FD123 Series Servo Driver

Kinco

FEATURES

- ***Input Voltage Range From DC24VDC to 70VDC***
- ***Rated Current is (RMS) 10A***
- ***50-200 Watt Power Range***
- ***Position, Speed, and Torque Control***
- ***RS232, CAN BUS and RS485***
- ***Natural Air Cooling***
- ***MODBUS and CANopen Standard***
- ***Requires 2500PPR Encoder Input***
- ***Communication Software***
  - ***º Configure Parameters***
  - ***º I/O Signal Monitoring***
  - ***º Speed and Position Curves***
  - ***º Gain Adjustments***
- ***Programmable Inputs and Outputs***
  - ***º 4 Inputs***
  - ***º 2 Outputs***
- ***CE Certified***

DESCRIPTION

The FD123 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 Servo Drive can operate position control mode either with pulse and direction inputs, 8 internal position points, or 8 internal speed points. The FD123 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 / Rated Speed / Rated Torque
Small Inertia DC48V	**FD123-CA-000 FD123-EA-000 FD123-LA-000 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 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 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 BRA-05-KL		400W / 3000 RPM / 179,8 oz-in

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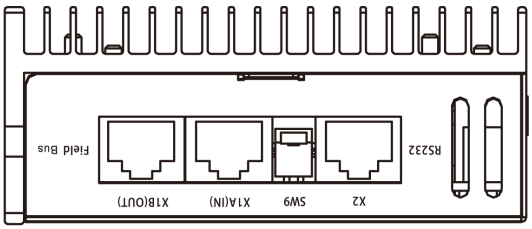
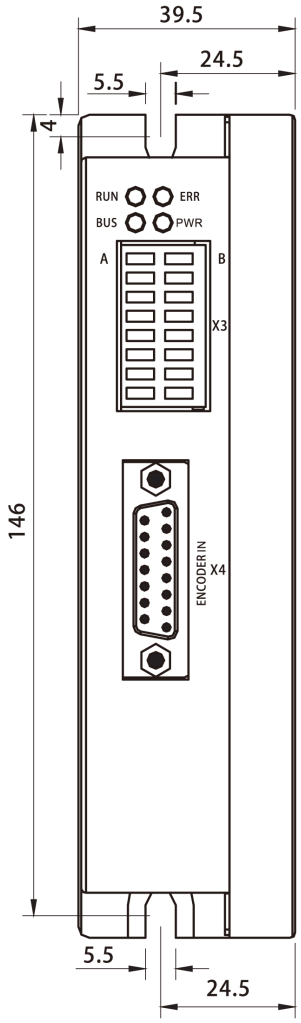
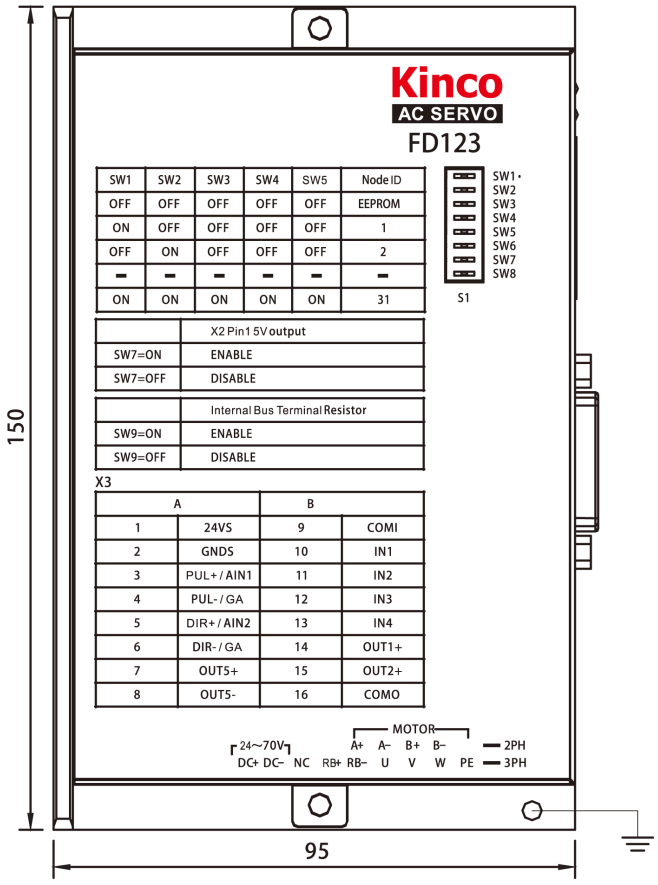
DIMENSIONS







