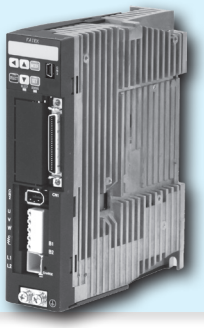
Amplifiers

Rated output

50W
100W
200W
400W



Rated output

750W

Rated output

1kW

Rated output

1.5kW
2kW

Model Number

SD3 | 010 | C | Z | * | *

Series

Specifications

Code	Specifications
11	Standard
12	Standard

Compatible Motor

Code	Model	Rated Output
Y	M□□005C□□□□＊＊	50 W
Z	M□□010C□□□□＊＊	100 W
1	M□□020C□□□□＊＊	200 W
2	M□□040C□□□□＊＊	400 W
3	M□□075C□□□□＊＊	750 W
4	M□□100C□□□□＊＊	1000 W
6	M□□150C□□□□＊＊	1500W
8	M□□200C□□□□＊＊	2000W

Input Power Supply

Code	Main Circuit Power	Control Power
C	AC200 V to 240 V (*)	DC24 V

(*) Single- or Three-phase option depends on compatible motor.
50 W to 750 W : Single-phase
1 kW : Single-phase / Three-phase
1.5 kW, 2 kW : Three-phase

Main Circuit Power Supply

Code	Supply
005	50 W
010	100 W
020	200 W
040	400 W
080	750 W
100	1000W
150	1500W
200	2000W

Amplifier / Motor Combinations

Rated Output	Amplifier Model	Motor Model
50 W	SD3005CY**	M□□005C□□□□ ＊＊
100 W	SD3010CZ**	M□□010C□□□□ ＊＊
200 W	SD3020C1**	M□□020C□□□□ ＊＊
400 W	SD3040C2**	M□□040C□□□□ ＊＊
750 W	SD3075C3**	M□□075C□□□□ ＊＊
1000W	SD3100C4**	M□□100C□□□□ ＊＊
1500W	SD3150C6**	M□□150C□□□□ ＊＊
2000W	SD3200C8**	M□□200C□□□□ ＊＊

Basic Specifications

Item		Specifications							
Model		SD3005CY**	SD3010CZ**	SD3020C1**	SD3040C2**	SD3080C3**	SD3100C4**	SD3150C6**	SD3200C8**
Compatible Motor		M□□005	M□□010	M□□020	M□□040	M□□075	M□□100	M□□150	M□□200
External dimensions		(See "Dimensions" beginning on page 28.)							
Weight (Kg)		0.7				0.8	1.0	1.6	
Input power	Main circuit power	Single-phase AC200 V to 240 V ± 10 % 50 / 60 Hz					Three-phase AC200 V to 240 V ± 10 % 50 / 60 Hz		
	Control power	DC24V ±10 %							
	Input current (Arms typ)	0.8	1.3	2.4	3.6	7.2	Single-phase : 9.7 Three-phase : 5.1	6.1	9.0
	Control power Current Consumption (mA Typ.)	170			210	260	240	350	
		(Rush current apprpx.1.4 A)							
Control of main circuit		Three-phase PWM inverter sine-wave driven							
Output Rating	Rated current (A)	0.7	1.0	1.7	2.7	4.3	5.8	5.6	9.9	12.2
	Output frequencies (Hz)	0 to 500						0 to 250	
Encoder feedback		17 bit single-turn absolute (The product can function as a multi-turn absolute type when batteries are added.)							
Control signal	Input	8-point (24 VDC system, photo-coupler input insulation) inputs whose functions are switched by the control mode							
	Output	8-point (24 VDC system, open-collector output insulation) outputs whose functions are switched by the control mode							
Analog signal	Input	1-point (±10 V) input whose functions can be switched by the control mode							
Pulse signal	Input	RS-422 differential Open-collector							
	Output	Encoder feedback pulse (A-/B-/Z-phase), RS-422 differential output Z-phase pulse through open-collector as well							
Communication function		USB : connection to PC with "Servo Studio" installed RS-485 : host remote control communication (multi-drop compatible)							
Amplifier status display function		Amplifier status display function 6 digits of seven-segment display on Setup Panel Normal/Error display on STATUS LED Green light when Power ON Normal, Red light when Power ON Error, Dim when Power OFF							
Regeneration function		A regenerative resistor may be installed externally							
Dynamic brake		None Optional dynamic brake unit "SP03101" or "SP03102" is available for 50 W to 1 kW. Building your own dynamic brake unit for 1.5 kW to 2 kW. (See "Dynamic Brake Circuit" on page 34)							
Control mode		Position Control, Velocity Control, Torque Control							

