

Servo motor 『MP series』



- We utilize servo technology has proven extensive in-house industrial robots worldwide market share.
- This servo has the advantage of low cost motor knowledge of the world's top consumer market share.
- Servo motor has its own factory in China more than two million units per month.
- Servo motor encoder is a product developed internally.

★Motor

Press case adoption

It is lineup as for □42 (50W/100W) □62 (200W/400W) □80 (750W)

★Encoder

1x Magnetics absolute encoder (12 bit/multi turn)

This encoder becomes possible so far making to the gap wider than the type, and secures high productivity and reliability.

★Driver

Board type to separate power supply and drive in consideration of multi axis servo application.

Drive circuit is One model of 750W.

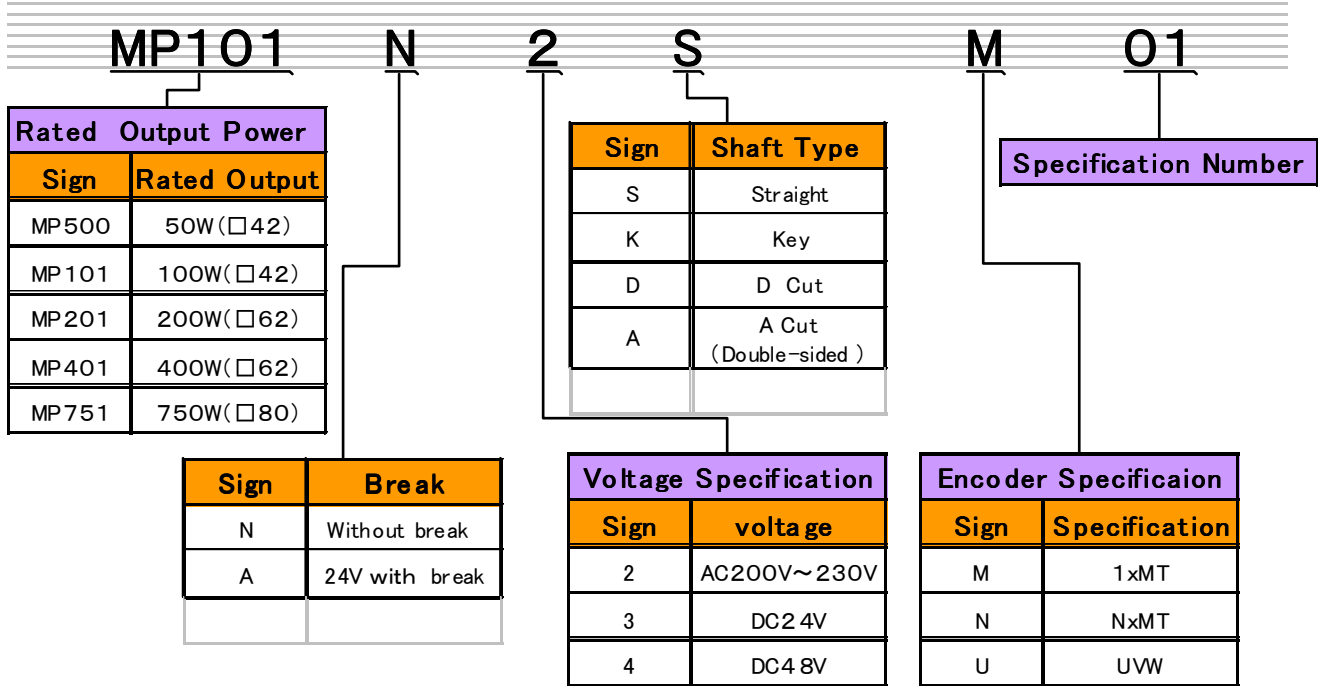
Power supply circuit is Three models of ~200W/~400W/~750W.

The case optional is set.

[Applications]

■ Robot ■ textile machinery ■ general industrial machinery ■ semiconductor and of device related to liquid crystal manufacturing food manufacturing machine etc

