

## FD123-CC-000 Series Servo Driver

### FEATURES

- **Input Voltage Range From DC24VDC to 70VDC**
- **Rated Current is (RMS) 10A**
- **50-200 Watt Power Range**
- **Position, Speed, and Torque Control**
- **RS232 and CAN BUS**
- **Natural Air Cooling**
- **MODBUS and CANopen Standard**
- **Requires 2500PPR Encoder Input**
- **Communication Software**
  - **Configure Parameters**
  - **I/O Signal Monitoring**
  - **Speed and Position Curves**
  - **Gain Adjustments**
- **Programmable Inputs and Outputs**
  - **4 Inputs**
  - **2 Outputs**
- **CE Certified**



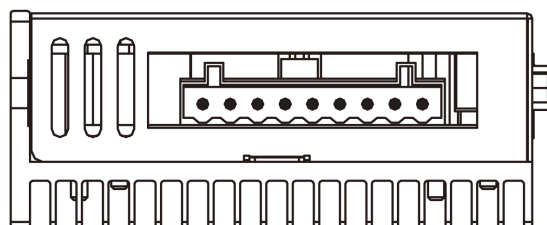
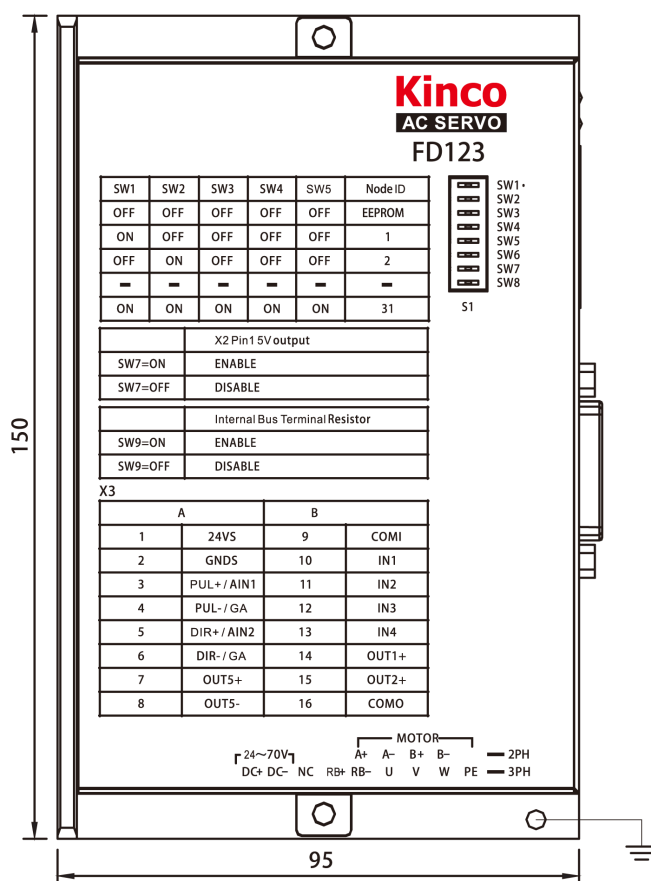
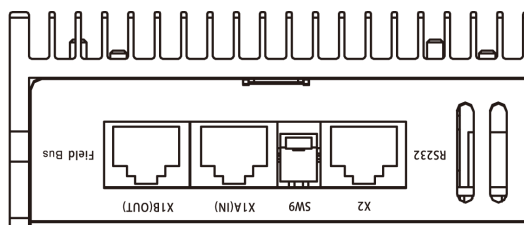
### DESCRIPTION

The FD123-CC-000 Series Servo Drive is a great fit for applications requiring position, speed, and/or torque control methods. The uniqueness of this Servo Drive package is the flexibility of using a single Servo Drive that can accommodate motors with power ratings ranging from 50-200W. Also, it is designed to switch dynamically among different control methods for more flexible operation. The FD123-CC-000 Servo Drive can operate position control mode either with pulse and direction inputs, 8 internal position points, or 8 internal speed points. The FD123-CC-000 Servo Drive operates with a 24-70VDC input. These drives come standard with an RS232 which can be operated using MODBUS Protocol, a CAN BUS port to be operated using CANopen Protocol, or can be operated using our Free, Easy-to-Use Software. Please consult our Application Engineers for more information.

