PSDF Series Servo Drive

Product Features

■ **Specialized For CNC**

- Standard Mechatrolink Ⅱ and Mechatrolink Ⅲ buses, perfectly adapted to LNC, Syntec, HUST and other CNC systems
- Kalman observer algorithm for faster servo response
- Load perturbation compensation algorithm for smoother processing
- Quadrant bump suppression algorithm for finer processing
- Turret control function

■ **Smart**

- Powerful internal position mode allows for continuous multi-path planning for rich motion control; supports up to 32 data sets for planning, each set of data can be set to the number of pulses or angle required, and internal position mode can be set for speed, acceleration, deceleration and emergency deceleration
- Automatic determination of load inertial mechanical properties, setting optimal gain and shortening system commissioning time

■ **Stable**

- Mechanical resonance frequency analysis, configuration of two sets of trap filters, adjustable frequency (50~5000Hz) and trap depth, effectively overcome low frequency resonance and mechanical end vibration,can set the vibration frequency (1~100Hz) and vibration damping
- Frictional torque compensation reduces the effect of static friction during mechanical commutation and improves command following performance at low speeds

Specifications

Model

PSDFAS08□□ 0.75kW	PSDFAS15□□ 1.5kW	PSDFAS22□□ 2.2kW	PSDFAS30□□ 3kW	PSDFAS50□□ 5kW
PSDFBS15□□ 1.8kW	PSDFBS25□□ 3KW	PSDFBS35□□ 3.8KW	PSDFBS55□□ 5.5KW	PSDFBS75□□ 7.5KW

Input Power

Control Mode	Three-phase PWM converter sine wave drive
Main Power	220V: Single-phase/three phase 220V AC（-15~+10%，50~60Hz） 380V: Three-phase 380V AC（-15~+10%，50~60Hz）
Control Power	220V: Single-phase 220V AC（-15~+10%，50~60Hz）
Rated Current	220V：0.4kW/2.8A,0.75kW/5.5A,1.5kW/10A, 2.2kW/12A,3kW/16A,5kW/25A 380V: 1.8kW/5A,3kW/8A,3.8kW/12A,5.5kW/16A, 7.5kW/20A
Encoder Feedback	Absolute encoder

Environment

Working Temperature	0～45℃
Storage Temperature	-20～65℃
Working Humidity	20～85%RH or less (non condensing)
Storage Humidity	20～85%RH or less (non condensing)
Working And Storage air	Indoor (no direct sunlight), non-corrosive gases, flammable gases, oil mist, dust
Altitude	Below 1000m
Vibration	5.8m/s² (0.6G) below 10～60Hz (Cannot be used continuously at resonant frequency)
Insulation And Pressure Resistance	Primary- between F and G, 1 minute under AC1500V

Control Signals

Input	6-channel (DC24V opto-coupler isolation) Input function can be selected according to
Output	parameters 4-channel opto-coupler isolated output; output function can be selected according to
Communications	parameters MECHATROLINK-II MECHATROLINK-III
Control Modes	3 control modes: position control, speed control, torque mode
Regenerative Resistance	400W: without; over 750W: with

Position Control Modes

Control Input	Home Recursive Deceleration Switch Signal (/DEC), external latch signal (/EXT 1 to 2), positive rotation prohibited (P-OT), negative rotation prohibited (N-OT), positive rotation side torque limit (/P-CL), negative rotation side torque limit (/N-CL)
Control Output	Servo alarm (ALM), position completion (/COIN), velocity consistent detection, brake (/BK), servo motor rotation detection (/TGON), servo ready (/S-RDY), torque limit detection (/CLT), encoder zero output

Pulse Output

Output Pulse Patterns	Phase A, phase B, phase Z: differential output
Frequency Dividing Ratio	Arbitrary frequency division

Communications

Communication Protocols	MECHATROLINK-Ⅱ、MECHATROLINK-Ⅲ
Transmission Speed	M2：10 Mbps；M3：100 Mbps
Transmission Period	M2：250 μsec～8 msec；M3：31.25 μsec～64 msec
Frame Length	M2：17bytes/32bytes；M3：32bytes/48bytes
Connectable Slave Station NO.	M2: up to 30; M3: up to 62

Command Methods

Command Specifications	Via position control, speed control and torque control of MECGATROLINK
Command Input	MECHATROLINK command (such as compliance control, motion, data setting/referencing, monitoring, adjustment and other commands