Fuji Electric

Innovating Energy Technology

FUJI SERVO SYSTEM

FALDIC-α Series

24C1-E-0116a

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Servo system for evolving machines

FALDIC α

FUJI SERVO SYSTEM

To accommodate a wide range of needs, our new, original vibration suppressing control function and notch filter have been incorporated in the more refined FALDIC-α series, the servo system for evolving machines. The series, which cover the capacity range of 0.05kW to 15kW, are equipped with high-precision functions that would contribute to the betterment of performance of a variety of machines. They facilitate building optimal systems that meet your needs. The FALDIC-α will establish a new standard for servo systems and add much more values to your shop floor.

Line of Products of FALDIC-α Series

Servo Amplifier

Model	Type	Host interface	Power supply	Capacity	Applicable motor series
FALDIC-α 	V type Position, speed and torque control	DI/DO	Single-phase 100 to115V	0.05 to 0.375kW	GYS
			3-phase 200 to 230V	0.05 to 5.0kW	GYS GYC GYA
		SX bus	3-phase 200 to 230V	0.05 to 5.0kW	
	L type Built-in linear positioning function	DI/DO SX bus T-link RS-485	3-phase 200 to 230V	0.05 to 5.0kW	GYS GYC
	R type Built-in rotation indexing function	DI/DO SX bus T-link	3-phase 200 to 230V	0.05 to 5.0kW	GYS GYC
Medium capacity FALDIC-α  *1)	V type Position, speed and torque control	DI/DO SX bus	3-phase 200 to 230V	2.9 to 15kW	GYM
	L type Built-in linear positioning function	DI/DO SX bus	3-phase 200 to 230V	2.9 to 15kW	GYM

Servomotor

Model	Type	Rated speed (max. speed)	Power supply	Capacity	Encoder
GYS motor 	Slim type	3000r/min (5000r/min)	Single-phase 100V class	0.05 to 0.375kW	16-bit ABS/INC 16-bit INC
		3000r/min (5000r/min)	3-phase 200V class	0.05 to 5.0kW	16-bit ABS/INC 16-bit INC
GYC motor 	Cubic type	3000r/min (5000r/min)	3-phase 200V class	0.1 to 2.0kW	16-bit ABS/INC 16-bit INC
GYA motor 	Low base type	1500r/min (2500r/min)	3-phase 200V class	0.5 to 2.5kW	16-bit ABS/INC
GYM motor  *1)	Medium capacity type	1500r/min (7.5kW or less: 3000r/min 11kW or more: 2000r/min)	3-phase 200V class	2.9 to 15kW	16-bit ABS

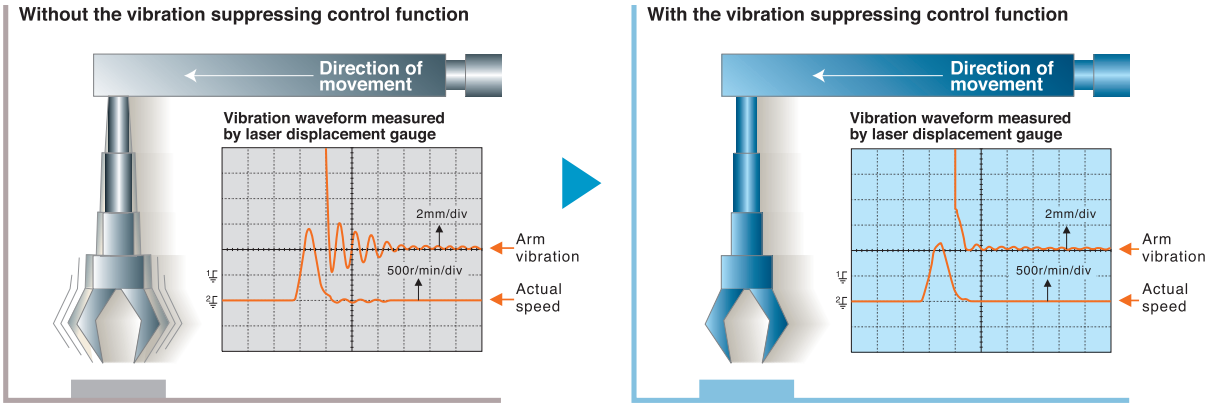
*1) for sale in Japan only

Suppresses mechanical vibrations to the maximum extent.

■Equipped with a “Vibration Suppressing Control Function” which is an effective countermeasure for suppressing vibration of the tips of robot arms, etc.

Fuji’s original vibration control function

In high tact operation of mechanisms with low rigidity, such as the tips of robot arms, suppression of arm tip vibration is a major factor in shortening tact time. In the FALDIC-α series, Fuji's original "Vibration Suppressing Control Function" is standard equipment. It reduces vibration in machines with low rigidity and realizes high machine tact.



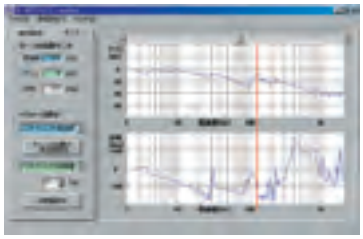
■Equipped with a notch filter and servo analysis function.

Notch Filter

This function is for the purpose of reducing machine resonance. By setting the data on the resonance point, which differs in each machine, as a parameter in the servo amplifier, the machine resonance occurring in that point can be reduced.

Servo Analysis Function (Option)

In order to utilize the "Vibration Suppressing Control Function" and "Notch Filter," etc. effectively, it is necessary to analyze the "resonance frequencies" that are inherent in each machine. When the "Servo Analysis Function" installed in the personal computer loader (option) is used, data of the machine system can be obtained easily by operating the servo motor. This eliminates the need for complicated calculations and adjustments that rely on experience and intuition.



(Data acquisition example. The notch filter setup values and vibration suppressing control setup values can be easily determined.)

Designed for high performance and high precision.

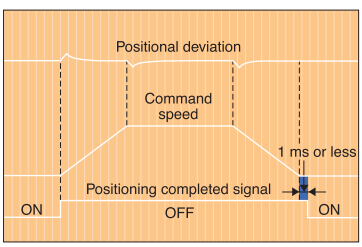
■Command following servo (positional deviation ≈ zero)

Positioning settling time is 1 ms or less.

The newly developed advanced model control function compensates for a servo delay. It achieves operation with zero positional deviation even during acceleration and deceleration.

■Frequency response 600Hz

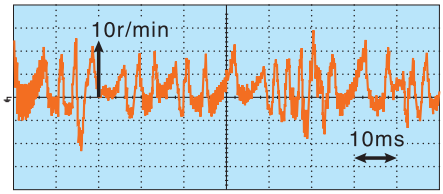
Frequency response 600Hz has been achieved. As a high-performance servo system, high-tact operation and high-frequency acceleration/deceleration can be realized.



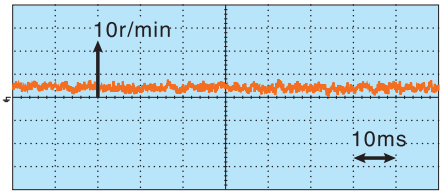
Stable rotation at a low speed

■ New built-in 65536P/R high-resolution encoder

By achieving high resolution, the series reduce motor instability and realize smooth machine operations.



Conventional encoder (8192P/R)

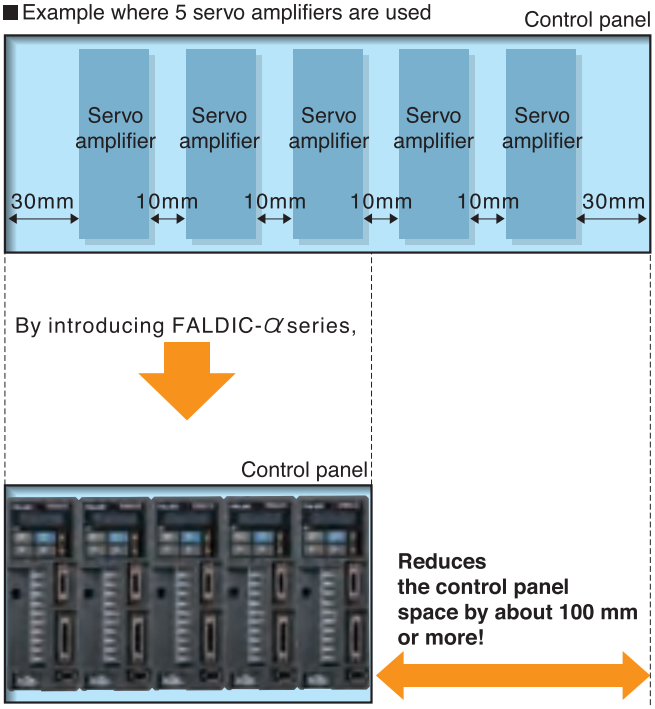


16-bit encoder (65536P/R)

Without spaces between servo amplifiers, you can save the space for the control panel.

Conventionally, spaces were required between servo amplifiers to counteract the heat generated by them. The FALDIC-αseries allow closely fitted installation, which reduces the space required for the installation on the control panel.

■ Example where 5 servo amplifiers are used



*80% ED rating applies to installation without spaces. There are no limitations if there are spaces of 5mm or more between the servo amplifiers.

Supporting overseas standards

The standard FALDIC-α specifications are compliant with the "CE Marking" and "UL/cUL", which makes them global servo amplifiers.

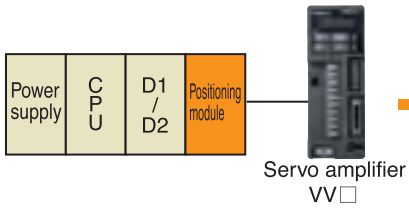
CE

c UL US LISTED

Positioning control function built-in types

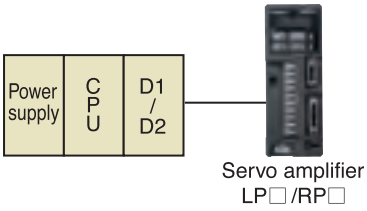
The L type and R type, the servo amplifiers with the built-in positioning control are available. You can configure the system without positioning modules.

<System configuration example of the VV□type >



Positioning modules are not required.

<System configuration example of the LP□/RP□ types>

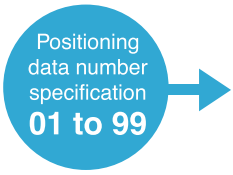


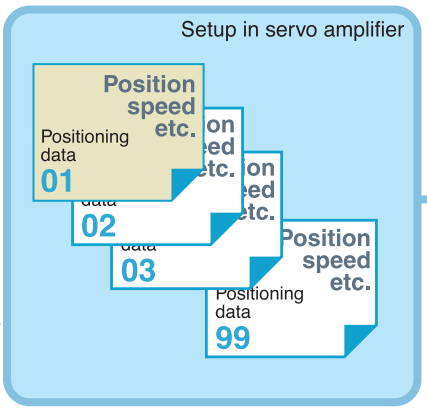
■RYS-L type (Linear motion) The linear positioning control built-in type

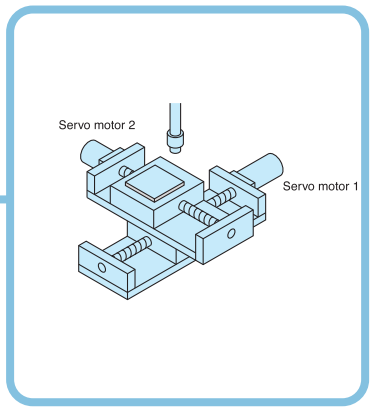
Maximum command value: ±79,999,999

The servo amplifier holds positioning data that covers 99 points. By specifying positioning data numbers from the host interface, the servo amplifier operates according to the specified positioning data.

Positioning data setup screen





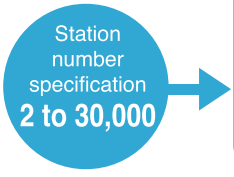


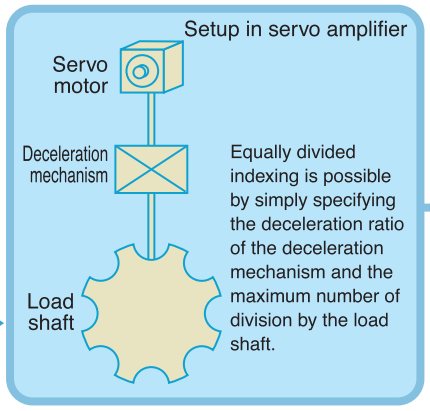
■RYS-R type (Rotation) The rotation indexing function built-in type

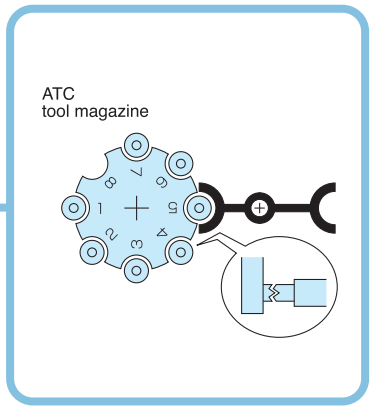
Maximum division count: 30,000

It can divide one rotation (360°) into up to 30,000 areas (0.012° per area). All you need to do is specify the station number (stop position) from the host interface to stop the amplifier at the position.

Parameter setup screen





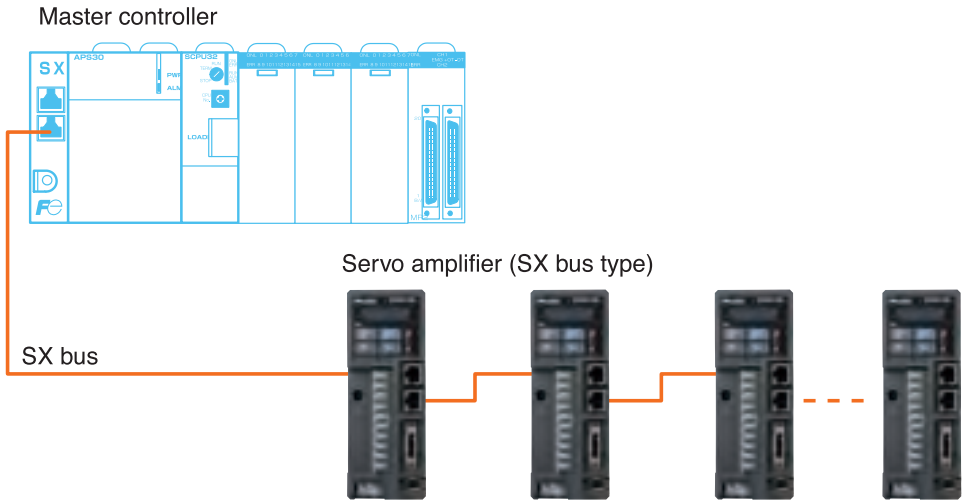


Realizing optimal system configuration flexibly and easily

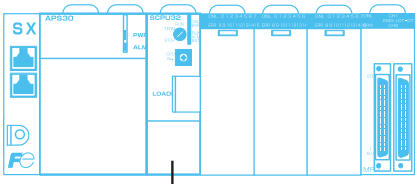
■Master controller and servo amplifiers are directly connected via bus.

Servo control that uses the MICREX-SX system is directly connected to the SX bus, so it does not require a positioning module.

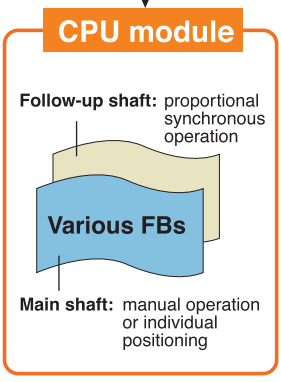
System configuration example



■Various software applications best suited for motion control (FB or Function Block) are available.



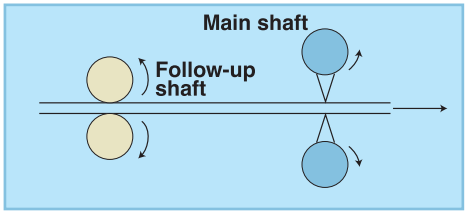
Servo control with the MICREX-SX system supports various FB operations such as PTP operations, interpolating operations and advanced synchronous operations.



A wide range of FBs are available best suited for motion control you need.

The interface with FBs is very simple. You can readily create your own applications.

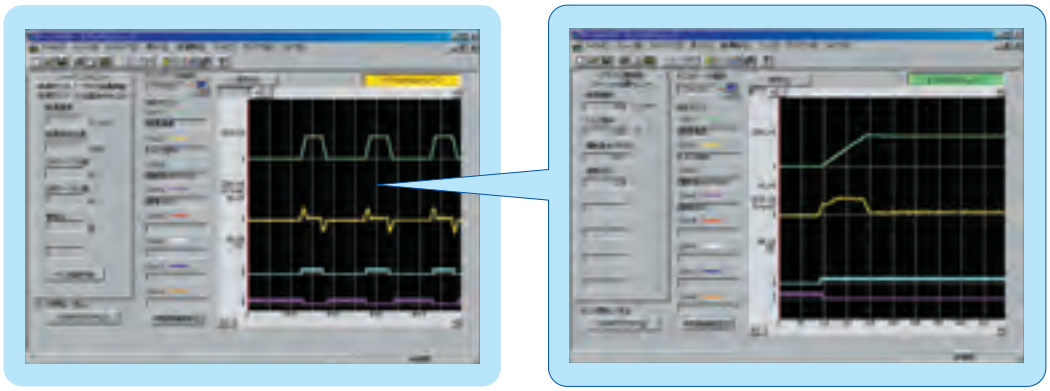
Customer machine <rotary shear, for example>



Easy operations and setting

■PC Loader

(1)Easy trace ……You can display speed and torque waveforms graphically.



Real-time trace
Continuously captures waveforms.

Historical trace
Captures detailed waveforms in a shorter timeframe than the real-time trace.

(2)Easy setting…… Allows you to edit the parameters.
(3)Easy maintenance…… Allows you to monitor the input/output, alarm history and system configuration.
(4)Easy test run…… Does not require connection with the host interface for various test runs.

*Please use PC Loader (Version 2.6 or later) for the medium capacity FALDIC-α series or the VVX type.

■Keypad

You can operate the machine from the keypad of the servo amplifier as if you are using PC Loader. *

*It only shows the monitor display, not the trace display.

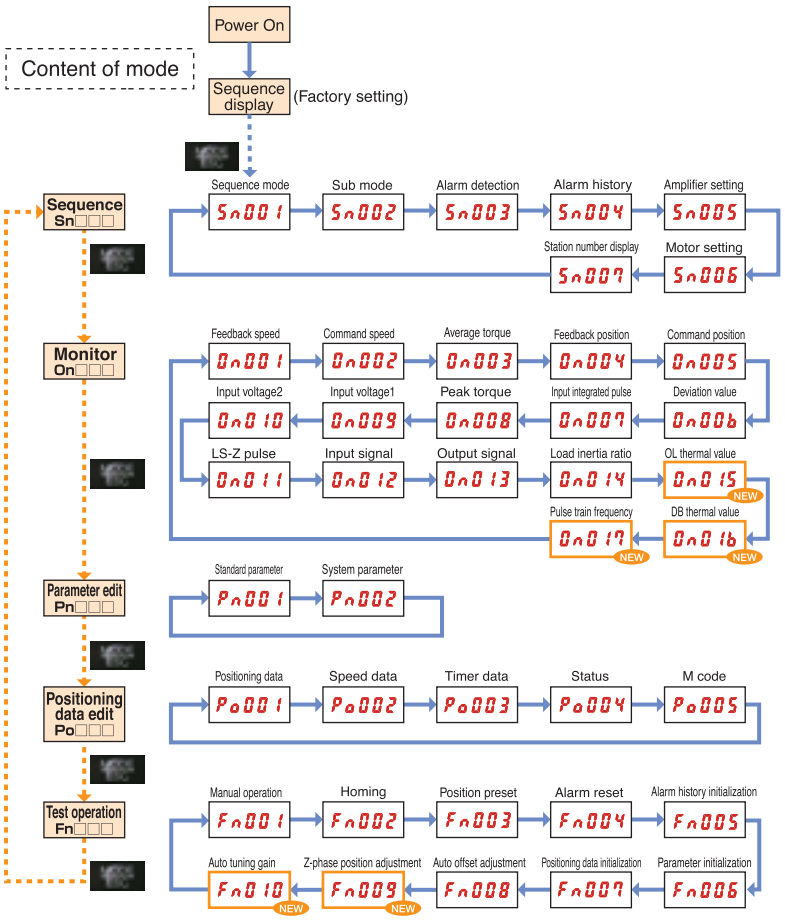
Mode switch
・Switches modes.(MODE)
・Exits from the mode.(ESC)

Settlement of mode and value
・Shifts the specified digit to the right.(SHIFT)
・Determines the mode or the value.(ENT)

Sub-mode selection (UP)
・Increment (+1) of value

Sub-mode selection (DOWN)
・Decrement (-1) of value

*The NEW functions are available with the VVX type only.



