

SANMOTION S

AC SERVO SYSTEMS

AC spindle motor & AC servo amplifier



■ Features

Wide Output Range

- The SANMOTION S series offers as much as 1.8 times wider rated output range than our conventional models.*¹ With 1.5 times more maximum torque and as much as 1.9 times higher maximum speed,*¹ this servo system achieves low speed heavy cutting with high torque and high-speed milling.

High Speed Response

- The response speed has been increased to 2.5 times the level of our conventional models.*¹ Even in the medium speed range this product shows only a modest decline in response speed. This allows spindles for machine tools to achieve high-accuracy synchronized tapping with the feed shaft.

High Acceleration

- The SANMOTION S provides up to 4.5 times higher maximum angular acceleration than our conventional models.*¹ Short acceleration and deceleration time—a transmission time of 500 ms or less*²— will significantly reduce your equipment's processing cycle.

*1 : Our conventional models: S4 servo motor, SZ servo amplifier

*2 : Rated output 4.5 kW, JL=0

■ Applications

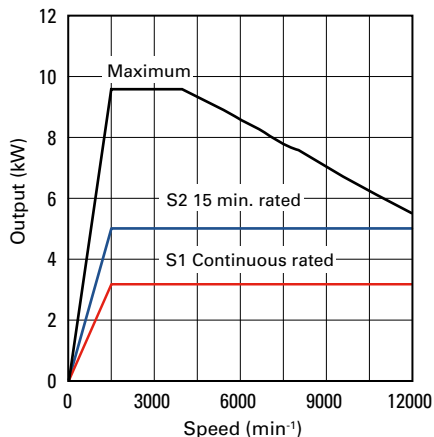
Machine tool spindles (Machining centers and tapping machines)

■ AC Spindle Motor Specification

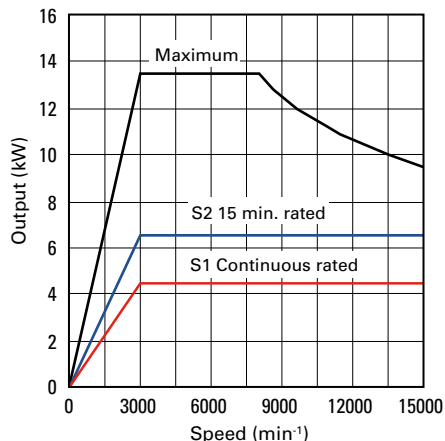
AC spindle motor model No.				S30V163K2LXE00	S30V164K5WXE00
Applicable AC servo amplifier model No.	Analog/Pulse input type			SS1A15M8AM0	
	EtherCAT interface type			SS1A15M8HM1	
S1 Continuous rated output	★	P _R	kW	3.2	4.5
S2 15 min. rated output	★	P ₁₅	kW	5.0	6.5
Peak output	★	P _p	kW	9.6	13.5
Base speed		N _R	min ⁻¹	1500	3000
Maximum speed		N _{max}	min ⁻¹	12000	15000
S1 Continuous rated torque	★	T _R	N·m	20.4	14.3
S2 15 min. rated torque	★	T ₁₅	N·m	31.8	20.7
Peak torque	★	T _p	N·m	61.1	43.0
S1 Continuous rated current	★	I _R	Arms	27	32
S2 15 min. rated current	★	I ₁₅	Arms	39	41
Peak current	★	I _p	Arms	78	79
Roter moment of inertia		J _M	kg·m ² (GD ² /4)	0.00683	0.00483
Mass		W _E	kg	36	29

Items with ★ indicate values after temperature rise saturation when used with a standard servo amplifier. The values are the typical values. The others indicate values at 20°C.

Speed-Output Characteristics

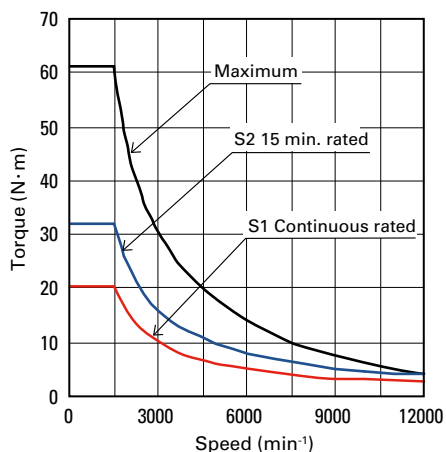


S30V163K2LXE00 (3.2kW)

