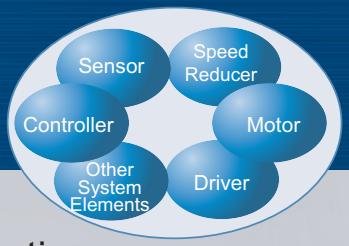


HarmonicDrive®
AC servo Actuator
SHA Series CG Type

\+

Panasonic Corporation
MINAS
A5 II / A5 II N Series

Additional lineup of Collaborating Products

HarmonicDrive® AC servo actuator SHA series CG type
now connects directly with Panasonic Corporation's **"MINAS A5 II N series"** (RTEX: Realtime Express).
Further expanding the options for network connectivity.

HarmonicDrive®

Panasonic Corporation
MINAS A5 II N (Compatible with RTEX)

■ Features

- The SHA Servo Actuator combines HarmonicDrive® 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. (Can be installed in any direction)
- Precise one-way positional accuracy: Gear Ratio 50:1=40 arc-sec (0.011 degrees) Gear Ratio 80:1 or more = 30 arc-sec (0.008 degrees) (SHA32P/40P-CG type)
- Torque to Volume ratio of 5-times or more than direct drive motors
- SHA-P series is easy to use with the machine configured Realtime Express (RTEX).

CG Type Specification

Item \ Model			SHA25P					SHA32P					SHA40P				
			50	80	100	120	160	50	80	100	120	160	50	80	100	120	160
Combination Amplifier	AS II Series*3		MCDKT3520/MCDKT3520E					MDDKT3530/MDDKT3530E					MDDKT5540/MDDKT5540E				
	AS II N Series*4		MCDHT3520N21/MCDHT3520ND1					MDDHT3530N21/MDDHT3530ND1					MDDHT5540N21/MDDHT5540ND1				
Maximum Torque*1		Nm	127	178	204	217	229	271	395	433	459	484	523	675	738	802	841
Continuous Torque*1*2		Nm	40	66	81	81	81	90	151	178	178	178	157	260	327	382	382
Maximum Speed*1		r/min	112	70	56	46.7	35	96	60	48	40	30	80	50	40	33.3	25
Maximum Current*1		A	8.7	7.6	7.0	6.3	5.2	17.1	15.4	13.7	12.2	10.0	27.0	22.0	19.6	18.0	14.7
Continuous Current*1*2		A	3.0	3.0	3.0	2.6	2.1	6.0	6.0	5.7	5.0	4.1	9.0	9.0	9.0	8.8	7.2
Moment of Inertia (without Brake)	GD 2/4	$kg•m^2$	0.50	1.3	2.0	2.9	5.1	1.7	4.3	6.7	9.7	17	4.8	12	19	27	49
Moment of Inertia (with Brake)	GD 2/4	$kg•m^2$	0.60	1.5	2.4	3.4	6.1	2.0	5.1	7.9	11	20	5.8	15	23	33	59
Reduction Ratio			1:50 AM	1:80	0:101	0:121	0:161	1:50 AM	1:80	0:101	0:121	0:161	1:50 AM	1:80	0:101	0:121	0:161
Max. Moment Load		Nm	258					580					849				
Moment Stiffness		Nm/rad	39.2×10^4					100×10^4					179×10^4				
One-way Positioning Accuracy		arc-sec	50	40	40	40	40	40	30	30	30	30	40	30	30	30	30
Repeatability		arc-sec	±5					±4					±4				
Reverse Positioning Accuracy		arc-sec	60	25	25	25	25	60	25	25	25	25	50	20	20	20	20
Encoder Type			Magnetic Type Absolute Encoder														
Output Resolution		Counts / Revolution	6,53,600	10,485,760	13,107,200	15,728,640	20,971,520	6,553,600	10,485,760	13,107,200	15,728,640	20,971,520	6,553,600	10,485,760	13,107,200	15,728,640	20,971,520
Mass (without brake)		kg	3.95					7.7					13.0				
Mass (with brake)		kg	4.1					8.0					13.8				
Mounting Direction			Can be installed in any direction														

The values in the table above show typical values for the output shaft.

