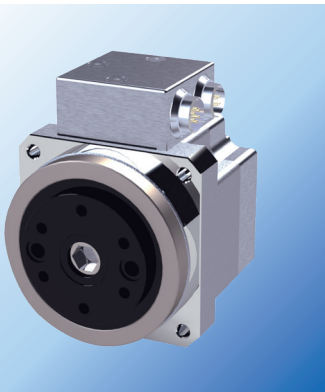


NEW

HarmonicDrive®

Rotary Actuators with Integrated Servo Drive

Simplify with our New,
Innovative Family of Compact
Rotary Actuators with
Integrated Servo Drive!



The Servo
Drive is
Inside!

The Integrated Series is a family of compact actuators that deliver high torque with exceptional accuracy and repeatability. These servo actuators feature high precision Harmonic Drive[®] gearing combined with a brushless servomotor, a brake, magnetic absolute encoders and an **Integrated Servo Drive with CANopen[®] Communication**. This revolutionary product eliminates the need for an external drive and greatly simplifies cabling yet delivers high-positional accuracy and torsional stiffness in a compact housing.

■ Features

- Actuator + Integrated Servo Drive with CANopen[®] Communication
- 24VDC or 48VDC Nominal Supply Voltage
- Single Cable with only 4 conductors is needed: CANH, CANL, VDC, 0VDC
- Up to 127 axis on a single bus
- Zero Backlash Harmonic Drive[®] Gearing
- Panel Mount Connectors with radial and axial options
- Dual Absolute Encoders (on FHA, LPA and SHA models)
- Control Modes include: Torque, Velocity, and Position Control, CSP, CSV, CST
- Harmonic Drive HDL Software

Options:

- Flex-rated cables with sealed connectors
- 4 I/O
 - 2 NPN or 2 PNP Opto-Isolated Digital Inputs
 - 2 Programmable Analog/Digital Inputs or Open Drain Outputs

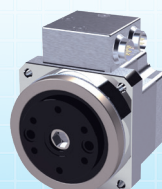
■ The Family of Integrated Actuators



RSF 5



RSA 8

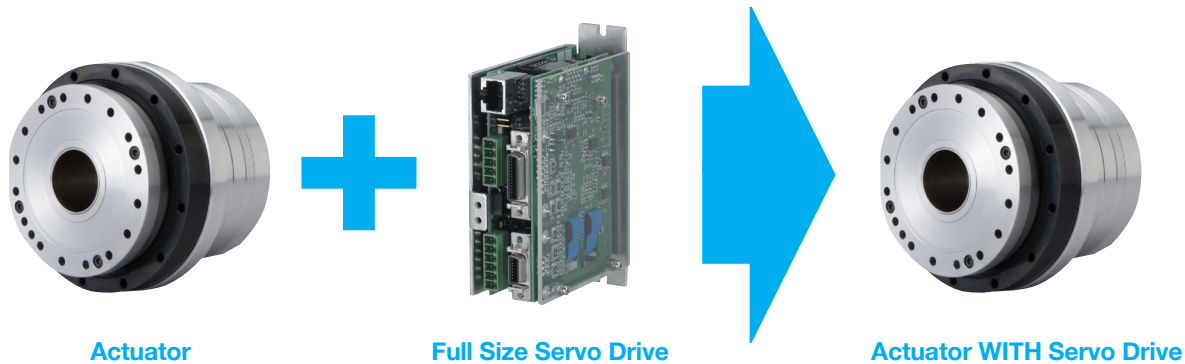


FHA C



Coming Soon! LPA 20

Rotary Actuator with Integrated Servo Drive



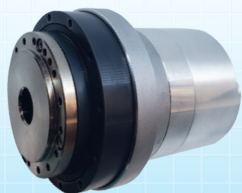
Specifications

Item \ Model	RSF-5	RSA-8	FHA-8C	FHA-11C	FHA-14C	LPA-20	SHA-20	SHA-25	SHA-32
Max Torque ¹ (Nm)	0.5 - 1.4	1.8 - 4.8	1.8 - 4.8	4.5 - 11.0	9.0 - 28.0	34-57	68-120	100-229	146-177
Max Speed ¹ (rpm)	45 - 150	85 - 283	60 - 200	60 - 200	60 - 200	50-98	20.63	24-75	16-50
Allowable Moment Load (Nm)	0.89 ²	3.46 ²	15	40	75	93	187	258	580
Motor Encoder Resolution	14 bit	14 bit	15 bit	15 bit	15 bit	15	17 bit	17 bit	17 bit
Output Encoder Resolution	N/A	N/A	14 bit	14 bit	14 bit	14	16 bit	16 bit	16 bit
Nominal Voltage (VDC)	24	24	24	24	24	48	48	48	48
Optional I/O	N/A	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standard Connector Option	Connector on Pigtail	Connector on Pigtail	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Brake	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes
Output Configuration	Shaft or Flange	Shaft or Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange
Hollow Shaft Diameter (mm)	N/A	N/A	N/A	N/A	N/A	N/A	17	27	35
Mounting Shape	Square	Square	Square	Square	Square	Square	Round	Round	Round
Mounting Size (mm)	22	30.7	50	60	75	92	144	175	225
Length (mm)	48.5	56	49	55.5	65.5	66.1	108.5 ³	120 ³	125 ³

