Harmonic Drive®
High Precision SHA-CG Actuators
Compact, Hollow Shaft Design

Direct Drive Motor Performance
~ 80-90% less weight
~ 50% more compact
High torque for fast acceleration and positioning

The SHA-CG delivers high precision with improved positioning accuracy and surface runout. Ideal for high precision rotary applications such as indexing tables.

Application Examples
 Theta Axis
 Wafer Dicing
 Precision Machining (Indexing Device)

Measurement, Analytical and Test Systems
Optical Equipment
Machine Tools
### Product Features

- Improved output shaft runout accuracy (radial runout & axial runout: less than 0.010mm)
- Improved structure for high precision surface and shaft runout.
- Output shaft resolution is evenly divisible

### Optional mounting stand available

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*Values in parentheses are only applicable.

### Outline Dimensions

#### SHA20A-CG

- Encoder Connector: Tab Contact: 1903117-2 [AMP]
- Motor / Brake Connector: 350547-1 [AMP]
- Housing: 350715-1 [AMP]
- Pin Contact (Motor U V W): 350690-1 [AMP]
- Pin Contact (Motor PE): 350669-1 [AMP]

#### SHA32A-CG

- Encoder Connector: Tab Contact: 1903117-2 [AMP]
- Motor / Brake Connector: 350547-1 [AMP]
- Housing: 350715-1 [AMP]
- Pin Contact (Motor U V W): 350690-1 [AMP]
- Pin Contact (Motor PE): 350669-1 [AMP]

#### SHA40A-CG

- Encoder Connector: Tab Contact: 1903117-2 [AMP]
- Motor / Brake Connector: 350547-1 [AMP]
- Housing: 350715-1 [AMP]
- Pin Contact (Motor U V W): 350690-1 [AMP]
- Pin Contact (Motor PE): 350669-1 [AMP]
**Product Features**

- Improved output shaft runout accuracy (side runout / shaft runout: less than 0.010mm)
- Improved structure for high precision surface and shaft runout. Ideal for index table application.
- Easily split output shaft resolution

Indexing at 0.01° / 0.001° / 0.0001° is possible.

**Vertical stand for index application is also available**

**Outline Dimensions**

### SHA25A-CG

- Motor Wiring Diagram
- Encoder Wiring Diagram

### SHA25A-CG

- Motor Wiring Diagram
- Encoder Wiring Diagram

### SHA32A-CG

- Motor Wiring Diagram
- Encoder Wiring Diagram

### SHA40A-CG

- Motor Wiring Diagram
- Encoder Wiring Diagram

**Note**: The dimension tolerances that are not specified vary depending on the manufacturing method. Please check the confirmation drawing or contact us for dimension tolerances not shown.

**Motor Voltage**

- Rating: 200V
- Rating: 100V
- Rating: 40A
- Rating: 25A

**Shaft Diameter**

- Ø60 Ø107
- Ø84 h7
- Ø110 h7
- Ø115 h7

**Torque [Nm]**

- 30
- 40
- 50
- 60

**Hollow Shaft Diameter**

- Ø4 H7
- Ø95 h7
- Ø117

**Encoder Connector**

- Tab Contact : 1903117-2 [AMP]
- Pin Contact (Brake) : 350690-1 [AMP]
- Pin Contact (Motor U V W) : 350690-1 [AMP]

**Motor  Brake Connector**

- C1

**Motor  Brake Cable**

- AWG16-4C+AWG24-2C
- AWG24-3P+Shield

**Shaft Dia.**

- Ø8 H7
- Ø162
- Ø131

**Housing**

- Ø115 h7
- Ø121
- Ø110

**Encoder Connector**

- Ø75 H7

**Encoder Cable**

- AWG24-3P+Shield

**Shaft Dia.**

- Ø5 H7
- Ø0.05

**Pin Contact (Brake)**

- 350690-1 [AMP]
- 350715-1 [AMP]

**Other**

- Motor Voltage
- Motor Voltage
- Motor Voltage

**Shaft Runout Accuracy**

- Improved output shaft runout accuracy (side runout / shaft runout: less than 0.010mm)

**Size**

- 20A Motor Voltage Rating: 200V
- 25A Motor Voltage Rating: 200V
- 25A Motor Voltage Rating: 100V
- 32A Motor Voltage Rating: 200V
- 40A (HA-400 -4/2E-205) Motor Voltage Rating: 200V

**Product Features**

- Value in parenthesis is with brake. Output Encoder Resolution = Encoder Resolution x Reduction Ratio.
- Sold & Serviced By:
- Motor Voltage
- Motor Voltage
- Motor Voltage

**Product Features**

- Value in parenthesis is with brake. Output Encoder Resolution = Encoder Resolution x Reduction Ratio.
SHA-CG Series

The SHA-CG Series actuators is compact, delivers high torque and features a hollow shaft that allows design versatility in demanding applications.

Model Options
- Gearhead: Harmonic Drive® Gear - CSG Series: 50:1 ~ 160:1
- Cable Orientation: Standard: Rear exit, Option: Side exit
- Encoder: Magnetic Absolute Encoder (17 bit) Multi-Turn (96 bit), Absolute Encoder: Panasonic format, Mitsubishi format, BSG C format Incremental Encoder
- Brake: Standard: No Brake, Option: Motor Brake (integrated without dimension change)
- Servomotor: Standard: 200V AC, Option: 100V AC, 72V DC, 48V DC
- Environmental: Standard: IP 54, Temperature Range: 0°C - 40°C, UL, CE marking, RoHS
- Option: Cross Roller Bearing, Larger size bearing for higher load capacities, Side exit, Mounting stand

Recommended Drivers

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