Features

- Large torque by strong neodymium magnets
- Low torque ripple by optimum magnetic circuit design
- Standard models applicable to both 200V and 400V input
- High speed models is also applicable for turning
- High speed and high precision and maintenance free by the direct drive
- Suited to rotary tables and additional axes of 5-axes machine tools etc.

*) “S” of DiS means “Strong motor with neodymium magnets”.
FANUC SYNCHRONOUS BUILT-IN SERVO MOTOR DiS series

System configuration

FANUC’s products

i series CNC

SERVO AMPLIFIER αi series

SYNCHRONOUS BUILT-IN SERVO MOTOR DiS series

Power Cable

Synchronous Built-in Servo Motor Position Detection Circuit *1

*1 Not necessary for absolute encoder

*2 Necessary to conform to FANUC Serial Interface

*3 Absolute encoder

Third party’s Rotary Encoder

FANUC Absolute αiCZ Sensor

High reliability by simple and strong structure
High accuracy sensor gear manufactured by gear grinder with FANUC original learning control
Compact structure contributing to compact rotary axis

Model name | Number of teeth | Max. speed [min⁻¹] | Accuracy (Note) [sec.] | Resolution [rev.]
---|---|---|---|---
αiCZ Sensor 512A | 512 | 3000 | ±4 | ±8 | 1/3,600,000
αiCZ Sensor 768A | 768 | 2000 | ±3 | ±6 |
αiCZ Sensor 1024A | 1024 | 1500 | ±2 | ±4 |

(Note)
Described values are detecting accuracy of αiCZ Sensor itself.
Detecting accuracy might change by the assembling condition to the machine.
The values are not to guarantee the positioning accuracy of the machine.
FANUC Servo control technology (SERVO HRV Control), which has plenty of achievements on feed axis of machine tool, with functions for high precision or avoiding mechanical resonance and so on, is applied for Synchronous built-in servo motor system also.

In case of driving one axis by plural motors, sometimes stability is not secured because of interference between motors. Stabilizing functions to prevent interference between axes, are prepared in order to secure stability.

**SERVO HRV Control**

Achieving high precision by combination of Synchronous built-in servo motor.
- Best suited to cam grinding or gear cutting machine.
- Sufficient Learning time of maximum 262 seconds and maximum 24 Learning profiles are available. (Suited to cam grinding machine)
- The combination of Learning Control and EGB control minimized synchronous error. (Suited to gear cutting machine)