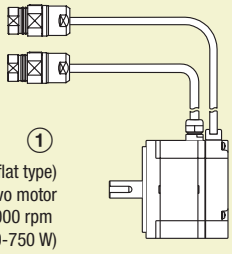
Drive options



③ Power and encoder cables



① R7M-A (cylindrical type) servo motor 3,000 rpm (30-750 W)



① R7M-AP (flat type) servo motor 3,000 rpm (100-750 W)

Note: The symbols ①②③... show the recommended sequence to select the servo motor and cables

Servo motor

Cylindrical servo motors (3,000-r/min)

Symbol	Specifications				Order code		
					Servo motor model	Compatible servo drives ②	
	Design		Rated torque	Capacity		SmartStep	XtraDrive
①	Cylindrical servo motors (3,000-r/min) Straight shaft with key	Without brake	0.095 Nm	30 W	R7M-A03030-S1-D	R7D-APA3H	XD-P3-MN01
			0.159 Nm	50 W	R7M-A05030-S1-D	R7D-APA5H	XD-P5-MN01
			0.318 Nm	100 W	R7M-A10030-S1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-A20030-S1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-A40030-S1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-A75030-S1-D	R7D-AP08H	XD-08-MN
		With brake	0.095 Nm	30 W	R7M-A03030-BS1-D	R7D-APA3H	XD-P3-MN01
			0.159 Nm	50 W	R7M-A05030-BS1-D	R7D-APA5H	XD-P5-MN01
			0.318 Nm	100 W	R7M-A10030-BS1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-A20030-BS1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-A40030-BS1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-A75030-BS1-D	R7D-AP08H	XD-08-MN

Flat servo motors (3,000-r/min)

Symbol	Specifications				Order code		
					Servo motor model	Compatible servo drives ②	
	Design		Rated torque	Capacity		SmartStep	XtraDrive
①	Flat servo motors (3,000-r/min) Straight shaft with key	Without brake	0.318 Nm	100 W	R7M-AP10030-S1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-AP20030-S1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-AP40030-S1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-AP75030-S1-D	R7D-AP08H	XD-08-MN
		With brake	0.318 Nm	100 W	R7M-AP10030-BS1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-AP20030-BS1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-AP40030-BS1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-AP75030-BS1-D	R7D-AP08H	XD-08-MN

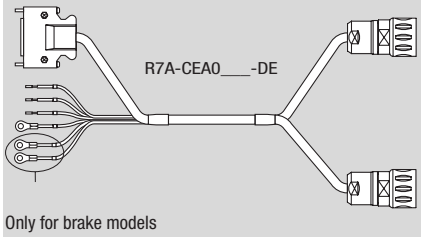
Servo drive

Note: Choosing SmartStep drive or XtraDrive affects to the encoder cable needed

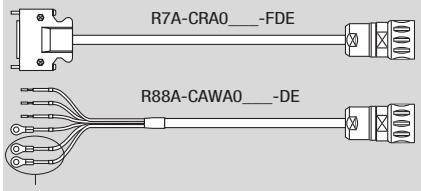
② Refer to SmartStep servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories

Servo motor cables for SmartStep drive

Standard cable (power + encoder)

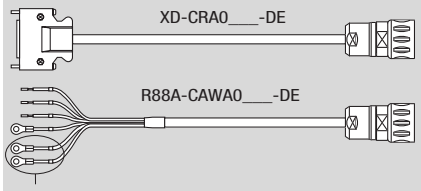
Symbol	Drive	Appearance	Specifications		Order code	
					Power cable model	Encoder cable model
③	SmartStep	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R7A-CEA003S-DE	–
				5 m	R7A-CEA005S-DE	–
				10 m	R7A-CEA010S-DE	–
				15 m	R7A-CEA015S-DE	–
				20 m	R7A-CEA020S-DE	–
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R7A-CEA003B-DE	–
				5 m	R7A-CEA005B-DE	–
				10 m	R7A-CEA010B-DE	–
				15 m	R7A-CEA015B-DE	–
				20 m	R7A-CEA020B-DE	–

Flexible cables (power + encoder)

Symbol	Drive	Appearance	Specifications		Order code	
					Power cable model	Encoder cable model
③	SmartStep	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R88A-CAWA003S-DE	R7A-CRA003-FDE
				5 m	R88A-CAWA005S-DE	R7A-CRA005-FDE
				10 m	R88A-CAWA010S-DE	R7A-CRA010-FDE
				15 m	R88A-CAWA015S-DE	R7A-CRA015-FDE
				20 m	R88A-CAWA020S-DE	R7A-CRA020-FDE
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R88A-CAWA003B-DE	R7A-CRA003-FDE
				5 m	R88A-CAWA005B-DE	R7A-CRA005-FDE
				10 m	R88A-CAWA010B-DE	R7A-CRA010-FDE
				15 m	R88A-CAWA015B-DE	R7A-CRA015-FDE
				20 m	R88A-CAWA020B-DE	R7A-CRA020-FDE

Servo motor cables for XtraDrive drive

Flexible cables (power + encoder)

Symbol	Drive	Appearance	Specifications		Power cable model	Encoder cable model
③	XtraDrive	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R88A-CAWA003S-DE	XD-CRA003-DE
				5 m	R88A-CAWA005S-DE	XD-CRA005-DE
				10 m	R88A-CAWA010S-DE	XD-CRA010-DE
				15 m	R88A-CAWA015S-DE	XD-CRA015-DE
				20 m	R88A-CAWA020S-DE	XD-CRA020-DE
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R88A-CAWA003B-DE	XD-CRA003-DE
				5 m	R88A-CAWA005B-DE	XD-CRA005-DE
				10 m	R88A-CAWA010B-DE	XD-CRA010-DE
				15 m	R88A-CAWA015B-DE	XD-CRA015-DE
				20 m	R88A-CAWA020B-DE	XD-CRA020-DE

Connectors

Specifications	Order code
SmartStep connectors kit (models included in kit)	R7A-CNA00K-DE
SmartStep encoder connector (for CN2)	R7A-CNA01R
Hypertac power connector female	SPOC-06K-FSDN169
Hypertac encoder connector female	SPOC-17H-FRON169

Specifications

General specifications

Item	Specification
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20 to 80% (with no condensation)
Ambient storage temperature	-20 to 60°C
Ambient storage humidity	20 to 80% (with no condensation)
Storage/operating atmosphere	No corrosive gases.
Vibration resistance	10 to 2,500 Hz in X, Y, and Z directions with 0.2 mm double amplitude or acceleration of 24.5 m/s^2 max., whichever is smaller
Impact resistance	Acceleration 98 m/s^2 max., in a vertical direction, two times
Insulation resistance	Between power line terminals and FG: 10 MΩ min. (at 500 VDC)
Dielectric strength	Between power line terminals and FG: 1,500 VAC for 1 min at 50/60 Hz
Run position	Any direction
Insulation grade	Type B
Structure	Totally-enclosed self-cooling
Protective structure	IP55 for both the cylindrical and flat servo motors
Vibration grade	V-15
Mounting method	Flange-mounting
International standards	Approval obtained for UL, cUL, and EN (EMC directive and low-voltage directive)

Performance specifications

Flat servo motors

Item		R7M-AP10030-_	R7M-AP20030-_	R7M-AP40030-_	R7M-AP75030-_
Rated output		100 W	200 W	400 W	750 W
Rated torque		0.318 Nm	0.637 Nm	1.27 Nm	2.39 Nm
Rated rotation speed		3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min
Momentary maximum rotation speed		4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min
Momentary maximum torque		0.96 Nm	1.91 Nm	3.82 Nm	7.1 Nm
Rated current		0.89 A (rms)	2.0 A (rms)	2.6 A (rms)	4.1 A (rms)
Momentary maximum current		2.8 A (rms)	6.0 A (rms)	8.0 A (rms)	13.9 A (rms)
Rotor inertia		6.5×10^{-6} kg·m^2	2.09×10^{-5} kg·m^2	3.47×10^{-5} kg·m^2	2.11×10^{-4} kg·m^2
Power rate		15.7 kW/s	19.4 kW/s	46.8 kW/s	26.9 kW/s
Allowable radial load		78 N	245 N	245 N	392 N
Allowable thrust load		49 N	68 N	68 N	147 N
Weight	Without brake	0.7 kg	1.4 kg	2.1 kg	4.2 kg
	With brake	0.9 kg	1.9 kg	2.6 kg	5.7 kg
Encoder resolution		2,000 pulses/revolution for phase-A and phase-B, 1 pulse/revolution for phase-Z			
Radiation shield dimensions		t6 × 250 mm square			t12 × 300 mm square
Brake specifications	Brake inertia	3.1×10^{-6} kg·m^2	1.52×10^{-5} kg·m^2	1.52×10^{-5} kg·m^2	8.75×10^{-5} kg·m^2
	Excitation voltage	24 VDC ±10%			
	Power consumption (at 20°C)	7.5 W	7.6 W	8.2 W	7.5 W
	Current consumption (at 20°C)	0.31 A	0.32 A	0.34 A	0.31 A
	Static friction torque	0.4 Nm min.	0.9 Nm min.	1.9 Nm min.	3.5 Nm min.
	Attraction time	60 ms max.	40 ms max.	60 ms max.	20 ms max.
	Release time	20 ms max.	20 ms max.	20 ms max.	40 ms max.
	Backlash	1°	1°	1°	1°
	Rating	Continuous	Continuous	Continuous	Continuous
	Insulation grade	Type F	Type F	Type F	Type F
Applicable servo driver (R7D-)		AP01H	AP02H	AP04H	AP08H

Cylindrical servo motors

Item		R7M-A03030-_	R7M-A05030-_	R7M-A10030-_	R7M-A20030-_	R7M-A40030-_	R7M-A75030-_
Rated output		30 W	50 W	100 W	200 W	400 W	750 W
Rated torque		0.095 Nm	0.159 Nm	0.318 Nm	0.637 NmNm	1.27 Nm	2.39 Nm
Rated rotation speed		3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min
Momentary maximum rotation speed		4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min
Momentary maximum torque		0.29 Nm	0.48 Nm	0.96 Nm	1.91 Nm	3.82 Nm	7.1 Nm
Rated current		0.42 A (rms)	0.6 A (rms)	0.87 A (rms)	2.0 A (rms)	2.6 A (rms)	4.4 A (rms)
Momentary maximum current		1.3 A (rms)	1.9 A (rms)	2.8 A (rms)	6.0 A (rms)	8.0 A (rms)	13.9 A (rms)
Rotor inertia		1.7×10^{-6} kg·m^2	2.2×10^{-6} kg·m^2	3.6×10^{-6} kg·m^2	1.19×10^{-5} kg·m^2	1.87×10^{-5} kg·m^2	6.67×10^{-5} kg·m^2
Power rate		5.31 kW/s	11.5 kW/s	28.1 kW/s	34.1 kW/s	86.3 kW/s	85.6 kW/s
Allowable radial load		68 N	68 N	78 N	245 N	245 N	392 N
Allowable thrust load		54 N	54 N	54 N	74 N	74 N	147 N
Weight	Without brake	0.3 kg	0.4 kg	0.5 kg	1.1 kg	1.7 kg	3.4 kg
	With brake	0.6 kg	0.7 kg	0.8 kg	1.6 kg	2.2 kg	4.3 kg
Encoder resolution		2,000 pulses/revolution for phase-A and phase-B, 1 pulse/revolution for phase-Z					
Radiation shield dimensions		t6×250 mm square					

Item		R7M-A03030-_	R7M-A05030-_	R7M-A10030-_	R7M-A20030-_	R7M-A40030-_	R7M-A75030-_
Brake specifications	Brake inertia	0.85×10^{-6} kg·m^2	0.85×10^{-6} kg·m^2	0.85×10^{-6} kg·m^2	6.4×10^{-6} kg·m^2	6.4×10^{-6} kg·m^2	1.7×10^{-5} kg·m^2
	Excitation voltage	24 VDC ±10% V					
	Power consumption (at 20°C)	6 W	6 W	6 W	7 W	7 W	7.7 W
	Current consumption (at 20°C)	0.25 A	0.25 A	0.25 A	0.29 A	0.29 A	0.32 A
	Static friction torque	0.2 Nm min.	0.2 Nm min.	0.34 Nm min.	1.47 Nm min.	1.47 Nm min.	2.45 Nm min.
	Attraction time	30 ms max.	30 ms max.	30 ms max.	60 ms max.	60 ms max.	60 ms max.
	Release time	60 ms max.	60 ms max.	60 ms max.	20 ms max.	20 ms max.	20 ms max.
	Backlash	1°	1°	1°	1°	1°	1°
	Rating	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
	Insulation grade	Type F	Type F	Type F	Type F	Type F	Type F
Applicable servo driver (R7D-)		APA3H	APA5H	AP01H	AP02H	AP04H	AP08H

Dimensions

Cylindrical servo motors (3,000 r/min)

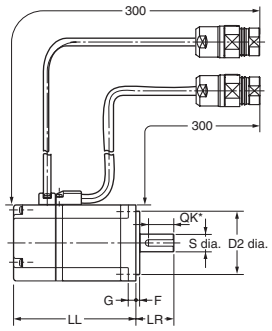
200 VAC: 30 W/50 W/100 W/200 W/400 W/750 W

Without brake: R7M-A03030-S1-D/A05030-S1-D/A10030-S1-D/A20030-S1-D/A40030-S1-D/A75030-S1-D

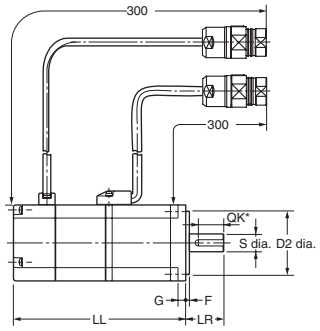
With brake: R7M-A03030-BS1-D/A05030-BS1-D/A10030-BS1-D/A20030-BS1-D/A40030-BS1-D/A75030-BS1-D

Order code	Dimensions (mm)												
	LL		LR	Flange surface						Axis end				
	Without brake	With brake		C	D1	D2	F	G	Z	S	QK	b	h	t1
R7M-A03030_	69.5	101	25	40	46	30h7	2.5	5	Two, 4.3 dia.	6h6	14	2	2	1.2
R7M-A05030_	77	108.5												
R7M-A10030_	94.5	135								8h6		3	3	1.8
R7M-A20030_	96.5	136	30	60	70	50h7	3	6	Four, 5.5 dia.	14h6	20	5	5	3
R7M-A40030_	124.5	164												
R7M-A75030_	145	189.5	40	80	90	70h7	3	8	Four, 7 dia.	16h6	30			

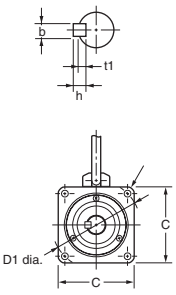
R7M-A___30-S1-D (without brake)



R7M-A___30-BS1-D (with brake)



Axis end dimensions



Hole with "Z" mark

Flat servo motors (3,000 r/min)

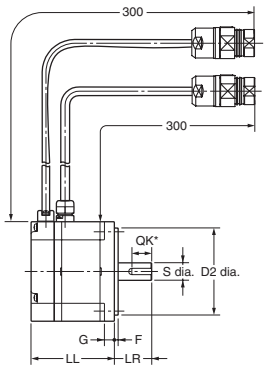
200 VAC: 100 W/200 W/400 W/750 W

Without brake: R7M-AP10030-S1-D/AP20030-S1-D/AP40030-S1-D/AP75030-S1-D

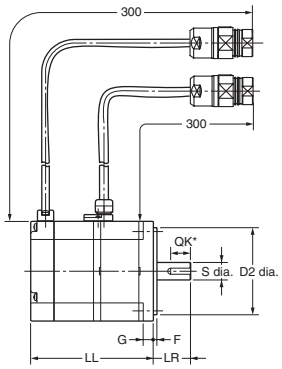
With brake: R7M-AP10030-BS1-D/AP20030-BS1-D/AP40030-BS1-D/AP75030-BS1-D

Order code	Dimensions (mm)												
	LL		LR	Flange surface						Axis end				
	Without brake	With brake		C	D1	D2	F	G	Z	S	QK	b	h	t1
R7M-AP10030_	62	91	25	60	70	50h7	3	6	5.5	8h6	14	3	3	1.8
R7M-AP20030_	67	98.5	30	80	90	70h7	3	8	7	14h6	16	5	5	3
R7M-AP40030_	87	118.5												
R7M-AP75030_	86.5	120	40	120	145	110h7	3.5	10	10	16h6	22			

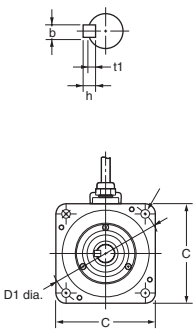
R7M-AP___30-S1-D (without brake)



R7M-AP___30-BS1-D (with brake)



Axis end dimensions



Four, Z-dia. mounting

Medium inertia compact motor

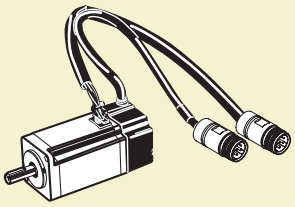
The Junma motors offer the simplicity and cost-effectiveness of a stepper motor with the added advantages of a servo system.

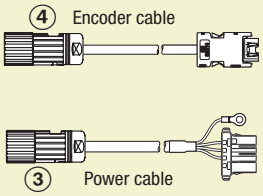
- Sizes 100 W to 750 W, rated speed 3,000 rpm
- Peak torque up to three times continuous torque for 3 seconds
- Easy to install with prebuilt cables
- Motors with brakes are available
- No motor settings required, just plug and run

Ordering information

Junma servo motor configuration

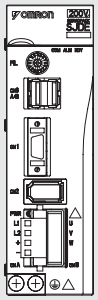
① **Junma servo motor**
3,000 rpm
(100 to 750 W)



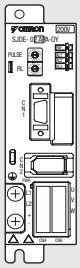


(Refer to servo drive chapter)

② **Junma MECHATROLINK-II Servo drive**



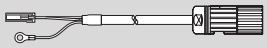
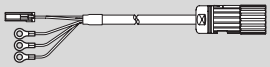
② **Junma pulse Servo drive**



Servomotors and servo drives

Symbol	Specifications					Order code		
						① Servomotor model	② Servo drive model	
	Voltage	Encoder and design		Rated torque	Capacity		MECHATROLINK-II	Pulse control
①②	1 Phase 200 VAC	Analog incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01ANA-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02ANA-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04ANA-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08ANA-0Y	SJDE-08APA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01ANA-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02ANA-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04ANA-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08ANA-0Y	SJDE-08APA-0Y

Power cables

Symbol	Appearance	Specifications			Order code
③		Power cable for Junma servomotors without brake SJME-0_AMB41-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHM000-01-5ME
				3 m	JZSP-CHM000-03-ME
				5 m	JZSP-CHM000-05-ME
				10 m	JZSP-CHM000-10-ME
				15 m	JZSP-CHM000-15-ME
				20 m	JZSP-CHM000-20-ME
			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-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHM030-01-5ME
				3 m	JZSP-CHM030-03-ME
				5 m	JZSP-CHM030-05-ME
				10 m	JZSP-CHM030-10-ME
				15 m	JZSP-CHM030-15-ME
				20 m	JZSP-CHM030-20-ME
			Non flexible cables	3 m	R7A-CAZ003B
				5 m	R7A-CAZ005B
				10 m	R7A-CAZ010B

Encoder cables

Symbol	Appearance	Specifications			Order code
④		Encoder cable for Junma servomotors SJME-0_AMB4_-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHP800-01-5ME
				3 m	JZSP-CHP800-03-ME
				5 m	JZSP-CHP800-05-ME
				10 m	JZSP-CHP800-10-ME
				15 m	JZSP-CHP800-15-ME
				20 m	JZSP-CHP800-20-ME
			Non flexible cables	3 m	R7A-CRZ003C
				5 m	R7A-CRZ005C
				10 m	R7A-CRZ010C

Connectors for power and encoder cables

Specifications			Order code
Connectors for making power cables	Drive side (CNB)	Manufacturer: Intercontec	R7A-CNZ01AFE
	Motor side	Manufacturer: Intercontec	R7A-CNZ02AFE
Connectors for making encoder cables	Drive side (CN2)	Manufacturer: Intercontec	R7A-CNZ01RFE
	Motor side	Manufacturer: Intercontec	R7A-CNZ02RFE

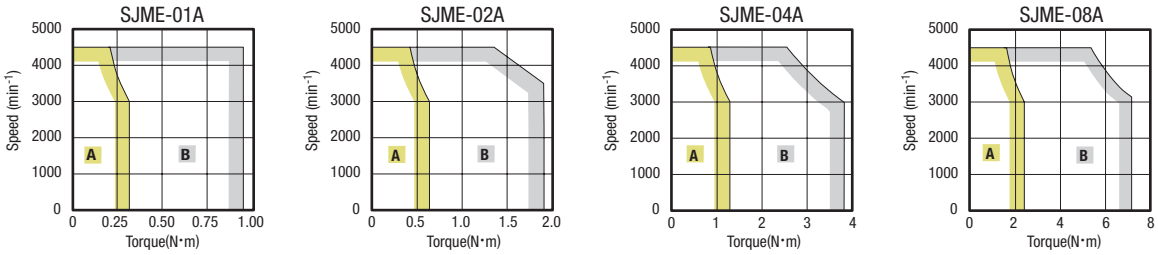
Servomotor specifications

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)		$kg·m^2x10^{-4}$	0.0634	0.330	0.603	1.50
Allowable load inertia *3		$kg·m^2x10^{-4}$	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	50,200	19,300	21,100	15,900
Encoder		Standard	Analog 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	$kg·m^2x10^{-4}$	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/s^2			
	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			

*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 (250x250x6 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)

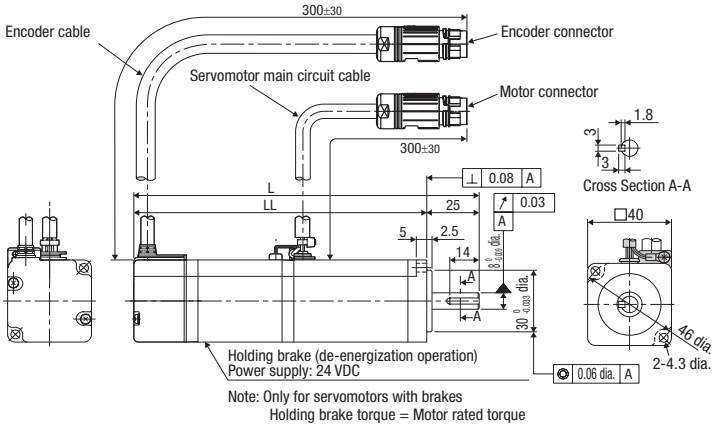


Dimensions

Junma servomotors

SJME-01 (200 V, 200 to 750 W)

Order code	L	LL	Approx. mass (kg)
SJME-01AMB41-0Y	119	94	0.5
SJME-01AMB4C-0Y	164	139	0.8

