

FEATURES

- 24-70VDC
- Rated Torque of 0.16 Nm
- Power Ratings up to 50 Watts
- 16 Bit Single-Turn Magnetic Encoder
- Maximum Speed of 3942 RPM
- IP65 for Body, IP54 Shaft Seal
- Brake Option Available
- Position, Speed, and Torque Control
- RS232 and RS485 Port



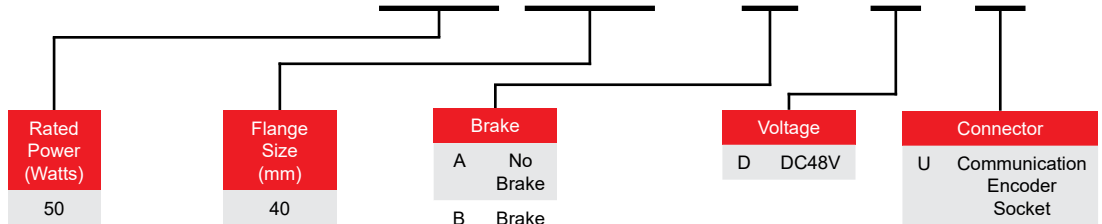
DESCRIPTION

The PKS-FD114S-005 Servo System includes a 50 Watt SMC40S-0005-30MAK-5DSU Servo Motor or SMC40S-0005-30MBK-5DSU Servo Motor with brake, operated by the FD114S-LB-000 Servo Drive. These packages are ideal and provide easy start-ups, convenience, and performance. The Servo Motors included in these packages provide torque up to 0.48 Nm. The FD114S-LB-000 Servo Drive is designed to switch dynamically among different control methods for more flexible operation and can operate position control mode either with pulse and direction inputs, 8 internal position points, or 8 internal speed points. Each system includes a 5m Motor Power Cable, 5m Encoder Cable and a Communication cable. If purchasing the option with a Brake then a 5m Brake Cable will be included as well.

Item	Rated Voltage (VDC)	Rated Speed (RPM)	Rated Torque (Nm)	Rated Current (Arms)	Inertia (Kg-cm ²)	Torque Constant KT (Nm/A)	Resistance (ohms)	Inductance (mH)	Brake (24VDC)	Motor Length (mm)	Shaft Diameter (mm)
KNC-PKS-FD114S-005-40S-MAK-DSU	24-70	3000	0.16	1.5	0.018	0.11	4.1	4.5	No	74.6	8
KNC-PKS-FD114S-005-40S-MBK-DSU	24-70	3000	0.16	1.5	0.021	0.11	4.1	4.5	Yes	104.6	8

ORDERING INFORMATION

PKS-FD114S-005-40S-MAK-DSU



L011834

SMC40S-0005 Motor Specifications



FEATURES

- 24-70VDC
- 50W Power Rating
- Rated Torque of 0.16 Nm
- Maximum Speed of 3942 RPM
- 16 Bit Single-Turn Magnetic Encoder
- IP65 for Body, IP54 Shaft Seal
- Insulation Class F
- Brake Option Available