◆ Motor Model



◆ Motor Specification

AC200V~230V

Item	Unit	Specification						
Voltage		200V						
Motor Model (MP□□□□□□□□)		500□2□M	101□2□M	201□2□M	401□2□M	751□2□M		
Flange		□42	□42	□62	□62	□80		
Driver Model		DJ23D01						
Basic Specification	Ratead Output	W	50	100	200	400	750	
	Rated Torque	N·m	0.159	0.318	0.637	1.273	2.387	
	Rated Instanteous Max Torque	N·m	0.477	0.955	1.910	3.820	7.162	
	Rated Speed	rpm	3000					
	Max Rated Speed	rpm	5000				4500	
	Rotor Inertia	Without Brake	kg·m ² × 10 ⁻⁴	0.020	0.034	0.127	0.196	1.563
		with Brake		0.027	0.041	0.175	0.244	1.867
	Admit load	Radial(P direction) N	75	75	220	240	310	
		Thrust	70	70	80	115	170	
		Thrust (B direction) N	120	120	165	200	270	
Encoder		12bit ABS serial communication						

DC24V~48V

項目	單位	仕様							
Voltage		DC24V			DC48V				
Motor Model (MP□□□□□□□□)		500□3□M	101□3□M	500□4□M	101□4□M	201□4□M	401□4□M		
Flange		□42	□42	□42	□42	□62	□62		
Driver Model		DJ33D01			後日発表予定				
Basic Specification	Ratead Output	W	50	100	50	100	200	400	
	Rated Torque	N·m	0.159	0.318	0.159	0.318	0.637	1.273	
	Rated Instanteous Max Torque	N·m	0.477	0.955	0.477	0.955	1.910	3.820	
	Rated Speed	rpm	3000			3000			
	Max Rated Speed	rpm	4500			4500			
	Rotor Inertia	Without Brake	kg·m ² × 10 ⁻⁴	0.020	0.034	0.020	0.034	0.127	0.196
		with Brake		0.027	0.041	0.027	0.041	0.175	0.244
	Admit load	Radial(P direction) N	75	75	75	75	220	240	
		Thrust	70	70	70	70	115	115	
		Thrust (B direction) N	120	120	120	120	200	270	
Encoder		12bit ABS serial communication							

使用 周囲 条件	Time rating	Continuous
	Operating Temperature	0°C~40°C(Non-condensing)
	Storage Temperature	-20°C~65°C(Non-condensing)
	Operating Humidity	20~85%Rh(Non-condensing)
	Store atmosphere	No corrosive gas
	Vibration class	V 15 (JEC2121)
	Durability Vibration	10~150Hz Acceleration 100m/s ²
	Durability Shock	Motor 200m/s ² XYZ Each direction 3 Times
	IP Rating	IP50

※ The ambient conditions, AC200V ~ 230V DC24V · 48V and a common design.

◆ Encoder Specification

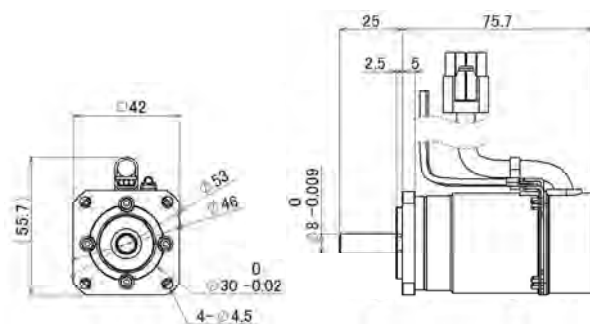
Basic specification

項目	単位	仕様
Voltage	V	DC5±10%
Current Consumption	mA	20 below
Operating Temperature	°C	0~75
Operating Temperature	%RH	20~80(No Dewfal)
Storage Temperature	%RH	-10~90(No Dewfal)
External magnetic field disturbance	mT	Within ±2
Magnet momrnt Inertia	g · cmf	0.85
Mass	g	11.5 below

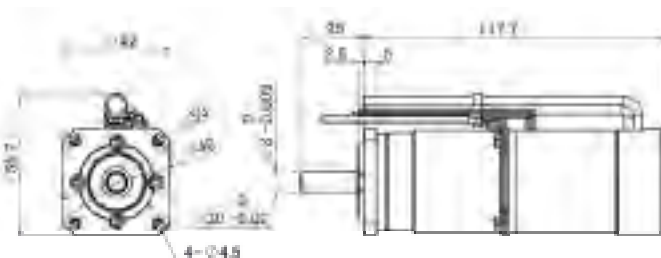
◆ Externals size • Torque Rotation Characteristic

■ 50W

[Standard]

