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Kinco

Motion
Control
Servo System

➡ **Servo System Catalog**

- JD/FD2S/CD2S
- Series Servo Driver
- Servo Motor



02 Model Description of Servo Driver and Motor

- Kinco JD Series Servo Driver
- Kinco FD2S Series Servo Driver
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- Kinco Servo Motor
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04 Servo Driver and Motor Selection Table

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08 Servo Driver Introduction

Panel and Interface Description, Port Description, Technical Specifications, Wiring Diagram, Mechanical Dimension Diagram

- JD servo driver
(port description, Communication interface description, Technical specifications,wiring diagram,mechanical dimension diagram)
- FD2S servo driver
(port description, Communication interface description, Technical specifications,wiring diagram,mechanical dimension diagram)
- CD2S servo driver
(port description, Communication interface description, Technical specifications,wiring diagram,mechanical dimension diagram)

21 Servo Motor Introduction

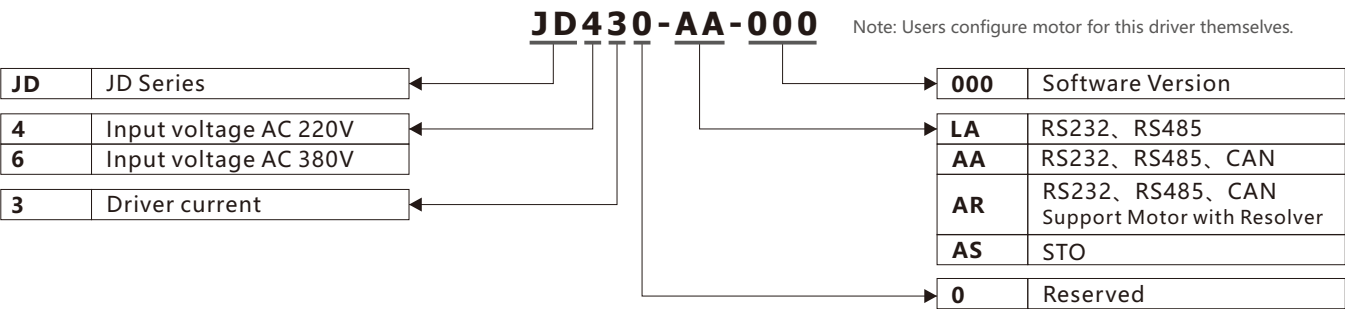
- Table of SMH series servo motor technical parameteres (60, 80, 110, 130, 150, 180 flange)
- Dimension of SMH series servo motor/torque-frequency curve
- Table of SMG series servo motor technical parameteres (130, 180 flange)
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53 Wiring Diagram for Cable

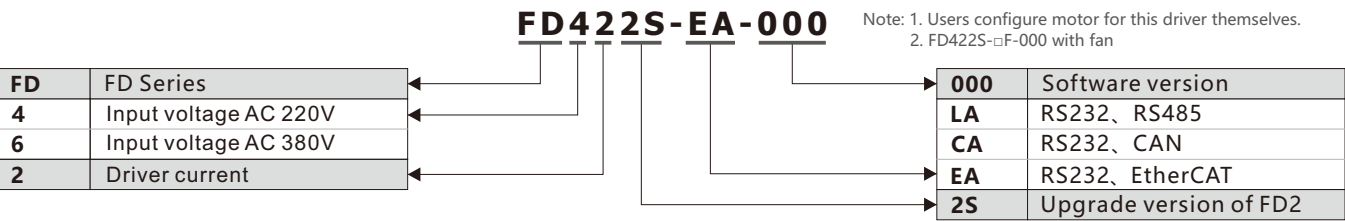
- Wiring Diagram for The Power Cable
- Wiring Diagram for the brake cable
- Wiring Diagram for The Encoder Cable

Model Description of Servo Driver and Motor

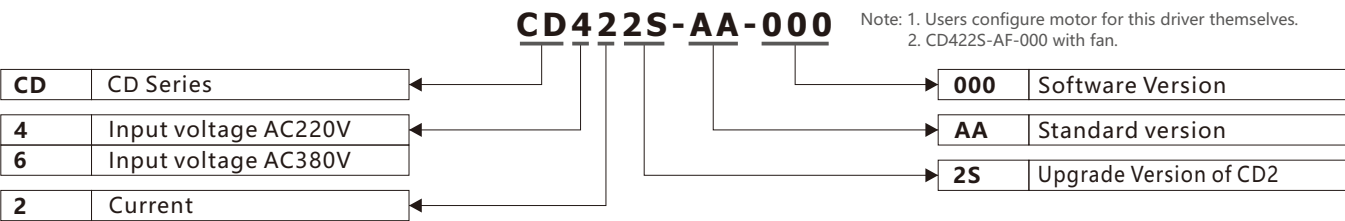
Kinco JD Series Servo Driver



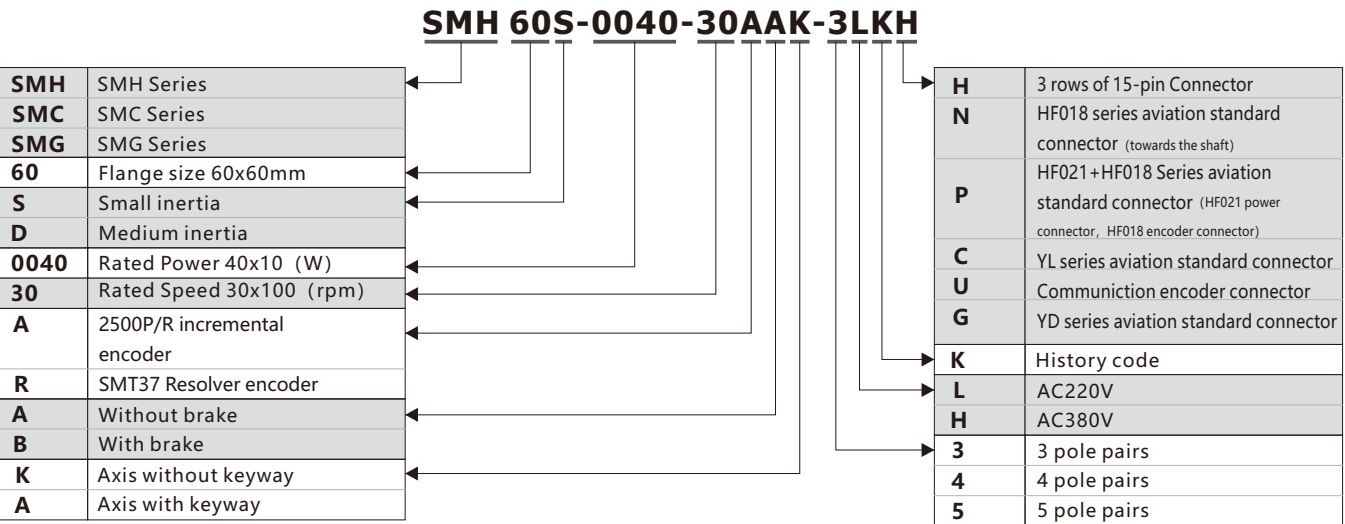
Kinco FD2S Series Servo Driver



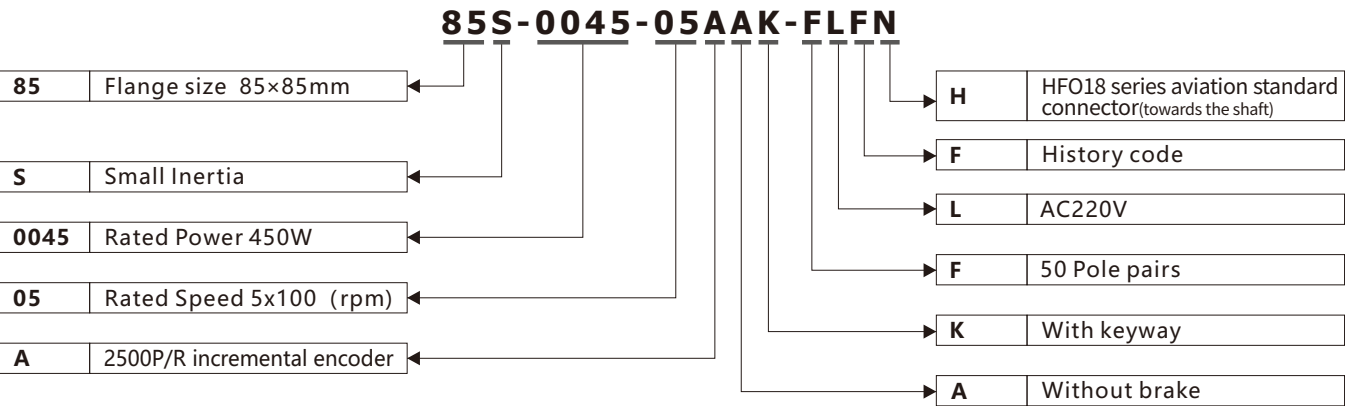
Kinco CD2S Series Servo Driver



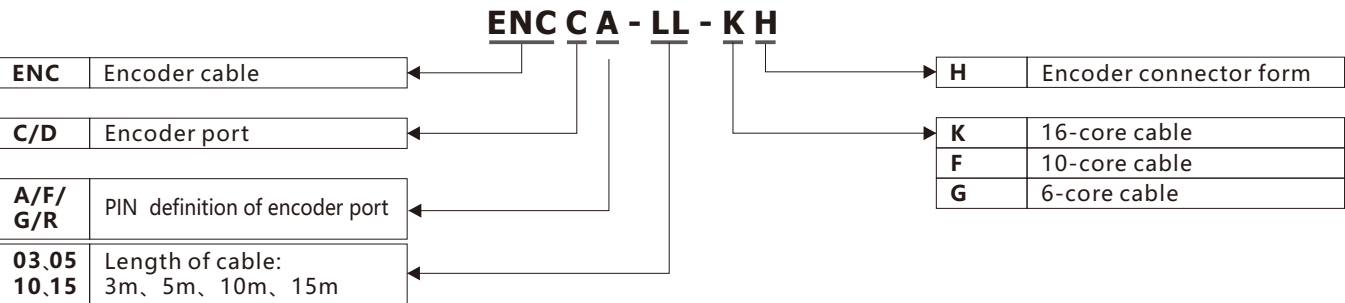
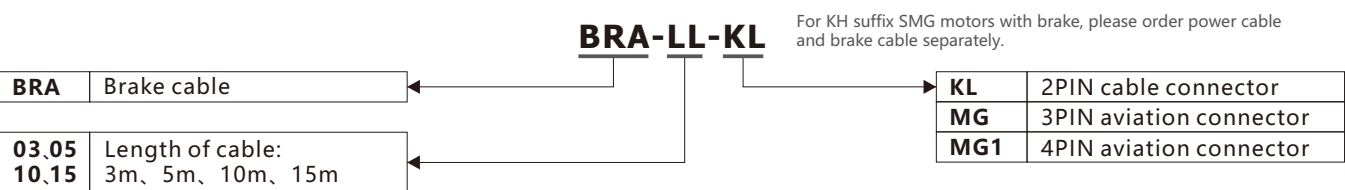
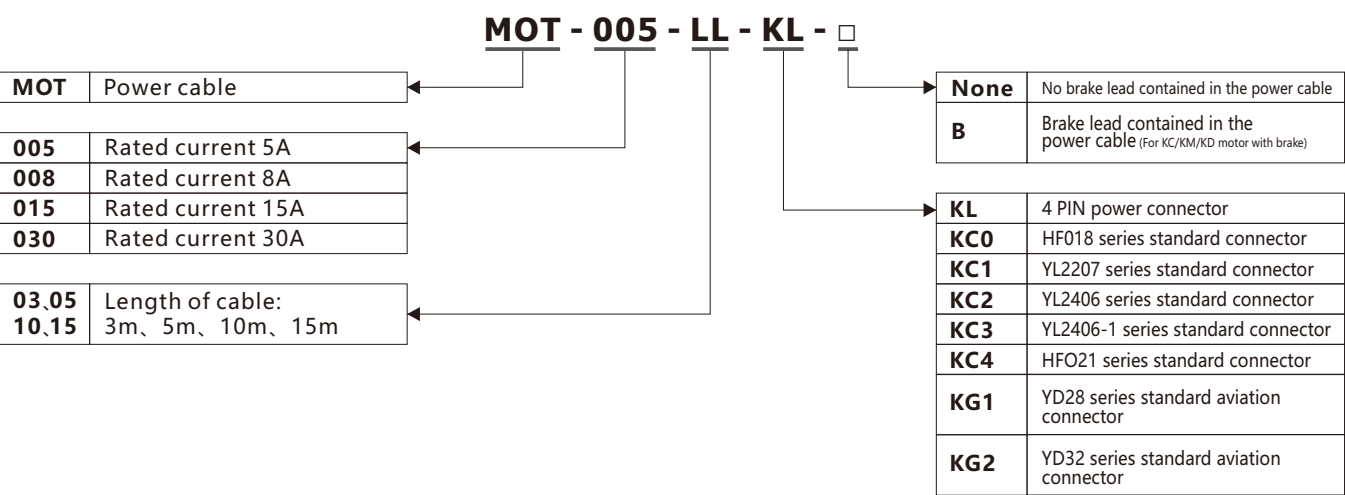
Kinco Servo Motor



Kinco Multi-pole Servo Motor



Power, Brake and Encoder Cable of Motors



JD/FD2S/CD2S Servo Driver and Motor Selection Table (1)

Series	Rated Power / Rated Speed / Rated Torque	Servo Motor	Description	Power/ Brake Cable	Encoder Cable	Servo Driver	
Small Inertia 220V	200W 3000rpm/0.64Nm	SMH60S-0020-30AAK-3LKH	2500P/R incremental connector	MOT-005-LL-KL	ENCCA-LL-KH	JD430-AA-000* ¹ FD422S-CA-000* ¹ FD422S-LA-000* ² FD422S-EA-000* ³ CD422S-AA-000* ⁴	
		SMH60S-0020-30ABK-3LKH ●	2500P/R incremental connector with brake	MOT-005-LL-KLBRA-LL-KL			
		SMH60S-0020-30AAK-3LKN	2500P/R HFO18 (Towards the shaft) series connector	MOT-005-LL-KC0	ENCCA-LL-KC0		
		SMH60S-0020-30ABK-3LKP ●	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
	400W 3000rpm/1.27Nm	SMH60S-0040-30AAK-3LKH	2500P/R incremental connector	MOT-005-LL-KL	ENCCA-LL-KH		
		SMH60S-0040-30ABK-3LKH ●	2500P/R incremental connector with brake	MOT-005-LL-KLBRA-LL-KL			
		SMH60S-0040-30AAK-3LKN	2500P/R HFO18 (Towards the shaft) series connector	MOT-005-LL-KC0	ENCCA-LL-KC0		
		SMH60S-0040-30ABK-3LKP ●	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
	750W 3000rpm/2.39Nm	SMH80S-0075-30AAK-3LKH	2500P/R incremental connector	MOT-005-LL-KL	ENCCA-LL-KH		
		SMH80S-0075-30ABK-3LKH ●	2500P/R incremental connector with brake	MOT-005-LL-KLBRA-LL-KL			
		SMH80S-0075-30AAK-3LKN	2500P/R HFO18 (Towards the shaft) series connector	MOT-005-LL-KC0	ENCCA-LL-KC0		
		SMH80S-0075-30ABK-3LKP ●	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
	4.18Nm	85S-0025-05AAK-FLFN-02	2500P/R Multi-pole servo motor	MOTE-005-LL-KC0	ENCCF-LL-FC0	FD422S-CA-000* ¹ FD422S-LA-000* ² FD422S-EA-000* ³ CD422S-AA-000* ⁴	
	6Nm	85S-0035-05AAK-FLFN-02	2500P/R Multi-pole servo motor				
	7.5Nm	85S-0045-05AAK-FLFN-02	2500P/R Multi-pole servo motor				
	1kW 3000rpm/3.18Nm	SMH80S-0100-30AAK-3LKH	2500P/R incremental connector	MOT-008-LL-KL	ENCCA-LL-KH	JD430-AA-000* ¹ FD432S-CA-000* ¹ FD432S-LA-000* ² FD432S-EA-000* ³ CD432S-AA-000* ⁴	
		SMH80S-0100-30ABK-3LKH ●	2500P/R incremental connector with brake	MOT-008-LL-KLBRA-LL-KL			
	Medium Inertia 220V	1.05kW 2000rpm/5Nm	SMH110D-0105-20AAK-4LKC	2500P/R YL series connector	MOT-008-LL-KC1		ENCCA-LL-KC1
SMH110D-0105-20ABK-4LKC ●			2500P/R YL series connector with brake	MOT-008-LL-KC2-B			
1.26kW 2000rpm/6Nm		SMH110D-0126-20AAK-4LKC	2500P/R YL series connector	MOT-008-LL-KC1			
		SMH110D-0126-20ABK-4LKC ●	2500P/R YL series connector with brake	MOT-008-LL-KC2-B			
1.25kW 3000rpm/4Nm	SMH110D-0125-30AAK-4LKC	2500P/R YL series connector	MOT-008-LL-KC1				
	SMH110D-0125-30ABK-4LKC ●	2500P/R YL series connector with brake	MOT-008-LL-KC2-B				
Medium Inertia 380V	1.26kW 3000rpm/4Nm	SMH110D-0126-30AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC1	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 CD622S-AA-000		
		SMH110D-0126-30ABK-4HKC ●	2500P/R YL series connector with brake	MOT-008-LL-KC2-B			
	1.57kW 3000rpm/5Nm	SMH110D-0157-30AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC1			
		SMH110D-0157-30ABK-4HKC ●	2500P/R YL series connector with brake	MOT-008-LL-KC2-B			
	1.88kW 3000rpm/6Nm	SMH110D-0188-30AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC1			
		SMH110D-0188-30ABK-4HKC ●	2500P/R YL series connector with brake	MOT-008-LL-KC2-B			

Servo Driver and Motor Selection Table

Servo Driver and Motor Selection Table

JD/FD2S/CD2S Servo Driver and Motor Selection Table (2)

Series	Rated Power/ Rated Speed/ Rated Torque	Servo Motor	Description	Power/ Brake Cable	Encoder Cable	Servo Driver
Medium inertia 220V or 380V	1.05kW 2000rpm/5Nm	SMH130D-0105-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2	ENCRC-LL-FC1	JD430-AA-000 ^{*1} JD620-AA-000 ^{*1} FD432S-CA-000 ^{*1} FD622S-CA-000 ^{*1} FD432S-LA-000 ^{*2} FD622S-LA-000 ^{*2} FD432S-EA-000 ^{*3} FD622S-EA-000 ^{*3} CD432S-AA-000 ^{*4} CD622S-AA-000 ^{*4}
		SMH130D-0105-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	1.57kW 2000rpm/7.5Nm	SMH130D-0157-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2		
		SMH130D-0157-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	2.1kW 2000rpm/10Nm	SMH130D-0210-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2		JD620-AA-000 ^{*1} FD622S-CA-000 ^{*1} FD622S-LA-000 ^{*2} FD622S-EA-000 ^{*3} CD622S-AA-000 ^{*4}
		SMH130D-0210-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	2.3kW 2000rpm/11.1Nm	SMH150D-0230-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2		JD630-AA-000 ^{*1} JD630-LA-000 ^{*2}
		SMH150D-0230-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	3kW 2000rpm/14.3Nm	SMH130D-0300-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2		
		SMH130D-0300-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	3kW 2000rpm/14.3Nm	SMH150D-0300-20AAK-4HKC	2500P/R YL series connector	MOT-008-LL-KC2		
		SMH150D-0300-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-008-LL-KC2-B		
	3.8kW 2000rpm/18Nm	SMH150D-0380-20AAK-4HKC	2500P/R YL series connector	MOT-015-LL-KC2	ENCCL-LL-KC1	JD640-AA-000 ^{*1} JD640-LA-000 ^{*2}
		SMH150D-0380-20ABK-4HKC •	2500P/R YL series connector with brake	MOT-015-LL-KC2-B		
	3.5kW 1500rpm/22Nm	SMH180D-0350-15AAK-4HKC	2500P/R YL series connector	MOT-015-LL-KC2		JD640-AR-000 ^{*1}
		SMH180D-0350-15ABK-4HKC •	2500P/R YL series connector with brake	MOT-015-LL-KC2-B		
	4.4kW 1500rpm/28Nm	SMH180D-0440-15AAK-4HKC	2500P/R YL series connector	MOT-015-LL-KC2		JD650-AR-000 ^{*1}
		SMH180D-0440-15ABK-4HKC •	2500P/R YL series connector with brake	MOT-015-LL-KC2-B		
	5.5kW 1500rpm/35Nm	SMH180D-0550-15RAK-4HKC	STM37 resolver YL series connector	MOT-015-LL-KC2		
		SMH180D-0550-15RBK-4HKC	STM37 resolver YL series connector with brake	MOT-015-LL-KC2-B		
	7.5kW 1500rpm/48Nm	SMH180D-0750-15RAK-4HKC	STM37 resolver YL series connector	MOT-030-LL-KC3		

Note: 1. This drive requires the user to select the motor by himself.
2. *1--Support CANopen bus control mode
*2--Support pulse and MODBUS 485 control mode
*3--Support EtherCAT control mode
*4--Support pulse control mode
3. • When the driver drives the brake holding device, the DC24V / 2A relay shall be externally connected.