Environmental Specification

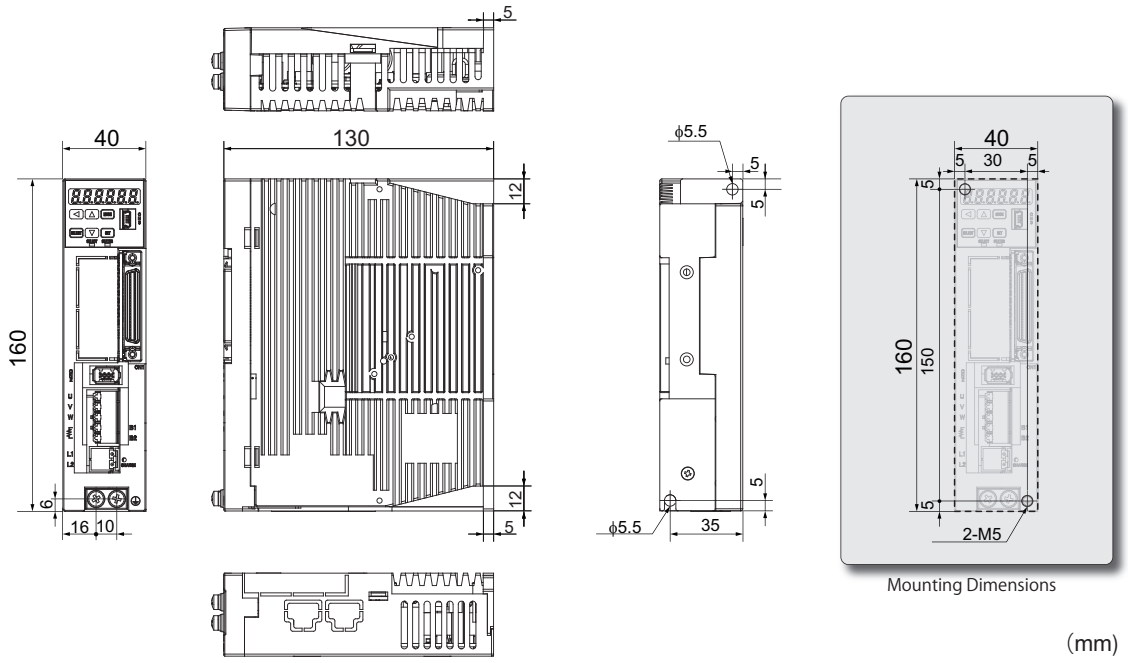
Item		Specifications
Ambient temperature	For operation	0 to 55 ℃
	For storage	−20 to 65 ℃
Ambient humidity	For operation	20 to 85 % RH (non-condensing)
	For storage	
Atmosphere for operation and storage		Indoors (not subject to direct sunlight), Free from corrosive gases, flammable gases, oil mist, dust, flammables, grinding fluid
Altitude		≤ 1,000 m
Vibration		≤ 5.8 m/s^2 (0.6 G) 10 to 60 Hz (no continuous operation allowed at frequency of resonance)
Dielectric strength		AC 1,500 V for one minute across the primary and FG
Electric shock protection		Class I (mandatory grounding)
Overvoltage category		II
Installation environment		Pollution degree 2