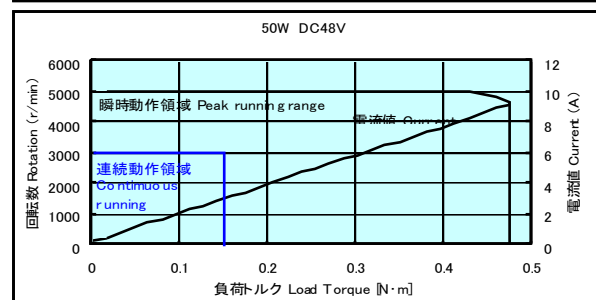
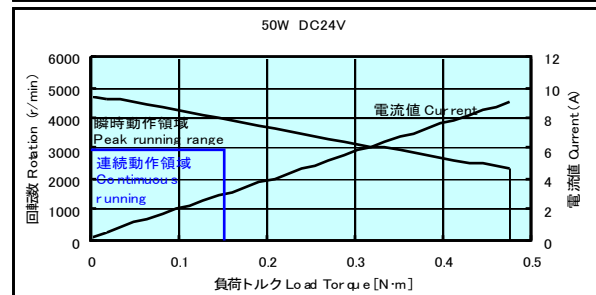
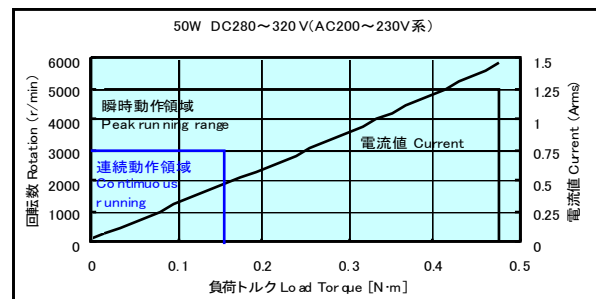


[With brake付]



■ 配線仕様

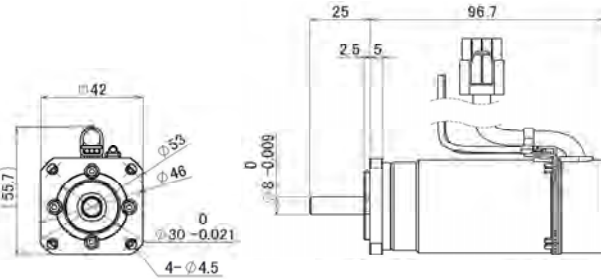
Pin No	Terminal	I / O	Contents
1	VCC	-	Main power
2	GND	-	Blind Signals
3	CAP	-	External capacitor
4	BAT	-	External Battery
5	+REQ	IN	+Data Request
6	-REQ	IN	-Data Request
7	+CLK	OUT	+Communication clock
8	-CLK	OUT	-Communication clock
9	+DO	OUT	+Communication data
10	-DO	OUT	-Communication data
11	NC	-	
12	FG	-	



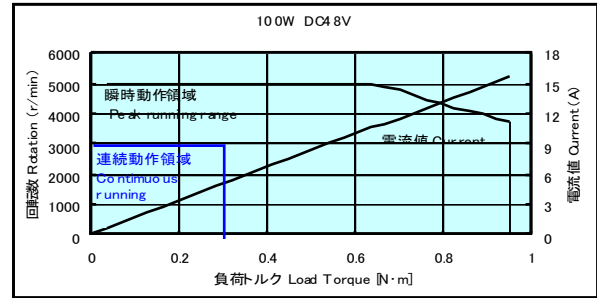
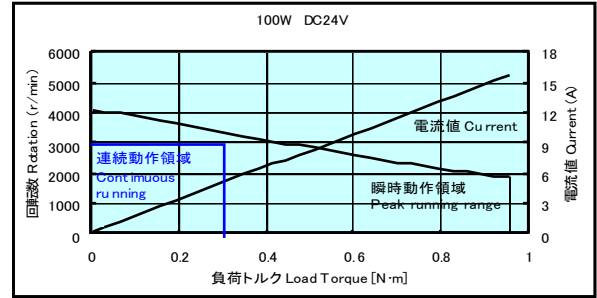
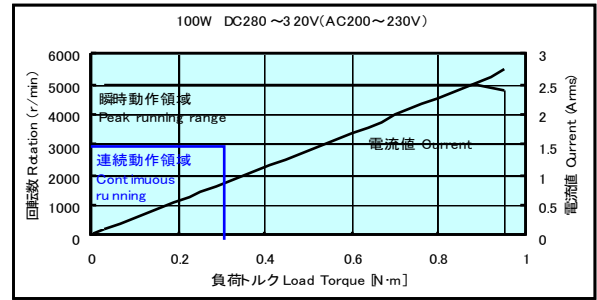
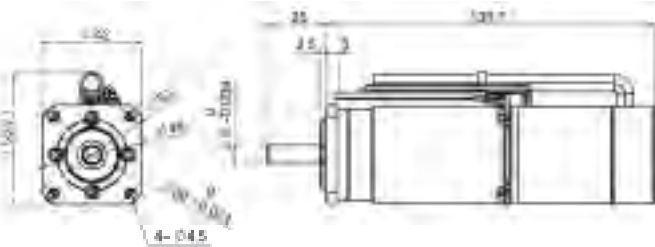
◆ Externals size
 • Torque Rotation Characteristic

