FD412 Series Servo Driver

Kinco

FEATURES

- ***Input Voltage Range From 176-253VAC***
- ***Rated Current is (RMS) 6A***
- ***50-200 Watt Power Range***
- ***Position, Speed. and Torque Control***
- ***RS232 and CAN BUS Port***
- ***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 7 Inputs***
  - ***º 4 Outputs***
- ***CE Certified***

DESCRIPTION

The FD412 Series Servo Drives are a great fit for applications requiring position, speed and/or torque control methods. The uniqueness of this servo drive is the flexibility of using a single servo drive that can accomodate motors with power ratings ranging from 50-200W. Also it is designed to switch dynamically among different control methods for more flexible operation. The FD412 Series Servo Drive operates with 176-253VAC input. These drives come standard with an RS232 Communication Bus which can be operated using MODBUS Protocol, a CAN BUS port to be operated using CANopen Protocol, or can be operated using

SPECIFICATIONS

Category	Servo Driver	Servo Motor	Description	Power/Brake Cable	Encoder Cable	Rated Speed/ Rated Torque/Rated Current
Small Inertia DC60V	**FD412-AA-000 FD412-LA-000 FD412-CA-000**	SMH40S-0005-30AAK-4DKH	Cable Connector	MOT-005-LL-KL-D	ENCCA-LL-KH	3000rpm/0.16Nm/ 1.2A
		SMH40S-0005-30ABK-4DKH	Cable Connector and Brake	MOT-005-LL-KL-D/BRA-LL-KL		
		SMH40S-0010-30AAK-4DKH	Cable Connector	MOT-005-LL-KL-D		3000rpm/0.32Nm/ 2.5A
		SMH40S-0010-30ABK-4DKH	Cable Connector and Brake	MOT-005-LL-KL-D/BRA-LL-KL		
		SME-60S-0020-30AAK-3DKH	Cable Connector	MOT-005-LL-KL-D	ENCCF-LL-FH	3000rpm/0.64Nm/ 4.6A
		57S-0010-10AAK-FDFH	Cable Connector	MOT-005-LL-KL-D		1000rpm/1Nm/6.5A
		57S-0015-08AAK-FDFH	Cable Connector	MOT-005-LL-KL-D		800rpm/1.5Nm/5.8A
		85S-0020-05AAK-FLFN	HFO Standard Connector	MOT-005-LL-KC0	ENCCF-LL-FC0	500rpm/2Nm/6A

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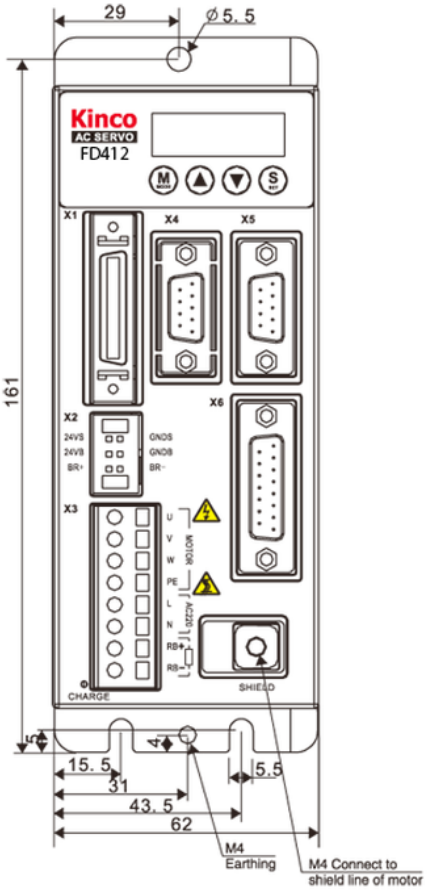
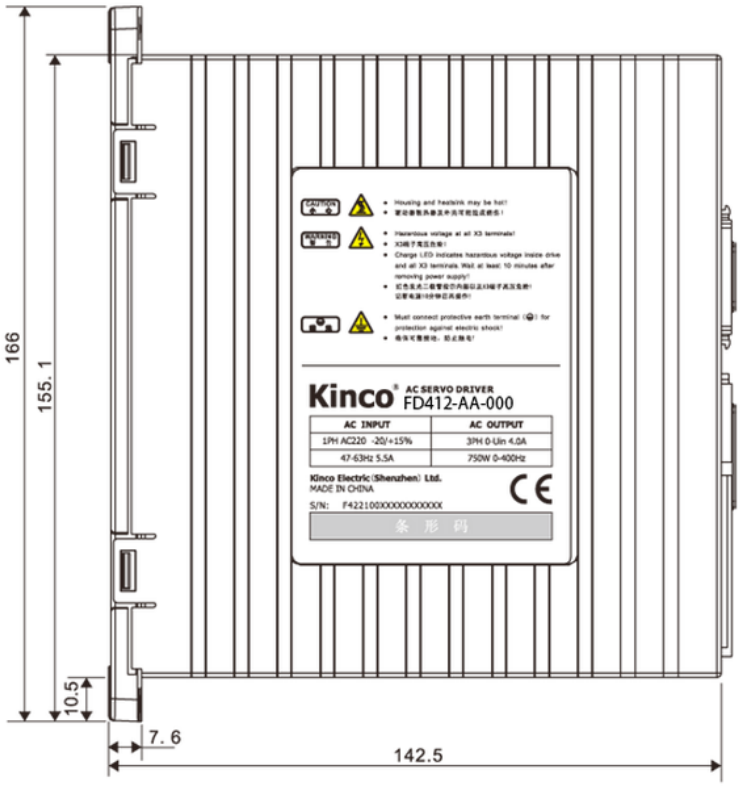
DIMENSIONS