Functions Specifications

Item			Specifications
Position Control Mode	Pulse Input	Control input	Servo ON, alarm reset, command input not allowed, emergency stop, deviation counter clear, 2-stage torque limit, CCW/CW run not allowed, ABS data demand, homing start
		Control output	under torque limitAlarm status, servo status, servo ready, under torque limit, brake release, positioning complete, motion complete, alarm, dynamic brake release, ABS data transmitting, homing complete
		Maximum command pulse frequency	RS-422 differential：4 Mpps Open-collector：200 kpps
		Input pulse signal form	Pulse + Direction, A-/B-phase quadrature encoder pulse, CW + CCW pulse
		Electronic gear	ratio A/B 1/1,000 < A/B < 1,000 Setting range A：1 to 65,535 B：1 to 65,535
	Internal Position	Control input	Servo ON, alarm reset, deviation counter clear, motion start point selection 16, home position sensor input, homing start
		Control output	Alarm status, servo status, servo ready, uunder torque limit, brake release, homing complete, motion complete
		Operation mode	Point table, communication operation
	Smoothing filter		FIR Filter
	Damping control		Enabled
Velocity Control Mode	Analog Velocity	Control input	Servo ON, alarm reset, command input inhibit (zero torque command), 2-stage torque limit, CCW/CW run prohibited
		Control output	Alarm status, servo status, servo ready, under torque limit, brake release
		Speed command input	Input voltage −10 V to +10 V (max speed is reached at ± 10 V)
	Internal Velocity	Control input	Servo ON, alarm reset, start 1 (CCW), start 2 (CW), 8-stage speed command 2-stage torque limit
		Control output	Alarm status, servo status, servo ready, under torque limit, brake release
	Smoothing filter		IIR Filter, FIR Filter
Torque Control Mode	Analog Torque	Control input	Servo ON, alarm reset, command input not allowed (zero clamp command) 2-stage torque limit, CCW/CW run prohibited
		Control output	Alarm status, servo status, servo ready, under torque limit, brake release
		Torque command input	Input voltage, −10 V to +10 V (max speed is reached at ± 10 V)
	Smoothing filter		IIR Filter
Common Features	Speed observer		Available
	Auto-tuning		Available
	Encoder output Division/Multiplication		Available
	Tuning & Function Setup		Available through the SD3 setup software “Servo Studio” Tuning with the setup panel on the amplifier front side
	Protective functions	By hardware	Overvoltage, low voltage, Overcurrent, Abnormal temperature, Overload, Encoder error
		By software	Overspeed, Position deviation too high, Parameter errors
	Alarm Log		Can be referenced with the setup software Servo Studio

