

OMRON

G-SERIES SERVO SYSTEM

Save space, save wiring, save time



» Compact size

» MECHATROLINK-II

» Enhanced performance

realizing

Compact in size big in features

Always with your application in mind, G-Series servo drives give you additional functionalities to develop your machines faster, more flexibly and more efficiently.

Improved speed response, a wider range of servomotors and intuitive and fast auto-tuning belong to the new features, making it suitable for many applications, and always with the expected Omron quality and support.

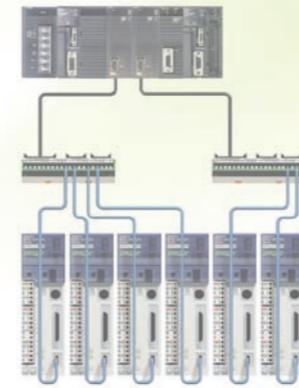


Key features and benefits:

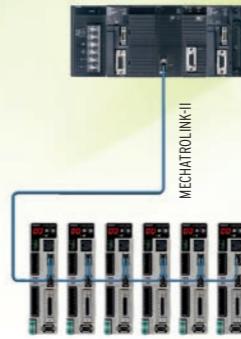
- Pocket-size servo with smallest footprint 15 x 4 cm
- Auto-tuning for easy and quick start-up
- Built-in MECHATROLINK-II motion bus reduces cabling and allows remote servo configuration and diagnosis
- High starting torque: 300% for 3 secs.
- Positioning, speed or torque control
- Separate power and control power supply
- Fast and accurate positioning
- Servomotor range from 50 W to 1.5 kW
- Incremental and absolute encoder available
- Cylindrical and flat servo motors up to 3,000 rpm
- Compatible with SmartStep 2 servomotors
- Vibration suppression

Save space, save wiring, save time

From multiple cables...

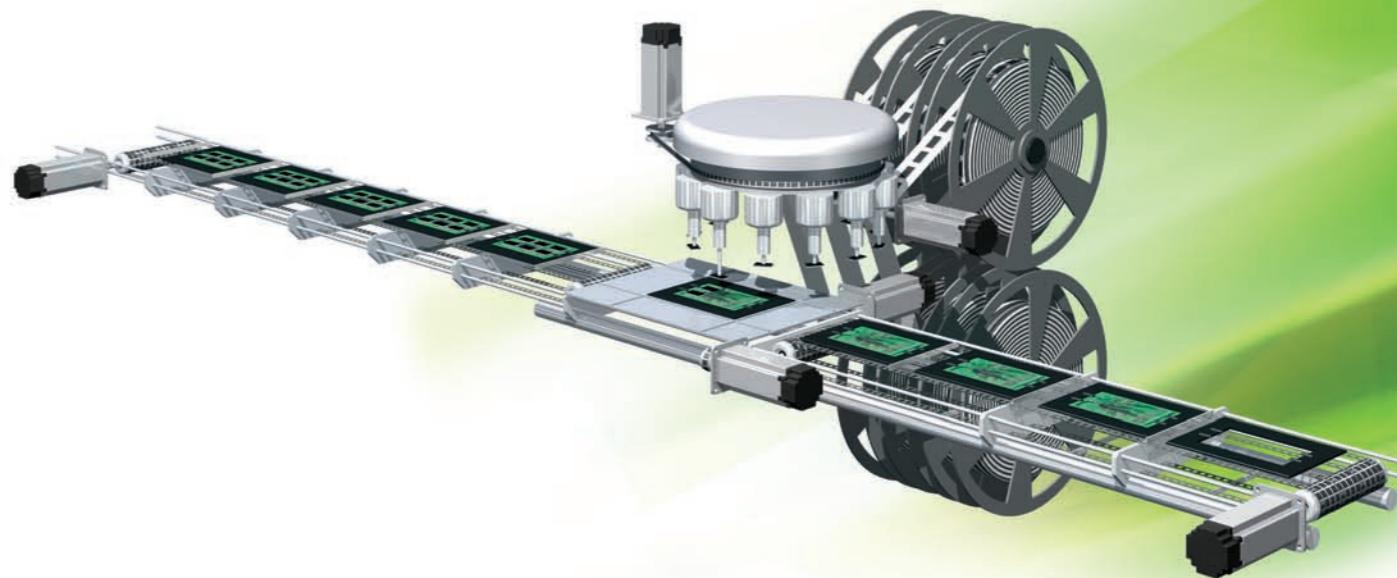


to only one cable



Easy connection: single cable only!

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



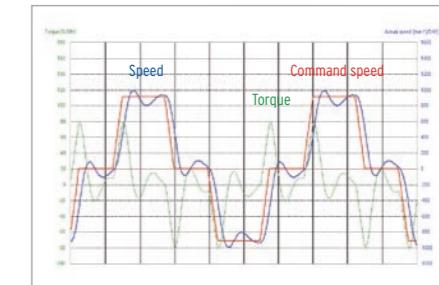
Fast and simple auto-tuning

The graphs show a move profile with a G-series servo in an application with an inertia ratio of 16:1. Tuning is possible via the easy to use CX-Drive, and takes just 1 minute to complete. The result is superb control, ensuring the servo and hence machine operates at its optimal point, with next to zero knowledge required from the user.

Once running, the on-board real time auto-tuning function takes care of the servo operation relative to the load inertia, again ensuring the quality of the finished produced part.

In addition, numerous suppression and notch filters are available to suppress machine vibration independent of machine direction.

Before auto-tuning



After auto-tuning



G-Series + NCF: Optimum positioning for up to 16 axes

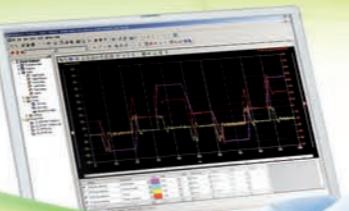


Complete and compact positioning system

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

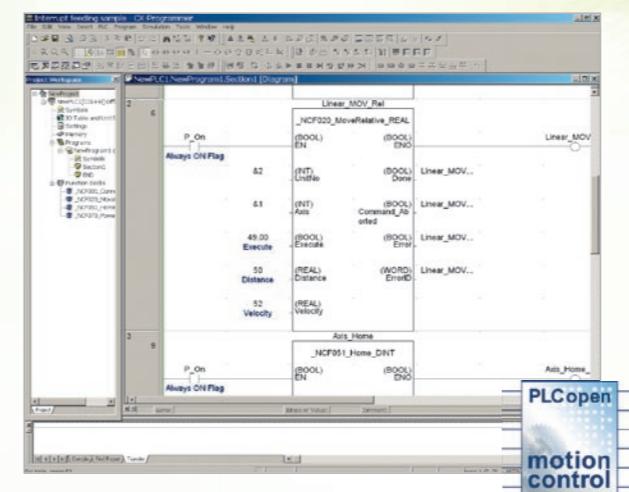
Full transparency from a remote host

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



PLCopen

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



NCF - key features and benefits

- 16 axes, point-to-point positioning over ML II
- System scalability with models for 2, 4 and 16 axes
- Easy, quick and reliable setup
- Optimized for positioning applications
- Simplified wiring to drives
- Integration with Omron Smart Platform

CJ1W-NC271 CJ1W-NC471 CJ1W-NCF71



2 axes

4 axes

16 axes



Up to 16 axes

R88D-GN□/R88M-G□

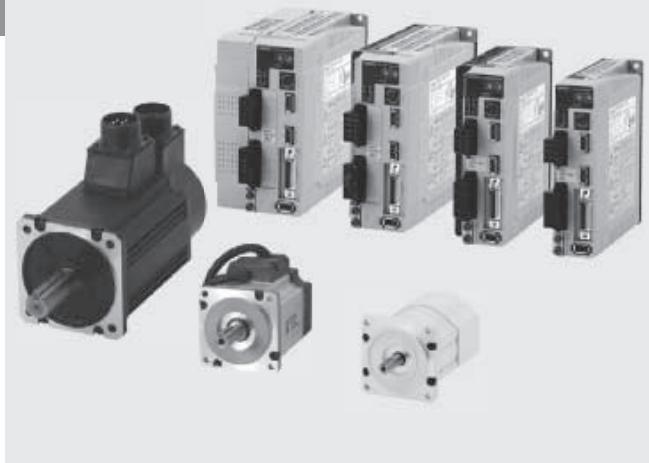
G-Series servo system

Compact in size big in features. Save space, save wiring, save time

- Built-in MECHATROLINK-II motion bus
- Position, speed and torque control
- High-response frequency of 1 kHz
- Real time auto-tuning
- Vibration suppression
- Separate power and control power supply
- Available motors with absolute and incremental with 17-bit encoder for greater accuracy
- Cylindrical and flat servo motors up to 3000 rpm
- Servomotors supported by SmartStep2, G-Series and G5-Series servo drives
- Peak torque 300% of continuous torque during 3 seconds or more depending on model
- IP65 and shaft oil seal available

