

## HarmonicDrive® AC Servo Actuator SHA Series



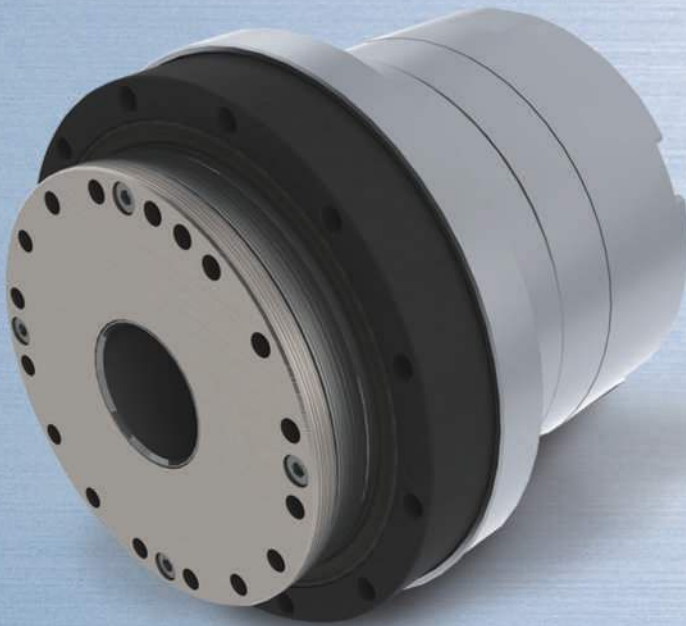
## Panasonic Corporation MINAS A5II/A5IIN Series

# Collaborative Success

HarmonicDrive® AC servo actuator SHA series  
now connects directly with Panasonic Corporation's "MINAS A5II/A5IIN series"  
Realtime Express (RTEX).

Further expanding the options for network connectivity.

## HarmonicDrive®



Panasonic Corporation-manufactured  
**Realtime Express (RTEX)**

## ■ Features

- SHA AC Servo Actuator precision HarmonicDrive® zero-backlash gearing with a flat AC servo motor.
- Hollow Shaft design allows cables, shafts or lasers to pass through the axis of rotation. (Piping and wiring processes, etc.)
- Compact, flat configuration enables compact machine design. (All mounting directions are available.)
- Precise one-way positional accuracy:
  - Gear Ratio 50:1=50 arc-sec (0.014 degrees)
  - Gear Ratio 81:1 or more = 40 arc-sec (0.011 degrees)
- Torque to Volume ratio of 5-times or more than direct drive motors.
- SHA-P series actuators are easy to use with "MINAS A5IIN series" Realtime Express (RTEX).

# Specifications

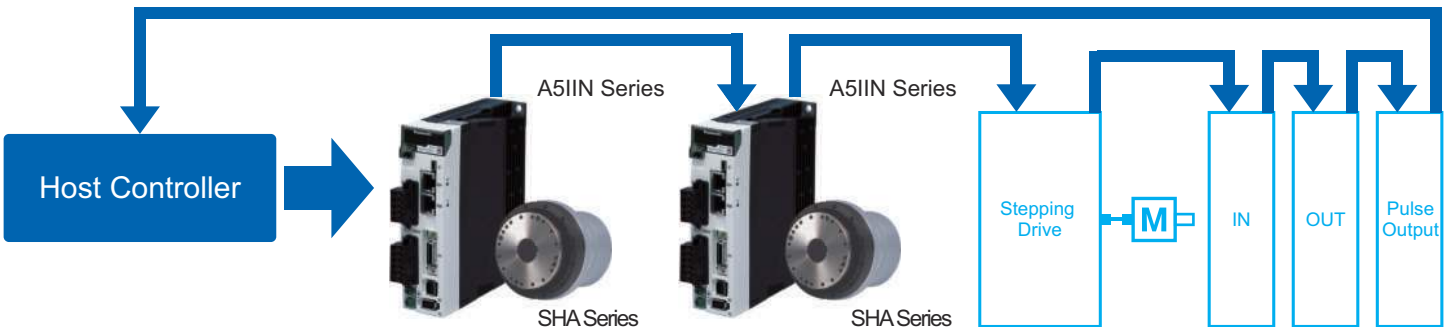
Size/Ratio		SHA25P					SHA32P				
		51	81	101	121	161	51	81	101	121	161
Item	Recommended Driver	MCDKT3520/MCDKT3520E					MDDKT3530/MDDKT3530E				
	A5IIN series <sup>5,6</sup>	MCDHT3520N21/MCDHT3520ND1					MDDHT3530N21/MDDHT3530ND1				
Maximum Torque <sup>2</sup>	Nm	127	178	204	217	229	277	395	433	459	484
Continuous Torque <sup>2,3</sup>	Nm	41	67	81	81	81	92	153	178	178	178
Maximum Speed	rpm	109.8	69.1	55.4	46.3	34.8	94.1	59.3	47.5	39.7	29.8
Maximum moment load	Nm	258					580				
One-way Positioning Accuracy	arc-sec	50	40	40	40	40	50	40	40	40	40
Encoder Type		Magnetic Type Absolute Encoder									
Output Resolution	Pulse / Rotation	6.684.672	10.616.832	13.238.272	15.859.712	21.102.592	6.684.672	10.616.832	13.238.272	15.859.712	21.102.592
Mass (without brake)	kg	2.95					5.9				
Mass (with brake)	kg	3.1					6.2				