### SPECIFICATIONS

| Category            | Servo Driver                                                 | Servo Motor            | Description                             | Power/Brake Cable            | Encoder Cable | Rated Power /<br>Rated Speed / Rated Torque |
|---------------------|--------------------------------------------------------------|------------------------|-----------------------------------------|------------------------------|---------------|---------------------------------------------|
| Small Inertia DC48V | FD123-CA-000<br>FD123-EA-000<br>FD123-LA-000<br>FD123-CC-000 | SMH40S-0005-30AAK-4DKH | 2500PPR Incremental Encoder             | MOT-005-05-KL-D              | ENCCA-05-KH   | 50W / 3000 RPM / 22.6 oz-in                 |
|                     |                                                              | SMH40S-0010-30AAK-4DKH | 2500PPR Incremental Encoder             | MOT-005-05-KL-D              |               | 100W / 3000 RPM / 45.3 oz-in                |
|                     |                                                              | SMC60S-0020-30AAK-3DKH | 2500PPR Incremental Encoder             | MOT-005-05-KL-D              |               | 200W / 3000 RPM / 90.6 oz-in                |
|                     |                                                              | SMC60S-0020-30ABK-3DKH | 2500PPR Incremental Encoder, with Brake | MOT-005-05-KL-D<br>BRA-05-KL |               | 200W / 3000 RPM / 90.6 oz-in                |
|                     |                                                              | SMC60S-0040-30AAK-3DKH | 2500PPR Incremental Encoder             | MOT-005-05-KL-D              |               | 400W / 3000 RPM / 179.8 oz-in               |
|                     |                                                              | SMC60S-0040-30ABK-3DKH | 2500PPR Incremental Encoder, with Brake | MOT-005-05-KL-D<br>BRA-05-KL |               | 400W / 3000 RPM / 179.8 oz-in               |
|                     |                                                              | SMC80S-0040-30AAK-3DKH | 2500PPR Incremental Encoder             | MOT-005-05-KL-D              |               | 400W / 3000 RPM / 179.8 oz-in               |
|                     |                                                              | SMC80S-0040-30ABK-3DKH | 2500PPR Incremental Encoder, with Brake | MOT-005-05-KL-D<br>BRA-05-KL |               | 400W / 3000 RPM / 179.8 oz-in               |

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4985 E. Landon Drive Anaheim, CA 92807    **Tel. (714) 992-6990**    Fax. (714) 992-0471    [www.kincoautomation.com](http://www.kincoautomation.com)

# FD123-CC-000 Series Servo Driver

# Kinco

## TECHNICAL SPECIFICATIONS

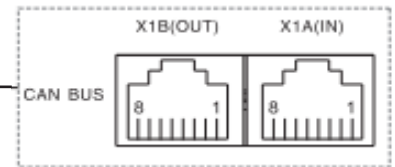
| Model Parameter                  |                           | FD123-CC-000 Series                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power                            | Main Supply Voltage       | 24VDC-70VDC                                                                                                                                                                                                                                                                                                                                                                   |
|                                  | Control Circuit Voltage   | DC24V 1A (Optional)                                                                                                                                                                                                                                                                                                                                                           |
| Current                          | Rated Current (RMS)       | 10A                                                                                                                                                                                                                                                                                                                                                                           |
|                                  | Peak Current (PEAK)       | 45A                                                                                                                                                                                                                                                                                                                                                                           |
| Feedback Signal                  |                           | 2500PPR Incremental Encoder                                                                                                                                                                                                                                                                                                                                                   |
| Brake Chopper                    |                           | Via Wiring an External Braking Resistor (Mainly in Quick Start and Stop Application)                                                                                                                                                                                                                                                                                          |
| Brake Chopper Threshold          |                           | DC73V $\pm$ 2V (Default Value, Adjustable via Software)                                                                                                                                                                                                                                                                                                                       |
| Over-Voltage Alarming Threshold  |                           | DC86V $\pm$ 2V                                                                                                                                                                                                                                                                                                                                                                |
| Under-Voltage Alarming Threshold |                           | 18V $\pm$ 2V                                                                                                                                                                                                                                                                                                                                                                  |
| Cooling Method                   |                           | Natural Air Cooling                                                                                                                                                                                                                                                                                                                                                           |
| Weight                           |                           | 0.565 Kg                                                                                                                                                                                                                                                                                                                                                                      |
| Digital Input                    | Input Specification       | 4 Digital Inputs, with COMI Terminal for PNP (High Level Valid 12.5-30V) or NPN (Low Level Valid 0-5V) Connection.                                                                                                                                                                                                                                                            |
|                                  | Input Function            | Define Freely According to Requirement, Supporting Following Functions: Driver Enable, Driver Fault Reset, Driver Mode Control, Proportional Control, Positive Limit, Negative Limit, Homing Signal, Reverse Command, Internal Speed Section Control, Internal Positive Section Control, Quick Stop, Start Homing, Active Command, Switch Electronic Gear Ratio, Switch Gain. |
| Digital Output                   | Output Specification      | 3 Digital Outputs: OUT1, OUT2 Current is 100mA; The Output Current of Brake Control Output Port (OUT5+/OUT5-) is 500mA, Can Drive Brake Device Directly.                                                                                                                                                                                                                      |
|                                  | Output Function           | Define Freely According to Requirement, Supporting Following Functions: Driver Ready, Driver Fault, Positon Reached, Motor at Zero Speed, Motor Brake, Motor Speed Reached, Z Signal, Maximum Speed Obtained in Torque Mode, Motor Brake, Position Limiting, Reference Found.                                                                                                 |
|                                  | RS232                     | The Max. Baudrate is 115.2KHz, Use Kinco Software to Communicate with PC, or Via Free Protocol to Communicate with Controller.                                                                                                                                                                                                                                                |
|                                  | Protection Function       | Over-Voltage Protection, Under-Voltage Protection, Motor Over-Heat Protection (I <sup>2</sup> T), Short-Circuit Protection, Drive Over-Heat Protection, Etc.                                                                                                                                                                                                                  |
| CAN BUS                          |                           | Support Maximum 1MHz Baudrate. Communicate With Controller Via CANopen Protocol.                                                                                                                                                                                                                                                                                              |
| Operation Environment            | Operating Temperature     | 0 ~ 40°C                                                                                                                                                                                                                                                                                                                                                                      |
|                                  | Storage Temperature       | -10°C~70°C                                                                                                                                                                                                                                                                                                                                                                    |
|                                  | Humidity (Non-Condensing) | Below 90%RH                                                                                                                                                                                                                                                                                                                                                                   |
|                                  | Protection Class          | IP20                                                                                                                                                                                                                                                                                                                                                                          |
|                                  | Installation Environment  | Installed in a Dust-Free, Dry and Lockable Environment (Such as in a Electrical Cabinet)                                                                                                                                                                                                                                                                                      |
|                                  | Installation Mode         | Vertical Installation                                                                                                                                                                                                                                                                                                                                                         |
|                                  | Altitude                  | No Power Limitation Below 1000m                                                                                                                                                                                                                                                                                                                                               |
|                                  | Atmospheric Pressure      | 86kpa-106kpa                                                                                                                                                                                                                                                                                                                                                                  |

