

# Common Specifications of Driver

Basic specifications	Input power supply	100V-line	Main circuit power	Single phase, 100 – 115V	+10% -15%	50/60Hz																			
			Control circuit power	Single phase, 100 – 115V	+10% -15%	50/60Hz																			
		200V-line	Main circuit power	Type A, B	Single phase, 200 – 240V	+10% -15%	50/60Hz																		
				Type C, D	Single/3-phase, 200 – 240V	+10% -15%	50/60Hz																		
			Control circuit power	Type E, F	3-phase, 200 – 230V	+10% -15%	50/60Hz																		
				Type A to D	Single phase, 200 – 240V	+10% -15%	50/60Hz																		
	Operation conditions	Height above the sea	Temperature	Operating : 0 to 55°C, Storage : -20 to +65°C (Max.temperature guarantee 80°C for 72 hours <Nomal temperature>)																					
			Humidity	Operation/storage humidity 90%RH or less (no condensation)																					
			Vibration	5.88 m/s <sup>2</sup> or less, 10 to 60 Hz (Continuous operation at resonance point is not allowed)																					
			Withstand voltage	Should be 1500VAC (Sensed current: 20mA) or higher for 1 minute between Primary and Ground.																					
	Control method		IGBT PWM method, sinusoidal drive																						
	Control mode		Select Position control or Full-closed control by parameter.																						
	Encoder feedback		17-bit (131072 resolution) absolute/incremental encoder, 2500P/r (10000 resolution) incremental encoder																						
	Feedback scale		<p>Made by Mitsutoyo</p> <table border="1"> <thead> <tr> <th></th> <th>Resolution(μm)</th> <th>Max. Speed*(m/s)</th> </tr> </thead> <tbody> <tr> <td>ABS AT573A Series</td> <td>0.05</td> <td>2</td> </tr> <tr> <td>ABS ST771A Series</td> <td>0.5</td> <td>5</td> </tr> <tr> <td>ABS ST773A Series</td> <td>0.1</td> <td>4</td> </tr> <tr> <td>ABS ST771AL Series</td> <td>0.5</td> <td>5</td> </tr> <tr> <td>ABS ST773AL Series</td> <td>0.1</td> <td>4</td> </tr> </tbody> </table> <p>* The maximum speed depends on the driver performance. It is limited by the machine configuration and system configuration.</p>						Resolution(μm)	Max. Speed*(m/s)	ABS AT573A Series	0.05	2	ABS ST771A Series	0.5	5	ABS ST773A Series	0.1	4	ABS ST771AL Series	0.5	5	ABS ST773AL Series	0.1	4
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Control signal	Input (14 inputs)	CW over-travel inhibit, CCW over-travel inhibit, Home sensor, Emergency stop, Point specifying x6 Servo-ON, Strobe, Multi- function input x2																							
	Output (10 outputs)	Servo alarm, Brake release signal, Present position output x6, Positioning completion / Output during deceleration, Motor operation condition																							
Pulse signal	Input (4 inputs)	Encoder pulse (A/B/Z-phase) or feedback scale pulse (EXA/EXB-phase)is output by the line driver. For encoder Z-phase pulse, an open collector output is also available.																							
Setup		Setup with PANATERM or a console is available. (PANATERM and a console are sold separately)																							
Front panel		[1] 7-segment LED 2-digit [2] Analogue monitor pin (velocity monitor and torque monitor)																							
Regeneration		Type A, B : No internal regenerative resist (external only) Type C-F : internal regenerative resist (external is also available)																							
Dynamic brake		Built in																							

Function	Damping Control		A function to reduce vibration by removing the vibration frequency component when the front end of the machine vibrates.		
	Feedback scale division gradual increase setting range		Ratio between the encoder pulse (numerator) and the feedback scale pulse (denominator) can be set within the setting range : (1 to 10000 x 2 <sup>(0-17)</sup> )/(1 to 10000)		
	The number of points		maximum 60 points		
	Operation mode	Homing operation	Eight types of homing operations [home sensor + Z phase (based on the front end), home sensor (based on the front end), home sensor + Z phase (based on the rear end), limit sensor + Z phase, limit sensor, Z phase homing, Bumping homing, and data set]		
		Jog operation	The motor can be moved in a positive direction or negative direction independently. This is useful for teaching or adjustment.		
		Step operation	The most basic operation. Specify a point number set in advance when performing the operation. The four types of modes [incremental operation, absolute operation, rotary axis operation and dwell timer (waiting time)]		
		Block operation	Continuous block operation	Several step operations can be performed continuously. Once an operation starts, the operation continues to a specified point number.	
			Combined block operation	A step operation is performed according to combined several point numbers. This is useful when you want to change the speed during a step operation.	
		Sequential Operation	A point number increments by 1 automatically whenever an operation command is given. A step operation can be performed easily only by turning the STB signal on/off.		
	Teaching (Console (option) is necessary)	You can operate the motor actually using this console, set a target position and execute some test operations.			
		Real time	Load inertia is determined at real time in the state of actual operation and gain corresponding to the rigidity is set automatically.		
	Auto tuning	Normal mode	Load inertia is determined by driving the equipment with operation command within the driver and gain corresponding to the rigidity is set automatically.		
	Instantaneous speed observer		Available only for position control. A function to improve the speed detection accuracy, achieve the quick response and, at the same time, reduce the vibration at the stop by estimating the motor speed using a load model.		
	Unnecessary wiring mask function		The following control input signal can be masked: CW over-travel inhibit, CCW over-travel inhibit, multi function input1 and 2 , point specifying input(P8-IN,P16-IN,P32-IN), Servo-ON		
	Division function of encoder feedback pulse		The number of pulses can be set up arbitrarily. (at the maximum encoder pulse)		
	Protection function	Hardware error	Overload, undervoltage, overspeed, overload, overheat, over current, encoder error, etc.		
		Software error	Large positional deviation, Undefined data error , EEPROM error, etc.		
Alarm data trace back function		Traceable up to 14 alarm data including present alarm data.			