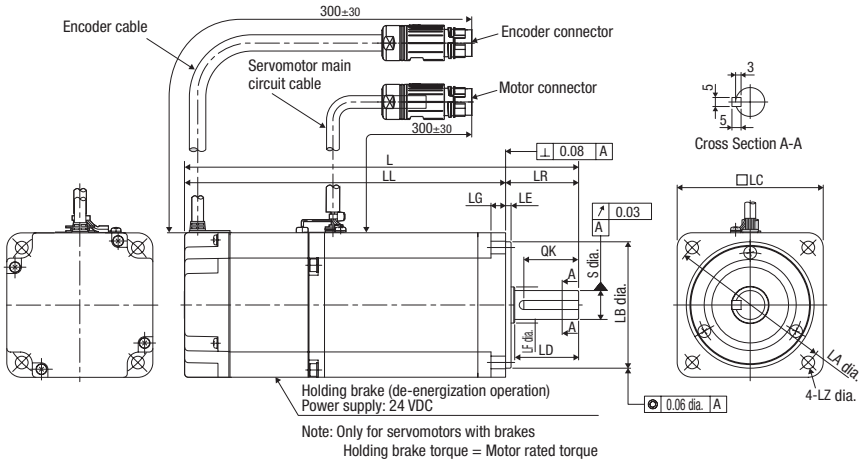


Units: mm

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

SJME-02, 04, 08 (200V, 200 to 750W)

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



Units: mm

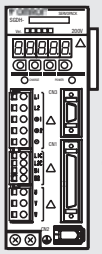
Note: Only for servomotors with brakes
Holding brake torque = Motor rated torque

Direct drive linear servo motors for faster machine cycles

- Direct control of the motors using XtraDrive and Sigma-II drives
- Improved machine performance
- Easy of operation & high reliability
- Designed for high force density in compact packages
- Exhibits exceptional force linearity even at near the peak force regions
- Extremely energy efficient, due to its optimised magnetic circuitry design and high-density windings

Ordering information

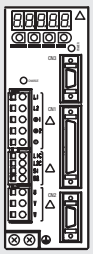
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

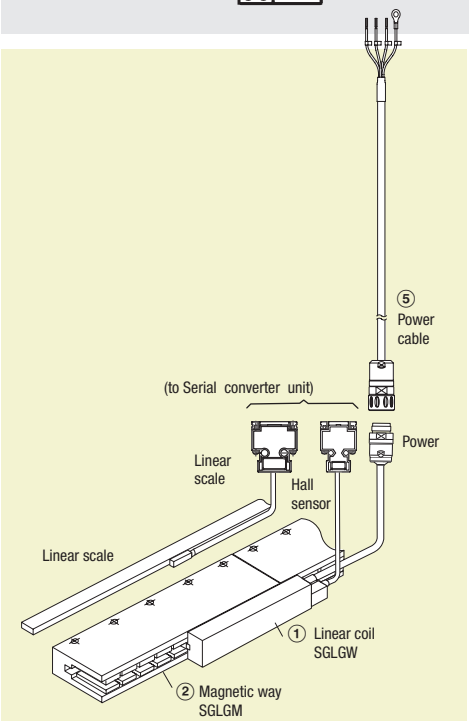
④ **Sigma-II servo drive**

Drive options

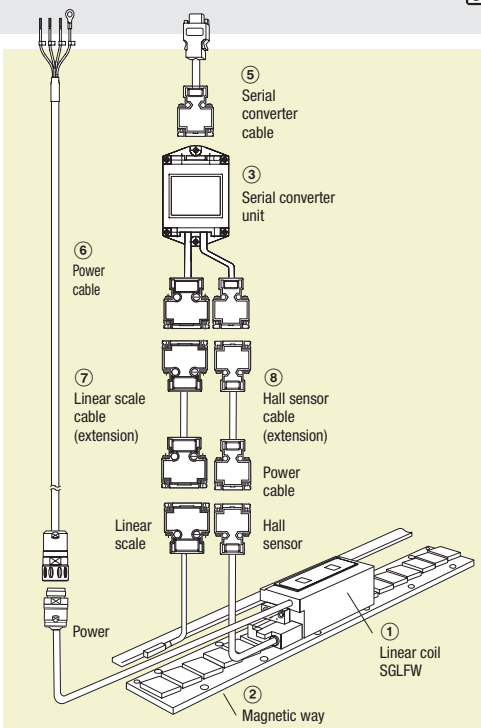


Intelligent servo drive

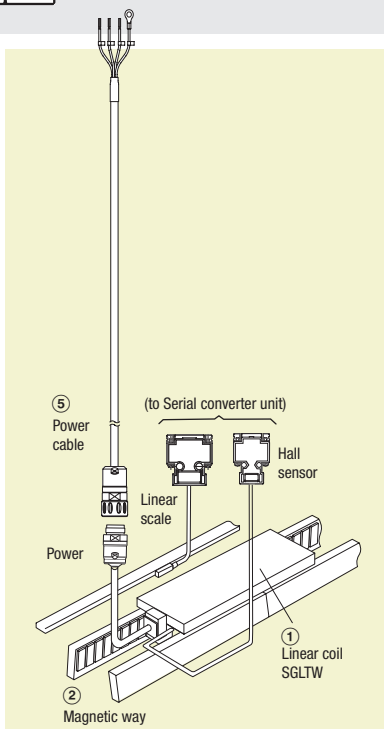
④ **XtraDrive**



SGLG_ Linear servo motor



SGLF_ Linear servo motor



SGLT_ Linear servo motor

Note: The symbols ①②③ .. show the recommended sequence to select the servo motor, cables and serial converter for a linear motor system

Servo motor

GLGW/SGLGM coreless type (200 V)

With standard-force magnetic ways - 230VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
ABCD 	13.5 N	40 N	SGLGW-30A050CPD	SGLGM-30108A SGLGM-30216A SGLGM-30432A	JZDP-D008-250	SGDH-A5AE-OY	XD-P5-MN01
	27 N	80 N	SGLGW-30A080CPD		JZDP-D008-251	SGDH-01AE-OY	XD-01-MN01
	47 N	140 N	SGLGW-40A140CPD	SGLGM-40090CT SGLGM-40225CT SGLGM-40360CT SGLGM-40405CT SGLGM-40450CT	JZDP-D008-252	SGDH-01AE-OY	XD-01-MN01
	93 N	280 N	SGLGW-40A253CPD		JZDP-D008-253	SGDH-02AE-OY	XD-02-MN01
	140 N	420 N	SGLGW-40A365CPD		JZDP-D008-254	SGDH-04AE-OY	XD-04-MN01
	73 N	220 N	SGLGW-60A140CPD	SGLGM-60090CT SGLGM-60225CT SGLGM-60360CT SGLGM-60405CT SGLGM-60450CT	JZDP-D008-258	SGDH-02AE-OY	XD-02-MN01
	147 N	440 N	SGLGW-60A253CPD		JZDP-D008-259	SGDH-04AE-OY	XD-04-MN01
	220 N	660 N	SGLGW-60A365CPD		JZDP-D008-260	SGDH-08AE-S-OY	XD-08-MN
	325 N	1300 N	SGLGW-90A200CPD	SGLGM-90252A SGLGM-90504A	JZDP-D008-260	SGDH-15AE-S-OY	XD-15-MN

Note: - Linear coils with design revision C are equivalent to previous versions. The serial converter required for revision C coil has changed from previous version, select it according to the table above.

- Magnetic ways with design revision C and revision B can be combined.

With high-force magnetic ways - 230VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
ABCD 	57 N	230 N	SGLGW-40A140CPD	SGLGM-40090CT-M SGLGM-40225CT-M SGLGM-40360CT-M SGLGM-40405CT-M SGLGM-40450CT-M	JZDP-D008-255	SGDH-02AE-OY	XD-02-MN01
	114 N	460 N	SGLGW-40A253CPD		JZDP-D008-256	SGDH-04AE-OY	XD-04-MN01
	171 N	690 N	SGLGW-40A365CPD		JZDP-D008-257	SGDH-08AE-S-OY	XD-08-MN
	89 N	360 N	SGLGW-60A140CPD	SGLGM-60090CT-M SGLGM-60225CT-M SGLGM-60360CT-M SGLGM-60405CT-M SGLGM-60450CT-M	JZDP-D008-261	SGDH-02AE-OY	XD-02-MN01
	178 N	720 N	SGLGW-60A253CPD		JZDP-D008-262	SGDH-08AE-S-OY	XD-08-MN
	267 N	1080 N	SGLGW-60A365CPD		JZDP-D008-263	SGDH-15AE-S-OY	XD-15-MN

Note: - Linear coils with design revision C are equivalent to previous versions. The serial converter required for revision C coil has changed from previous version, select it according to the table above.

- Magnetic ways with design revision C and revision B can be combined.

SGLFW/SGLFM iron-core type

230 VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	25 N	86 N	SGLFW-20A090APD	SGLFM-20324AC SGLFM-20540AC SGLFM-20756AC	JZDP-A008-017	SGDH-02AE-OY	XD-02-MN01
	40 N	125 N	SGLFW-20A120APD		JZDP-A008-018	SGDH-02AE-OY	XD-02-MN01
	80 N	220 N	SGLFW-35A120APD	SGLFM-35324AC SGLFM-35540AC SGLFM-35756AC	JZDP-A008-019	SGDH-02AE-OY	XD-02-MN01
	160 N	440 N	SGLFW-35A230APD		JZDP-A008-020	SGDH-08AE-S-OY	XD-08-MN01
	280 N	600 N	SGLFW-50A200BPD	SGLFM-50405AC SGLFM-50675AC SGLFM-50945AC	JZDP-A008-181	SGDH-08AE-S-OY	XD-08-MN
	560 N	1200 N	SGLFW-50A380BPD		JZDP-A008-182	SGDH-15AE-S-OY	XD-15-MN
	560 N	1200 N	SGLFW-1ZA200BPD	SGLFM-1Z405AC SGLFM-1Z675AC SGLFM-1Z945AC	JZDP-A008-183	SGDH-15AE-S-OY	XD-15-MN

Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

400 VAC three phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	80 N	220 N	SGLFW-35D120APD	SGLFM-35324AC SGLFM-35540AC SGLFM-35756AC	JZDP-A008-211	SGDH-05DE-OY	XD-05-TN
	160 N	440 N	SGLFW-35D230APD		JZDP-A008-212	SGDH-05DE-OY	XD-05-TN
	280 N	600 N	SGLFW-50D200BPD	SGLFM-50405AC SGLFM-50675AC SGLFM-50945AC	JZDP-A008-189	SGDH-10DE-OY	XD-10-TN
	560 N	1200 N	SGLFW-50D380BPD		JZDP-A008-190	SGDH-15DE-OY	XD-15-TN
	560 N	1200 N	SGLFW-1ZD200BPD	SGLFM-1Z405AC SGLFM-1Z675AC SGLFM-1Z945AC	JZDP-A008-191	SGDH-15DE-OY	XD-15-TN
	1120 N	2400 N	SGLFW-1ZD380BPD		JZDP-A008-192	SGDH-30DE-OY	XD-30-TN
	1500 N	3600 N	SGLFW-1ED380BP	SGLFM-1E135AC	JZDP-D008-333	SGDH-20DE-OY	XD-20-TN
	2250 N	5400 N	SGLFW-1ED560BP		JZDP-D008-334	SGDH-30DE-OY	XD-30-TN

Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

SGLTW/SGLTM iron-core type

400 VAC three phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	300 N	600 N	SGLTW-35D170HPD	SGLTM-35324HC SGLTM-35540HC SGLTM-35756HC	JZDP-A008-193	SGDH-10DE-OY	XD-10-TN
	600 N	1200 N	SGLTW-35D320HPD		JZDP-A008-194	SGDH-20DE-OY	XD-20-TN
	450 N	900 N	SGLTW-50D170HPD	SGLTM-50324HC SGLTM-50540HC SGLTM-50756HC	JZDP-A008-195	SGDH-10DE-OY	XD-10-TN
	900 N	1800 N	SGLTW-50D320HPD		JZDP-A008-196	SGDH-20DE-OY	XD-20-TN
	670 N	2600 N	SGLTW-40D400BP	SGLTM-40405AC SGLTM-40675AC SGLTM-40945AC	JZDP-A008-197	SGDH-30DE-OY	XD-30-TN
	1000 N	4000 N	SGLTW-40D600BP		JZDP-A008-198	SGDH-50DE-OY	XD-50-TN
	1300 N	5000 N	SGLTW-80D400BP	SGLTM-80405AC SGLTM-80675AC SGLTM-80945AC	JZDP-A008-199	SGDH-50DE-OY	XD-50-TN
	2000 N	7500 N	SGLTW-80D600BP		JZDP-A008-200	SGDH-75DE-OY	–

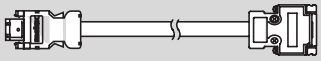
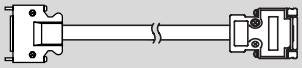
Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

Servo drive

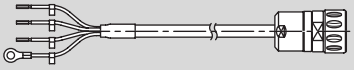
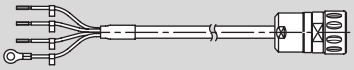
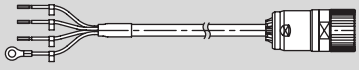
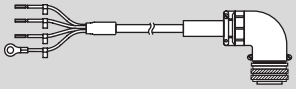
Note: Choosing Sigma-II drive or XtraDrive affects to the serial converter cable needed.

④ Refer to Sigma-II servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories.

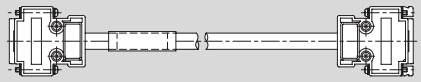
Serial converter cable to servo drive

Symbol	Appearance	Specifications		Order code
⑤		Sigma-II drive to serial converter cable	3 m	JZSP-CLP70-03-E
			5 m	JZSP-CLP70-05-E
			10 m	JZSP-CLP70-10-E
			15 m	JZSP-CLP70-15-E
			20 m	JZSP-CLP70-20-E
		XtraDrive drive to serial converter cable	3 m	XD-CLP70-03-E
			5 m	XD-CLP70-05-E
			10 m	XD-CLP70-10-E
			15 m	XD-CLP70-15-E
			20 m	XD-CLP70-20-E

Power cables

Symbol	Appearance	Specifications		Order code
⑥		For 200 V servo motors SGLGW-30A_____D SGLGW-40A_____D SGLGW-60A_____D SGLFW-20A___A_D SGLFW-35A___A_D	3 m	R88A-CAWA003S-DE
			5 m	R88A-CAWA005S-DE
			10 m	R88A-CAWA010S-DE
			15 m	R88A-CAWA015S-DE
			20 m	R88A-CAWA020S-DE
		For 200 V servo motors SGLGW-90A200__D SGLFW-50A___B_D SGLFW-1ZA200B_D	3 m	R88A-CAWB003S-DE
			5 m	R88A-CAWB005S-DE
			10 m	R88A-CAWB010S-DE
			15 m	R88A-CAWB015S-DE
			20 m	R88A-CAWB020S-DE
		For 400 V servo motors SGLFW-35D___A_D SGLFW-50D200_D SGLTW-35D170H_D SGLTW-50D170H_D	3 m	R88A-CAWK003S-DE
			5 m	R88A-CAWK005S-DE
			10 m	R88A-CAWK010S-DE
			15 m	R88A-CAWK015S-DE
			20 m	R88A-CAWK020S-DE
		For 400 V servo motors SGLFW-50D380_D SGLFW-1ZD___B_D SGLTW-35D320H_D SGLTW-50D320H_D	3 m	R88A-CAWL003S-DE
			5 m	R88A-CAWL005S-DE
			10 m	R88A-CAWL010S-DE
			15 m	R88A-CAWL015S-DE
			20 m	R88A-CAWL020S-DE
		For 400 V servo motors SGLFW-1ED___B_ SGLTW-40D___B_ SGLTW-80D___B_	3 m	R88A-CAWD003S-E
			5 m	R88A-CAWD005S-E
			10 m	R88A-CAWD010S-E
			15 m	R88A-CAWD015S-E
			20 m	R88A-CAWD020S-E

Linear scale cable to serial converter

Symbol	Appearance	Specifications		Order code
⑦		Extension cable for Renishaw linear scale to serial converter. (connector DB-15) (the extension cable is optional)	1 m	JZSP-CLL00-01-E
			3 m	JZSP-CLL00-03-E
			5 m	JZSP-CLL00-05-E
			10 m	JZSP-CLL00-10-E
			15 m	JZSP-CLL00-15-E
		Extension cable for Heidenhain linear scale to serial converter (connector DB-15) (when a Heidenhain scale is used the extension cable is required)	1 m	JZSP-CLL20-01-E
			3 m	JZSP-CLL20-03-E
			5 m	JZSP-CLL20-05-E
			10 m	JZSP-CLL20-10-E
			15 m	JZSP-CLL20-15-E

Hall sensor cable to serial converter

Symbol	Appearance	Specifications		Order code
⑧		Extension cable for linear scale to serial converter (the extension cable is optional)	1 m	JZSP-CLL10-01-E
			3 m	JZSP-CLL10-03-E
			5 m	JZSP-CLL10-05-E
			10 m	JZSP-CLL10-10-E
			15 m	JZSP-CLL10-15-E

Connectors

Specification	Order code
Hypertac power connector IP67 (for 200V motor coils SGL_W-__A_____D)	SPOC-06K-FSDN169
Hypertac power connector IP67 (for 400V motor coils SGL_W-__D_____D)	LPRA-06B-FRBN170
Military power connector IP67 (for motor coils SGLTW-40_/80_ and SGLFW-1ED_)	MS3108E22-22S

Dimensioning software

Specifications	Order code
SigmaSize	MOTION TOOLS CD

Servo motor specifications

Coreless SGLGW/SGLGM - (with standard-force magnetic ways)

Voltage		230 V								
Linear servo motor model SGLGW-		30A		40A			60A			90A
		050C	080C	140C	253C	365C	140C	253C	365C	200C
Rated force*	N	12.5	25	47	93	140	70	140	210	325
Rated current*	A(rms)	0,51	0,79	0.8	1.6	2.4	1,16	2,2	3,3	4.4
Instantaneous peak force*	N	40	80	140	280	420	220	440	660	1300
Instantaneous peak current*	A(rms)	1.62	2.53	2.4	4.9	7.3	3.5	7.0	10.5	17.6
Coil assembly mass	kg	0.10	0.15	0.34	0.60	0.87	0.42	0.76	1.10	2.15
Force constant	N/A(rms)	26.4	33.9	61.5	61.5	61.5	66.6	66.6	66.6	78
BEMF constant	V/(m/s)	8.8	11.3	20.5	20.5	20.5	22.2	22.2	22.2	26.0
Motor constant	$N/\sqrt{W}$	3.7	5.6	7.8	11.0	13.5	11.1	15.7	19.2	26.0
Electrical time constant	ms	0.2	0.4	0.4	0.4	0.4	0.5	0.5	0.5	1.4
Mechanical time constant	ms	7.30	4.78	5.59	4.96	4.77	3.41	3.08	2.98	3.18
Thermal resistance (with heat sink)	K/W	5,19	3,11	1,67	0,87	0,58	1,56	0,77	0,51	0,39
Thermal resistance (without heat sink)	K/W	–	–	3,02	1,80	1,23	2,59	1,48	1,15	–
Magnetic attraction	N	0	0	0	0	0	0	0	0	0
Heat sink size (HxWxD)	mm			200x300x12	300x400x12	400x500x12	200x300x12	300x400x12	400x500x12	800x900x12
Basic specifications	Time rating	Continuous								
	Insulation class	Class B								
	Ambient temperature	0 to +40°C								
	Ambient humidity	20 to 80% (non-condensing)								
	Insulation resistance	500 VDC, 10 MΩ min.								
	Excitation	Permanent magnet								
	Dielectric strength	1500 VAC for 1 minute								
	Protection methods	Self-cooled, air-cooling								
	Allowable winding temperature	130°C								

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Coreless SGLGW/SGLGM - (with high-force magnetic ways)

Voltage		230 V					
Linear servo motor model SGLGW-		40A			60A		
		140C	253C	365C	140C	253C	365C
Rated force*	N	57	114	171	85	170	255
Rated current*	A(rms)	0.8	1.6	2.4	1.2	2.2	3.3
Instantaneous peak force*	N	230	460	690	360	720	1080
Instantaneous peak current*	A(rms)	3.2	6.5	9.7	5.0	10.0	14.9
Coil assembly mass	kg	0.34	0.60	0.87	0.42	0.76	1.10
Force constant	N/A(rms)	76.0	76.0	76.0	77.4	77.4	77.4
BEMF constant	V/(m/s)	25.3	25.3	25.3	25.8	25.8	25.8
Motor constant	$N/\sqrt{W}$	9.6	13.6	16.7	12.9	18.2	22.3
Electrical time constant	ms	0.4	0.4	0.4	0.5	0.5	0.5
Mechanical time constant	ms	3.69	3.24	3.12	2.52	2.29	2.21
Thermal resistance (with heat sink)	K/W	1.67	0.87	0.58	1.56	0.77	0.51
Thermal resistance (without heat sink)	K/W	3.02	1.80	1.23	2.59	1.48	1.15
Magnetic attraction	N	0	0	0	0	0	0
Heat sink size (HxWxD)	mm	200x300x12	300x400x12	400x500x12	200x300x12	300x400x12	400x500x12
Basic specifications	Time rating	Continuous					
	Insulation class	Class B					
	Ambient temperature	0 to +40°C					
	Ambienthumidity	20 to 80% (non-condensing)					
	Insulation resistance	500 VDC, 10 MΩ min.					
	Excitation	Permanent magnet					
	Dielectric strength	1500 VAC for 1 minute					
	Protection methods	Self-cooled, air-cooling					
	Allowable winding temperature	130°C					

Note: - The item servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLFW/SGLFM (200V)

Voltage		230 V						
Linear servo motor model SGLFW-		20A		35A		50A		1ZA
		090A	120A	120A	230A	200B	380B	200B
Rated force*	N	25	40	80	160	280	560	560
Rated current*	A(rms)	0.7	0.8	1.4	2.8	5.0	10.0	8.7
Instantaneous peak force*	N	86	125	220	440	600	1200	1200
Instantaneous peak current*	A(rms)	3.0	2.9	4.4	8.8	12.4	25.0	21.6
Coil assembly mass	kg	0.7	0.9	1.3	2.3	3.5	6.9	6.4
Force constant	N/A(rms)	36.0	54.0	62.4	62.4	60.2	60.2	69.0
BEMF constant	V/(m/s)	12.0	18.0	20.8	20.8	20.1	20.1	23.0
Motor constant	$N/\sqrt{W}$	7.9	9.8	14.4	20.4	34.3	48.5	52.4
Electrical time constant	ms	3.2	3.3	3.6	3.6	15.9	15.8	18.3
Mechanical time constant	ms	11.0	9.3	6.2	5.5	3.0	2.9	2.3
Thermal resistance (with heat sink)	K/W	4.35	3.19	1.57	0.96	0.82	0.32	0.6
Thermal resistance (without heat sink)	K/W	7.69	5.02	4.10	1.94	1.48	0.74	0.92
Magnetic attraction	N	314	462	809	1586	1650	3260	3300
Heat sink size (HxWxD)	mm	125x125x13				254x254x25	400x500x40	254x254x25
Basic specifications	Time rating	Continuous						
	Insulation class	Class B						
	Ambient temperature	0 to +40°C						
	Ambient humidity	20 to 80% (non-condensing)						
	Insulation resistance	500 VDC, 10 MΩ min.						
	Excitation	Permanent magnet						
	Dielectric strength	1500 VAC for 1 minute						
	Protection methods	Self-cooled						
	Allowable winding temperature	130°C						