## CAN

| PIN Number | Signal |
|------------|--------|
| 1          | CAN H  |
| 2          | CAN L  |
| 3          | GND    |
| Others     | NC     |

CAN Bus  
Communication  
Interface

X1

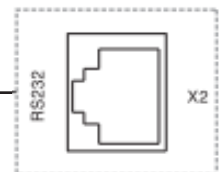


## RS232

| PIN Number | Signal |
|------------|--------|
| 3          | TXD    |
| 4          | GND    |
| 6          | RXD    |
| Others     | NC     |

RS232 Communication  
Interface, Can be Used for  
Debugging and Import/  
Export Project Data Via PC

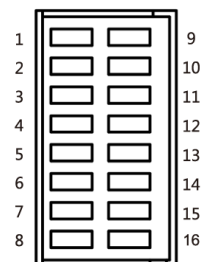
X2



| PIN No. | Signal | PIN No. | Signal |
|---------|--------|---------|--------|
| 1       | +24V   | 9       | COM1   |
| 2       | GNDS   | 10      | DIN1   |
| 3       | AIN1   | 11      | DIN2   |
| 4       | GA     | 12      | DIN3   |
| 5       | AIN2   | 13      | DIN4   |
| 6       | GA     | 14      | OUT1+  |
| 7       | OUT5+  | 15      | OUT2+  |
| 8       | OUT5-  | 16      | COMO   |

Digital Input/Output  
Terminals

X3

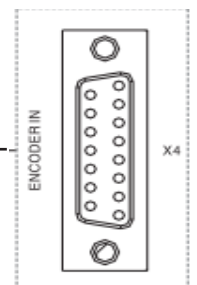


## ENCODER IN

| PIN No. | Signal | PIN No. | Signal |
|---------|--------|---------|--------|
| 1       | +5V    | 9       | GND    |
| 2       | A      | 10      | /A     |
| 3       | B      | 11      | /B     |
| 4       | Z      | 12      | /Z     |
| 5       | U      | 13      | /U     |
| 6       | V      | 14      | /V     |
| 7       | W      | 15      | /W     |
| 8       | PTC_IN |         |        |

Motor Encoder Input  
Interface

X4



## Motor/Power Supply

| PIN Name | PIN Function                                                |
|----------|-------------------------------------------------------------|
| DC+      | Positive terminal of DC power supply and braking resistor   |
| DC-      | Negative terminal of DC power supply and 24VDC power supply |
| NC       | No function                                                 |
| RB-      | Negative terminal of braking resistor                       |
| RB+      | Positive terminal of braking resistor                       |
| U        | U phase of motor output, A- phase of motor output           |
| V        | V phase of motor output, B+ phase of motor output           |
| W        | W phase of motor output, B- phase of motor output           |
| PE       | Motor earthing                                              |

