

HarmonicDrive®

AC servo actuator **DC24V type**

RSF supermini series

FHA-C mini series

+ J4

Mitsubishi AC servo

MITSUBISHI SERVO AMPLIFIERS & MOTORS

MELSERVO

Join Together for a Complete Solution

HarmonicDrive® RSF Supermini Series AC Servo Actuator now connects directly with Mitsubishi Electric's MELSERVO-J4 SSCNETIII/H further expanding the options for network connectivity! Compatibility with the ultra-small RSF supermini series and FHA-C mini series that has a small, flat, and compact shape can broaden the range of connection network options further.

HarmonicDrive®



- This is the AC servo actuator consisting of both HarmonicDrive® precision speed reducer and flat AC servo motor.
- The compact, flat configuration enables compact machine design.
- The FHA-C mini series has a hollow structure and enables simplification of the device.
- The device in which the system is configured by using the "MELSERVO-J4" SSCNET III/H communication enables you to use this product easily.

Contact

AC servo actuator RSF supermini series
FHA-C mini series (Harmonic Drive Systems Inc.)

AC Servo Amplifier MELSERVO-J4 (Mitsubishi Electric Corporation)

Combinations

Actuator	Size	Power supply voltage (V)	Combined servo amplifier ^{*1}	Extension cables ^{*2}
			Compatible with SSCNET III/H	
RSF supermini	3	DC24	MR-J4W2-0303B6-MX940J	For encoder : EWA-E**-JST09-A10-M For motor : EWA-M**-JST04-NC-M For brake : EWA-B**-JST03-TMC ^{*3}
	5			
FHA-C mini	8	DC24	MR-J4W2-0303B6-MX940J	For encoder : EWC-E**-A12-A10-M For motor : EWC-M**-A06-NC-M

*1: For detailed materials for the servo amplifier, please ask Mitsubishi Electric Corporation to provide the product specifications (Material Number: BCN-B72000-227).

2: "" in the model code indicates the cable length (03 = 3 m, 05 = 5 m, and 10 = 10 m).

*3: RSF-3 with break option is not available.

Specifications

RSF supermini series

Item		Model	RSF-3C			RSF-5B		
			30	50	100	30	50	100
Maximum torque*	Nm		0.13	0.21	0.30	0.5	0.9	1.4
Allowable continuous torque* ² (running at allowable continuous speed)	Nm		0.03	0.07	0.11	0.18	0.29	0.44
Allowable continuous stall torque	Nm		0.04	0.08	0.12	0.28	0.44	0.65
Maximum speed	rpm		243	146	73	243	146	73
Allowable continuous speed (output shaft)	rpm		150	90	45	150	90	45
Input power supply voltage (amplifier)	V		DC24±10%			DC24±10%		
Moment of Inertia (GD ² /4)	Without brake	kgm ²	0.11×10 ⁻⁴	0.29×10 ⁻⁴	1.17×10 ⁻⁴	0.66×10 ⁻⁴	1.83×10 ⁻⁴	7.31×10 ⁻⁴
	With brake		-			0.11×10 ⁻³	0.31×10 ⁻³	1.23×10 ⁻³
Reduction ratio			30	50	100	30	50	100
Allowable radial load (value at center of output shaft)	N		36			90		
Allowable axial load	N		130			270		
Encoder type			Incremental encoder					
Encoder resolution capability* ⁴	pulse/rev		200[800]			500[2000]		
Actuator resolution capability* ⁴	pulse/rev		[24,000]	[40,000]	[80,000]	[60,000]	[100,000]	[200,000]
One-way positioning accuracy	arc min		10			4	3	3
Brake holding torque (with brake)	Nm		-			0.18	0.29	0.44
Mass* ⁵	Without brake	g	31			66		
	With brake	g	-			86		

FHA-C mini series

Item		Model	FHA-8C		
			30	50	100
Maximum torque*	Nm		1.8	3.3	4.8
Allowable continuous torque ^{*2} (running at allowable continuous speed)	Nm		0.75	1.5	2
Maximum speed	rpm		193	116	58
Allowable continuous speed (output shaft)	rpm		117	70	35
Input power supply voltage (amplifier)	V		DC24±10%		
Moment of Inertia (GD ² /4)	kgm ²		0.0026	0.0074	0.029
Reduction ratio			30	50	100
Allowable moment load	Nm		15		
Moment Stiffness	Nm/rad		2 x 10 ⁴		
Encoder type			Incremental encoder		
Encoder resolution capability ^{*4}	pulse/rev		2,000[8,000]		
Actuator resolution capability ^{*4}	pulse/rev		[240,000]	[400,000]	[800,000]
One-way positioning accuracy	arc sec		150	120	120
Mass	kg		0.40		

*1: The values in this table indicate the values for the output shaft.

*2: This value is obtained when combining with the J4 servo amplifier MR-J4W2-0303B6-MX940J (driven with the ideal sine wave).

*3: The values show typical values.

*4: The values in brackets indicate the resolution capacity when combining with the servo amplifier with quadrature.

*5: The weight does not include that of the clamp filter. The weight of the clamp filter is 6 g per unit.

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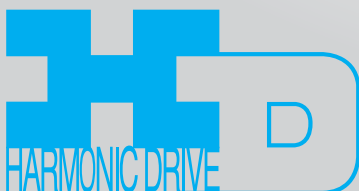
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* Please contact us with any questions.

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