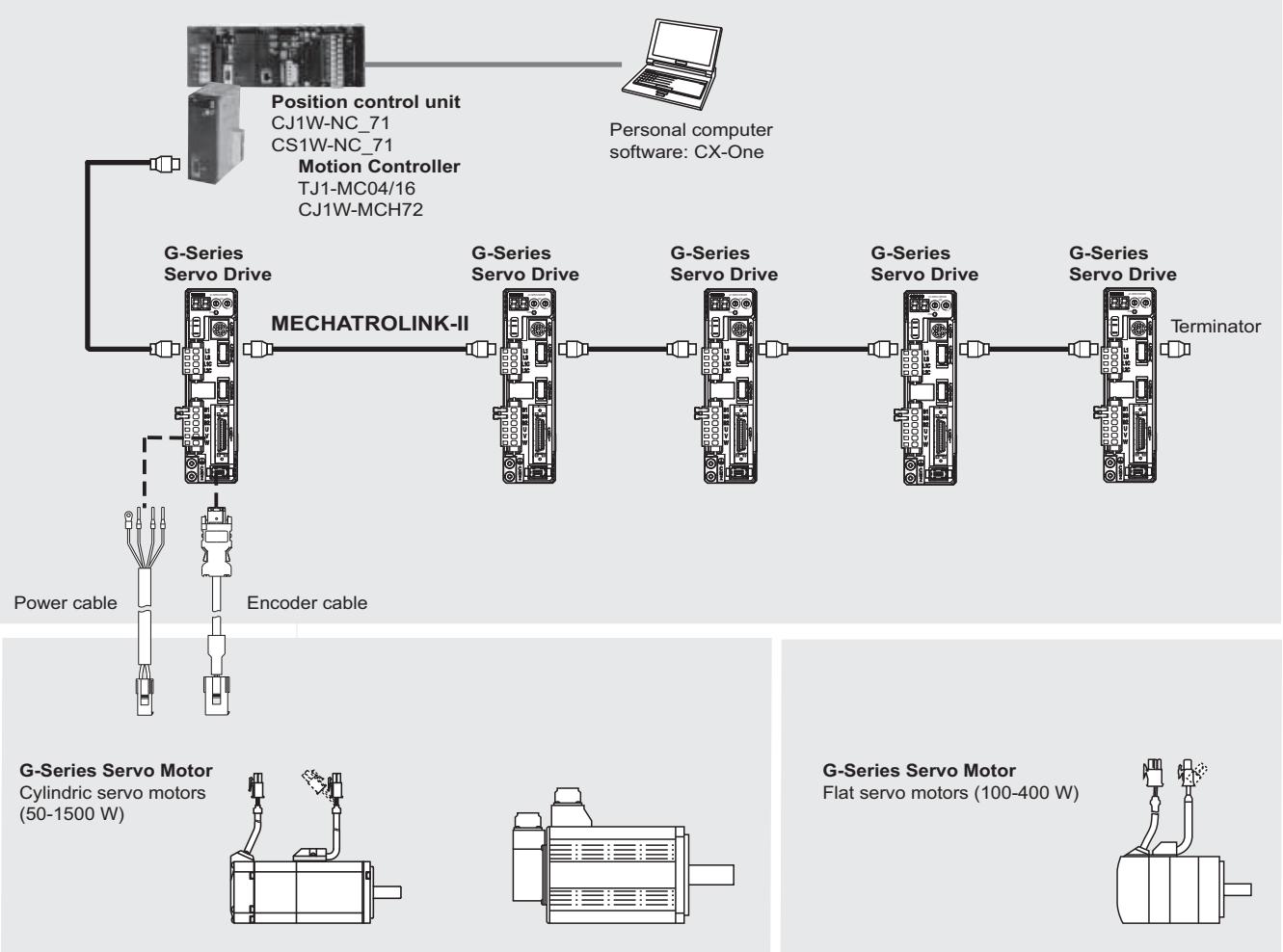
Ratings

- 230 VAC single-phase 100 W to 1.5 kW (8.62 Nm)



System configuration

G-Series MECHATROLINK-II Servo Drive Configuration



Servo drive type designation

Servo drive

R88D-GN04H-ML2

G-Series servo drive		Model
N: Network type		ML2: MECHATROLINK-II communications
Capacity		Source voltage
01 100 W		H: 230 V
02 200 W		
04 400 W		
08 750 W		
10 1.0 kW		
15 1.5 kW		

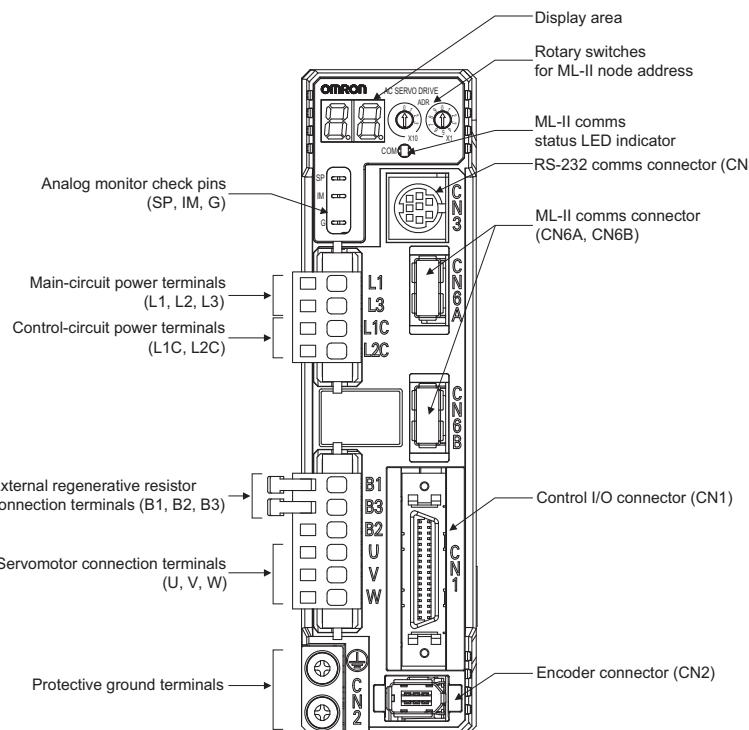
Servo drive specifications

G-Series servo drive

Servo drive type	R88D-GN□	01H-ML2	02H-ML2	04H-ML2	08H-ML2	10H-ML2	15H-ML2									
Applicable servomotor	R88M-G□	05030□/10030□	20030□	40030□	75030□	G1K020T□	90010T□/1K030T□/1K5□0T□									
	R88M-GP□	10030□	20030□	40030□	-	-	-									
Max. applicable motor capacity	W	100	200	400	750	1000	1500									
Continuous output current	Arms	1.16	1.6	2.7	4.0	5.9	9.8									
Max. output current	Arms	3.5	5.3	7.1	14.1	21.2	28.3									
Input power	Main circuit	For single-phase, 200 to 240 VAC +10 to -15% (50/60 Hz)			For single-phase/ three-phase, 200 to 240 VAC +10 to -15% (50/60 Hz)											
Supply	Control circuit	For single-phase, 200 to 240 VAC +10 to -15% (50/60 Hz)														
Control method	IGBT-driven PWM method															
Feedback	Serial encoder (incremental/absolute)															
Basic specifications	Conditions	Usage/storage temperature 0 to +55 °C / -20 to 65 °C Usage/storage humidity 90% RH or less (non-condensing)														
	Vibration/shock resistance	Altitude 1000m or less above sea level Vibration/shock resistance 5.88 m/s ² / 19.6 m/s ²														
Position/speed/torque control mode	Configuration	Base mounted														
	Approx. weight	Kg	0.8	1.1	1.5	1.7										
Performance	Speed control range	1:5000														
	Speed variance	Load variance	During 0 to 100% load ±0.01 max. (at rated speed)													
		Voltage variance	0% at ±10% of rated voltage (at rated speed)													
		Temperature variance	0 to 50°C ±0.1% max. (at rated speed)													
Command Input	Frequency characteristics	1 kHz														
	Torque control accuracy (reproducibility)	±3% (at 20% to 100% of rated torque)														
	Soft start time setting	0 to 10 s (acceleration time and deceleration time can be set)														
I/O signal	MECHATROLINK Communication	MECHATROLINK-II commands (for sequence, motion, data setting/reference, monitor, adjustment and other commands)														
	Sequence input signal	Emergency stop, 3 external latch signals, forward/reverse torque limit, forward/reverse run prohibit, origin proximity, 3 general-purpose inputs														
	Sequence output signal	It is possible to output three types of signals: positioning completed, speed coincidence, rotation speed detection, servo ready, current limit, speed limit, brake release and warning signal														