JD/FD2S/CD2S Servo Driver and Motor Selection Table (3)

Series	Rated Power/ Rated Speed/ Rated Torque	Servo Motor	Description	Power/ Brake Cable	Encoder Cable	Servo Driver
Medium inertia 380V	1.0kW 1000rpm/10Nm	SMG130D-0100-10AAK-4LKG	2500P/R YD series connector	MOT-005-LL-KG1	ENCCL-LL-KG1	JD430-AA-000 ^{*1} FD422S-CF-000 ^{*1} FD422S-LF-000 ^{*2} FD422S-EF-000 ^{*3} CD422S-AF-000 ^{*4}
		SMG130D-0100-10ABK-4LKG •	2500P/R YD series connector with brake	MOT-005-LL-KG1/BRA-LL-MG		
	1.0kW 2000rpm/5Nm	SMG130D-0100-20AAK-4LKG	2500P/R YD series connector	MOT-005-LL-KG1		
		SMG130D-0100-20ABK-4LKG •	2500P/R YD series connector with brake	MOT-005-LL-KG1/BRA-LL-MG		
	1.5kW 2000rpm/7.7Nm	SMG130D-0150-20AAK-4LKG	2500P/R YD series connector	MOT-008-LL-KG1		JD430-AA-000 ^{*1} FD432S-CA-000 ^{*1} FD432S-LA-000 ^{*2} FD432S-EA-000 ^{*3} CD432S-AA-000 ^{*4}
		SMG130D-0150-20ABK-4LKG •	2500P/R YD series connector with brake	MOT-008-LL-KG1/BRA-LL-MG		
		SMG130D-0150-20AAK-4HKG	2500P/R YD series connector	MOT-005-LL-KG1		JD620-AA-000 ^{*1} FD612S-CA-000 ^{*1} FD612S-LA-000 ^{*2} FD612S-EA-000 ^{*3} CD612S-AA-000 ^{*4}
		SMG130D-0150-20ABK-4HKG •	2500P/R YD series connector with brake	MOT-005-LL-KG1/BRA-LL-MG		
	2.0kW 2000rpm/10Nm	SMG130D-0200-20AAK-4LKG	2500P/R YD series connector	MOT-015-LL-KG1	ENCCL-LL-KG1	FD432S-CA-000 ^{*1} JD430-AA-000 ^{*1} FD432S-LA-000 ^{*2} FD432S-EA-000 ^{*3} CD432S-AA-000 ^{*4}
		SMG130D-0200-20ABK-4LKG •	2500P/R YD series connector with brake	MOT-015-LL-KG1/BRA-LL-MG		
		SMG130D-0200-20AAK-4HKG •	2500P/R YD series connector	MOT-008-LL-KG1		FD612S-CA-000 ^{*1} JD620-AA-000 ^{*1} FD612S-LA-000 ^{*2} FD612S-EA-000 ^{*3} CD612S-AA-000 ^{*4}
		SMG130D-0200-20ABK-4HKG •	2500P/R YD series connector with brake	MOT-008-LL-KG1/BRA-LL-MG		
	3.0kW 2000rpm/15Nm	SMG130D-0300-20AAK-4HKG	2500P/R YD series connector	MOT-008-LL-KG1	ENCCL-LL-KG1	JD620-AA-000 ^{*1} FD622S-CA-000 ^{*1} FD622S-LA-000 ^{*2} FD622S-EA-000 ^{*3} CD622S-AA-000 ^{*4}
		SMG130D-0300-20ABK-4HKG •	2500P/R YD series connector with brake	MOT-008-LL-KG1/BRA-LL-MG		
	4.4kW 1500rpm/27Nm	SMG180D-0440-15AAK-4HKG	2500P/R YD series connector	MOT-015-LL-KG2		JD640-AA-000 ^{*1} JD640-LA-000 ^{*2}
		SMG180D-0440-15ABK-4HKG •	2500P/R YD series connector with brake	MOT-015-LL-KG2/BRA-LL-MG		
	5.5kW 1500rpm/35Nm	SMG180D-0550-15AAK-4HKG	2500P/R YD series connector	MOT-015-LL-KG2		JD650-AA-000 ^{*1}
		SMG180D-0550-15ABK-4HKG •	2500P/R YD series connector with brake	MOT-015-LL-KG2/BRA-LL-MG		
	7.5kW 1500rpm/48Nm	SMG180D-0750-15AAK-4HKG	2500P/R YD series connector	MOT-030-LL-KG2		
		SMG180D-0750-15ABK-4HKG	2500P/R YD series connector with brake	MOT-030-LL-KG2/BRA-LL-MG		

Note: 1. This drive requires the user to select the motor by himself.
2. *1--Support CANopen bus control mode
*2--Support pulse MODBUS 485 control mode
*3--Support EtherCAT control mode
*4--Support pulse control mode
3. • When the driver drives the brake holding device, the DC24V / 2A relay shall be externally connected.

FD2S/CD2S Servo Driver and Motor Selection Table (4)

Series	Rated Power / Rated Speed / Rated Torque	Servo Motor	Description	Power/ Brake Cable	Encoder Cable	Servo Driver	
Small inertia 220V	200W 3000rpm/0.64Nm	SMC60S-0020-30AAK-3LKH	2500P/R Cable connector	MOT-005-LL-KL	ENCCA-LL-KH	FD422S-CA-000 ^{*1}	
		SMC60S-0020-30ABK-3LKH •	2500P/R Cable connector with brake	MOT-005-LL-KL/BRA-LL-KL		FD422S-LA-000 ^{*2}	
		SMC60S-0020-30AAK-3LKN	2500P/R HFO18 series connector	MOT-005-LL-KC0	ENCCA-LL-KC0	FD422S-EA-000 ^{*3}	
		SMC60S-0020-30ABK-3LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B		CD422S-AA-000 ^{*4}	
	400W 3000rpm/1.27Nm	SMC60S-0040-30AAK-3LKH	2500P/R Cable connector	MOT-005-LL-KL	ENCCA-LL-KH	FD422S-CF-000 ^{*1}	
		SMC60S-0040-30ABK-3LKH •	2500P/R Cable connector with brake	MOT-005-LL-KL/BRA-LL-KL		FD422S-LF-000 ^{*2}	
		SMC60S-0040-30AAK-3LKN	2500P/R HFO18 series connector	MOT-005-LL-KC0	ENCCA-LL-KC0	FD422S-EF-000 ^{*3}	
		SMC60S-0040-30ABK-3LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B		CD422S-AF-000 ^{*4}	
	750W 3000rpm/2.39Nm	SMC80S-0075-30AAK-3LKH	2500P/R Cable connector	MOT-005-LL-KL	ENCCA-LL-KH	FD432S-CA-000 ^{*1} FD432S-LA-000 ^{*2} FD432S-EA-000 ^{*3} CD432S-AA-000 ^{*4}	
		SMC80S-0075-30ABK-3LKH •	2500P/R Cable connector with brake	MOT-005-LL-KL/BRA-LL-KL			
		SMC80S-0075-30AAK-3LKN	2500P/R HFO18 series connector	MOT-005-LL-KC0	ENCCA-LL-KC0		
		SMC80S-0075-30ABK-3LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
Medium inertia 220V or 380V	1kW 2000rpm/4.8Nm	SMC130D-0100-20AAK-4LKP	2500P/R HFO18+HFO21 series connector	MOT-005-LL-KC4	ENCCA-LL-KC0		FD612S-CA-000 ^{*1} FD612S-LA-000 ^{*2} FD612S-EA-000 ^{*3} CD612S-AA-000 ^{*4}
		SMC130D-0100-20ABK-4LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
	1.5kW 2000rpm/7.2Nm	SMC130D-0150-20AAK-4LKP	2500P/R HFO18+HFO21 series connector	MOT-008-LL-KC4		FD622S-CA-000 ^{*1} FD622S-LA-000 ^{*2} FD622S-EA-000 ^{*3} CD622S-AA-000 ^{*4}	
		SMC130D-0150-20ABK-4LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-008-LL-KC4-B			
	2kW 2000rpm/10Nm	SMC130D-0200-20AAK-4LKP	2500P/R HFO18+HFO21 series connector	MOT-008-LL-KC4			
		SMC130D-0200-20ABK-4LKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-008-LL-KC4-B			
	1.5kW 2000rpm/7.2Nm	SMC130D-0150-20AAK-4HKP	2500P/R HFO18+HFO21 series connector	MOT-005-LL-KC4			
		SMC130D-0150-20ABK-4HKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-005-LL-KC4-B			
	2kW 2000rpm/10Nm	SMC130D-0200-20AAK-4HKP	2500P/R HFO18+HFO21 series connector	MOT-008-LL-KC4			
		SMC130D-0200-20ABK-4HKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-008-LL-KC4-B			
	3kW 2000rpm/14.3Nm	SMC130D-0300-20AAK-4HKP	2500P/R HFO18+HFO21 series connector	MOT-008-LL-KC4			
		SMC130D-0300-20ABK-4HKP •	2500P/R HFO18+HFO21 series connector with brake	MOT-008-LL-KC4-B			

Installation hole



X9 STO Connector

24V, GND: 24V Power supply
STOA+, STOA-: Safe port A
STOB+, STOB-: Safe port B

Driver Shell

X1

Encoder output port

X7 Column A

24VS and GNDS:
Power supply for control
DIN1...DIN8:
8 Digital programmable
input ports
COMI1:
Common port of DIN1~DIN4
COMI2:
Common port of DIN5~DIN8

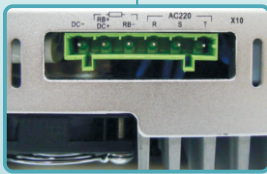
X7 Column B

GA, AIN1 and AIN2:
2 analog input channels
24VO and COMO:
24V power supply for OUT6
OUT1...OUT7:
7 digital programmable output ports
OUT6 can drive brake device directly



**GND
Terminal**

Bottom



JD430(AC220V)

X10

DC+, DC-:
DC bus port
RB+, RB-:
External brake resistor
R, S, T:
AC power supply input
(220V AC)



JD620(AC380V)

X10

DC+, DC-:
DC bus port
RB+, RB-:
External brake resistor
R, S, T:
AC power supply input
(380V AC)

Base of Heat Sink

Display

4-digit LED indicate the status
or error information

4 Setting Buttons

Parameter setting

X3

RS232 communication port

X2

RS485 communication port

X5

Master encoder input

X4

CAN communication port

X6

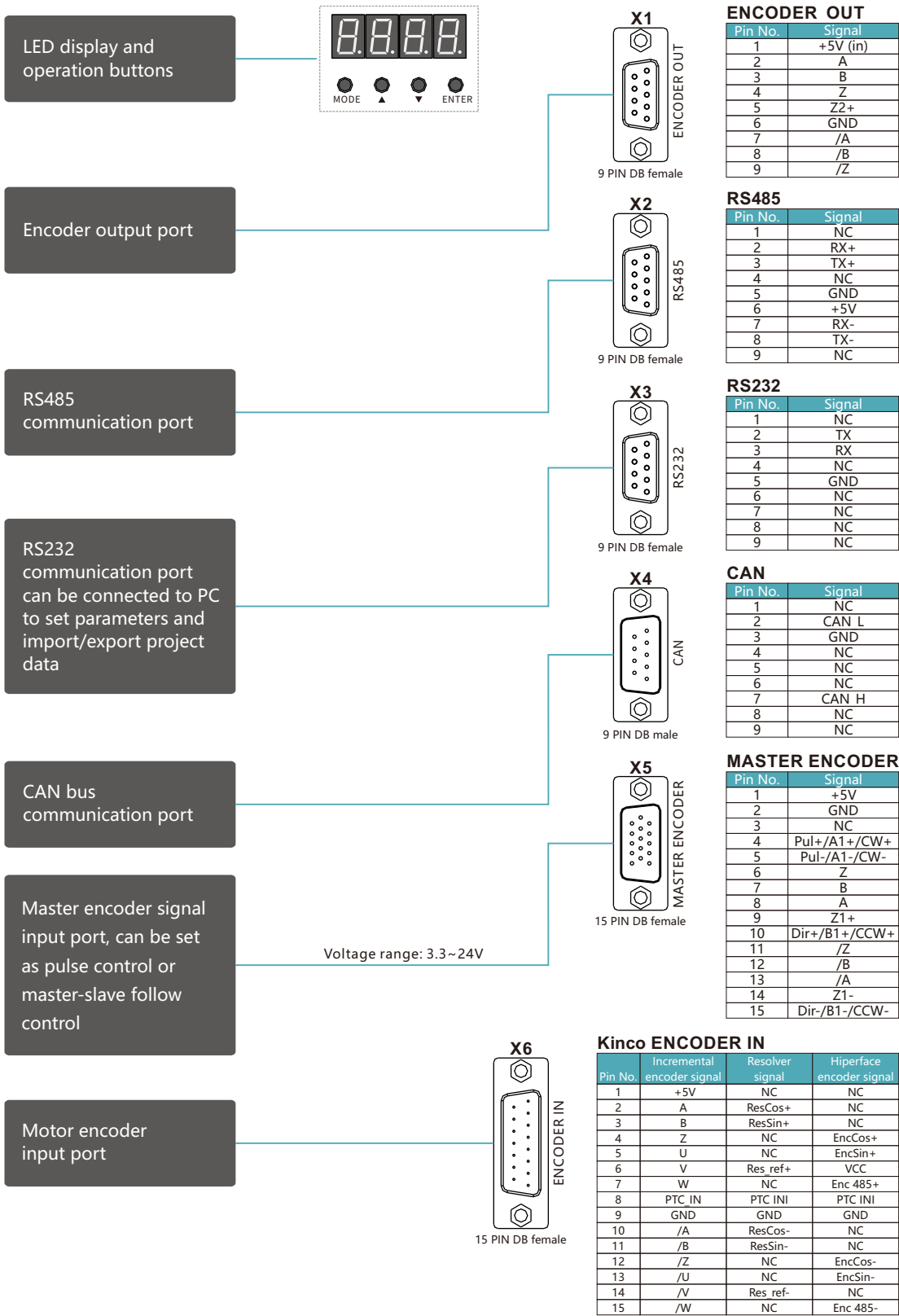
1.Motor quadrature encoder input port
2.Motor resolver encoder input port

X8

U, V, W, PE:
Motor power cable

**Fix The Shield Layer
of Power Cable**

Note: 1. JD430/JD620 drivers share the same interface definition, except for X10 power interfaces.
2. Suggest brake resistor: JD430 39Ω/200W or 75Ω/100W、JD620 75Ω/200W、JD630&JD640 47Ω/500W、
JD650 27Ω/1000W, the customer should choose the power brake resistor according to the actual application.