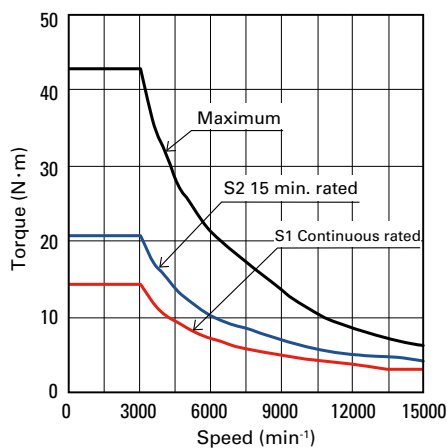


S30V164K5WXE00 (4.5kW)

Speed-Torque Characteristics

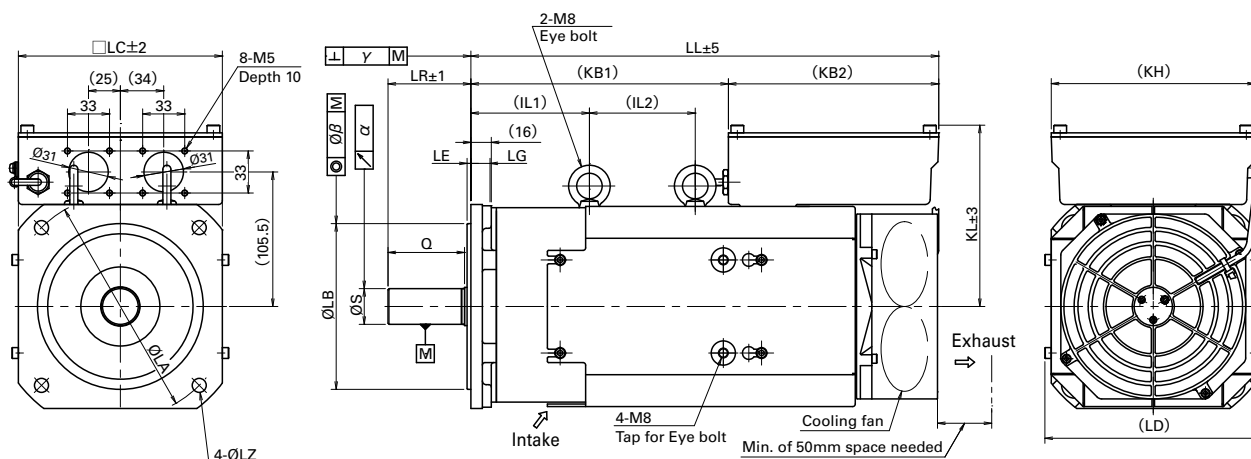


S30V163K2LXE00 (3.2kW)



S30V164K5WXE00 (4.5kW)

AC Spindle Motor Dimensions



AC spindle motor model No.	LL	KB2	KL	KH	LG	LA	LB	LE	LC	LZ	LR	LD	S	Q	KB1	IL1	IL2
S30V164K5WXE00	367	165	142	160	15	175	0 130-0.040	3	160	11	65	170	0 28-0.013	60	202	93	83
S30V163K2LXE00	432																

AC spindle motor model No.	α	β	γ
S30V164K5WXE00	0.01	0.03	0.03
S30V163K2LXE00			

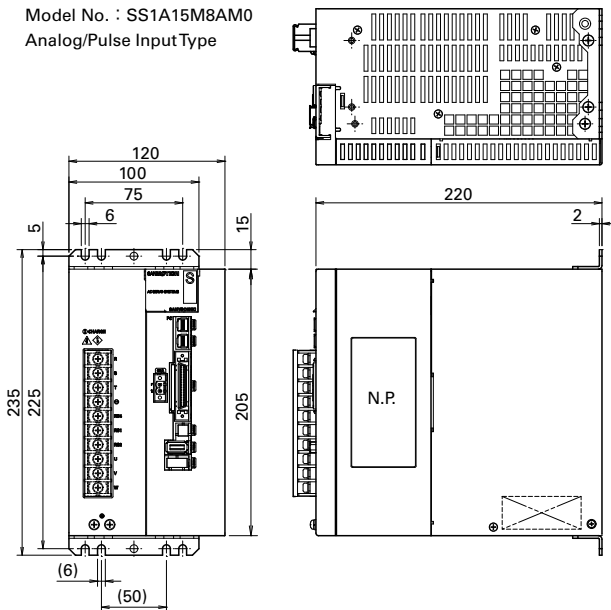
AC Servo Amplifier Specifications

Model No.	SS1A15M8AM0	SS1A15M8HM1
Interface	Analog/Pulse input type	EtherCAT interface type
Power voltage	AC200V	
Amplifier output	150A	
Applicable motor capacity	3.2kW, 4.5kW	
Applicable encoder	500 to 65,535 x 4 P/R (A, B, Z pulse)	
Control functions	Position, speed, torque control, orientation control	
Control method	Sine wave PWM control	
Speed control range	1:5000 (internal command)	
Frequency response characteristic	200Hz	
Regeneration processing circuit	Built-in (External regenerative resistor is required)	
Sequence signal	Input 8 ch., output 8 ch.	Input 6 ch., output 2 ch.
Operating ambient temperature	0 to 55°C	
Conforming standards	UL, CE, and RoHS directive	