Servo drive type		R88D-GN□	01H-ML2	02H-ML2	04H-ML2	08H-ML2	10H-ML2	15H-ML2
Applicable servomotor	R88M-G□	05030□/10030□	20030□	40030□	75030□	G1K020T□	90010T□/1K030T□/1K5□01□	
	R88M-GP□	10030□	20030□	40030□	-	-	-	
Communications	RS-232 communications	Interface	Personal computer					
		Transmission rate	From 2400 to 57600 bps					
		Functions	Parameter setting, status display, alarm display (monitor, clear, history), servo drive data tracing function, test run/autotuning operations, real time trace, absolute encoder setting, default values function					
	MECHATROLINK communications	Communications protocol	MECHATROLINK-II					
		Transmission rate	10 Mbps					
		Data length	32 bytes					
		Functions	Parameter setting, status display, alarm display (monitor, clear, history), default values function					
Integrated functions	Automatic load inertia detection		Horizontal and vertical axis mode. One parameter rigidity setting.					
	Dynamic brake (DB)		Operates when main power OFF, servo alarm, overtravel or servo OFF					
	Regenerative processing		Built-in regeneration resistor in models from 750 W to 1.5 kW. External regeneration resistor optionally.					
	Overtravel (OT) prevention function		Dynamic brake, disables torque or emergency stop torque during POT and NOT operation					
	Emergency stop (STOP)		Emergency stop input					
	Encoder divider function		Optional division pulses possible					
	Electronic gearing		0,01<Numerator/Denominator<100					
	Internal speed setting function		8 internal speeds					
	Protective functions		Overspeed, undervoltage, overcurrent, overload, regeneration overload, servo drive overheat					
	Analog monitor output		The actual servomotor speed, command speed, torque and number of accumulated pulses can be measured using an oscilloscope or other device.					
	Panel operator	Display functions	A 2-digit 7-segment LED display shows the servo drive status, alarm codes, parameters, etc. MECHATROLINK-II communications status LED indicator (COM)					
		Switches	Rotary switch for setting the MECHATROLINK-II node address					

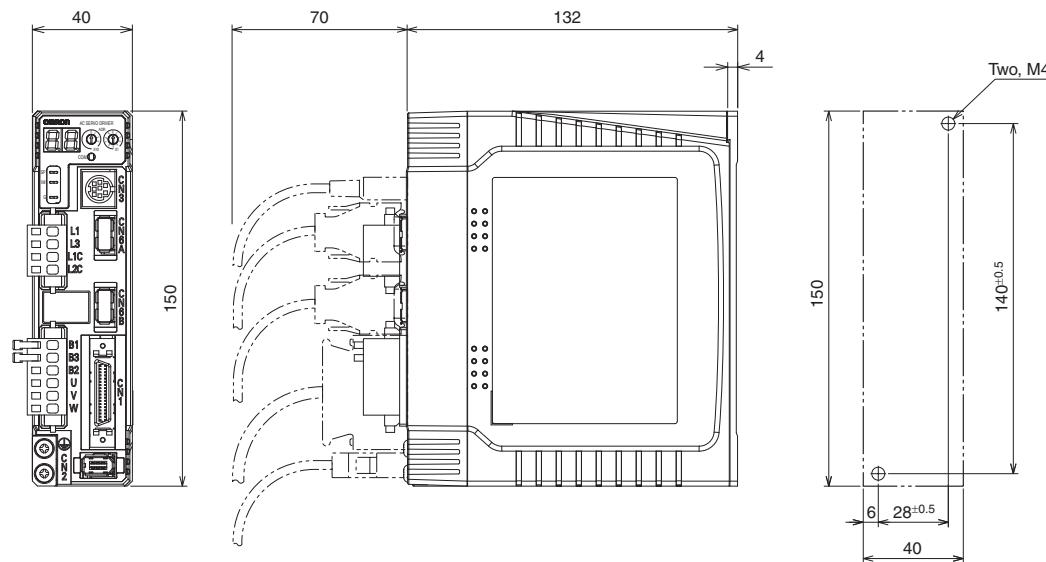
Servo drive part names



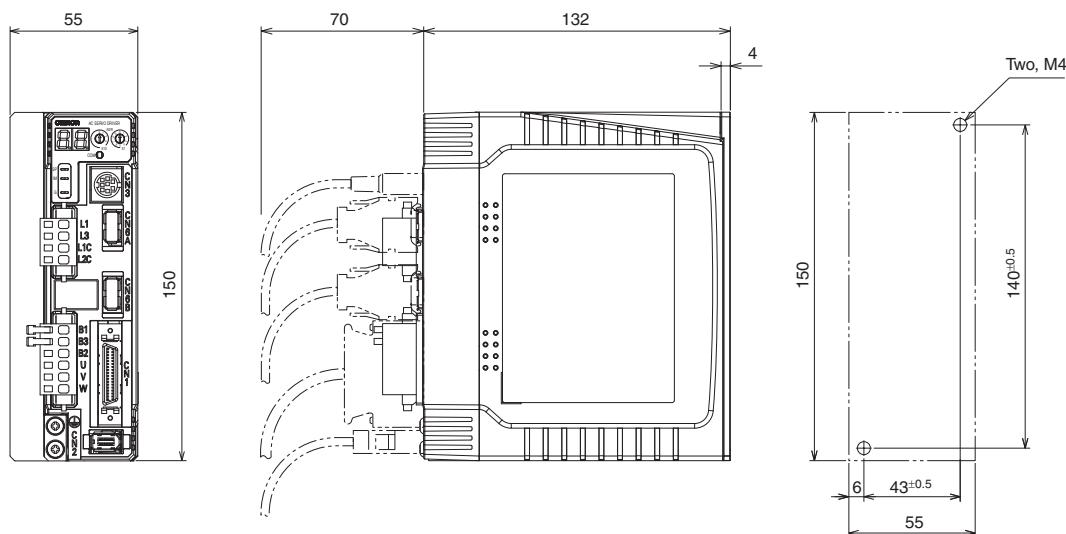
Dimensions

Servo drives

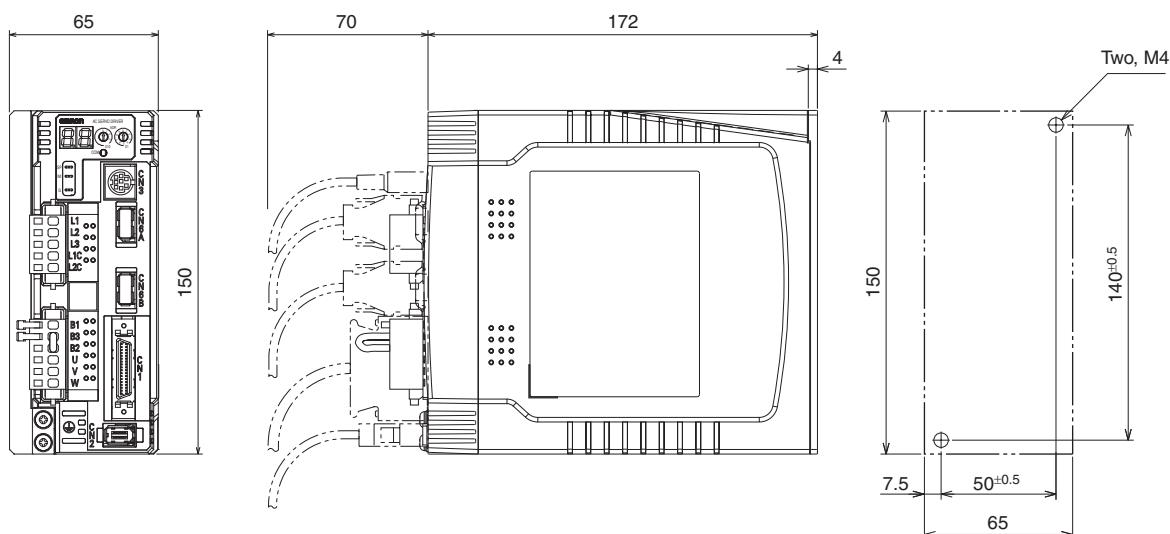
R88D-GN01H-ML2 / GN02H-ML2 (200 V, 100 to 200 W)