Note: - The items marked with an * and "Force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLFW/SGLFM (400V)

Voltage		400 V							
Linear servo motor model SGLFW-		35D		50D		1ZD		1ED	
		120A	230A	200B	380B	200B	380B	380B	560B
Rated force*	N	80	160	280	560	560	1,120	1,500	2,250
Rated current*	A(rms)	0.7	1.4	2.3	4.5	4.9	9.8	6.4	9.6
Instantaneous peak force*	N	220	440	600	1,200	1,200	2,400	3,600	5,400
Instantaneous peak current*	A(rms)	2.3	4.6	5.6	11.0	12.3	24.6	18.1	27.2
Coil assembly mass	kg	1.3	2.3	3.5	6.9	6.4	11.5	22.0	33.0
Force constant	N/A(rms)	120.2	120.2	134.7	134.7	122.6	122.6	250	250
BEMF constant	V/(m/s)	40.1	40.1	44.9	44.9	40.9	40.9	83.2	83.2
Motor constant	N /√W	13.8	19.5	33.4	47.2	51.0	72.1	95.4	117
Electrical time constant	ms	3.5	3.5	15.0	15.0	17.4	17.2	19.7	19.6
Mechanical time constant	ms	5.5	5.5	3.2	3.2	2.5	2.2	1.8	1.8
Thermal resistance (with heat sink)	K/W	1.57	0.96	0.82	0.32	0.6	0.28	0.21	0.13
Thermal resistance (without heat sink)	K/W	4.1	1.94	1.48	0.74	0.92	0.55	0.50	0.35
Magnetic attraction	N	810	1,590	1,650	3,260	3,300	6,520	9,780	14,600
Heat sink size (HxWxD)	mm			254x254x25	400x500x40	254x254x25	400x500x40	609x762x50	762x1270x64
Basic specifications: Time rating		Continuous							
Basic specifications: Insulation class		Class B							
Basic specifications: Ambient temperature		0 to +40°C							
Basic specifications: Ambient humidity		20 to 80% (non-condensing)							
Basic specifications: Insulation resistance		500 VDC, 10 MΩ min.							
Basic specifications: Excitation		Permanent magnet							
Basic specifications: Dielectric strength		1500 VAC for 1 minute							
Basic specifications: Protection methods		Self-cooled							
Basic specifications: Allowable winding temperature		130°C							

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLTW/SGLTM (400 V)

Voltage		400 V							
Linear servo motor model SGLTW-		35D		50D		40D		80D	
		170H	320H	170H	320H	400B	600B	400B	600B
Rated force*	N	300	600	450	900	670	1,000	1,300	2,000
Rated current*	A(rms)	3.2	6.5	3.2	6.3	3.7	5.5	7.2	11.1
Instantaneous peak force*	N	600	1,200	900	1,800	2,600	4,000	5,000	7,500
Instantaneous peak current*	A(rms)	7.5	15.1	7.3	14.6	20.7	30.6	37.6	56.4
Coil assembly mass	kg	4.7	8.8	6	11	15	23	25	36
Force constant	N/A(rms)	99.6	99.6	153.3	153.3	196.1	196.1	194.4	194.4
BEMF constant	V/(m/s)	33.2	33.2	51.1	51.1	65.4	65.4	64.8	64.8
Motor constant	N /√W	36.3	51.4	48.9	69.1	59.6	73	85.9	105.2
Electrical time constant	ms	14.3	14.3	15.6	15.6	14.4	14.4	15.4	15.4
Mechanical time constant	ms	3.5	3.5	2.5	2.5	4.2	4.2	3.2	3.2
Thermal resistance (with heat sink)	K/W	0.76	0.4	0.61	0.3	0.24	0.2	0.22	0.18
Thermal resistance (without heat sink)	K/W	1.26	0.83	0.97	0.8	0.57	0.4	0.47	0.33
Magnetic attraction*1	N	0	0	0	0	0	0	0	0
Magnetic attraction*2	N	1,400	2,780	2,000	3,980	3,950	5,890	7,650	11,400
Heat sink size (HxWxD)	mm			400x500x40					609x762x50
Basic specifications: Time rating		Continuous							
Basic specifications: Insulation class		Class B							
Basic specifications: Ambient temperature		0 to +40°C							
Basic specifications: Ambient humidity		20 to 80% (non-condensing)							
Basic specifications: Insulation resistance		500 VDC, 10 MW min.							
Basic specifications: Excitation		Permanent magnet							
Basic specifications: Dielectric strength		1500 VAC for 1 minute							
Basic specifications: Protection methods		Self-cooled							
Basic specifications: Allowable winding temperature		130°C							

*1. The unbalanced magnetic gap resulting from the coil assembly installation condition causes a magnetic attraction of the coil assembly.

*2. The value indicates the magnetic attraction generated on one side of the magnetic way.

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100°C during operation in combination with a servo drive. The others are at 20°C (68°F).

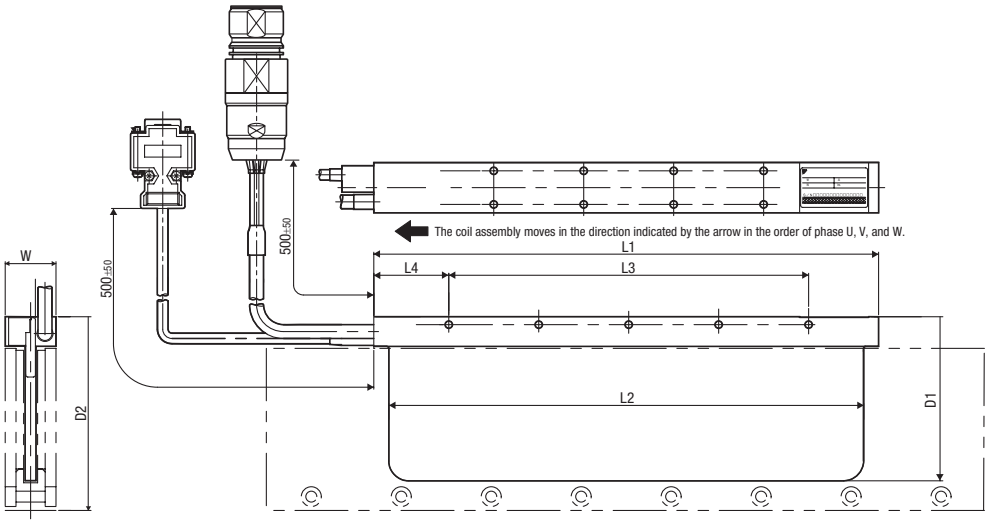
- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Dimensions

Coreless SGLG_-_

Coil assembly: SGLGW-_

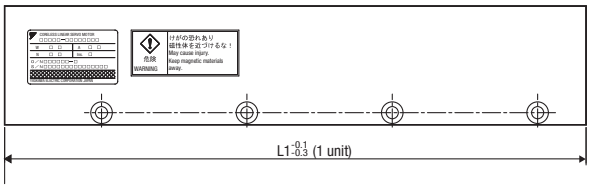
Coil assembly model SGLGW-	L1	L2	L3	L4	D1	D2	W	Approx. weight kg
30A050__D	50	48	30	15	48.5	57	22	0.14
30A080__D	80	72	50	15	48.5	57	22	0.19
40A140__D	140	125	90	30	63	78	25.4	0.40
40A253__D	252.5	237.5	180	37.5	63	78	25.4	0.66
40A365__D	365	350	315	30	63	78	25.4	0.93
60A140__D	140	125	90	30	83	98	25.4	0.48
60A253__D	252.5	237.5	180	37.5	83	98	25.4	0.82
60A365__D	365	350	315	30	83	98	25.4	1.16
90A200__D	199	189	130	40	121	138	49	2.2

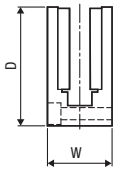


Units: mm

Magnetic way: SGLGM-_

Magnetic way model SGLGM-	L1	D	Standard-force magnetic way		High-force magnetic way	
			W	Approx. weight kg	W	Approx. weight kg
30108A	108	44	24	0.6	–	–
30216A	216	44	24	1.1	–	–
30432A	432	44	24	2.3	–	–
40090C_	90	62	25.4	0.8	31.8	1.0
40225C_	225	62	25.4	2.0	31.8	2.6
40360C_	360	62	25.4	3.1	31.8	4.1
40405C_	405	62	25.4	3.5	31.8	4.6
40450C_	450	62	25.4	3.9	31.8	5.1
60090C_	90	82	25.4	1.1	31.8	1.3
60225C_	225	82	25.4	2.6	31.8	3.3
60360C_	360	82	25.4	4.1	31.8	5.2
60405C_	405	82	25.4	4.6	31.8	5.9
60450C_	450	82	25.4	5.1	31.8	6.6
90252A	252	110	50.8	7.3	–	–
90504A	504	110	50.8	14.7	–	–



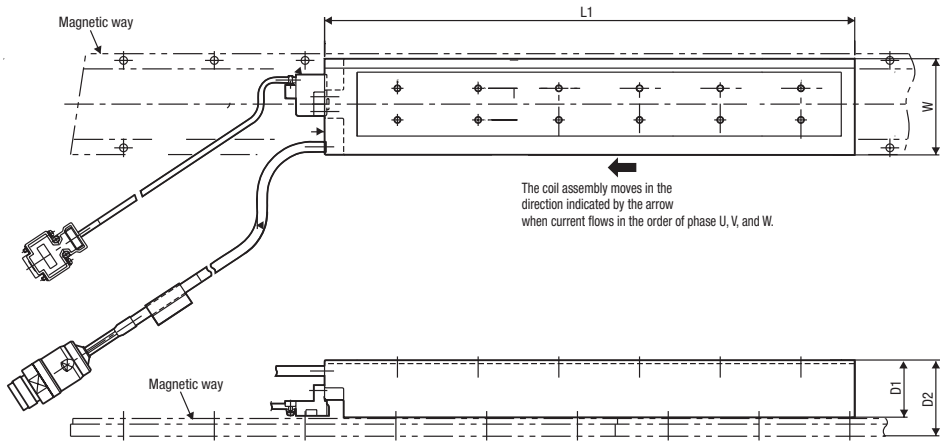


Units: mm

Iron-core SGLF_-_

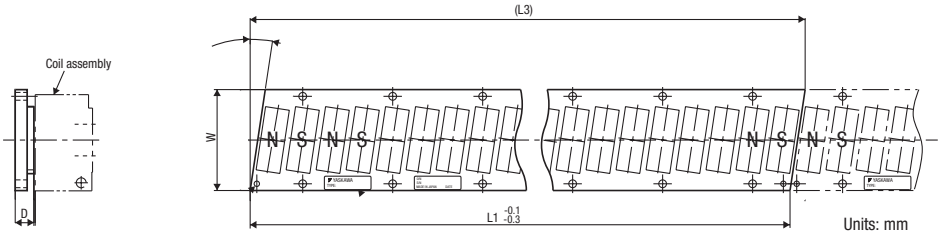
Coil assembly: SGLFW-_

Coil assembly model SGLFW-	L1	D1	D2	W	Approx. weight kg
20A090A_	91	34	45	40	0.7
20A120A_	127	34	45	40	0.9
35_120A_D	127	34	45	55	1.3
35_230A_D	235	34	45	55	2.3
50_200B_D	215	43	58	71.5	3.5
50_380B_D	395	43	58	71.5	6.9
1Z_200B_D	215	43	58	119	6.4
1ZD380B_D	395	43	58	119	11.5
1ED380B_	395	61	76	175	22
1ED560B_	605	61	76	175	33



Magnetic way: SGLFM-_

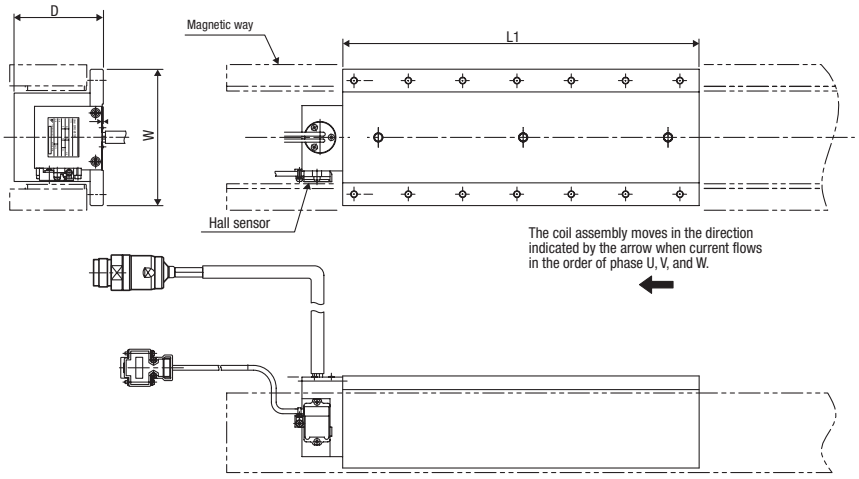
Magnetic way model SGLFM-	L1 $^{-0.1}_{-0.3}$	(L3)	D	W	Approx. weight kg
20324A	324	(331.6)	10	44	0.9
20540A	540	(547.6)	10	44	1.4
20756A	756	(763.6)	10	44	2
35324A	324	(334.4)	10	60	1.2
35540A	540	(550.4)	10	60	2
35756A	756	(766.4)	10	60	2.9
50405A	405	(416.3)	14	75	2.8
50675A	675	(686.3)	14	75	4.6
50945A	945	(956.3)	14	75	6.5
1Z405A	405	(423.9)	14	125	7.3
1Z675A	675	(693.9)	14	125	12
1Z945A	945	(963.9)	14	125	17
1E135A	135	(145.5)	14.2	200	2.4



Iron-core SGLT_-_

Coil assembly: SGLTW-_

Coil assembly model SGLTW-	L1	D	W	Approx. weight kg
35D320H_D	315	66	120	8.8
50D170H_D	170	81	120	6
50D320H_D	315	81	120	11
40D400B_	395	78	150	15
40D600B_	585	78	150	23
80D400B_	395	115	150	25
80D600B_	585	115	150	36

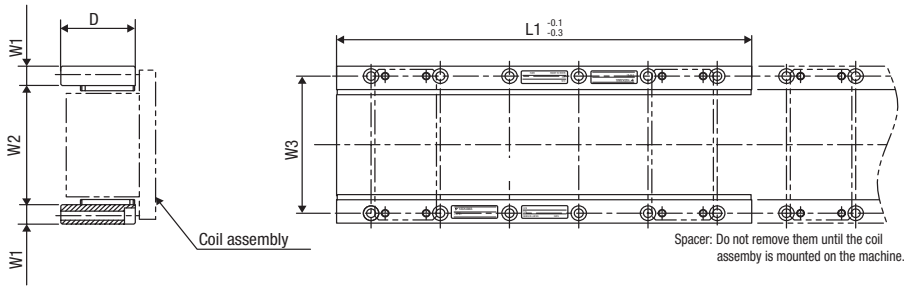


Units: mm

Magnetic way: SGLTM-_

Magnetic way model SGLTM-	L1 $^{-0.1}_{-0.3}$	D	W1	W2	W3	Approx. weight kg
35324H	324	55	15	90	107	4.8
35540H	540	55	15	90	107	8
35756H	756	55	15	90	107	11
50324H	324	70	19.1	90	112	8
50540H	540	70	19.1	90	112	13
50756H	756	70	19.1	90	112	18
40405A	405	63	19.1	111.8	131	9
40675A	675	63	19.1	111.8	131	15
40945A	945	63	19.1	111.8	131	21
80405A	405	100	19.1	111.8	131	14
80675A	675	100	19.1	111.8	131	24
80945A	945	100	19.1	111.8	131	34

Note: - Two magnetic ways for both ends of coil assembly make one set. Spacers are mounted on magnetic ways for safety during transportation. Do not remove the spacers until the coil assembly is mounted on a machine.
- The magnetic way may affect pacemakers. Keep a minimum distance of 200 mm from the magnetic way.
- Two magnetic ways in a set can be connected to each other.
- The dimensions marked with an * are the dimensions between the magnetic ways. Be sure to follow exactly the dimensions specified in the figure above. Mount magnetic ways as shown in assembly dimensions. The values with an * are the dimensions at pre-shipment.
- Use socket headed screws of strength class 10.9 minimum for magnetic way mounting screws. Do not use stainless steel screws



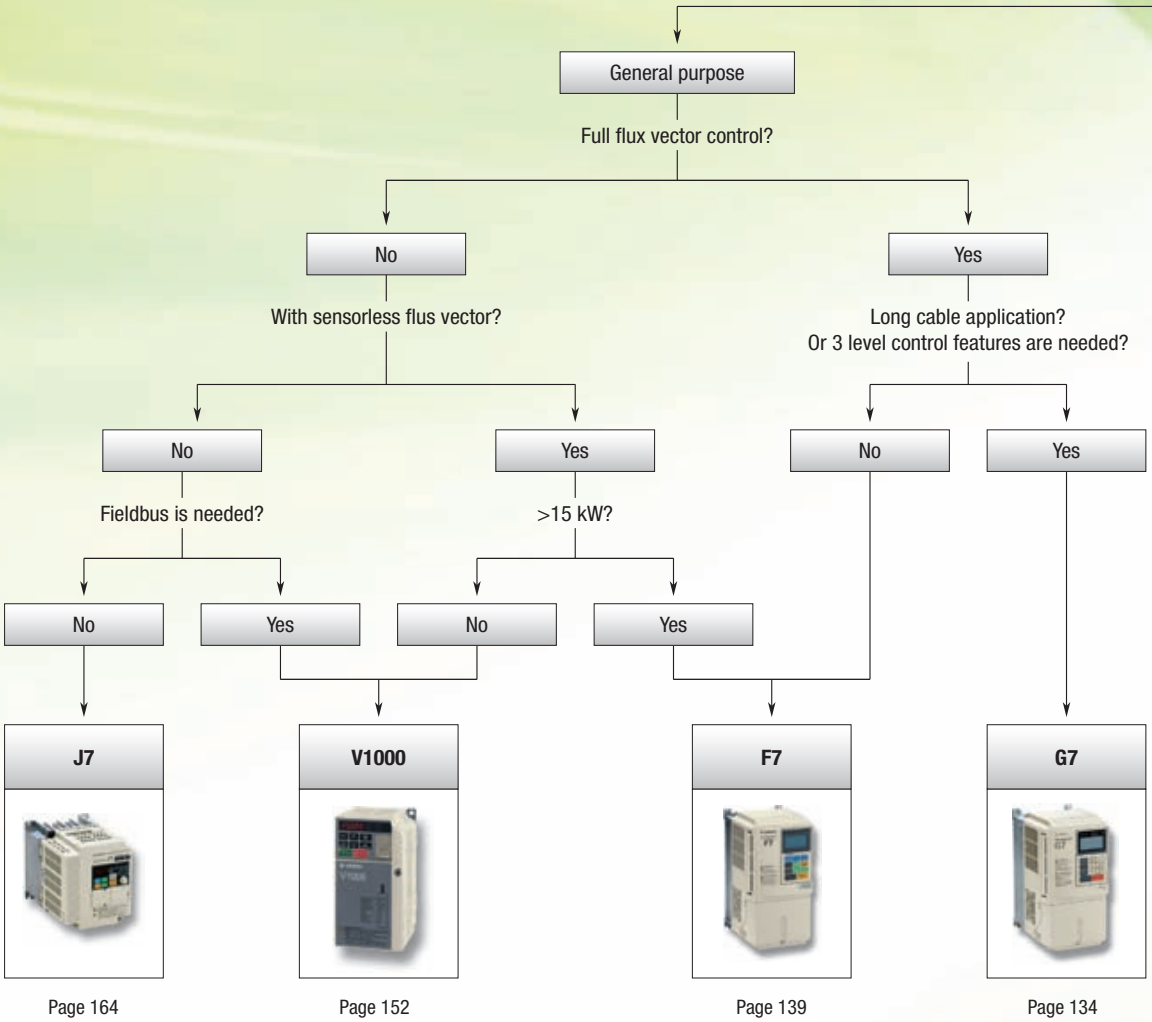
10 X 100 = 1

Quality has a new formula

Thanks to patented design of the V1000 series and modern manufacturing we can promise at least **10** years trouble-free operation. These new features guarantee a **100**% expectation match. And with a field failure rate of less than **1** in 10.000, the new V1000 series inverter will outperform all other inverters long after it has been implemented.

- 54% less mechanical elements – reduced size, improved reliability
- On-line tuning technology – optimal motor performance, no matter the circumstance variations
- Function Block Diagram – saves up to 70% programming time

How on-line tuning and built-in safety works in our inverters, check:
www.1000drives.com



Page 164 Page 152 Page 139 Page 134

What is your application?