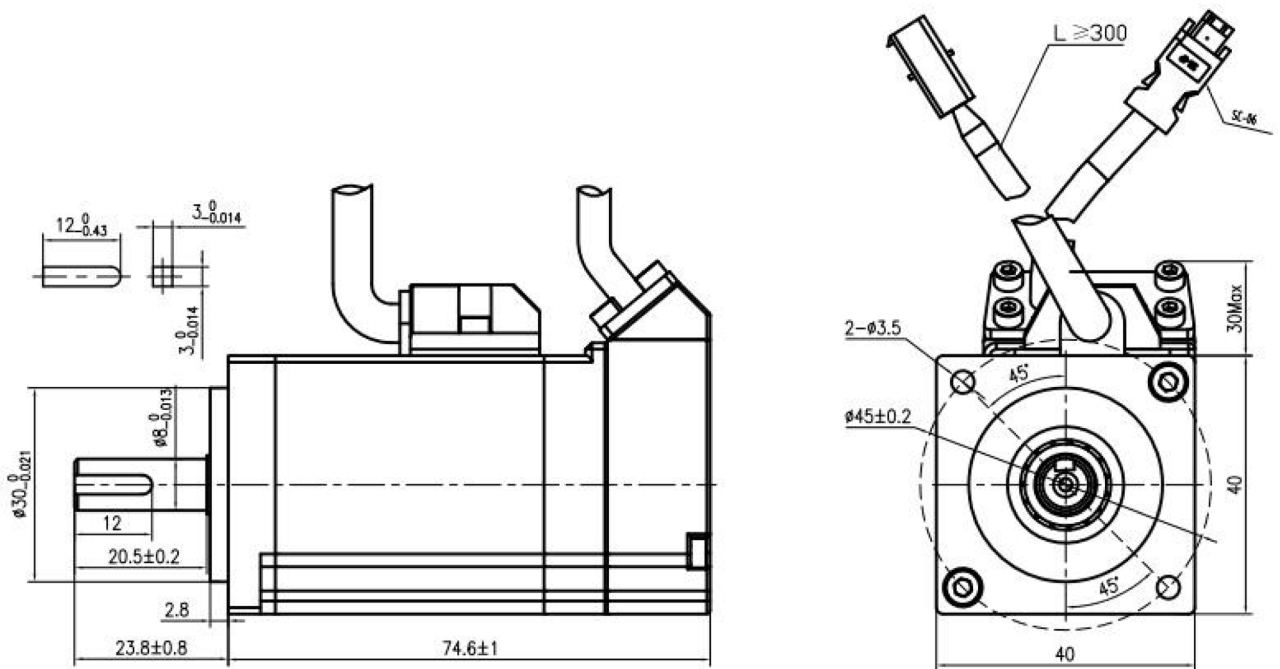


SPECIFICATIONS

Item	Rated Torque (Nm)	Rated Power (Watts)	Rated Speed (rpm)	Rated Current (Arms)	Inertia (Kg-cm ²)	Torque Constant KT (Nm/A)	Resistance (ohms)	Inductance (mH)	Length (mm)	Weight (Kg)
SMC40S-0005-30MAK-5DSU	0.16	50	3000	1.5	0.018	0.11	4.1	4.5	74.6	0.4
SMC40S-0005-30MBK-5DSU	0.16	50	3000	1.5	0.021	0.11	4.1	4.5	104.6	0.6