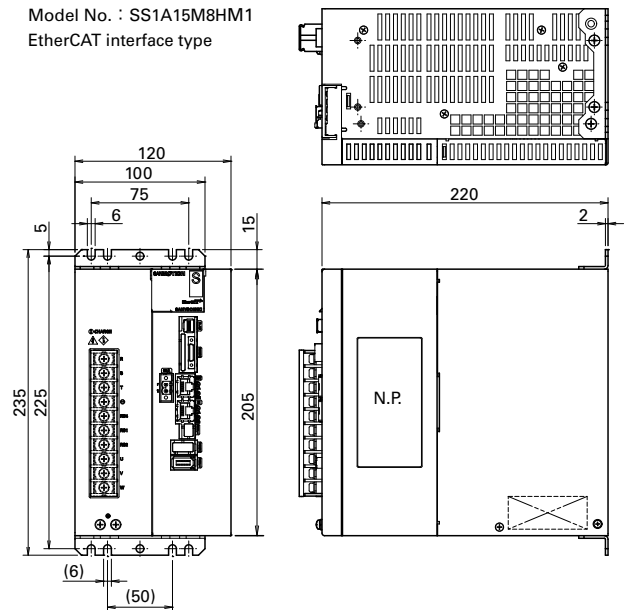
AC Servo Amplifier Dimensions

150A Mass : 4.9kg

Model No. : SS1A15M8AM0
Analog/Pulse Input Type



Model No. : SS1A15M8HM1
EtherCAT interface type



■ Precautions For Adoption

Failure to follow the precautions on the right may cause moderate injury and property damage, or in some circumstances, could lead to a serious accident. Always follow all listed precautions.

Cautions

- Read the accompanying Instruction Manual carefully prior to using the product.
- If applying to medical devices and other equipment affecting people's lives, please contact us beforehand and take appropriate safety measures.
- If applying to equipment that can have significant effects on society and the general public, please contact us beforehand.
- Do not use this product in an environment where vibration is present, such as in a moving vehicle or shipping vessel.
- Do not perform any retrofitting, re-engineering, or modification to this equipment.
- The products presented in this catalog are meant to be used for general industrial applications. If using for special applications related to aviation and space, nuclear power, electric power, submarine repeaters, etc., please contact us beforehand.

*For any question or inquiry regarding the above, contact our Sales Department.

SANYO DENKI CO., LTD.

1-15-1, Kita-Otsuka, Toshima-ku, Tokyo 170-8451, Japan

<http://www.sanyodenki.com>

Phone: +81 3 3917 5157

SANYO DENKI AMERICA, INC.

468 Amapola Avenue Torrance, CA 90501 U.S.A.

Phone: +1 310 783 5400

SANYO DENKI EUROPE SA.

P.A. Paris Nord II, 48 Allée des Erables-VILLEPINTE, BP.57286, F-95958 ROISSY CDG Cedex, France

Phone: +33 1 48 63 26 61

SANYO DENKI GERMANY GmbH

Frankfurter Strasse 92, 65760 Eschborn, Germany

Phone: +49 6196 76113 0

SANYO DENKI KOREA CO., LTD.

9F 5-2, Sunwha-dong Jung-gu Seoul, 100-130, Korea

Phone: +82 2 773 5623

SANYO DENKI SHANGHAI CO., LTD.

Rm2107-2109, Bldg A, Far East International Plaza, No.319, Xianxia Rd., Shanghai, 200051, China

Phone: +86 21 6235 1107

SANYO DENKI TAIWAN CO., LTD.

Room 1208, 12F, No.96 Chung Shan N. Rd., Sec.2, Taipei 104, Taiwan, R.O.C.

Phone: +886 2 2511 3938

SANYO DENKI (H.K.) CO., LIMITED

Room 2305, 23/F, South Tower, Concordia Plaza, 1 Science Museum Rd., TST East, Kowloon, Hong Kong

Phone: +852 2312 6250

SANYO DENKI SINGAPORE PTE. LTD.

10, Hoe Chiang Road, #14-03A/04, Keppel Towers, Singapore 089315

Phone: +65 6223 1071

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