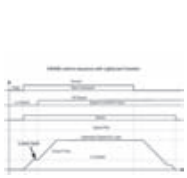
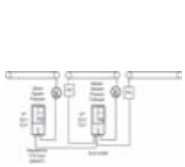
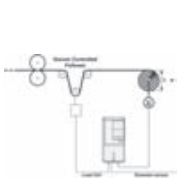
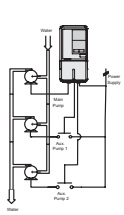
- Pumps & fans
  - >4 kW?
    - No → **J1000**  Page 160
    - Yes → **E7**  Page 148
- Lift application → **L7**  Page 144

Selection table

Model	G7	F7	L7	E7
				
Type	**World´s first three level inverter architecture**	**The industrial workhorse**	**Made to drive lifts**	**Drive your energy cost down**
400 V Three-phase **200 V Three-phase** **200 V Single-phase**	0.4 kW to 300 kW 0.4 kW to 110 kW –	0.4 kW to 300 kW 0.4 kW to 110 kW –	4.0 kW to 55 kW 3.7 kW to 55 kW –	0.4 kW to 300 kW 0.4 kW to 110 kW –
Application	High performance, long cable lines	General and high-end applications	Lift control with asynchronous or synchronous motors	Pumps and fans (variable torque)
Control method	Open and close loop for vector and V/F control.	Open and close loop for vector and V/F control.	Open and close loop for vector and V/F control.	V/F control
Torque features	150% at 0.0 Hz (CLV) 150% at 0.3 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)	120% at 0.5 Hz
Connectivity	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet MECHATROLINK-II	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet	Memobus Metasys N2 L&S Apogee LONWorks DeviceNet PROFIBUS-DP CANopen Ethernet
Customisation options	- PLC option board - Inverter application software	- PLC option board - Inverter application software	- PLC option board - Inverter application software	- PLC option board - Inverter application software - IP54 enclosure
Page	134	139	144	148

Model	V1000	V7	J1000	J7
				
Type	**Quality has a new formula**	**Sensorless flux vector in a pocket sized inverter**	**The basic inverter**	**Small, simple and smart**
400V Three-Phase **200V Three-Phase** **200V Single-Phase**	0.2 kW to 15 kW 0.1 kW to 15 kW 0.1 kW to 4.0 kW	0.2 kW to 7.5 kW 0.1 kW to 7.5 kW 0.1 kW to 4.0 kW	0.2 kW to 4.0 kW 0.1 kW to 4.0 kW 0.1 kW to 1.5 kW	0.2 kW to 4.0 kW 0.1 kW to 4.0 kW 0.1 kW to 1.5 kW
Application	High speed accuracy and high starting torque for compact general purpose	Compact general purpose	Simple speed control	Simple speed control
Control method	Open loop for vector and open and close loop for	Sensorless vector and V/F control	V/F control	V/F control
Torque features	150% at 0.6 Hz	100% at 0.5 Hz	150% at 3 Hz	150% at 3 Hz
Connectivity	Memobus DeviceNet PROFIBUS-DP CANopen CompoNet	Memobus DeviceNet PROFIBUS-DP CANopen MECHATROLINK-II	Memobus	Memobus
Customisation options	- Customised Application Software	- PLC option board - Inverter application software - IP65 enclosure	–	–
Page	152	156	160	164

Model	G7/F7/L7/E7 inverter PLC	V7 inverter PLC	
			
Type	**The Omron PLC embedded into the Omron-Yaskawa inverter family**	**The Omron PLC embedded into V7 inverter**	
Supported inverter	Varispeed G7/F7/L7/E7	Varispeed V7	
I/O's	6 DI, 4DO in PLC board. 256 I/O's by Comopbus/S distributed network.	6 DI, 4DO	
Calendar/clock	Yes	Available on RS-422/485 type	
Encoder interface	Yes	No	
Connectivity	Peripheral port RS-232C RS-422/485 CompoBus/S master DeviceNet slave	Peripheral port RS-232C RS-422/485	
Software	CX-Programmer CX-One	CX-Programmer CX-One	
Page	166	168	

	Inverter application software					
						
	S-7071	**S-8161**	**S-8180**	**S-8795**	**S-8801**	**S-9381**
Type	CRANE software	ELS - electronic line shaft software	Winder software	Point to point software	Pump sequencer software	Traverse software
Application	Crane applications	Position and speed follower applications	Winding and unwinding applications	Point to point positioning applications	Pump sequencer application up to 2 auxiliary pumps	Textile wire winding application.
Supported inverter	Varispeed F7	Varispeed F7	Varispeed F7	Varispeed F7	Varispeed E7	Varispeed V7
Page	170					

World first three level inverter architecture

The G7 has the world's first 400V 3-level inverter architecture that eliminates or minimises the installation problems associated with IGBT switching (very long cable lengths, bearing currents and common-mode currents) and protects the entire motor-drive system. The G7 can be programmed using DriveWorksEZ™. This is a PC-based, object-orientated, user-friendly, graphical icon programming tool.

- 3-level control reduces voltage peaks on motor windings by up to 50%. There is no need for an AC reactor on long motor cables.
- Flux-vector control. Excellent performance in open-loop mode with 150% torque at 0.3 Hz.
- Silent operation. No current de-rating in silent mode (high carrier frequency)
- Wide selection of option cards: fieldbus, PLC unit, MECHATROLINK, analog and digital I/Os, etc.
- Programming software: CX-Drive for parameter configuration. DriveWorkEZ™ for object-orientated programming.

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

⑦

CX-Drive
DriveWorkEZ

⑦

JVOP-160 OY
Digital operator
(LCD display)

⑦

JVOP-161-OY
Digital operator
(LED display)

⑦

3G3IV-PCN126/326
Digital operator
extension cable

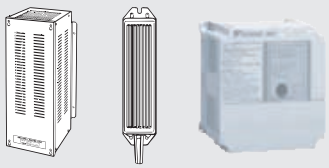
⑦

Line filter

①

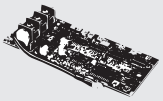
Varispeed G7

Braking accessories



⑧

Monitor option card

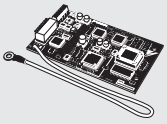


②

Feedback speed control card

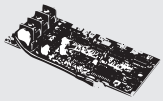
③

Communication option cards



④

Reference option cards



⑤

PLC option card

⑥

Varispeed G7

200 V

Specifications			Order code
IP20	0.4 kW	3.2 A	CIMR-G7C20P41
	0.75 kW	6.0 A	CIMR-G7C20P71
	1.5 kW	8.0 A	CIMR-G7C21P51
	2.2 kW	12 A	CIMR-G7C22P21
	3.7 kW	18 A	CIMR-G7C23P71
	5.5 kW	27 A	CIMR-G7C25P51
	7.5 kW	34 A	CIMR-G7C27P51
	11 kW	49 A	CIMR-G7C20111
	15 kW	66 A	CIMR-G7C20151
	18.5 kW	80 A	CIMR-G7C20181
IP00	22 kW	96 A	CIMR-G7C20220
	30 kW	130 A	CIMR-G7C20300
	37 kW	160 A	CIMR-G7C20370
	45 kW	183 A	CIMR-G7C20450
	55 kW	224 A	CIMR-G7C20550
	75 kW	300 A	CIMR-G7C20750
	90 kW	358 A	CIMR-G7C20900
	110 kW	415 A	CIMR-G7C21100

400 V

Specifications			Order code
IP20	0.4 kW	1.8 A	CIMR-G7C40P41
	0.75 kW	3.4 A	CIMR-G7C40P71
	1.5 kW	4.8 A	CIMR-G7C41P51
	2.2 kW	6.2 A	CIMR-G7C42P21
	3.7 kW	9 A	CIMR-G7C43P71
	5.5 kW	15 A	CIMR-G7C45P51
	7.5 kW	21 A	CIMR-G7C47P51
	11 kW	27 A	CIMR-G7C40111
	15 kW	34 A	CIMR-G7C40151
	18.5 kW	42 A	CIMR-G7C40181
IP00	22 kW	52 A	CIMR-G7C40220
	30 kW	65 A	CIMR-G7C40300
	37 kW	80 A	CIMR-G7C40370
	45 kW	97 A	CIMR-G7C40450
	55 kW	128 A	CIMR-G7C40550
	75 kW	165 A	CIMR-G7C40750
	90 kW	195 A	CIMR-G7C40900
	110 kW	240 A	CIMR-G7C41100
	132 kW	270 A	CIMR-G7C41320
	160 kW	235 A	CIMR-G7C41600
	185 kW	370 A	CIMR-G7C41850
	220 kW	450 A	CIMR-G7C42200
	300 kW	605 A	CIMR-G7C43000

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-G7C20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-G7C20P7				
CIMR-G7C21P5	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-G7C22P2	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-G7C23P7				
CIMR-G7C25P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060-SE
CIMR-G7C27P5				
CIMR-G7C2011	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-G7C2015				
CIMR-G7C2018				
CIMR-G7C2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-G7C2030	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-G7C2037	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-G7C2045				
CIMR-G7C2055	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-G7C2075				
CIMR-G7C2090				
CIMR-G7C2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

400 V

Inverters	Line filters			
	EN 55011 class	Current (A)	Weight (kg)	Order code
CIMR-G7C40P4	B, 25 m A, 100 m	10	1.1	3G3RV-PFI3010-SE
CIMR-G7C40P7				
CIMR-G7C41P5				
CIMR-G7C42P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-G7C43P7				
CIMR-G7C44P0				
CIMR-G7C45P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-G7C47P5	B, 25 m	35	2.2	3G3RV-PFI3035-SE
CIMR-G7C4011	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-G7C4015				
CIMR-G7C4018	B, 25 m A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-G7C4022				
CIMR-G7C4030	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-G7C4037				
CIMR-G7C4045	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-G7C4055	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-G7C4075	A, 100 m	250	11	3G3RV-PFI3200-SE
CIMR-G7C4090	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-G7C4110				
CIMR-G7C4132				
CIMR-G7C4160				
CIMR-G7C4185	A, 100 m	600	11,0	3G3RV-PFI3600-SE
CIMR-G7C4220	A, 100 m	800	31.0	3G3RV-PFI3800-SE
CIMR-G7C4300				

② Monitor option cards

Type	Description	Function	Order code
Monitor option card	Analog monitor card	Outputs analog signal for monitoring inverter output state (output freq., output current etc.) after absolute value conversion. Output resolution: 8 bits (1/256) Output voltage: 0 to 10 V (non isolated) Output channel: 2 channels	AO-08
		Outputs analog signal for monitoring inverter output state (output freq., output current etc.) Output resolution: 11 bits (1/2048) + code Output voltage: 0 to 10 V (non isolated) Output channel: 2 channels	AO-12
	Digital output card	Outputs isolated type digital signal for monitoring inverter run state (alarm signal, zero speed detection etc.). Output channel: Photo coupler 6 channels (48 V, 50 mA or less) Relay contact output 2 channels (250 VAC, 1 A or less 30 VDC, 1 A or less)	DO-08
	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.	DO-02C

③ Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (used for V/f control with PG or flux vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2

④ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N1
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J
	Ethernet option card	Modbus TCP/IP Ethernet interface unit	CM090
	MECHATROLINK-II option board	High speed motion bus. Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. Host controller : Trajexia, MCH or MP Series *1	SI-T

*1 Please refer to Trajexia, MCH or MP Series section for host controllers detailed information.

⑤ Reference option Cards

Type	Description	Function	Order code
Reference option card	Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20 KΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
		3 Channel high resolution analog input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
	Digital reference card	8 bit digital speed reference input card	DI-08
		16 bit digital speed reference input card	DI-16H2

⑥ PLC option boards

Type	Description	Function	Order code
PLC option	PLC option	Full PLC features, wireless installation and seamless access to the inverter parameters and analog/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
	PLC option with DeviceNet	Same features than standard models with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑦ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 language support	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accesories	Digital operator extension cable 1 meter 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter.	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

⑦ Software

Description	Function	Order code
Computer software	Configuration and monitoring software tool for drives. (Version 1.1 or higher)	CX-DRIVE
Computer software	Complete automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

⑧ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the G7 datasheet Cat-No: I37E-EN-02

Specifications

200 V

Order code CIMR-G7C_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output *1		kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter	kVA	1.2	2.3	3.0	4.6	6.9	10	13	19	25	30	37	50	61	70	85	110	140	160
	Rated current	A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
	Max. voltage		3-phase, 200/208/220/230/240 V (proportional to input voltage)																	
	Max. output frequency		400 Hz (programmable)																	
Power supply	Rated input voltage and frequency		3-phase 200/208/220/230/240 V, 50/60 Hz *2																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Option									Provided								
	12-Pulse input		Not available									Available *3								

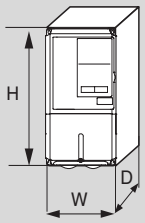
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 When using the inverter of 200 V class 30 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.
*3 A 3-wired transformer is required at 12-pulse input.

400 V

Order code CIMR-G7C_			40P4	40P7	41P5	42P2	43P7	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055	4075	4090	4110	4132	4160	4185	4220	4300
Max. applicable motor output *1		kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter	kVA	1.4	2.6	3.7	4.7	6.9	11	16	21	26	32	40	50	61	74	98	130	150	180	210	250	280	340	460
	Rated current	A	1.8	3.4	4.8	6.2	9	15	21	27	34	42	52	65	80	97	128	165	195	240	270	325	370	450	605
	Max. voltage		3-phase, 380/400/415/440/460/480 V (proportional to input voltage)																						
	Max. output frequency		400 Hz (programmable)																						
Power supply	Rated input voltage and frequency		3-phase 380/400/415/440/460/480 V, 50/60 Hz																						
	Allowable voltage fluctuation		+10%, -15%																						
	Allowable frequency fluctuation		±5%																						
Harmonic wave prevention	DC reactor		Option									Provided													
	12-Pulse input		Not available									Available *2													

*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wired transformer is required at 12-pulse input.

Dimensions

Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.4 kW	CIMR-G7C20P41	280	140	157	
	0.75 kW	CIMR-G7C20P71				
	1.5 kW	CIMR-G7C21P51				
	2.2 kW	CIMR-G7C22P21			177	
	3.7 kW	CIMR-G7C23P71				
	5.5 kW	CIMR-G7C25P51	300	200	197	
	7.5 kW	CIMR-G7C27P51				
	11 kW	CIMR-G7C20111	350	240	207	
	15 kW	CIMR-G7C20151				
	18.5 kW	CIMR-G7C20181	400	250	258	
	22 kW	CIMR-G7C20220	450	275	258	
	30 kW	CIMR-G7C20300	600	375	298	
	37 kW	CIMR-G7C20370			328	
	45 kW	CIMR-G7C20450	725	450	348	
	55 kW	CIMR-G7C20550				
	75 kW	CIMR-G7C20750	850	500	358	
	90 kW	CIMR-G7C20900	885	575	378	
	110 kW	CIMR-G7C21100				
3 phase 400 VAC	0.4 kW	CIMR-G7C40P41	280	140	157	
	0.75 kW	CIMR-G7C40P71				
	1.5 kW	CIMR-G7C41P51			177	
	2.2 kW	CIMR-G7C42P21				
	3.7 kW	CIMR-G7C43P71				
	5.5 kW	CIMR-G7C45P51	300	200	197	
	7.5 kW	CIMR-G7C47P51				
	11 kW	CIMR-G7C40111	350	240	207	
	15 kW	CIMR-G7C40151				
	18.5 kW	CIMR-G7C40181	450	275	258	
	22 kW	CIMR-G7C40220				
	30 kW	CIMR-G7C40300	550	325	283	
	37 kW	CIMR-G7C40370				
	45 kW	CIMR-G7C40450				
	55 kW	CIMR-G7C40550	725	450	348	
	75 kW	CIMR-G7C40750				
	90 kW	CIMR-G7C40900	850	500	358	
	110 kW	CIMR-G7C41100				
	132 kW	CIMR-G7C41320	916	575	378	
	160 kW	CIMR-G7C41600				
	185 kW	CIMR-G7C41850	1305	710	415	
	220 kW	CIMR-G7C42200				
	300 kW	CIMR-G7C43000	1475	916		

The industrial workhorse

The F7 drive is the industrial workhorse of adjustable frequency drives. It is intended to handle every conventional drive application found in a typical industrial manufacturing plant from simple variable torque pumping to sophisticated networked material handling. With excellent performance and a wide array of configurations and options, the F7 can be the single drive platform for an entire facility. Network communications, plug-in I/O cards, custom software and power/packaging options are among the many choices. For new installations or retrofits, the F7 is truly the industrial workhorse, perfect for every conventional application… and even some unconventional ones.

- Flux vector control. Excellent performance in open-loop mode with 150% torque at 0.5 Hz
- Silent operation. No current de-rating in silent mode (high carrier frequency)
- Wide selection of option cards: fieldbus, PLC unit, MECHATROLINK, analog and digital I/Os, etc.
- Safety Cat 3 stop. Cat.0 embedded as standard
- CASE (inverter application software) and PLC option board

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

⑥

CX-Drive

⑥

JVOP-160 OY
Digital operator
(LCD display)

⑥

JVOP-161-OY
Digital operator
(LED display)

⑥

3G3IV-PCN126/326
Digital operator
extension cable

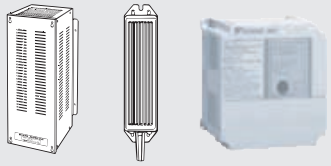
⑥

Line filter

①

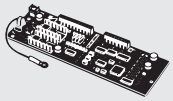
Varispeed
F7

Braking accessories



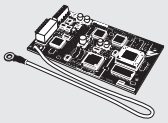
⑦

Feedback speed option card



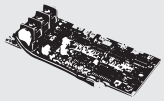
②

Communication option cards



③

Reference option card



④

PLC option card

⑤

Varispeed F7

200 V

Specifications			Order code
IP20	0.55 kW	3.2 A	CIMR-F7Z20P41
	0.75 kW	4.1 A	CIMR-F7Z20P71
	1.5 kW	7.0 A	CIMR-F7Z21P51
	2.2 kW	9.6 A	CIMR-F7Z22P21
	3.7 kW	15 A	CIMR-F7Z23P71
	5.5 kW	23 A	CIMR-F7Z25P51
	7.5 kW	31 A	CIMR-F7Z27P51
	11 kW	45 A	CIMR-F7Z20111
	15 kW	58 A	CIMR-F7Z20151
	18.5 kW	71 A	CIMR-F7Z20181
IP00	22 kW	85 A	CIMR-F7Z20220
	30 kW	115 A	CIMR-F7Z20300
	37 kW	145 A	CIMR-F7Z20370
	45 kW	180 A	CIMR-F7Z20450
	55 kW	215 A	CIMR-F7Z20550
	75 kW	283 A	CIMR-F7Z20750
	90 kW	346 A	CIMR-F7Z20900
	110 kW	415 A	CIMR-F7Z21100

400 V

Specifications			Order code
IP20	0.55 kW	1.8 A	CIMR-F7Z40P41
	0.75 kW	2.1 A	CIMR-F7Z40P71
	1.5 kW	3.7 A	CIMR-F7Z41P51
	2.2 kW	5.3 A	CIMR-F7Z42P21
	3.7 kW	7.6 A	CIMR-F7Z43P71
	4.0 kW	8.7 A	CIMR-F7Z44P01
	5.5 kW	12.5 A	CIMR-F7Z45P51
	7.5 kW	17 A	CIMR-F7Z47P51
	11 kW	24 A	CIMR-F7Z40111
	15 kW	31 A	CIMR-F7Z40151
	18.5 kW	39 A	CIMR-F7Z40181
IP00	22 kW	45 A	CIMR-F7Z40220
	30 kW	60 A	CIMR-F7Z40300
	37 kW	75 A	CIMR-F7Z40370
	45 kW	91 A	CIMR-F7Z40450
	55 kW	112 A	CIMR-F7Z40550
	75 kW	150 A	CIMR-F7Z40750
	90 kW	180 A	CIMR-F7Z40900
	110 kW	216 A	CIMR-F7Z41100
	132 kW	260 A	CIMR-F7Z41320
	160 kW	304 A	CIMR-F7Z41600
	185 kW	370 A	CIMR-F7Z41850
	220 kW	506 A	CIMR-F7Z42200
	300 kW	675 A	CIMR-F7Z43000

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-F7Z20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-F7Z20P7				
CIMR-F7Z21P5				
CIMR-F7Z22P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-F7Z23P7	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-F7Z25P5				
CIMR-F7Z27P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060-SE
CIMR-F7Z2011				
CIMR-F7Z2015	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-F7Z2018				
CIMR-F7Z2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-F7Z2030				
CIMR-F7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-F7Z2045	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-F7Z2055				
CIMR-F7Z2075	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-F7Z2090				
CIMR-F7Z2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

400 V

Inverters	Line filters			
	EN 55011 class*	Current (A)	Weight (kg)	Order code
CIMR-F7Z40P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-F7Z40P7				
CIMR-F7Z41P5				
CIMR-F7Z42P2				
CIMR-F7Z43P7	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-F7Z44P0				
CIMR-F7Z45P5				
CIMR-F7Z47P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-F7Z4011	B, 25 m A, 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-F7Z4015	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-F7Z4018				
CIMR-F7Z4022	A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-F7Z4030				
CIMR-F7Z4037	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-F7Z4045				
CIMR-F7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-F7Z4075	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-F7Z4090	A, 100 m	250	11.0	3G3RV-PFI3200-SE
CIMR-F7Z4110				
CIMR-F7Z4132	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-F7Z4160				
CIMR-F7Z4185	A, 100 m	600	11.0	3G3RV-PFI3600-SE
CIMR-F7Z4220				
CIMR-F7Z4300	A, 100 m	800	31.0	3G3RV-PFI3800-SE

② Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (Used for V/f control with PG or flux vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422 Dual channel encoder: 1st channel A, B, Z/2nd channel A, B, Z or open collector	PG-Z2

③ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	3G3RV-PDRT2
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J
	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.	CM090
	MECHATROLINK-II option board	High speed motion bus. Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. Host controller : Trajexia, MCH or MP Series *1	SI-T

*1 Please refer to Trajexia, MCH or MP Series section for host controllers detailed information.

④ Reference option cards

Type	Description	Function	Order code
Reference option card	Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20 KΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
		3 Channel high resolution analog input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
	Digital reference card	8 bit digital speed reference input card	DI-08
		16 bit digital speed reference input card	DI-16H2

⑤ PLC option cards

Type	Description	Function	Order code
PLC option card	PLC option	Full PLC featrues, wireless installation and seamless access to the inverter parameters and analog/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
	PLC option with DeviceNet	Same features than standard model with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑥ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 Language support	Configuration and monitoring device	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accessories	Digital operator extension cable 1 meters 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter	3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

⑥ Computer Software

Type	Description	Function	Order code
Software	Computer software	Configuration and monitoring software tool for drives	CX-DRIVE
	Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

⑦ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the F7 datasheet Cat-No: I23E-EN-02

Specifications

200 V Class

Order code CIMR-F7Z_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output[*1]		kW	0.55	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter capacity	kVA	1.2	1.6	2.7	3.7	5.7	8.8	12	17	22	27	32	44	55	69	82	110	130	160
	Rated current	A	3.2	4.1	7.0	9.6	15	23	31	45	58	71	85	115	145	180	215	283	346	415[*2]
	Max. voltage		3-phase, 200/208/220/230/240 V (proportional to input voltage)																	
	Max. output frequency		Heavy duty (low carrier, constant torque applications): 150 Hz max Normal duty 1 or 2 (high/reduced carrier, variable torque applications): 400 Hz max																	
Power supply	Rated input voltage and frequency		3-phase 200/208/220/230/240 V, 50/60 Hz [*3]																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Option										Provided							
	12-pulse input		Not available										Available [*4]							

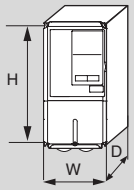
[*1] Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
[*2] 322 A in case of heavy duty mode
[*3] When using the inverter of 200 V class 37 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.
[*4] A 3-wired transformer is required at 12-pulse input.

400 V Class

Order code CIMR-F7Z_			40P4	40P7	41P5	42P2	43P7	44P0	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055	4075	4090	4110	4132	4160	4185	4220	4300
Max. applicable motor output[*1]		kW	0.55	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter capacity	kVA	1.4	1.6	2.8	4.0	5.8	6.6	9.5	13	18	24	30	34	46	57	69	85	110	140	160	200	230	280	390	510
	Rated current	A	1.8	2.1	3.7	5.3	7.6	8.7	12.5	17	24	31	39	45	60	75	91	112	150	180	216	260	304	370	506[*2]	675[*3]
	Max. voltage		3-phase, 380/400/415/440/460/480 V (proportional to input voltage)																							
	Max. output frequency		Heavy duty (low carrier, constant torque applications): 150 Hz max Normal duty 1 or 2 (high/reduced carrier, variable torque applications): 400 Hz max																							
Power supply	Rated input voltage and frequency		3-phase 380/400/415/440/460/480 V, 50/60 Hz																							
	Allowable voltage fluctuation		+10%, -15%																							
	Allowable frequency fluctuation		±5%																							
Harmonic wave prevention	DC reactor		Option											Provided												
	12-pulse input		Not available											Available [*4]												

[*1] Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
[*2] 405 A in case of heavy duty mode
[*3] 540 A in case of heavy duty mode
[*4] A 3-wired transformer is required at 12-pulse input.