■ 100W

[Standard]

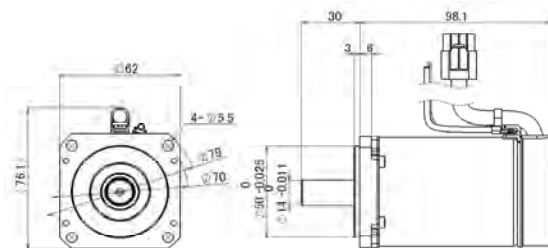


[With Brake]

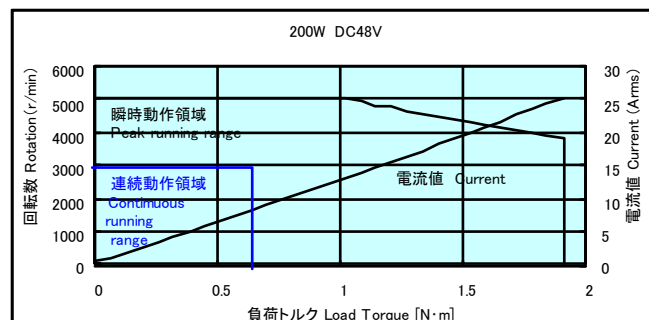
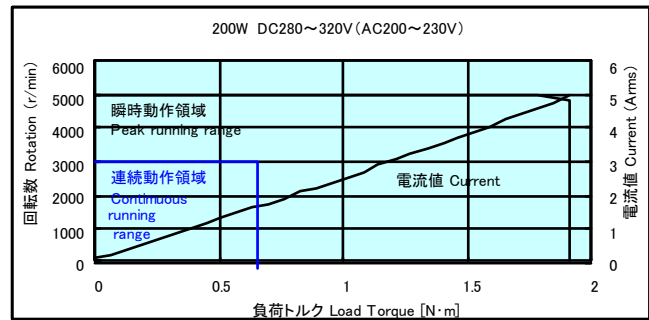
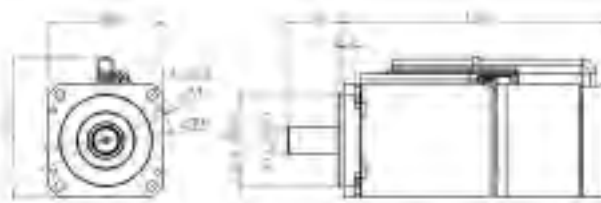


■ 200W

[Standard]



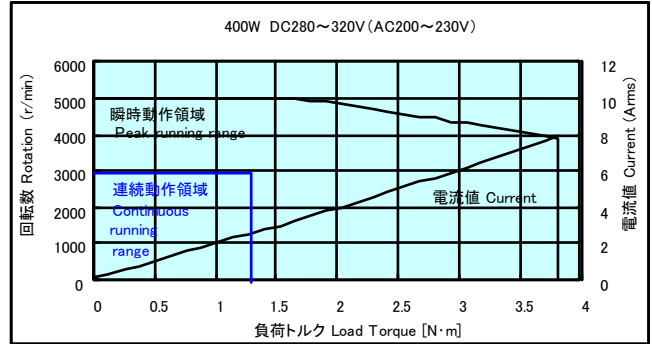
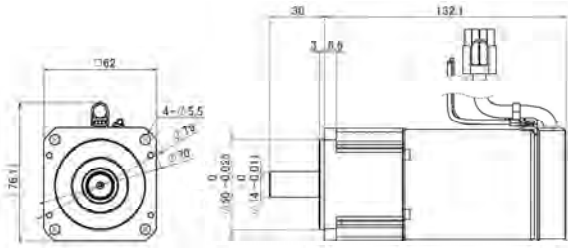
[With Brake]