Explanation of Model Codes

Servo amplifier

RYS 201 S 3 – V V S

Code	[Applicable motor output]
500	50×10⁰=0.05kW
201	20×10¹=0.2kW

Code	[Series]
S	Standard
A	Low base
M	Medium capacity FALDIC-α

Code	[Order of development]
3	3
6	6

Code	[Major functions]
V	Position, speed and torque control
L	Built-in linear positioning function
R	Built-in rotation indexing function

Code	[Input voltage]
Blank	3-phase 200V
6	Single phase 100V

Code	[Encoder, others]
X	16-bit ABS/INC, VVX type
S	16-bit ABS/INC, standard
G	16-bit ABS/INC, gateway supported
K	16-bit ABS/INC [coupling], control function supported

* Code K applies to only medium capacity type α

Code	[Upper interface]
V	DI/DO (speed)
P	DI/DO (position)
S	SX bus
T	T-link
R	RS-485

Servomotor (GYS,GYC,GYA)

GYS 201 D C 1 – S 6 A – B

Code	[Basic type]
GYS	Slim type
GYC	Cubic type
GYA	Low base type

Code	[Rated output]
500	50×10⁰=0.05kW
201	20×10¹=0.2kW

Code	[Rated speed]
D	3000r/min
B	1500r/min

Code	[Installation method]
C	By securing flange

Code	[Order of development]
1	1

Code	[Encoder]
S	16-bit ABS/INC
C	16-bit INC

Code	[Input voltage]
Blank	200V
6	100V
8	Common to 100V and 200V

Code	[Oil seal/shaft]	Applicable motor		
		Single phase 100V	3-phase 200V	
		0.05 to 0.375kW	0.05 to 0.1kW	0.2kW or above
A	Without an oil seal, straight shaft with a key	○	○	◎
B	Without an oil seal, straight shaft without a key	◎	◎	○

◎:Standard item ○:Optional item

Code	[Brake]
Blank	Not provided
B	Provided

Servomotor (GYM)

GYM 292 B C 6 – K C B

Code	[Basic type]
GYM	Medium capacity type

Code	[Rated output]
292	29×10²=2.9kW
113	11×10³=11kW

Code	[Rated speed]
B	1500r/min

Code	[Installation method]
C	By securing flange

Code	[Order of development]
1	1
6	6

Code	[Encoder]
K	16-bit INC [coupling]
A	16-bit ABS [coupling] (Option)

Code	[Brake]
Blank	Not provided (standard)
B	Provided (Option)

Code	[Oil seal/shaft]
B	Without an oil seal,straight shaft without a key (Option)
C	Without an oil seal,straight shaft with a key, tapped (standard)

Specifications of Servo Amplifier

Basic specifications

Applicable motor rated speed			3000r/min				3000r/min										1500r/min (low base)			1500r/min (medium capacity type α)					
Applicable motor output [kW]			0.05	0.1	0.2	0.375	0.05	0.1	0.2	0.4	0.75	1.0	1.5	2.0	3.0	4.0	5.0	0.5	1.5	2.5	2.9	4.0	5.5	7.5	11	15
Amplifier type *1	RYS***S3-△△△□		500	101	201	371	500	101	201	401	751	102	152	202	302	402	502	—	—	—	—	—	—	—	—	—
	RYS***A3-VVX or VVS		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	501	152	252	—	—	—	—	—	—
	RYS***M6-△△△		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	292	402	552	752	113	153
Mass [kg]			0.9		1.2	1.5	0.9			1.2	1.5	2.0		4.6	4.7	5.2		1.5	2.0	4.7	5.2		8.5		25	
Input	Phase		Single-phase				3-phase (Single-phase input allowed for 200W or less only)																			
	Voltage		AC100 to 115V, -15 to +10%				200 to 230V, -15 to +10%														200 to 230V*2, -15 to +10%					
	Frequency		50/60Hz																							
	Control input voltage		Single-phase:100 to 115V AC, -15 to +10%				Single-phase:200 to 230V AC, -15 to +10%																			
Output	Control method		IGBT sinusoidal PWM drive																							
	Overload resistance	3[s]	300%															300%			242%	250%				236%
		1.5[s] *3	—				450%							—				—			—					
	Control method		Regenerative braking for DC link circuit																							
Feedback			16-bit serial encoder (ABS/INC)																							
Capability and function	Max speed		5000r/min															2500r/min			3000r/min				2000r/min	
	Speed control range *4		1:5000																		1:3000					
	Frequency response *5		600Hz											300Hz												
	Speed fluctuation ratio		Within ±1[r/min] :load fluctuation (0 to 100%), power fluctuation (-10% to +10%) Within ±0.2% :temperature fluctuation (25°C±10°C at rated rotation speed and analog input operation)																							
	Resolution		2^{16} (=65536)/1 rotation																							
	V type control function	Common	Speed control	Manual operation (analog voltage, multi-stage 7-speed)																						
			Position control	Manual operation (analog voltage, multi-stage 7-speed, interrupt positioning), pulse train (pulse train magnification 1, pulse train magnification 2)																						
			Torque control	Manual operation (analog voltage)																						
			Position management	INC/ABS selectable. When ABS is selected, a battery is mounted on the amplifier. INC: Current position lost when power is turned off. No rotation limitation ABS: Current position restored upon power recovery. Rotation limitation provided (rotation range:±32767 rotations)																						
		VVS/VSS/VVK/VSK unique function	Home setup	Home position LS and Z phase, position presetting, homing (4 patterns)																						
			Accessory functions	Override, brake timing, speed command auxiliary input, etc.																						
	L type control function		Position control	Automatic start (address designation, sequential start, immediate start), manual operation (analog voltage, multi-stage 7-speed, interrupt positioning), pulse train (pulse train magnification 1, pulse train magnification 2), homing (4 patterns)																						
			Position management	INC/ABS selectable. When ABS is selected, a battery is mounted on the amplifier. INC: Current position lost when power is turned off. No rotation limitation ABS: Current position regenerated upon power recovery. Rotation limitation provided (rotation range: ±32767 rotations)																						
			Home setup	Home position LS and Z phase, position presetting																						
			Position data count	99 points (position, speed, timer, M code, and various statuses)																						
			Max position setup	±79,999,999 (× Unit value)																						
			Positioning method	Absolute/incremental																						
			Accessory function	Override, brake timing, etc.																						
	R type control function		Position control	Automatic start (station designation), manual operation (analog voltage, multi-stage 3-speed, manual indexing), pulse train (pulse train magnification 1, pulse train magnification 2), homing																						
			Position management	INC/ABS selectable. When ABS is selected, a battery is mounted on the amplifier. INC: Current position lost when power is tunred off. No rotation limitation ABS: Current position regenerated upon power recovery. No rotation limitation.																						
			Home setup	Home position LS and Z phase, position presetting																						
			Max division count	7999 (BCD setup)/30000 (Binary setup)																						
			Deceleration ratio	1/9999 to 1/1																						
			Positioning method	Shortcut/forward rotation/reverse rotation, absolute/incremental																						
			Accessory functions	Override, brake timing, second home position, etc.																						
Protective function (Alarm indication)			Overcurrent (OC), Overspeed (OS), Undervoltage (Lv), Overvoltage (Hv), Encoder error (Et), Control power error (Ct), Memory error (dE), Combination error (CE), Regenerative transistor overheat (rH2), Encoder communication error (EC), CONT overlapping (CtE), Overload (OL), Regenerative resistor overheat (rH), Deviation overflow (OF), Amplifier overheat (AH), Encoder overheat (EH), Multi-rotation data loss (AL), Multi-rotation overflow (AF) Note: "Combination error (CE)" and "Regenerative resistor overheat (rH)" are not supported with the medium capacity type FALDIC-α (model of 1500r/min, 2.9kW or above). Note: "Encoder overheat (EH)" is not supported with the medium capacity type FALDIC-α (model of 1500r/min, 2.9kW or above) during incremental drive of the motor.																						
Applicable environment	Installation place		Indoors (free from direct sunshine), altitude ≤ 1000m, free from corrosive and flammable gases, oil mist and dust In case of compliance with CE marking Models compliant with EU directive: pollution degree 2, over voltage category Ⅱ																						
	Temperature/humidity		-10 to 55°C/10 to 90%RH (without condensation)																						
	Vibration/shock resistance		4.9m/s²/19.6m/s²																						
Standards			UL/cUL (UL508c), CE marking (low voltage directive EN50178)																						

*1) △ represents an alphabet depending on the amplifier type (VVX,VVS,VSS,VVK,VSK,LPS,LSS,LTS,LRS,LPK,LSK,RPS,RSS,RTS)
□ represents "6" or "no mark" depending on the input power type ("6" = single-phase 100V input, "no mark" = 3-phase 200V input)
*2) The specifications of 220 to 230V/50Hz with motor output 5.5 to 15kW are available as option.
*3) The following types can only support 1.5 [s] overload rating (450%): "VVS" "VSS" "LPS" "LSS" "LTS" "LRS" "RPS" "RSS" "RTS"
*4) The minimum rotation speed is the speed that does not result in stop at the rated load.
*5) Motor shaft converted load inertia moment (JL) = Motor inertia moment (JM): 100% load

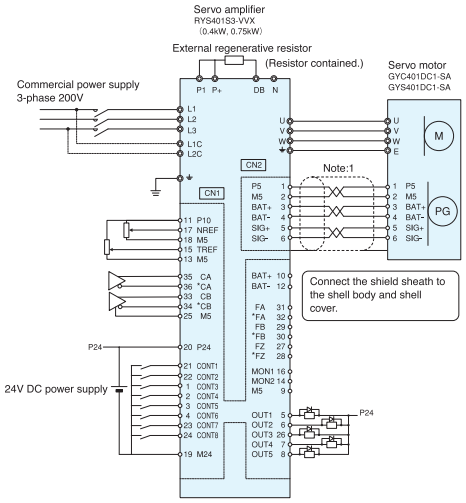
Interface specifications

Terminal name	Pin Symbol	Specifications
Pulse train input	CA , *CA , CB , *CB	Differential input:max. input frequency ≤ 500kHz, (1) Command pulse/command code, (2) Forward rotation pulse/reverse rotation pulse, (3) two signals at 90-degree phase difference
Divided output *6	FA , *FA , FB , *FB , FZ ,*FZ	Differential output:max. output frequency ≤ 500kHz, two signals at 90-degree phase difference, 16 to 16384 [pulses/rev]
Power output for analog input	P10	+10V±0.4V (maximum output current 30mA)
Speed command input	NREF	±10V (Input impedance 20kΩ)
Torque command input (V type only)	TREF	±10V (Input impedance 20kΩ)
Monitor output 1, monitor output 2 *7	MON1 , MON2	Output for analog meter (both-side amplitude/single-side amplitude), (1) Speed command, (2) Speed return, (3) Torque command, (4) Position deviation
Power input for sequence signals	P24 , M24	External power supply of 24V DC/300mA required.
Sequence input signal	V type :CONT1 to CONT8 L/R type :CONT1 to CONT21	24V DC/10mA (1-point) Can be assigned to each function through parameter setup.
Sequence output signal	V type :OUT1 to OUT5 R type :OUT1 to OUT10	30V DC/50mA (1-point) Can be assigned to each function through parameter setup.
External backup	BAT + , BAT -	Input pin for supplying backup power externally.

*6) The RS-485 and T-link types are output via open collector, and maximum output frequency is 200kHz.
*7) MON2 only for RS-485 and T-link types.

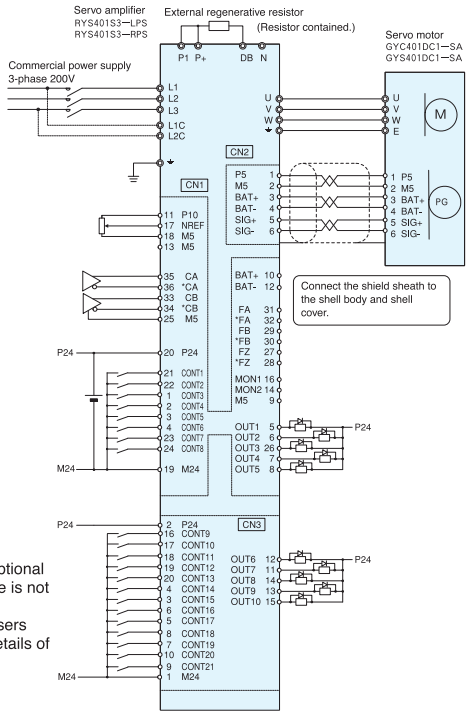
Connection Diagram (Reference)

V type (DI/DO)



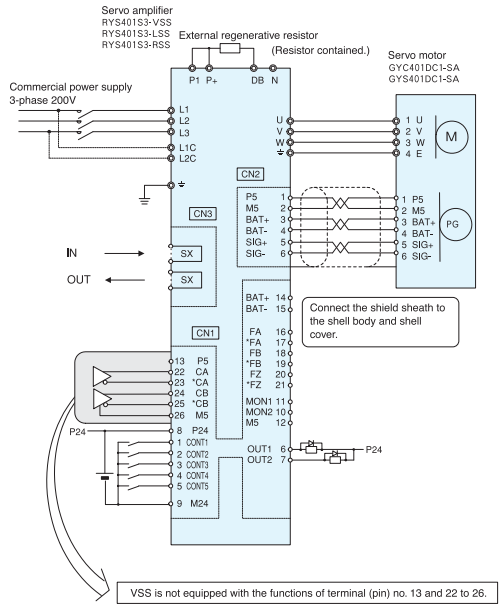
Note: If the optional encoder cable is not to be used, refer to the users manual for details of wiring.

L/R type (DI/DO)



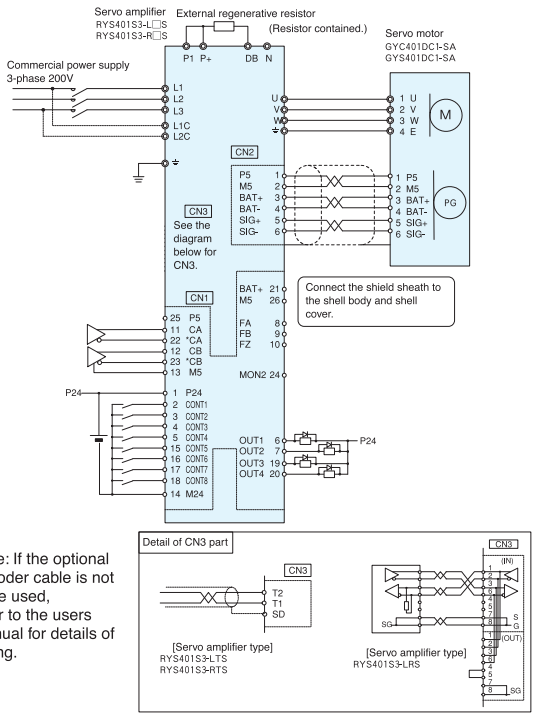
Note: If the optional encoder cable is not to be used, refer to the users manual for details of wiring.

Amplifier supporting SX bus (VSS,LSS,RSS)



Note: If the optional encoder cable is not to be used, refer to the users manual for details of wiring.

Amplifier supporting T-link and RS-485 (LTS,LRS,RTS)



Note: If the optional encoder cable is not to be used, refer to the users manual for details of wiring.

Caution

The diagram shown above is given as a reference for model selection.
When actually using the selected servo system, make wiring connections according to the connection diagram and instructions described in the user's manual.

Specifications of Servomotor

GYS motor

Standard specifications

Note : Use the motor with key when the gear head is being combined with any model (0.05kW to 0.375kW) of the 100V type or the 0.05kW or 0.1kW model of the 200V type.

Motor type GYS □□□□□□-□□□	500DC1 -□8B(*1)	101DC1 -□6B	201DC1 -□6B	371DC1 -□6B	500DC1 -□8B(*1)	101DC1 -□B	201DC1 -□A	401DC1 -□A	751DC1 -□A
Series	Single-phase 100V series				3-phase 200V series				
Rated output [kW]	0.05	0.1	0.2	0.375	0.05	0.1	0.2	0.4	0.75
Rated torque [N · m]	0.159	0.318	0.637	1.19	0.159	0.318	0.637	1.27	2.39
Rated speed [r/min]	3000								
Max speed [r/min]	5000								
Max torque [N · m]	0.478	0.955	1.91	3.58	0.478	0.955	1.91	3.82	7.17
Inertia moment [kg · m²]	0.0192 x10⁻⁴	0.0371 x10⁻⁴	0.135 x10⁻⁴	0.246 x10⁻⁴	0.0192 x10⁻⁴	0.0371 x10⁻⁴	0.135 x10⁻⁴	0.246 x10⁻⁴	0.853 x10⁻⁴
Rated current [A]	0.85	1.5	2.7	4.8	0.85	0.85	1.5	2.7	4.8
Max current [A]	2.55	4.5	8.1	14.4	2.55	2.55	4.5	8.1	14.4
Insulation class	Class B								
Operation duty type	Continuous								
Degree of enclosure protection	Fully closed, self-cooling (IP55) (excluding the shaft sealing and connectors)								
Pin (motor)	Cable 0.3m (with connector)								
Pin (detector)	Cable 0.3m (with connector)								
Overheat protection	Not provided (detected on the servo amplifier)								
Installation method	By securing flange IMB5 (L51), IMV1 (L52), IMV3 (L53)								
Shaft extension	Straight shaft, no key						Straight shaft with a key		
Paint color	N1.5								
Encoder	16-bit serial encoder (both ABS and INC, INC only)								
Vibration level	V5 or below								
Installation place, altitude and environment	Indoors (free from direct sunshine), altitude ≤ 1000m, free from corrosive and flammable gases, oil mist and dust								
Ambient temperature/humidity	-10 to +40℃, within 90 % RH max. (without condensation)								
Vibration resistance [m/s²]	49								
Mass [kg] ( ) indicates brake-incorporated type	0.45 (0.62)	0.55 (0.72)	1.2 (1.7)	1.8 (2.3)	0.45 (0.62)	0.55 (0.72)	1.2 (1.7)	1.8 (2.3)	3.4 (4.2)
Standards	UL/cUL (UL1004), CE marking (EN60034-1, EN60034-5), RoHS Directive								

*1)The motor with the rated output of 0.05kW is used for both 100V type and 200V type.

Brake specification (motor equipped with a brake)

Note : Use the motor with key when the gear head is being combined with any model (0.05kW to 0.375kW) of the 100V type or the 0.05kW or 0.1kW model of the 200V type.

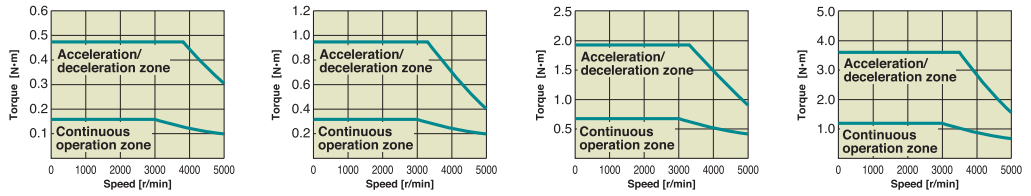
Motor type GYS □□□□□□-□□□	500DC1 -□8B-B(*1)	101DC1 -□6B-B	201DC1 -□6B-B	371DC1 -□6B-B	500DC1 -□8B-B(*1)	101DC1 -□B-B	201DC1 -□A-B	401DC1 -□A-B	751DC1 -□A-B
Series	Single-phase 100V series				3-phase 200V series				
Static friction torque [N · m]	0.3		1.27		0.3		1.27		2.45
Rated voltage [V]	DC24V±10%								
Attraction time [ms]	35		40		35		40		60
Release time [ms]	10		20		10		20		25
Power consumption [W]	6.1 (at 20℃)		7.3 (at 20℃)		6.1 (at 20℃)		7.3 (at 20℃)		8.5 (at 20℃)

*1) The motor with the rated output of 0.05kW is used for both 100V type and 200V type.
Note: The brake is used to hold the rotor.

Torque characteristic diagram

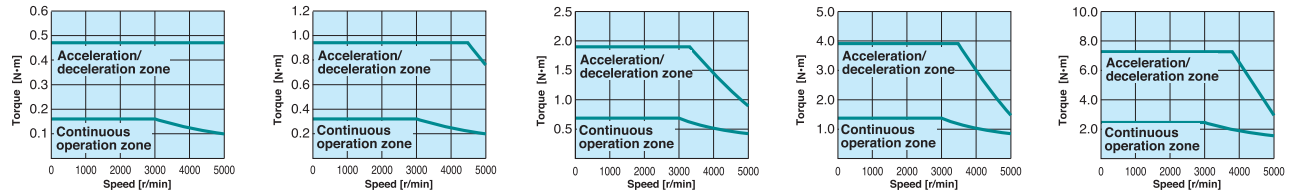
100V series

GYS500DC1-□8□	GYS101DC1-□6□	GYS201DC1-□6□	GYS371DC1-□6□
0.05kW	0.1kW	0.2kW	0.375kW



200V series

GYS500DC1-□8□	GYS101DC1-□□	GYS201DC1-□□	GYS401DC1-□□	GYS751DC1-□□
0.05kW	0.1kW	0.2kW	0.4kW	0.75kW



Specifications of Servomotor

GYS motor

Standard specifications

Motor type GYS □□□□□□-□□□	102DC1 -SA	152DC1 -SA	202DC1 -SA	302DC1 -SA	402DC1 -SA	502DC1 -SA
Series	3-phase 200V series					
Rated output [kW]	1.0	1.5	2.0	3.0	4.0	5.0
Rated torque [N · m]	3.18	4.78	6.37	9.55	12.7	15.9
Rated speed [r/min]	3000					
Max speed [r/min]	5000					
Max torque [N · m]	9.55	14.3	19.1	28.7	38.2	47.8
Inertia moment [kg · m²]	1.73 x10⁻⁴	2.37 x10⁻⁴	3.01 x10⁻⁴	8.32 x10⁻⁴	10.8 x10⁻⁴	12.8 x10⁻⁴
Rated current [A]	7.1	9.6	12.6	18	24	30
Max current [A]	21.3	28.8	37.8	54	72	90
Insulation class	Class F					
Operation duty type	Continuous					
Degree of enclosure protection	Fully closed, self-cooling (IP55) (excluding the shaft sealing and connectors)					
Pin (motor)	Canon connector					
Pin (detector)	Canon connector					
Overheat protection	Not provided (detected on the servo amplifier)					
Installation method	By securing flange IMB5 (L51), IMV1 (L52), IMV3 (L53)					
Shaft extension	Straight shaft with a key					
Paint color	N1.5					
Encoder	16-bit serial encoder (both ABS and INC)					
Vibration level	Rated speed or below : V10 or below, 3001r/min or higher: V15 or below					
Installation place, altitude and environment	Indoors (free from direct sunshine), altitude ≤ 1000m, free from corrosive and flammable gases, oil mist and dust					
Ambient temperature/humidity	-10 to +40°C, within 90 % RH max. (without condensation)					
Vibration resistance [m/s²]	24.5					
Mass [kg] ( ) indicates brake-incorporated type	4.4 (5.9)	5.2 (6.8)	6.3 (7.9)	11 (13)	13.5 (15.5)	16 (18)
Standards	UL/cUL (UL1004), CE marking (EN60034-1, EN60034-5), RoHS Directive					

Brake specification (motor equipped with a brake)

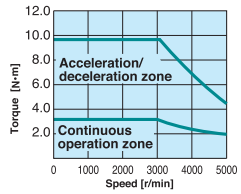
Motor type GYS □□□□□□-□□□	102DC1 -SA-B	152DC1 -SA-B	202DC1 -SA-B	302DC1 -SA-B	402DC1 -SA-B	502DC1 -SA-B
Series	3-phase 200V series					
Static friction torque [N · m]	6.86		17			
Rated voltage [V]	DC24V±10%					
Attraction time [ms]	60		120			
Release time [ms]	10		30			
Power consumption [W]	17 (at 20°C)		12 (at 20°C)			

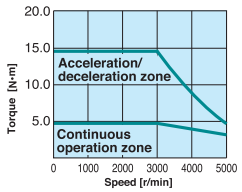
Note: The brake is used to hold the rotor.

