



## SV-020L2

3-phase or single-phase 200 to 230 VAC (for 200 W)



## SPECIFICATIONS

Model	SV-020L2			
Power supply/current capacity and power loss	Maximum applicable motor capacity Single-phase 100 VAC	—		
	Maximum applicable motor capacity Three-phase 200 VAC	200 W		
	Maximum applicable motor capacity Single-phase 200 VAC	—		
	Power capacity (VA) per amplifier Single-phase 100 VAC	—		
	Power capacity (VA) per amplifier Three-phase 200 VAC	600 VA		
	Power capacity (VA) per amplifier Single-phase 200 VAC	700 VA		
	Output current Continuous	Single-phase 100 VAC	—	
		Three-phase 200 VAC	1.6 Arms	
		Single-phase 200 VAC	—	
	Output current Maximum	Single-phase 100 VAC	—	
		Three-phase 200 VAC	5.8 Arms	
		Single-phase 200 VAC	—	
	Main circuit power loss Single-phase 100 VAC	—		
	Main circuit power loss Three-phase 200 VAC	13.5 W		
	Main circuit power loss Single-phase 200 VAC	13.7 W		
	Built-in regenerative resistor power loss Single-phase 100 VAC	—		
	Built-in regenerative resistor power loss Three-phase 200 VAC	—		
	Built-in regenerative resistor power loss Single-phase 200 VAC	—		
	Control circuit power loss Single-phase 100 VAC	—		
	Control circuit power loss Three-phase 200 VAC	17 W		
	Control circuit power loss Single-phase 200 VAC	—		
	Total power loss Single-phase 100 VAC	—		
	Total power loss Three-phase 200 VAC	30.5 W		
Total power loss Single-phase 200 VAC	30.7 W			
Input rated current	Main circuit Single-phase 100 VAC	—		
	Main circuit Three-phase 200 VAC	2 Arms		
	Main circuit Single-phase 200 VAC	3 Arms		
	Control circuit Single-phase 100 VAC	—		
	Control circuit Three-phase 200 VAC	0.2 Arms		
	Control circuit Single-phase 200 VAC	—		
Rush current	Main circuit Single-phase 100 VAC	— <sup>1</sup>		
	Main circuit Three-phase 200 VAC	33 A <sup>1</sup>		
	Main circuit Single-phase 200 VAC	—		
	Control circuit Single-phase 100 VAC	— <sup>1</sup>		
	Control circuit Three-phase 200 VAC	70 A <sup>1</sup>		
	Control circuit Single-phase 200 VAC	—		
General specifications	Type	For 200 V		
	Capacity	200W		
	Input power supply	Voltage/frequency	Main circuit	3-phase (or single-phase) 200 to 230 VAC, 50/60 Hz, 270 to 320 VDC
			Control circuit	Single-phase 200 to 230 VAC, 50/60 Hz
		Main circuit/control circuit	Allowable voltage fluctuation	170 to 253 VAC
			Allowable frequency fluctuation	±5% or less
		Allowable instantaneous outage time	Main circuit	Full-stop (100% down): 0.5 cycles, half-stop (50% down): 1 cycle
	Control circuit		Approx 100ms	
	Overvoltage category	III		
	Control method	3-phase full-wave rectification, IGBT, PWM control, sine wave current drive method		
	Feedback	20-bit serial encoder (incremental, absolute) communication		
Operating environment	Operating ambient temperature	0 to +55°C (no freezing)		
	Ambient storage temperature	-20 to +70°C (no freezing)		
	Ambient operating/storage humidity	90%RH or less (no condensation)		