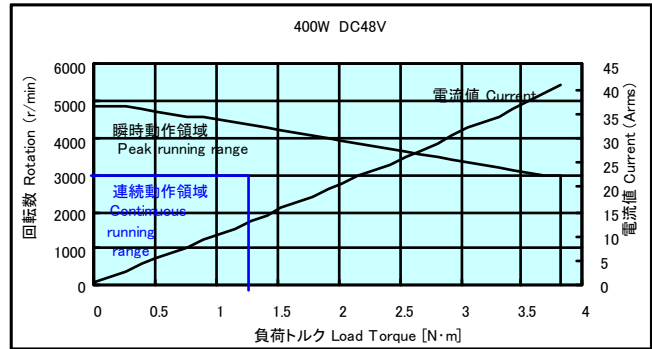
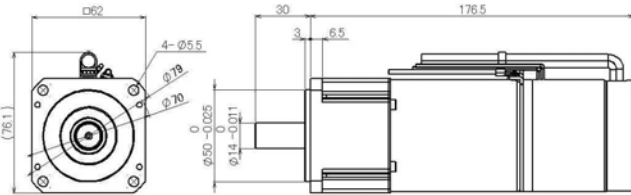
◆ Externals size
 • Torque Rotation Characteristic

■ 400W

[Standard]

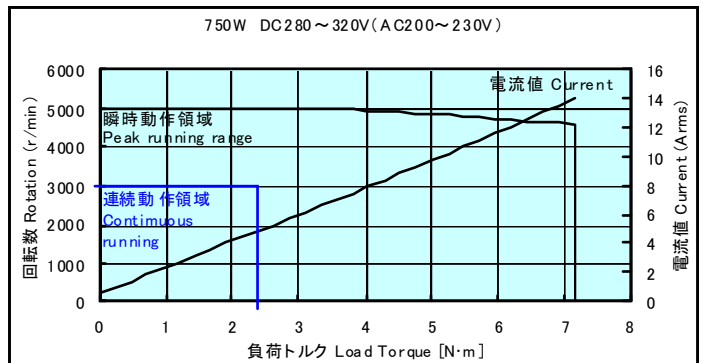
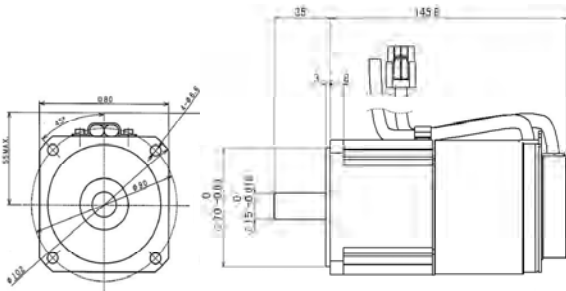


[With Brake]

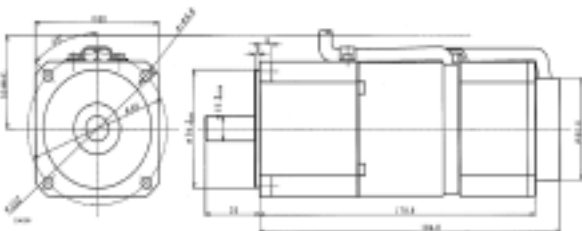


■ 750W

[Standard]



[With Brake]