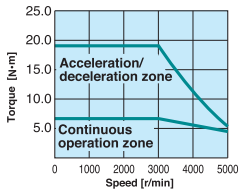
Torque characteristic diagram

200V series

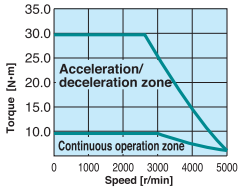
GYS102DC1-S□	GYS152DC1-S□	GYS202DC1-S□
1.0kW	1.5kW	2.0kW

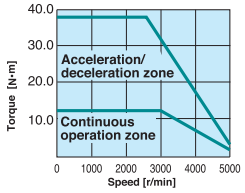


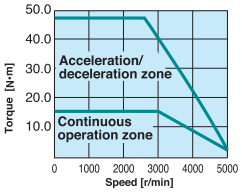




GYS302DC1-S□	GYS402DC1-S□	GYS502DC1-S□
3.0kW	4.0kW	5.0kW







Specifications of Servomotor

GYC motor

Standard specifications

Motor type GYC □□□□□□-□□□	101DC1 -□A	201DC1 -□A	401DC1 -□A	751DC1 -□A	102DC1 -SA	152DC1 -SA	202DC1 -SA
Series	3-phase 200V series						
Rated output [kW]	0.1	0.2	0.4	0.75	1.0	1.5	2.0
Rated torque [N · m]	0.318	0.637	1.27	2.39	3.18	4.78	6.37
Rated speed [r/min]	3000						
Max speed [r/min]	5000						
Max torque [kg · m²]	0.955	1.91	3.82	7.17	9.55	14.3	19.1
Inertia moment [A]	0.0577×10^{-4}	0.213×10^{-4}	0.408×10^{-4}	1.21×10^{-4}	3.19×10^{-4}	4.44×10^{-4}	5.69×10^{-4}
Rated current [A]	1.0	1.5	2.6	4.8	6.7	9.6	12.6
Max current	3.0	4.5	7.8	14.4	20.1	28.8	37.8
Insulation class	Class B				Class F		
Operation duty type	Continuous						
Degree of enclosure protection	Fully closed, self-cooling (IP55) (excluding the shaft sealing and connectors)						
Pin (motor)	Cable 0.3m (with connector)				Canon connector		
Pin (detector)	Cable 0.3m (with connector)				Canon connector		
Overheat protection	Not provided (detected on the servo amplifier)						
Installation method	By securing flange IMB5 (L51), IMV1 (L52), IMV3 (L53)						
Shaft extension	Straight shaft with a key						
Paint color	N1.5						
Encoder	16-bit serial encoder (both ABS and INC, INC only)				16-bit serial encoder (both ABS and INC)		
Vibration level	V5 or below				Rated speed or below : V10 or below, 3001r/min or higher: V15 or below		
Installation place, altitude and environment	Indoors (free from direct sunshine), altitude ≤ 1000m, free from corrosive and flammable gases, oil mist and dust						
Ambient temperature/humidity	-10 to +40°C, within 90 % RH max. (without condensation)						
Vibration resistance [m/s²]	49				24.5		
Mass [kg] ( ) indicates brake-incorporated type	0.75 (1.0)	1.3 (1.9)	1.9 (2.6)	3.5 (4.3)	5.7 (8.0)	7.0 (9.8)	8.2 (11.0)
Standards	UL/cUL (UL1004), CE marking (EN60034-1, EN60034-5), RoHS Directive						

Brake specification (motor equipped with a brake)

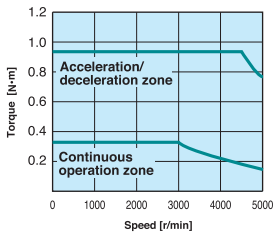
Motor type GYC □□□□□□-□□□	101DC1 -□A-B	201DC1 -□A-B	401DC1 -□A-B	751DC1 -□A-B	102DC1 -SA-B	152DC1 -SA-B	202DC1 -SA-B
Series	3-phase 200V series						
Static friction torque [N · m]	0.318	1.27		2.39	17		
Rated voltage [V]	DC24V±10%						
Attraction time [ms]	60	80		50	120		
Release time [ms]	40			80	30		
Power consumption [W]	6.5 (at 20°C)	9 (at 20°C)		8.5 (at 20°C)	12 (at 20°C)		

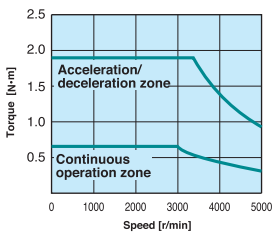
Note: The brake is used to hold the rotor.

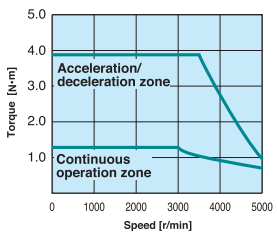
Torque characteristic diagram

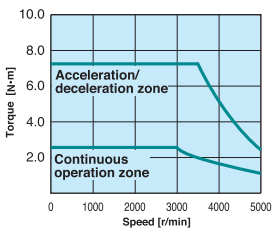
200V series

GYC101DC1-□□	GYC201DC1-□□	GYC401DC1-□□	GYC751DC1-□□
0.1kW	0.2kW	0.4kW	0.75kW

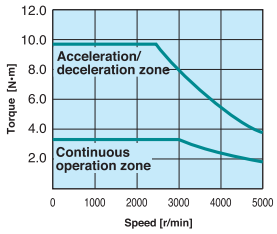


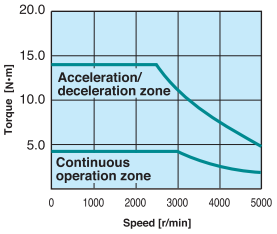


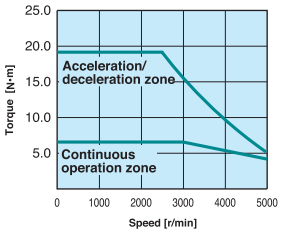




GYC102DC1-S□	GYC152DC1-S□	GYC202DC1-S□
1.0kW	1.5kW	2.0kW







Specifications of Servomotor

GYA and GYM motors

Standard specifications

Motor series	GYA motor			GYM motor					
Motor type	GYA501BC1 -SA	GYA152BC1 -SA	GYA252BC1 -SA	GYM292BC6 -△□	GYM402BC6 -△□	GYM552BC6 -△□	GYM752BC6 -△□	GYM113BC6 -△□	GYM153BC6 -△□
Series	200V series								
Rated output [kW]	0.5	1.5	2.5	2.9	4.0	5.5	7.5	11	15
Rated torque [N · m]	3.18	9.55	15.9	18.6	25.5	35.0	48.0	70.0	95.4
Rated speed [r/min]	1500								
Max speed [r/min]	2500			3000				2000	
Max torque [kg · m²]	9.55	28.7	47.7	54.0	64.0	87.6	119	175	224
Inertia moment [A]	3.19×10^{-4}	8.73×10^{-4}	13.7×10^{-4}	46×10^{-4}	67.5×10^{-4}	89×10^{-4}	125×10^{-4}	242×10^{-4}	303×10^{-4}
Rated current [A]	3.9	9.6	18.5	23.8	30.0	37.2	54.7	58.6	78.0
Max current	11.7	28.8	55.5	70.0	76.0	110	130	140	170
Insulation class	Class F								
Operation duty type	Continuous								
Degree of enclosure protection	Fully closed, self-cooling (IP55) (excluding the shaft sealing and connectors)			Fully closed, self-cooling (IP67)(excluding the shaft sealing)					
Pin (motor)	Canon connector								
Pin (detector)	Canon connector								
Overheat protection	Not provided (detected on the servo amplifier)								
Installation method	By securing flange IMB5 (L51), IMV1 (L52), IMV3 (L53)								
Shaft extension	Straight shaft with a key			Straight shaft with a key, tapped					
Paint color	N1.5								
Encoder	16-bit serial encoder (both ABS and INC)			Standard : 16-bit serial encoder (INC) Option : 16-bit serial encoder (ABS)					
Vibration level	Rated speed or below: V10 or below, 3001r/min or higher: V15 or below			V15 or below					
Installation place, altitude and environment	Indoors (free from direct sunshine), altitude ≤ 1000m, free from corrosive and flammable gases, oil mist and dust								
Ambient temperature/humidity	-10 to +40°C, within 90 % RH max. (without condensation)			0 to +40°C, within 80 % RH max. (without condensation)					
Vibration resistance [m/s²]	24.5								
Mass [kg]	5.7	11	16	18	23	30	40	57.5	86
Standards	UL/cUL (UL1004), CE marking (EN60034-1, EN60034-5), RoHS Directive								

Brake specification (motor equipped with a brake)

Motor type GYM □□□□□□-□□□	292BC6 -△□B	402BC6 -△□B	552BC6 -△□B	752BC6 -△□B	113BC6 -△□B	153BC6 -△□B
Series	3-Phase 200V series					
Rated output [kW]	2.9	4.0	5.5	7.5	11.0	15.0
Rated torque [N · m]	18.6	25.5	35.0	48.0	70.0	95.4
Inertia moment [kg · m]	54×10^{-4}	75.5×10^{-4}	97×10^{-4}	133×10^{-4}	261×10^{-4}	341×10^{-4}
Static friction torque [N · m]	43.1		72.6		84.3	114.6
Rated voltage [V]	DC24V±10%/0					
Attraction time [ms]	170					250
Release time [ms]	100		80			
Power consumption [W]	18.5(at 20°C)		25(at 20°C)		32(at 20°C)	35(at 20°C)
Mass [kg]	19.5	23.5	27.5	35	65	79

The above characteristics indicate the typical values resulting from the combination with the RYS-type servo amplifier compatible with each servo motor.
The rated torque indicates the torque value of the motor that is attached to the following aluminum heat sink and driven.
· GYM292, 402, 552, 752: 550 x 550 x 30 [mm]
· GYM113, 153: 550 x 550 x 30 [mm]

* When used in an environment specified in IP67, be sure to use wiring connectors in compliance with IP67.

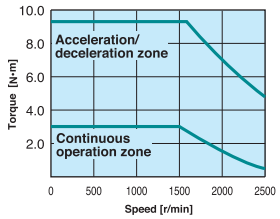
External Dimensions

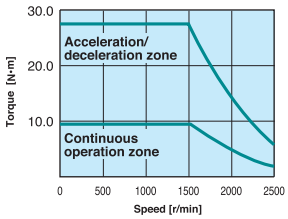
GYA and GYM motors

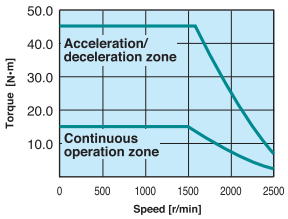
Torque characteristic diagram

GYA motor characteristics

GYA501BC1-SA	GYA152BC1-SA	GYA252BC1-SA
0.5kW	1.5kW	2.5kW

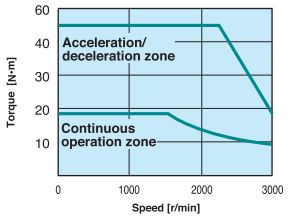


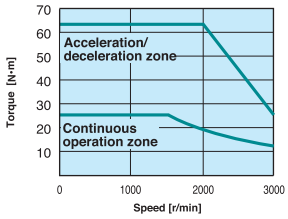


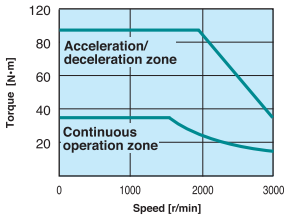


GYM motor characteristics

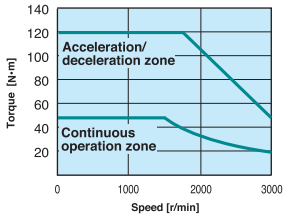
GYM292BC6-KC	GYM402BC6-KC	GYM552BC6-KC
2.9kW	4.0kW	5.5kW

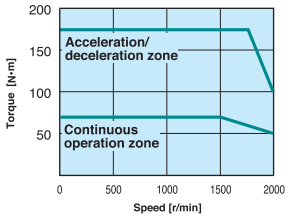


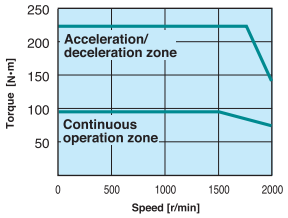




GYM752BC6-KC	GYM113BC6-KC	GYM153BC6-KC
7.5kW	11kW	15kW





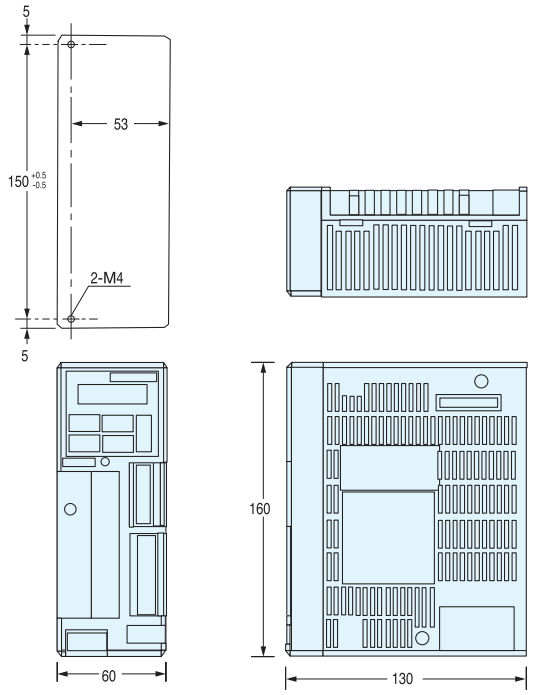


External Dimensions

Servo amplifier

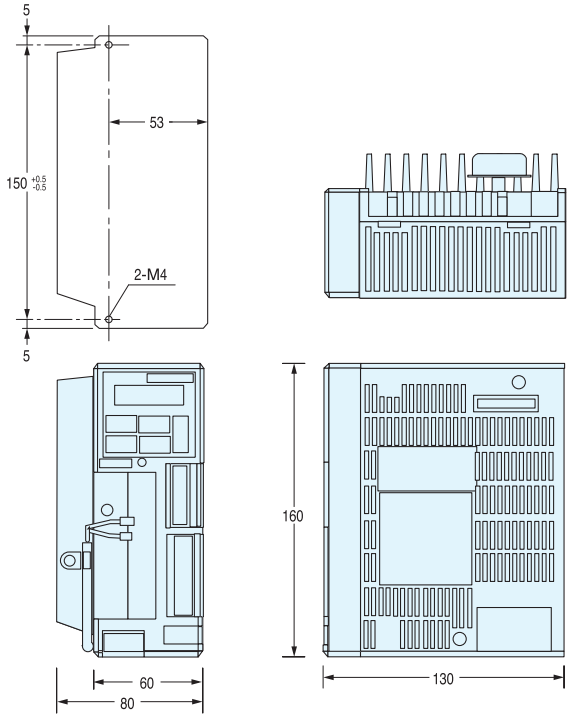
100V series	RYS500, 101S3-□□□6
200V series	RYS500, 101, 201S3-□□□

(Unit : mm)



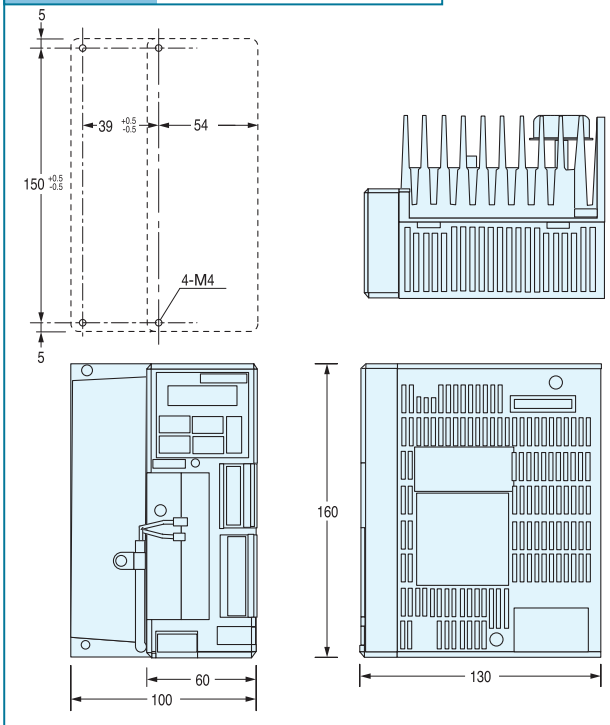
100V series	RYS201S3-□□□6
200V series	RYS401S3-□□□

(Unit : mm)



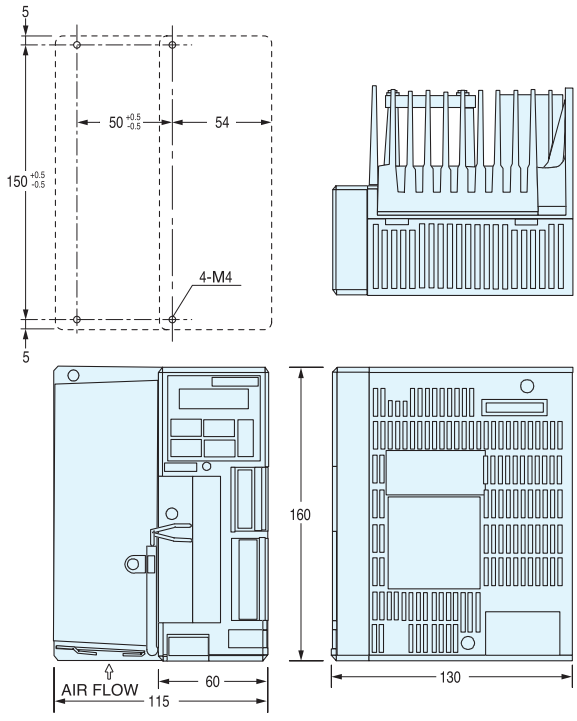
100V series	RYS371S3-□□□6
200V series	RYS751S3-□□□ RYS501A3-□□□

(Unit : mm)



200V series	RYS102, 152S3-□□□ RYS152A3-□□□

(Unit : mm)

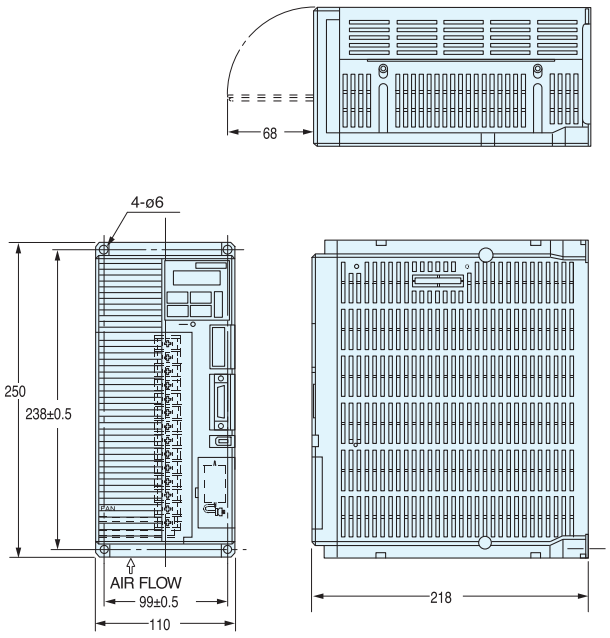


External Dimensions

Servo amplifier

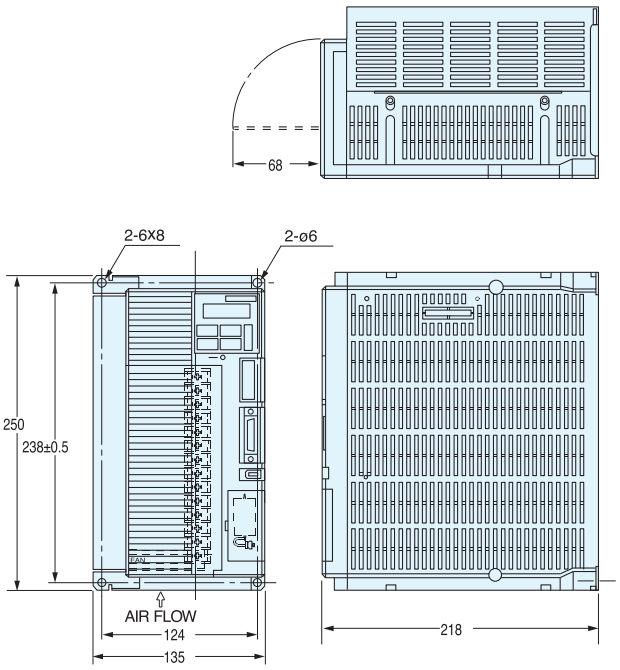
200V series RYS202, 302S3-□□□
RYS252A3-□□□

(Unit : mm)



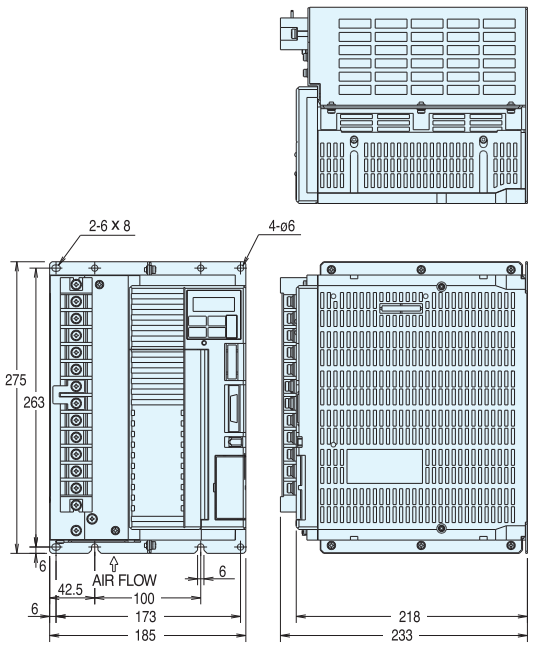
200V series RYS402, 502S3-□□□
RYS292, 402M6-□□□(medium capacity series)

(Unit : mm)