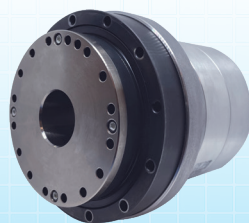
1. Depending on gear reduction ratio.

2. For flange output configuration.

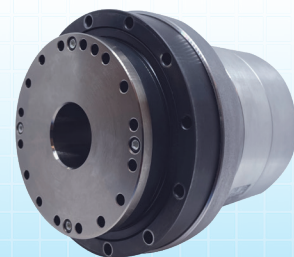
3. Overall length at connector area is longer.



Coming Soon! SHA 20



SHA 25



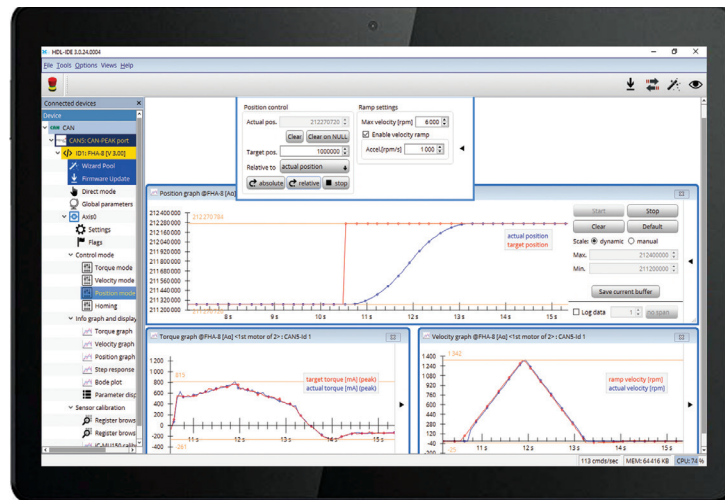
SHA 32

■ HDL- IDE 3.0 Software:

HDL-IDE 3.0 software provides the ability to setup or commission the Integrated actuators without connecting to a CANopen master controller. A single actuator can connect to a personal computer or laptop with a CAN communication converter and a power supply. All 256 parameters, including the tuning parameters and 256 general user variables can be set and stored to be recognized by the CANopen master controller operating the specific application. The following are some of the features included in HDL-IDE 3.0 software:

■ Features

- Torque Mode and Graph
- Velocity Mode and Graph
- Position Mode and Graph
- Homing Mode
 - Limit Switch
 - Current Position
 - Hardstop Homing
- Step Response
- Bode Plot
- Parameter List
- Virtual Mode (shown)



Harmonic Drive LLC

Boston US Headquarters
42 Dunham Ridge
Beverly, MA 01915
978.532.1800
www.HarmonicDrive.net

New York Sales Office
100 Motor Parkway, Suite 116
Hauppauge, NY 11788

California Sales Office
333 W. San Carlos Street, Suite 1070
San Jose, CA 95110

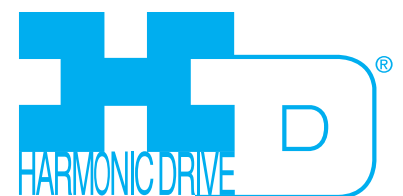
Chicago Sales Office
137 N. Oak Park Ave., Suite 410
Oak Park, IL 60301

Group Companies

Harmonic Drive Systems, Inc.
6-25-3 Minami-Ohi, Shinagawa-ku
Tokyo 141-0013, Japan

Harmonic Drive SE
Hoenbergstrasse, 14, D-65555
Limburg/Lahn Germany

Harmonic Drive is a registered trademark of Harmonic Drive LLC. CANopen is a registered trademark of CAN in Automation. LEMO is a registered trademark of INTERLEMO HOLDINGS.



All efforts have been made to ensure that the information in this catalog is complete and accurate. However, Harmonic Drive LLC is not liable for any errors, omissions or inaccuracies in the reported data. Harmonic Drive LLC reserves the right to change the product specifications, for any reason, without prior notice. © 2021 Harmonic Drive. All rights reserved.

Rev 20230118