Servo Motors
DC Servo Motor

ATOMBOTIX

DC LOW VOLTAGE SUPPLY

Optimized for mobile robot power and voltage requirements

FULL PROTECTION SYSTEM

Overcurrent, overheat, overvoltage, and motor Ilt protection

STRONG OVERLOAD

Up to 300% peak torque and current handling

COMPACT DESIGN

New miniaturized terminals for a smaller, sleeker form factor

BRAKE OPTION AVAILABLE

Optional brake enhances safety for vertical loads or emergency stops

CERTIFIED SAFETY & COMPLIANCE

CE-certified and RoHS environmental stardard compliant

Model	FD114S-□B-00	FD124S-□B-00■	FD134S-□B-00■	FD144S-□B-00■	FD164S-□B-000
Rated Input Voltage	24VDC – 60VDC				
Rated Output Current — Max. Continuous Output Current (rms)	5A	15A (Up to 12A without auxiliary radiator)	25A (Up to 20A without auxiliary radiator)	40A (Up to 30A without auxiliary radiator)	80A (Up to 60A without auxiliary radiator)
Rated Output Current — Peak Current (PEAK)	12 Ap	48 Ap	80 Ap	120 Ap	240 Ap
Feedback Signal	2500P/R (incremental differential 5V encoder): magnetic encoder; absolute encoder (for FD1X4S-CB-005 and FD1X4S-EB-005)				
Brake Chopper	An external braking resistor (depending on the working conditions, mainly used for quick start and stop), the braking voltage absorption point is 73V (FD164S is 63V) (software setting).				
Brake Chopper Threshold	DC73V ± 2V(default value, can be set)				DC63V ± 2V(default
Over-voltage alarm Voltage	DC83V ± 2V				DC70V ± 2V
Under-voltage Alarm Voltage	DC18V±2V				DC18V±2V
Cooling Method	Natural cooling Remark1:The output currents of FD124S, FD134S and FD144S are 15Arms, 25Arms and 40Arms respectively. The value measured on an oxide black 6063 aluminum plate of 300mm*300mm*10mm. 2:The output current of FD164S is 80Arms, the drive needs to be installed on the auxiliary radiator. The length*width*height is the value measured on an oxide black 6063 aluminum plate of 400mm*400mm*10mm.				
Weight (kg)	0.3	0.3	0.6	0.9	1.68
General Functions — Input Specification	4-channel digital input, common to COMI terminal, high level: 12.5-30VDC, low level: 0-5VDC, maximum frequency: 1kHz, input impedance: 5kΩ.(the brake motor drive is a 3-way digital input)				
General Functions — Input Function	Freely define as needed, the Functions are as follows: drive enable, drive error reset, drive working mode control, speed loop proportional Input Function control, positive limit, negative limit, origin signal, command reversal, internal speed segment control, internal position segment control , emergency stop, start to find origin, command activation, electronic gear ratio switching, gain switching				
General Functions — Output Specification	2 digital outputs, brake motor drive is 1 digital signal output				
General Functions — Pulse direction control	Pulse+direction, CCW+CW, A phase+B phase (3.3V – 24V)				
General Functions — Output Function	Freely define according to needs, the Functions are as follows: drive ready, drive error, motor position arrives, motor zero speed, motor holding brake, motor speed arrives, index Z signal appears, maximum speed limit reached in torque mode, motor lock shaft, motor limit bit center, origin found.				
General Functions — RS232	The default baud rate is 38400 and the maximum baud rate is 115.2K. Can use Kinco host computer software for linking, or use custom protocol to communicate with the controller.				
General Functions — Protective Function	Overvoltage protection, undervoltage protection, motor overheating (I2T) protection, short circuit protection, drive overheating protection, etc.				
Bus Communication — Modbus/RS485	Maximum support 115.2K baud rate, can use Modbus RTU protocol to communicate with the controller.				
Bus Communication — CAN BUS	Maximum support 1M baud rate, can use CANopen protocol to communicate with the controller				
Bus Communication — EtherCAT	Support CoE (CiA402 protocol) and CSP/CSV/PP/PV/PT/HM mode, the communication speed is 100M.				
Use Environment — Operating Temperature	0 – 40℃				
Use Environment — Storage Temperature	-10℃ – 70℃				
Use Environment — Humidity (no	Below 90%RH				
Use Environment — IP Ratings	IP20				
Use Environment — Installation site	Dust-free and dry place (such as electrical cabinet)				
Use Environment — Installation method	Vertical installation or horizontal installation				
Use Environment — Height	The rated working altitude is below 1000m. When the working altitude is above 1000m, every 100m rise, it needs to be derated by 1.5%. The maximum working altitude is 4000m above sea level.				
Use Environment — Atmospheric pressure	86kpa – 106kpa				

Note:

□ =A:without brake

■ =B:with brake