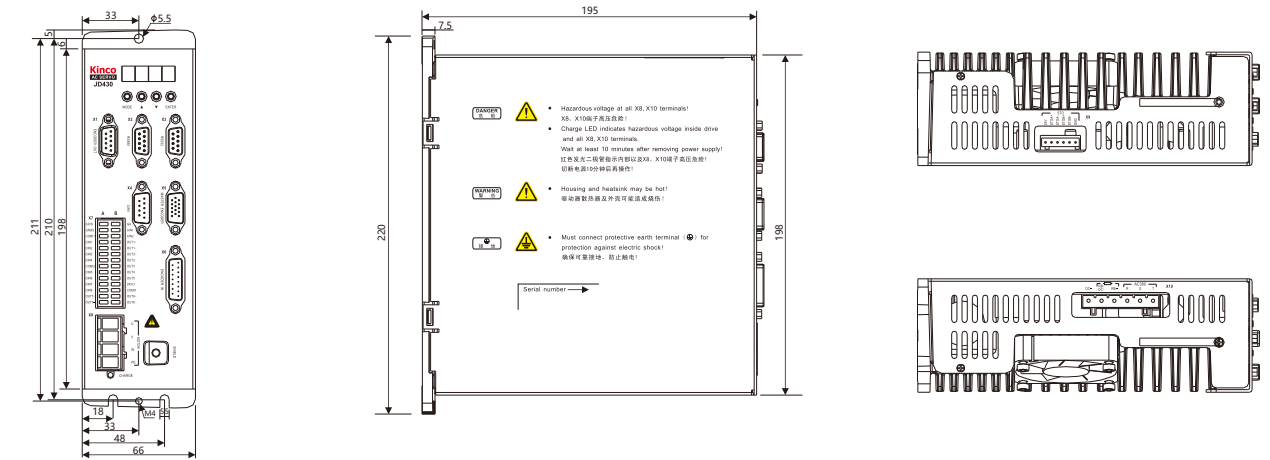
Technical Specifications of JD Servo Driver

Model Parameter		JD430-AA-000	JD620-AA-000	JD630-□A-000	JD640-□R-000	JD650-AR-000
Power	Main supply voltage	1PH, 3PH, 20VAC-20/+15% 47 ~ 63Hz	3-phase AC380V -20/+15% 47~63Hz			
	Control circuit voltage	18VDC~30VDC 1A	18VDC~30VDC 1A	18VDC~30VDC 1A	18VDC~30VDC 1A	18VDC~30VDC 1A
Current	Rated current (RMS)	10A	7A	10A	13A	18A
	Peak current (PEAK)	27.5A	25A	35A	45A	65A
Brake chopper threshold		DC380V±5V	DC680V±5V	DC680V±5V	DC680V±5V	DC680V±5V
Over-voltage alarming threshold		DC400V±5V	DC700V±5V	DC700V±5V	DC700V±5V	DC700V±5V
Under-voltage alarming threshold		DC200V±5V	DC400V±5V	DC400V±5V	DC400V±5V	DC400V±5V
Cooling method		Forced air cooling		Forced air cooling		Forced air cooling
Weight (Kg)		2.51		3.62		6.7
Size(W*H*D, mm)		220×195×66		255×230×77		320×280.5×95
General Functions	Digital operation panel	4 buttons and 4 LED display				
	External I/O	7 digital outputs(OUT1, OUT2, OUT7 are 0.1A and OUT3~OUT6 are 0.5A, can define driver ready and other functions freely; 8 digital inputs(12.5~30V), can define driver enables and other functions freely.				
	Analog input	2 analog inputs, can be used to control speed and torque, the input range is -10V~10V				
	Encoder signal output function	Used for Multi-axis synchronization. The maximum output frequency is 2MHZ Servo drive that matches rotary encoder motor does not support this function.				
	Master encoder input function	Can receive 3.3V~24V pulse/direction signal, CW/CCW signal, and the RS422 difference signal, the max. input frequency is 4MHz.				
	Feedback signal	Incremental encoder 2500P/R Resolver、Hiperface/sincos® Encoder				
	RS232	The max. baudrate is 115.2KHz, use JD-PC software to communicate with PC, or via free protocol to communicate with controller				
	RS485	The max. baudrate is 115.2KHz, use Modbus RTU protocol to communicate with controller				
	CAN BUS	The max. baudrate is 1MHz, use CANopen protocol to communicate with controller				
	STO function	STO port can be connected to safe controller, switch, and sensor to protect the system				
Operation Environment	Operating temperature	0 ~ 40℃				
	Storage temperature	-10 ~ 70℃				
	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				
	Height	No power limitation below 1000m				
Atmospheric pressure		86 ~ 106kpa				

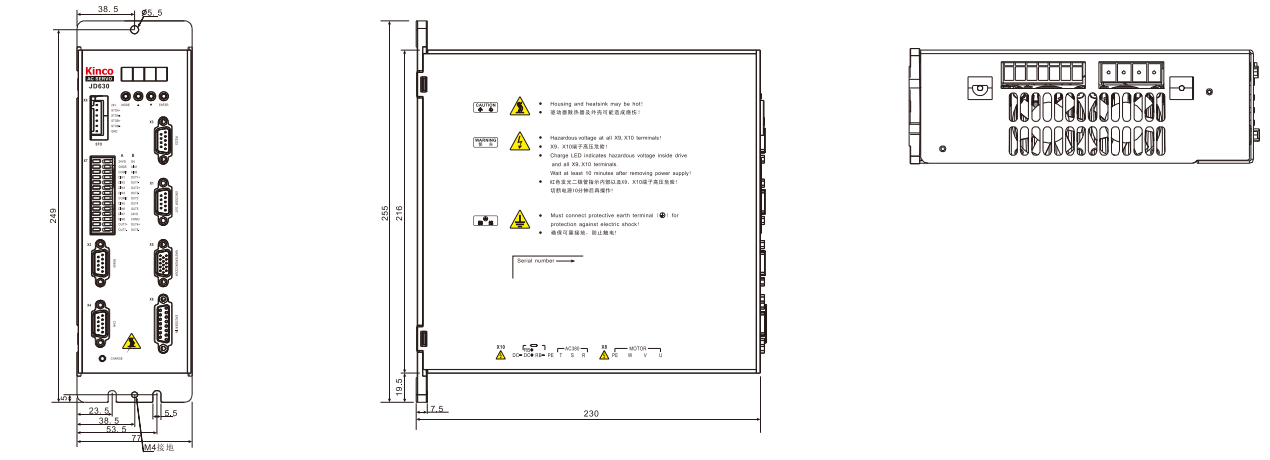
Note①: □=LA: Communication port RS232、RS485
□=AA: Communication port RS232、RS485、CANopen
□=AR: Communication port RS232、RS485、CANopen, support motor with Resolver

Note②:AA is a direct driving servo system

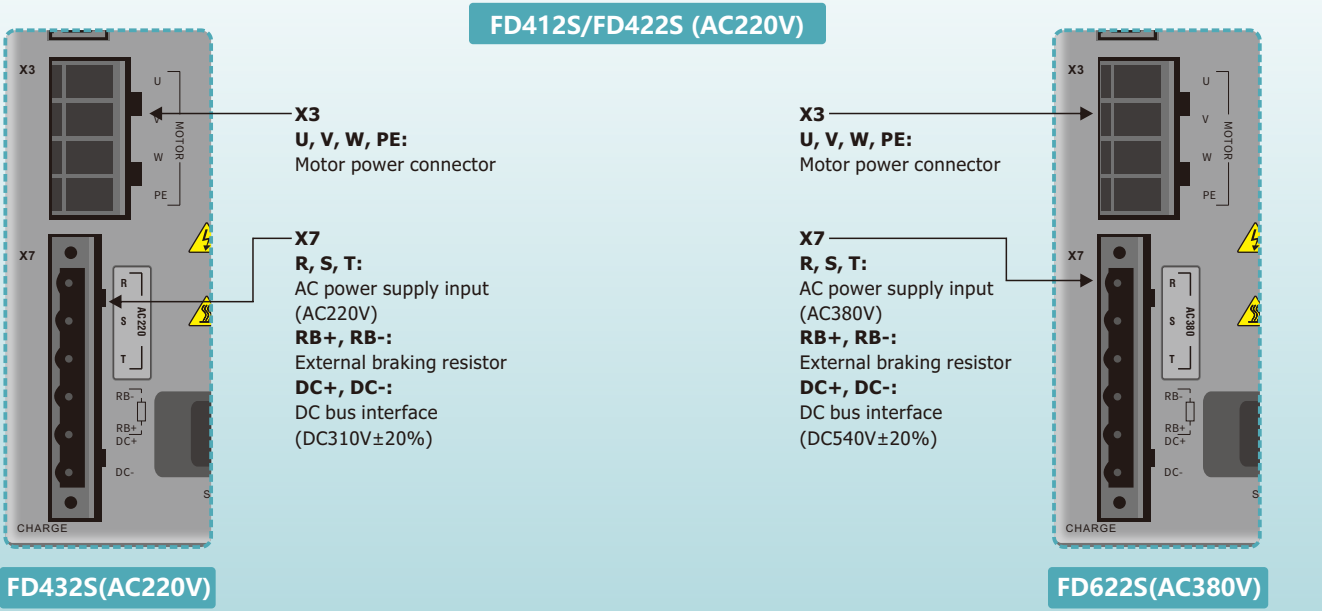
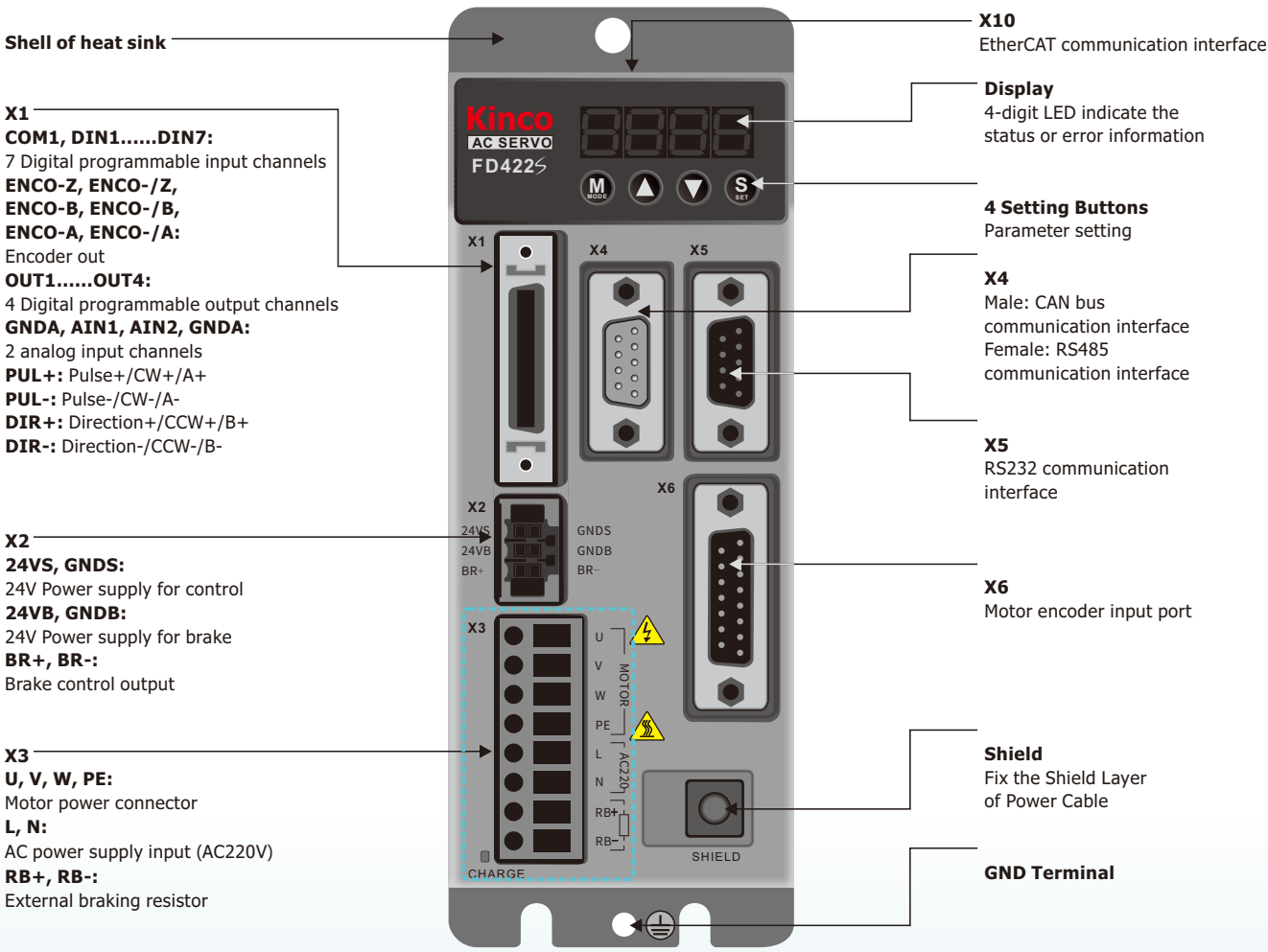
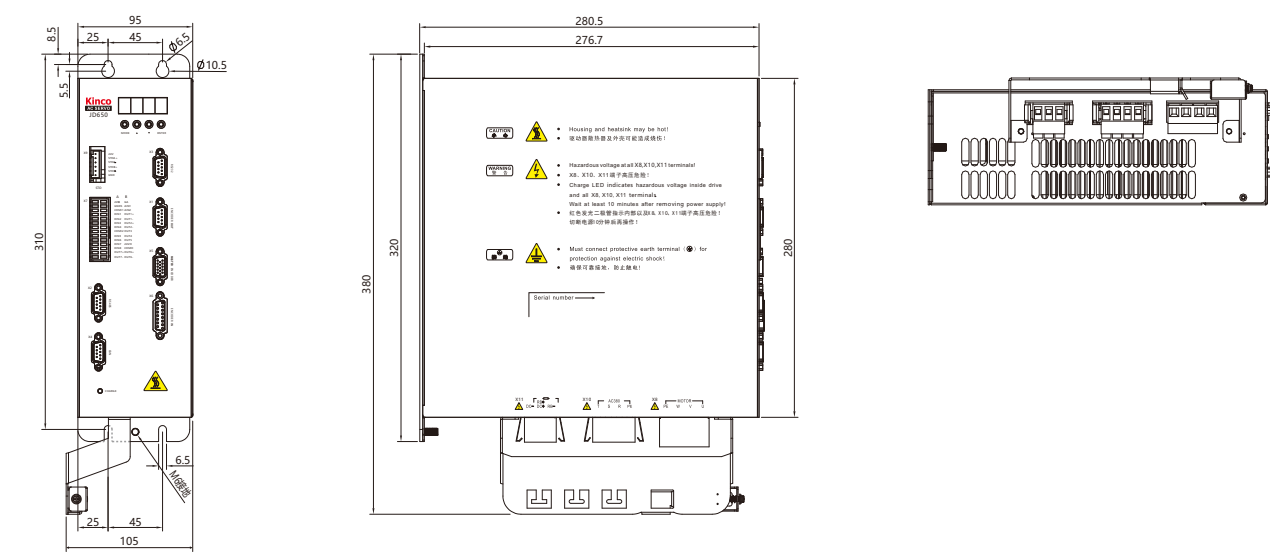
Mechanical Dimension Diagram of JD430/JD620



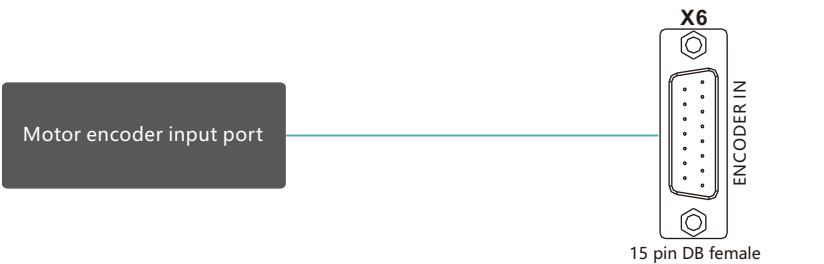
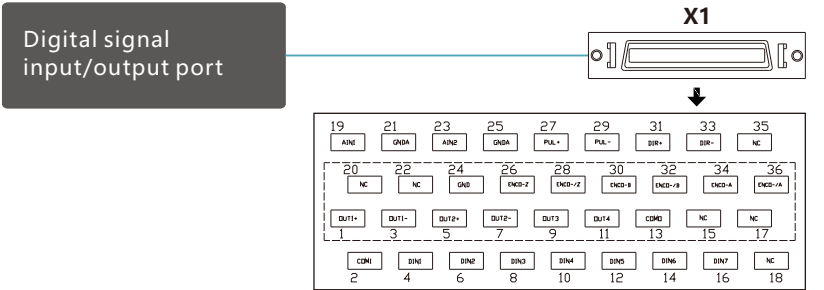
Mechanical Dimension Diagram of JD630/JD640



Mechanical Dimension Diagram of JD650



Note: 1. FD412S/FD422S/FD432S/FD622S share the same interface definition except the X3 and X7 power interfaces;
2. Suggested brake resistor: FD412S/FD422S 75Ω/100W, FD432S 39Ω/200W, FD622S 75Ω/200W. The customer should choose the power of brake resistor according to the actual application.



X1

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

CAN

Pin No.	Signal
1	NC
2	CAN L
3	GND
4	NC
5	NC
6	NC
7	CAN H
8	NC
9	NC

RS485

Pin No.	Signal
1	NC
2	RX+
3	TX+
4	NC
5	GND
6	+5V
7	RX-
8	TX-
9	NC

RS232

Pin No.	Signal
1	NC
2	TX
3	RX
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

ENCODER IN

Pin No.	Incremental encoder signal	Communication encoder signal
1	+5V	+5V
2	A	NC
3	B	NC
4	Z	NC
5	U	NC
6	V	NC
7	W	SD
8	PTC IN	NC
9	GND	GND
10	/A	NC
11	/B	NC
12	/Z	NC
13	/U	NC
14	/V	NC
15	/W	/SD

EtherCAT

pin	X10A signal	X10B signal
1	TD+	TD+
2	TD-	TD-
3	RD+	RD+
4	NC	NC
5	NC	NC
6	RD-	RD-
7	NC	NC
8	NC	NC