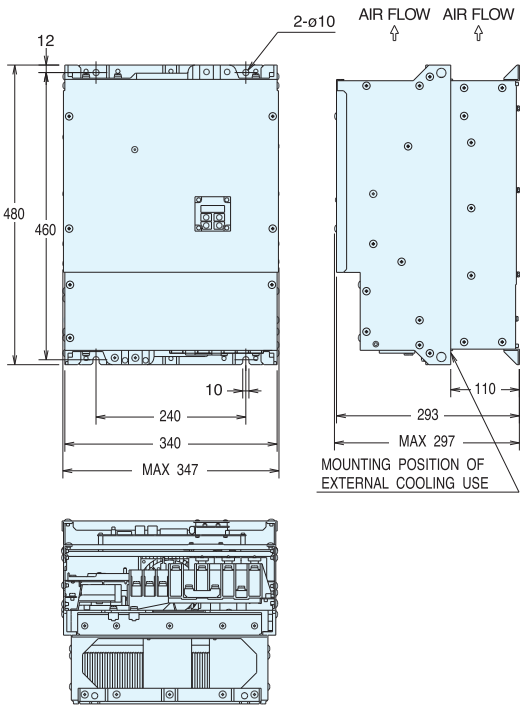
200V series RYS552, 752M6-□□□(medium capacity series)

(Unit : mm)



200V series RYS113, 153M6-□□□(medium capacity series)

(Unit : mm)



External Dimensions

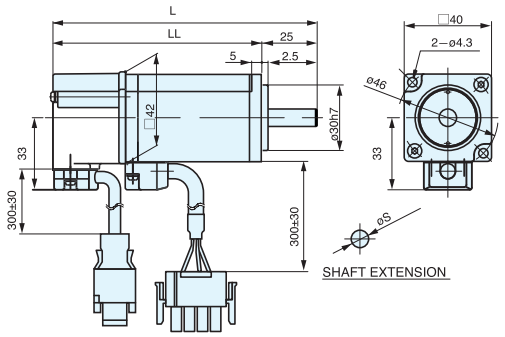
GYS motor

■ Standard type

(100V series)
· GYS500DC1-□8B
· GYS101DC1-□6B

(200V series)
· GYS101DC1-□B

(Unit : mm)

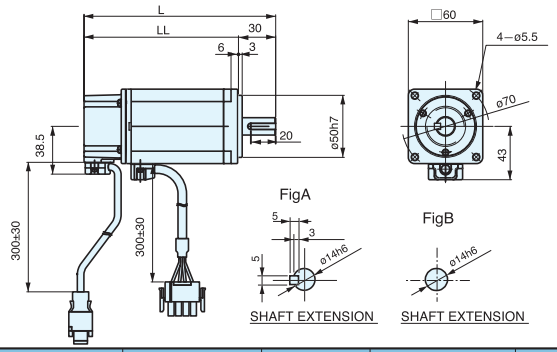


Type	Shaft end shape	Overall length	Dimensions (flange)	Mass
	øS	L	LL	[kg]
GYS500DC1-□8B	6h6	103	78	0.45
GYS101DC1-□B	8h6	121	96	0.55
GYS101DC1-□6B	8h6	121	96	0.55

(100V series)
· GYS201DC1-□6B
· GYS371DC1-□6B

(200V series)
· GYS201DC1-□A
· GYS401DC1-□A

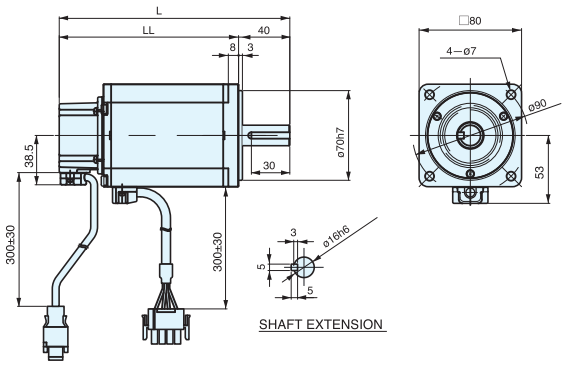
(Unit : mm)



Type	Shape of shaft	Overall length	Dimensions (flange)	Mass
		L	LL	[kg]
GYS201DC1-□A	FigA	126.5	96.5	1.2
GYS401DC1-□A		154.5	124.5	1.8
GYS201DC1-□6B	FigB	126.5	96.5	1.2
GYS371DC1-□6B		154.5	124.5	1.8

· GYS751DC1-□A

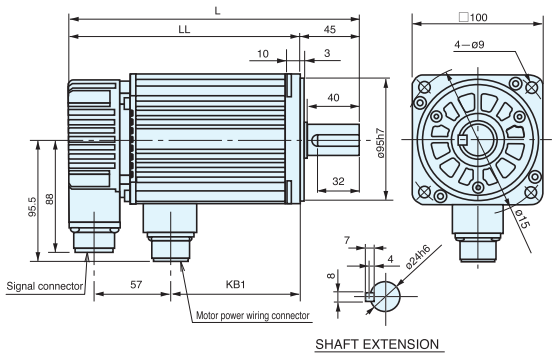
(Unit : mm)



Type	Overall length	Dimensions (flange)	Mass
	L	LL	[kg]
GYS751DC1-□A	180	140	3.4

· GYS102DC1-SA · GYS202DC1-SA
· GYS152DC1-SA

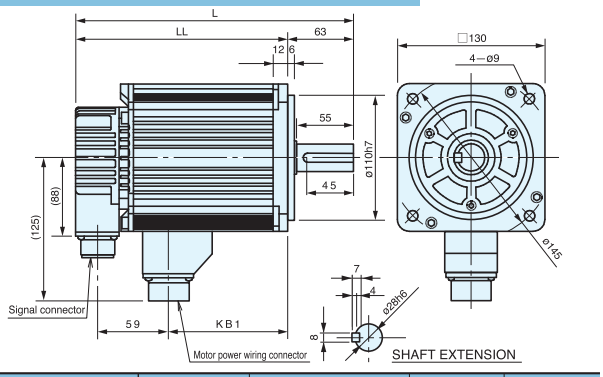
(Unit : mm)



Type	Overall length	Dimensions (flange)	Terminal	Mass
	L	LL	KB1	[kg]
GYS102DC1-SA	198	153	77	4.4
GYS152DC1-SA	220.5	175.5	99.5	5.2
GYS202DC1-SA	243	198	122	6.3

· GYS302DC1-SA · GYS502DC1-SA
· GYS402DC1-SA

(Unit : mm)



Type	Overall length	Dimensions (flange)	Terminal	Mass
	L	LL	KB1	[kg]
GYS302DC1-SA	262.5	199.5	125.5	11.0
GYS402DC1-SA	292.5	229.5	155.5	13.5
GYS502DC1-SA	322.5	259.5	185.5	16.0

Note: □ in Type is for "S" or "C".

External Dimensions

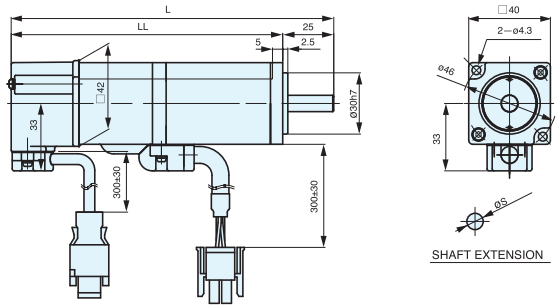
GYS motor

■Motor with a brake

(100V series)
· GYS500DC1-□8B-B
· GYS101DC1-□6B-B

(200V series)
· GYS101DC1-□B-B

(Unit : mm)

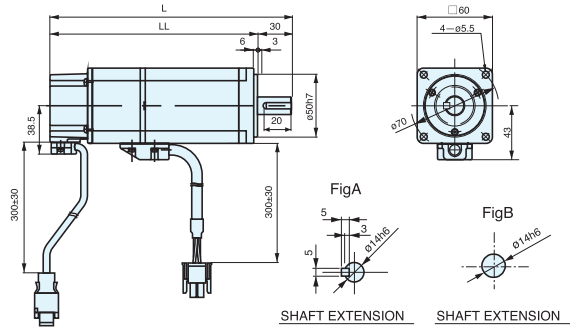


Type	Shaft end shape	Overall length	Dimensions (flange)	Mass
	øS	L	LL	[kg]
GYS500DC1-□8B-B	6h6	140	115	0.62
GYS101DC1-□B-B	8h6	158	133	0.72
GYS101DC1-□6B-B	8h6	158	133	0.72

(100V series)
· GYS201DC1-□6B-B
· GYS371DC1-□6B-B

(200V series)
· GYS201DC1-□A-B
· GYS401DC1-□A-B

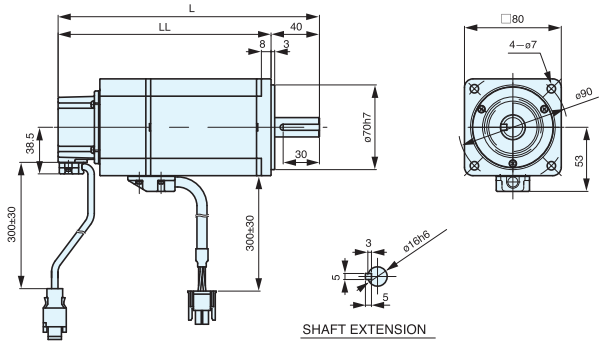
(Unit : mm)



Type	Shape of shaft	Overall length	Dimensions (flange)	Mass
		L	LL	[kg]
GYS201DC1-□A-B	FigA	164.5	134.5	1.7
GYS401DC1-□A-B		192.5	162.5	2.3
GYS201DC1-□6B-B	FigB	164.5	134.5	1.7
GYS371DC1-□6B-B		192.5	162.5	2.3

· GYS751DC1-□A-B

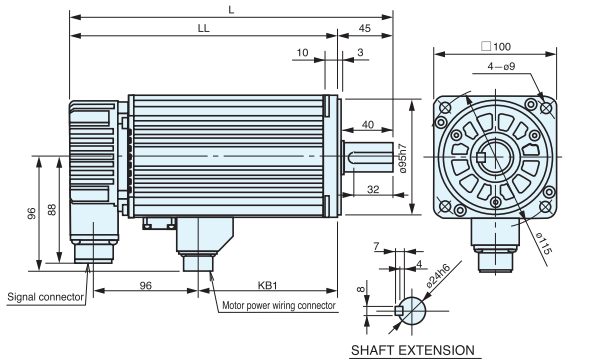
(Unit : mm)



Type	Overall length	Dimensions (flange)	Mass
	L	LL	[kg]
GYS751DC1-□A-B	216	176	4.2

· GYS102DC1-SA-B · GYS202DC1-SA-B
· GYS152DC1-SA-B

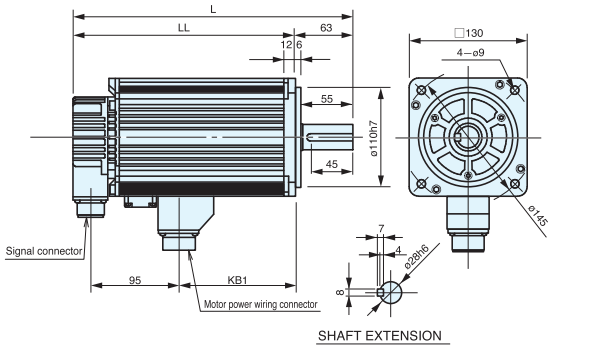
(Unit : mm)



Type	Overall length	Dimensions (flange)	Terminal	Mass
	L	LL	KB1	[kg]
GYS102DC1-SA-B	239	194	79	5.9
GYS152DC1-SA-B	261.5	216.5	101.5	6.8
GYS202DC1-SA-B	284	239	124	7.9

· GYS302DC1-SA-B · GYS502DC1-SA-B
· GYS402DC1-SA-B

(Unit : mm)



Type	Overall length	Dimensions (flange)	Terminal	Mass
	L	LL	KB1	[kg]
GYS302DC1-SA-B	304.5	241.5	127.5	13.0
GYS402DC1-SA-B	334.5	271.5	157.5	15.5
GYS502DC1-SA-B	364.5	301.5	187.5	18.0

Note: □ in Type is for "S" or "C".

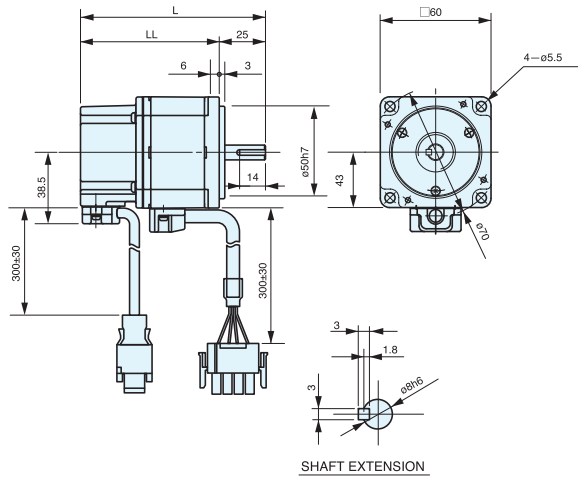
External Dimensions

GYC motor

■Standard type

· GYC101DC1-□A

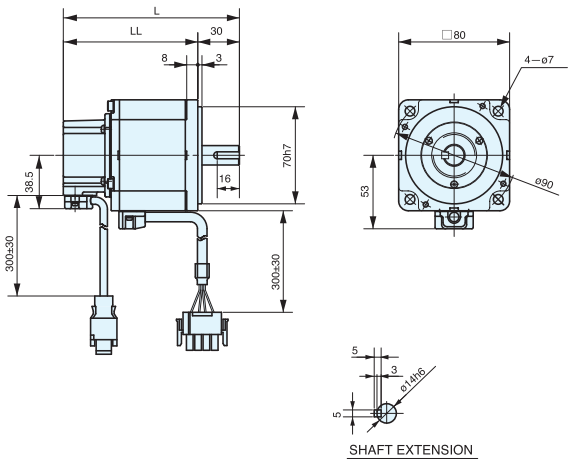
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC101DC1-□A	100	75	0.75

· GYC201DC1-□A
· GYC401DC1-□A

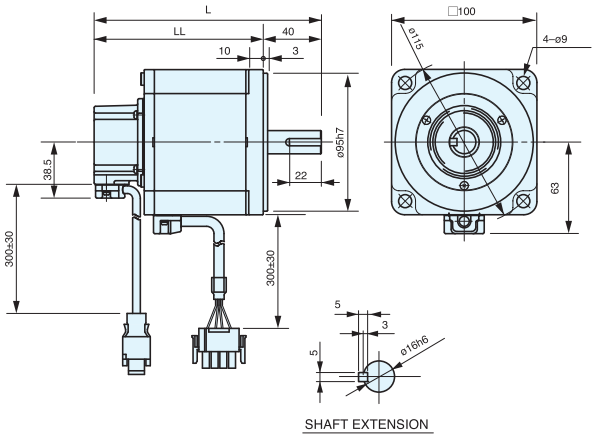
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC201DC1-□A	112	82	1.3
GYC401DC1-□A	127	97	1.9

· GYC751DC1-□A

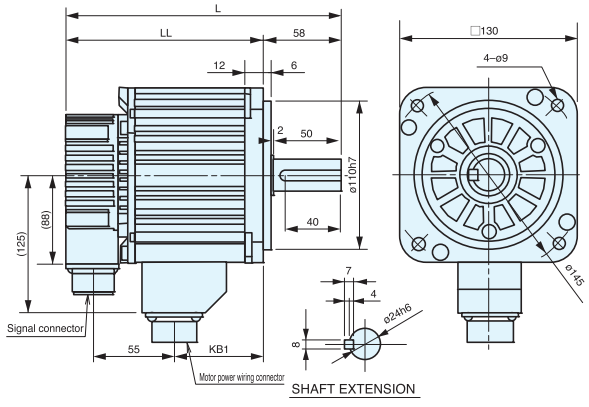
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC751DC1-□A	156.5	116.5	3.5

· GYC102DC1-SA · GYC202DC1-SA
· GYC152DC1-SA

(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Terminal KB1	Mass [kg]
GYC102DC1-SA	197.5	139.5	65.5	5.7
GYC152DC1-SA	212.5	154.5	80.5	7.0
GYC202DC1-SA	227.5	169.5	95.5	8.2

Note: □ in Type is for "S" or "C".

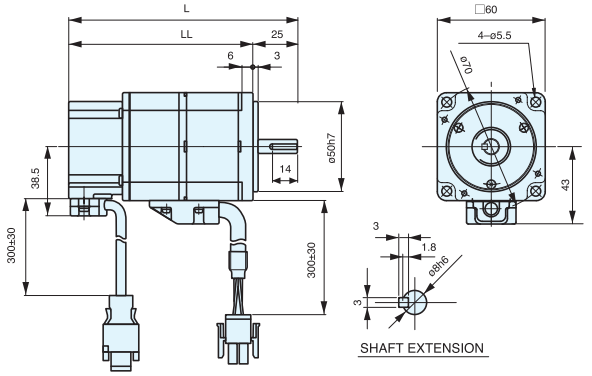
External Dimensions

GYC motor

■ Motor with a brake

· GYC101DC1-□A-B

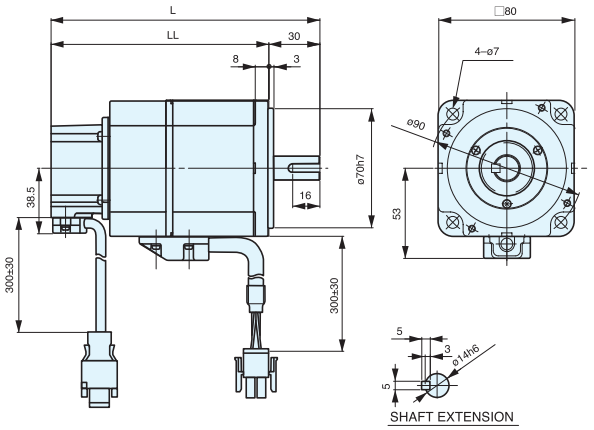
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC101DC1-□A-B	127.5	102.5	1.0

· GYC201DC1-□A-B
· GYC401DC1-□A-B

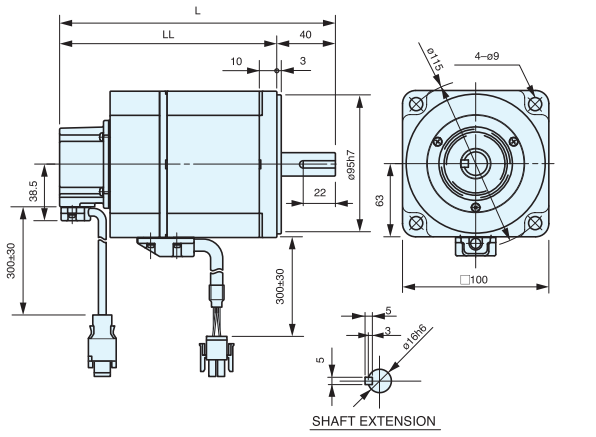
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC201DC1-□A-B	143	113	1.9
GYC401DC1-□A-B	158	128	2.6

· GYC751DC1-□A-B

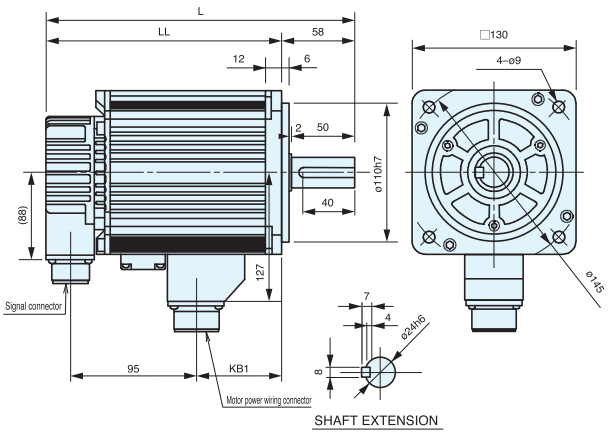
(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Mass [kg]
GYC751DC1-□A-B	188.5	148.5	4.3

· GYC102DC1-SA-B · GYC202DC1-SA-B
· GYC152DC1-SA-B

(Unit : mm)



Type	Overall length L	Dimensions (flange) LL	Terminal KB1	Mass [kg]
GYC102DC1-SA-B	239.5	181.5	67.5	8.0
GYC152DC1-SA-B	254.5	196.5	82.5	9.8
GYC202DC1-SA-B	269.5	211.5	97.5	11.0

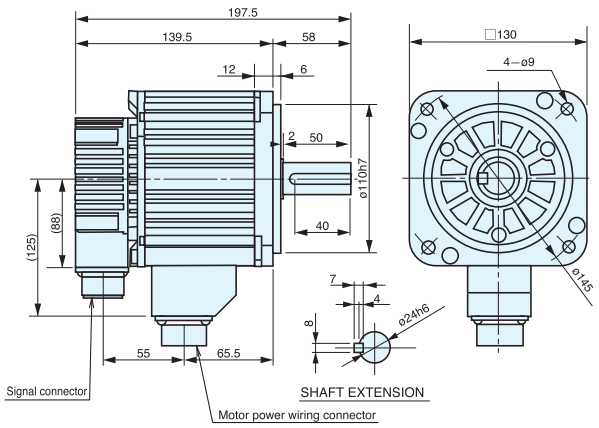
Note: □ in Type is for "S" or "C".