Servo Driver - Power Supply

DRIVER 【DJ23D01】



POWER SUPPLY 【DP21P01】



POWER SUPPLY 【DP21P02】



POWER SUPPLY 【DP21P03】



◆ **OPTION**



Driver Case

型番： AP00101



Power Supply Case

型番： AP00301



Configuration tool

型番： AP00601



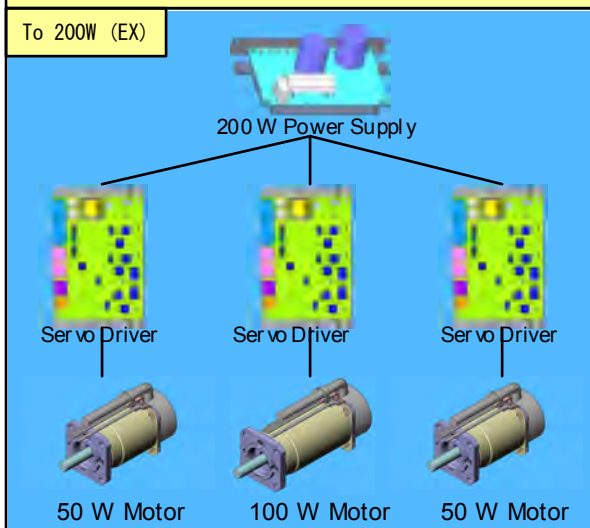
Heat Sink

型番： AP00201

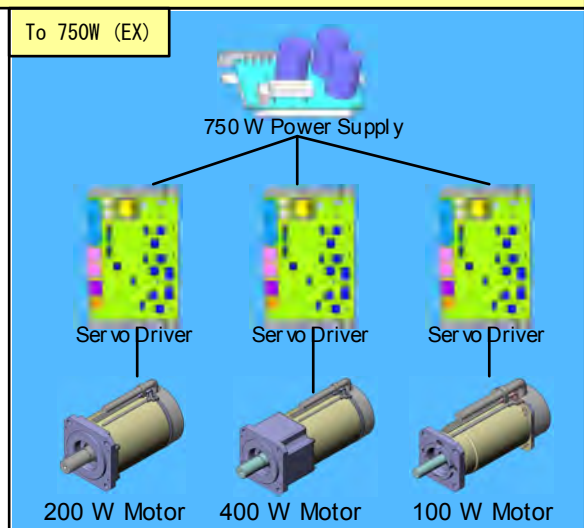
◆ **MOTOR · DRIVER · POWER SUPPLY COMBINATION (Example)**

To 200W, To400W to750W power supply will be controlled by one until the motor.

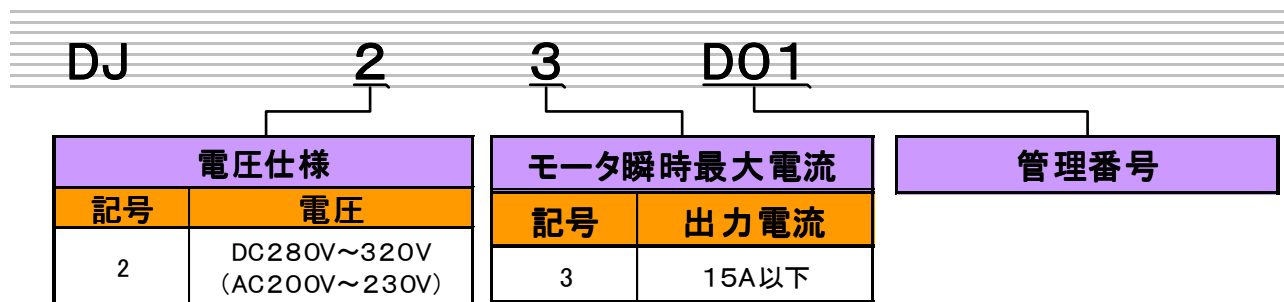
To 200W (EX)



To 750W (EX)



◆ ドライバ型番の見方

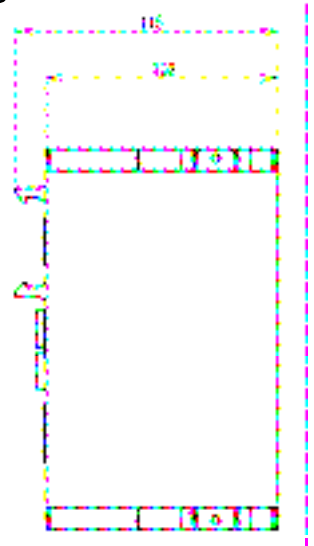
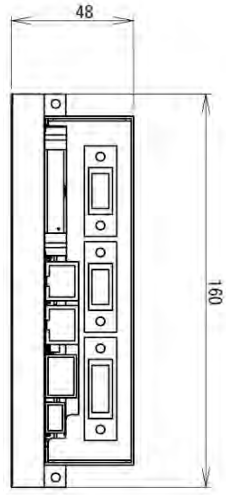
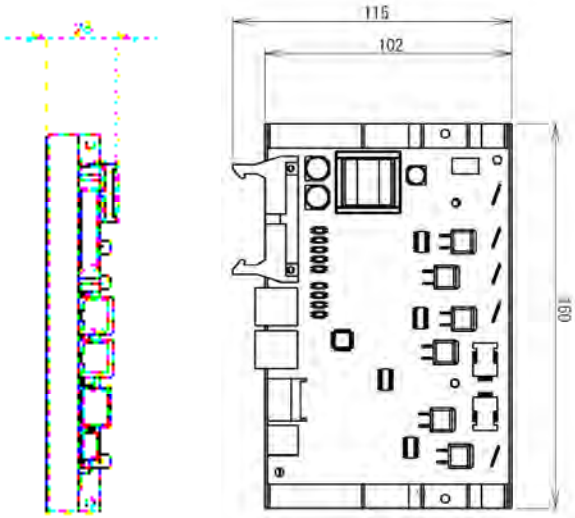