DIMENSIONS

SMC40S-0005-30MAK-5DSU



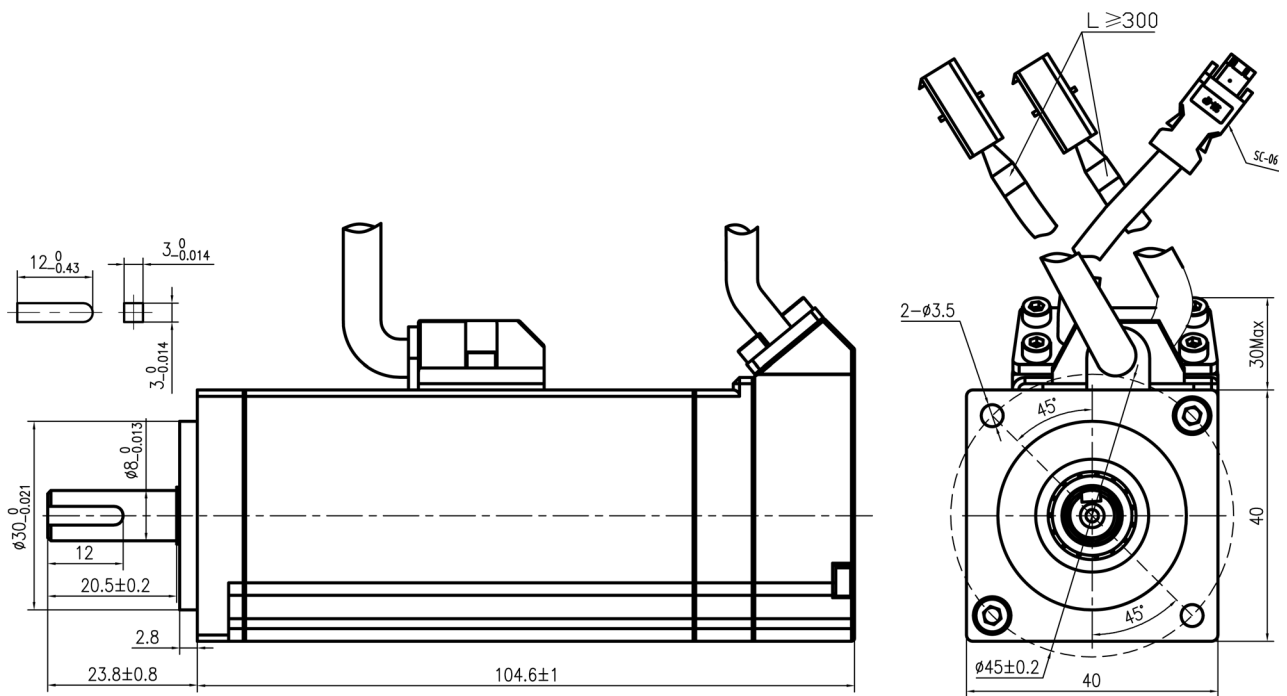
Dimensions are in mm

SMC40S-0005 Motor Specifications



DIMENSIONS

KNC-SRV-SMC40S-0005-30MBK-5DSU

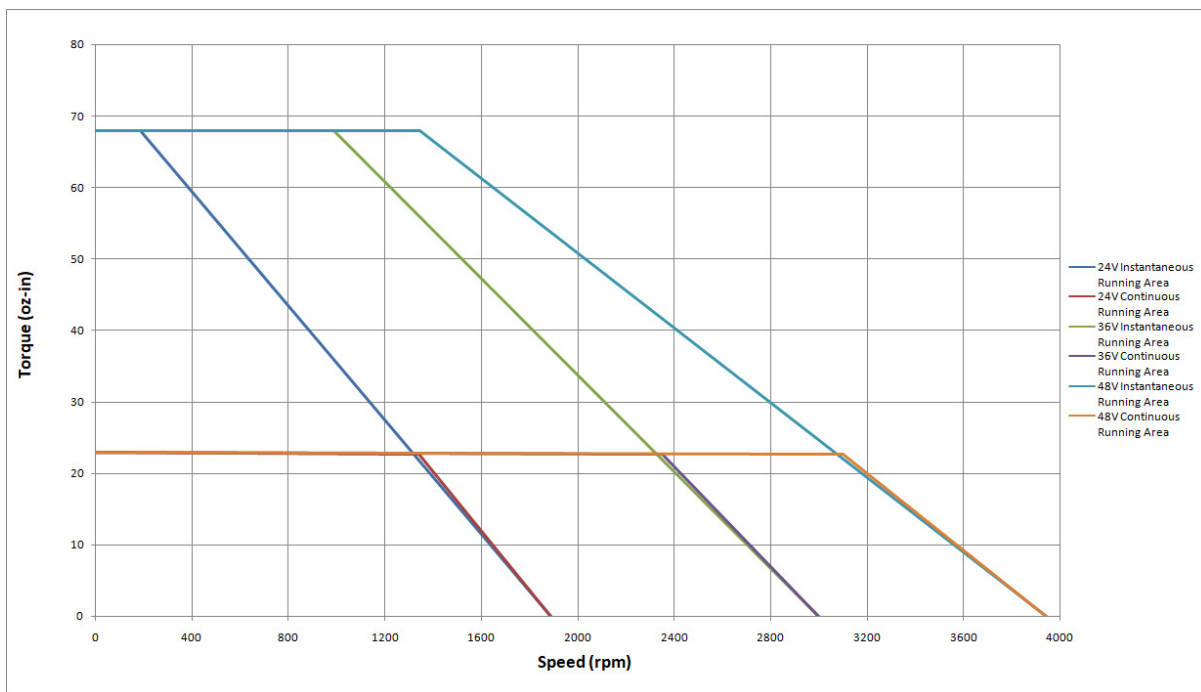


Dimensions are in mm

SMC40S-0005 Motor Specifications



TORQUE CURVE

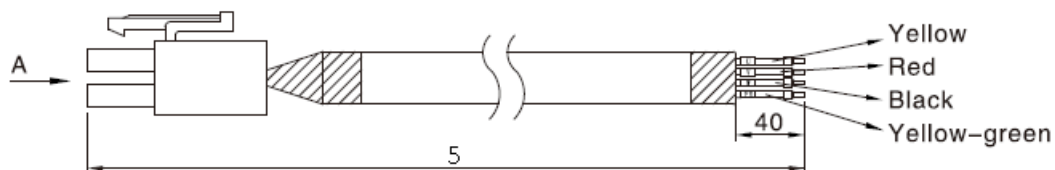


Motor Cable: MOT-005-05-KL-D for SMC40S-0005-30MAK-5DSU and SMC40S-0005-30MBK-5DSU

WIRING PINOUTS



A
4PIN

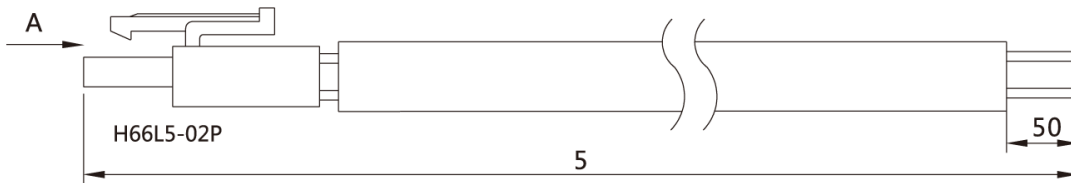


MOT-005-05-KL-D		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-green	PE	PIN 4

