

SANMOTION R

AC SERVO SYSTEMS

AC Servo Amplifier with High-Speed Field-Bus EtherCAT Interface

Type H



Applications

Chip mounter, semiconductor manufacturing machine,
and machine tool applications

EtherCAT
Conformance tested

Four Times Faster EtherCAT Command Communication Cycle

The high-speed EtherCAT communication cycle has been enhanced from 0.5 ms*¹ to 0.125 ms, making servo amplifier operations smoother and position commands more precise.

Position Feedback Synchronization Function

The new models include the EtherCAT high-precision command synchronization function, and a position feedback synchronization function with independent communication via a dedicated line. These functions contribute to enhanced controllability of gantry systems*².

Jerk Profile Function

In addition to the trapezoidal trajectory profile generated during positioning, the new models also include a jerk profile function*³, for modifying acceleration/deceleration speed. This function helps reduce vibration during acceleration, deceleration, and settling.

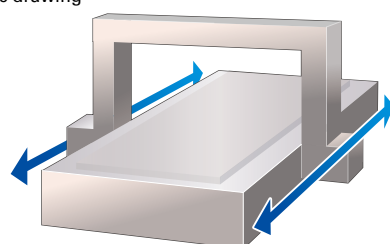
Compact and Safe

The 48 V DC input model operates at a safe voltage and is suitable for systems like chip mounters where compactness is required for space optimization.

*1: Compared with our conventional model AC servo amplifier with EtherCAT interface

*2: A system including a structure of two work guides for parallel driving

Schematic drawing



*3: A function that generates an S-shaped movement profile by modifying acceleration/deceleration speed

Standard Model Number List

Main Power	Control Power	Encoder Type	Selectable Output	Internal Registration Resistor	Safe Torque Off function	Amplifier Capacity	Model No.	Dimensions (mm)	Matching servo motor capacity
200 V AC system 200 to 230 V AC 3-phase	200 V AC system 200 to 230 V AC Single-phase	Serial encoder	Photo relay output	No	Yes (with delay circuit)	15 A	RS2A01A2HL5	40 x 160 x 130	30 W to 200 W
						30 A	RS2A03A2HL5	50 x 160 x 130	400 W to 1.2 kW
						50 A	RS2A05A2HL5	85 x 160 x 130	750 W to 2 kW
						300 A	RS2A30A2HL5	220 x 205 x 220	5.5 kW to 11 kW
				Yes		15 A	RS2A01A2HA5	40 x 160 x 130	30 W to 200 W
						30 A	RS2A03A2HA5	50 x 160 x 130	400 W to 1.2 kW
						50 A	RS2A05A2HA5	85 x 160 x 130	750 W to 2 kW
						100 A	RS2A10A2HA5	100 x 205 x 220	1.8 kW to 3.5 kW
100 V AC system 100 to 115 V AC Single-phase	100 V AC system 100 to 115 V AC Single-phase	Serial encoder	Photo relay output	No	Yes (with delay circuit)	15 A	RS2E01A2HL5	40 x 160 x 130	30 W to 100 W
						30 A	RS2E03A2HL5	50 x 160 x 130	200 W
						15 A	RS2E01A2HA5	40 x 160 x 130	30 W to 100 W
						30 A	RS2E03A2HA5	50 x 160 x 130	200 W
				Yes		40 A	RS2K04A2HL5	40 x 160 x 85	30 W to 200 W
						40 A	RS2K04A2HA5	40 x 160 x 85	30 W to 200 W

Specifications

Positioning resolution	1048576 P/R
Control system	PWM control sinusoidal drive
Safety function	Hardware gate off function

EtherCAT interface specifications

Physical layer	IEC61158-2 IEEE802.3u 100BASE-TX
Data link layer	IEC61158-3, -4 Type12
Application layer	IEC61158-5, -6 Type12
Device profile	IEC61800-7 Profile type1 (CiA402) · CoE (CANopen over EtherCAT) · FoE (File access over EtherCAT)
Communication port	RJ45 connector (2 ports)
Baud rate	100 Mbps (Full duplex)
Max. No. of nodes	65535 nodes
Transmission distance/topology	Max. 100 m (between nodes)/Daisy-chain
Cable	Twisted-pair CAT5e (straight or cross)
Communication object	SDO (Service Data Object) PDO (Process Data Object)
Number of objects that can be mapped in PDO	Output: Max. 20 objects, Input: Max. 20 objects Total: Max. 40 objects
Synchronization function	SYNC0, SYNC1 Event Synchronization Mode (DC Mode), Synchronous with SM2 Event Mode, Asynchronous Mode
Operation mode	Profile Position Mode, Profile Velocity Mode, Profile Torque Mode, Homing Mode, Cycle Sync Position Mode, Cycle Sync Velocity Mode, Cycle Sync Torque Mode
LED indicator	Port 0/1 link display, RUN display, error display
General Input/Output	6 inputs, 2 outputs (8 total)