Dimensions

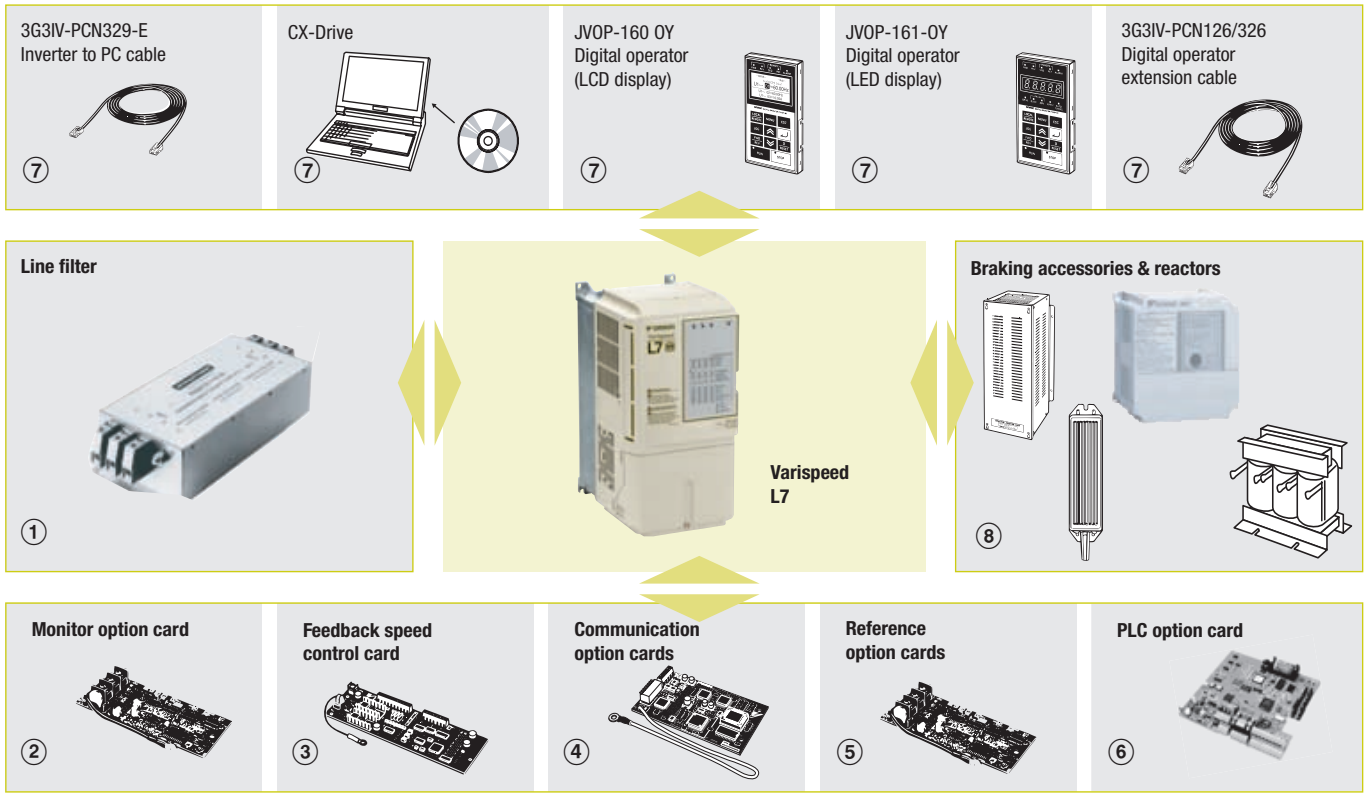
Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.55 kW	CIMR-F7Z20P41	280	140	157	
	0.75 kW	CIMR-F7Z20P71				
	1.5 kW	CIMR-F7Z21P51				
	2.2 kW	CIMR-F7Z22P21				
	3.7 kW	CIMR-F7Z23P71			177	
	5.5 kW	CIMR-F7Z25P51				
	7.5 kW	CIMR-F7Z27P51	300	200	197	
	11 kW	CIMR-F7Z20111	310			
	15 kW	CIMR-F7Z20151	350	240	207	
	18.5 kW	CIMR-F7Z20181	380			
	22 kW	CIMR-F7Z20220	400	250	258	
	30 kW	CIMR-F7Z20300	450	275		
	37 kW	CIMR-F7Z20370	600	375	298	
	45 kW	CIMR-F7Z20450			328	
	55 kW	CIMR-F7Z20550	725	450	348	
	75 kW	CIMR-F7Z20750				
	90 kW	CIMR-F7Z20900	850	500	358	
	110 kW	CIMR-F7Z21100	885	575	378	
3 phase 400 VAC	0.55 kW	CIMR-F7Z40P41	280	140	157	
	0.75 kW	CIMR-F7Z40P71				
	1.5 kW	CIMR-F7Z41P51				
	2.2 kW	CIMR-F7Z42P21			177	
	3.7 kW	CIMR-F7Z43P71				
	4.0 kW	CIMR-F7Z44P71				
	5.5 kW	CIMR-F7Z45P51				
	7.5 kW	CIMR-F7Z47P51	300	200	197	
	11 kW	CIMR-F7Z40111				
	15 kW	CIMR-F7Z40151	350	240	207	
	18.5 kW	CIMR-F7Z40181				
	22 kW	CIMR-F7Z40220	450	275	258	
	30 kW	CIMR-F7Z40330				
	37 kW	CIMR-F7Z40370	550	325	283	
	45 kW	CIMR-F7Z40450				
	55 kW	CIMR-F7Z40550				
	75 kW	CIMR-F7Z40750	725	450	348	
	90 kW	CIMR-F7Z40900				
	110 kW	CIMR-F7Z41100	850	500	358	
	132 kW	CIMR-F7Z41320				
	160 kW	CIMR-F7Z41600	916	575	378	
	185 kW	CIMR-F7Z41850	1305	710	413	
	220 kW	CIMR-F7Z42200				
	300 kW	CIMR-F7Z43000	1475	916	413	

Made to drive lifts

The L7 is the ultimate drive for lift applications up to 3 m/s. High starting torque, silent operation, lift-specific operator interface and operation with both AC and PM motors are standard features of the L7 inverter.

- One model to control AC and PM motors
- Silent operation with no current de-rating
- Safety Cat 3 stop. Cat.0 embedded as standard.
- UPS or battery operation for emergency rescue.
- Motor auto-tuning at standstill and at RUN
- According Harmonic distorsion normative EN12015 using AC Reactor accessory

Ordering information



Varispeed L7

200 V

Specifications			Order code
3 x 200 V	3.7 kW	17.5 A	CIMR-L7Z23P7
	5.5 kW	25 A	CIMR-L7Z25P5
	7.5 kW	33 A	CIMR-L7Z27P5
	11 kW	49 A	CIMR-L7Z2011
	15 kW	64 A	CIMR-L7Z2015
	18.5 kW	80 A	CIMR-L7Z2018
	22 kW	96 A	CIMR-L7Z2022
	30 kW	130 A	CIMR-L7Z2030
	37 kW	160 A	CIMR-L7Z2037
	45 kW	183 A	CIMR-L7Z2045
	55 kW	224 A	CIMR-L7Z2055

400 V

Specifications			Order code
3 x 400 V	4.0 kW	11 A	CIMR-L7Z44P0
	5.5 kW	14 A	CIMR-L7Z45P5
	7.5 kW	18 A	CIMR-L7Z47P5
	11 kW	27 A	CIMR-L7Z4011
	15 kW	34 A	CIMR-L7Z4015
	18.5 kW	41 A	CIMR-L7Z4018
	22 kW	48 A	CIMR-L7Z4022
	30 kW	65 A	CIMR-L7Z4030
	37 kW	80 A	CIMR-L7Z4037
	45 kW	96 A	CIMR-L7Z4045
	55 kW	128 A	CIMR-L7Z4055

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z23P7 CIMR-L7Z25P5	B, 25 m A 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-L7Z27P5 CIMR-L7Z2011	B, 25 m A 100 m	60	3	3G3RV-PFI2060-SE
CIMR-L7Z2015 CIMR-L7Z2018	B, 25 m A 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-L7Z2022 CIMR-L7Z2030	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-L7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-L7Z2045 CIMR-L7Z2055	A, 100 m	200	11.0	3G3RV-PFI2200-SE

400 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z44P0 CIMR-L7Z45P5	B, 25 m A 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-L7Z47P5	B, 25 m A 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-L7Z4011	B, 25 m A 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-L7Z4015 CIMR-L7Z4018	B, 25 m A 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-L7Z4022 CIMR-L7Z4030	A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-L7Z4037 CIMR-L7Z4045	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-L7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE

① Line filters

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z44P0 CIMR-L7Z45P5	B, 25 m A 100 m	18	1,0	3G3RV-PFI3018B-SE
CIMR-L7Z47P5 CIMR-L7Z4011	B, 25 m A 100 m	35	1,5	3G3RV-PFI3035B-SE
CIMR-L7Z4015 CIMR-L7Z4018	B, 25 m A 100 m	60	2,2	3G3RV-PFI3060B-SE

② Monitor option cards

Type	Description	Function	Order code
Monitor option card	Digital output card	Outputs isolated type digital signal for monitoring inverter run state (alarm signal, zero speed detection etc.) . Output channel: Photo coupler 6 channels (48 V, 50 mA or less) Relay contact output 2 channels (250 VAC, 1 A or less, 30 VDC, 1 A or less)	DO-08
	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.	DO-02C

③ Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (Used for V/f control with PG or Flux Vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2
		Hiperface and endat encoder option.	PG-F2

④ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N1
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller. It supports DSP402 CANOpen standard protocol for drives control in speed control.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J

⑤ Reference option cards

Description	Function	Order code
Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20 kΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
	3 channel high resolution analog input card Signal level: -10 to +10 V (20 kΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
Digital reference card	8 bit digital speed reference input card	DI-08
	16 bit digital speed reference input card	DI-16H2

⑥ PLC option boards

Description	Function	Order code
PLC option	Full PLC features, wireless installation and seamless access to the inverter parameters and analog/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
PLC option with DeviceNet	Same features than standard models with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑦ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 language support	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accesories	Digital operator extension cable 1 meter 3 meters	Cable to concect the inverter and the digital operator when it's not plugged into the inverter.	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC.	3G3IV-PCN329-E

⑦ Software

Description	Installation	Order code
Computer software	Configuration and monitoring software tool for Drives	CX-DRIVE
Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

⑧ Braking unit, braking resistor unit & reactors

Note: For braking units specifications and models refer to the L7 datasheet Cat-No: I22E-EN-02

AC reactors

200 V

Inverter	Function	Description	Weight (kg)	Order Code
CIMR-L7Z23P7	AC reactor is needed to be according EN12015 harmonic distorsion normative	Reactor III 3.7 kW (2.28 mH-21 A)	4.8	L7Z-PUZ23P7-CE
CIMR-L7Z25P5		Reactor III 5.5 kW (5.10 mH-17 A)	6.2	L7Z-PUZ25P5-CE
CIMR-L7Z27P5		Reactor III 7.5 kW (1.20 mH-40 A)	9	L7Z-PUZ27P5-CE
CIMR-L7Z2011		Reactor III 11 kW (0.92 mH-52 A)	14.5	L7Z-PUZ2011-CE
CIMR-L7Z2015		Reactor III 15 kW (0.70 mH-68 A)	17	L7Z-PUZ2015-CE
CIMR-L7Z2018		Reactor III 18.5 kW (0.50 mH-96 A)	22	L7Z-PUZ2018-CE
CIMR-L7Z2022		Reactor III 22 kW (0.31 mH-156 A)	28	L7Z-PUZ2022-CE
CIMR-L7Z2030		Reactor III 30 kW (1.23 mH-78 A)	38	L7Z-PUZ2030-CE
CIMR-L7Z2037		Reactor III 37 kW (0.27 mH-176 A)	47	L7Z-PUZ2037-CE
CIMR-L7Z2045		Reactor III 45 kW (0.22 mH-220 A)	58	L7Z-PUZ2045-CE
CIMR-L7Z2055		Reactor III 55 kW (0.18 mH-269 A)	72	L7Z-PUZ2055-CE

400 V

Inverter	Function	Description	Weight (kg)	Order Code
CIMR-L7Z44P0	AC reactor is needed to be according EN12015 harmonic distorsion normative	Reactor III 3.7 kW (7 mH-13 A)	5	L7Z-PUZ44P0-CE
CIMR-L7Z45P5		Reactor III 5.5 kW (5.10 mH-17 A)	6.4	L7Z-PUZ45P5-CE
CIMR-L7Z47P5		Reactor III 7.5 kW (4.35 mH-22 A)	9.5	L7Z-PUZ47P5-CE
CIMR-L7Z4011		Reactor III 11 kW (3 mH-32 A)	15	L7Z-PUZ4011-CE
CIMR-L7Z4015		Reactor III 15 kW (2.34 mH-41 A)	17.5	L7Z-PUZ4015-CE
CIMR-L7Z4018		Reactor III 18.5 kW (1.95 mH-49 A)	22.5	L7Z-PUZ4018-CE
CIMR-L7Z4022		Reactor III 22 kW (1.65 mH-58 A)	28	L7Z-PUZ4022-CE
CIMR-L7Z4030		Reactor III 30 kW (1.23 mH-78 A)	38	L7Z-PUZ4030-CE
CIMR-L7Z4037		Reactor III 37 kW (1 mH-96 A)	47	L7Z-PUZ4037-CE
CIMR-L7Z4045		Reactor III 45 kW (0.83 mH-115 A)	58	L7Z-PUZ4045-CE
CIMR-L7Z4055		Reactor III 55 kW (0.62 mH-154 A)	72	L7Z-PUZ4055-CE

Specifications

200 V class

Order code CIMR-L7ZZ_			23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055
Max. applicable motor output*1		kW	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Output characteristics	Inverter capacity	kVA	7	10	14	20	27	33	40	54	67	76	93
	Rated current	A	17.5	25	33	49	64	80	96	130	160	183	224
	Max. voltage		3-phase; 200, 208, 220, 230, or 240 VAC (proportional to input voltage.)										
	Max. outputfrequency		Up to 120Hz available by programing.										
Power supply	Rated input voltage and frequency		3-phase, 200/208/220/230/240 VAC, 50/60 Hz										
	Rated input current A		21	25	40	52	68	96	115	156	176	220	269
	Allowable voltage fluctuation		+10%, -15%										
	Allowable frequency fluctuation		±5%										
Harmonic wave prevention	DC reactor		Optional						Built in				
	12-pulse input		Not possible						Possible				

*1 The maximum applicable motor output is given for a standard 4-pole Yaskawa motor. When selecting the actual motor and Inverter, be sure that the inverter rated current is applicable for the motor's rated current.

Note: A transformer with dual star-delta secondary is required on the power supply for 12-pulse rectification.

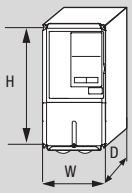
400 V class

Order code CIMR-L7ZZ_			44P0	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055
Max. applicable motor output*1		kW	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55
Output characteristics	Inverter capacity	kVA	9	12	15	22	28	34	40	54	67	80	106
	Rated current	A	11	14	18	27	34	41	48	65	80	96	128
	Max. voltage		3-phase; 380, 400, 415, 440, 460, or 480 VAC (proportional to input voltage.)										
	Max. output frequency		120 Hz max.										
Power supply	Rated input voltage and frequency		3-phase, 380, 400, 415, 440, 460 or 480 VAC, 50/60 Hz										
	Rated input current A		13.2	17	22	32	41	49	58	78	96	115	154
	Allowable voltage fluctuation		+10%, -15%										
	Allowablefrequency fluctuation		±5%										
Harmonic wave prevention	DC reactor		Optional						Built in				
	12-pulse input		Not possible						Possible				

*1 The maximum applicable motor output is given for a standard 4-pole Yaskawa motor. When selecting the actual motor and inverter, be sure that the inverter's rated current is applicable for the motor's rated current.

Note: A transformer with dual star-delta secondary is required on the power supply for 12-pulse rectification.

Dimensions

Specifications		Drive model	H	W	D	
3-phase 200 VAC	3.7 kW	CIMR-L7Z23P77	280	140	177	
	5.5 kW	CIMR-L7Z25P57				
	7.5 kW	CIMR-L7Z27P57	300	200	197	
	11 kW	CIMR-L7Z20117	310			
	15 kW	CIMR-L7Z20157	350	240	207	
	18.5 kW	CIMR-L7Z20187	380			
	22 kW	CIMR-L7Z20227	464	254	258	
	30 kW	CIMR-L7Z20300	450	275	258	
	37 kW	CIMR-L7Z20370	600	375	298	
	45 kW	CIMR-L7Z20450			328	
	55 kW	CIMR-L7Z20550	725	450	348	
3-phase 400 VAC	4.0 kW	CIMR-L7Z44P77	280	140	177	
	5.5 kW	CIMR-L7Z45P57				
	7.5 kW	CIMR-L7Z47P57	300	200	197	
	11 kW	CIMR-L7Z40117				
	15 kW	CIMR-L7Z40157	350	240	207	
	18.5 kW	CIMR-L7Z40187				
	22 kW	CIMR-L7Z40227	535	275	258	
	30 kW	CIMR-L7Z40307				
	37 kW	CIMR-L7Z40377	715	325	283	
	45 kW	CIMR-L7Z40457				
	55 kW	CIMR-L7Z40557				

Drive your energy costs down

The E7 is designed for variable torque applications such as fans and centrifugal pumps. It is supplied with V/f control and normal duty overload rating of 110% for one minute. A unique feature of the E7 is the energy-saving algorithm, which allows an extra saving of up to 20%. With an optional phase-shifting input transformer, the E7 dual-diode bridge can be operated in 12-pulse rectification mode, reducing input-current harmonic distortion.

- E7 IP54 solution with robust metal chassis and built-in RFI filter
- Adaptive energy-saving algorithm
- Silent operation
- 12-pulse configuration for low-current harmonics
- Programming software: CX-Drive for parameter configuration

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

④

CX-Drive

④

JVOP-160 OY
Digital operator
(LCD display)

④

JVOP-161-OY
Digital operator
(LED display)

④

3G3IV-PCN126/326
Digital operator
extension cable

④

Line Filter

3G3RV-PFI_
Input noise filter

* see note

①

Varispeed E7

Braking accessories

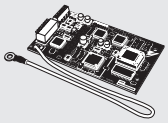
LKEB_ braking
resistor unit

CDBR_B
braking unit

⑤

* E7 IP54 types are built-in filter inverters.

Communication card



②

PLC option card

③

Varispeed E7

200 V

Specifications			Order code
IP20	0.55 kW	3.2 A	CIMR-E7Z20P41
	0.75 kW	4.1 A	CIMR-E7Z20P71
	1.5 kW	7.0 A	CIMR-E7Z21P51
	2.2 kW	9.6 A	CIMR-E7Z22P21
	3.7 kW	15 A	CIMR-E7Z23P71
	5.5 kW	23 A	CIMR-E7Z25P51
	7.5 kW	31 A	CIMR-E7Z27P51
	11 kW	45 A	CIMR-E7Z20111
	15 kW	58 A	CIMR-E7Z20151
	18.5 kW	71 A	CIMR-E7Z20181
IP00	22 kW	85 A	CIMR-E7Z20220
	30 kW	115 A	CIMR-E7Z20300
	37 kW	145 A	CIMR-E7Z20370
	45 kW	180 A	CIMR-E7Z20450
	55 kW	215 A	CIMR-E7Z20550
	75 kW	283 A	CIMR-E7Z20750
	90 kW	345 A	CIMR-E7Z20900
	110 kW	415 A	CIMR-E7Z21100

400 V

Specifications			Order code
IP20	0.55 kW	1.8 A	CIMR-E7Z40P41
	0.75 kW	2.1 A	CIMR-E7Z40P71
	1.5 kW	3.7 A	CIMR-E7Z41P51
	2.2 kW	5.3 A	CIMR-E7Z42P21
	3.7 kW	7.6 A	CIMR-E7Z43P71
	4.0 kW	8.7 A	CIMR-E7Z44P01
	5.5 kW	12.5 A	CIMR-E7Z45P51
	7.5 kW	17 A	CIMR-E7Z47P51
	11 kW	24 A	CIMR-E7Z40111
	15 kW	31 A	CIMR-E7Z40151
	18.5 kW	39 A	CIMR-E7Z40181

400 V

Specifications			Order code
IP00	22 kW	45 A	CIMR-E7Z40220
	30 kW	60 A	CIMR-E7Z40300
	37 kW	75 A	CIMR-E7Z40370
	45 kW	91 A	CIMR-E7Z40450
	55 kW	112 A	CIMR-E7Z40550
	75 kW	150 A	CIMR-E7Z40750
	90 kW	180 A	CIMR-E7Z40900
	110 kW	216 A	CIMR-E7Z41100
	132 kW	260 A	CIMR-E7Z41320
	160 kW	304 A	CIMR-E7Z41600
	185 kW	370 A	CIMR-E7Z41850
	220 kW	506 A	CIMR-E7Z42200
	300 kW	675 A	CIMR-E7Z43000

Varispeed E7 IP54

400 V

Specifications			Order code
IP54	7.5 kW	17 A	CIMR-E7Z47P52
	11 kW	24 A	CIMR-E7Z40112
	15 kW	31 A	CIMR-E7Z40152
	18.5 kW	39 A	CIMR-E7Z40182
	22 kW	45 A	CIMR-E7Z40222
	30 kW	60 A	CIMR-E7Z40302
	37 kW	75 A	CIMR-E7Z40372
	45 kW	91 A	CIMR-E7Z40452
	55 kW	112 A	CIMR-E7Z40552

① Line filters *1

200 V

Inverters	Line filters			
	EN55011 Class	Current (A)	Weight (kg)	Order code
CIMR-E7Z20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-E7Z20P7				
CIMR-E7Z21P5				
CIMR-E7Z22P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-E7Z23P7	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-E7Z25P5				
CIMR-E7Z27P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060E-SE
CIMR-E7Z2011				
CIMR-E7Z2015	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-E7Z2018				
CIMR-E7Z2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-E7Z2030				
CIMR-E7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-E7Z2045	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-E7Z2055				
CIMR-E7Z2075	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-E7Z2090				
CIMR-E7Z2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

*1. E7 IP54 types are built-in filter inverters.