Brake Cable: BRA-05-KL for SMC40S-0005-30MBK-5DSU



A
2PIN



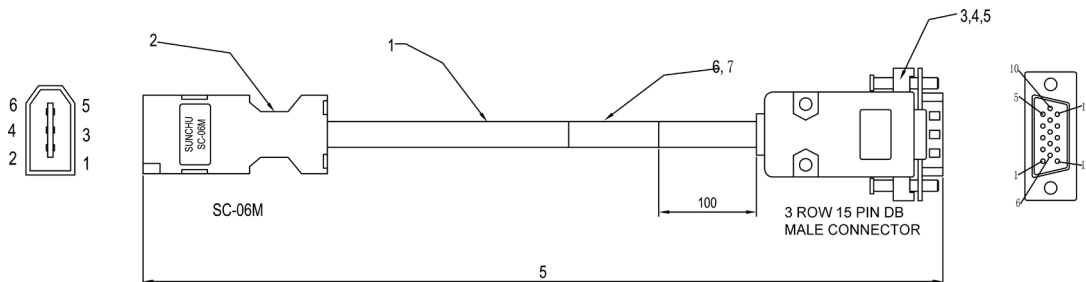
BRA-05-KL		
Cable Color	Signal	PIN #
Red	Brake +	PIN 1
Blue	Brake -	PIN 2

SMC40S-0005 Motor Specifications



WIRING PINOUTS

Encoder Cable: ENCHG-05-GU for SMC40S-0005-30MAK-5DSU and SMC40S-0005-30MBK-5DSU



ENCHG-05-GU				
Wiring Cable	Color	Signal 1	Signal 2	DB15
PIN 1	Red	VDD	VDD	PIN1
PIN 2	Black	GND	GND	PIN2
PIN 3	Brown	MA_P+	\	PIN10
PIN 4	Blue	MA_N-	\	PIN15
PIN 5	Yellow	SLO_P+	SD	PIN9
PIN 6	Green	SLO_N-	/SD	PIN14
SHELL	SHIELD	SHIELD	SHIELD	SHELL