Technical Specifications of FD2S Servo Motor

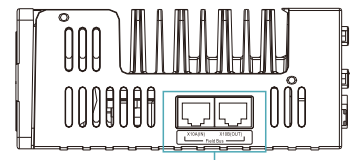
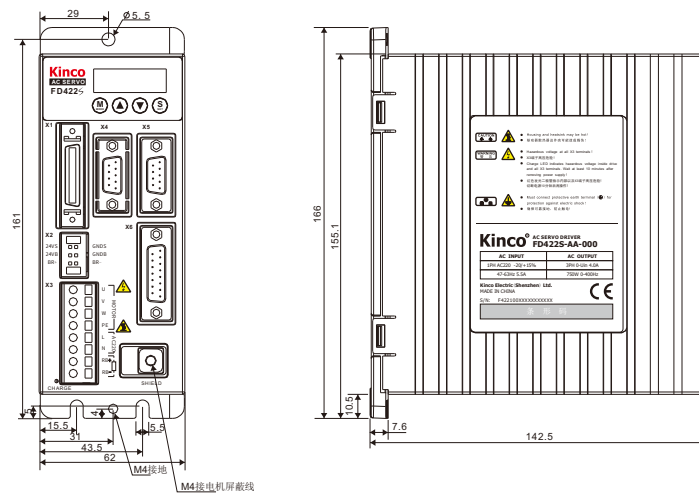
Model Parameter		FD412S- □A-000	FD422S- □A-000	FD422S- □F-000	FD432S- □A-000	FD612S- □A-000	FD622S- □A-000
Power	Main supply voltage	1PH, AC220V-20/+15% 47 ~ 63Hz			1PH, 3PH, AC220V-20/+15% 47 ~ 63Hz	3PH, AC380V-20/+15% 47 ~ 63Hz	
	Control circuit voltage	18VDC ~ 30VDC 1A					
Current	Rated current(RMS)	2A	4A	5A	11A	5.5A	7A
	Peak current(PEAK)	7A	15A	15A	27.5A	15A	25A
Feedback signal		2500 P/R (incremental encoder with 5V supply)					
Brake chopper		Use an external braking resistor according to application, mainly in occasion of quick stop .					
Brake chopper threshold		DC380V±5V					
Over-voltage alarming threshold		DC400V±5V					
Under-voltage alarming threshold		DC200V±5V					
Cooling method		Natural air cooling		Fan	Fan		
Weight(Kg)		1.2		1.2	2.4		
General Functions	Digital input specification	7 digital inputs, with COM1 terminal for PNP (high level valid 12.5V~30V) or NPN (low level valid) connection					
	Digital input function	Define freely according to requirement, supporting following functionsDriver enable, driver fault reset, driver mode control, proportional control, positive limit, negative limit, homing signal, reverse command, internal speedsection control, internal positive section control, quick stop, start homing, active command, switch electronic gear ratio, switch gain .					
	Digital output specification	5 digital outputs, out 1~out 4 current is 100 mA, BR+/BR- (brake control output) current is 500 mA, can drive brake device directly.					
	Digital output function	Define freely according to the requirement, supporting following functions: driver ready, driver fault, position reached, motor at zero speed, motor brake, motor speed reached, Z signal, maximum speed obtained in torque mode, motor brake, position limiting, reference found.					
	Analog input	2 analog inputs, can be used to control speed and torque, the input range is -10V ~ 10V"					
	Encoder signal output function	Used for Multi-axis synchronization. The maximum output frequency is 2MHZ Motor A, B, Z signal, pulse signal ((PLS+DIR, CW/CCW, A+B)					
	Protection functions	Over-voltage protection, under-voltage protection, motor over-heat protection (I2T), short-circuit protection, drive over-heat protection, etc					
RS232		The maximum baudrate is 115.2KHz, use JD-PC software to communicate with PC, or via free protocol to communictr with controller					
RS485		The maximum baudrate is 115.2KHz, use Modbus RTU protocol to communicate with controler					
CAN BUS		The maximum baudrate is 1MHz, use CANopen protocol to communicate with controler					
EtherCAT		The maximum baudrate is 100MHz, support COE (CIA 402 protocol) and CSP / CSV / PP / PV / PT / HM mode					
Environment conditions for operatio	Operating temperature	0 ~ 400C					
	Storage temperature	-100C ~ 700C					
	Humidity(non-condensing)	Below 90% RH					
	Protection class	IP20					
	Installation environment	Installed in a dust-free, dry, lockable environment (such as in a electric cabinet)					
	Installation mode	Vertical installation					
	Height	No power limit below 1000 m					
Atmospheric pressure		86kpa ~ 106kpa					

Note①: □=L ——Communication port RS232, RS485
□=A/C ——Communication port RS232, CANopen

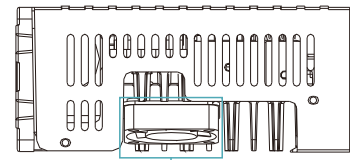
Note②: AA is a direct driving servo system

Mechanical Dimension Diagram of FD412S/FD422S

(Unit: mm)



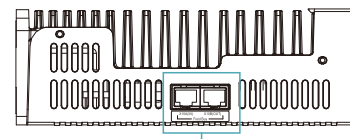
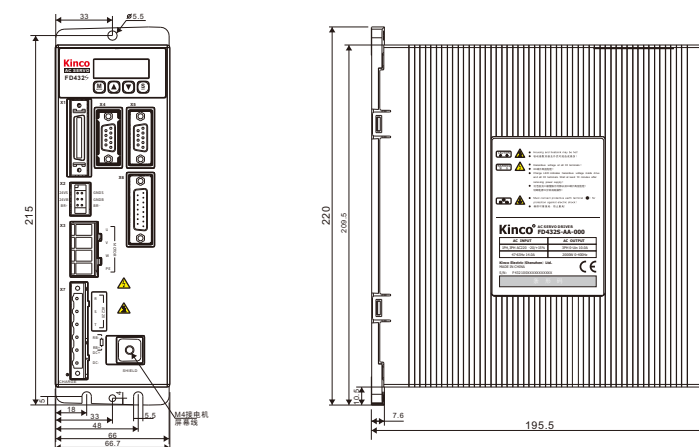
Note: FD412S-EA-000, FD422S-EA-000
With EtherCAT extension interface.



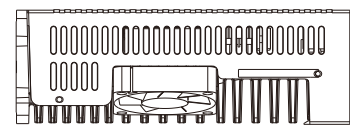
Note: FD412S-□ A-000, FD422S-□ A-000 without fan;
FD422S-□ F-000 with fan.

Mechanical Dimension Diagram of FD432S

(Unit: mm)

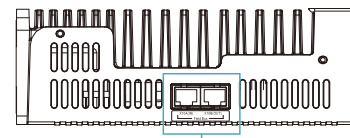
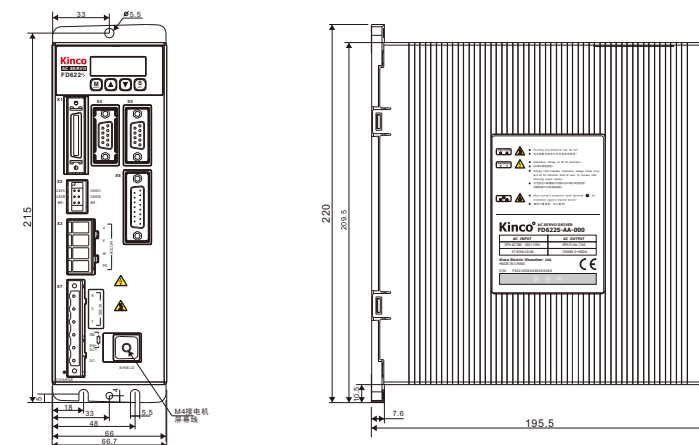


Note: with extension interface FD432S-EA-000
EtherCAT.

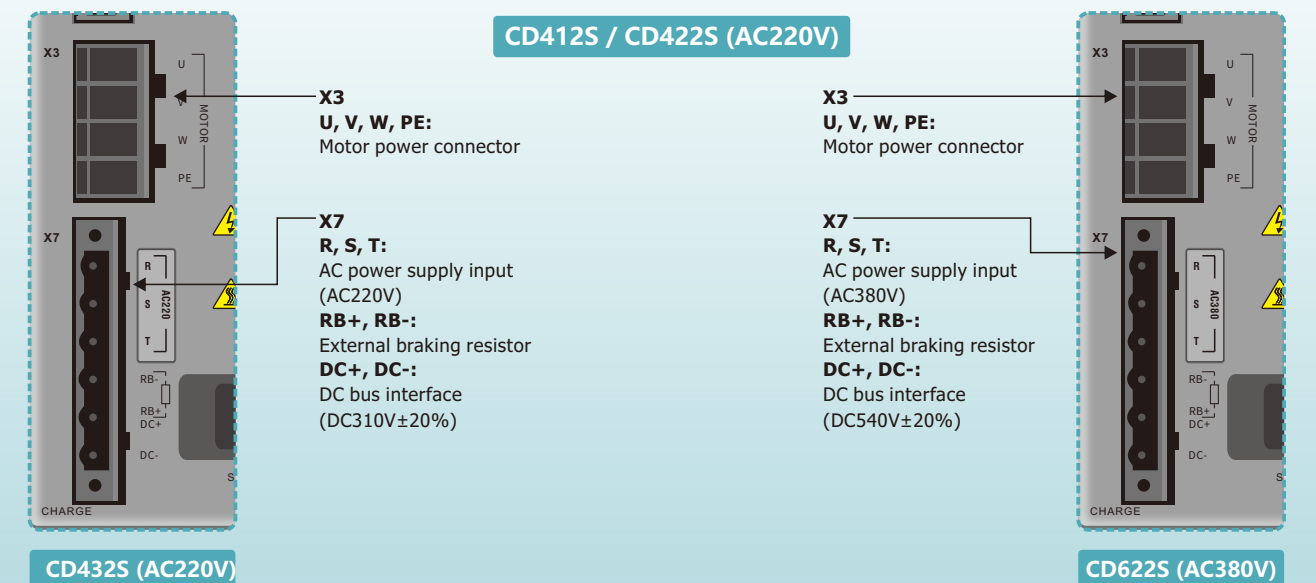
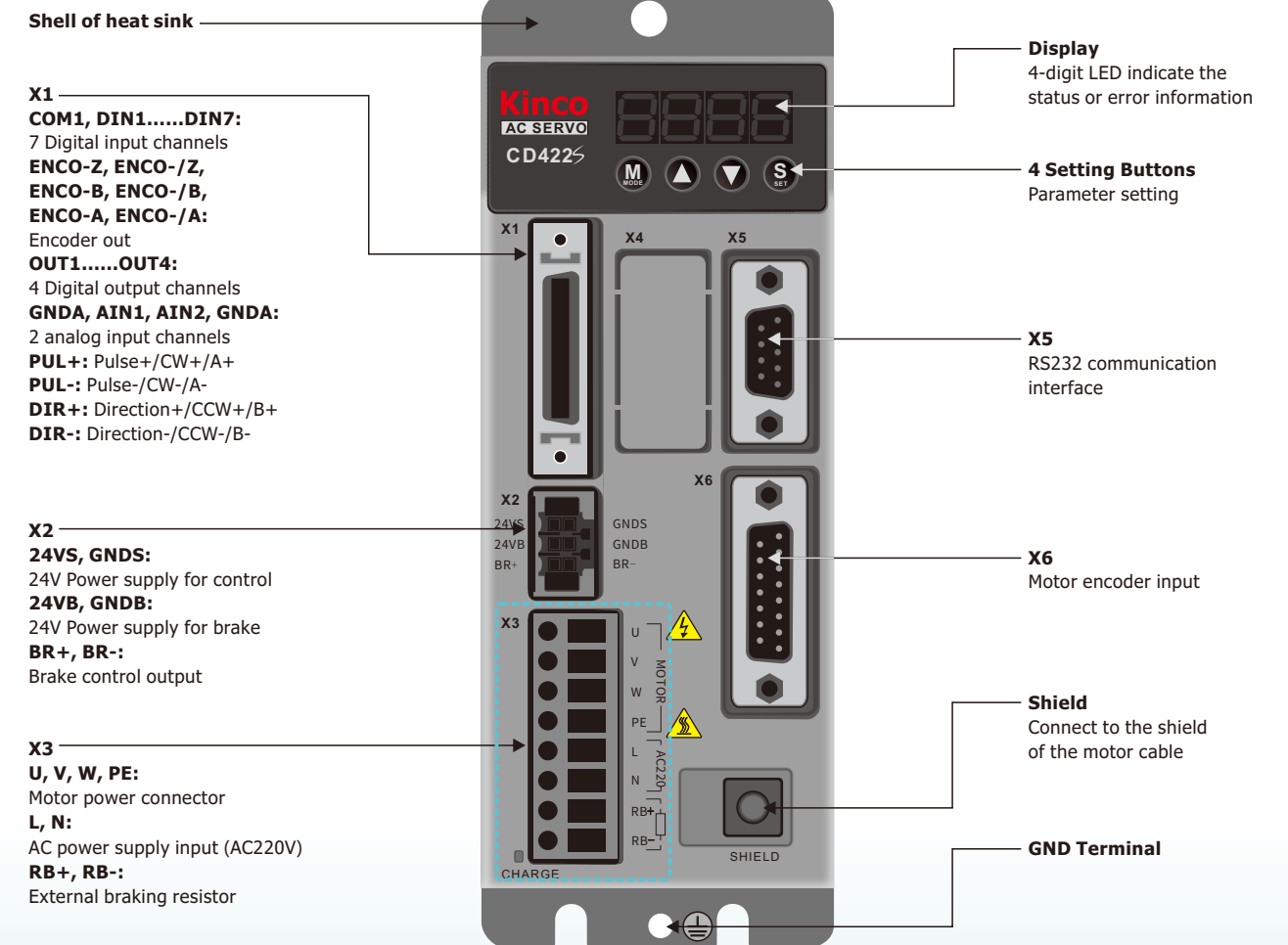
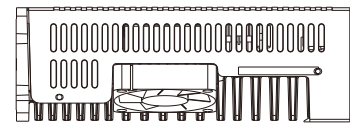


Mechanical Dimension Diagram of FD612S/FD622S

(Unit: mm)



Remarks: FD612S-RA-000, FD622S-EA-000
With EtherCAT extension interface.

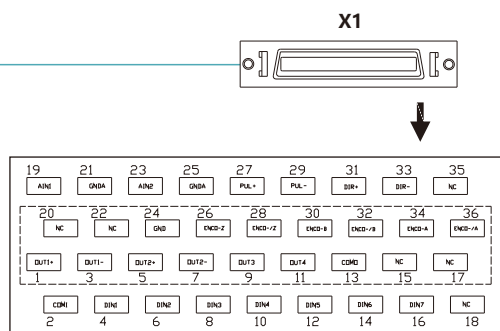


Note: 1. CD412S/CD422S/CD432S/CD622S drivers share the same interface definition, except for X3 and X7 power interfaces.
2. Suggested brake resistor: CD412S/CD422S 75Ω/100W, CD432S 39Ω/200W, CD622S 75Ω/200W, The customer should chose the power of brake resister according to the actual application.

LED display and
Setting Buttons



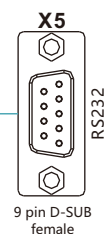
Signal input/output
interface



X1

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

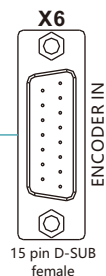
RS232 communication
interface, can be
used to debug and
import/export project
data via PC.



RS232

Pin No.	Signal
1	NC
2	TX
3	RX
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Input interface of
motor encoder



ENCODER IN

Pin No.	Signal
1	+5V
2	A
3	B
4	Z
5	U
6	V
7	W
8	PTC IN
9	GND
10	/A
11	/B
12	/Z
13	/U
14	/V
15	/W

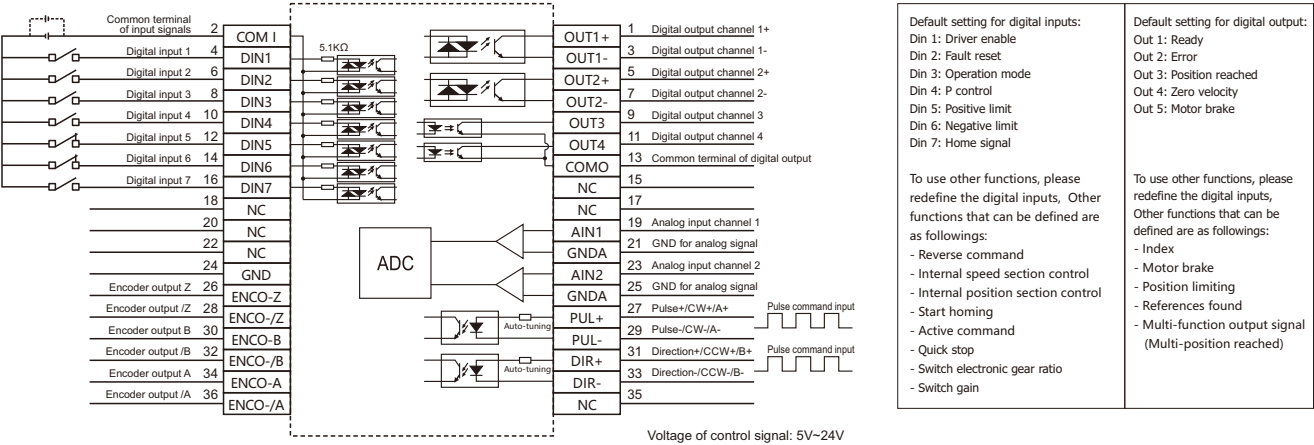
Technical Specifications of CD2S Servo Driver

Model parameter		CD412S-AA-000	CD422S-AA-000	CD422S-AF-000	CD432S-AA-000	CD612S-AA-000	CD622S-AA-000
Power	Main supply voltage	1PH , AC220V -20/+15% 47 ~ 63Hz			1PH, 3PH, AC220V -20/+15% 47~63Hz	3PH, AC380V -20/+15% 47~63Hz	
	Control circuit voltage	18VDC~30VDC 1A					
Current	Max. continuous current	2A	4A	4.6A	11A	5.5A	7A
	Peak current(PEAK)	7A	15A	15A	27.5A	15A	25A
Feedback signal		2500 P/R (incremental encoder with 5V supply)					
Brake chopper		Use an external braking resistor according to application, mainly in occasion of quick stop .					
Brake chopper threshold		DC380V±5V				DC680V±5V	
Over-voltage alarming threshold		DC400V±5V				DC700V±5V	
Under-voltage alarming threshold		DC200V±5V				DC400V±5V	
Cooling method		Natural air cooling		Fan	Fan		
Weight (Kg)		1.2		1.2	2.4		
Position Mode	Maximum frequency of input pulse	Differential signal: 500 KPPS, open-collector signal: 200 KPPS					
	Pulse command mode	Pulse+direction, CCW + CW, A+B Phase(5V - 24V)					
	Command smoothing	Low-pass filtering (adjustable by internal parameter setting)					
	Feedforward gain	Adjustable by internal parameter setting					
	Electronic gear ratio	Setting range, Gear factor: -32768 ~ 32767 , Gear divider: 1 ~ 32767 , 1/50≤ Gear factor/Gear divider ≤50					
	Position loop sampling frequency	1KHz					
Speed Mode	Analog input voltage range	- 10 ~ 10V (resolution 12 bit)					
	Input impedance	200K					
	Analog input sampling frequency	4KHz					
	Command source	External analog command / internal command					
	Command smoothing	Low-pass filtering (adjustable by internal parameter setting)					
	Input voltage dead-zone setting	Adjustable by internal parameter setting					
	Input voltage offset setting	Adjustable by internal parameter setting					
	Speed limit	Adjustable by internal parameter setting					
	Torque limit	Adjustable by internal parameter setting/external analog command					
	Speed loop sampling frequency	4KHz					
Torque Mode	Analog voltage input range	-10 ~ 10V (Resolution 12 bit)					
	Input impedance	200K					
	Input sampling frequency	4KHz					
	Command source	External analog command / internal command					
	Command smoothing	Low-pass filtering (adjustable by internal parameter setting)					
	Speed limit	Adjustable by internal parameter setting/external analog command					
	Input voltage dead-zone setting	Adjustable by internal parameter setting					
	Input voltage offset setting	Adjustable by internal parameter setting					
	Current sampling frequency	16KHz					
Digital Input	Digital input specification	7 digital inputs, with COM1 terminal for PNP (high level valid 12.5V~30V) or NPN (low level valid) connection					
	Digital 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	Digital output specification	5 digital outputs,out 1~out 4 current is 100 mA, BR+/BR-(brake control output) current is 500 mA,can drive brake device directly					
	Digital output function	Define freely according to the requirement, supporting following functions: driver ready, driver fault, position reached, motor at zero speed, motor brake, motor speed reached, Z signal, maximum speed obtained in torque mode, motor brake, position limiting, reference found					
Protection functions		Over-voltage protection, under-voltage protection, motor over-heat protection (I2T), short-circuit protection, drive over-heat protection, etc					
Communication interface		RS232 (Connections with PC: 2-2, 3-3, 5-5)					
Operation Environment	Operation temperature	0 ~ 400C					
	Storage temperature	- 100C ~ 700C					
	Humidity (non- condensation)	Below 90% RH					
	Protection class	IP20					
	Installation mode	Installed in a dust-free, dry, lockable environment (such as in a electric cabinet)					
	Installation method	Vertical installation					
	Height	No power limit below 1000 m					
	Atmospheric pressure	86kpa ~ 106kpa					