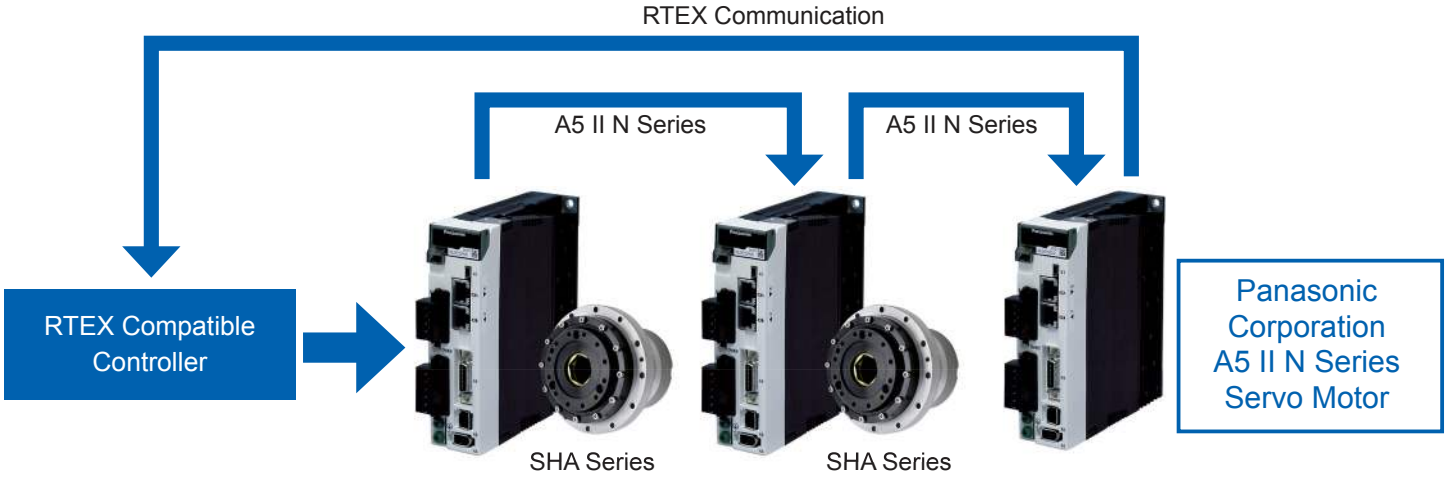
*1: They are typical characteristics in the case of combinations with amplifiers (driven with the ideal sine wave).

*2: Value for saturated temperature when installed on an aluminum heatsink of the following size: (Size 25: 350 x 350 x 18 mm, Size 32: 400 x 400 x 20 mm, Size 40: 500 x 500 x 25 mm)

*3: M*DKT****: Applicable to the speed, position, torque, full-closed controls and safety standard.
M*DKT****E: The position-control-only type, non-applicable for the safety standard.

*4: M*DHT****N21: Applicable to the safety standard.
M*DHT****ND1: Non-applicable to the safety standard.

Example of System Configuration



* Please contact our sales department with any questions.

Harmonic Drive Systems Inc.

Head Office: Ichigo Omori Building 7F, 6-25-3 Minami-Oi, Shinagawa-ku, Tokyo 140-0013 JAPAN
Phone: +81-3-5471-7800 / FAX: +81-3-5471-7811
Overseas Division: 1856-1 Hotakamaki, Azumino-shi, Nagano 399-8305 JAPAN
Phone: +81-263-83- 6935 / FAX: +81-263-83-6901
Tokyo Office: Ichigo Omori Building 2F, 6-25-3 Minami-Oi, Shinagawa-ku, Tokyo 140-0013 JAPAN
Phone: +81-3-5471-7830 / FAX: +81-3-5471-7836
Kitakanto Office: Ichigo Omori Building 2F, 6-25-3 Minami-Oi, Shinagawa-ku, Tokyo 140-0013 JAPAN
Phone: +81-3-6410-8485 / FAX: +81-3-6410-8486
Koshin Office: 1856-1 Hotakamaki, Azumino-shi, Nagano 399-8305 JAPAN
Phone: +81-263-83-6910 / FAX: +81-263-83-6911
Chubu Office: Nagoya Inter Building 6F, 2-173-4 Hongo, Meito-ku, Nagoya-shi, Aichi 465-0024 JAPAN
Phone: +81-52-773-7451 / FAX: +81-52-773-7462
Kansai Office: Shin-Osaka Ueno Toyo Building 3F, 7-4-17 Nishi-nakajima, Yodogawa-ku, Osaka-shi, Osaka 532-0011 JAPAN
Phone: +81-6-6885-5720 / FAX: +81-6-6885-5725
Kyushu Office: NMF Hakata-ekimae Building 7F, 1-15-20 Hakata-ekimae,Hakata-ku, Fukuoka-shi, Fukuoka 812-0011 JAPAN
Phone: +81-92-451-7208 / FAX: +81-92-481-2493
Hotaka Plant: 1856-1 Hotakamaki, Azumino-shi, Nagano 399-8305 JAPAN
Phone: +81-263-83-6800 / FAX: +81-263-83-6901
Harmonic Drive AG: Hoenbergstrasse 14 D-65555 Limburg a.d. Lahn GERMANY
Phone: +49-6431-5008-0 / FAX: +49-6431-5008-119
Harmonic Drive L.L.C.: 247 Lynnfield Street, Peabody, MA 01960 U.S.A.
Phone: +1-978-532-1800 / FAX: +1-978-532-9406
Harmonic Drive Systems (Shanghai) Co.,Ltd.: Rm206,1#,No.641,Tianshan Rd,Changning District,Shanghai, 200336, CHINA
Phone: +86-21-6237-5656 / FAX: +86-21-3250-7268

No.1607-0R-SHA-P-CG/news26