◆ Specifications of Servo drive

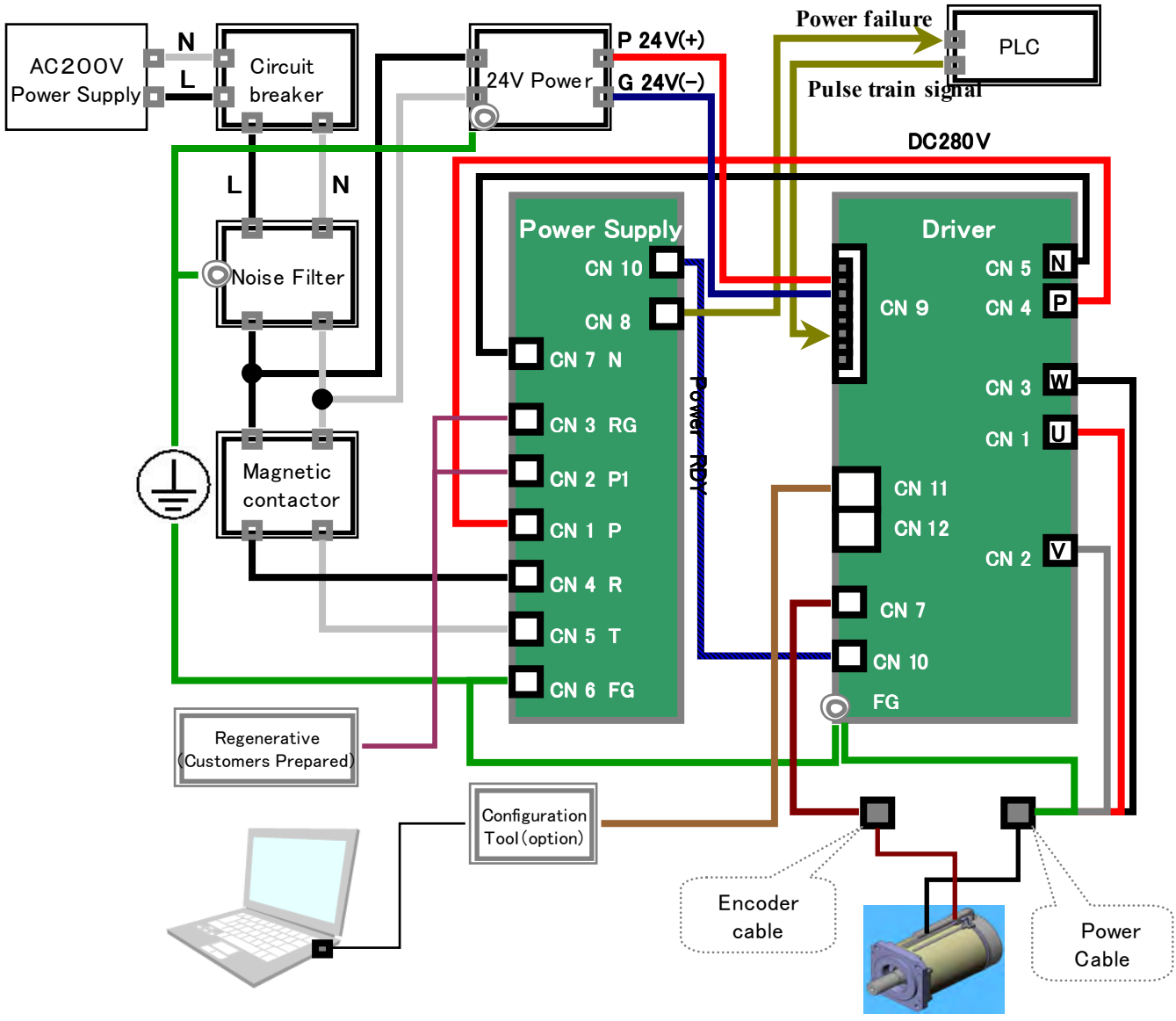
Items		仕様
Input Power Supply	Main Circuit Power Supply	DC280~320V -15%~+10% (AC200~230V -15%~+10% 相当)
	Power Control Circuit	DC24V ±10% 100mA(Typ.)
Control mode		Position Control
Control Input		Servo ON, error reset, ready supply, command pulse input is disabled, the deviation counter clear, P / PI control switching
Control Output		Servo mode, errors, Positioning completion
Input Pulse	maximum command pulse frequency	2Mpps
	Input pulse signal form	Position command pulse / direction
Output Pulse	Output pulse signal form	Position pulse encoder (AB-phase quadrature pulse signal, Z-phase pulse index)
Tuning		Chuningumente nansufu to 『HPSMT』 more coordinated
Protective Function		Overvoltage, overspeed, overcurrent, overload, overheat, encoder error, excessive position deviation, parameter error
Alarm trace-back capability		Alarm History feature information
Control scheme		Three-phase sine wave PWM inverter drive
Encoder Feedback		Absolute encoder (up to 12 bit) ※Additional batteries available ※ Multi-turn
Control signal	In-put	Photocoupler input (24V isolated system, 5 points)
	Out-put	Open collector output (24V system insulation, 3 pts)
Pulse signal	In-put	Position command signal (point 1), EIA-422 differential
	Out-put	Position encoder signal (point 1), EIA-422 differential
Communication function		Half-duplex asynchronous serial communication 1ch (multi-drop) EIA-485 differential
Dynamic Brake		Built-in
Temperature	Operating	0~55°C (No freezing)
	Storage	-20~65°C (guaranteed maximum temperature: 17 humidity hours but less than 72 °C 80% RH)
humidity	Operating	20~85%Rh or less (Non-condensing)
	Storage	20~85%Rh or less (Non-condensing)
Altitude		1000m or below
Vibration		5.8m/s ² (0.6G)以下 10~60Hz ((not available in continuous resonant frequency))