Wiring Diagram of CD2S Servo Driver

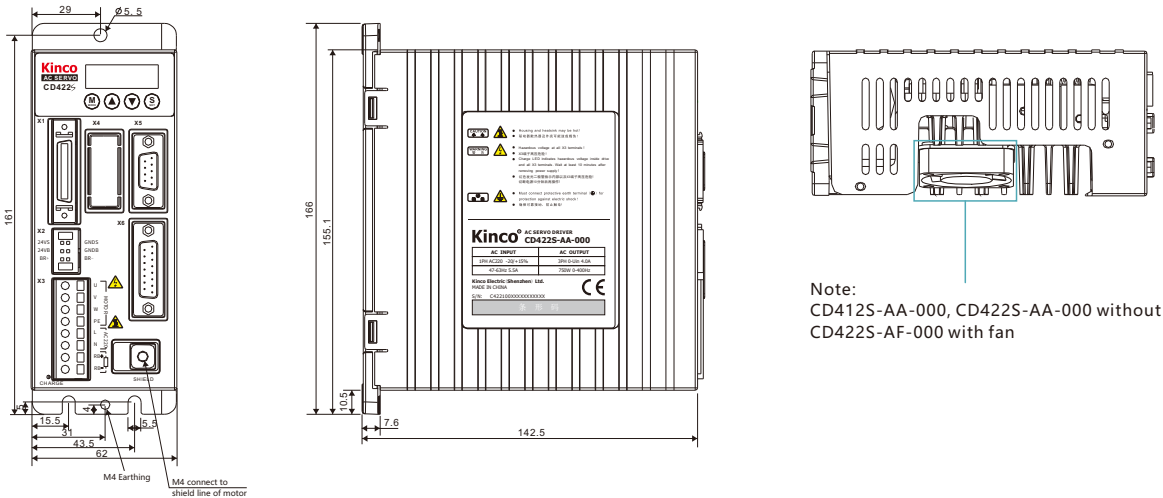
Mechanical Dimension Diagram of CD2S Servo Driver

Wiring Diagram for Position Control Mode

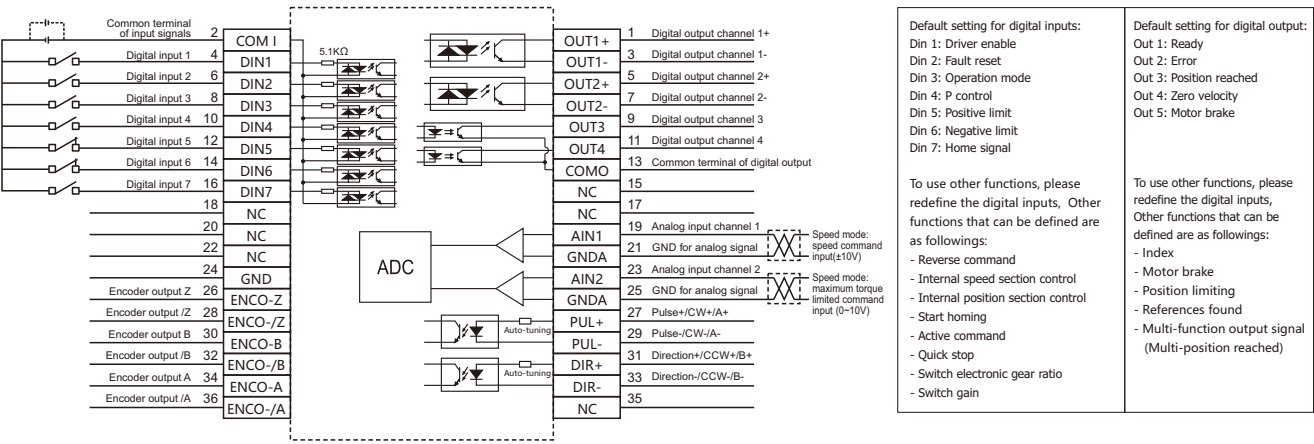


Mechanical Dimension Diagram of CD412S/CD422S

(Unit: mm)

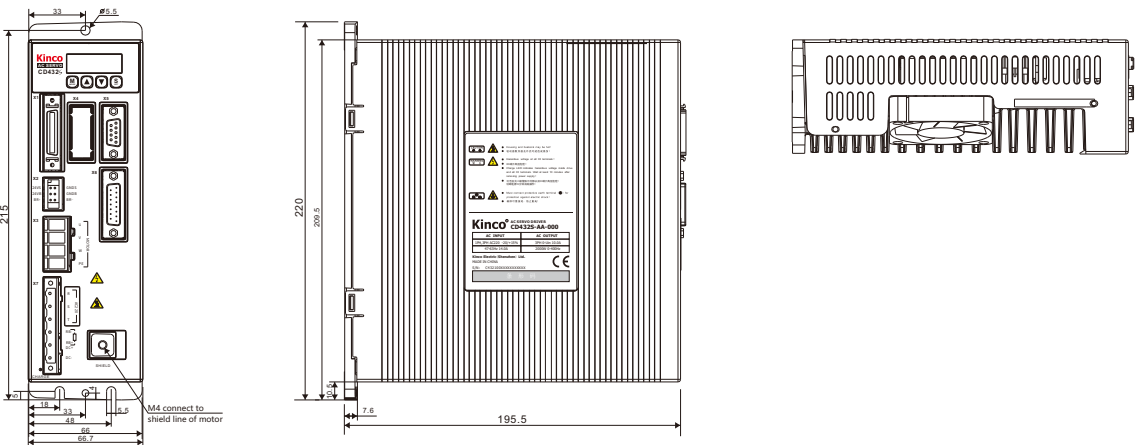


Wiring Diagram for Speed Control Mode

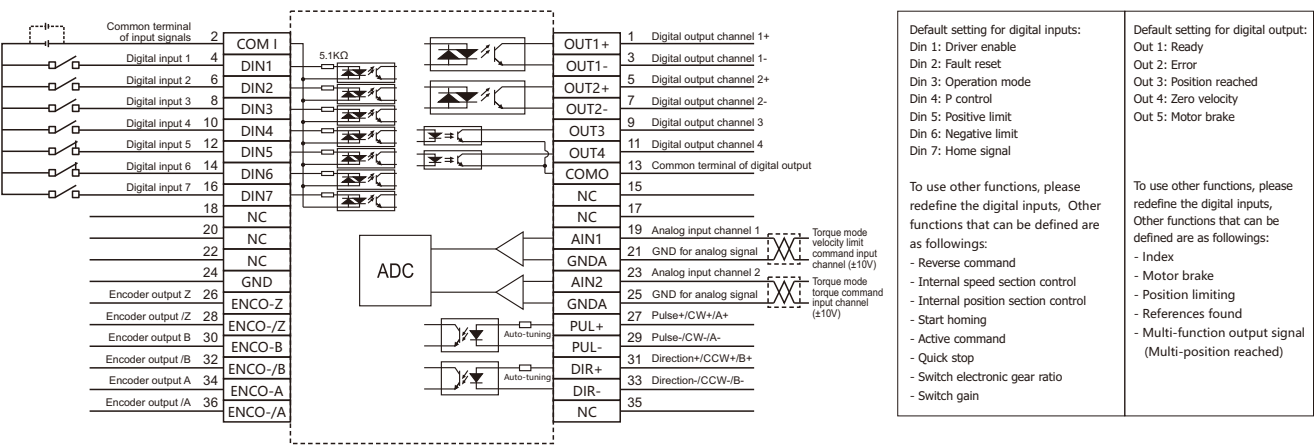


Mechanical Dimension Diagram of CD432S

(Unit: mm)

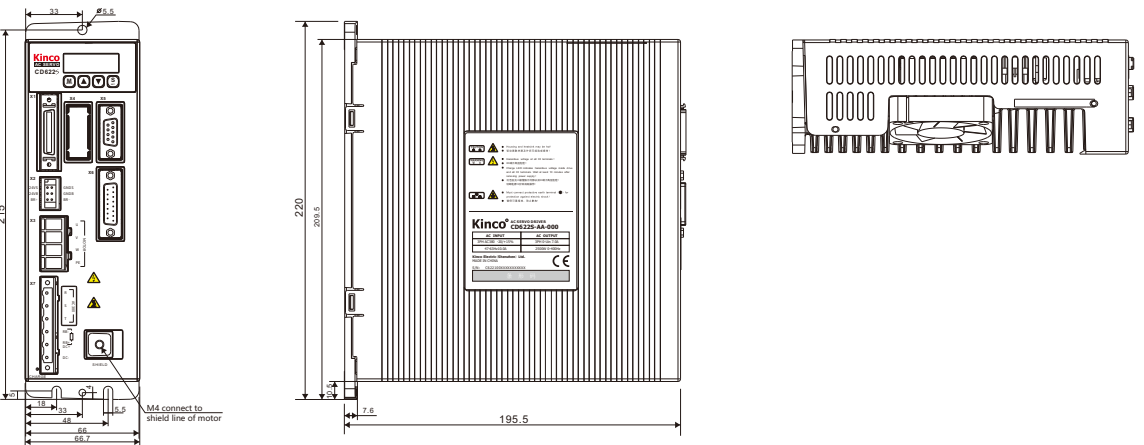


Wiring Diagram for Torque Control Mode



Mechanical Dimension Diagram of CD612S/CD622S

(Unit: mm)



Technical Specifications of SMH Servo Motor(1)



Motor series		SMH Servo Motor			
		Small inertia flange size 60mm		Small inertia flange size 80mm	
Model		SMH60S-0020-30A□K-3LK□	SMH60S-0040-30A□K-3LK□	SMH80S-0075-30A□K-3LK□	SMH80S-0100-30A□K-3LK□
Driver matching		JD430-AA-000 FD422S-CA-000 FD422S-LA-000 FD422S-EA-000 CD422S-AA-000		JD430-AA-000 FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	
DC link voltage UDC		300	300	300	300
Continuous performance	Rated power P _N (W)	200	400	750	1000
	Rated torque T _N (Nm)	0.64	1.27	2.39	3.18
	Rated speed n _N (rpm)	3000	3000	3000	3000
	Rated current I _N (A)	1.6	3.1	3.9	6.3
Maximum torque T _m (Nm)		1.92	3.82	7.17	9.48
Maximum current I _m (A)		4.8	9.3	11.7	18.9
Standstill torque T _s (Nm)		0.7	1.39	2.63	3.3
Standstill current I _s (A)		1.79	3.38	4.4	6.93
Resistance line-line R _L (Ω)		8.02	3.52	1.4	0.86
Inductance line-line L _L (mH)		16.3	7.8	7.5	4.5
Electrical time constant τ _e (ms)		2.03	2.22	5.35	5.23
Mechanical time constant τ _m (ms)		2.26	1.35	0.75	0.89
Reverse voltage constant K _e (V/krpm)		29	29	40	34
Torque constant K _t (Nm/A)		0.48	0.48	0.662	0.562
Rotor moment of inertia J _m (Kg·cm ²)		0.375	0.51	1.36	1.9
		0.379 (with brake)	0.514 (with brake)	1.385 (with brake)	1.925 (with brake)
Pole pair number		3	3	3	3
Maximum voltage rising du/dt (KV/μs)		8	8	8	8
Insulation class		F	F	F	F
Maximum radial force F _r (N)		180	180	335	335
Maximum axial force F _a (N)		90	90	167.5	167.5
Weight G(Kg)		1.3	1.8	3.3	3.9
		1.8 (with brake)	2.3 (with brake)	4 (with brake)	4.6 (with brake)
Length of motor L(mm)		120	150	147	167
		159±1.5(with brake)	189±1.5(with brake)	197±1.5(with brake)	217±1.5(with brake)
Position feedback device		2500 P/R Incremental encoder			
Cooling method		Totally enclosed, non - ventilated			
Protection level		IP65, shaft sealing IP54			
Environmental conditions for operation	Temperature	-20℃ ~ 40℃ (Non-freezing)			
	Humidity	Below 90 % RH (no condensation)			
	Ambient environment	Away from active gas, combustible gas, oil drops and dust			
	Altitude	Maximum altitude 4000m, Rated power at 1000m or below, Above 1000m: Decreasing 1.5% per 100m rise			

Note: □=A —without brake □=H —3 rows of 15-pin Connector
□=B —with brake □=N —HFO18 series aviation standard connector(towards the shaft)
□=P —HFO21+HFO18 series aviation standard connector(HFO21 power connector,HFO18 encoder connector)

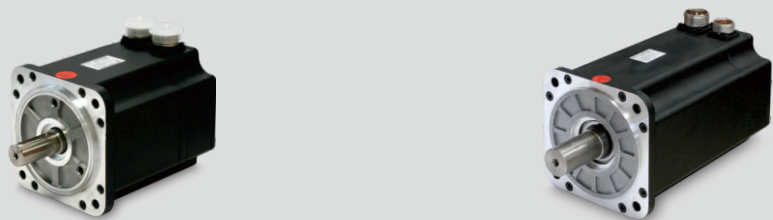
Technical Specifications of SMH Servo Motor(2)



Motor series		SMH Servo Motor					
		Medium inertia flange size 110mm					
Model		SMH110D-0125-30A□K-4LKC	SMH110D-0126-30A□K-4HKC	SMH110D-0105-20A□K-4LKC	SMH110D-0157-30A□K-4HKC	SMH110D-0126-20A□K-4LKC	SMH110D-0188-30A□K-4HKC
Driver matching		JD430-AA-000 FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000	JD430-AA-000 FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000	JD430-AA-000 FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000
DC link voltage UDC		300	560	300	560	300	560
Continuous performance	Rated power P _N (W)	1250	1260	1050	1570	1260	1880
	Rated torque T _N (Nm)	4	4	5.0	5.0	6.0	6.0
	Rated speed n _N (rpm)	2000	3000	2000	3000	2000	3000
	Rated current I _N (A)	6.5	4.3	5.9	5.9	6.2	6.2
Maximum torque T _m (Nm)		12	12	15.0	15.0	18.0	18.0
Maximum current I _m (A)		19.5	12.9	17.7	17.7	18.6	18.6
Standstill torque T _s (Nm)		4.4	4.4	5.5	5.5	6.6	6.6
Standstill current I _s (A)		6.82	4.73	6.49	6.49	6.765	6.765
Resistance line-line R _L (Ω)		0.8	1.83	1.03	1.03	1.258	1.258
Inductance line-line L _L (mH)		6.4	13.5	7.8	7.8	9.62	9.62
Electrical time constant τ _e (ms)		7.9	7.37	7.57	7.57	7.64	7.64
Mechanical time constant τ _m (ms)		1.4	1.63	1.55	1.55	1.65	1.65
Reverse voltage constant K _e (V/krpm)		45	64	55	55	64	64
Torque constant K _t (Nm/A)		0.744	1.058	0.910	0.910	1.058	1.058
Rotor moment of inertia J _m (Kg·cm ²)		5.8	5.8	7.2	7.2	8.5	8.5
		5.85 (with brake)	5.85 (with brake)	7.25 (with brake)	7.25 (with brake)	8.55 (with brake)	8.55 (with brake)
Pole pair number		4	4	4	4	4	4
Maximum voltage rising du/dt (KV/μs)		8	8	8	8	8	8
Insulation class		F	F	F	F	F	F
Maximum radial force F (N)		630	630	630	630	630	630
Maximum axial force F (N)		315	315	315	315	315	315
Weight G(Kg)		6.2	6.2	7.2	7.2	8.2	8.2
		8.2 (with brake)	8.2 (with brake)	9.2 (with brake)	9.2 (with brake)	10.2 (with brake)	10.2 (with brake)
Length of motor L(mm)		168	168	185	185	202	202
		228±1 (with brake)	228±1 (with brake)	245±1 (with brake)	245±1 (with brake)	262±1 (with brake)	262±1 (with brake)
Position feedback device		2500 P/R Incremental encoder					
Cooling method		Totally enclosed, non - ventilated					
Protection level		IP65, shaft sealing IP54					
Environmental conditions for operation	Temperature	- 20 ~ 40℃ (non-freezing)					
	Humidity	Below 90 % RH (no condensation)					
	Ambient environment	Away from active gas,combustible gas,oil drops and dust					
	Altitude	Maximum altitude 4000 m, rated power at 1000 m or below. Above 1000m, decreasing 1.5 % per every 100m rise					

Note: □=A —without brake
□=B —with brake

Technical Specifications of SMH Servo Motor(3)