400 V

Inverters	Line filters			
	EN 55011 class	Current (A)	Weight (kg)	Order code
CIMR-E7Z40P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-E7Z40P7				
CIMR-E7Z41P5				
CIMR-E7Z42P2				
CIMR-E7Z43P7	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-E7Z44P0				
CIMR-E7Z45P5				
CIMR-E7Z47P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-E7Z4011	B, 25 m A, 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-E7Z4015	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-E7Z4018				
CIMR-E7Z4022	B, 25 m A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-E7Z4030				
CIMR-E7Z4037	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-E7Z4045				
CIMR-E7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-E7Z4075	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-E7Z4090	A, 100 m	250	11	3G3RV-PFI3200-SE
CIMR-E7Z4110				
CIMR-E7Z4132	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-E7Z4160				
CIMR-E7Z4185	A, 100 m	600	11.0	3G3RV-PFI3600-SE
CIMR-E7Z4220				
CIMR-E7Z4300	A, 100 m	800	31.0	3G3RV-PFI3800-SE

② Communication cards

Type	Description	Function	Order code
Communication option cards	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	3G3RV-PDRT2
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.	CM090
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J1

③ PLC Option card

Type	Description	Function	Order code
PLC option cards	PLC option	Full features, wireless installation and seamless access to the inverter parameters and analog/digital inputs and outputs Embedded CompoBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10CDT-E
	PLC option with DeviceNet	Same features than standard models with DeviceNet support	3G3-P10CDT-E-DRT

④ Accessories

Type	Description	Function	Order code
Digital operators	5 lines LCD digital operator *1	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
	Hand-Off auto operator		JVOP-162
Accesories	Digital operator extension cable 1 meter 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter.	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

*1 LCD digital operator is the standard in IP54 types

④ Computer software

Type	Description	Function	Order code
Software	Computer software	Configuration and monitoring software tool for drives	CX-DRIVE
	Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

⑤ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the E7 datasheet Cat-No: I21E-EN-02

Specifications

200 V class

Order code CIMR-E7Z_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output*1		kW	0.55	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter Capacity	kVA	1.2	1.6	2.7	3.7	5.7	8.8	12	17	22	27	32	44	55	69	82	110	130	160
	Rated current	A	3.2	4.1	7.0	9.6	15	23	31	45	58	71	85	115	145	180	215	283	346	415
	Max. voltage		3-phase; 200, 220, 230, or 240 VAC (Proportional to input voltage.)																	
	Max. output frequency		200.0																	
Power supply	Rated input voltage and frequency		3-phase, 200/208/220/230/240 VAC, 50/60 Hz																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Optional										Built in							
	12-pulse input		Not possible										Possible *2							

*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wire transformer is required on the power supply for 12-phase rectification

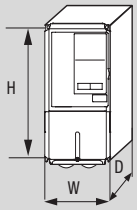
400 V class

Order code CIMR-E7ZZ4_			0P4	0P7	1P5	2P2	3P7	4P0	5P5	7P5	011	015	018	022	030	037	045	055	075	090	110	132	160	185	220	300
IP54 model: CIMR-E7Z4_			–	–	–	–	–	–	–	7P52	0112	0152	0182	0222	0302	0372	0452	0552	–	–	–	–	–	–	–	–
Max. applicable motor output*1		kW	0.55	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter Capacity	kVA	1.4	1.6	2.8	4.0	5.8	6.6	9.5	13	18	24	30	34	46	57	69	85	110	140	160	200	230	280	390	510
	Rated current	A	1.8	2.1	3.7	5.3	7.6	8.7	12.5	17	24	31	39	45	60	75	91	112	150	180	216	260	304	370	506	675
	Max. voltage		3-phase; 380, 400, 415, 440, 460, or 480 VAC (Proportional to input voltage.)																							
	Max. output frequency		200.0																							
Power supply	Rated input voltage and frequency		3-phase, 380, 400, 415, 440, 460 or 480 VAC, 50/60 Hz																							
	Allowable voltage fluctuation		+10%, -15%																							
	Allowable frequency fluctuation		±5%																							
Harmonic wave prevention	DC reactor		Optional											Built in												
	12-pulse input		Not possible											Possible *2												

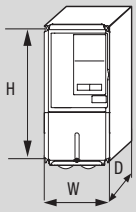
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wire transformer is required on the power supply for 12-phase rectification
To agg 400 V class

Dimensions

Varispeed E7

Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.55 kW	CIMR-E7Z20P41	280	140	157	
	0.75 kW	CIMR-E7Z20P71				
	1.5 kW	CIMR-E7Z21P51				
	2.2 kW	CIMR-E7Z22P21				
	3.7 kW	CIMR-E7Z23P71			177	
	5.5 kW	CIMR-E7Z25P51				
	7.5 kW	CIMR-E7Z27P51	300	200	197	
	11 kW	CIMR-E7Z20111	310			
	15 kW	CIMR-E7Z20151	350	240	207	
	18.5 kW	CIMR-E7Z20181	380			
	22 kW	CIMR-E7Z20220	400	250	258	
	30 kW	CIMR-E7Z20300	450	275		
	37 kW	CIMR-E7Z20370	600	375	298	
	45 kW	CIMR-E7Z20450			328	
	55 kW	CIMR-E7Z20550	725	450	348	
	75 kW	CIMR-E7Z20750				
	90 kW	CIMR-E7Z20900	850	500	358	
	110 kW	CIMR-E7Z21100	885	575	378	
3 phase 400 VAC	0.55 kW	CIMR-E7Z40P41	280	140	157	
	0.75 kW	CIMR-E7Z40P71				
	1.5 kW	CIMR-E7Z41P51				
	2.2 kW	CIMR-E7Z42P21			177	
	3.7 kW	CIMR-E7Z43P71				
	4.0 kW	CIMR-E7Z44P71				
	5.5 kW	CIMR-E7Z45P51				
	7.5 kW	CIMR-E7Z47P51	300	200	197	
	11 kW	CIMR-E7Z40111				
	15 kW	CIMR-E7Z40151	350	240	207	
	18.5 kW	CIMR-E7Z40181				
	22 kW	CIMR-E7Z40220	450	275	258	
	30 kW	CIMR-E7Z40300				
	37 kW	CIMR-E7Z40370	550	325	283	
	45 kW	CIMR-E7Z40450				
	55 kW	CIMR-E7Z40550				
	75 kW	CIMR-E7Z40750	725	450	348	
	90 kW	CIMR-E7Z40900				
	110 kW	CIMR-E7Z41100	850	500	358	
	132 kW	CIMR-E7Z41320				
	160 kW	CIMR-E7Z41600	916	575	378	
	185 kW	CIMR-E7Z41850	1305	710	413	
	220 kW	CIMR-E7Z42200				
	300 kW	CIMR-E7Z43000	1475	916	413	

Varispeed E7 IP54

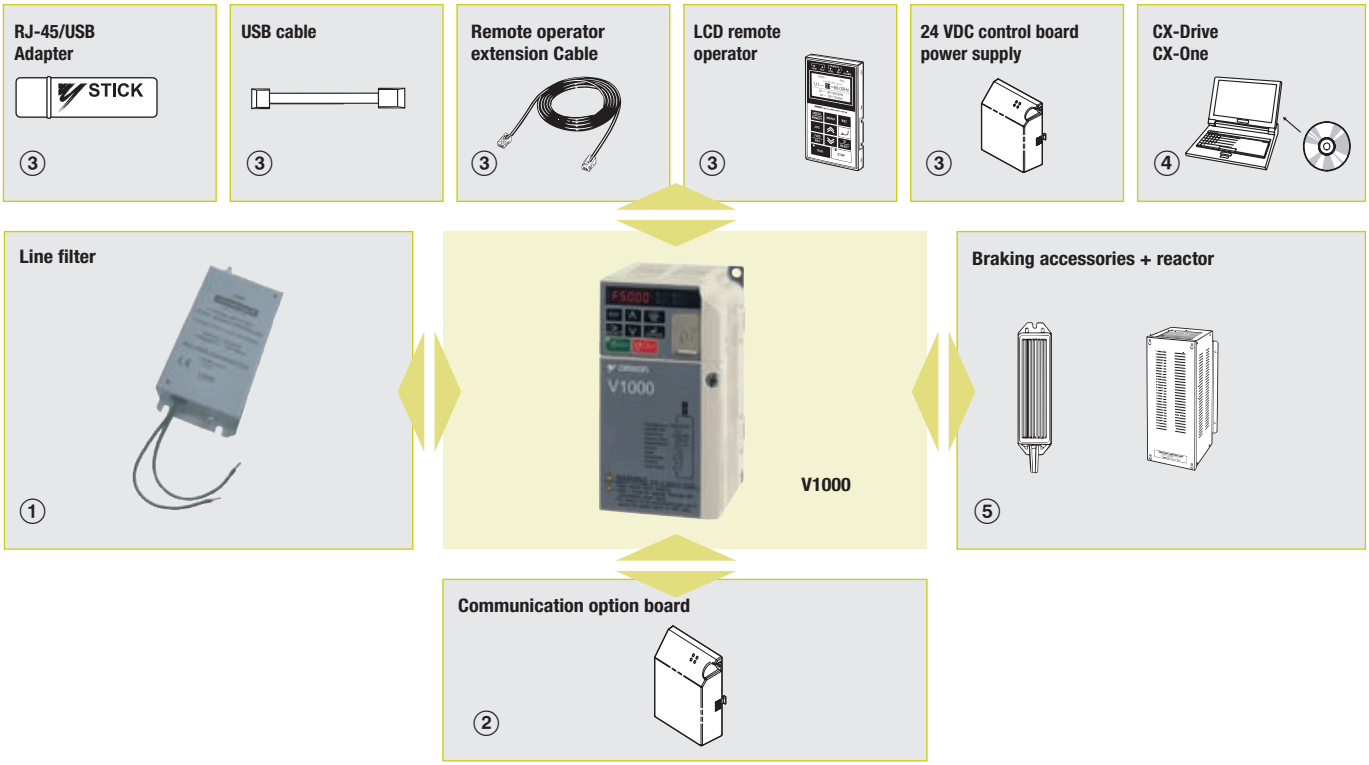
Specifications		Drive model	H	W	D	
3 phase 400 VAC	7.5 kW	CIMR-E7Z47P52	600	350	240	
	11 kW	CIMR-E7Z40112				
	15 kW	CIMR-E7Z40152			260	
	18.5 kW	CIMR-E7Z40182				
	22 kW	CIMR-E7Z40222	650	410	300	
	30 kW	CIMR-E7Z40302				
	37 kW	CIMR-E7Z40372	750	580	330	
	45 kW	CIMR-E7Z40452				
	55 kW	CIMR-E7Z40552				

10 x 100 = 1 – Quality has a new formula

Thanks to the patented design of the V1000 series and modern manufacturing, it is built for a 10 year life-time without maintenance. The new features guarantee a 100% expectation match. And with a field failure rate of less than 1 in 10.000, the new V1000 series inverter will outperform all other inverters long after it has been implemented.

- Up to 15 kW / 18.5 kW
- Built-in filter
- Current vector control
- IM and PM motor control
- Embedded safety stop function Category 3 (EN954-1)

Ordering information



V1000

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Standard	Built-in filter
1x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	VZAB0P1BAA	VZAB0P1HAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	VZAB0P2BAA	VZAB0P2HAA
	0.55 kW	3.0 A	0.75 kW	3.5 A	VZAB0P4BAA	VZAB0P4HAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	VZAB0P7BAA	VZAB0P7HAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	VZAB1P5BAA	VZAB1P5HAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	VZAB2P2BAA	VZAB2P2HAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	VZAB4P0BAA	VZAB4P0HAA
3x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	VZA20P1BAA	VZA20P1HAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	VZA20P2BAA	VZA20P2HAA
	0.55 kW	3.0 A	0.75 kW	3.5 A	VZA20P4BAA	VZA20P4HAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	VZA20P7BAA	VZA20P7HAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	VZA21P5BAA	VZA21P5HAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	VZA22P2BAA	VZA22P2HAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	VZA24P0BAA	VZA24P0HAA
	5.5 kW	25.0 A	7.5 kW	30.0 A	VZA25P5FAA	VZA25P5HAA
	7.5 kW	33.0 A	11.0 kW	40.0 A	VZA27P5FAA	VZA27P5HAA
	11 kW	47.0 A	15.0 kW	56.0 A	VZA2011FAA	VZA2011HAA
	15 kW	60.0 A	18.5 kW	69.0 A	VZA2015FAA	VZA2015HAA

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Standard	Built-in filter
3x400 V	0.37 kW	1.2 A	0.18 kW	1.2 A	VZA40P2BAA	VZA40P2HAA
	0.55 kW	1.8 A	0.37 kW	2.1 A	VZA40P4BAA	VZA40P4HAA
	1.1 kW	3.4 A	0.75 kW	4.1 A	VZA40P7BAA	VZA40P7HAA
	1.5 kW	4.8 A	1.1 kW	5.4 A	VZA41P5BAA	VZA41P5HAA
	2.2 kW	5.5 A	2.2 kW	6.9 A	VZA42P2BAA	VZA42P2HAA
	3.0 kW	7.2 A	3.0 kW	8.8 A	VZA43P0BAA	VZA43P0HAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	VZA44P0BAA	VZA44P0HAA
	5.5 kW	14.8 A	7.5 kW	17.5 A	VZA45P5FAA	VZA45P5HAA
	7.5 kW	18.0 A	11.0 kW	23.0 A	VZA47P5FAA	VZA47P5HAA
	11 kW	24.0 A	15.0 kW	31.0 A	VZA4011FAA	VZA4011HAA
	15 kW	31.0 A	18.5 kW	38.0 A	VZA4015FAA	VZA4015HAA

① Line filters

Specifications				Order code	
Power supply	Inverter V1000	Rated current (A)	Weight (kg)	Filter Rasmi	Filter Schaffner
1x200 V	VZAB0P1BAA	10	0,6	A1000-FIV1010-RE	A1000-FIV1010-SE
	VZAB0P2BAA				
	VZAB0P4BAA				
	VZAB0P7BAA	20	1	A1000-FIV1020-RE	A1000-FIV1020-SE
	VZAB1P5BAA				
	VZAB2P2BAA	30	1,1	A1000-FIV1030-RE	A1000-FIV1030-SE
	VZAB4P0BAA	40	1,2	A1000-FIV1040-RE	A1000-FIV1040-SE
3x400 V	VZA40P2BAA	5	1,1	A1000-FIV3005-RE	A1000-FIV3005-SE
	VZA40P4BAA				
	VZA40P7BAA	10	1,1	A1000-FIV3010-RE	A1000-FIV3010-SE
	VZA41P5BAA				
	VZA42P2BAA				
	VZA43P0BAA			A1000-FIV3020-RE	A1000-FIV3020-SE
	VZA44P0BAA	20	1,3		
	VZA45P5FAA	30	2,1	A1000-FIV3030-RE	A1000-FIV3030-SE
	VZA47P5FAA				
	VZAB011FAA	50	2,9	A1000-FIV1050-RE	Under Development
	VZAB015FAA			A1000-FIV10xx-RE	A1000-FIV10xx-RE
3x200 V	VZA20P1BAA	10	0,8	A1000-FIV2010-RE	A1000-FIV2010-SE
	VZA20P2BAA				
	VZA20P4BAA				
	VZA20P7BAA				
	VZA21P5BAA	20	1,1	A1000-FIV2020-RE	A1000-FIV2020-SE
	VZA22P2BAA				
	VZA24P0BAA	30	1,3	A1000-FIV2030-RE	A1000-FIV2030-SE
	VZA25P5FAA	50	2,4	A1000-FIV2060-RE	Under Development
	VZA27P5FAA				
	VZAB011FAA	100	4,2	A1000-FIV2100-RE	Under Development
	VZAB015FAA				

② Communication cards

Type	Description	Function	Order code
Communication option board	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and ,monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N3
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P3
	Can open option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S3
	CompoNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CompoNet communication with the host controller.	A1000-CRT1

③ Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	LCD Display operator with language support	JVOP-180
Accessories	USB converter	USB converter unit with copy and backup function	JVOP-181
	Remote operator cable (1m)	Cable for connecting remote operator	72606-WV001
	Remote operator cable (3m)		72606-WV003
	24 VDC option board	24 VDC control board power supply	PS-UDC24

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

For full specifications please refer to chapter software on page 518.

⑤ Braking unit, braking resistor unit.

Specifications

200 V class

Single-phase: VZ-_		B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0	–	–	–	–
Three-phase: VZ-_		20P1	20P2	20P4	20P7	21P5	22P2	24P0	25P5	27P5	2011	2015
Motor kW *1	For HD setting	0.12	0.25	0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15
	For ND setting	0.18	0.37	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5
Output characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7	9.5	13	18	23
	Rated output current (A) at HD	0.8	1.6	3.0	5.0	8.0	11.0	17.5	25.0	33.0	47.0	60.0
	Rated output current (A) at ND	1.2	1.9	3.5	6.0	9.6	12.0	21.0	30.0	40.0	56.0	69.0
	Max. output voltage	Proportional to input voltage: 0 to 240 V										
	Max. output frequency	400 Hz										
Power supply	Rated input voltage and frequency	Single-phase 200 to 240 V 50/60 Hz 3-phase 200 to 240 V 50/60 Hz										
	Allowable voltage fluctuation	-15% to +10%										
	Allowable frequency fluctuation	+5%										

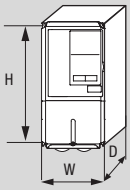
*1 Based on a standard 4-pole motor for maximum applicable motor output:
Constant Torque (CT) mode with a 150% overload capacity
Variable Torque (VT) mode with a 120% overlaod capacity

400 V class

Three-phase: VZ-_		40P2	40P4	40P7	41P5	42P2	43P0	44P0	45P5	47P5	4011	4015
Motor kW*1	For HD setting	0.2	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15
	For ND setting	0.37	0.75	1.5	2.2	3.0	3.7	5.5	7.5	11	15	18.5
Output characteristics	Inverter capacity kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.2	9.2	14.8	18	24
	Rated output current (A) at HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0	24	31
	Rated output current (A) at ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38
	Max. output voltage	0 to 480 V (proportional to input voltage)										
	Max. output frequency	400 Hz										
Power supply	Rated input voltage and frequency	3-phase 380 to 480 VAC, 50/60 Hz										
	Allowable voltage fluctuation	-15% to +10%										
	Allowable frequency fluctuation	+5%										

*1 Based on a standard 4-pole motor for maximum applicable motor output:
Constant Torque (CT) mode with a 150% overload capacity
Variable Torque (VT) mode with a 120% overlaod capacity

Dimensions

Specifications		Drive model	H	W	D	
1-phase 200 VAC	0,12 kW	VZAB0P1BAA	128	68	76	
	0,25 kW	VZAB0P2BAA				
	0,55 kW	VZAB0P4BAA			118	
	1,1 kW	VZAB0P7BAA		108	137.5	
	1,5 kW	VZAB1P5BAA			154	
	2,2 kW	VZAB2P2BAA		140	163	
	4,0 kW	VZAB4P0BAA	Under development			
3-phase 200 VAC	0,12 kW	VZA20P1BAA	128	68	76	
	0,25 kW	VZA20P2BAA				
	0,55 kW	VZA20P4BAA			108	
	1,1 kW	VZA20P7BAA			128	
	1,5 kW	VZA21P5BAA		108	129	
	2,2 kW	VZA22P2BAA			137.5	
	4,0 kW	VZA24P0BAA		140	143	
	5,5 kW	VZA25P5FAA	254		140	
	7,5 kW	VZA27P5FAA				
	11 kW	VZA2011FAA	290	180	163	
	15 kW	VZA2015FAA	358	220	187	
3-phase 400 VAC	0,37 kW	VZA40P2BAA	108	128	81	
	0,55 kW	VZA40P4BAA			99	
	1,1 kW	VZA40P7BAA			137.5	
	1,5 kW	VZA41P5BAA			154	
	2,2 kW	VZA42P2BAA				
	3,0 kW	VZA43P0BAA				
	4,0 kW	VZA44P0BAA	128	140	143	
	5,5 kW	VZA45P5FAA	254		140	
	7,5 kW	VZA47P5FAA				
	11 kW	VZA4011FAA	290	180	143	
	15 kW	VZA4015FAA			163	

Sensorless vector control inverter

The Varispeed V7 is the perfect drive for standard industrial applications such as conveyors, cranes, grinders, etc. It delivers an amazing 100% torque at 0.5 Hz, ensuring a very stable motor speed. It is also extremely compact and silent.
It can interface to all popular field buses as an option. You can turn the V7 into a decentralised control station by adding a PLC option board.

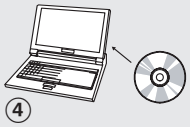
- Sensorless vector control ensures 100% at 0.5 Hz
- Compact size available in IP20 or IP65
- Silent operation with no current de-rating
- Programming software: CX-Drive for parameter configuration
- CASE (inverter application software) and PLC option board

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

④

CX-Drive



④

3G3IV-PEZZ8122_
DIN attachment

④

JVOP-144
Remote digital oper.
with potentiometer

④

JVOP-146
Remote digital oper.
with potentiometer

④

3G3IV-PCN126/326
Digital operator
extension cable

④

Line filter

*See note

3G3MV-PFI_
Input noise filter

①

Varispeed V7

Braking accessories

LKEB_

CDBR_B

ERF150WJ_

⑤

* V7 IP65 typer are built-in filter inverters.

Communication unit

*See note

②

PLC option unit

*See note

③

* Option frames are needed for V7 IP65 type.