◆ Dimensions

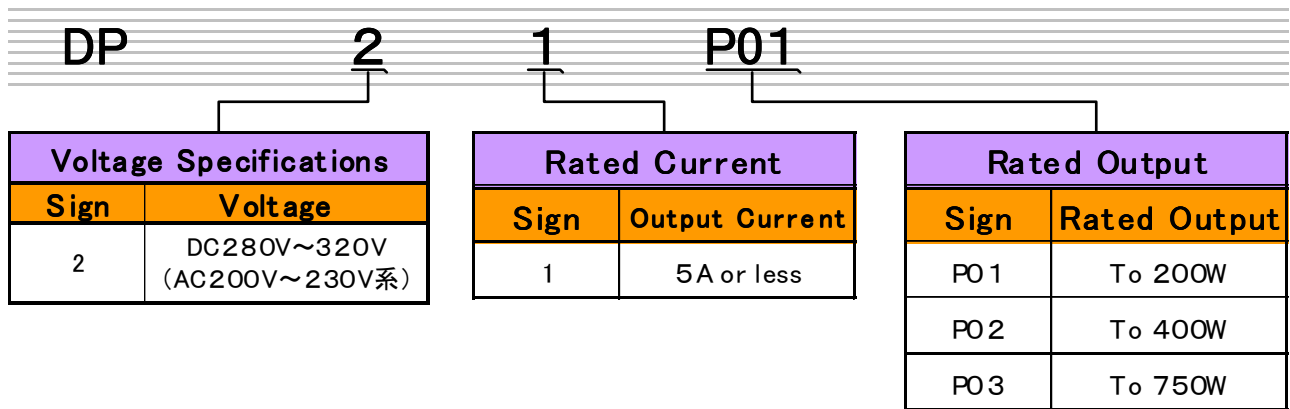
◆ Case



◆ Wiring Diagrams



◆ Model



◆ Specification of Power Supply

Item		Specification		
Model		DP21P01	DP21P02	DP21P03
Motor		200W	400W	750W
Input	Voltage	AC200V~230V		
	Frequency	50Hz/60Hz		
	Power Capacity	約0.5KVA	約0.9KVA	約1.4KVA
	Circuit Breaker	10A	10A	15A
Output	Rated DC output current	1.5A	2.5A	4A
Regenerative resistance (Connection)		— (*1)	47Ω	47Ω
Regenerative Power Capacity		— (*1)	20W	20W
Temperature	Opreating	0~55°C (No Freezing)		
	Storage	-20°C~65°C (guaranteed maximum temperature: 17 humidity hours but less than 72 °C 80% Rh)		
Humidity	Opreating	20~85%Rh or less (non-condensing)		
	Storage	20~85%Rh or less (non-condensing)		
Storage Atmosphere		No corrosive and explosive gases.		
Altitude		1000m or less above sea level		
proof vibration		5.8m/s ² (0.6G)以下10~60Hz(Continuous use of non-resonant frequency)		
Dielectric strength voltage		Primary - ground between AC1500V, 1 minute (sensitivity current 20mA) can withstand		