Motor series		SMH Series Motor						
		Medium inertia flange size 130mm				Medium inertia flange size 150mm		
Model		SMH130D-0105 -20A□K-4HKC	SMH130D-0157 -20A□K-4HKC	SMH130D-0210 -20A□K-4HKC	SMH130D-0300 -20A□K-4HKC	SMH150D-0230 -20A□K-4HKC	SMH150D-0300 -20A□K-4HKC	SMH150D-0380 -20A□K-4HKC
Driver matching		JD430-AA-000 JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000	FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000	JD630-AA-000 JD630-LA-000	JD620-AA-000 FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000	JD630-LA-000 JD630-AA-000	
DC link voltage UDC		560	560	560	560	560	560	560
Continuous performance	Rated power P_N (W)	1050	1570	2100	3000	2300	3000	3800
	Rated torque T_N (Nm)	5	7.5	10	14.3	11.1	14.3	18
	Rated speed n_N (rpm)	2000	2000	2000	2000	2000	2000	2000
	Rated current I_N (A)	4.3	6.3	7.6	7.9	7.1	8.5	9.3
Maximum torque T_m (Nm)		12.5	18.75	25	35.75	27.5	35.75	45
Maximum current I_m (A)		10.75	15.75	19	19.75	17.75	21.25	23.25
Standstill torque T_s (Nm)		5.5	8.25	11	15.73	12.1	15.73	19.8
Standstill current I_s (A)		4.73	6.93	8.36	8.7	7.81	9.35	10.23
Resistance line-line R_L (Ω)		1.85	1.17	0.98	0.84	2.2	1.4	1.3
Inductance line-line L_L (mH)		23.7	16.2	14.3	12.7	14(AVG)	10.6(AVG)	10.5(AVG)
Electrical time constant τ_e (ms)		12.81	13.846	14.592	14.94	6.36	7.57	8.08
Mechanical time constant τ_m (ms)		2.868	2.529	2.268	1.53	4.68	3.68	3.32
Reverse voltage constant K_e (V/krpm)		70	72	80	110	100	107	125
Torque constant K_t (Nm/A)		1.1578	1.191	1.3232	1.82	1.65	1.77	2.07
Rotor moment of inertia J_m (Kg-cm ²)		12	17.7	23.4	34.8	33.5	47.6	63.1
		12.0(with brake)	17.74(with brake)	23.44(with brake)	34.9(with brake)	33.6(with brake)	47.7(with brake)	63.2(with brake)
Pole pair number		4	4	4	4	4	4	4
Maximum voltage rising du/dt (KV/ μ s)		8	8	8	8	8	8	8
Insulation class		F	F	F	F	F	F	F
Maximum radial force F (N)		900	900	900	900	1200	1200	1200
Maximum axial force F (N)		450	450	450	450	600	600	600
Weight G (Kg)		7.5	9.1	10.7	13.9	12	15	18
		9.7(with brake)	11.3(with brake)	12.9(with brake)	14.9(with brake)	15.5(with brake)	18.5(with brake)	22.5(with brake)
Length of motor L (mm)		159±1.5	179±1.5	199±1.5	239±0.15	226±1.5	254±1.5	282±1.5
		220±1.5(with brake)	240±1.5(with brake)	260±1.5(with brake)	280±1.5(with brake)	292±1.5(with brake)	320±1.5(with brake)	352±1.5(with brake)
Position feedback device		2500 P/R Incremental encoder						
Cooling method		Totally enclosed, non - ventilated						
Protection level		IP65, shaft sealing IP54						
Environmental conditions for operation	Temperature	- 20 ~ 40°C (non-freezing)						
	Humidity	Below 90 % RH (no condensation)						
	Ambient environment	Away from active gas,combustible gas,oil drops and dust						
	Altitude	Maximum altitude 4000 m, rated power at 1000 m or below. Above 1000m, decreasing 1.5 % per every 100m rise						

Note: □=A ——without brake
□=B ——with brake

Technical Specifications of SMH Servo Motor(4)

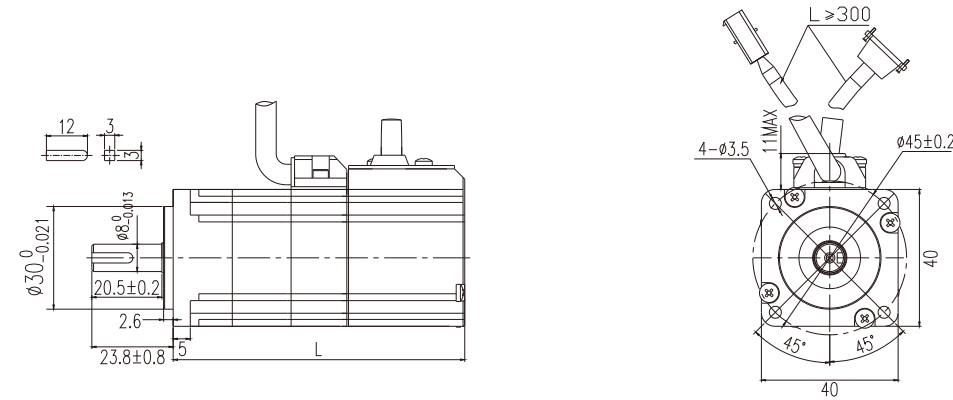


Motor series		SMH Series Motor			
		Medium inertia flange size 180mm			
Model		SMH180D-0350 -15A□K-4HKC	SMH180D-0440 -15A□K-4HKC	SMH180D-0440 -15A□K-4HKC	SMH180D-0750 -15A□K-4HKC
Driver matching		JD630-LA-000 JD630-AA-000	JD640-LA-000 JD640-AA-000	JD640-AR-000	JD650-AR-000
DC link voltage UDC		560	560	560	560
Continuous performance	Rated power P_N (W)	3500	4400	4400	7500
	Rated torque T_N (Nm)	22	28	28	48
	Rated speed n_N (rpm)	1500	1500	1500	1500
	Rated current I_N (A)	10.3	11.9	11.9	19.2(REF)
Maximum torque T_m (Nm)		55	70	70	120
Maximum current I_m (A)		25.75	29.75	29.75	47.9(REF)
Standstill torque T_s (Nm)		24.2	30.8	30.8	52.8
Standstill current I_s (A)		11.33	13.09	13.09	21.1(REF)
Resistance line-line R_L (Ω)		1.2	0.65	0.65	0.38
Inductance line-line L_L (mH)		12.7(AVG)	8.5	8.5	5.89
Electrical time constant τ_e (ms)		10.58	13.08	13.08	15.5
Mechanical time constant τ_m (ms)		3.42	2.16	2.16	1.81
Reverse voltage constant K_e (V/krpm)		135	150	150	159
Torque constant K_t (Nm/A)		2.23	2.48	2.48	2.63
Rotor moment of inertia J_m (Kg-cm ²)		82	118	118	190
		82.2 (with brake)	118.2 (with brake)	118.2 (with brake)	190.3 (with brake)
Pole pair number		4	4	4	4
Maximum voltage rising du/dt (KV/ μ s)		8	8	8	8
Insulation class		F	F	F	F
Maximum radial force F (N)		1600	1600	1600	1600
Maximum axial force F (N)		800	800	800	800
Weight G (Kg)		22.7	28.6	28.6	40
		27.9 (with brake)	33.8 (with brake)	33.8 (with brake)	47 (with brake)
Length of motor L (mm)		260±1.5	298±1.5	298±1.5	374±1.5
		332±1.5 (with brake)	370±1.5 (with brake)	370±1.5 (with brake)	451±1.5 (with brake)
Position feedback device		Incremental encoder 2500P/R			
Cooling method		Totally enclosed, non-ventilated			
Protection level		IP65 for body, shaft sealing IP54			
Environmental conditions for operation	Temperature	-20°C ~ 40°C (Non-freezing)			
	Humidity	Below 90% RH (Non-condensing)			
	Ambient environment	Away from active gas, combustible gas, oil drops and dust			
	Altitude	Maximum altitude 4000m, Rated power at 1000m or below, Above 1000m: Decreasing 1.5% per 100m rise			

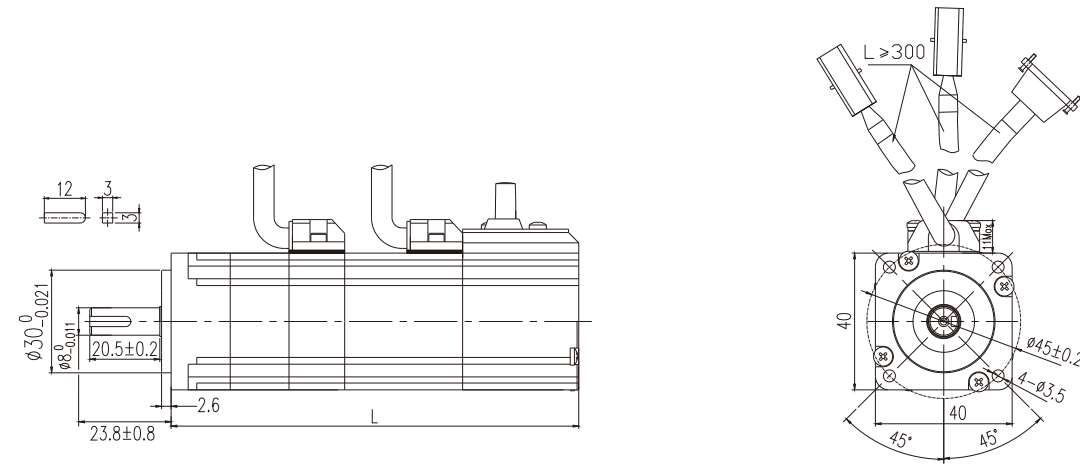
Note: □=A ——without brake
□=B ——with brake

Mechanical Dimensions of SMH Servo Motors (40 flanges)

SMH Series 40 Flange Outlet Motor

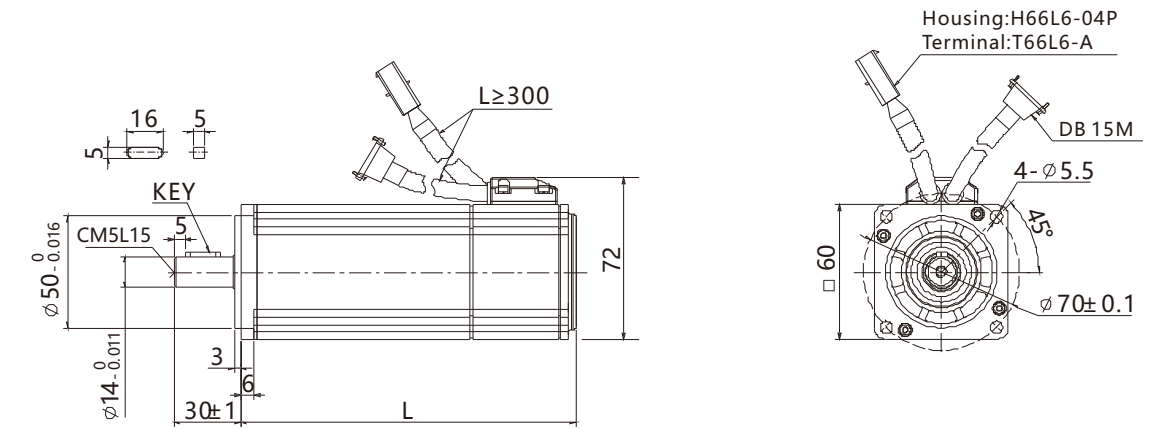


SMH Series 40 Flange Outlet Motor (with brake)

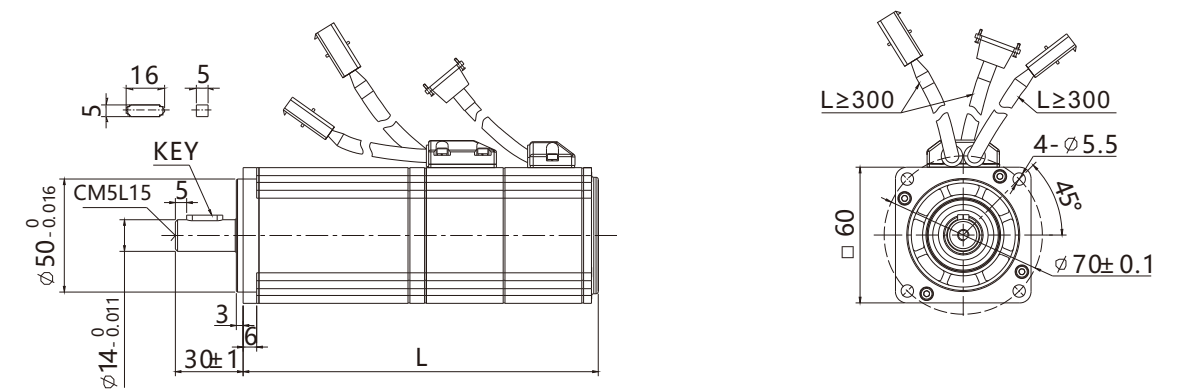


Mechanical Dimensions of SMH Servo Motors (60 flanges)

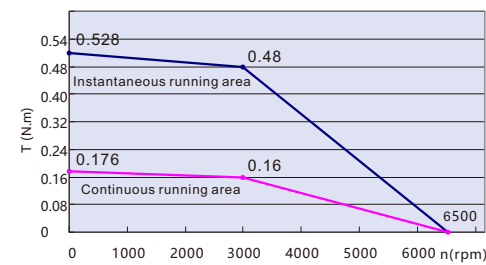
SMH Series 60 Flange Outlet Motor



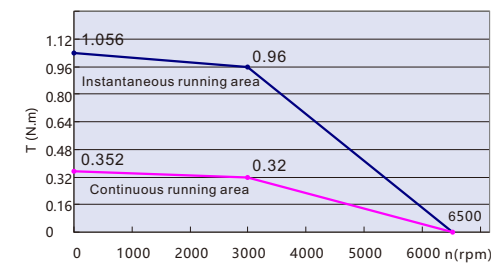
SMH Series 60 Flange Outlet Motor (with brake)



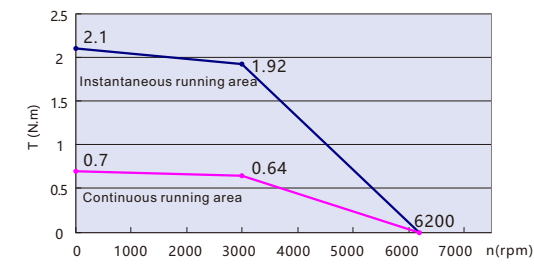
SMH40S-0005-30A K-4LKH 50W



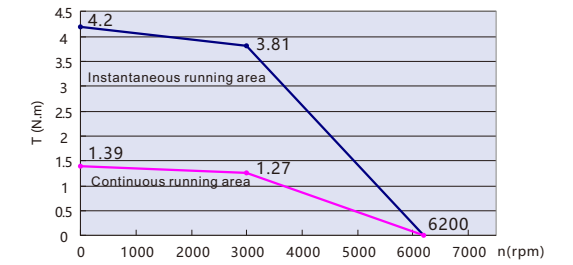
SMH40S-0010-30A K-4LKH 100W



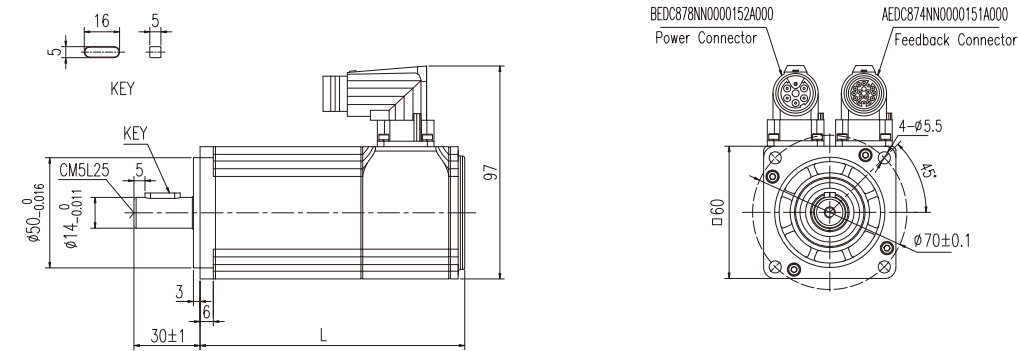
SMH60S-0020-30A K-3LK 200W



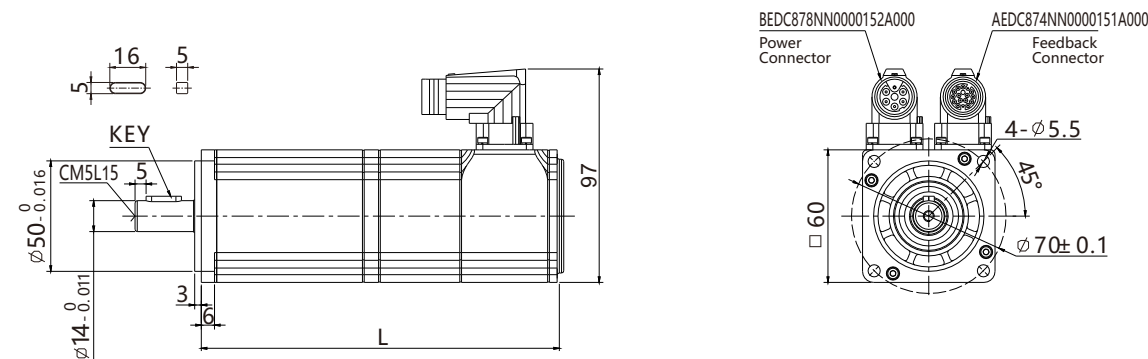
SMH60S-0040-30A K-3LK 400W



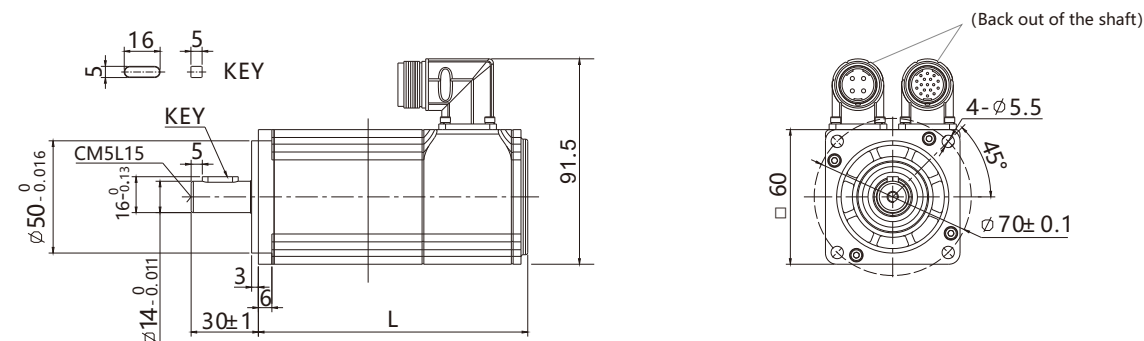
SMH Series 60 flange inlet aviation socket motor



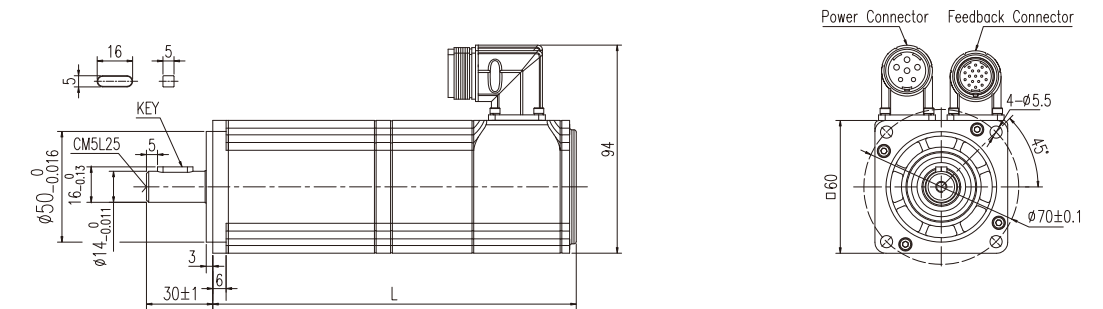
SMH Series 60 flange inlet aviation socket motor (with brake)