Varispeed V7

200 V

Specifications			Order code
1 x 200 V	0.12 kW	0.8 A	CIMR-V7AZB0P10
	0.25 kW	1.6 A	CIMR-V7AZB0P20
	0.55 kW	3.0 A	CIMR-V7AZB0P40
	1.1 kW	5.0 A	CIMR-V7AZB0P70
	1.5 kW	8.0 A	CIMR-V7AZB1P50
	2.2 kW	11.0 A	CIMR-V7AZB2P20
	4.0 kW	17.5 A	CIMR-V7AZB4P00
3 x 200 V	0.12 kW	0.8 A	CIMR-V7AZ20P10
	0.25 kW	1.6 A	CIMR-V7AZ20P20
	0.55 kW	3.0 A	CIMR-V7AZ20P40
	1.1 kW	5.0 A	CIMR-V7AZ20P70
	1.5 kW	8.0 A	CIMR-V7AZ21P50
	2.2 kW	11.0 A	CIMR-V7AZ22P20
	4.0 kW	17.5 A	CIMR-V7AZ24P00
	5.5 kW	25.0 A	CIMR-V7AZ25P51
	7.5 kW	33.0 A	CIMR-V7AZ27P51

400 V

Specifications			Order code
3 x 400 V	0.37 kW	1.2 A	CIMR-V7AZ40P20
	0.55 kW	1.8 A	CIMR-V7AZ40P40
	1.1 kW	3.4 A	CIMR-V7AZ40P70
	1.5 kW	4.8 A	CIMR-V7AZ41P50
	2.2 kW	5.5 A	CIMR-V7AZ42P20
	3.0 kW	7.2 A	CIMR-V7AZ43P00
	4.0 kW	9.2 A	CIMR-V7AZ44P00
	5.5 kW	14.8 A	CIMR-V7AZ45P51
	7.5 kW	18.0 A	CIMR-V7AZ47P51

Varispeed V7 IP65

200 V

Specifications			Order code
1 x 200 V	0.55 kW	3.0 A	CIMR-V7TZB0P405
	1.1 kW	5.0 A	CIMR-V7TZB0P705
	1.5 kW	8.0 A	CIMR-V7TZB1P505
	2.2 kW	11.0 A	CIMR-V7TZB2P205

400 V

Specifications			Order code
3 x 400 V	0.55 kW	1.8 A	CIMR-V7TZ40P405
	1.1 kW	3.4 A	CIMR-V7TZ40P705
	1.5 kW	4.8 A	CIMR-V7TZ41P505
	2.2 kW	5.5 A	CIMR-V7TZ42P205
	3.0 kW	7.2 A	CIMR-V7TZ43P005
	4.0 kW	9.2 A	CIMR-V7TZ44P005

① Line filters[*1]

Inverters		Line filter			
Voltage	Model CIMR-V7AZ	Rated current (A)	Weight (kg)	Order code (Schaffner)	Order code (Rasmi)
3-phase 200 VAC	20P1 / 20P2 / 20P4 / 20P7	10	0.8	3G3MV-PFI2010-SE	3G3MV-PFI2010-E
	21P5 / 22P2	20	1.0	3G3MV-PFI2020-SE	3G3MV-PFI2020-E
	24P0	30	1.1	3G3MV-PFI2030-SE	3G3MV-PFI2030-E
	25P5 / 27P5	50	2.3	–	3G3MV-PFI2050-E
Single-phase 200 VAC	B0P1 / B0P2 / B0P4	10	0.6	3G3MV-PFI1010-SE	3G3MV-PFI1010-E
	B0P7 / B1P5	20	1.0	3G3MV-PFI1020-SE	3G3MV-PFI1020-E
	B2P2	30	1.1	3G3MV-PFI1030-SE	3G3MV-PFI1030-E
	B4P0	40	1.2	3G3MV-PFI1040-SE	3G3MV-PFI1040-E
3-phase 400 VAC	40P2 / 40P4	5	1.0	3G3MV-PFI3005-SE	3G3MV-PFI3005-E
	40P7 / 41P5 / 42P2	10	1.0	3G3MV-PFI3010-SE	3G3MV-PFI3010-E
	43P0 / 44P0	15	1.1	3G3MV-PFI3020-SE	3G3MV-PFI3020-E
	45P5 / 47P5	30	2.3	3G3MV-PFI3030-SE	3G3MV-PFI3030-E

② Communication cards

Type	Description	Function	Order code
Communication option board	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	3G3MV-PDRT2[*1]
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1/V7[*1]
	Can open option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1/V7[*1]
	Can open gateway	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	3G3MV-PCORT21[*1]
	MECHATROLINK-II option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. High speed motion bus. Host controller: Trajexia, MCH or MP Series.[*2]	SI-T1/V7[*1]

[*1] Option frames are needed for V7 IP65 type. Please refer to motion and drive catalogue or contact your Omron representative.
[*2] Please refer to Trajexia, MCH or MP series section for host controllers detailed information.

③ PLC option card

Type	Description	Function	Order code
PLC option card	PLC option	Full PLC featrues, wireless installation and seamless access to the inverter parameters and analog/digital inputs and outputs. Standard Omron tools can be used for programming Calendar/clock	3G3MV-P10CDT-E [*1]
	PLC option with RS 422/485	Same features than standard models with RS 422/485 support.	3G3MV-P10CDT3-E [*1]

[*1] Option frames are needed for V7 IP65 type. Please refer to motion and drive catalogue or contact your Omron representative.

④ Accessories

Types	Description	Funtions	Order code
Digital operator	Remote digital operator without potentiometer	Configuration and monitoring device	JVOP-146
	Remote digital operator with potentiometer	Configuration and monitoring device	JVOP-144
	Blank cover	–	72606-CVS31060
	Digital operator case	–	3G3IV-PEZZ0838BA
Accessories	Digital operator extension cable 1 meters 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter	3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool for drives. (Version 1.1 or higher)	CX-DRIVE
	Computer software	Complete automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

⑤ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the V7 datasheet Cat-No: I20E-EN-02

Specifications

200 V class

IP20 single-phase: CIMR-V7AZ		B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0
IP65 single-phase: CIMR-V7TZ		–	–	B0P405	B0P705	B1P505	B2P205	–
Three-phase CIMR-V7AZ		20P1	20P2	20P4	20P7	21P5	22P2	24P0
Maximum permissible motor output kW *1		0.12	0.25	0.55	1.1	1.5	2.2	4.0
Output characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7
	Rated output current A	0.8	1.6	3.0	5.0	8.0	11.0	17.5
	Max. output voltage	Proportional to input voltage: 0 to 240 V						
	Max. output frequency	400 Hz						
Power supply	Rated input voltage and frequency	3-phase 200 to 230 V 50/60 Hz Single-phase 200 to 240 V 50/60 Hz						
	Allowable voltage fluctuation	-15 to + 10%						
	Allowable frequency fluctuation	+ 5%						

*1 Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

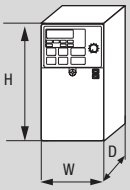
400 V class

IP20 three-phase: CIMR-V7AZ		40P2	40P4	40P7	41P5	42P2	43P0	44P0	44P5	47P5
IP65 three-phase: CIMR-V7TZ		–	40P405	40P705	41P505	42P205	43P005	44P005	–	–
Maximum permissible motor output kW *1		0.37	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5
Output characteristics	Inverter capacitykVA	0.9	1.4	2.6	3.7	4.2	5.5	7.0	11.0	14.0
	Rated output currentA	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0
	Max. output voltage	Proportional to input voltage: 0 to 400 V								
	Max. output frequency	400 Hz								
Power supply	Rated input voltage and frequency	3-phase 380 to 460 VAC, 50/60 Hz								
	Allowable voltage fluctuation	-15 to + 10%								
	Allowable frequency fluctuation	+ 5%								

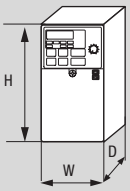
*1 Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

Dimensions

Varispeed V7

Specifications		Drive model	H	W	D	
1-phase 200 VAC	0.12 kW	CIMR-V7AZB0P10	128	68	76	
	0.25 kW	CIMR-V7AZB0P20				
	0.55 kW	CIMR-V7AZB0P40			131	
	1.1 kW	CIMR-V7AZB0P70		108	140	
	1.5 kW	CIMR-V7AZB1P50			156	
	2.2 kW	CIMR-V7AZB2P20		140	163	
	4.0 kW	CIMR-V7AZB4P00		170	180	
3-phase 200 VAC	0.12 kW	CIMR-V7AZ20P10	128	68	76	
	0.25 kW	CIMR-V7AZ20P20				
	0.55 kW	CIMR-V7AZ20P40			108	
	1.1 kW	CIMR-V7AZ20P70			128	
	1.5 kW	CIMR-V7AZ21P50		108	131	
	2.2 kW	CIMR-V7AZ22P20			140	
	4.0 kW	CIMR-V7AZ24P00		140	143	
	5.5 kW	CIMR-V7AZ25P51		180	170	
	7.5 kW	CIMR-V7AZ27P51				
3-phase 400 VAC	0.37 kW	CIMR-V7AZ40P20	128	108	92	
	0.55 kW	CIMR-V7AZ40P40			110	
	1.1 kW	CIMR-V7AZ40P70			140	
	1.5 kW	CIMR-V7AZ41P50			156	
	2.2 kW	CIMR-V7AZ42P20				
	3.0 kW	CIMR-V7AZ43P00		140	143	
	4.0 kW	CIMR-V7AZ44P00				
	5.5 kW	CIMR-V7AZ45P51	260	180	170	
	7.5 kW	CIMR-V7AZ47P51				

Varispeed V7 IP65

Specifications		Drive model	H	W	D	
1-phase 200 VAC	0.55 kW	CIMR-V7TZB0P405	275	260	150.3	
	1.1 kW	CIMR-V7TZB0P705				
	1.5 kW	CIMR-V7TZB1P505				
	2.2 kW	CIMR-V7TZB2P205				
3-phase 200 VAC	0.55 kW	CIMR-V7TZ40P405	275	260	150.3	
	1.1 kW	CIMR-V7TZ40P705				
	1.5 kW	CIMR-V7TZ41P505				
	2.2 kW	CIMR-V7TZ42P205				
	3.0 kW	CIMR-V7TZ43P005				
	4.0 kW	CIMR-V7TZ44P005				

Note: For option frames sizes needed for V7 option boards please refer to motion and drive catalogue or contact your Omron representative.

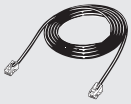
The basic inverter

- V/f controlled inverter
- Good torque performance (150% / 3 Hz)
- Double rating ND 120%/1min and HD 150%/1 min
- Overload detection function (150% during 60s)
- Motor thermal function
- Freely configurable V/f curve
- 5 programmable digital input
- 1 programmable digital output
- 1 programmable analog output
- Optional RS-232C/485 communication - Modbus,
- CE, UL, cUL and TUV, RoHS

Ordering information

RJ-45/USB Adapter ③

Remote operator extension Cable ③



LCD remote operator ③

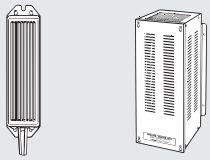
RS232 Communications cable with PC ③

CX-Drive CX-One ④

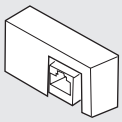
Line filter ①

J1000

Braking accessories + reactor ⑤



Communication unit ②



Mounting accessories ⑥

J1000

Specifications					Order code
Voltage	Heavy Duty		Normal Duty		
1x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	JZAB0P1BAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	JZAB0P2BAA
	0.4 kW	3.0 A	0.75 kW	3.5 A	JZAB0P4BAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	JZAB0P7BAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	JZAB1P5BAA
3x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	JZA20P1BAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	JZA20P2BAA
	0.4 kW	3.0 A	0.75 kW	3.5 A	JZA20P4BAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	JZA20P7BAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	JZA21P5BAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	JZA22P2BAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	JZA24P0BAA
3x400 V	0.2 kW	1.2 A	0.37 kW	1.2 A	JZA40P2BAA
	0.55 kW	1.8 A	0.75 kW	2.1 A	JZA40P4BAA
	1.1 kW	3.4 A	1.5 kW	4.1 A	JZA40P7BAA
	1.5 kW	4.8 A	2.2 kW	5.4 A	JZA41P5BAA
	2.2 kW	5.5 A	3.0 kW	6.9 A	JZA42P2BAA
	3.0 kW	7.2 A	4.0 kW	8.8 A	JZA43P0BAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	JZA44P0BAA

① Line filters

Specifications		Line filter Schaffner			Line filter Rasmi		
Voltage	Inverter J1000	Rated current (A)	Weight (kg)	Order code	Rated current (A)	Weight (kg)	Order code
3-Phase 200 VAC	JZA20P1BAA	10	0.7	A1000-FIV2010-SE	10	0.8	A1000-FIV2010-RE
	JZA20P2BAA						
	JZA20P4BAA						
	JZA20P7BAA						
	JZA21P5BAA	20	0.9	A1000-FIV2020-SE	20	1.1	A1000-FIV2020-RE
	JZA22P2BAA						
	JZA24P0BAA	30	1.0	A1000-FIV2030-SE	30	1.3	A1000-FIV2030-RE
Single-Phase 200 VAC	JZAB0P1BAA	10	0.5	A1000-FIV1010-SE	10	0.6	A1000-FIV1010-RE
	JZAB0P2BAA						
	JZAB0P4BAA						
	JZAB0P7BAA	20	0.7	A1000-FIV1020-SE	20	1.0	A1000-FIV1020-RE
	JZAB1P5BAA						
3-Phase 400 VAC	JZA40P2BAA	5	0.5	A1000-FIV3005-SE	5	1.1	A1000-FIV3005-RE
	JZA40P4BAA						
	JZA40P7BAA	10	0.75	A1000-FIV3010-SE	10	1.1	A1000-FIV3010-RE
	JZA41P5BAA						
	JZA42P2BAA						
	JZA43P0BAA						
	JZA44P0BAA	15	1.0	A1000-FIV3020-SE	20	1.3	A1000-FIV3020-RE

① Chokes

Diameter	Description	Order code
21	Recommended for motors below 2.2 KW	A1000-FEV2102-RE
25	Recommended for motors below 15 KW	A1000-FEV2515-RE

② Communication units

Type	Description	Function	Order code
Option units	RS-232C serial communication interface	RS232C communications interface to connect the drive to a PC or the optional copy unit	SI-232/JC
	Remote operator interface	RS232C communication interface for usage with the external LED operator JVOP-182	SI-232/J
	RS-422/485 Serial communications interface	Interface for RS-422/485 communications using the MEMOBUS/Modbus RTU protocol	SI-485/J
	Potentiometer Option	Potentiometer option for setting the frequency reference directly at the drive	AI-V3/J

③ Accessories

Types	Description	Functions	Model
Digital operator	LED remote operator	Remote operator with LED display and copy function, cable length max. 3m.	JVOP-182
	Remote operator cable	3 meters cable for connecting remote operator	A1000-CAVOP300-EE
Accessories	USB converter / USB cable	Allows the user to copy and verify parameter settings between drives. Can also be used as adapter to connect the drive to a PC USB port. SI-232/JC option is required	JVOP-181
	PC connection cable	RS232 PC tool connection cable	A1000-CAVPC232-EE

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

For full specifications please refer to chapter software on page 518.

⑤ Braking unit, braking resistor unit

Inverter					Braking resistor unit			
Voltage	Max. applicable motor output kW	Inverter model JZA_		Connectable min. resistance Ω	Inverter-mounted type (3%ED, 10 sec max)			
		3-phase	1-phase		Resistance W	No. of used	Braking torque %	Order code
200 V (single-/three-phase)	0.12	20P1	B0P1	300	400	1	220	A1000-REJ0K15400-IE
	0.25	20P2	B0P2	300			220	
	0.55	20P4	B0P4	200	200	1	220	A1000-REJ0K15200-IE
	1.1	20P7	B0P7	120			125	
	1.5	21P5	B1P5	60	100	1	125	A1000-REJ0K15100-IE
	2.2	22P2	–	60	70	1	120	A1000-REJ0K15070-IE
	4.0	24P0	–	32	62	1	100	A1000-REJ0K15062-IE
400 V (three-phase)	0.37	40P2	–	750	750	1	230	A1000-REJ0K10750-IE
	0.55	40P4	–	750			230	
	1.1	40P7	–	510			130	
	1.5	41P5	–	240	400	1	125	A1000-REJ0K15400-IE
	2.2	42P2	–	200	300	1	115	A1000-REJ0K15300-IE
	3.0	43P0	–	100	400	2	105	A1000-REJ0K15400-IE
	4.0	44P0	–					

⑥ Mounting accesories

Types	Description	Applicable models JZA_	Order code
DIN Rail	Necessary to mount the inverter on a DIN rail	20P1/20P2/20P4/20P7 B0P1/B0P2/B0P4	EZZ08122A
		21P5/22P2 B0P7/B1P5 40P2/40P4/40P7/41P5/42P2	EZZ08122B
		24P0 B2P2 44P0	EZZ08122C
Heatsink external mounting attachment	Additional items to mount the inverter with the heatshink out of the panel.	20P1/20P2 B0P1/B0P2	100-034-075
		20P4 B0P4	100-034-076
		20P7	100-034-077
		40P2	100-034-078
		21P5/22P2 B1P5 41P5/42P2/43P0	100-034-79
		24P0 B2P2 44P0	100-034-80
		B4P0	100-036-357
		B0P7 40P4/40P7	100-036-418

Specifications

200 V class

Single-phase: JZA_		B0P1	B0P2	B0P4	B0P7	B1P5	-	-
Three-phase: JZA_		20P1	20P2	20P4	20P7	21P5	22P2	24P0
Motor kW*1	For HD setting	0.12	0.25	0.4	1.1	1.5	2.2	4.0
	For ND setting	0.18	0.37	0.75	1.1	2.2	3.0	5.5
Output characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7
	Rated output current (A) at HD	0.8	1.6	3.0	5.0	8.0	11.0	17.5
	Rated output current (A) at ND	1.2	1.9	3.5	6.0	9.6	12.0	21.0
	Max. output voltage	Proportional to input voltage: 0 to 240 V						
	Max. output frequency	400 Hz						
Power supply	Rated input voltage and frequency	Single-phase 200 to 240 V 50/60 Hz 3-phase 200 to 240 V 50/60 Hz						
	Allowable voltage fluctuation	-15% to +10%						
	Allowable frequency fluctuation	+5%						

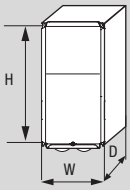
*1 Based on a standard 4-pole motor for maximum applicable motor output:
Heavy Duty (HD) mode with a 150% overload capacity
Normal Duty (ND) mode with a 120% overlaod capacity

400 V class

Three-phase: JZA_		40P2	40P4	40P7	41P5	42P2	43P0	44P0
Motor kW*1	For HD setting	0.2	0.4	1.1	1.5	2.2	3.0	4.0
	For ND setting	0.37	0.75	1.5	2.2	3.0	3.7	5.5
Output characteristics	Inverter capacity kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.2
	Rated output current (A) at HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Rated output current (A) at ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1
	Max. output voltage	0 to 480 V (proportional to input voltage)						
	Max. output frequency	400 Hz						
Power supply	Rated input voltage and frequency	3-phase 380 to 480 VAC, 50/60 Hz						
	Allowable voltage fluctuation	-15% to +10%						
	Allowable frequency fluctuation	+5%						

*1 Based on a standard 4-pole motor for maximum applicable motor output:
Heavy Duty (HD) mode with a 150% overload capacity
Normal Duty (ND) mode with a 120% overlaod capacity

Dimensions

Specifications		Drive model	H	W	D	
1 Phase 200 VAC	0,12 kW	JZAB0P1BAA	128	68	76	
	0,25 kW	JZAB0P2BAA				
	0,55 kW	JZAB0P4BAA			118	
	1,1 kW	JZAB0P7BAA		108	137,5	
	1,5 kW	JZAB1P5BAA			154	
3 Phase 200 VAC	0,12 kW	JZA20P1BAA	128	68	76	
	0,25 kW	JZA20P2BAA				
	0,55 kW	JZA20P4BAA			108	
	1,1 kW	JZA20P7BAA			128	
	1,5 kW	JZA21P5BAA		108	129	
	2,2 kW	JZA22P2BAA			137,5	
	4,0 kW	JZA24P0BAA		140	143	
3 Phase 400 VAC	0,37Kw	JZA40P2BAA	108	128	81	
	0,55 kW	JZA40P4BAA			99	
	1,1 kW	JZA40P7BAA			137,5	
	1,5 kW	JZA41P5BAA			154	
	2,2 kW	JZA42P2BAA				
	3,0 kW	JZA43P0BAA				
	4,0 kW	JZA44P0BAA	140		143	

Small, simple and smart

With simplicity and cost-effectiveness in mind, the J7 was designed to meet low-end simple applications such as conveyors, fans and pumps in small power applications. With on-line torque compensation the J7 can deliver 100% torque down to 1.5 Hz. For quick installation and setup the J7 is fitted as standard with a digital operator and speed volume.

- Easy to use. Just WIRE and RUN.
- Good torque performance: 100% torque at 1.5 Hz, 150% at 3 Hz
- Compact size
- RS-485 and RS-232C option unit
- Programming software: CX-Drive for parameter configuration

Ordering information

SI-485/J7

②

SI-232/J7
SI-232/J7C

CX-Drive

JVOP-144
Remote digital oper.
with potentiometer

JVOP-146
Remote digital oper.
with potentiometer

3G3IV-PEZZ8122_
DIN attachment

Line filter

3G3MV-PFI_
Input noise filter

①

Varispeed J7

3G3IV-PCN329-E
Inverter to PC cable

②

3G3IV-PCN126/326
Digital operator
extension cable

Varispeed J7

200 V

Specifications			Order code
1 x 200 V	0.12 kW	0.8 A	CIMR-J7AZB0P10
	0.25 kW	1.6 A	CIMR-J7AZB0P20
	0.55 kW	3.0 A	CIMR-J7AZB0P40
	1.1 kW	5.0 A	CIMR-J7AZB0P70
	1.5 kW	8.0 A	CIMR-J7AZB1P50
3 x 200 V	0.12 kW	0.8 A	CIMR-J7AZ20P10
	0.25 kW	1.6 A	CIMR-J7AZ20P20
	0.55 kW	3.0 A	CIMR-J7AZ20P40
	1.1 kW	5.0 A	CIMR-J7AZ20P70
	1.5 kW	8.0 A	CIMR-J7AZ21P50
	2.2 kW	11.0 A	CIMR-J7AZ22P20
	4.0 kW	17.5 A	CIMR-J7AZ24P00

400 V

Specifications			Order code
3 x 400 V	0.37 kW	1.2 A	CIMR-J7AZ40P20
	0.55 kW	1.8 A	CIMR-J7AZ40P40
	1.1 kW	3.4 A	CIMR-J7AZ40P70
	1.5 kW	4.8 A	CIMR-J7AZ41P50
	2.2 kW	5.5 A	CIMR-J7AZ42P20
	3.0 kW	7.2 A	CIMR-J7AZ43P00
	4.0 kW	9.2 A	CIMR-J7AZ44P00

① Line filters

Inverters		Line filters			
Voltage	Model CIMR-J7AZ	Rated current (A)	Weight (kg)	Order code (Schaffner)	Order code (Rasmi)
3-phase 200 VAC	20P1/20P2/20P4/20P7	10	0.68	3G3JV-PFI2010-SE	3G3JV-PFI2010-E
	21P5/22P2	16	0.84	3G3JV-PFI2020-SE	3G3JV-PFI2020-E
	24P0	26	1.0	–	3G3JV-PFI2030-E
Single-phase 200 VAC	B0P1/B0P2/B0P4	10	0.45	3G3JV-PFI1010-SE	3G3JV-PFI1010-E
	B0P7/B1P5	20	0.68	3G3JV-PFI1020-SE	3G3JV-PFI1020-E
3-phase 400 VAC	40P2/40P4	5	0.57	3G3JV-PFI3005-SE	3G3JV-PFI3005-E
	40P7/41P5/42P2	10	0.67	3G3JV-PFI3010-SE	3G3JV-PFI3010-E
	43P0/44P0	20/15	1.0	3G3JV-PFI3020-SE	3G3JV-PFI3020-E

② Accessories

Type	Description	Funtions	Order code
Digital operator	Remote digital operator without potentiometer	Configuration and monitoring device	JVOP-146
	Remote digital operator with potentiometer		JVOP-144
Interface units	RS232 adapter	Another option SI-232/J7C (3G3JV-PSI232JC) is available, the only difference is that this one is removable.	SI-232/J7 (3G3JV-PSI232J)
	RS-485 adapter	Communication adapter	SI-485/J7 (3G3JV-PSI485J)
Accessories	Digital operator extension cable 1 meters 3 meters	SI232/J7 is necessary to connect inverter and remote digital operator.	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	SI232/J7 is necessary to connect inverter to PC.	3G3IV-PCN329-E

② Accessories

Type	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool for drives	CX-DRIVE
	Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