Figure 1

50W 100W 200W 400W 750W 1kW 1.5kW 2kW

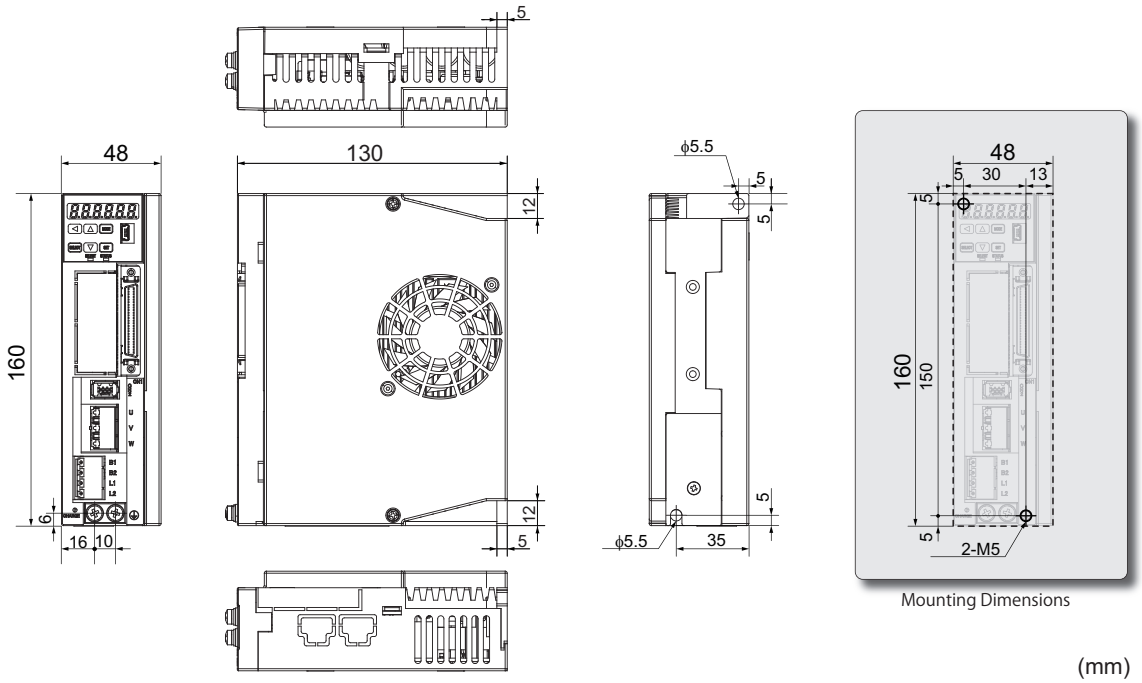


Mounting Dimensions

(mm)

Figure 2

50W 100W 200W 400W 750W 1kW 1.5kW 2kW

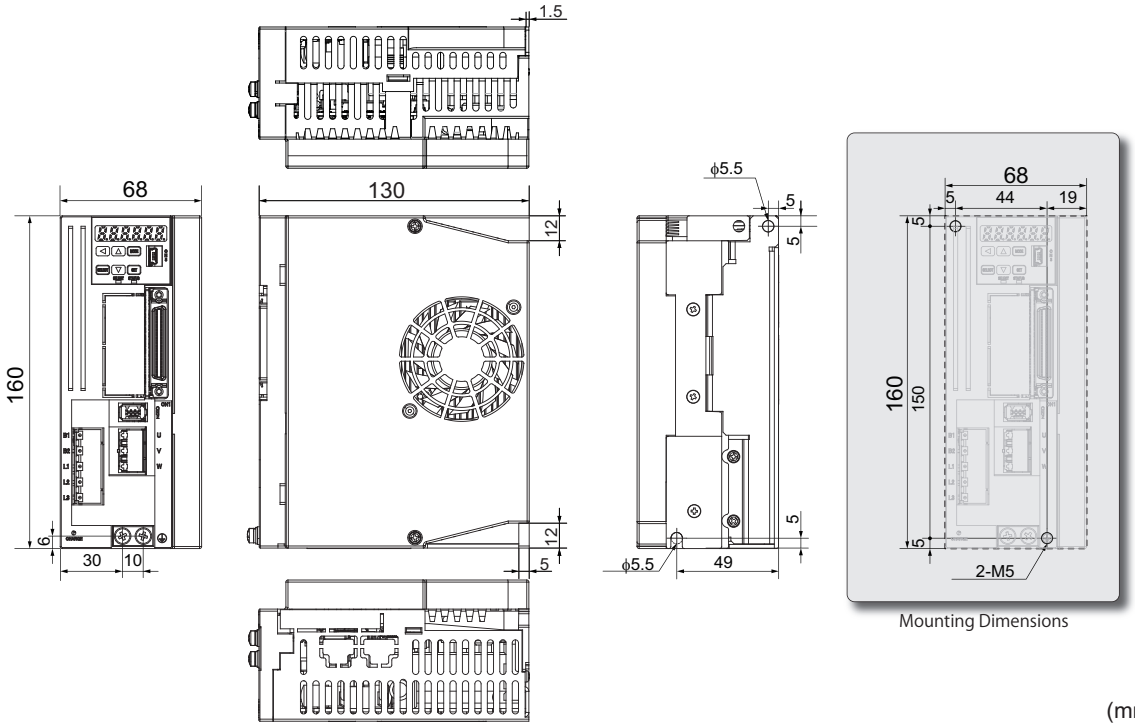


Mounting Dimensions

(mm)