External Dimensions

GYA motor

· GYA501BC1-SA

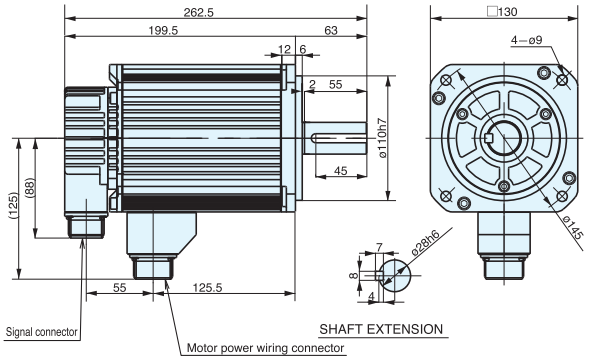
(Unit : mm)



Mass : 5.7 [kg]

· GYA152BC1-SA

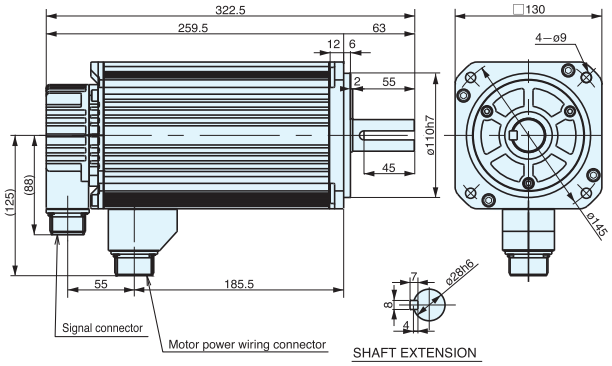
(Unit : mm)



Mass : 11.0 [kg]

· GYA252BC1-SA

(Unit : mm)



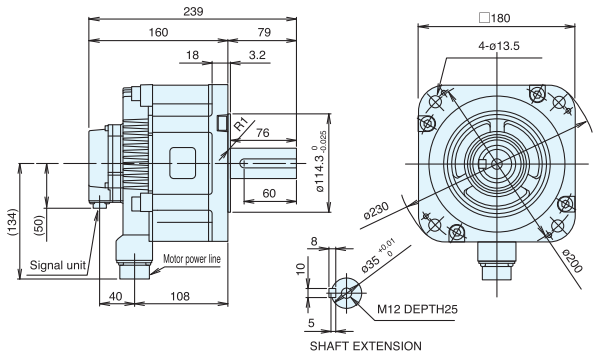
Mass : 16.0 [kg]

External Dimensions

GYM motor

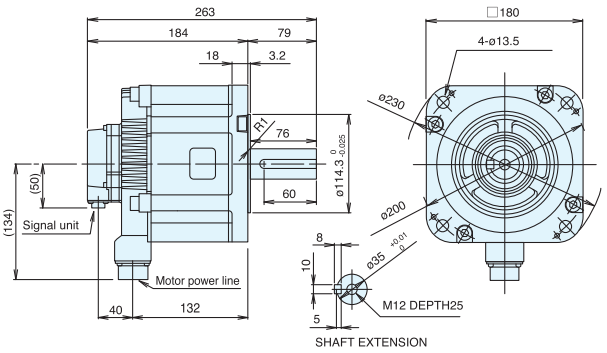
■Standard type

· GYM292BC6-KC (Unit : mm)



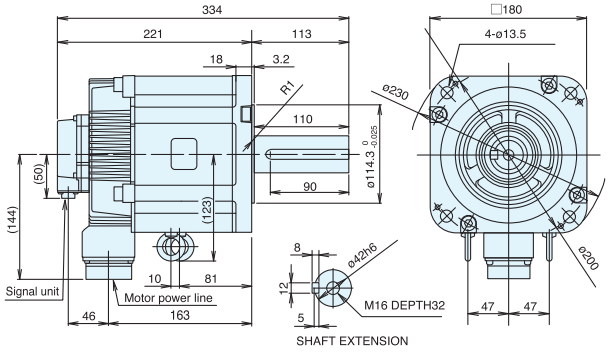
Mass : 13.5 [kg]

· GYM402BC6-KC (Unit : mm)



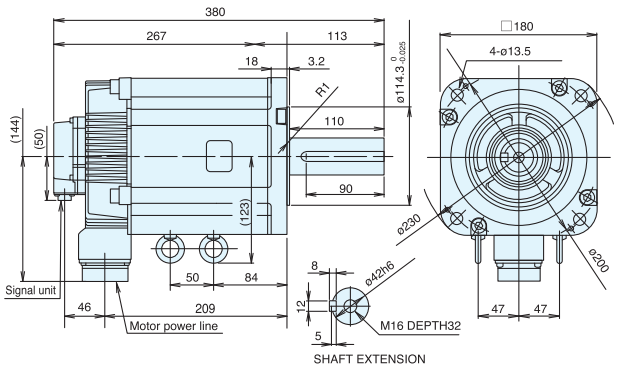
Mass : 17.5 [kg]

· GYM552BC6-KC (Unit : mm)



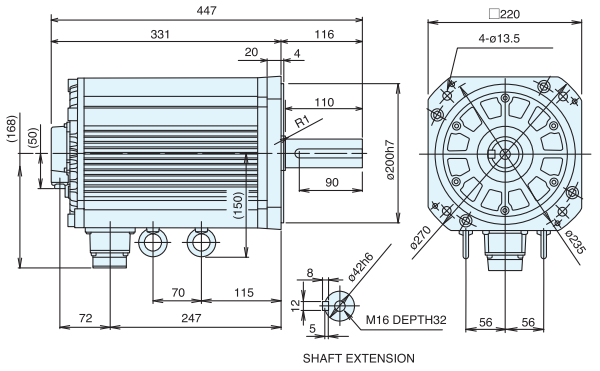
Mass : 21.5 [kg]

· GYM752BC6-KC (Unit : mm)



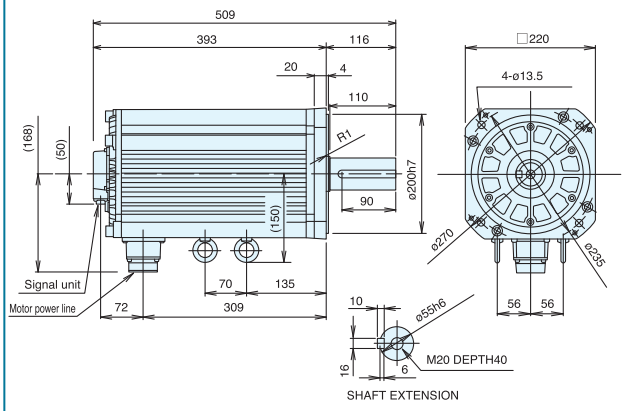
Mass : 29.5 [kg]

· GYM113BC6-KC (Unit : mm)



Mass : 57 [kg]

· GYM153BC6-KC (Unit : mm)



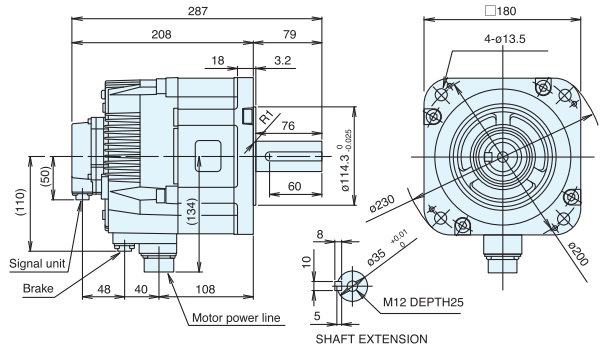
Mass : 67 [kg]

External Dimensions

GYM motor

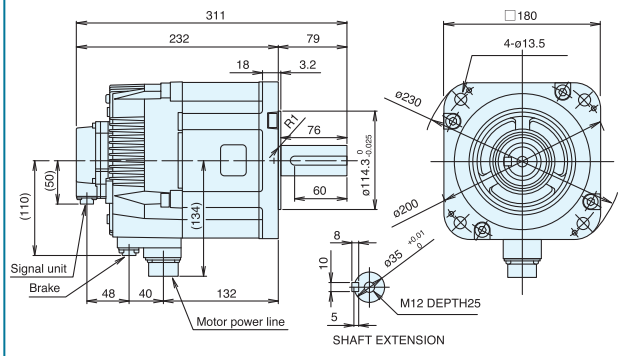
■ Motor with a brake

· GYM292BC6-KCB (Unit : mm)



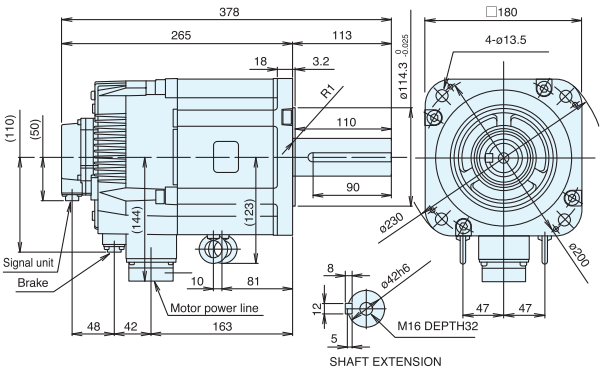
Mass : 19.5 [kg]

· GYM402BC6-KCB (Unit : mm)



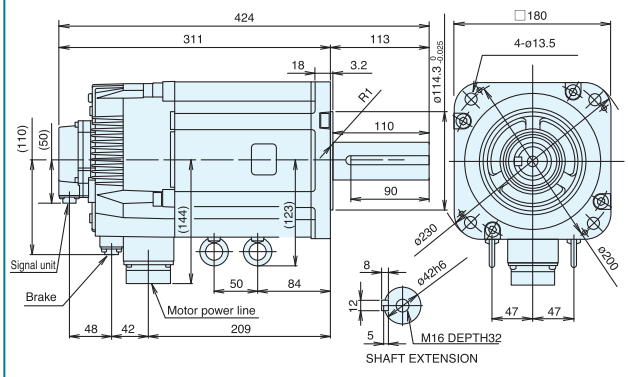
Mass : 23.5 [kg]

· GYM552BC6-KCB (Unit : mm)



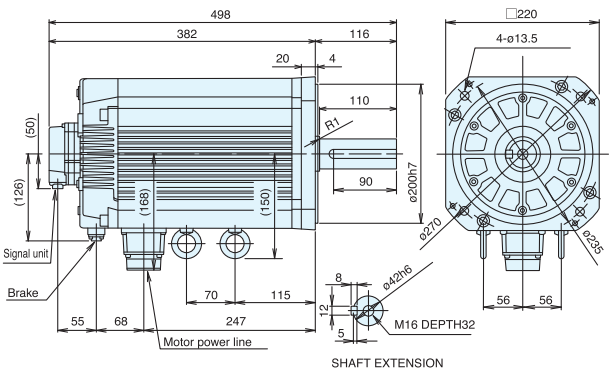
Mass : 27.5 [kg]

· GYM752BC6-KCB (Unit : mm)



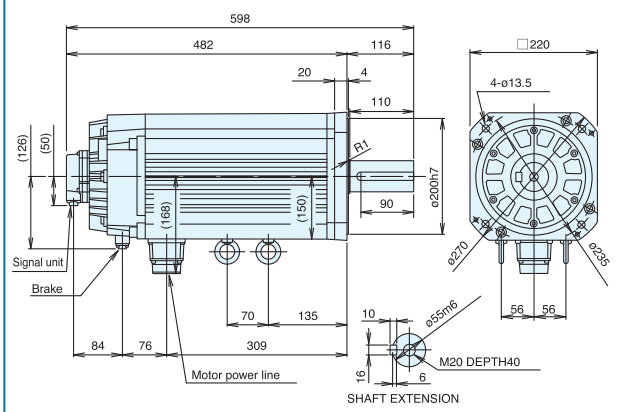
Mass : 35 [kg]

· GYM113BC6-KCB (Unit : mm)



Mass : 65 [kg]

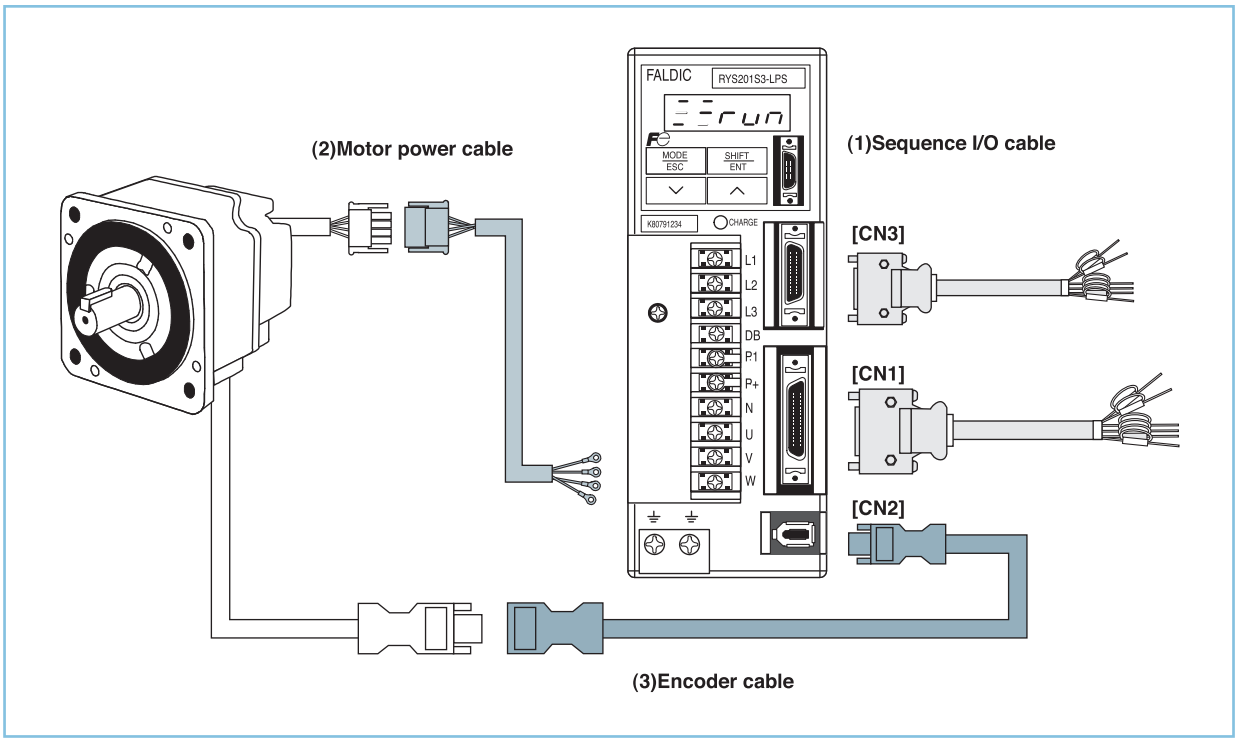
· GYM153BC6-KCB (Unit : mm)



Mass : 79 [kg]

Option/Peripheral Equipment

Option



Name			Type	Applicable model		Remarks
(1)Sequence I/O cable	Cable	CN1	WSC-D36P03	**Support list**		
			WSC-D26P03			
		CN3	WSC-D20P03			
			NP1C-P3			
(2)Motor power cable	Motor without a brake	Cable	WSC-M04P05	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	Loose wires on an end	–
		Connector	WSK-M04P-CA	GYS motor:1.0 to 2.0kW		Please prepare the power cable for motors at left using the specified type connector. See page 36 for the connector of 5.5kW or higher GYM motor.
			WSK-M04P-CB	GYS motor: 3.0 to 5.0kW GYC motor: 1.0 to 2.0kW GYA motor: 0.5, 1.5, 2.5kW		
	Motor with a brake	Cable	WSC-M06P05	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	Loose wires on an end	–
		Connector	WSK-M06P-CA	GYS motor: 1.0 to 2.0kW		Please prepare the power cable for motors at left using the specified type connector. See page 36 for the connector of 5.5kW or higher GYM motor.
			WSK-M06P-CB	GYS motor: 3.0 to 5.0kW GYC motor: 1.0 to 2.0kW GYA motor: 0.5, 1.5, 2.5kW		
(3)Encoder cable	Cable CN2		WSC-P06P05	GYS motor:0.75kW or less GYC motor:0.75kW or less	Connectors on both ends	–
			WSC-P06P05-C	GYS motor:1.0kW or more GYC motor:1.0kW or more GYA motor:0.5 to 2.5kW (for all models)	Connectors on both ends	
			WSC-P06P05-CF	GYM motor:2.9 to15kW (for all models)		
	Relay cable		WSC-P06P003-CG	GYM motor:2.9 to15kW (for all models)		

Cable type	Amplifier interface	DI/DO		SX bus	T-link, RS-485
	Amplifier type	V type	L,R type	V,L,R type	L,R type
WSC-D36P03		○	○	–	–
WSC-D26P03		–	–	○	○
WSC-D20P03		–	○	–	–
NP1C-P3		–	–	○	–

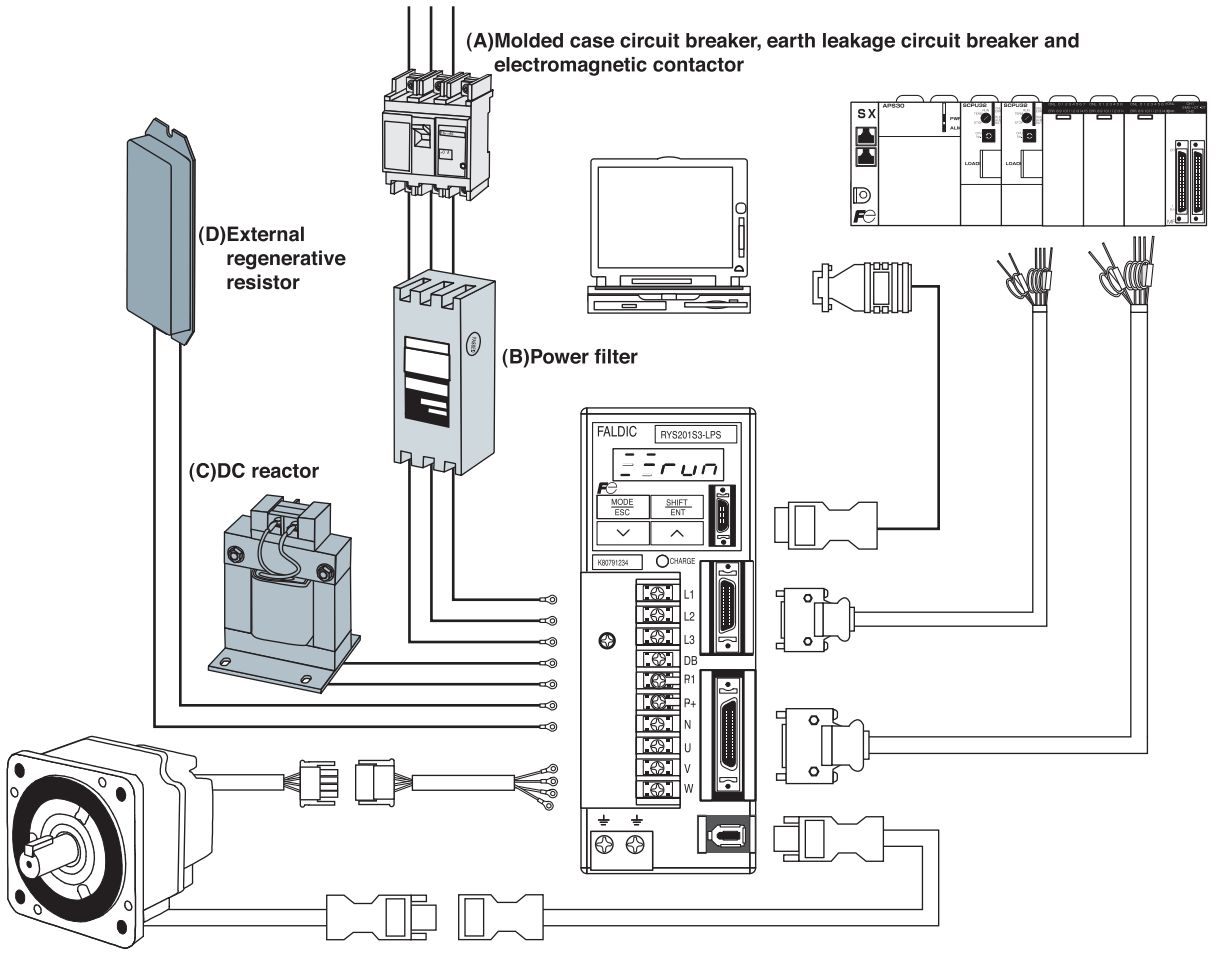
Other options

Name		Type	Description	Remarks
Control power input connector kit		WSK-L02P	Used to supply control power separately to the servo amplifier.	For servo amplifier (L1C, L2C)
Battery (with connector)		WSB-S	Backup battery for ABS function	-
External regenerative resistor (used when regenerative energy is high)		WSR-***	For FALDIC-α	-
		DB**-2		
		DB***V-21B	For Medium capacity FALDIC-α	-
For PC loade connection*	Converter for PC Loader	NW0H-CNV	RS-232C to RS-485 converter	Both converter and cable are required.
	Cable for PC Loader	NP4H-CB2	Interconnecting cable between the servo amplifier and converter	

*You can download the PC Loader software from our web site.
http://www.fujielectric.com/products/drive-download/