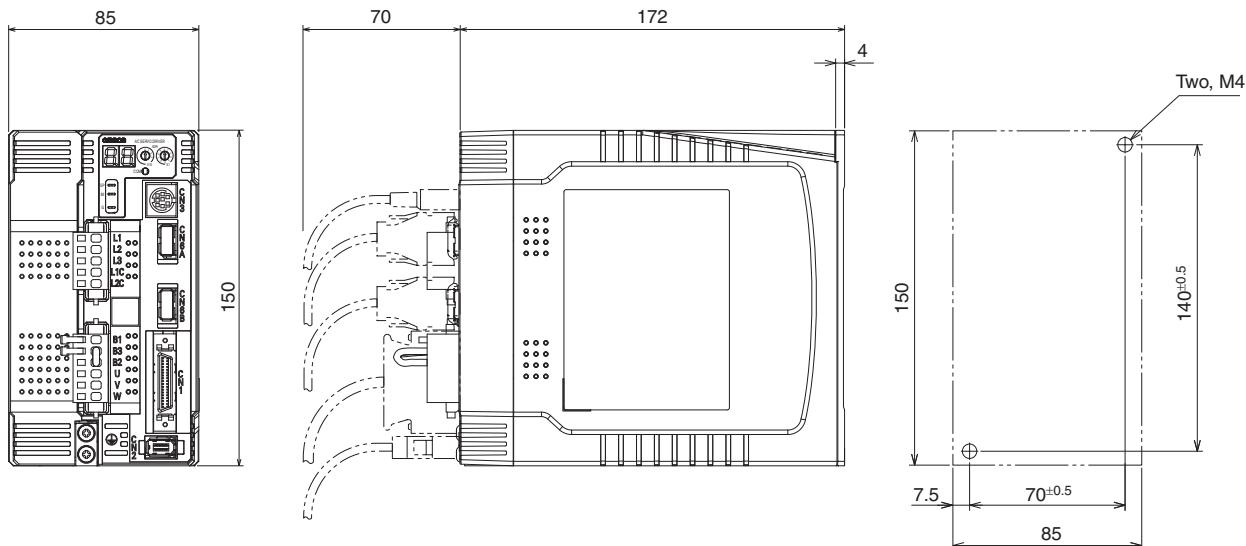
R88D-GN04H-ML2 (200 V, 400 W)



R88D-GN08H-ML2 (200 V, 750 W)



R88D-GN10H-ML2 / GN15H-ML2 (200 V, 1 kW to 1,5 kW)

**Servo motors type designation****Servo motor****R88M-GP10030H-BOS2**

G-Series Servomotor

Motor Type

Blank: Cylinder type

P: Flat type

Capacity

050	50 W
100	100 W
200	200 W
400	400 W
750	750 W
900	900 W
1K0	1 kW
1K5	1.5 kW

Rated Speed (r/min)

10	1000
20	2000
30	3000

Shaft end specifications

Blank	Straight shaft, no key
S2	Straight, key, tapped

Oil seal specifications

Blank	No oil seal
O	Oil seal

Brake specifications

Blank	No brake
B	Brake

Voltage and encoder specifications

H: 230 V with incremental encoder

T: 230 V with absolute encoder

Servo motor specifications

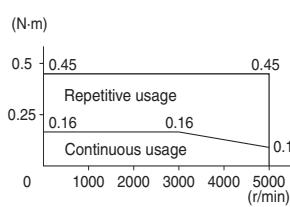
Cylindrical servo motors 3000/2000/1000 r/min

Ratings and specifications

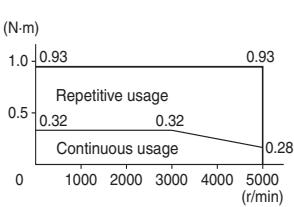
Applied voltage		230 V														
Servo motor model R88M-□		G05030	G10030	G20030	G40030	G75030	G1K030T	G1K530T	G1K020T	G1K520T	G90010T					
Rated output	W	50	100	200	400	750	1000	1500	1000	1500	900					
Rated torque	N·m	0.16	0.32	0.64	1.3	2.4	3.18	4.77	4.8	7.15	8.62					
Instantaneous peak torque	N·m	0.45	0.90	1.78	3.67	7.05	9.1	12.8	13.5	19.6	18.4					
Rated current	A (rms)	1.1	1.6	2.6	4	7.2	9.4	5.6	9.4	7.6						
Instantaneous max. current	A (rms)	3.4	4.9	7.9	12.1	21.4	28.5	17.1	28.5	17.1						
Rated speed	min ⁻¹				3000				2000		1000					
Max. speed	min ⁻¹			5000		4500		5000		3000	2000					
Torque constant	N·m/A (rms)	0.14	0.19	0.41	0.51	0.64	0.44	0.51	0.88	0.76	1.13					
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴	0.025	0.051	0.14	0.26	0.87	1.69	2.59	6.17		11.2					
Allowable load moment of inertia (JL)	Multiple of (JM)			30		20		15		10						
Rated power rate	kW/s	10.4	20.1	30.3	62.5	66	60	88	37.3	45.8	66.3					
Applicable Encoder		Incremental encoder (10000 pulses)					-									
		Incremental /Absolute encoder(17 bits)														
Allowable radial load	N	68	245	392			490			686						
Allowable thrust load	N	58	98	147				196								
Approx. mass	Kg (without brake)	0.3	0.5	0.8	1.2	2.3	4.5	5.1	6.8	8.5						
	Kg (with brake)	0.5	0.7	1.3	1.7	3.1	5.1	6.5	8.7	10.1	10					
Brake specifications	Rated voltage	24 VDC +/-5%				24 VDC +/-10%										
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴	0.002	0.018	0.075	0.25	0.33			1.35						
	Power consumption (at 20°C)	W	7	9	10	18	19	14	19							
	Current consumption (at 20°C)	A	0.3	0.36	0.42	0.74	0.81	0.59	0.79							
	Static friction torque	N·m (minimum)	0.29	1.27	2.45	4.9	7.8	4.9	13.7							
	Rise time for holding torque	ms (max.)	35	50	70	50	80		100							
	Release time	ms (max)	20	15	20	15	70		50							
Basic specifications	Rating	Continuous														
	Insulation grade	Type B				Type F										
	Ambient operating/ storage temperature	0 to +40°C/ -20 to 65°C				0 to +40°C/ -20 to 80°C										
	Ambient operating/ storage humidity	85% RH max. (non-condensing)														
	Vibration class	V-15														
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal														
	Enclosure	Totally-enclosed, self-cooling, IP65 (excluding shaft opening and lead wire ends)														
Vibration resistance		Vibration acceleration 49 m/s ²				Vibration acceleration 24.5 m/s ²										
Mounting		Flange-mounted														

Torque-speed characteristics

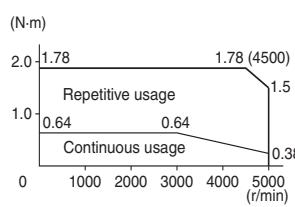
R88M-G05030H/T (50 W)



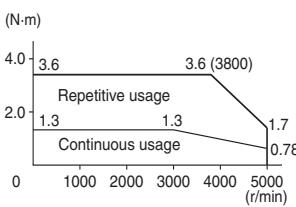
R88M-G10030H/T (100 W)



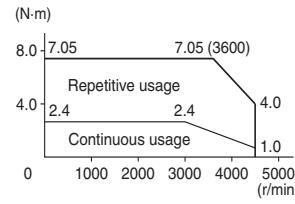
R88M-G20030H/T (200 W)