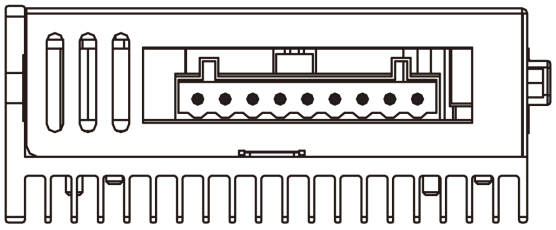
SW1	SW2	SW3	SW4	SW5	Node ID
OFF	OFF	OFF	OFF	OFF	EEPROM
ON	OFF	OFF	OFF	OFF	1
OFF	ON	OFF	OFF	OFF	2
-	-	-	-	-	-
ON	ON	ON	ON	ON	31

	X2 Pin1 5V output
SW7=ON	ENABLE
SW7=OFF	DISABLE

	Internal Bus Terminal Resistor
SW9=ON	ENABLE
SW9=OFF	DISABLE

X3

A		B	
1	24VS	9	COMI
2	GNDS	10	IN1
3	PUL+ / AIN1	11	IN2
4	PUL- / GA	12	IN3
5	DIR+ / AIN2	13	IN4
6	DIR- / GA	14	OUT1+
7	OUT5+	15	OUT2+
8	OUT5-	16	COMO



Note: All Dimensions in (mm)

TECHNICAL SPECIFICATIONS

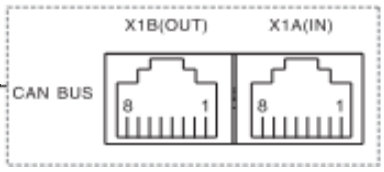
Model Parameter		FD123 Series
Power	Main Supply Voltage	24VDC-70VDC
	Control Circuit Voltage	DC24V 1A (Optional)
Current	Rated Current (RMS)	10A
	Peak Current (PEAK)	45A
Feedback Signal		2500PPR Incremental Encoder
Brake Chopper		Via Wiring an External Braking Resistor (Mainly in Quick Start and Stop Application)
Brake Chopper Threshold		DC73V ± 2V (Default Value, Adjustable via Software)
Over-Voltage Alarming Threshold		DC86V ± 2V
Under-Voltage Alarming Threshold		18V ± 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^2T), Short-Circuit Protection, Drive Over-Heat Protection, Etc.
CAN BUS		Support Maximum 1MHz Baudrate. Communicate With Controller Via CANopen Protocol.
RS485 (LA Version)		The Max. Baudrate is 115.2KHz, use Modbus RTU Protocol to-Communicate with Controller.
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

INTERFACE DESCRIPTION

CAN

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

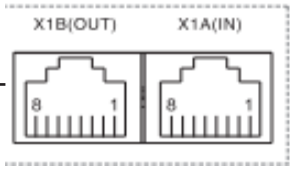
CAN Bus Communication Interface — X1



RS485

PIN Number	Signal
1	RX
2	/RX
3	GND
4	/TX
5	TX
6	NC
7	NC
8	GND

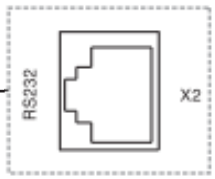
RS485 Communication Port — X1



RS232

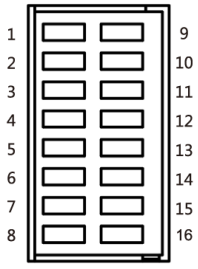
PIN Number	Signal
3	TXD
4	GND
6	RXD
Others	NC

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	PUL+	11	DIN2
4	PUL-	12	DIN3
5	DIR+	13	DIN4
6	DIR-	14	OUT1+
7	OUT5+	15	OUT2+
8	OUT5-	16	COMO

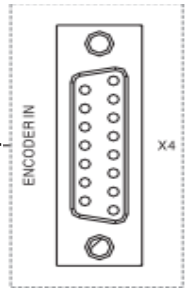
Digital Input/Output Terminals — X3



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 for 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