Option/Peripheral Equipment

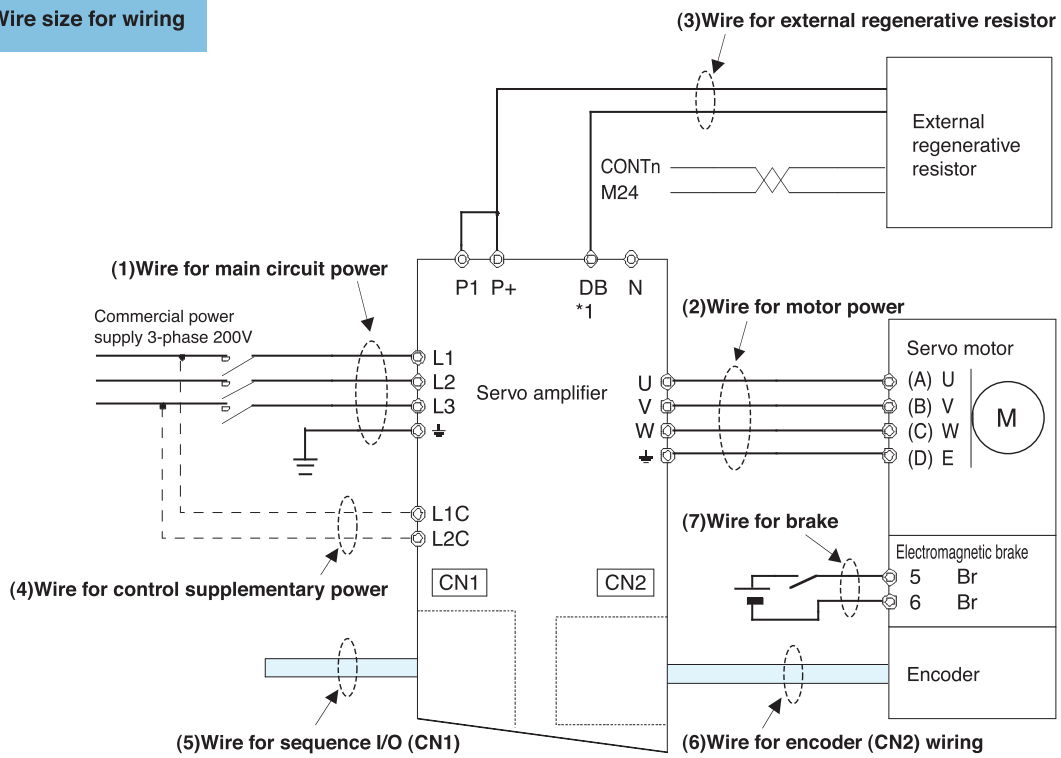
Peripheral equipment



Rated speed	Input power	Specifications	Motor output [kW]	Compatible servo amplifier type	Molded case circuit breaker (A)	Earth leakage circuit breaker (A)	Electromagnetic contactor (A)	Surge absorber	Power filter (B)	DC reactor (C)	External regenerative resistor (D)
3000r/min	3-phase 200V	α series amplifier	0.05	RYS500S3-□□□	BW32AAG-3P/3	EW32AAG-3P/3	SC-03	[For control relay] S1-B-0 Type: 200Ω (1/2W) +0.1μF (made by Okaya Electric Industries)	RNFTC06-20	DCR2-0.2	WSR-401
			0.1	RYS101S3-□□□						DCR2-0.4	
			0.2	RYS201S3-□□□						DCR2-0.75	
			0.4	RYS401S3-□□□	BW32AAG-3P/5	EW32AAG-3P/5			RNFTC10-20	DCR2-1.5	WSR-751
			0.8	RYS751S3-□□□	BW32AAG-3P/10	EW32AAG-3P/10				DCR2-2.2	WSR-152
			1.0	RYS102S3-□□□	BW32AAG-3P/15	EW32AAG-3P/15			RNFTC20-20	DCR2-3.7	DB11-2
			1.5	RYS152S3-□□□	BW32AAG-3P/20	EW32AAG-3P/20	SC-4-1				
			2.0	RYS202S3-□□□	BW32AAG-3P/30	EW32AAG-3P/30			RNFTC30-20	DCR2-5.5	DB22-2
			3.0	RYS302S3-□□□	BW50AAG-3P/40	EW50AAG-3P/40	SC-N1				
			4.0	RYS402S3-□□□	BW32AAG-3P/50	EW32AAG-3P/50	SC-N2		RNFTC50-20	DCR2-11	
			5.0	RYS502S3-□□□							
1500r/min		Low-base series amplifier	0.5	RYS501A3-□□□	BW32AAG-3P/10	EW32AAG-3P/10	SC-03	[For electromagnetic contactor] S2-A-0 Type: 500Ω (1/2W) +0.2μF (made by Okaya Electric Industries)	RNFTC06-20	DCR2-0.75	WSR-751
			1.5	RYS152A3-□□□	BW32AAG-3P/20	EW32AAG-3P/20	SC-4-1		RNFTC20-20	DCR2-2.2	WSR-152
			2.5	RYS252A3-□□□	BW32AAG-3P/30	EW32AAG-3P/30	SC-N1		RNFTC30-20	DCR2-3.7	DB11-2
		Medium capacity α series amplifier	2.9	RYS292M6-□□□	BW50AAG-3P/40	EW50AAG-3P/40			RNFTC30-20	DCR2-5.5	DB5.5V-21B
			4.0	RYS402M6-□□□	BW50AAG-3P/50	EW50AAG-3P/50	SC-N2		RNFTC50-20	DCR2-7.5	DB7.5V-21B
			5.5	RYS552M6-□□□						DCR2-11	DB11V-21B
			7.5	RYS752M6-□□□	BW100AAG-3P/75	EW100AAG-3P/75	SC-N2S		RNFMC60-20	DCR2-15	DB15V-21B
			11	RYS113M6-□□□	BW100AAG-3P/100	EW100AAG-3P/100	SC-N3		RNFMC1H-20	DCR2-18.5	DB18.5V-21B
			15	RYS153M6-□□□	BW250EAG-3P/125	EW250EAG-3P/125	SC-N4		RNFMCH1-20	DCR2-22	DB22V-21B
3000r/min	Single-phase 100V	α series amplifier	0.05	RYS500S3-□□□6	BW32AAG-2P/3	EW32AAG-2P/3	SC-03		RNFTC06-20	DCR2-0.2	WSR-401
			0.1	RYS101S3-□□□6	BW32AAG-2P/5	EW32AAG-2P/5				DCR2-0.4	
			0.2	RYS201S3-□□□6	BW32AAG-2P/10	EW32AAG-2P/10			RNFTC10-20	DCR2-0.75	
			0.375	RYS371S3-VVX6	BW32AAG-2P/15	EW32AAG-2P/15	SC-0		RNFTC20-20	DCR2-1.5	WSR-751

Peripheral equipment

Wire size for wiring



*1)The name of the DB pin depends on the capacity.

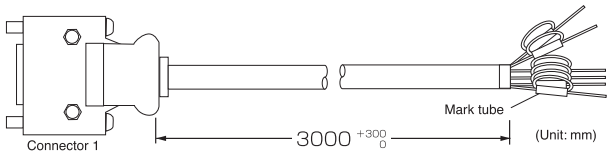
Input power	Servo amplifier type		(1)Main circuit (L1,L2,L3,⏚) (2)Motor power (U,V,W) (Unit: mm²)	(3)External regenerative resistor (P+,DB) (Unit: mm²)	(4) Supplementary power for control (Unit: mm²)	(5) Sequence I/O (Unit: mm²)	(6)Encoder	(7)Brake (Unit: mm²)
3-phase 200V	α series amplifier	RYS500S3-□□□	1.25	1.25	0.75	AWG#26	Bridging polyethylene for moving robot Vinyl sheathed cable (flame-retardant type) RMCV-SB AWG#25/2P+AWG#23/2C(10m or below) AWG#25/2P+AWG#17/2C(50m or below) Made by Daiden Co., Ltd.	1.25
		RYS101S3-□□□						
		RYS201S3-□□□						
		RYS401S3-□□□						
		RYS751S3-□□□						
		RYS102S3-□□□						
		RYS152S3-□□□						
		RYS202S3-□□□						
		RYS302S3-□□□	2.0					
		RYS402S3-□□□	3.5					
		RYS502S3-□□□						
	Low-base series amplifier	RYS501A3-□□□	1.25	1.25				-
		RYS152A3-□□□						
		RYS252A3-□□□	2.0					
	Medium capacity α series amplifier	RYS292M6-□□□	3.5	1.25				-
		RYS402M6-□□□						
		RYS552M6-□□□	8.0					
		RYS752M6-□□□	14.0	2.0				
		RYS113M6-□□□		3.5				
		RYS153M6-□□□	22.0					
Single-phase 100V	α series amplifier	RYS500S3-□□□6	1.25	1.25				1.25
		RYS101S3-□□□6						
		RYS201S3-□□□6						
		RYS371S3-VVX6						

* Selection of wire sizes above is based on 75℃ (HIV) wires. To use other wires, please refer to the users manual.

Option/Peripheral Equipment

External dimensions of options

Series : Cable for sequence input/output
Type : WSC-D20P03
Applicable amplifier : CN3 of RYS□□□S3-LPS,LPK,RPS



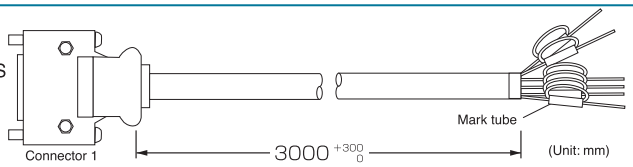
Connector 1

Plug	10120-3000PE
Shell	10320-52AO-008

Maker: Sumitomo 3M

Connector 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Mark tube	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Wire color (Color)	Orange		Gray		White		Yellow		Pink		Orange		Gray		White		Yellow		Pink	
Wire color (Mark)	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2

Series : Cable for sequence input/output
Type : WSC-D26P03
Applicable amplifier : CN1 of RYS□□□S3-VSS,VSK,LSS,LSK,RSS,LTS,RTS,LRS



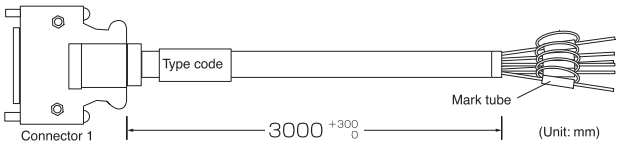
Connector 1

Plug	10126-3000PE
Shell	10326-52AO-008

Maker: Sumitomo 3M

Connector 1	1	2	3	4	5	6	7	8	9	10	11	12	13	15	14	16	17	18	19	20	21	22	23	24	25	26
Mark tube	1	2	3	4	5	6	7	8	9	10	11	12	13	15	14	16	17	18	19	20	21	22	23	24	25	26
Wire color (Color)	Orange		Gray		White		Yellow		Pink		Orange		Gray		White		Yellow		Pink		Orange		Gray		White	
Wire color (Mark)	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 3	Black 3	Red 3	Black 3	Red 3	Black 3

Series : Cable for sequence input/output
Type : WSC-D36P03
Applicable amplifier : CN1 of RYS□□□S3-VVS,VVK,LPS,LPK,RPS



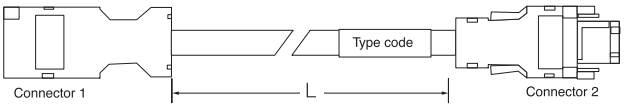
Connector 1

Plug	10136-3000PE
Shell	10336-52AO-008

Maker: Sumitomo 3M

Connector 1	1	2	3	4	5	6	7	8	9	11	10	12	13	15	14	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Mark tube	1	2	3	4	5	6	7	8	9	11	10	12	13	15	14	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Wire color (Color)	Orange		Gray		White		Yellow		Pink		Orange		Gray		White		Yellow		Pink		Orange		Gray		White		Yellow		Pink		Orange		Gray		White	
Wire color (Mark)	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 1	Black 1	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 2	Black 2	Red 3	Black 3	Red 3	Black 3	Red 3	Black 3	Red 3	Black 3	Red 3	Black 3	Red 4	Black 4	Red 4	Black 4	Red 4	Black 4

Series : Servo motor encoder cable
Type : WSC-P06P05 to WSC-P06P20
Applicable amplifier : GYS,GYC:0.75kW or less



(Unit: mm)

Type	L
WSC-P06P05	5000 +500 0
WSC-P06P10	10000 +1000 0
WSC-P06P20	20000 +2000 0

Connector 1	1	2	3	4	5	6
Connector 2	1	2	3	4	5	6
Wire color	Red	Black	Orange	Orange/White	Light blue	Light blue/White
	White	Black	Yellow	Brown	Red	Blue

Connector 1

Socket housing	53988-0619
Socket shell body cover	58302-0628
Socket mold cover(A)	53989-0605
Socket mold cover(B)	53990-0605
Cable clamp	58303-0000
Clamp screw	59832-0009

Maker: Molex Japan

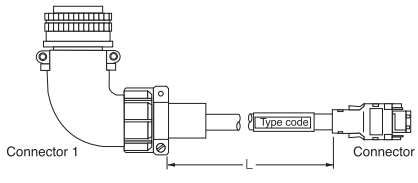
Connector 2

Plug housing	54180-0619
Plug shell body cover	58299-0626
Plug shell body	58300-0626
Plug mold cover (A)	54181-0615
Plug mold cover (B)	54182-0605
Cable clamp	58303-0000
Clamp screw	59832-0009

Maker: Molex Japan

* The types of connectors 1 and 2 are different from those in the connector kit.

Series : Servo motor encoder cable
Type : WSC-P06P05-C to WSC-P06P20-C
Applicable amplifier : GYS,GYC:1.0kW or more, GYA,GYM: all models



(Unit: mm)

Type	L
WSC-P06P05-C	5000 +500 0
WSC-P06P10-C	10000 +1000 0
WSC-P06P20-C	20000 +2000 0

Connector 1	H	G	T	S	C	D
Connector 2	1	2	3	4	5	6
Wire color	Red	Black	Orange	Orange/White	Light blue	Light blue/White
	White	Black	Yellow	Brown	Red	Blue

Connector 1

L-type plug	MS3108B20-29S
Cable clamp	MS3057-12A

Made by Daiichi Denshi Kogyo

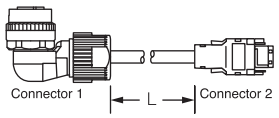
Connector 2

Plug housing	54180-0619
Plug shell body cover	58299-0626
Plug shell body	58300-0626
Plug mold cover (A)	54181-0615
Plug mold cover (B)	54182-0605
Cable clamp	58303-0000
Clamp screw	59832-0009

Maker: Molex Japan

External dimensions of options

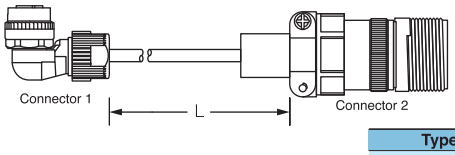
Series : Servo motor encodercable
Type : WSC-P06P05-CF to WSC-P06P20-CF
Applicable amplifier : GYM:all models



(Unit: mm)

Type	L
WSC-P06P05-CF	5000 +500 0
WSC-P06P10-CF	10000 +1000 0
WSC-P06P20-CF	20000 +2000 0

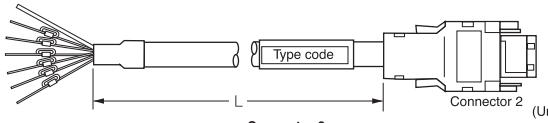
Series : Encoder relay cable
Type : WSC-P06P0R3-CG
Applicable amplifier : GYM:all models



(Unit: mm)

Type	L
WSC-P06P0R3-CG	300 +30 0

Series : Servo motor encoder cable
Type : WSC-P06P05-W to WSC-P06P20-W
Applicable amplifier : All models of α series (combined with either of WSK-P06P-F or WSK-P06P-C)



(Unit: mm)

Type	L
WSC-P06P05-W	5000 +500 0
WSC-P06P10-W	10000 +1000 0
WSC-P06P20-W	20000 +2000 0

Mark tube indication	P5	M5	BAT+	BAT−	SIG+	SIG−
Connector 2	1	2	3	4	5	6
Wire color	Red	Black	Orange	Orange/White	Light blue	Light blue/White
	White	Black	Yellow	Brown	Red	Blue

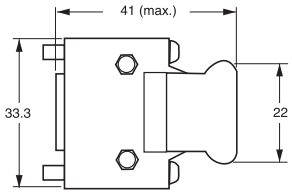
The wire without mark tube is a shield wire.

Connector 2

Plug housing	54180-0619
Plug shell body cover	58299-0626
Plug shell body	58300-0626
Plug mold cover (A)	54181-0615
Plug mold cover (B)	54182-0605
Cable clamp	58303-0000
Clamp screw	59832-0009

Maker: Molex Japan

Series : Sequence I/O connecter kit
Type : WSK-D20P
Applicable amplifier : CN3 of RYS□□□S3-LPS,LPK,RPS

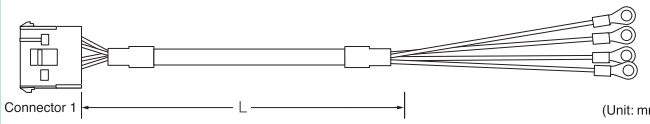


(Unit: mm)

Soldered plug	10120-3000PE
Shell kit	10320-52A0-008

Maker: Sumitomo 3M

Series : Servo motor power wiring optional cable
Type : WSC-P04P05 to WSC-P04P20
Applicable amplifier : GYS,GYC:0.75kW or less



(Unit: mm)

Type	L
WSC-M04P05	5000 +500 0
WSC-M04P10	10000 +1000 0
WSC-M04P20	20000 +2000 0

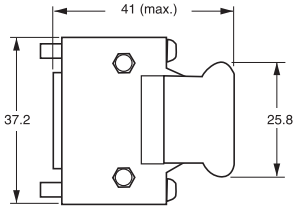
Connector 1

Cap housing	350780-1
Socket	350570-3

Maker: Tyco electronics AMP

Connector 1	1	2	3	4
Mark	U	V	W	E
Wire color	Red	White	Black	Green/Yellow

Series : Sequence I/O connector kit
Type : WSK-D26P
Applicable amplifier : CN1 of RYS□□□S3-VSS,VSK,LSS
LSK,RSS,LTS,RTS,LRS

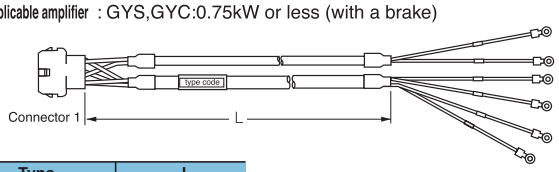


(Unit: mm)

Soldered plug	10126-3000PE
Shell kit	10326-52A0-008

Maker: Sumitomo 3M

Series : Servo motor power cable
Type : WSC-P06P05 to WSC-P06P20
Applicable amplifier : GYS,GYC:0.75kW or less (with a brake)



(Unit: mm)

Type	L
WSC-M06P05	5000 +500 0
WSC-M06P10	10000 +1000 0
WSC-M06P20	20000 +2000 0

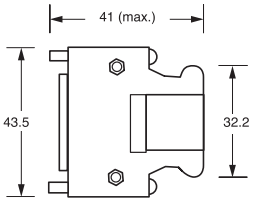
Connector 1

Cap housing	350781-1
Socket	350570-3

Maker: Tyco electronics AMP

Connector 1	1	2	3	4	5	6
Mark	U	V	W	E		
Wire color	Red	White	Black	Green/Yellow	Red	Black

Series : Sequence I/O connector kit
Type : WSK-D36P
Applicable amplifier : CN1 of RYS□□□S3-VVS,VVK,LPS,LPK,RPS



(Unit: mm)

Soldered plug	10136-3000PE
Shell kit	10336-52A0-008

Maker: Sumitomo 3M The connector type is different from that of the optional cable.

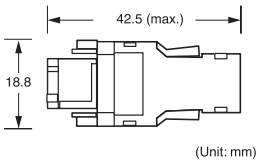
CAUTION

When using the encoder wiring connector kit for wiring, be sure to follow the connection diagram and description in the "users manual".

Option/Peripheral Equipment

External dimensions of options

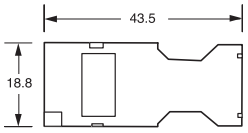
Series : Encoder wiring connector kit
Type : WSK-P06P-M
Applicable amplifier : All models (amplifier side)



Plug housing	54180-0619
Plug shell body cover	58299-0626
Plug shell body	58300-0626
Plug mold cover (A)	54181-0615
Plug mold cover (B)	54182-0605
Cable clamp	58303-0000
Clamps crew	59832-0009

Maker: Molex Japan

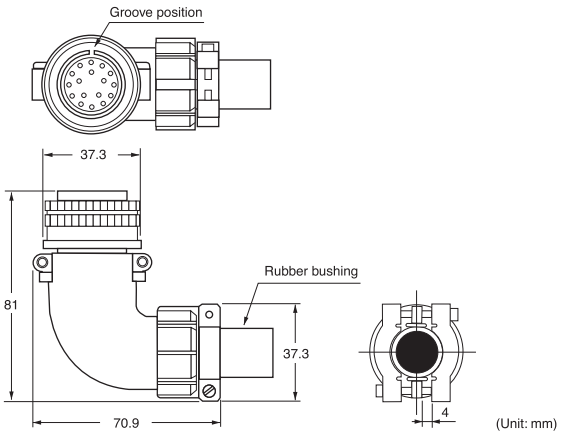
Series : Connector kit for encoder wiring
Type : WSK-P06P-F
Applicable amplifier : GYS,GYC:0.75kW or less (motor side)



Socket housing	53988-0619
Socket shell body cover	58302-0628
Socket mold cover (A)	53989-0605
Socket mold cover (B)	53990-0605
Cable clamp	58303-0000
Clamp screw	59832-0009

Maker: Molex Japan

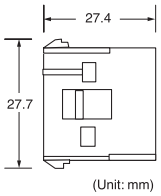
Series : Connector kit for encoder wiring
Type : WSK-P06P-C
Applicable amplifier : GYS,GYC:1.0kW or more (motor side),
GYA,GYM:all models



L-shape plug	MS3108B20-29S
Cable clamp	MS3057-12A

Maker: Daiichi Denshi Kogyo

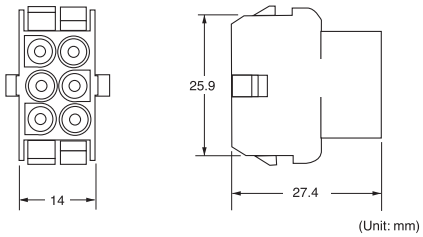
Series : Servo motor power wiring connector kit
Type : WSK-M04P
Applicable amplifier : GYS,GYC:0.75kW or less



Cap housing	350780-1
Shell body clamped side	350689-3

Maker: Tyco electronics AMP

Series : Servo motor power wiring connector kit
Type : WSK-M06P
Applicable amplifier : GYS,GYC:0.75kW or less (with a brake)



Cap housing	350781-1
Shell body clamped side	350689-3

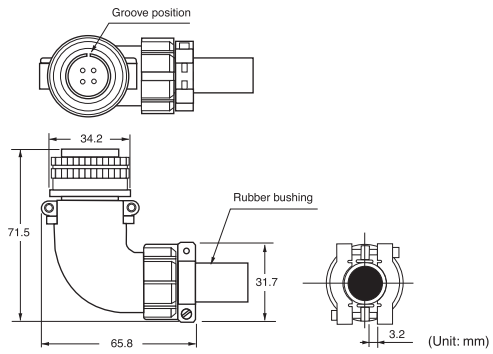
Maker: Tyco electronics AMP

CAUTION

When using the encoder wiring connector kit for wiring, be sure to follow the connection diagram and description in the "users manual".