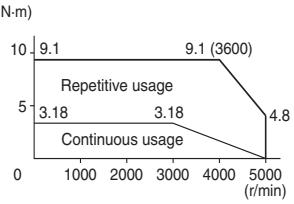
R88M-G40030H/T (400 W)



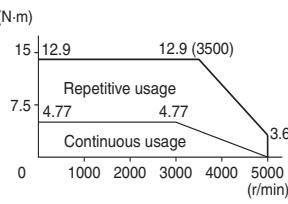
R88M-G75030H/T (750 W)



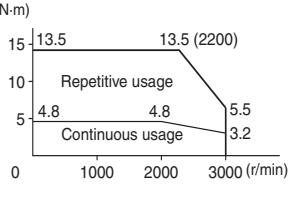
R88M-G1K030T (1 kW)



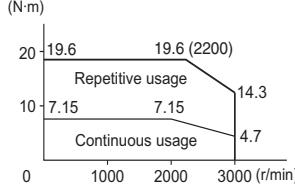
R88M-G1K530T (1.5 kW)



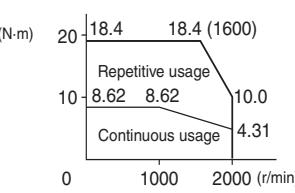
R88M-G1K020T (1 kW)



R88M-G1K520T (1.5 kW)



R88M-G90010T (900 W)



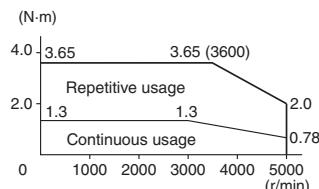
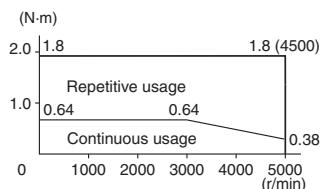
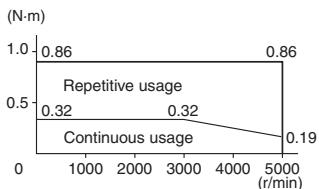
Flat servo motors 3000 r/min

Ratings and specifications

Applied voltage		230 V		
Servo motor model R88M-□		GP10030□	GP20030□	GP40030□
Rated output	W	100	200	400
Rated torque	N·m	0.32	0.64	1.3
Instantaneous peak torque	N·m	0.86	1.8	3.65
Rated current	A (rms)	1	1.6	2.5
Instantaneous max. current	A (rms)	3.1	4.9	7.5
Rated speed	min ⁻¹		3000	
Max. speed	min ⁻¹		5000	
Torque constant	N·m/A (rms)	0.34	0.42	0.54
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴	0.1	0.35	0.64
Allowable load moment of inertia (JL)	Multiple of (JM)		20	
Rated power rate	kW/s	10.2	11.5	25.5
Applicable encoder		Incremental (10000 pulses)		
		Incremental /Absolute encoder(17 bits)		
Allowable radial load	N	68	245	
Allowable thrust load	N	58	98	
Approx. mass	Kg (without brake)	0.7	1.3	1.8
	Kg (with brake)	0.9	2	2.5
Brake specifications	Rated voltage	24VDC +/-10%		
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴	0.03	0.09
	Power consumption (at 20°C)	W	7	10
	Current consumption (at 20°C)	A	0.29	0.41
	Static friction torque	N·m (minimum)	0.29	1.27
	Rise time for holding torque	ms (max.)	50	60
	Release time	ms (max)		15
Basic specifications	Rating	Continuous		
	Insulation grade	Type B		
	Ambient operating/ storage temperature	0 to +40 °C/ -20 to 80°C		
	Ambient operating/ storage humidity	85% RH max. (non-condensing)		
	Vibration class	V-15		
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal		
	Enclosure	Totally-enclosed, self-cooling, IP65 (excluding shaft opening and lead wire ends)		
	Vibration resistance	Vibration acceleration 49 m/s ²		
	Mounting	Flange-mounted		

Torque-speed characteristics

R88M-GP10030H/T (100 W) R88M-GP20030H/T (200 W) R88M-GP40030H/T (400 W)

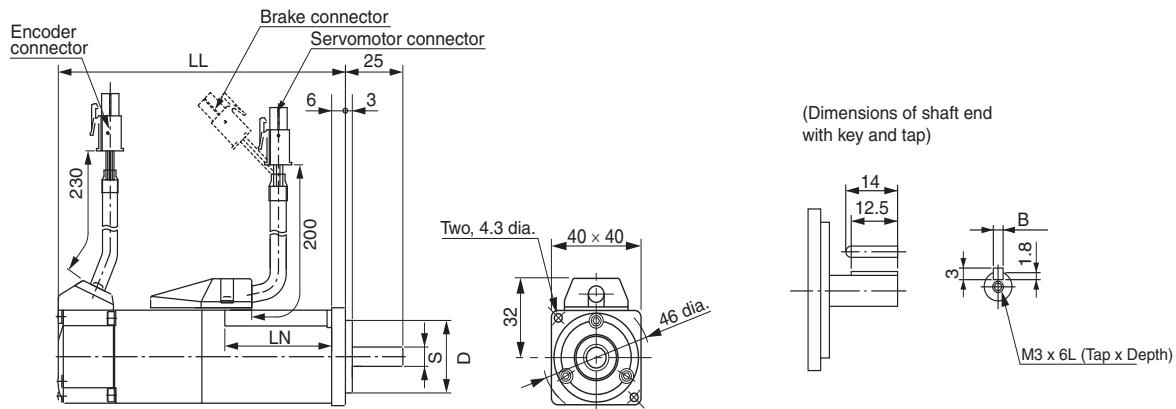


Dimensions

Servo motors

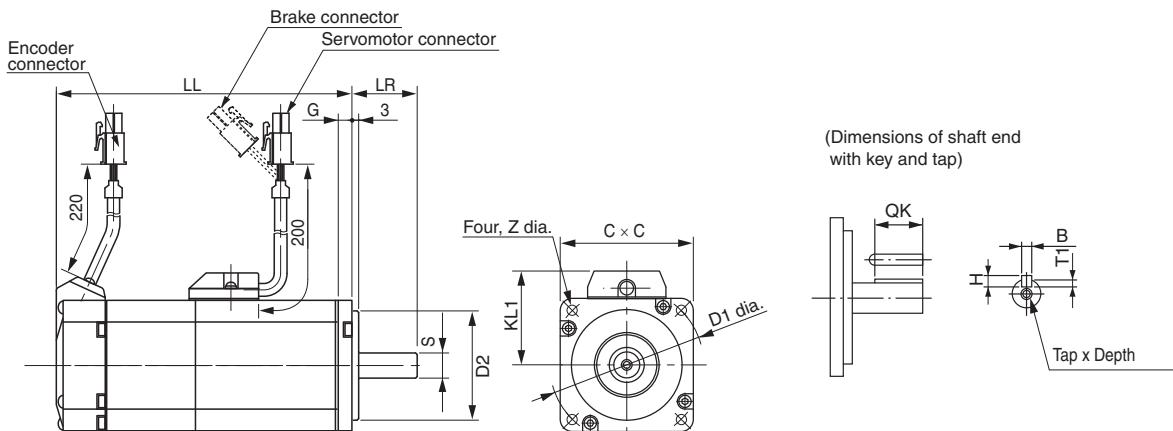
Cylindrical type 3000 r/min (230 V, 50-100 W)

Dimensions (mm)	Without brake	With brake	LN	Flange surface		Shaft end		Aprox. Mass (Kg)	
	LL	LL		D	S	B	Without brake	With brake	
R88M-G05030□-□S2	72	102	26.5		30 ^{h7}	8 ^{h6}	3 ^{h9}	0.3	0.5
R88M-G10030□-□S2	92	122	46.5					0.5	0.7



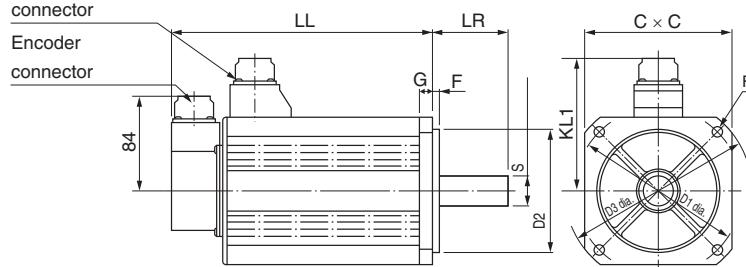
Cylindrical type 3000 r/min (230 V, 200-750 W)