Communication Cable: RS-232-RJ45 for SMC40S-0005-30MAK-5DSU & SMC40S-0005-30MBK-5DSU



KNC-SRV-RS-232-RJ45								
SIDE-A	2	3	4	5	6	7	8	
SIDE-B	3	6	7	4	5	2	8	1

FD114S-LB-000 Driver Specifications

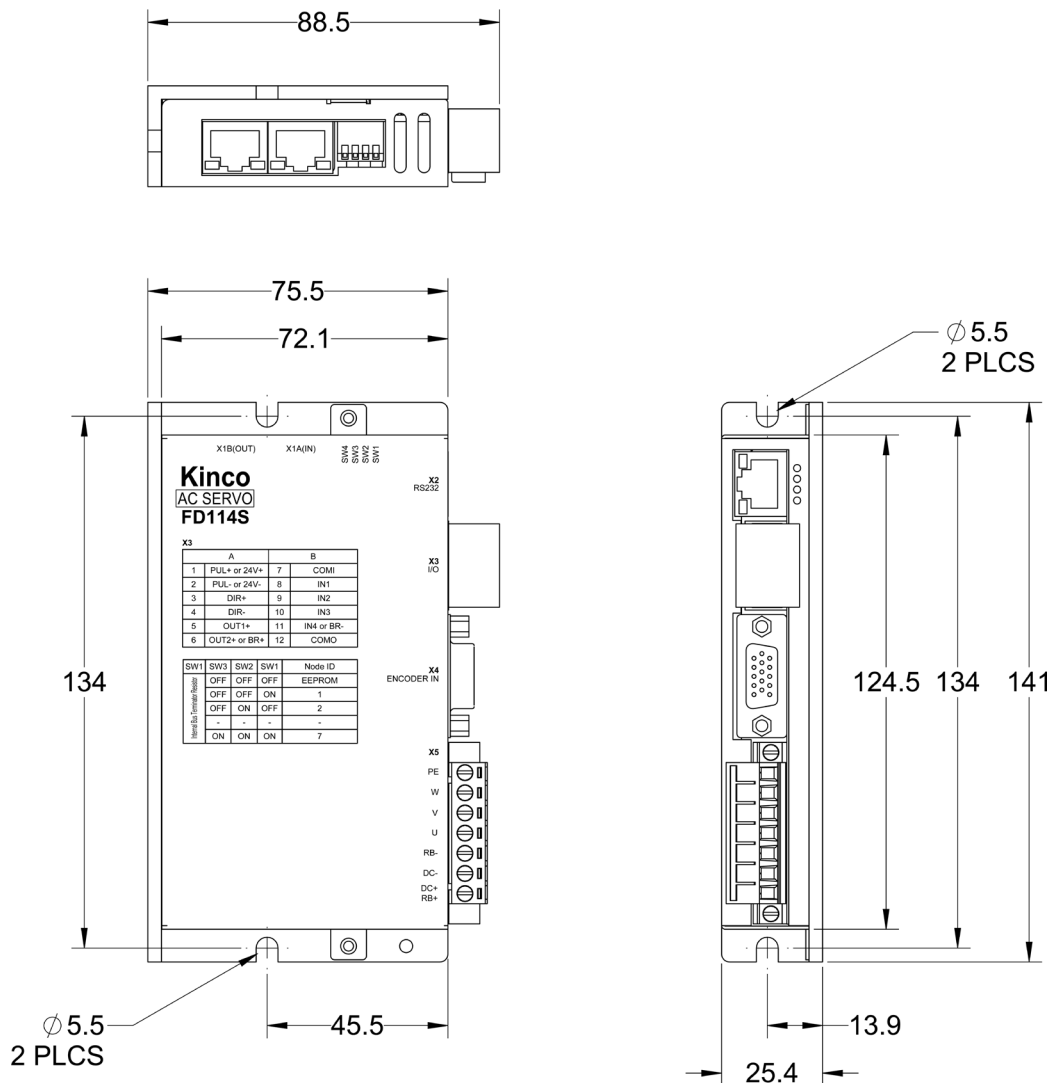


FEATURES

- 24-70VDC
- Rated Current is (RMS) 5A
- 50-100 Watt Rated Power Range
- Position, Speed, and Torque Control
- RS232 and RS485 Port
- Natural Air Cooling
- MODBUS RTU or Pulse and Direction
- Supports Incremental or 16-Bit Absolute Encoders
- Communication Software
 - Configure Parameters
 - I/O Signal Monitoring
 - Speed and Position Curves
 - Gain Adjustments
- Programmable Inputs and Outputs
 - 3 Inputs
 - 2 Outputs (1 Standard & 1 for Brake)
- CE Certified



DIMENSIONS

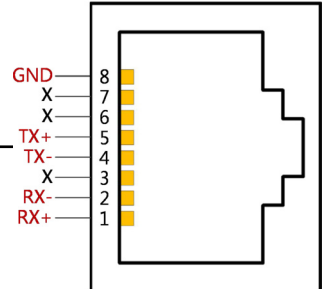


Dimensions are in mm

RS485 Port