External dimensions of options

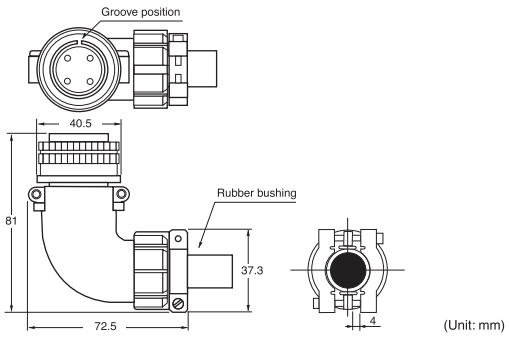
Series : Servo motor power wiring connector kit
Type : WSK-M04P-CA
Applicable amplifier : GYS:1.0kW to 2.0kW



L-shape plug	MS3108B18-10S
Cable clamp	MS3057-10A

Maker: Daiichi Denshi Kogyo

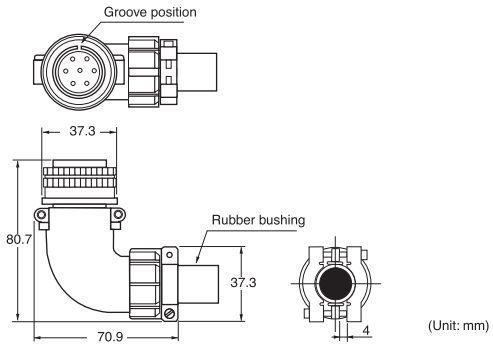
Series : Servo motor power wiring connector kit
Type : WSK-M04P-CB
Applicable amplifier : GYS:3.0kW to 5.0kW, GYC:1.0kW to 2.0kW, GYA:all models



L-shape plug	MS3108B22-22S
Cable clamp	MS3057-12A

Maker: Daiichi Denshi Kogyo

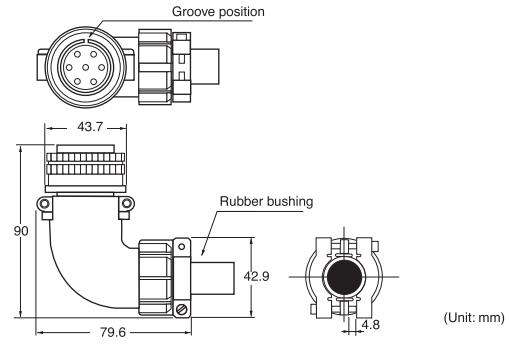
Series : Servo motor power wiring connector kit
Type : WSK-M06P-CA
Applicable amplifier : GYS:1.0kW to 2.0kW (with a brake)



L-shape plug	MS3108B20-15S
Cable clamp	MS3057-12A

Maker: Daiichi Denshi Kogyo

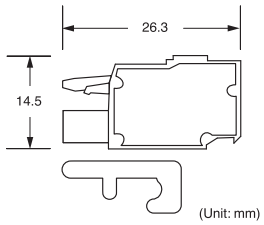
Series : Servo motor power wiring connector kit
Type : WSK-M06P-CB
Applicable amplifier : GYS:3.0kW to 5.0kW, GYC:1.0kW to 2.0kW, GYA:all models



L-shape plug	MS3108B24-10S
Cable clamp	MS3057-16A

Maker: Daiichi Denshi Kogyo

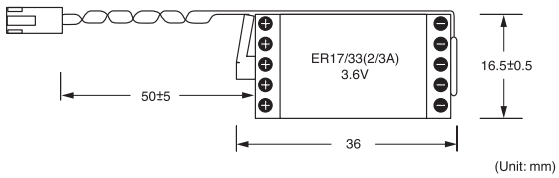
Series : Control power connecting connector kit
Type : WSK-L02P
Applicable amplifier : Models of 1.5kW or less



Connector	231-702/026-000
Operation lever	231-131

Maker: WAGO

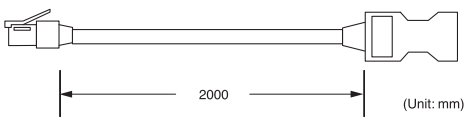
Series : Battery
Type : WSB-S
Applicable amplifier : All models



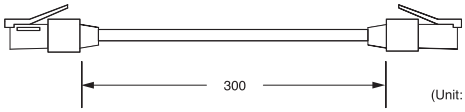
Storage battery	ER17/33WK41 1PP

Maker: Hitachi Maxell

Series : PC loader connection cable
Type : NP4H-CB2
Applicable amplifier : All models



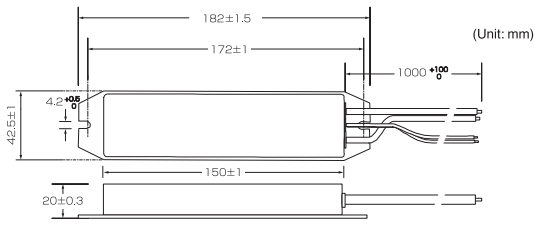
Series : SX bus expansion cable
Type : NP1C-P3
Applicable amplifier : All models



Option/Peripheral Equipment

External dimensions of options

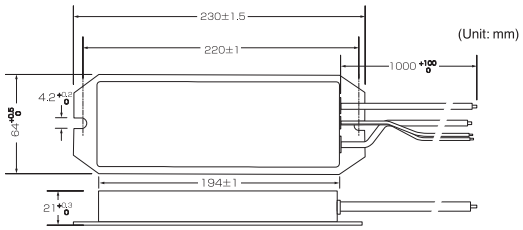
Series : External regenerative resistor
Type : WSR-401
Applicable amplifier : RYS:0.4kW or less



* Thickness of the mounting part is 1.2mm.

Item		Specifications
Type		WSR-401
Resistor	Resistance	68Ω
	Allowable power	17 W (continuous)
Thermistor	Working temperature	Open at 135±10 [℃]
	Withstand voltage	1.5 kV AC for 1 min
	Contact capacity	DC30 [V] 3 [A]

Series : External regenerative resistor
Type : WSR-751
Applicable amplifier : RYS:0.75kW

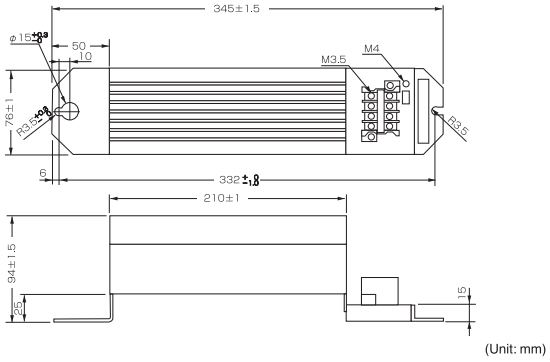


* Thickness of the mounting part is 1.5mm.

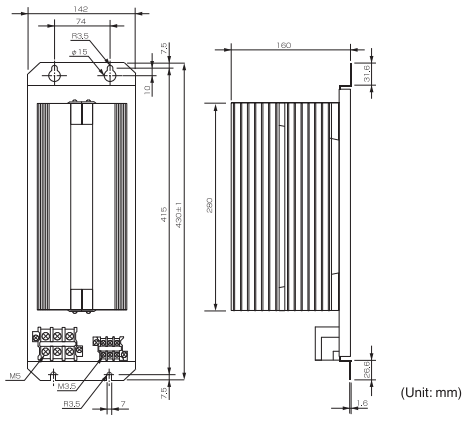
Item		Specifications
Type		WSR-751
Resistor	Resistance	15Ω
	Allowable power	25 W (continuous)
Thermistor	Working temperature	Open at 135±10 [℃]
	Withstand voltage	1.5 kV AC for 1 min
	Contact capacity	DC30 [V] 3 [A]

Series : External regenerative resistor
Type : WSR-152
Applicable amplifier : RYS:1.0kW to 1.5kW

Item		Specifications
Type		WSR-152
Resistor	Resistance	15Ω
	Allowable power	50W (continuous)
Thermistor	Working temperature	Open at 150±10 [℃]
	Withstand voltage	2.5 kV AC for 1 min
	Contact capacity	DC30 [V] 3 [A]

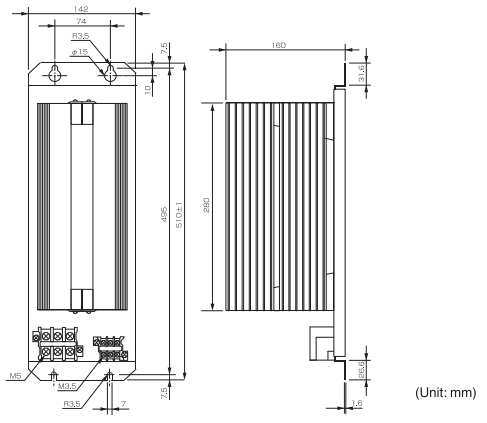


Series : External regenerative resistor
Type : DB11-2
Applicable amplifier : RYS:2.0kW to 3.0kW



Item		Specifications
Type		DB11-2
Resistor	Resistance	10Ω
	Allowable power	260W (continuous)
Thermistor	Working temperature	Open at 150±10 [℃]
	Withstand voltage	2.5 kV AC for 1 min
	Contact capacity	AC120 [V] 0.1 [A]/DC30 [V] 0.1[A]

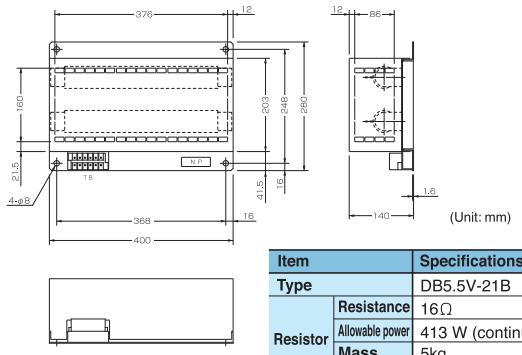
Series : External regenerative resistor
Type : DB22-2
Applicable amplifier : RYS:4.0kW to 5.0kW



Item		Specifications
Type		DB22-2
Resistor	Resistance	5.8Ω
	Allowable power	300W (continuous)
Thermistor	Working temperature	Open at 150±10 [℃]
	Withstand voltage	2.5 kV AC for 1 min
	Contact capacity	AC120 [V] 0.1 [A]/DC30 [V] 0.1[A]

External dimensions of options

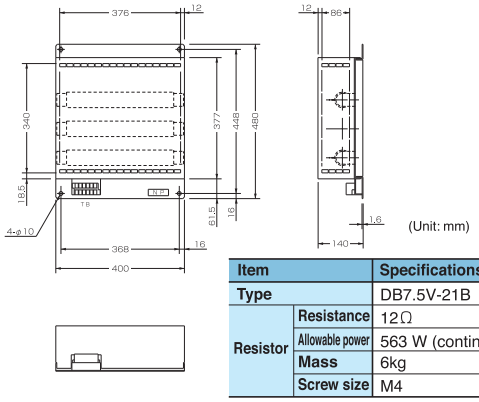
Series : External regenerative resistor
Type : DB5.5V-21B
Applicable amplifier : RYS (medium capacity):2.9kW



(Unit: mm)

Item		Specifications
Type		DB5.5V-21B
Resistor	Resistance	16Ω
	Allowable power	413 W (continuous)
	Mass	5kg
	Screw size	M4

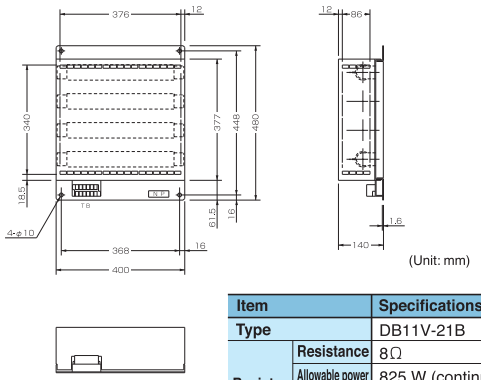
Series : External regenerative resistor
Type : DB7.5V-21B
Applicable amplifier : RYS (medium capacity):4.0kW



(Unit: mm)

Item		Specifications
Type		DB7.5V-21B
Resistor	Resistance	12Ω
	Allowable power	563 W (continuous)
	Mass	6kg
	Screw size	M4

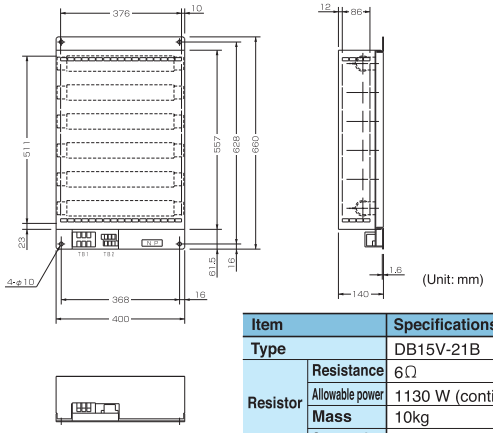
Series : External regenerative resistor
Type : DB11V-21B
Applicable amplifier : RYS (medium capacity):5.5kW



(Unit: mm)

Item		Specifications
Type		DB11V-21B
Resistor	Resistance	8Ω
	Allowable power	825 W (continuous)
	Mass	7kg
	Screw size	M4

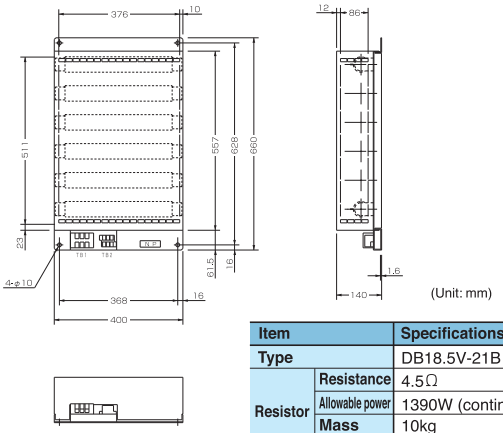
Series : External regenerative resistor
Type : DB15V-21B
Applicable amplifier : RYS (medium capacity):7.5kW



(Unit: mm)

Item		Specifications
Type		DB15V-21B
Resistor	Resistance	6Ω
	Allowable power	1130 W (continuous)
	Mass	10kg
	Screw size	M4,M5

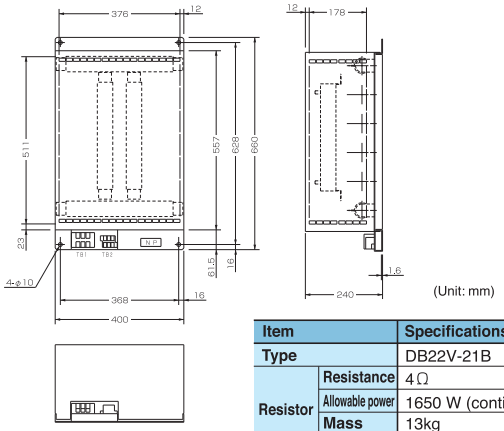
Series : External regenerative resistor
Type : DB18.5V-21B
Applicable amplifier : RYS (medium capacity):11kW



(Unit: mm)

Item		Specifications
Type		DB18.5V-21B
Resistor	Resistance	4.5Ω
	Allowable power	1390W (continuous)
	Mass	10kg
	Screw size	M4,M5

Series : External regenerative resistor
Type : DB22V-21B
Applicable amplifier : RYS (medium capacity):15kW



(Unit: mm)

Item		Specifications
Type		DB22V-21B
Resistor	Resistance	4Ω
	Allowable power	1650 W (continuous)
	Mass	13kg
	Screw size	M4,M5

Model List

Servo amplifier

Pulse train/speed control type

Specifications				Product code	Type	Delivery
VVX type	DI/DO	3-phase 200V	0.05kW	RYS1051	RYS500S3-VVX	△
			0.1kW	RYS1052	RYS101S3-VVX	△
			0.2kW	RYS1053	RYS201S3-VVX	△
			0.4kW	RYS1054	RYS401S3-VVX	△
			0.75kW	RYS1055	RYS751S3-VVX	△
			1.0kW	RYS1056	RYS102S3-VVX	△
			1.5kW	RYS1057	RYS152S3-VVX	△
			2.0kW	RYS1058	RYS202S3-VVX	△
			3.0kW	RYS1059	RYS302S3-VVX	△
			4.0kW	RYS1060	RYS402S3-VVX	△
			5.0kW	RYS1061	RYS502S3-VVX	△
		Single phase 100V	0.05kW	RYS3170	RYS500S3-VVX6	△
			0.1kW	RYS3171	RYS101S3-VVX6	△
			0.2kW	RYS3172	RYS201S3-VVX6	△
			0.375kW	RYS3173	RYS371S3-VVX6	△
	Low base	DI/DO	3-phase 200V	0.5kW	—	RYS501A3-VVX	△
				1.5kW	—	RYS152A3-VVX	△
				2.5kW	—	RYS252A3-VVX	△
VVS type	DI/DO	3-phase 200V	0.05kW	RYS1001	RYS500S3-VVS	◎
			0.1kW	RYS1002	RYS101S3-VVS	◎
			0.2kW	RYS1003	RYS201S3-VVS	◎
			0.4kW	RYS1004	RYS401S3-VVS	◎
			0.75kW	RYS1005	RYS751S3-VVS	◎
			1.0kW	RYS1006	RYS102S3-VVS	◎
			1.5kW	RYS1007	RYS152S3-VVS	◎
			2.0kW	RYS1008	RYS202S3-VVS	◎
			3.0kW	RYS1009	RYS302S3-VVS	◎
			4.0kW	RYS1010	RYS402S3-VVS	◎
			5.0kW	RYS1011	RYS502S3-VVS	◎
		Single phase 100V	0.05kW	RYS3073	RYS500S3-VVS6	△
			0.1kW	RYS3074	RYS101S3-VVS6	△
			0.2kW	RYS3075	RYS201S3-VVS6	△
	Low base	DI/DO	3-phase 200V	0.5kW	RYS3076	RYS501A3-VVS	△
				1.5kW	RYS3077	RYS152A3-VVS	△
				2.5kW	RYS3078	RYS252A3-VVS	△
VSS type	SX bus	3-phase 200V	0.05kW	RYS3013	RYS500S3-VSS	△
			0.1kW	RYS3014	RYS101S3-VSS	△
			0.2kW	RYS3015	RYS201S3-VSS	△
			0.4kW	RYS3016	RYS401S3-VSS	△
			0.75kW	RYS3017	RYS751S3-VSS	△
			1.0kW	RYS3018	RYS102S3-VSS	△
			1.5kW	RYS3019	RYS152S3-VSS	△
			2.0kW	RYS3020	RYS202S3-VSS	△
			3.0kW	RYS3021	RYS302S3-VSS	△
			4.0kW	RYS3022	RYS402S3-VSS	△
			5.0kW	RYS3023	RYS502S3-VSS	△
Medium capacity	VVK type	DI/DO	3-phase 200V	2.9kW	RYS1030	RYS292M6-VVK	△
				4.0kW	RYS1031	RYS402M6-VVK	△
				5.5kW	RYS1032	RYS552M6-VVK	△
				7.5kW	RYS1033	RYS752M6-VVK	△
				11kW	RYS1034	RYS113M6-VVK	△
				15kW	RYS1035	RYS153M6-VVK	△
	VSK type	SX bus		2.9kW	RYS3110	RYS292M6-VSK	△
				4.0kW	RYS3111	RYS402M6-VSK	△
				5.5kW	RYS3112	RYS552M6-VSK	△
				7.5kW	RYS3113	RYS752M6-VSK	△
				11kW	RYS3114	RYS113M6-VSK	△
				15kW	RYS3115	RYS153M6-VSK	△

Built-in linear positioning function type

Specifications				Product code	Type	Delivery
LPS type	DI/DO	3-phase 200V	0.05kW	RYS3025	RYS500S3-LPS	△
			0.1kW	RYS3026	RYS101S3-LPS	△
			0.2kW	RYS3027	RYS201S3-LPS	△
			0.4kW	RYS3028	RYS401S3-LPS	△
			0.75kW	RYS3029	RYS751S3-LPS	△
			1.0kW	RYS3030	RYS102S3-LPS	△
			1.5kW	RYS3031	RYS152S3-LPS	△
			2.0kW	RYS3032	RYS202S3-LPS	△
			3.0kW	RYS3033	RYS302S3-LPS	△
			4.0kW	RYS3034	RYS402S3-LPS	△
			5.0kW	RYS3035	RYS502S3-LPS	△
LSS type	SX bus	3-phase 200V	0.05kW	RYS3037	RYS500S3-LSS	△
			0.1kW	RYS3038	RYS101S3-LSS	△
			0.2kW	RYS3039	RYS201S3-LSS	△
			0.4kW	RYS3040	RYS401S3-LSS	△
			0.75kW	RYS3041	RYS751S3-LSS	△
			1.0kW	RYS3042	RYS102S3-LSS	△
			1.5kW	RYS3043	RYS152S3-LSS	△
			2.0kW	RYS3044	RYS202S3-LSS	△
			3.0kW	RYS3045	RYS302S3-LSS	△
			4.0kW	RYS3046	RYS402S3-LSS	△
			5.0kW	RYS3047	RYS502S3-LSS	△

Built-in linear positioning function type

Specifications				Product code	Type	Delivery
LTStype	T-link	3-phase 200V	0.05kW	—	RYS500S3-LTS	△
			0.1kW	—	RYS101S3-LTS	△
			0.2kW	—	RYS201S3-LTS	△
			0.4kW	—	RYS401S3-LTS	△
			0.75kW	—	RYS751S3-LTS	△
			1.0kW	—	RYS102S3-LTS	△
			1.5kW	—	RYS152S3-LTS	△
			2.0kW	—	RYS202S3-LTS	△
			3.0kW	—	RYS302S3-LTS	△
			4.0kW	—	RYS402S3-LTS	△
			5.0kW	—	RYS502S3-LTS	△
LRS type	RS-485	3-phase 200V	0.05kW	—	RYS500S3-LRS	△
			0.1kW	—	RYS101S3-LRS	△
			0.2kW	—	RYS201S3-LRS	△
			0.4kW	—	RYS401S3-LRS	△
			0.75kW	—	RYS751S3-LRS	△
			1.0kW	—	RYS102S3-LRS	△
			1.5kW	—	RYS152S3-LRS	△
			2.0kW	—	RYS202S3-LRS	△
			3.0kW	—	RYS302S3-LRS	△
			4.0kW	—	RYS402S3-LRS	△
			5.0kW	—	RYS502S3-LRS	△
Medium capacity	LPK type	DI/DO	3-phase 200V	2.9kW	RYS3130	RYS292M3-LPK	△
				4.0kW	RYS3131	RYS402M3-LPK	△
				5.5kW	RYS3132	RYS552M3-LPK	△
				7.5kW	RYS3133	RYS752M3-LPK	△
				11kW	RYS3134	RYS113M3-LPK	△
				15kW	RYS3135	RYS153M3-LPK	△
	LSK type	SX bus		2.9kW	RYS3150	RYS292M3-LSK	△
				4.0kW	RYS3151	RYS402M3-LSK	△
				5.5kW	RYS3152	RYS552M3-LSK	△
				7.5kW	RYS3153	RYS752M3-LSK	△
				11kW	RYS3154	RYS113M3-LSK	△
				15kW	RYS3155	RYS153M3-LSK	△