Dimensions (mm)	Without brake	With brake	LR	KL1	Flange surface					Shaft end					Aprox. Mass (Kg)		
	LL	LL			D1	D2	C	G	Z	S	QK	B	H	T1	Tap x depth	Without brake	With brake
R88M-G20030□-□S2	79.5	116	30	43	70	50 ^{h7}	60	6.5	4.5	11 ^{h6}	18	4 ^{h9}	4	2.5	M4x8L	0.8	1.3
R88M-G40030□-□S2	99	135.5								14 ^{h6}	22.5	5 ^{h9}	5	3	M5x10L	1.2	1.7
R88M-G75030□-□S2	112.2	149.2	35	53	90	70 ^{h7}	80	8	6	19 ^{h6}	22	6 ^{h9}	6	3.5		2.3	3.1

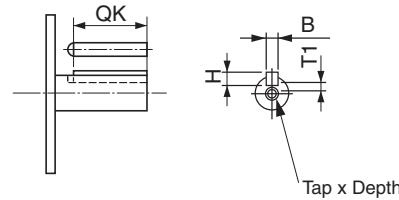


Cylindrical type 3000, 2000 and 1000 r/min (230 V, 900 kW - 1.5 kW)

Dimensions (mm)	Without brake		With brake		LR	KL1	Flange surface						Shaft end						Aprox. Mass (Kg)	
	LL	LL	LL	LL			D1	D2	D3	C	G	F	Z	S	QK	B	H	T1	Tap x depth	Without brake
R88M-G1K030T-□S2	175	200	55	98	100	80 ^{h7}	120	90	7	3	6.6	19 ^{h6}	42	6 ^{h9}	6	3.5	M5x12L	4.5	5.1	
R88M-G1K530T-□S2	180	205		103	115	95 ^{h7}	135	100	10				22 ^{h6}	41	8 ^{h9}	7	4	5.1	6.5	
R88M-G1K020T-□S2	150	175		118	145	110 ^{h7}	165	130	12	6							6.8	8.7		
R88M-G1K520T-□S2	175	200															8.5	10.1		
R88M-G90010T-□S2	175	200	70														10			

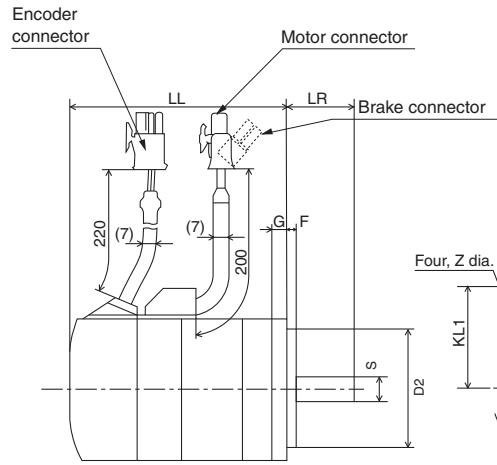
Servomotor/brake connector
Encoder connector

(Dimensions of shaft end with key and tap)

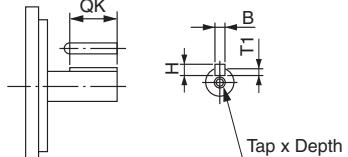


Flat type 3000 r/min (230 V, 100 W - 400 W)

Dimensions (mm)	Without brake		With brake		LR	KL1	Flange surface						Shaft end						Aprox. Mass (Kg)	
	LL	LL	LL	LL			D1	D2	C	F	G	Z	S	QK	B	H	T1	Tap x depth	Without brake	With brake
R88M-GP10030H-□S2	60.5	84.5	25	70	50 ^{h7}	60	3	7	4.5	8 ^{h6}	12.5	3 ^{h9}	3	1.8	M3x6L	0.7	0.9			
R88M-GP10030T-□S2	87.5	111.5		43																
R88M-GP20030H-□S2	67.5	100		30	90	70 ^{h7}	80	5	8	5.5	11 ^{h6}	18	4 ^{h9}	4	2.5	M4x8L	1.3	2		
R88M-GP20030T-□S2	94.5	127									14 ^{h6}	22.5	5 ^{h9}	5	3.0	M5x10L	1.8	2.5		
R88M-GP40030H-□S2	82.5	115																		
R88M-GP40030T-□S2	109.5	142																		

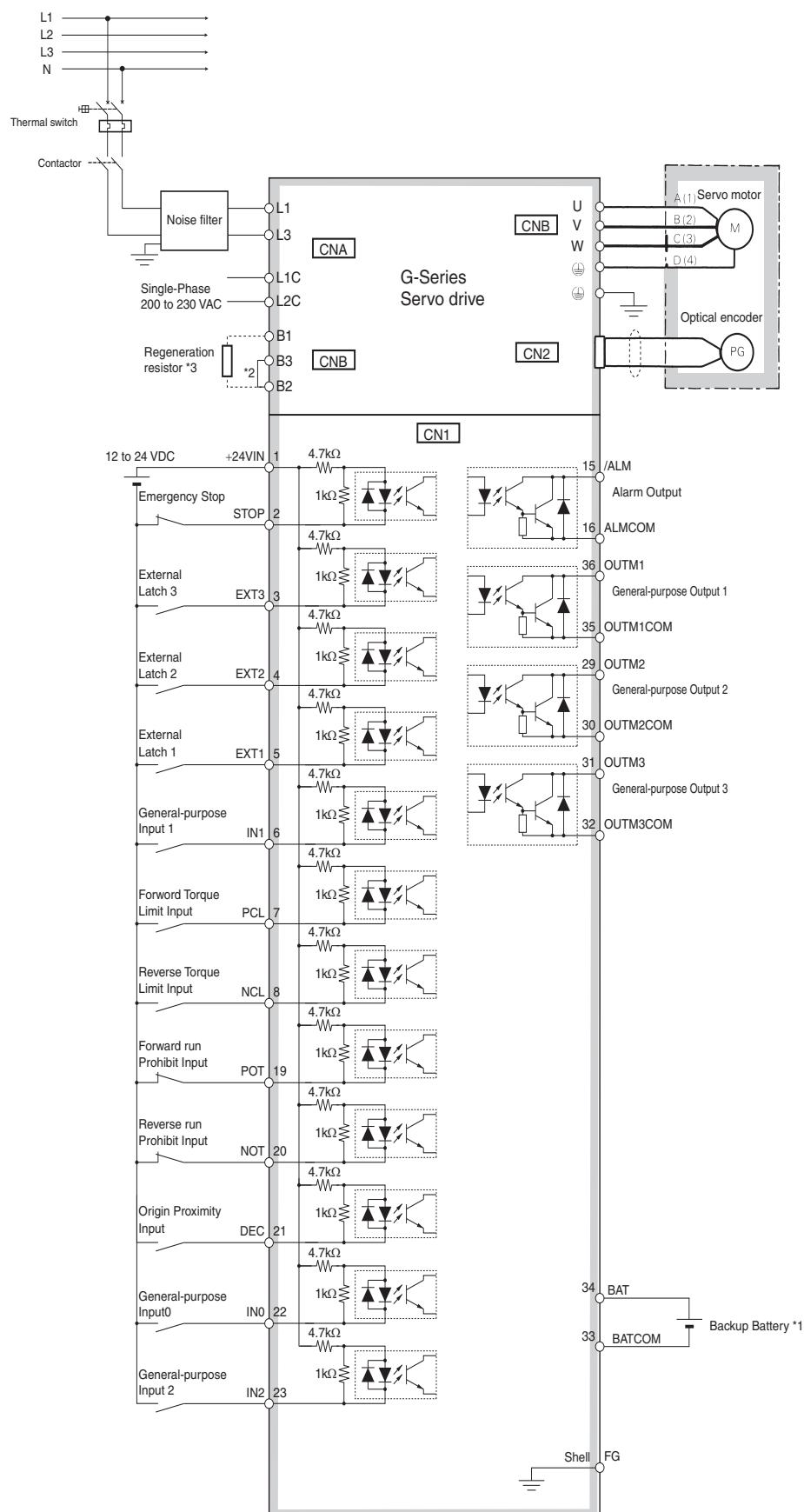


(Dimensions of shaft end with key and tap)