Size/Ratio		SHA40P					SHA58P				SHA65P			
		51	81	101	121	161	81	101	121	161	81	101	121	161
Item	Recommended Driver	MDDKT3540/MDDKT3540E					MFDKTA390/MFDKTA390E				MFDKTB3A2/MFDKTB3A2E			
	A5IIN series <sup>5,6</sup>	MDDHT3540N21/MDDHT3540ND1					MFDHTA390N21/MFDHTA390ND1				MFDHTB3A2N21/MFDHTB3A2ND1			
Maximum Torque <sup>2</sup>	Nm	523	675	738	802	841	1924	2067	2236	2392	2743	2990	3263	3419
Continuous Torque <sup>2,3</sup>	Nm	160	263	330	382	382	714	905	969	969	921	1149	1236	1236
Maximum Speed	rpm	78.4	49.4	39.6	33.1	24.8	37.0	29.7	24.8	18.6	34.6	27.7	23.1	17.4
Maximum moment load	Nm	849					2180				2740			
One-way Positioning Accuracy	arc-sec	50	40	40	40	40	40	40	40	40	40	40	40	40
Encoder Type		Magnetic type absolute encoder												
Output Resolution	Pulse / Rotation	6.684.672	10.616.832	13.238.272	15.859.712	21.102.592	10.616.832	13.238.272	15.859.712	21.102.592	10.616.832	13.238.272	15.859.712	21.102.592
Mass (without brake)	kg	9.9					29.5				37.5			
Mass (with brake)	kg	10.7					32				40			

<sup>1</sup>: The values in the table above are typical values for the output shaft. The values are for SG speed reducer.  
<sup>2</sup>: Typical values when used with recommended drives (driven with the ideal sine wave).  
<sup>3</sup>: Value for saturated temperature when actuators are mounted on the aluminum radiation plate.  
 SHA25P:350×350×18 [mm] SHA32P:400×400×20 [mm]  
 SHA40P:500×500×25 [mm] SHA58P/65P:650×650×30 [mm]

<sup>4</sup>: M\*DKT\*\*\*\*: Applicable to the speed, position, torque, full-close controls and safety standard.  
 M\*DKT\*\*\*\*E: The position-control-only type, non-applicable for the safety standard.  
<sup>5</sup>: M\*DHT\*\*\*\*N21: Applicable to the safety standard.  
 M\*DHT\*\*\*\*ND1: Non-applicable to the safety standard.  
<sup>6</sup>: The A5IIN series require system parameter setting changes at the initial setting.  
 For details, please contact Harmonic Drive Systems Inc. (The A5II series do not require setting changes.)

## Example of System Configuration



\* Please contact our sales representative or distributor office for more information.

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 The academic or general nomenclature of our products "HarmonicDrive" is "strain wave gearing."  
 The trademark is registered in Japan, Korea and Taiwan.

HarmonicDrive® H-E-C-77777	HarmonicPlanetary® H-E-C-77777	HarmonicGrease® H-E-C-77777
HarmonicGearhead® H-E-C-77777	HarmonicLinear® H-E-C-77777	BEAM SERVO® H-E-C-77777
		Harmonicsyn® H-E-C-77777