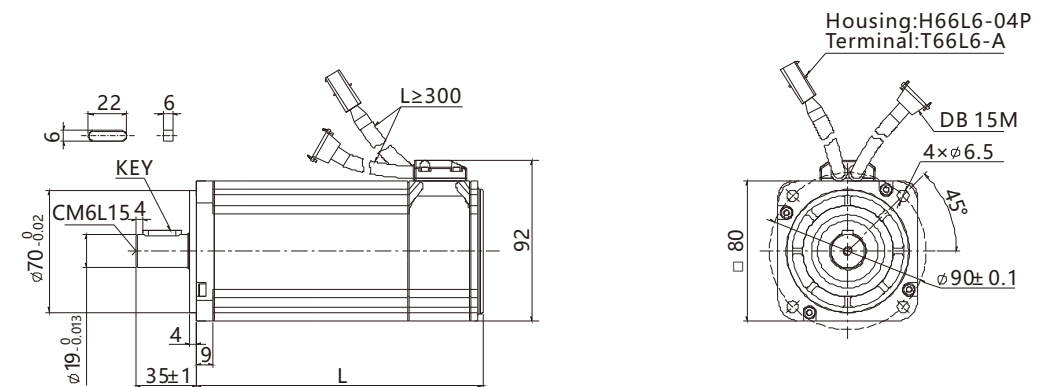
SMH Series 60 flange HFO aviation socket motor



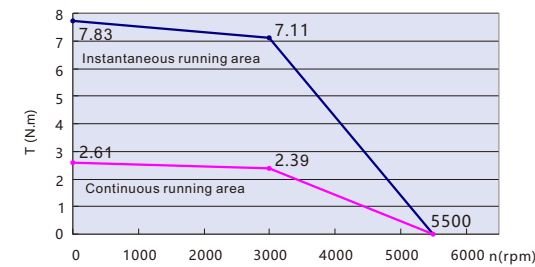
SMH Series 60 flange HFO aviation socket motor(with brake)



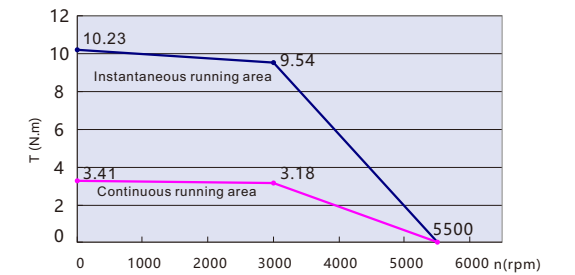
SMH Series 80 Flange Outlet Motor



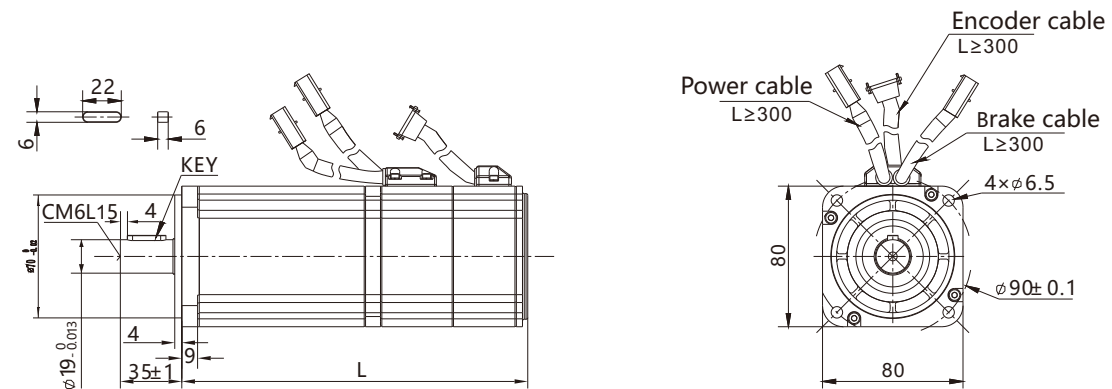
SMH80S-0075-30A K-3LK 750W



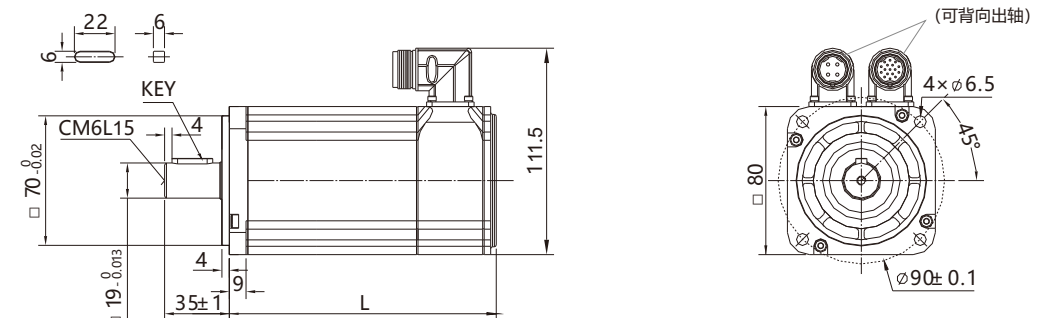
SMH80S-0100-30A K-3LK 1000W



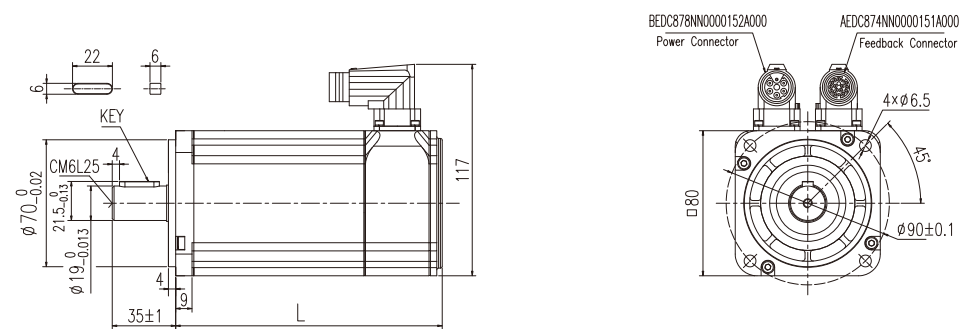
SMH Series 80 Flange Outlet Motor (with brake)



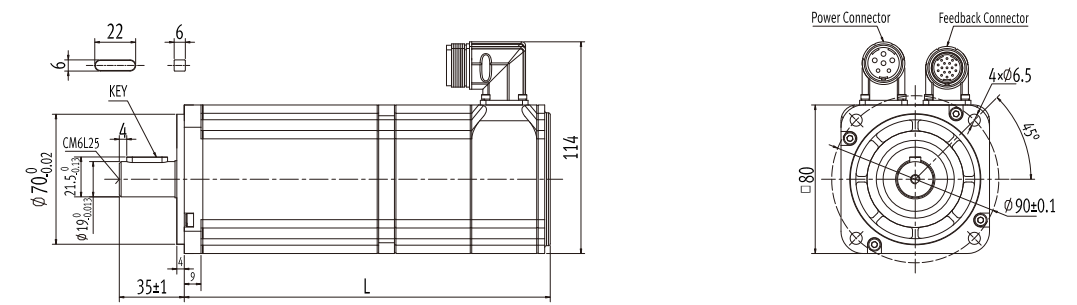
SMH Series 80 Flange HFO Aviation Socket Motor



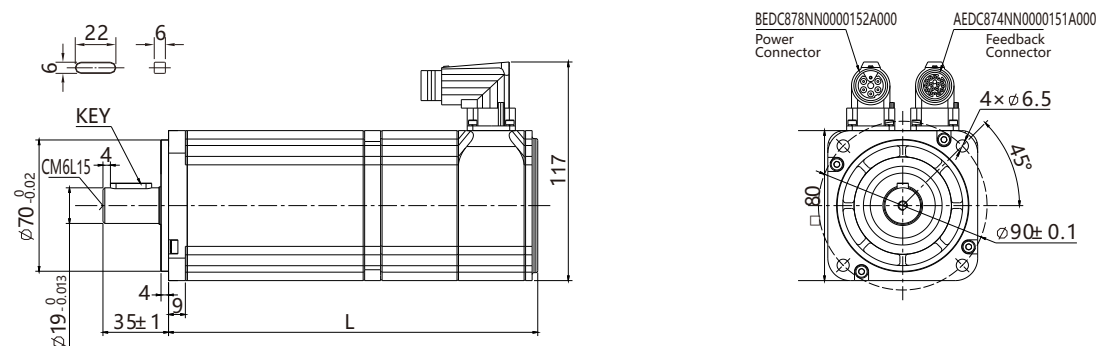
SMH Series 80 Flange Inlet Aviation Socket Motor



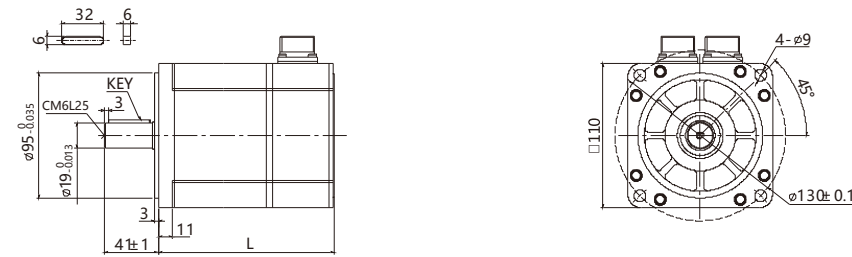
SMH Series 80 Flange HFO Aviation Socket Motor (with brake)



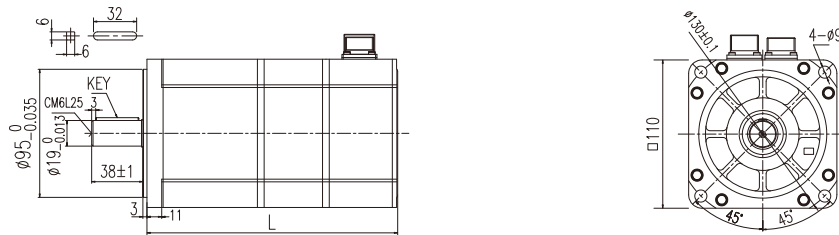
SMH Series 80 Flange Inlet Aviation Socket Motor (with brake)



SMH Series 110 Flange General Aviation Socket Motor

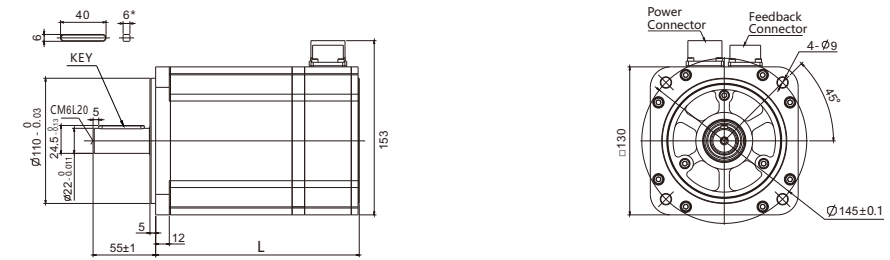


SMH Series 110 Flange General Aviation Socket Motor (with brake)

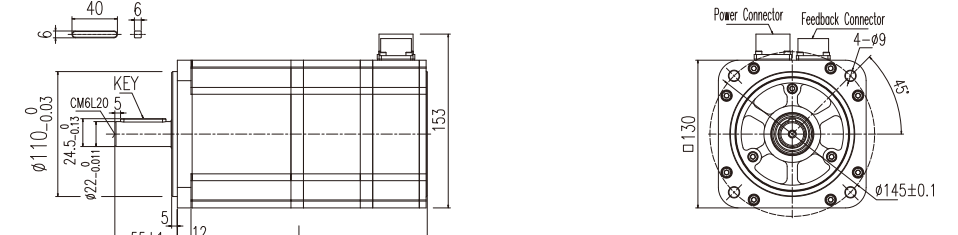


SMH Series 130 Flange General Aviation Socket Motor

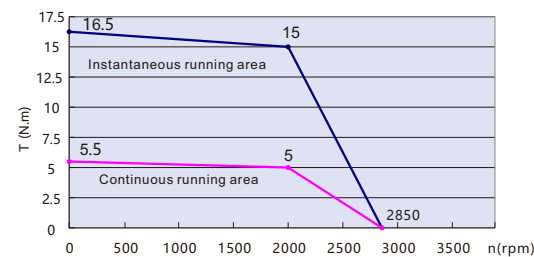
*Note: the SMH130D-0300-20A □ K-4HKC key is 8.



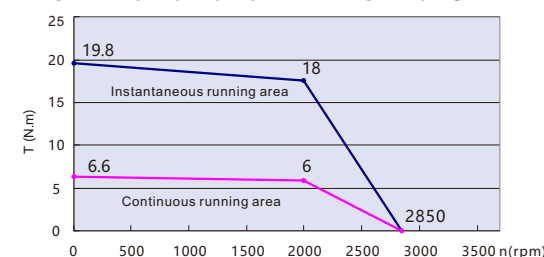
SMH Series 130 Flange General Aviation Socket Motor (with brake)



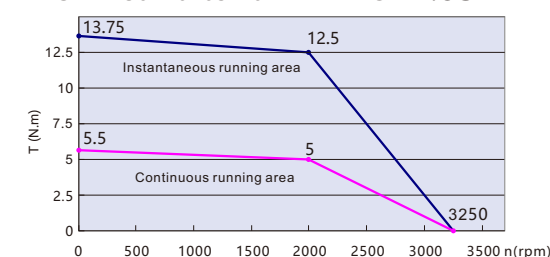
SMH110D-0105-20A □ K-4LKC 1.05KW



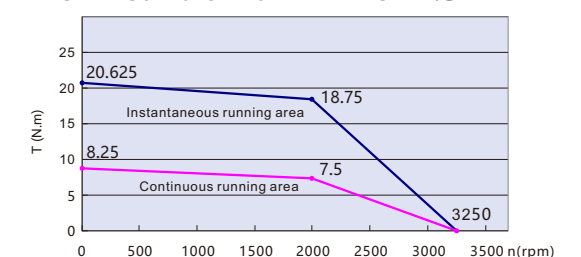
SMH110D-0126-20A □ K-4LKC 1.26KW



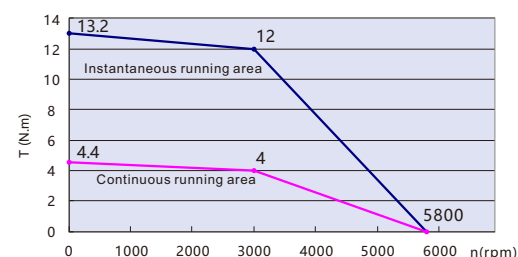
SMH130D-0105-20A □ K-4HKC 1.05KW



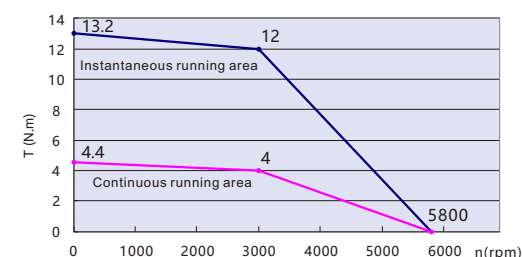
SMH130D-0157-20A □ K-4HKC 1.57KW



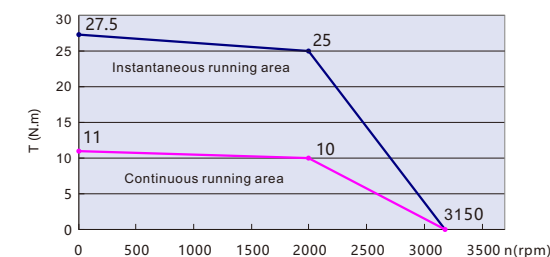
SMH110D-0125-30A □ K-4LKC 1.25KW



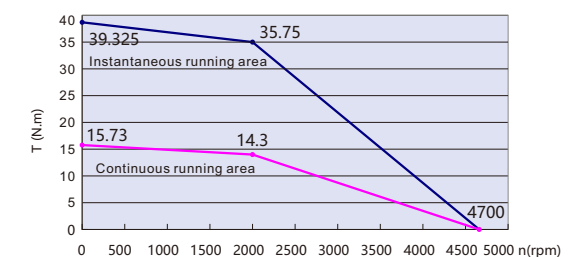
SMH110D-0126-30A □ K-4HKC 1.26KW



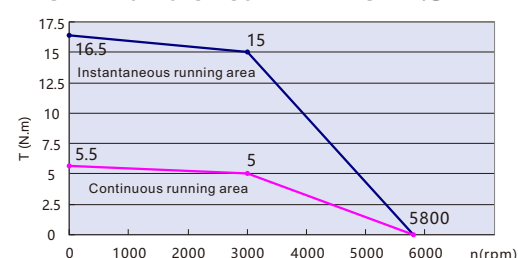
SMH130D-0210-20A □ K-4HKC 2.1KW



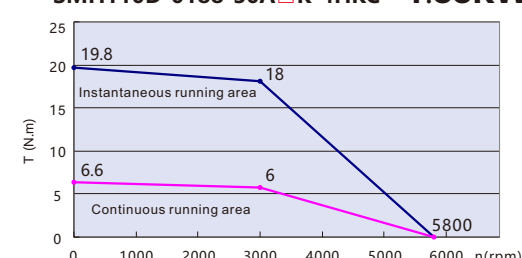
SMH130D-0300-20A □ K-4HKC 3KW



SMH110D-0157-30A □ K-4HKC 1.57KW



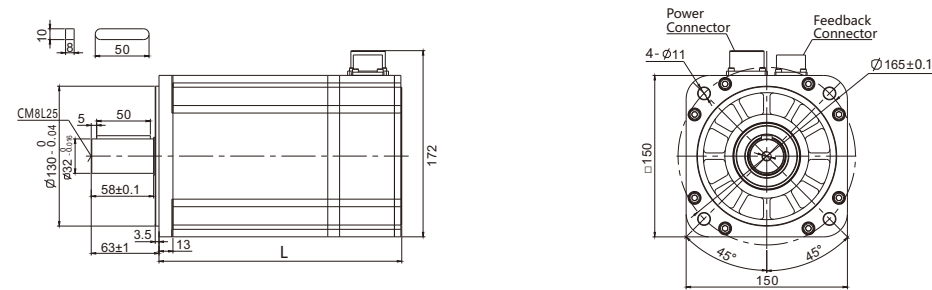
SMH110D-0188-30A □ K-4HKC 1.88KW



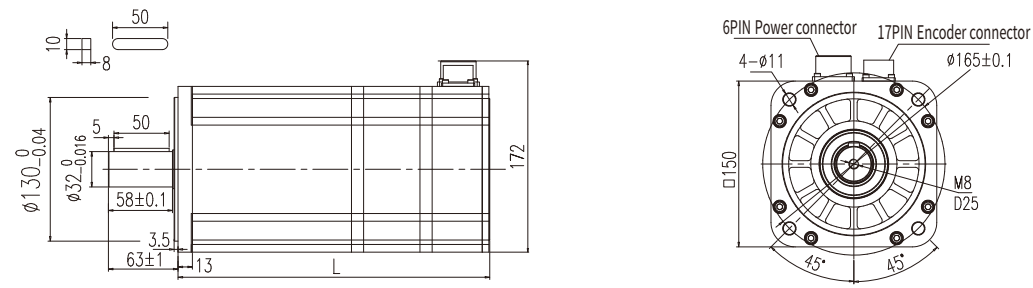
Mechanical Dimensions of SMH Servo Motors (150 flanges)