Installation

Single-phase, 230 VAC

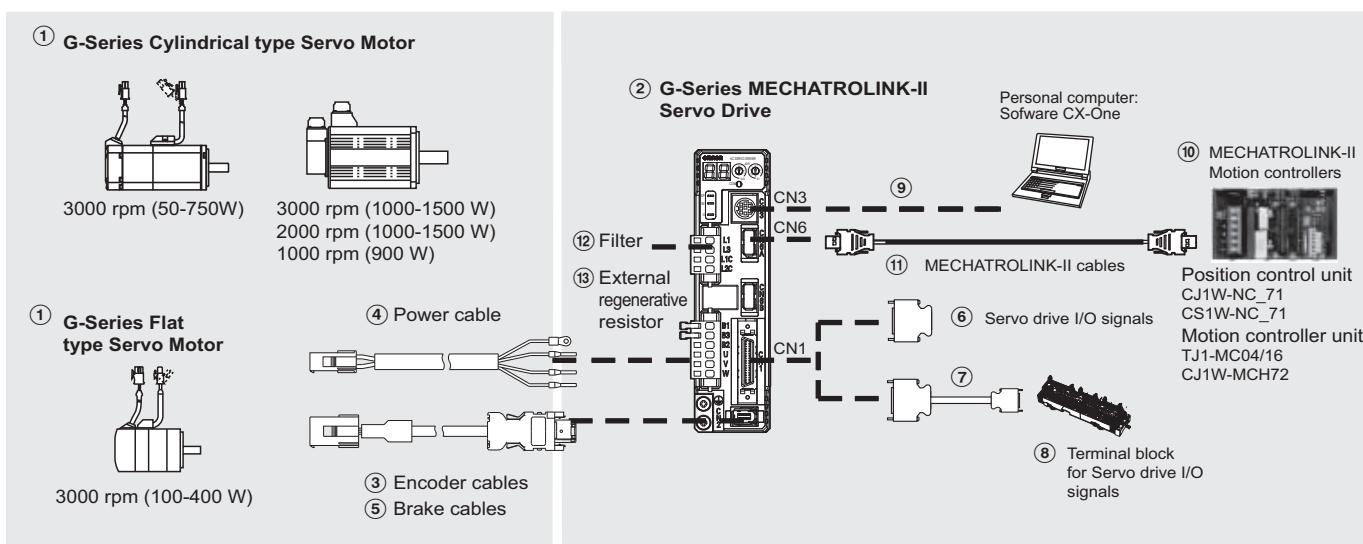


*1 Connect when using an absolute encoder. If a backup battery is connected, an encoder cable with a battery is not required.

*2 Connect B2-B3 for the models with a built-in regeneration resistor (models from 750 W).

*3 If the amount of regeneration is large, connect an external regeneration resistor to B1-B2. For the models from 750 W, disconnect B2-B3.

Ordering information



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

Servo drives

Symbol	Specifications	Servo drive model	① Compatible rotary servo motors	
②	1 phase 200 VAC	100 W 200 W 400 W 750 W 1.0 kW 1.5 kW	Cylindric type	Flat type
			R88M-G05030□	R88M-GP10030□
			R88M-G10030□	
			R88M-G20030□	R88M-GP20030□
			R88M-G40030□	R88M-GP40030□
			R88M-G75030□	-
			R88M-G1K20T□	-
			R88M-G90010T□	-
			R88M-G1K030T□	-
			R88M-G1K520T□	-
			R88M-G1K530T□	-

Control cables (for CN1)

Symbol	Name	Connect to	Model
⑥	I/O connector kit	Servo drive I/O signals	R88A-CNU01C
⑦	Terminal block cable		XW2Z-100J-B33
			XW2Z-200J-B33
⑧	Terminal block		XW2B-20G4
			XW2B-20G5
			XW2D-20G6

Computer cable (for CN3)

Symbol	Name	Model
⑨	Computer cable RS232	2 m

MECHATROLINK-II Motion controllers

Symbol	Name	Model
⑩	Trajexia stand-alone motion controller	TJ1-MC04 (4 axes) TJ1-MC16 (16 axes)
	Trajexia-PLC motion controller	CJ1W-MCH72
	Position Controller Unit for CJ1 PLC	CJ1W-NCF71 (16 axes) CJ1W-NC471 (4 axes) CJ1W-NC271 (2 axes)
	Position Controller Unit for CS1 PLC	CS1W-NCF71 (16 axes) CS1W-NC471 (4 axes) CS1W-NC271 (2 axes)

Computer software

Specifications	Model
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.70 or higher)	CX-drive
Complete OMRON software package including CX-drive. (CX-One version 3.10 or higher)	CX-One

MECHATROLINK-II cables (for CN6)

Symbol	Specifications	Length	Model
⑪	MECHATROLINK-II Terminator resistor	-	JEPMC-W6022-E
	MECHATROLINK-II cables	0.5 m	JEPMC-W6003-A5-E
		1 m	JEPMC-W6003-01-E
		3 m	JEPMC-W6003-03-E
		5 m	JEPMC-W6003-05-E
		10 m	JEPMC-W6003-10-E
		20 m	JEPMC-W6003-20-E
		30 m	JEPMC-W6003-30-E

Footprint filters

Symbol	Applicable servodrive	Filter model	Rated current	Leakage current	Rated voltage
⑫	R88D-GN01H□	R88A-FIK102-RE	2.4 A	3.5 mA	250 VAC single-phase
	R88D-GN02H□				
	R88D-GN04H□	R88A-FIK104-RE	4.1 A	3.5 mA	
	R88D-GN08H□	R88A-FIK107-RE	6.6 A	3.5 mA	
	R88D-GN10H□	R88A-FIK114-RE	14.2 A	3.5 mA	
	R88D-GN15H□				

External regenerative resistor

Symbol	Regenerative resistor unit model	Specifications
⑬	R88A-RR08050S	50 Ω, 80 W
	R88A-RR080100S	100 Ω, 80 W
	R88A-RR22047S	47 Ω, 220 W
	R88A-RR50020S	20 Ω, 500 W

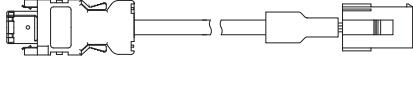
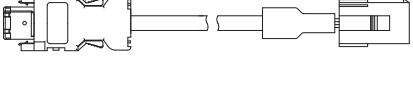
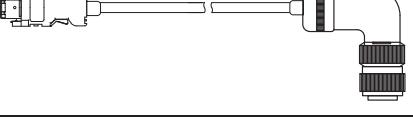
Cylindrical servo motors 3000/2000/1000 r/min (50 - 1.5 kW)

Symbol	Specifications						Servo motor model	Compatible servo drives (2)	
	Voltage	Encoder and design	Speed	Design	Rated torque	Capacity			
①  (50-750 W)	230 V	Incremental encoder (10000 pulses) Straight shaft with key & tap	3000 min ⁻¹	Without brake	0.16 Nm	50 W	R88M-G05030H-S2	R88D-GN01H-ML2	
					0.32 Nm	100 W	R88M-G10030H-S2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-G20030H-S2	R88D-GN02H-ML2	
					1.3 Nm	400 W	R88M-G40030H-S2	R88D-GN04H-ML2	
					2.4 Nm	750 W	R88M-G75030H-S2	R88D-GN08H-ML2	
					0.16 Nm	50 W	R88M-G05030H-BS2	R88D-GN01H-ML2	
	230 V	Absolute/ incremental encoder (17 bits) Straight shaft with key & tap		With brake	0.16 Nm	50 W	R88M-G10030H-BS2	R88D-GN01H-ML2	
					0.32 Nm	100 W	R88M-G20030H-BS2	R88D-GN02H-ML2	
					0.64 Nm	200 W	R88M-G40030H-BS2	R88D-GN04H-ML2	
					1.3 Nm	400 W	R88M-G75030T-S2	R88D-GN08H-ML2	
					2.4 Nm	750 W	R88M-G75030T-BS2	R88D-GN08H-ML2	
					3.18 Nm	1 kW	R88M-G1K030T-S2	R88D-GN15H-ML2	
	2000 min ⁻¹	Without brake		Without brake	0.16 Nm	50 W	R88M-G05030T-S2	R88D-GN01H-ML2	
					0.32 Nm	100 W	R88M-G10030T-S2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-G20030T-S2	R88D-GN02H-ML2	
		With brake		With brake	1.3 Nm	400 W	R88M-G40030T-S2	R88D-GN04H-ML2	
					2.4 Nm	750 W	R88M-G75030T-BS2	R88D-GN08H-ML2	
					3.18 Nm	1 kW	R88M-G1K030T-BS2	R88D-GN15H-ML2	
	1000 min ⁻¹	Without brake		Without brake	4.77 Nm	1.5 kW	R88M-G1K530T-S2	R88D-GN15H-ML2	
					8.62 Nm	900 W	R88M-G90010T-S2	R88D-GN15H-ML2	
					8.62 Nm	900 W	R88M-G90010T-BS2	R88D-GN15H-ML2	