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

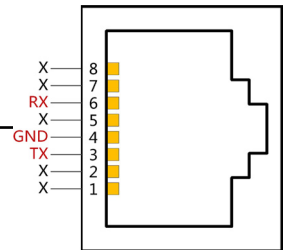
RS485 Bus Communication Port X1



RS232 Port

PIN Number	Signal
3	TX
4	GND
6	RX
Others	NC

RS232 Communication Interface, Can be Used for Debugging and Import/Export Project Data Via PC X2

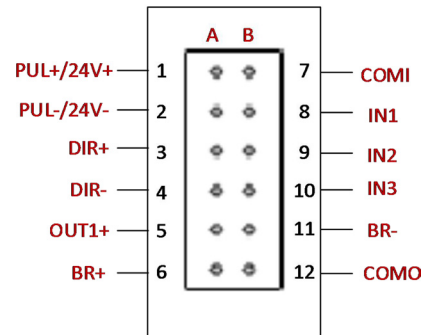


External Input & Output

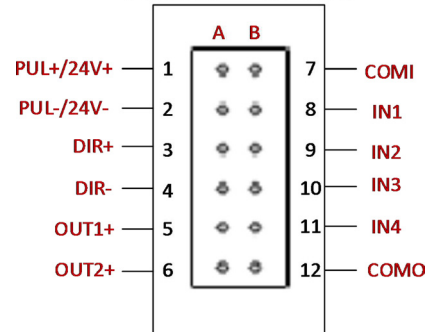
PIN No.	Signal	PIN No.	Signal
1	PUL+	7	COMI
2	PUL-	8	IN1
3	DIR+	9	IN2
4	DIR-	10	IN3
5	OUT1+	11	IN4 / BR-
6	OUT2+ / BR+	12	COMO

Digital Input/Output Terminals X3

FD1X4S-□B-000



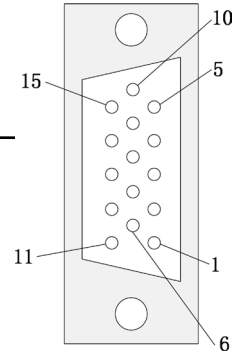
FD1X4S-□A-000



Motor with Incremental Encoder

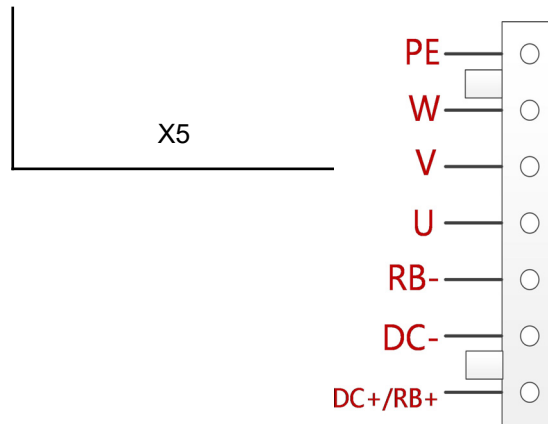
PIN No.	Signal	PIN No.	Signal
1	GND	9	5V+
2	/A	10	A
3	/B	11	B
4	/Z	12	Z
5	/U	13	U
6	/V	14	V
7	/W	15	W
8	PE	16	-