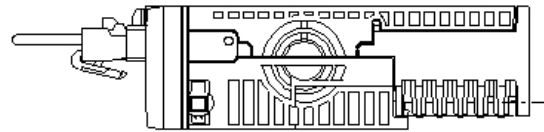
	Vibration resistance		4.9 m/s <sup>2</sup> (conforms to JIS C 60068-2-6)		
	Shock resistance		19.6 m/s <sup>2</sup> (conforms to JIS C 60068-2-27)		
	Operating atmosphere (enclosure rating /pollution degree)		Pollution degree: 2 (within a control panel that has a rating of IP54 or higher), however, · No corrosive or flammable gas present · A location that is not subject to water, oil, or drugs · No dust present		
	Altitude		1,000 m or less above sea level		
	Approved standards	UL/CSA standards		UL508C, CSA C22.2 number 14	
		CE marking	Low-voltage directive	EN50178	
			EMI	EN55011 Class A, EN61800-3	
			EMS	EN61800-3, EN61000-6-2	
	North American EMI standards		FCC Part 15 B, ICES-003, Class A		
	Structure	Type	Base mounting attachment		
Protection		Open, forced			
Lowest insulation resistance value			1 MΩ or more, tested with a 500 VDC megger		
Insulation withstand voltage			1,500 VAC or more (between the primary side and the earth terminal), 1,800 VAC or more (between the primary side and the secondary side)		
Weight			Approx 0.9kg		
Performance specifications	Performance	Speed control range		1 to 5,000 (under the condition that the load torque is less than or equal to the rated torque)	
		Speed fluctuation rate	During load fluctuation	±0.01% or less with a load fluctuation between 0 and 100% (at the rated rotation speed)	
			When the voltage of the main circuit fluctuates	0% at the rated voltage ±10% (at the rated rotation speed)	
			When the ambient temperature fluctuates	±0.1% or less when the ambient temperature is between 0 and +50°C (at the rated rotation speed)	
		Torque control accuracy (reproducibility)		±1%	
		Speed frequency response		1.6 kHz (when JL = JM) * JL: load moment of inertia (motor axis conversion), JM: motor moment of inertia	
	Dynamic brake			Built-in	
	Analogue monitor output for observation			Monitor output such as motor rotation speed and torque instruction for observations, number of built-in channels: 2	
	Regenerative resistor	Built-in regenerative resistor		None	
		External regenerative resistor		OP-84399 (220 W <sup>2</sup> )	
	Display function	Access window		Status monitor, parameter settings, calibration, etc.	
		CHARGE display LED		CHARGE LED (orange) for checking the main circuit power supply input	
		Status		Servo on, instruction input in progress, warning, MECHATROLINK-II communication in progress	
	Communication function	USB communication	Function	Status display, parameter settings, calibration, etc.	
			Connection device	PC	
Protection function			Overcurrent, overvoltage, insufficient voltage, overload, regeneration error, etc.		
Other functions			Auto calibration, absolute position system, etc.		
I/O specifications	MECHATROLINK-II type	Control I/O	Input signal: Number of channels	8CH	
			Input signal: Function	Forced stop (FSTOP), forward rotation side limit switch (LSP), reverse rotation side limit switch (LSN), external latch signals 1 to 3 (EXT1, EXT2, EXT3), forward rotation side torque limit selection (PTL), reverse rotation side torque limit selection (NT)	
			Output signal: Number of channels	4CH	
			Output signal: Function	Alarm (ALARM), operation preparation complete (RDY), in position (INPOS), speed matching (VCMP), electromagnetic brake timing (BRAKE), torque control in progress (TLM), speed control in progress (VLM), warning (WARN), zero-speed detection (ZSP), near posi	
		Encoder division pulse output		A-phase (A+, A-), B-phase (B+, B-), Z-phase (Z+, Z-): line-driver output; <sup>3</sup> Z-phase (ZOC): open-collector output; number of division pulses: 1.6 Mpps maximum (6.4 MHz when 2-phase 4× selected) <sup>4</sup>	
	Pulse/Analogue input type	Control I/O	Input signal: Number of channels	—	
			Input signal: Function	—	
			Output signal: Number of channels	—	
			Output signal: Function	—	
			Encoder division pulse output		—
		Position control	Pulse string input: Command pulse format		—
			Pulse string input: Input format		—
			Pulse string input: Input frequency		—
		Speed control	Analogue input: Command voltage		—
			Analogue input: Input impedance		—
Analogue input: Circuit time constant			—		
Speed selection			—		
Torque control	Analogue input: Command voltage		—		
	Analogue input: Input impedance		—		
	Analogue input: Circuit time constant		—		

Communication specifications (MECHATROLINK-II type only)	MECHATROLINK communication	Station address	41H to 5FH (Up to 30 slave stations can be connected. The 10s digit is selected from the access window, and the 1s digit is selected with the rotary switch.)	
		Transmission speed	MECHATROLINK-II	10 Mbps (selected from the access window)
			MECHATROLINK-I	4 Mbps (selected from the access window)
		Transmission frequency	MECHATROLINK-II	250 $\mu$ s, 0.5 ms to 4.0 ms (multiples of 0.5)
			MECHATROLINK-I	2ms
		Transmission byte number	MECHATROLINK-II	17 bytes/station, 32 bytes/station (selected from the access window)
	MECHATROLINK-I		17 bytes/station	
Command method	Operation specifications	Position control, speed control, and torque control performed by way of MECHATROLINK communication		
	Command input	MECHATROLINK-II communication commands (such as sequence, motion, data setting and reference, monitor, and adjustment)		
I/O terminal specifications and wiring	General-purpose input (DI-1)	Maximum input voltage	26.4 VDC	
		Input rated voltage	24 VDC (5mA)	
		Minimum ON voltage	19 VDC	
		Maximum OFF current	0.1mA	
		Common ground	Common (MECHATROLINK-II type servo amplifiers only have positive commons.)	
	General-purpose output (DO-1)	Output	Open-collector output	
		Rated load	30 VDC (30mA)	
		Leakage current (at OFF)	0.1mA	
		Residual voltage (at ON)	1.6 VDC or less	
		Common ground	Common	
	2-wire method compatible input (DI-2)	Maximum input voltage	26.4 VDC	
		Input rated voltage	24 VDC (9mA)	
		Minimum ON voltage	19 VDC	
		Maximum OFF current	1.5mA	
		Common ground	Common (MECHATROLINK-II type servo amplifiers only have positive commons.)	
	2-wire method compatible high-speed input (DI-3)	Maximum input voltage	26.4 VDC	
		Input rated voltage	24 VDC (11mA)	
		Minimum ON voltage	19 VDC	
		Maximum OFF current	1.5mA	
		Common ground	Common	
	Z phase open-collector output (DO-2)	Output	Non-isolated open-collector output	
		Rated load	30 VDC (30mA)	
		Leakage current (at OFF)	0.1mA	
		Residual voltage (at ON)	1.2 VDC or less	
		Common ground	Non-isolated	
	Encoder output (DO-E)	Output	Differential line-driver output	
		Output voltage	Corresponds to AM26C31	
Common ground		Independent (non-isolated)		
Output frequency		Phase difference: 1.6 Mpps (after 4 $\times$ : 6.4 MHz)		
<p><sup>1</sup> When used with the amount of current listed above, the duration of the rush current is 20 ms or lower.</p> <p><sup>2</sup> The rated capacity is the value with an ambient temperature of 70°C. However, when natural air cooling is being used, use this product with a capacity that is 20% or less of the value written above.</p> <p><sup>3</sup> Corresponds to AM26C31</p> <p><sup>4</sup> The parameters can be us</p>				

Dimensions

\* Download CAD file or product manual for larger image/text and more detail.

SV-020L2



Mounting holes