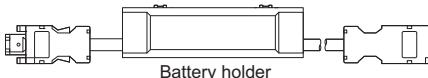
Flat type servo motors 3000 r/min (100 - 400 W)

Symbol	Specifications						Servo motor model	Compatible servo drives (2)	
	Voltage	Encoder and design	Speed	Design	Rated torque	Capacity			
①  (900-1500 W)	230 V	Incremental encoder (10000 pulses) Straight shaft with key & tap	3000 min ⁻¹	Without brake	0.32 Nm	100 W	R88M-GP10030H-S2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-GP20030H-S2	R88D-GN02H-ML2	
					1.3 Nm	400 W	R88M-GP40030H-S2	R88D-GN04H-ML2	
		Absolute/ incremental encoder (17 bits) Straight shaft with key & tap		With brake	0.32 Nm	100 W	R88M-GP10030H-BS2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-GP20030H-BS2	R88D-GN02H-ML2	
					1.3 Nm	400 W	R88M-GP40030H-BS2	R88D-GN04H-ML2	
	2000 min ⁻¹	Without brake		Without brake	0.32 Nm	100 W	R88M-GP10030T-S2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-GP20030T-S2	R88D-GN02H-ML2	
					1.3 Nm	400 W	R88M-GP40030T-S2	R88D-GN04H-ML2	
		With brake		With brake	0.32 Nm	100 W	R88M-GP10030T-BS2	R88D-GN01H-ML2	
					0.64 Nm	200 W	R88M-GP20030T-BS2	R88D-GN02H-ML2	
					1.3 Nm	400 W	R88M-GP40030T-BS2	R88D-GN04H-ML2	

Encoder Cables

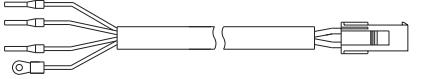
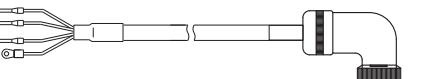
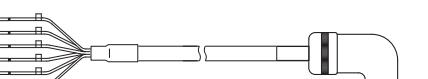
Symbol	Specifications	Model	Appearance
③ 	Encoder cable for absolute encoder (50-750 W) R88M-G(050/100/200/400/750)30T-□ R88M-GP(100/200/400)30T-□	1.5 m R88A-CRGA001-5CR-E	
		3 m R88A-CRGA003CR-E	
		5 m R88A-CRGA005CR-E	
		10 m R88A-CRGA010CR-E	
		15 m R88A-CRGA015CR-E	
		20 m R88A-CRGA020CR-E	
	Encoder cable for Incremental encoder (50-750 W) R88M-G(050/100/200/400/750)30H-□ R88M-GP(100/200/400)30H-□	1.5 m R88A-CRGB001-5CR-E	
		3 m R88A-CRGB003CR-E	
		5 m R88A-CRGB005CR-E	
		10 m R88A-CRGB010CR-E	
		15 m R88A-CRGB015CR-E	
		20 m R88A-CRGB020CR-E	
	Encoder cable for Absolute encoder (900-1500 W) R88M-G(1K0/1K5)30T-□ R88M-G(1K0/1K5)20T-□ R88M-G90010T-□	1.5 m R88A-CRGCO01-5NR-E	
		3 m R88A-CRGCO03NR-E	
		5 m R88A-CRGCO05NR-E	
		10 m R88A-CRGCO10NR-E	
		15 m R88A-CRGCO15NR-E	
		20 m R88A-CRGCO20NR-E	

Absolute Encoder Battery cable

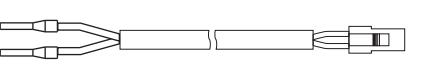
Symbol	Specifications		Model	Appearance
(3)	Absolute Encoder battery cable One R88A-BAT01G Battery included	Battery not included	R88A-CRGD0R3C	
		0.3 m	R88A-CRGD0R3C-BS	
	Absolute Encoder backup battery 2,000 mA.h 3.6V	-	R88A-BAT01G	

Note: The absolute encoder battery cable is only an extension and must be used with an absolute encoder cable.

Power cables

Symbol	Specifications		Model	Appearance
(4)	For servomotors from 50 to 750W R88M-G(050/100/200/400/750)30□ R88M-GP(100/200/400)30□ For servomotors with brake, a separate cable (R88A-CAGA□BR-E) is needed	1.5 m	R88A-CAGA001-5SR-E	
		3 m	R88A-CAGA003SR-E	
		5 m	R88A-CAGA005SR-E	
		10 m	R88A-CAGA010SR-E	
		15 m	R88A-CAGA015SR-E	
		20 m	R88A-CAGA020SR-E	
	For servomotors from 900 to 1.5 kW without brake R88M-G(1K0/1K5)30T-S2 R88M-G(1K0/1K5)20T-S2 R88M-G90010T-S2	1.5 m	R88A-CAGB001-5SR-E	
		3 m	R88A-CAGB003SR-E	
		5 m	R88A-CAGB005SR-E	
		10 m	R88A-CAGB010SR-E	
		15 m	R88A-CAGB015SR-E	
		20 m	R88A-CAGB020SR-E	
	For servomotors from 900 to 1.5 kW with brake R88M-G(1K0/1K5)30T-BS2 R88M-G(1K0/1K5)20T-BS2 R88M-G90010T-BS2	1.5 m	R88A-CAGB001-5BR-E	
		3 m	R88A-CAGB003BR-E	
		5 m	R88A-CAGB005BR-E	
		10 m	R88A-CAGB010BR-E	
		15 m	R88A-CAGB015BR-E	
		20 m	R88A-CAGB020BR-E	

Brake cable (for 50-750W servomotors)

Symbol	Specifications		Model	Appearance
(5)	Brake cable only. For servomotors from 50 to 750W with brake R88M-G(050/100/200/400/750)30□-BS2, R88M-GP(100/200/400)30□-BS2	1.5 m	R88A-CAGA001-5BR-E	
		3 m	R88A-CAGA003BR-E	
		5 m	R88A-CAGA005BR-E	
		10 m	R88A-CAGA010BR-E	
		15 m	R88A-CAGA015BR-E	
		20 m	R88A-CAGA020BR-E	

Connectors for power, encoder and brake cables

Specifications		Applicable Servomotor	Model
Connectors for power cables	Motor side	R88M-G(050/100/200/400/750)30□, R88M-GP(100/200/400)30□	R88A-CNG01A
	Motor side	R88M-G(1K0/1K5)30□-S2, R88M-G(1K0/1K5)20□-S2, R88M-G90010□-S2 (without brake)	MS3108E20-4S
	Motor side	R88M-G(1K0/1K5)30□-BS2, R88M-G(1K0/1K5)20□-BS2, R88M-G90010□-BS2 (with brake)	MS3108E20-18S
Connectors for encoder cables	Drive side (CN2)	-	R88A-CN01R
	Motor side	R88M-G(050/100/200/400/750)30T-□, R88M-GP(100/200/400)30T-□ (Absolute encoder)	R88A-CNG01R
	Motor side	R88M-G(050/100/200/400/750)30H-□, R88M-GP(100/200/400)30H-□ (Incremental encoder)	R88A-CNG02R
	Motor side	R88M-G(1K0/1K5)30T-□, R88M-G(1K0/1K5)20T-□, R88M-G90010T-□	MS3108E20-29S
Connector for brake cable	Motor side	R88M-G(050/100/200/400/750)30□-BS2, R88M-GP(100/200/400)30□-BS2	R88A-CNG01B

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.



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