Figure 3

50W 100W 200W 400W 750W **1kW** 1.5kW 2kW

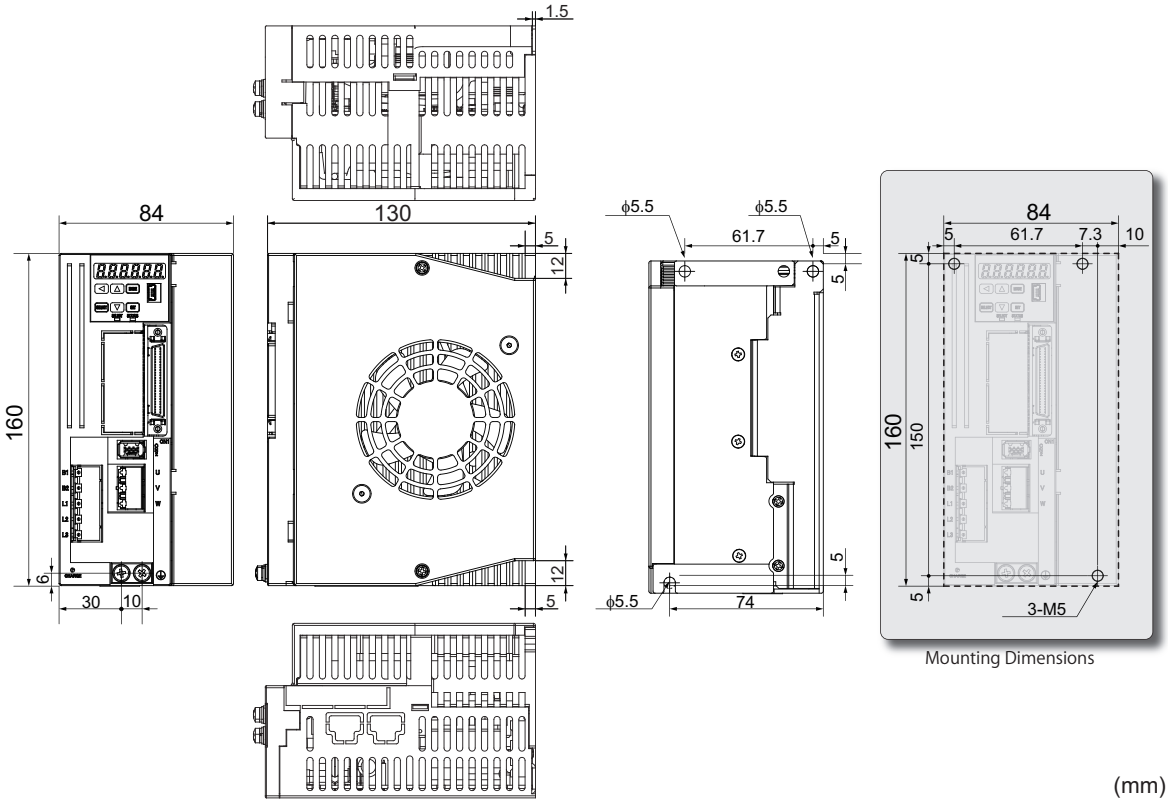


Mounting Dimensions

(mm)

Figure 4

50W 100W 200W 400W 750W 1kW **1.5kW** **2kW**



Mounting Dimensions

(mm)