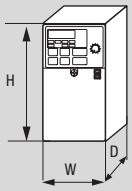
Specifications

Voltage class		200V Single/three-phase							400V three-phase						
Order code CIMR-J7AZ_	Three-phase	20P1	20P2	20P4	20P7	21P5	22P2	24P0	40P2	40P4	40P7	41P5	42P2	43P0	44P0
	Single-phase*1	B0P1	B0P2	B0P4	B0P7	B1P5	–	–	–	–	–	–	–	–	–
Max. applicable motor output kW (HP) *2		0.12	0.25	0.55	1.1	1.5	2.2	4.0	0.37	0.55	1.1	1.5	2.2	3.0	4.0
Output Characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7	0.9	1.4	2.6	3.7	4.2	5.5	7.0
	Rated output current A	0.8	1.6	3	5	8	11	17.5	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Max. output voltage V	3-phase, 200 to 230 V (proportional to input voltage) Single-phase, 200 to 240 V (proportional to input voltage)							3-phase, 380 to 460 V (proportional to input voltage)						
	Max. output frequency	400 Hz (programmable)													
Power supply	Rated input voltage and frequency	3-phase, 200 to 230 V, 50/60Hz Single-phase, 200 to 240 V, 50/60Hz							3-phase, 380 to 460 V, 50/60Hz						
	Allowable voltage function	-15 to +10%													
	Allowable frequency function	±5%													

*1 Single-phase series inverter output is three-phase (for three-phase motors)
*2 Based on a standard 4-pole motor for max. applicable motor output. Select the inverter model whose rated current is larger than motor rated current

Dimensions

Specifications		Drive model	H	W	D	
1 phase 200 VAC	0.12 kW	CIMR-J7AZB0P10	128	68	70	
	0.25 kW	CIMR-J7AZB0P20				
	0.55 kW	CIMR-J7AZB0P40			112	
	1.1 kW	CIMR-J7AZB0P70		108	129	
	1.5 kW	CIMR-J7AZB1P50			154	
3 phase 200 VAC	0.12 kW	CIMR-J7AZ20P10	128	68	70	
	0.25 kW	CIMR-J7AZ20P20				
	0.55 kW	CIMR-J7AZ20P40			102	
	1.1 kW	CIMR-J7AZ20P70			122	
	1.5 kW	CIMR-J7AZ21P50		108	129	
	2.2 kW	CIMR-J7AZ22P20			154	
	4.0 kW	CIMR-J7AZ24P00		140	161	
3 phase 400 VAC	0.37 kW	CIMR-J7AZ40P20	128	108	81	
	0.55 kW	CIMR-J7AZ40P40			99	
	1.1 kW	CIMR-J7AZ40P70			129	
	1.5 kW	CIMR-J7AZ41P50			154	
	2.2 kW	CIMR-J7AZ42P20				
	3.0 kW	CIMR-J7AZ43P00		140	161	
	4.0 kW	CIMR-J7AZ44P00				

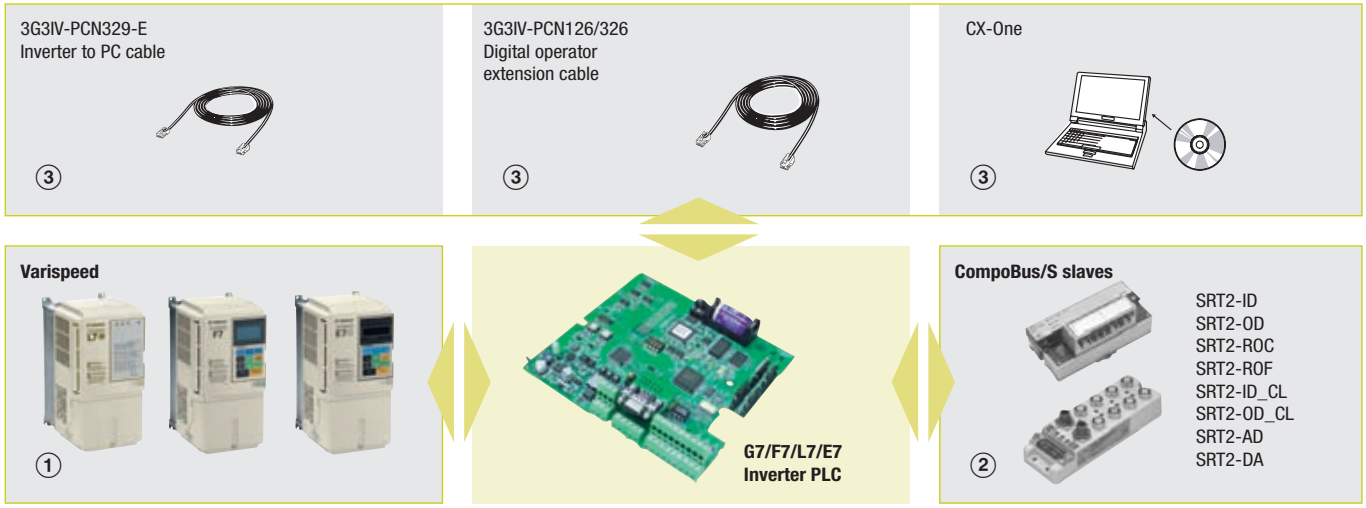


The Omron PLC embedded into the Omron-Yaskawa inverter family

Bringing PLC functionality to the drive. You will be able to access the inverter parameters, analog/digital I/Os, control up to 256 I/Os and DeviceNet connectivity. Ideal for applications such as winding/unwinding, HVAC installations, smart lifts and water treatment.

- Fully featured Omron PLC embedded into the inverter
- Interrupt inputs, counter inputs, encoder inputs and pulse outputs
- Mechatronics functions (PWM, pulse and sync.)
- Memory backup
- Programmed using standard Omron PLC software

Ordering information



Inverter PLC

Specifications						Order code
Inputs	Ouptuts	RTC	CompoBus/S master	RS422 port	DeviceNet slave	
6	4	Yes	Yes	Yes	No	3G3RV-P10ST8-E
6	4	Yes	Yes	NO	Yes	3G3RV-P10ST8-DRT-E

① Inverters

Specifications	Order code
3 level control method inverter	Varispeed G7
Flux vector control inverter	Varispeed F7
Lift inverter	Varispeed L7
Pumps & fans inverter	Varispeed E7

Note: For detailed information please refer to inverter section.

② CompoBus/S slave

Specifications	Order code
CompoBus/S slaves	SRT2-XX*1

*1 For detailed information please refers to network I/O section

③ Cables

Specifications	Order code
Computer connecting cable	3G3IV-PCN329-E
Programmable console cable	3G3IV-PCN126/326

③ Computer software

Specifications	Order code
PLC programming software: CX-Programmer	CX-ONE
Inverter configurator software: CX-Drive	

For full specifications please refer to chapter software on page 518.

Specifications

Specifications by product

Item	3G3RV-P10ST8-E	3G3RV-P10ST8-DRT-E
PLC core	CPM2C-S	CPM2C-S
Inputs	6 24 VDC inputs	6 24 VDC inputs
Outputs	4 sourcing/PNP transistor outputs	4 sourcing/PNP transistor outputs
Peripheral port	Yes	Yes
RS-232C port	Yes	Yes
RS-422 port	No	Yes
Calendar/clock	Yes	Yes
Memory backup	Flash memory and battery	Flash memory and battery
CompoBus/S master interface	Yes	Yes
Encoder interface	Yes	Yes
DeviceNet slave interface	No	Yes

General specifications

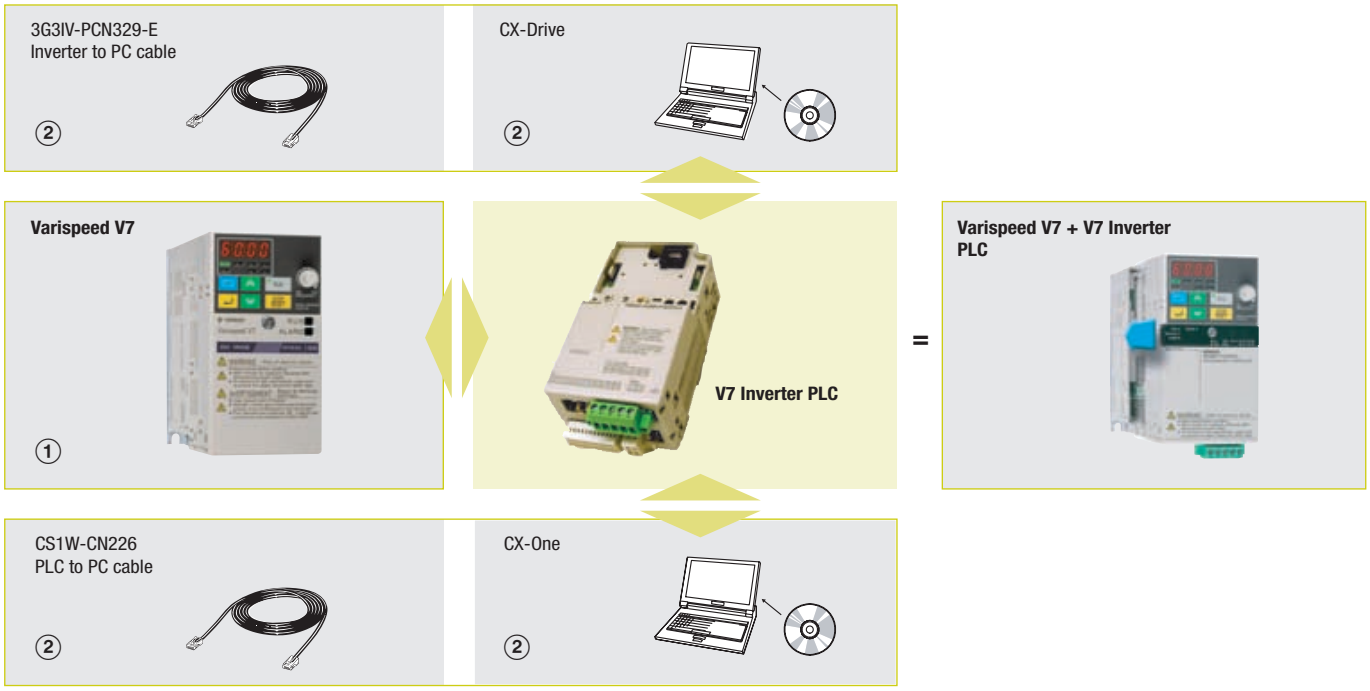
Item		Specifications	
		3G3RV-P10ST8-E	3G3RV-P10ST8-DRT-E
Rated power supply voltage		24 VDC $^{+10\%}_{-15\%}$ (external power supply for I/O)	
Communications power supply voltage		–	11 to 25 VDC (supplied by communications connector)
Vibration resistance		10 to 20 Hz, 9.8 m/s2 max. 20 to 50 Hz, 2 m/s2 max	
Ambient operating temperature		-10 to 45°C	
Ambient operating relative humidity		10 to 90% (no condensation)	
Ambient storage temperature		-20 to 70°C	
Atmosphere		Must be free from corrosive gas	
I/O control method		Cyclic scan method	
Programming language		Ladder chart method	
Processing speed	Basic instructions	0.64 µs (LD)	
	Special instructions	7.8 µs (MOV)	
Program capacity		4,096 words	
Inverter interface		Direct interface with inverter through IR-memory, DM-memory, Transfer command	
CompoBus/S master functions		Remote I/O devices can be allocated up to 256 I/O points (128 inputs and 128 outputs)	
DeviceNet slave functions		Up to 64 words (32 input words and 32 output words) can be allocated to the DeviceNet Master's I/O.	
Interrupts		Interrupt inputs: 2 inputs Response time: 50 µs	
		Interval timer interrupts: 1 input Set value: 0.5 to 319,968 ms Precision: 0.1 ms	Scheduled interrupts One-shot interrupt
High-speed counters	High-speed counter 1 input	No interrupt	
	Differential phase mode (5 kHz) Pulse plus direction input mode (20 kHz) Up/down input mode (20 kHz) Increment mode (20 kHz)	Count-check interrupt (an interrupt can be generated when the count equals the set value or the count lies within a preset range.)	
	Interrupt inputs (counter mode) 2 inputs Incrementing counter (2 kHz) Decrementing counter (2 kHz)	No interrupt Count-up interrupt	
Encoder interface		3 input modes: Differential-phase (up/down) Pulse plus direction Up/down pulse Maximum input frequency 50 kHz Maximum counter range 4,294,967,295 (232-1) Two capture registers, 3 selectable registration inputs One comparison value Counter reset through software or Z-phase Interrupt function	
Pulse outputs		2 outputs: Single-phase pulse output without acceleration/deceleration 10 Hz to 10 kHz 2 outputs: Variable duty ratio pulse output 0.1 to 999.9 Hz, duty ratio 0 to 100% 1 output: Pulse output with trapezoidal acceleration/deceleration Pulse plus direction output, up/down pulse output, 10 Hz to 10 kHz	
Synchronized pulse control		1 point Input frequency range: 10 to 500 Hz, 20 Hz to 1 kHz, or 300 Hz to 20 kHz Output frequency range: 10 Hz to 10 kHz	
Pulse catch inputs		2 bits Minimum pulse input: 50 µs max. Used in common by input interrupts and input interrupt counter mode.	
Clock/calendar function		Shows the current year, month, day of the week, day of the month, hour, minute, and second.	
Communication function		Port 1 = Peripheral and RS-422: Host link, peripheral bus, no-protocol, programming console Port 2 = RS-232C port: Host link, no-protocol, 1:1 PLC link, 1:1 NT link	
Power-interruption hold function		Holds the contents of HR, AR, CNT, and DM Areas.	
Memory backup		Flash memory: Program, read-only DM area, and PC setup Memory backup: The read/write DM area, HR area, AR area, and counter values are backed up. (The battery has a 5-year lifetime at 25°C and it is replaceable.)	
Self-diagnostic function		CPU errors, memory errors, communications errors, setting errors, battery errors	

The Omron PLC embedded into the sensorless vector control inverter

This inverter-based architecture provides wireless installation and seamless access to the V7 parameters and analog/digital I/Os. Ideal for applications such as door control, pump sequencing, intelligent conveyor, vertical-axis control and general positioning

- Fully featured Omron PLC embedded into the inverter
- Interrupt inputs, counter inputs and pulse outputs
- Mechatronics functions (PWM, pulse and sync.)
- Memory backup
- Programmed using standard Omron PLC software

Ordering information



Inverter PLC

Specifications				Order code
Inputs	Outputs	RS422 port	RTC	
6	4	No	No	3G3MV-P10CDT-E
6	4	Yes	Yes	3G3MV-P10CDT3-E

① Inverters

Specifications	Order code
Sensorless vector control inverter	Varispeed V7 *1

*1 For detailed information please refer to Varispeed V7 section.

② Cables

Specifications	Order code
Computer connecting cable	CS1W-CN226
Programmable console cable	CS1W-CN224

② Software

Specifications	Order code
PLC programming software: CX-Programmer	CX-Programmer
Inverter configurator software: CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 518.

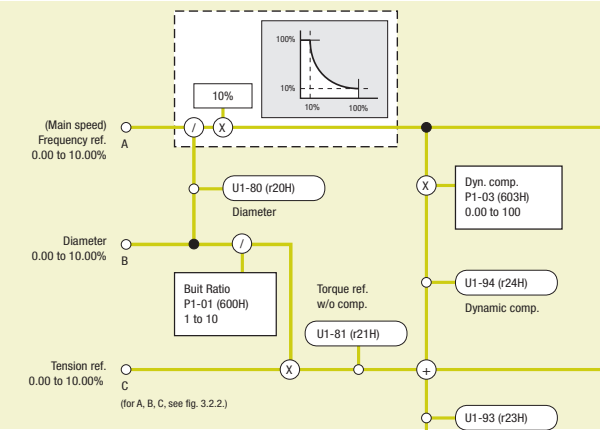
Specifications

Specifications by product

Item	3G3MV-P10CDT-E	3G3MV-P10CDT5-E	3G3MV-P10CDT3-E
PLC core	CPM2C-S	CPM2C-S	CPM2C-S
Inputs	6 24 VDC inputs	6 24 VDC inputs	6 24 VDC inputs
Outputs	3 sinking/NPN transistor outputs	3 sinking/PNP transistor outputs	3 sinking/NPN transistor outputs
	1 relay output	1 relay output	1 relay output
Peripheral port	Yes	Yes	Yes
RS-232C port	Yes	Yes	Yes
RS-422/485 port	No	No	Yes
Calendar/clock	No	No	Yes
Memory backup	Flash memory and capacitor	Flash memory and capacitor	Flash memory and battery

General specifications

Item		Specifications	
Rated power supply voltage		24 VDC $^{+10\%}/_{-15\%}$ (External power supply for I/O)	
Vibration resistance		0.15 mm (10-57 Hz) 9.8 m/s^2 (57-150 Hz) 9.8 m/s^2 (57-150 Hz) In all directions (X, Y, Z)	
Ambient operating temperature		-10 to 45°C	
Ambient operating relative humidity		10 to 90% (no condensation)	
Ambient storage temperature		-20 to 70°C	
Atmosphere		Must be free from corrosive gas	
I/O control method		Cyclic scan method	
Programming language		Ladder chart method	
Processing speed	Basic instructions	0.64 µs (LD)	
	Special instructions	7.8 µs (MOV)	
Program capacity		4,096 words	
Output bits		01000 to 01003 (4 physical outputs)	
Inverter interface		Direct interface with V7 inverter through IR-memory DM-memory Transfer command	
Quick-response input		2 inputs (minimum input signal width: 50 µs)	
Interrupt processing	External interrupts	2 bits (used in common for input interrupt counter mode and high-speed inputs.)	
	Scheduled interrupts	1 bit (scheduled interrupts or one-shot interrupts)	
Interrupts		Interrupt inputs: 2 inputs Response time: 50 µs	
		Interval timer interrupts: 1 input Set value: 0.5 to 319,968 ms Precision: 0.1 ms	Scheduled interrupts One-shot interrupt
High-speed counters		High-speed counter 1 input Differential phase mode (5 kHz) Pulse plus direction input mode (20 kHz) Up/down input mode (20 kHz) Increment mode (20 kHz)	No interrupt Count-check interrupt (an interrupt can be generated when the count equals the set value or the count lies within a preset range.)
		Interrupt inputs (counter mode) 2 inputs Incrementing counter (2 kHz) Decrementing counter (2 kHz)	No interrupt Count-up interrupt
Pulse outputs		2 outputs: Single-phase pulse output without acceleration/deceleration 10 Hz to 10 kHz 2 outputs: Variable duty ratio pulse output 0.1 to 999.9 Hz, duty ratio 0 to 100% 1 output: Pulse output with trapezoidal acceleration/deceleration Pulse plus direction output, up/down pulse output, 10 Hz to 10 kHz	
Synchronized pulse control		1 point Input frequency range: 10 to 500 Hz, 20 Hz to 1 kHz, or 300 Hz to 20 kHz Output frequency range: 10 Hz to 10 kHz	
Clock/calendar function		Yes. Shows the current year, month, day of the week, day of the month, hour, minute, and second.	
Communication function		Port 1 = Peripheral and RS-422:Host link, peripheral bus, no-protocol, programming console Port 2 = RS-232C port:Host link, no-protocol, 1:1 PLC link, 1:1 NT link	
Power-interruption hold function		Holds the contents of HR, AR, CNT, and DM areas.	
Memory backup		Non-volatile memory, user program, DM (read only), PLC setup	
		Fixed internal lithium battery (5 years, not replaceable by the user) or capacitor DM (read/write), HR, SR and CNT areas	
Self-diagnostic function		CPU errors, memory errors, communications errors, setting errors, battery errors	



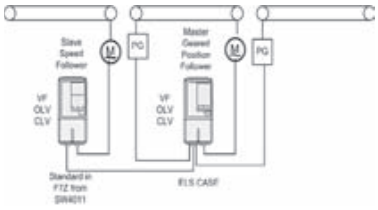
Customised software to meet your specific application requirements

The customised application software gives to a standard inverter the features of a dedicated solution

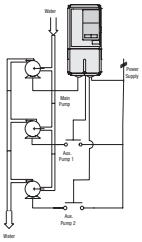
- The CASE software is a special software file that can be downloaded into a standard inverter providing additional functionality.
- Logic functions can be added.
- I/O's settings can be set for special functionality.
- Specific paremeters, monitors and alarms can be added with application units.

Ordering information

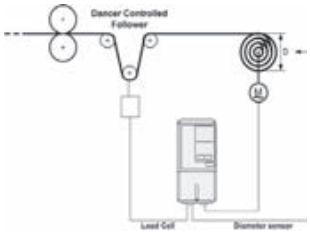
ELS software S-8161

① 

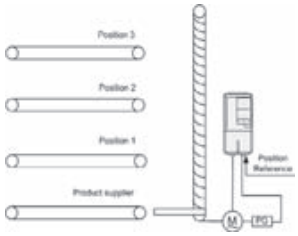
Pump sequencer software S-8801

① 

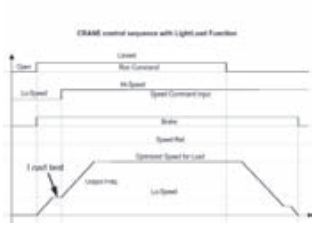
Winder software S-8180

① 

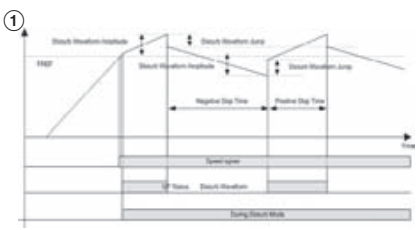
Point to point software S-8795

① 

Crane software S-7071

① 

Traverse software S-9381

① 

② 
Varispeed G7


Varispeed F7


Varispeed E7


Varispeed V7

Note: The symbols ①② show the recommended sequence to build the item name with CASE software.

① CASE software

Type	CASE software	Description	Application
CIMR-F7Z-____-S	7071	Dedicated software for crane applications	Cranes
	8161	Dedicated software for position and speed follower applications	Synchronized movements
	8180	Dedicated software for rewinding and unwinding applications	Rewinding & unwinding
	8795	Dedicated software for point to point position applications	Point to point movement applications
	7061	Dedicated software for 1.000 Hz output frequency	High speed
	8091	Dedicated software for position deceleration	Positioning at stopping.
	8600	Dedicated softeware for local/remote smooth changover	Local/remote control
CIMR-E7Z-____-S	8801	Dedicated software for pump squencer applications	Water supply, building HVAC.
	8810	Dedicated software for dynamic current limitation	Industrial pumping
CIMR-V7AZ-____-S	9381	Dedicated software for textile wire winding applications	Textile winding
	9640	Dedicated software for dinamic PID change	Variable load
	9646	Dedicated software for modification on main frequency from F.R.	Fine speed adjustments
	9662	Dedicated software for valve cleaner sequences for filter units	Valves
	9666	Dedicated software for ceramics customised functionality	Ceramics
	9683	Dedicated software for textile customised functionality	Textile

Note: - For other CASE sofware examples and ordering information, please contact your standard Omron YASKAWA supplier.
- To request new CASE software customised to meet application specific functionality, please contact your standard OMROM YASKAWA supplier.

② Inverters

Inverter	Specifications
Varispeed G7	3 level control method inverter
Varispeed F7	Flux vector control inverter
Varispeed E7	Pumps & fans inverter
Varispeed V7	Sensorless vector control inverter

Note: Refer to the inverters G7/F7/E7/V7 series chapter for detailed inverter specifications and selection.