

Common Specifications of Driver

Basic Specifications	Input power	Single phase, 100V	Single phase, 100-115V +10% -15% 50/60Hz		
		Single phase, 200V	Single phase, 200-240V +10% -15% 50/60Hz		
		3-phase, 200V	3-phase, 200-240V +10% -15% 50/60Hz		
	Environment	Temperature	Operating : 0 to 55°C, Storage : -20 to +65°C (Max.temperature guarantee 80°C for 72 hours <Nomal temperature>)		
		Humidity	Both operating and storage : 90%RH or less (free from condensation)		
		Altitude	1000m or lower		
		Vibration	5.88m/s ² or less, 10 to 60Hz (No continuous use at resonance frequency)		
	Control method		IGBT PWM Sinusoidal wave drive		
	Encoder feedback		2500P/r (10000 resolution) incremental encoder		
	Control signal	Input	7 inputs (1) Servo-ON, (2) Alarm clear and other inputs vary depending on the control mode.		
		Output	4 outputs (1) Servo alarm, (2) Alarm, (3) Release signal of external brake and other outputs vary depending on the control mode.		
	Pulse signal	Input	2 inputs Supports both line driver I/F and open collector I/F with photo-coupler input.		
		Output	4 outputs Feed out the encoder pulse (A, B and Z-phase) in line driver. Z-phase pulse is also fed out in open collector.		
	Communication function	RS232	1 : 1 communication to a host with RS232 interface is enabled.		
	Display LED		(1) Status LED (STATUS), (2) Alarm code LED (ALM-CODE)		
	Regeneration		No built-in regenerative resistor (external resistor only)		
Dynamic brake		Built-in			
Control mode		3 modes of (1) High-speed position control, (2) Internal velocity control and (3) High-functionality positioning control are selectable with parameter.			
Functions	Position control	Control input	(1) CW over-travel inhibition, (2) CCW over-travel inhibition, (3) Deviation counter clear, (4) Gain switching, (5) Electronic gear switching		
		Control output	(1) Positioning complete (In-position)		
	Pulse input	Max. command pulse frequency	Line driver : 500kpps, Open collector : 200kpps		
		Type of input pulse train	Differential input. Selectable with parameter, ((1) CW/CCW, (2) A and B-phase, (3) Command and Direction)		
		Electronic gear (Division/Multiplication of command pulse)	Setup of electronic gear ratio Setup range of (1-10000 X 2(0-17))/(1-10000)		
		Smoothing filter	Primary delay filter or FIR type filter is selectable to the command input.		
	Internal speed control	Control input	(1) CW over-travel inhibition, (2) CCW over-travel inhibition, (3) Selection1 of internal command speed, (4) Selection 2 of internal command speed, (5) Speed zero clamp		
		Control output	(1) Speed arrival (at-speed)		
		Internal speed command	Internal 4-speed is selectable with control input.		
		Soft-start/down function	Individual setup of acceleration and deceleration is enabled, with 0 to 10s/1000r/min. Sigmoid acceleration/deceleration is also enabled.		
		Zero-speed clamp	0-clamp of internal speed command with speed zero clamp input is enabled.		
	Common	Auto-gain tuning	Real-time	Estimates the load inertia in real-time in actual operation and sets up the gain automatically corresponding to the machine stiffness. Useable at (1) High-response position control, (2) Internal speed control and (3) High-functionality position control.	
			Normal mode	Estimates the load inertia with an action command inside of the driver, and sets up the gain automatically corresponding to setup of the machine stiffness. Useable at (1) High-response position control, (2) Internal speed control and (3) High-functionality position control.	
		Masking of unnecessary input		Masking of the following input signal is enabled. (1) Over-travel inhibition, (2) Speed zero clamp (3) Torque limit switching	
		Division of encoder feedback pulse		1P/r to 2500P/r (encoder pulses count is the max.).	
Protective function		Hardware error	Over-voltage, under-voltage, over-speed over-load, over-heat, over-current and encoder error etc.		
		Software error	Excess position deviation, command pulse division error, EEPROM error etc.		
Traceability of alarm data		Traceable up to past 14 alarms including the present one.			
Damping control function		Manual setup with parameter			
Setup	Manual	Console			
	Setup support software	PANATERM® (Supporting OS : Windows98, Windows ME, Windows2000, and WindowsXP)			