Built-in rotation indexing function type

Specifications				Product code	Type	Delivery
RPS type	DI/DO	3-phase 200V	0.05kW	RYS3049	RYS500S3-RPS	△
			0.1kW	RYS3050	RYS101S3-RPS	△
			0.2kW	RYS3051	RYS201S3-RPS	△
			0.4kW	RYS3052	RYS401S3-RPS	△
			0.75kW	RYS3053	RYS751S3-RPS	△
			1.0kW	RYS3054	RYS102S3-RPS	△
			1.5kW	RYS3055	RYS152S3-RPS	△
			2.0kW	RYS3056	RYS202S3-RPS	△
			3.0kW	RYS3057	RYS302S3-RPS	△
			4.0kW	RYS3058	RYS402S3-RPS	△
			5.0kW	RYS3059	RYS502S3-RPS	△
RSS type	SX bus	3-phase 200V	0.05kW	RYS3061	RYS500S3-RSS	△
			0.1kW	RYS3062	RYS101S3-RSS	△
			0.2kW	RYS3063	RYS201S3-RSS	△
			0.4kW	RYS3064	RYS401S3-RSS	△
			0.75kW	RYS3065	RYS751S3-RSS	△
			1.0kW	RYS3066	RYS102S3-RSS	△
			1.5kW	RYS3067	RYS152S3-RSS	△
			2.0kW	RYS3068	RYS202S3-RSS	△
			3.0kW	RYS3069	RYS302S3-RSS	△
			4.0kW	RYS3070	RYS402S3-RSS	△
			5.0kW	RYS3071	RYS502S3-RSS	△
RTS type	T-link	3-phase 200V	0.05kW	—	RYS500S3-RTS	△
			0.1kW	—	RYS101S3-RTS	△
			0.2kW	—	RYS201S3-RTS	△
			0.4kW	—	RYS401S3-RTS	△
			0.75kW	—	RYS751S3-RTS	△
			1.0kW	—	RYS102S3-RTS	△
			1.5kW	—	RYS152S3-RTS	△
			2.0kW	—	RYS202S3-RTS	△
			3.0kW	—	RYS302S3-RTS	△
			4.0kW	—	RYS402S3-RTS	△
			5.0kW	—	RYS502S3-RTS	△

◎:In stock
△:Built to order

Model List

Servo motor

GYS motor

Specifications					Product code	Type	Delivery
Without a brake	ABS/INC	100V/200V	Without a key	0.05kW	GYS1001	GYS500DC1-S8B	◎
			With a key		—	GYS500DC1- S8A	△
		200V	Without a key	0.1kW	GYS1002	GYS101DC1-SB	◎
			With a key		—	GYS101DC1- SA	△
			With a key	0.2kW	GYS1003	GYS201DC1-SA	◎
				0.4kW	GYS1004	GYS401DC1-SA	◎
				0.75kW	GYS1005	GYS751DC1-SA	◎
				1.0kW	GYS1006	GYS102DC1-SA	◎
				1.5kW	GYS1007	GYS152DC1-SA	◎
				2.0kW	GYS1008	GYS202DC1-SA	◎
				3.0kW	GYS1009	GYS302DC1-SA	◎
				4.0kW	GYS1010	GYS402DC1-SA	◎
				5.0kW	GYS1011	GYS502DC1-SA	◎
		100V	Without a key	0.1kW	GYS1042	GYS101DC1-S6B	◎
			With a key		—	GYS101DC1-S6A	△
			Without a key	0.2kW	GYS1043	GYS201DC1-S6B	◎
			With a key		—	GYS201DC1-S6A	△
			Without a key	0.375kW	GYS1044	GYS371DC1-S6B	◎
			With a key		—	GYS371DC1-S6A	△
	INC only	100V/200V	Without a key	0.05kW	GYS1061	GYS500DC1-C8B	◎
			With a key		—	GYS500DC1-C8A	△
		200V	Without a key	0.1kW	GYS1062	GYS101DC1-CB	◎
			With a key		—	GYS101DC1-CA	△
			With a key	0.2kW	GYS1063	GYS201DC1-CA	◎
				0.4kW	GYS1064	GYS401DC1-CA	◎
				0.75kW	GYS1065	GYS751DC1-CA	◎
		100V	Without a key	0.1kW	GYS1102	GYS101DC1-C6B	◎
			With a key		—	GYS101DC1-C6A	△
			Without a key	0.2kW	GYS1103	GYS201DC1-C6B	◎
			With a key		—	GYS201DC1-C6A	△
			Without a key	0.375kW	GYS1104	GYS371DC1-C6B	◎
			With a key		—	GYS371DC1-C6A	△
With a brake	ABS/INC	100V/200V	Without a key	0.5kW	GYS1021	GYS500DC1-S8B-B	◎
			With a key		—	GYS500DC1-S8A-B	△
		200V	Without a key	0.1kW	GYS1022	GYS101DC1-SB-B	◎
			With a key		—	GYS101DC1-SA-B	△
			With a key	0.2kW	GYS1023	GYS201DC1-SA-B	◎
				0.4kW	GYS1024	GYS401DC1-SA-B	◎
				0.75kW	GYS1025	GYS751DC1-SA-B	◎
				1.0kW	GYS1026	GYS102DC1-SA-B	◎
				1.5kW	GYS1027	GYS152DC1-SA-B	◎
				2.0kW	GYS1028	GYS202DC1-SA-B	◎
				3.0kW	GYS1029	GYS302DC1-SA-B	◎
				4.0kW	GYS1030	GYS402DC1-SA-B	◎
				5.0kW	GYS1031	GYS502DC1-SA-B	◎
		100V	Without a key	0.1kW	GYS1052	GYS101DC1-S6B-B	◎
			With a key		—	GYS101DC1-S6A-B	△
			Without a key	0.2kW	GYS1053	GYS201DC1-S6B-B	◎
			With a key		—	GYS201DC1-S6A-B	△
			Without a key	0.375kW	GYS1054	GYS371DC1-S6B-B	◎
			With a key		—	GYS371DC1-S6A-B	△
	INC only	100V/200V	Without a key	0.05kW	GYS1081	GYS500DC1-C8B-B	◎
			With a key		—	GYS500DC1-C8A-B	△
		200V	Without a key	0.1kW	GYS1082	GYS101DC1-CB-B	◎
			With a key		—	GYS101DC1-CA-B	△
			With a key	0.2kW	GYS1083	GYS201DC1-CA-B	◎
				0.4kW	GYS1084	GYS401DC1-CA-B	◎
				0.75kW	GYS1085	GYS751DC1-CA-B	◎
		100V	Without a key	0.1kW	GYS1112	GYS101DC1-C6B-B	◎
			With a key		—	GYS101DC1-C6A-B	△
			Without a key	0.2kW	GYS1113	GYS201DC1-C6B-B	◎
			With a key		—	GYS201DC1-C6A-B	△
			Without a key	0.375kW	GYS1114	GYS371DC1-C6B-B	◎
			With a key		—	GYS371DC1-C6A-B	△

GYC motor

Specifications					Product code	Type	Delivery
Without a brake	ABS/INC	200V	With a key	0.1kW	GYC1000	GYC101DC1-SA	◎
				0.2kW	GYC1001	GYC201DC1-SA	◎
				0.4kW	GYC1002	GYC401DC1-SA	◎
				0.75kW	GYC1003	GYC751DC1-SA	◎
				1.0kW	GYC1004	GYC102DC1-SA	◎
				1.5kW	GYC1005	GYC152DC1-SA	◎
				2.0kW	GYC1006	GYC202DC1-SA	◎
	INC only			0.1kW	GYC1040	GYC101DC1-CA	◎
				0.2kW	GYC1041	GYC201DC1-CA	◎
				0.4kW	GYC1042	GYC401DC1-CA	◎
				0.75kW	GYC1043	GYC751DC1-CA	◎
With a brake	ABS/INC			0.1kW	GYC1020	GYC101DC1-SA-B	◎
				0.2kW	GYC1021	GYC201DC1-SA-B	◎
				0.4kW	GYC1022	GYC401DC1-SA-B	◎
				0.75kW	GYC1023	GYC751DC1-SA-B	◎
				1.0kW	GYC1024	GYC102DC1-SA-B	◎
				1.5kW	GYC1025	GYC152DC1-SA-B	◎
				2.0kW	GYC1026	GYC202DC1-SA-B	◎
	INC only			0.1kW	GYC1050	GYC101DC1-CA-B	◎
				0.2kW	GYC1051	GYC201DC1-CA-B	◎
				0.4kW	GYC1052	GYC401DC1-CA-B	◎
				0.75kW	GYC1053	GYC751DC1-CA-B	◎

GYA motor

Specifications					Product code	Type	Delivery
Without a brake	ABS/INC	200V	With a key	0.5kW	GYA1005	GYA501BC1-SA	△
				1.5kW	GYA1006	GYA152BC1-SA	△
				2.5kW	GYA1007	GYA252BC1-SA	△

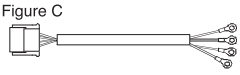
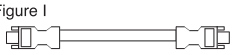
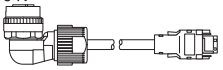
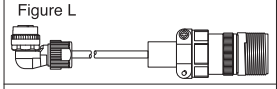
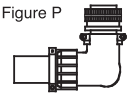
GYM motor

Specifications					Product code	Type	Delivery
Without a brake	INC (coupling)	200V	With a key	2.9kW	GYM1000	GYM292BC6-KC	△
				4.0kW	GYM1001	GYM402BC6-KC	△
				5.5kW	GYM1002	GYM552BC6-KC	△
				7.5kW	GYM1003	GYM752BC6-KC	△
				11kW	GYM1004	GYM113BC6-KC	△
				15kW	GYM1005	GYM153BC6-KC	△

◎ : In stock
△ : Built to order

Model List

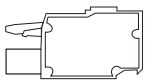
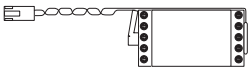
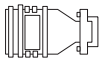
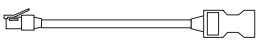
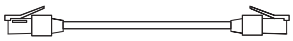
Option

Name		External view	Specifications		Product code	Type	Delivery
(1)Sequence I/O wiring Master controller → Servo amplifier	Cable (for CN1) (for CN1) (for CN3)	Figure A 	DI/DO standerd 36-pin	3m (loose wire on an end)	RYWS802	WSC-D36P03	◎
			26-pin for SX/T-link/RS-485		RYWS801	WSC-D26P03	◎
			DI/DO extended 20-pin		RYWS800	WSC-D20P03	◎
	Connector (for CN1) (for CN1) (for CN3)	Figure B 	DI/DO standerd 36-pin		RYWS022	WSK-D36P	◎
			26-pin for SX/T-link/RS-485		RYWS021	WSK-D26P	◎
			DI/DO extended 20-pin		RYWS020	WSK-D20P	◎
(2)Servo motor power Servo amplifier (terminal block) → Servo motor (connector)	Motor without a brake — Cable	Figure C 	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	5m (loose wire on an end)	RYWS809	WSC-M04P05	◎
				10m (loose wire on an end)	RYWS810	WSC-M04P10	◎
				20m (loose wire on an end)	RYWS811	WSC-M04P20	◎
	Motor without a brake — Connector	Figure D 	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	(Figure D)	RYWS026	WSK-M04P	◎
		Figure E 	GYS motor: 1.0 to 2.0kW	(Figure E)	RYWS027	WSK-M04P-CA	◎
			GYS motor: 3.0 to 5.0kW GYC motor: 1.0 to 2.0kW GYA motor: 0.5 to 2.5kW (for all models)	(Figure E)	RYWS031	WSK-M04P-CB	◎
	Motor with a brake — Cable	Figure F 	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	5m (loose wire on an end)	RYWS815	WSC-M06P05	◎
				10m (loose wire on an end)	RYWS816	WSC-M06P10	◎
				20m (loose wire on an end)	RYWS817	WSC-M06P20	◎
	Motor with a brake — Connector	Figure G 	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	(Figure G)	RYWS028	WSK-M06P	◎
		Figure H 	GYS motor: 1.0 to 2.0kW	(Figure H)	RYWS029	WSK-M06P-CA	◎
			GYS motor: 3.0 to 5.0kW GYC motor: 1.0 to 2.0kW GYA motor: 0.5 to 2.5kW (for all models)	(Figure H)	RYWS032	WSK-M06P-CB	◎
(3)Servo motor encoder wiring Servo amplifier (CN2) → Servo motor (connector)	Cable	Figure I 	GYS motor: 0.75kW or less GYC motor: 0.75kW or less	5m (connectors on both ends)	RYWS803	WSC-P06P05	◎
				10m (connectors on both ends)	RYWS804	WSC-P06P10	◎
				20m (connectors on both ends)	RYWS805	WSC-P06P20	◎
		Figure J 	GYS motor: 1.0kW or more GYC motor: 1.0kW or more	5m (connectors on both ends)	RYWS806	WSC-P06P05-C	◎
				10m (connectors on both ends)	RYWS807	WSC-P06P10-C	◎
			GYA motor: 0.5 to 2.5kW (for all models) GYA motor: 2.9 to 15kW (for all models)	20m (connectors on both ends)	RYWS808	WSC-P06P20-C	◎
		Figure K 	GYM motor: 2.9 to 15kW	5m	RYWS825	WSC-P06P05-CF	
				10m	RYWS826	WSC-P06P10-CF	
				20m	RYWS827	WSC-P06P20-CF	
		Figure L 	New-previous encoder cable adapter GYM motor: 2.9 to 15kW	0.3m	RYWS828	WSC-P06P0R3-CG	
		Figure M 	Common to all models in FALDIC - α series	5m (loose wires on motor side)	RYWS821	WSC-P06P05-W	◎
				10m (loose wires on motor side)	RYWS822	WSC-P06P10-W	◎
				20m (loose wires on motor side)	RYWS823	WSC-P06P20-W	◎
	Connector	Figure N  Figure D 	Amplifier side	(Figure N)	RYWS023	WSK-P06P-M	◎
			GYS motor: 0.75kW or less GYC motor: 0.75kW or less	(Figure D)	RYWS024	WSK-P06P-F	◎
		Figure P 	GYS motor: 1.0kW or more GYC motor: 1.0kW or more GYA motor: 0.5 to 2.5kW (for all models)	(Figure P)	RYWS025	WSK-P06P-C	◎

◎ : In stock
△ : Built to order

Model List

Option

Name	External view	Description	Application	Product code	Type	Delivery
Control power input connector kit		Used to supply control power separately to the servo amplifier.	For servo amplifier (L1C, L2C)	RYWS030	WSK-L02P	◎
Battery (with connector)		Backup battery for ABS function	—	RYWS003	WSB-S	◎
External regenerative resistor		Used when regenerative energy is high. For FALDIC-α (3000r/min,1500r/min)	3000r/min type: 0.05 to 0.4kW	RYWS010	WSR-401	◎
			3000r/min types: 0.75kW 1500r/min type: 0.5kW	RYWS011	WSR-751	◎
			1.0 to 1.5kW	RYWS012	WSR-152	◎
			2.0 to 3.0kW	RGWG339	DB11-2	◎
			4.0 to 5.0kW	RGWG342	DB22-2	◎
		Used when regenerative energy is high. For medium capacity type α	2.9kW	RHWJ30C	DB5.5V-21B	◎
			4.0kW	RHWJ30D	DB7.5V-21B	◎
			5.5kW	RHWJ30E	DB11V-21B	◎
			7.5kW	RHWJ30F	DB15V-21B	◎
			11kW	RHWJ30G	DB18.5V-21B	◎
			15kW	RHWJ30H	DB22V-21B	◎
For PC loader connection* Converter		RS-232C to RS-485 converter	—	NW0H003	NW0H-CNV	◎
For PC loader connection* Cable		Interconnecting cable between the servo amplifier and converter	—	NP4H013	NP4H-CB2	◎
SX bus expansion cable		Cable for high-speed serial communication with our PLC "SPH series"	—	NP1C001	NP1C-P3	◎

* You can download the PC Loader software from our web site.
http://www.fujielectric.com/products/drive-download/

◎ : **In stock**
△ : **Built to order**

Recommended parts of motor power wiring connector for medium capacity FALDIC-α (GYM motor of 2.9kW or higher)

•Recommended motor power wiring connectors for motor side

Made by DDK

Motor type	Receptacle mounted on motor (reference)		Parts supplied by customer					
			L-shape plug		Straight plug		Cable clamp	
	Outside	Type	Outside	Type	Outside	Type	Outside	Type
GYM292BC6-KC		CE05-2A22-22PD-D		D/MS3108B22-22S		D/MS3106B22-22S		D/MS3057-12A
GYM402BC6-KC								
GYM552BC6-KC		CE05-2A32-17PD-D		D/MS3108B32-17S		D/MS3106B32-17S		D/MS3057-20A
GYM752BC6-KC								
GYM113BC6-KC								
GYM153BC6-KC								

•Recommended brake power supply connectors

Made by DDK

Motor type	Receptacle mounted on motor (reference)		Parts supplied by customer				
			L-shape plug		Straight plug		Contact type (crimp type)
	Outside	Type	Outside	Type	Outside	Type	Type
GYM□□□BC6-KCB equipped with brake		CM10-R2P-D(D7)		CMV1-AP2S-M2		CMV1-SP2S-M2	CMV1-#22BSC-C3-100

•Recommended encoder connectors

Made by DDK

Motor type	Receptacle mounted on motor (reference)		Parts supplied by customer				
			L-shape plug		Straight plug		Contact type (crimp type)
	Outside	Type	Outside	Type	Outside	Type	Type
GYM□□□ BC6		CM10-R10P-D(D7)		CM10-AP10S-M-D		CM10-SP10S-M-D	CM10-#22SC(C4)(D8)-100
				CMV1-AP10S-M2		CMV1-SP10S-M2	

Product Warranty

To all our customers who purchase Fuji Electric products included in this catalog:

Please take the following items into consideration when placing your order.

When requesting an estimate and placing your orders for the products included in these materials, please be aware that any items such as specifications which are not specifically mentioned in the contract, catalog, specifications or other materials will be as mentioned below.
In addition, the products included in these materials are limited in the use they are put to and the place where they can be used, etc., and may require periodic inspection. Please confirm these points with your sales representative or directly with this company.
Furthermore, regarding purchased products and delivered products, we request that you take adequate consideration of the necessity of rapid receiving inspections and of product management and maintenance even before receiving your products.

1. Free of Charge Warranty Period and Warranty Range

1-1 Free of charge warranty period

(1) The product warranty period is "1 year from the date of purchase" (both inside and outside Japan) or 18 months(inside Japan)24 months(outside Japan) from the manufacturing time printed on the name plate, whichever comes first.
(2) However, in cases where the use environment, conditions of use, use frequency and times used, etc., have an effect on product life, this warranty period may not apply.
(3) Furthermore, the warranty period for parts restored by Fuji Electric's Service Department is "6 months from the date that repairs are completed."

1-2 Warranty range

(1) In the event that breakdown occurs during the product's warranty period which is the responsibility of Fuji Electric, Fuji Electric will replace or repair the part of the product that has broken down free of charge at the place where the product was purchased or where it was delivered. However, if the following cases are applicable, the terms of this warranty may not apply.
  1) The breakdown was caused by inappropriate conditions, environment, handling or use methods, etc. which are not specified in the catalog, operation manual, specifications or other relevant documents.
  2) The breakdown was caused by the product other than the purchased or delivered Fuji's product.
  3) The breakdown was caused by the product other than Fuji's product, such as the customer's equipment or software design, etc.
  4) Concerning the Fuji's programmable products, the breakdown was caused by a program other than a program supplied by this company, or the results from using such a program.
  5) The breakdown was caused by modifications or repairs affected by a party other than Fuji Electric.
  6) The breakdown was caused by improper maintenance or replacement using consumables, etc. specified in the operation manual or catalog, etc.
  7) The breakdown was caused by a chemical or technical problem that was not foreseen when making practical application of the product at the time it was purchased or delivered.
  8) The product was not used in the manner the product was originally intended to be used.
  9) The breakdown was caused by a reason which is not this company's responsibility, such as lightning or other disaster.
(2) Furthermore, the warranty specified herein shall be limited to the purchased or delivered product alone.
(3) The upper limit for the warranty range shall be as specified in item (1) above and any damages (damage to or loss of machinery or equipment, or lost profits from the same, etc.) consequent to or resulting from breakdown of the purchased or delivered product shall be excluded from coverage by this warranty.

1-3. Trouble diagnosis

As a rule, the customer is requested to carry out a preliminary trouble diagnosis. However, at the customer's request, this company or its service network can perform the trouble diagnosis on a chargeable basis. In this case, the customer is asked to assume the burden for charges levied in accordance with this company's fee schedule.

2. Exclusion of Liability for Loss of Opportunity, etc.

Regardless of whether a breakdown occurs during or after the free of charge warranty period, this company shall not be liable for any loss of opportunity, loss of profits, or damages arising from special circumstances, secondary damages, accident compensation to another company, or damages to products other than this company's products, whether foreseen or not by this company, which this company is not be responsible for causing.

3. Repair Period after Production Stop, Spare Parts Supply Period (Holding Period)

Concerning models (products) which have gone out of production, this company will perform repairs for a period of 7 years after production stop, counting from the month and year when the production stop occurs. In addition, we will continue to supply the spare parts required for repairs for a period of 7 years, counting from the month and year when the production stop occurs. However, if it is estimated that the life cycle of certain electronic and other parts is short and it will be difficult to procure or produce those parts, there may be cases where it is difficult to provide repairs or supply spare parts even within this 7-year period. For details, please confirm at our company's business office or our service office.

4. Transfer Rights

In the case of standard products which do not include settings or adjustments in an application program, the products shall be transported to and transferred to the customer and this company shall not be responsible for local adjustments or trial operation.

5. Service Contents

The cost of purchased and delivered products does not include the cost of dispatching engineers or service costs. Depending on the request, these can be discussed separately.

6. Applicable Scope of Service

Above contents shall be assumed to apply to transactions and use of the country where you purchased the products. Consult the local supplier or Fuji for the detail separately.

SAFETY PRECAUTIONS

1. This catalog is intended for use in selecting required servo systems. Before actually using these products, carefully read their instruction manuals and understand their correct usage.
2. Products described in this catalog are neither designed nor manufactured for combined use with a system or equipment that will affect human lives.
   If you are considering using these products for special purposes, such as atomic energy control, aerospace, medical application, or traffic control, please consult our sales office.
3. If you use our product with equipment that is expected to cause serious injury or damage to your property in case of failure, be sure to take appropriate safety measures for the equipment.

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