Note: All Dimensions in (mm)

TECHNICAL SPECIFICATIONS

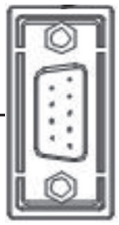
Model Parameter		FD412 Series
Power	Main Supply Voltage	176-253 VAC
	Control Circuit Voltage	DC24V 1A (Optional)
Current	Rated Current (RMS)	4A
	Peak Current (PEAK)	15A
Feedback Signal		2500PPR (Incremental Encoder with 5V Supply)
Brake Chopper		Use an External Brakeing Resistor According to Application, Mainly in High Speed Start and Stop Application.
Brake Chopper Threshold		DC380V ± 5V
Over-Voltage Alarming Threshold		DC400V ± 5V
Under-Voltage Alarming Threshold		DC200V ± 5V
Cooling Method		Natural Air Cooling
Weight		1.2 Kg
Digital Input	Input Specification	7 Digital Inputs, with COM1 Terminal for PNP (High Level Valid 12.5-30V) or NPN (Low Level Valid) 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	5 Digital Outputs, OUT1-OUT4 Current is 100mA, BR+/BR- (Brake Control Output) Current 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, N Signal, Maximum Speed Obtained in Torque Mode, Motor Brake, Position Limiting, Reference Found, Multi-Position Reached
	Encoder Signal Output	Output the Encoder Signal of Motor, Used in Multiple Axis Synchronous Control, Supports 2MHz at Most
	RS232	RS232, Connections with PC (2-2, 3-3, 5-5) or Controller
	Protection Functions	Over-Voltage Protection, Under-Voltage Protection, Motor Over-Heat Protection (I^2T), Short-Circuit Protection, Drive Over-Heat Protection, Etc.
CAN BUS		Supports 1M Baud Rate, Communicates 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

INTERFACE DESCRIPTION

CAN Bus Communication Interface

PIN Number	Signal
1	NC
2	CAN_L
3	GND
4	NC
5	NC
6	NC
7	CAN_H
8	NC
9	NC

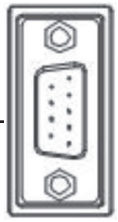
X4



RS232

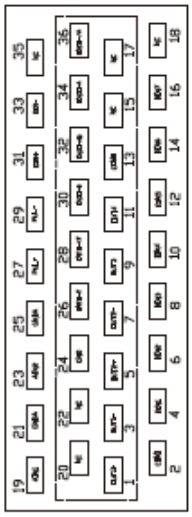
PIN Number	Signal
1	NC
2	TX
3	RX
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

X5



PIN No.	Signal	PIN No.	Signal	PIN No.	Signal	PIN No.	Signal
2	COM1	1	OUT1+	20	NC	19	AIN1
4	DIN1	3	OUT1-	22	NC	21	GNDA
6	DIN2	5	OUT2+	24	GND	23	AIN2
8	DIN3	7	OUT2-	26	ENCO-Z	25	GNDA
10	DIN4	9	OUT3	28	ENCO-/Z	27	PUL+
12	DIN5	11	OUT4	30	ENCO-B	29	PUL-
14	DIN6	13	COM0	32	ENCO-/B	31	DIR+
16	DIN7	15	NC	34	ENCO-A	33	DIR-
18	NC	17	NC	36	ENCO-/A	35	NC

X1

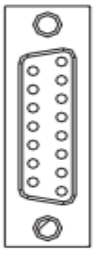


Digital Input/Output Interface

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		

X6



Motor Encoder Input Interface