Motor Encoder Input Interface X4



Motor/Power Supply

PIN Name	PIN Function
PE	Servo Motor UVW phase out and motor ground
W	
V	
U	
RB-	External brake resistor input
DC-	Driver power input negative
DC+ / RB+	Driver power input positive
RB+	External brake resistor input



Model Parameter		FD114S Series
Power	Main Supply Voltage	24VDC-70VDC
	Control Circuit Voltage	DC24V 1A (Optional)
Current	Rated Current (RMS)	5Arms
	Peak Current (PEAK)	8A
Feedback Signal		5V Incremental Differential Encoder 16-Bit Single-Turn Magnetic Encoder
Brake Chopper		Via Wiring an External Braking Resistor (Mainly in Quick Start and Stop Application). Brake Chopper Threshold is 73V (Adjustable via Software)
Brake Chopper Threshold		DC73V ± 2V (Default Value, Adjustable via Software)
Over-Voltage Alarming Threshold		DC83V ± 2V
Under-Voltage Alarming Threshold		18V ± 2V
Cooling Method		Natural Air Cooling Note: External Heatsink is Required when the Rated Current of FD114S, FD134S and FD144S Should be Bigger than 12Arms, 20Arms and 30Arms Respectively. The Size of External Heatsink is 300mm*300mm*10mm in Length*Width*Height
Weight		0.5 Kg
Digital Input	Input Specification	3 Digital Inputs, with COM1 Terminal for PNP (High Level Valid 12.5-30V) or NPN (Low Level Valid 0-5V) Connection, Suitable to FD1x4S-LB-000 4 Digital Inputs, with COM1 Terminal for PNP (High Level Valid 12.5-30V) or NPN (Low Level Valid 0-5V) Connection, Suitable to FD1x4S-LA-000
	Input Function	Define Freely According to Requirement, Supporting Following Functions: Driver Enable, Driver Fault Reset, Driver Mode Control, Speed Loop 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	1 - Way Digital Output without 1 Driving Capacity of 100 ma or (BR+/BR-) can Directly Drive the Standard Brake Motor for FD1x4S-LB-000, Please Refer to the Wiring Port for Details. 2 - Way Digital Output without 1 Driving Capacity of 100 ma, Suitable for FD1x4S-LA-000.
	Pulse Direction Output	Pulse + Direction, CCW+CW, Phase A+Phase B (5V~24V) Note, only FD1x4-Lx-000 Support this Function
	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	Default Baudrate Setting is 38400, 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 ² T), Short-Circuit Protection, Drive Over-Heat Protection, Etc.
Modbus / RS485		The Max. Baudrate is 115.2KHz, use Modbus RTU Protocol to Communicate with Controller.
CAN BUS		Support Maximum 1MHz Baudrate. Communicate with Controller via CANopen Protocol
Ethercat		Support CoE(CiA402 Protocol) and CSP/CSV/PP/PV/PT/HM Mode, Communication Speed 100M

Compatible Drivers

Part Number	Description
FD114S-LB-000	Servo Driver



Compatible Motors

Part Number	Description
SMC40S-0005-30MAK-5DSU	Servo Motor
SMC40S-0005-30MBK-5DSU	Servo Motor



Compatible Cables

Part Number	Description
MOT-005-05-KL-D	Power Cable
ENCHG-05-GU	Encoder Cable
BRA-05-KL	Brake Cable
RS-232-RJ45	Communication Cable