Mechanical Dimensions of SMH Servo Motors (180 flanges)

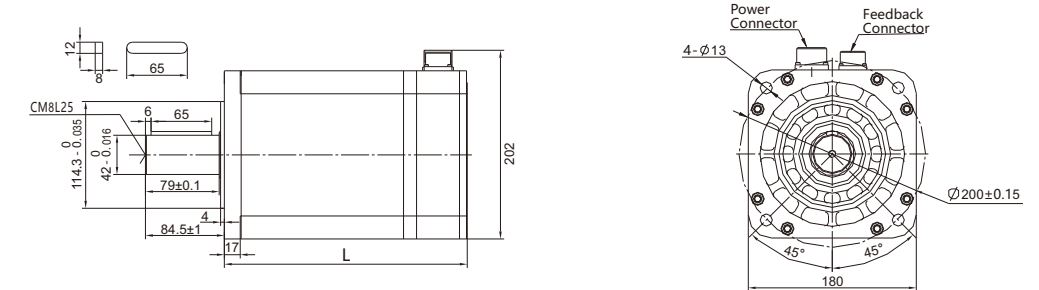
SMH Series 150 Flange General Aviation Socket Motor



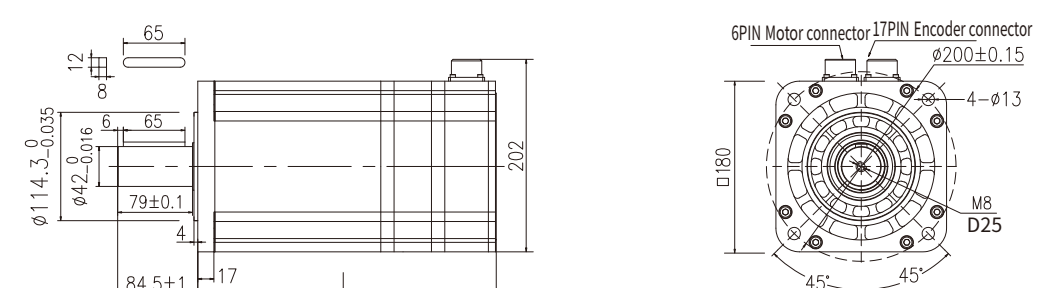
SMH Series 150 Flange General Aviation Socket Motor (with brake)



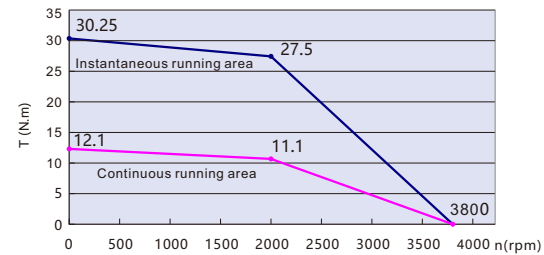
SMH Series 180 Flange General Aviation Socket Motor



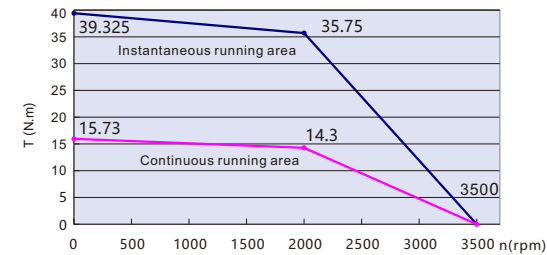
SMH Series 180 Flange General Aviation Socket Motor (with brake)



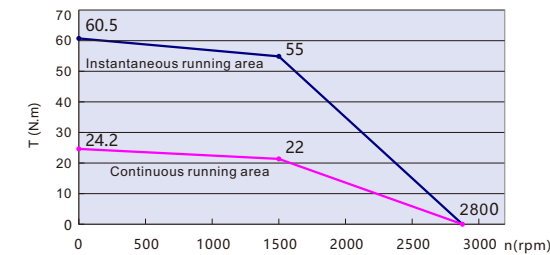
SMH150D-0230-20A K-4HKC 2.3KW



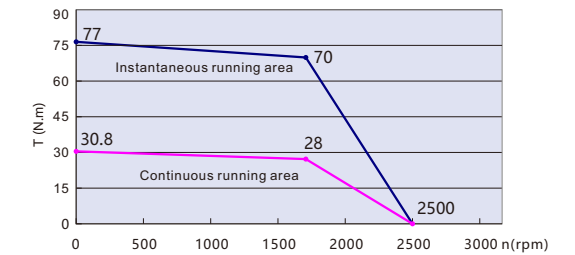
SMH150D-0300-20A K-4HKC 3KW



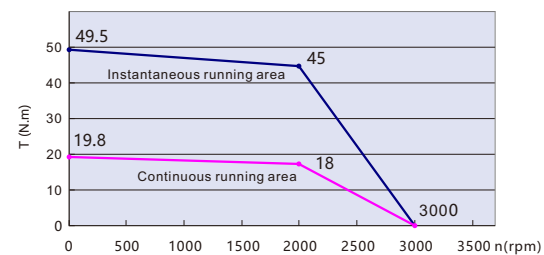
SMH180D-0350-15A K-4HKC 3.5KW



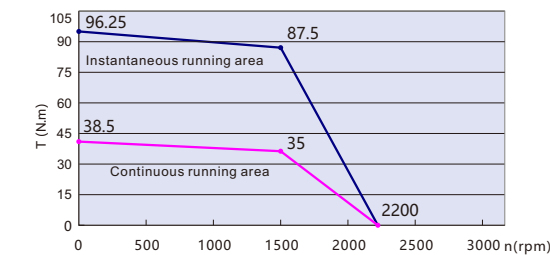
SMH180D-0440-15A K-4HKC 4.4KW



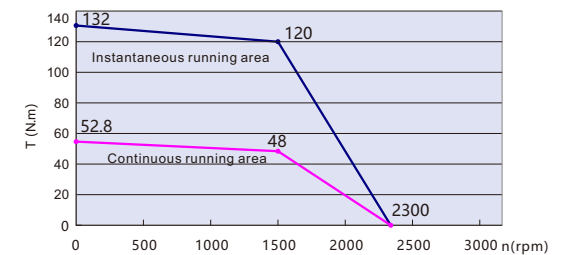
SMH150D-0380-20A K-4HKC 3.8KW



SMH180D-0550-15R K-4HKC 5.5KW



SMH180D-0750-15R K-4HKC 7.5KW



Technical Specifications of SMG Servo Motor (1)



Motor Series	SMG Series Motor						
	Medium inertia flange size 130mm						
Model	SMG130D-0100 -10A□K-4LKG	SMG130D-0100 -20A□K-4LKG	SMG130D-0150 -20A□K-4LKG	SMG130D-0150 -20A□K-4HKG	SMG130D-0200 -20A□K-4LKG	SMG130D-0200 -20A□K-4HKG	SMG130D-0300 -20A□K-4HKG
Driver matching	FD422S-LF-000 FD422S-CF-000 FD422S-EF-000 CD422S-AF-000 JD430-AA-000		CD432S-AA-000 FD432S-LA-000 FD432S-CA-000 FD432S-EA-000 CD612S-AA-000 JD430-AA-000	FD612S-LA-000 FD612S-CA-000 FD612S-EA-000 CD612S-AA-000 JD620-AA-000	CD432S-AA-000 FD432S-LA-000 FD432S-CA-000 FD432S-EA-000 CD612S-AA-000 JD430-AA-000	FD612S-LA-000 FD612S-CA-000 FD612S-EA-000 CD612S-AA-000 JD620-AA-000	FD622S-LA-000 FD622S-CA-000 FD622S-EA-000 CD622S-AA-000 JD620-AA-000
Rated Power (kW)	1	1	1.5	1.5	2	2	3
Rated voltage (V)	220	220	220	380	220	380	380
Rated current (A)	4.5	5	7.5	4.7	10	5.9	7.4
Rated speed (RPM)	1000	2000	2000	2000	2000	2000	2000
Rated torque (Nm)	10	5	7.7	7.7	10	10	15
Peak torque (Nm)	20	12.5	19.25	19.25	25	25	30
Peak current (A)	9	12.5	18.75	11.75	25	14.75	18.5
Reverse voltage	140	68	68	111	70	115	125
constant K _e (V/1000r/min) Torque constant k _t (Nm/A)	2.2	1	1.03	1.64	1	1.69	2.03
Rotor moment of inertia J _m (Kg•m ²)	1.94×10 ⁻³	1.06×10 ⁻³	1.53×10 ⁻³	1.53×10 ⁻³	1.94×10 ⁻³	1.94×10 ⁻³	2.77×10 ⁻³
	1.95×10 ⁻³ (with brake)	1.07×10 ⁻³ (with brake)	1.54×10 ⁻³ (with brake)	1.54×10 ⁻³ (with brake)	1.95×10 ⁻³ (with brake)	1.95×10 ⁻³ (with brake)	2.78×10 ⁻³ (with brake)
Resistance Line-Line R _L (Ω)	2.7	1.84	1.01	2.49	0.73	1.986	1.41
Inductance Line-Line L _L (mH)	8.8	4.9	2.94	7.08	2.45	6.2	5.5
Electrical time constant τ _e (ms)	3.26	2.66	2.91	2.84	3.36	3.12	3.9
Length of motor L (mm)	213±1	171±1	192±1	192±1	209±1	209±1	231±1
	294±1 (with brake)	228±1 (with brake)	249±1 (with brake)	249±1 (with brake)	290±1 (with brake)	290±1 (with brake)	312±1 (with brake)
Weight (Kg)	10.2±0.7	6.6±0.7	8.3±0.7	8.3±0.7	9.8±0.7	9.8±0.7	11.7±0.7
	12.5±0.7 (with brake)	8.9±0.7 (with brake)	10.6±0.7 (with brake)	10.6±0.7 (with brake)	12.1±0.7 (with brake)	12.1±0.7 (with brake)	14±0.7 (with brake)
Maximum radial force F _r (N)	900	900	900	900	900	900	900
Maximum axial force F _a (N)	300	300	300	300	300	300	300
Pole pair number	4						
Encoder	2500 P/R Incremental encoder						
Insulation class	F						
Protection level	IP65						
Environment conditions for operation	Temperature: - 20~40℃ (non-freezing) ;Humidity: Below 90 % RH (no condensation)						

Note: □=A —without brake
□=B —with brake

Technical Specifications of SMG Servo Motor(2)



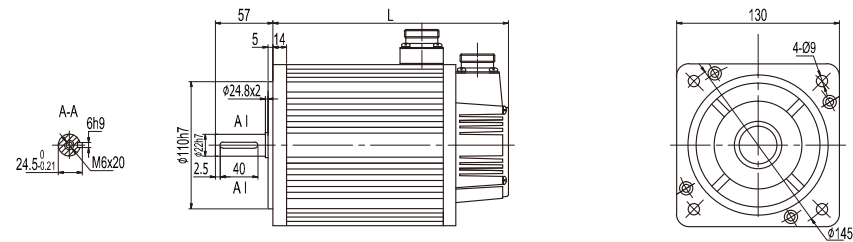
Motor Series	SMG Series Motor		
	Medium inertia flange size 180mm		
Model	SMG180D-0440-15A□K-4HKG	SMG180D-0550-15A□K-4HKG	SMG180D-0750-15A□K-4HKG
Driver matching	JD640-LA-000 JD640-AA-000		JD650-AA-000
Rated Power (kW)	4.4	5.5	7.5
Rated voltage (V)	380	380	380
Rated current (A)	10	12	20
Rated speed (RPM)	1500	1500	1500
Rated torque (Nm)	27	35	48
Peak torque (Nm)	67	70	96
Peak current (A)	24.81	30	50
Reverse voltage constant K _e (V/1000r/min)	172	181	156
Torque constant k _t (Nm/A)	2.7	2.9	2.4
Rotor moment of inertia J _m (Kg•m ²)	9.64 × 10 ⁻³	12.25 × 10 ⁻³	16.72 × 10 ⁻³
	9.66 × 10 ⁻³ (with brake)	12.28 × 10 ⁻³ (with brake)	16.75 × 10 ⁻³ (with brake)
Resistance Line - Line R _L (Ω)	0.796	0.62	0.273
Inductance Line - Line L _L (mH)	4.83	4	2.14
Electrical time constant τ _e (ms)	6	6.45	7.8
Length of motor L (mm)	262±1.4	292±1.4	346±1.4
	334±1.4 (with brake)	365±1.4 (with brake)	418±1.4 (with brake)
Weight (Kg)	25.5±0.7	30.5±0.7	40±0.7
	30.7±0.7 (with brake)	37.5±0.7 (with brake)	47±0.7 (with brake)
Maximum radial force F _r F(N)	1500	1500	1500
Maximum axial force F (N)	600	600	600
Pole pair number	4		
Encoder	2500 P/R Incremental encoder		
Insulation class	F		
Protection level	IP65		
Environment conditions for operation	Temperature: - 20 ~ 40℃ (non-freezing) ;Humidity: Below 90 % RH (no condensation)		

Note: □=A —without brake
□=B —with brake

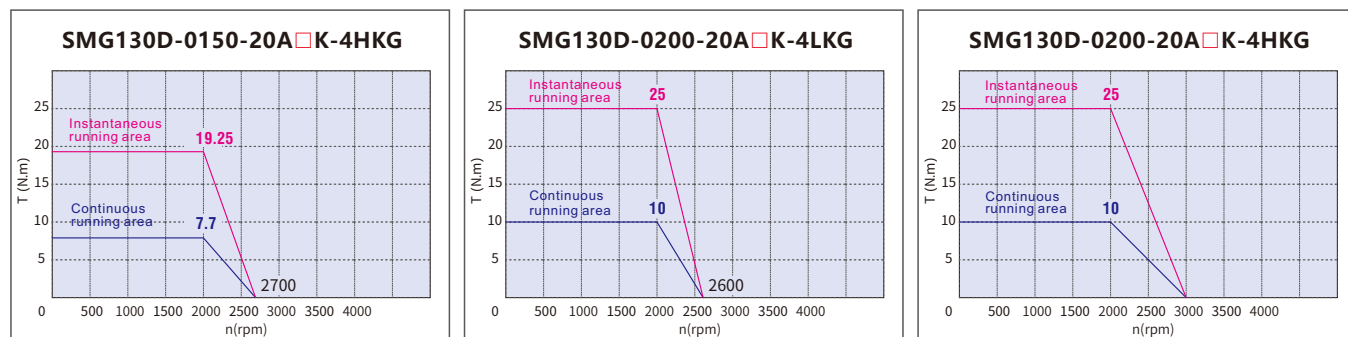
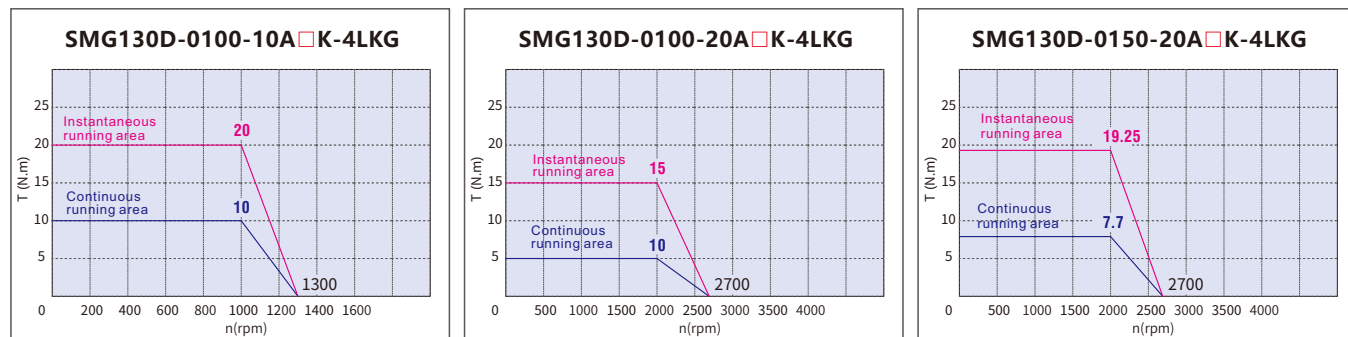
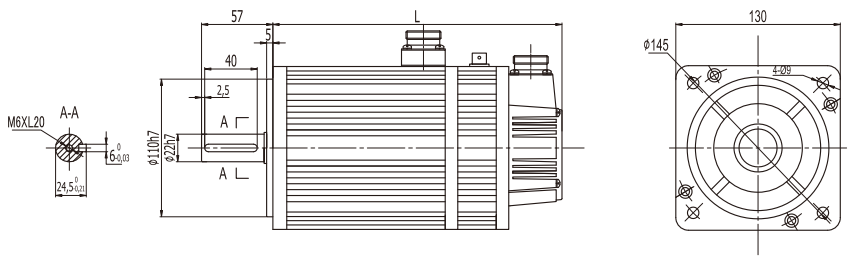
Mechanical Dimensions of **SMH** Servo Motors (130 flanges)

Mechanical Dimensions of **SMH** Servo Motors (180 flanges)

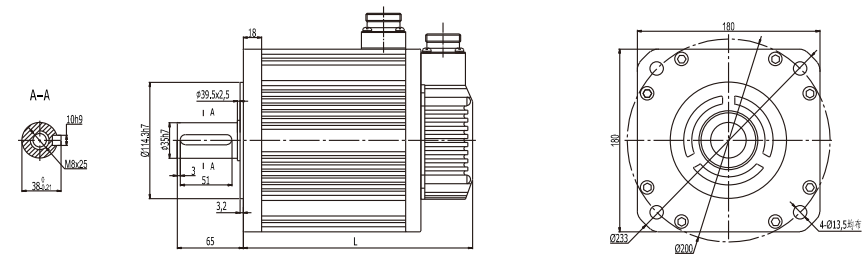
SMG Series 130 Flange General Aviation Socket Motor



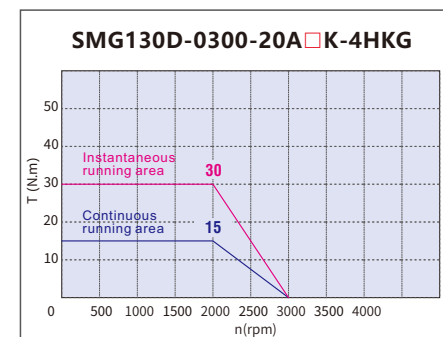
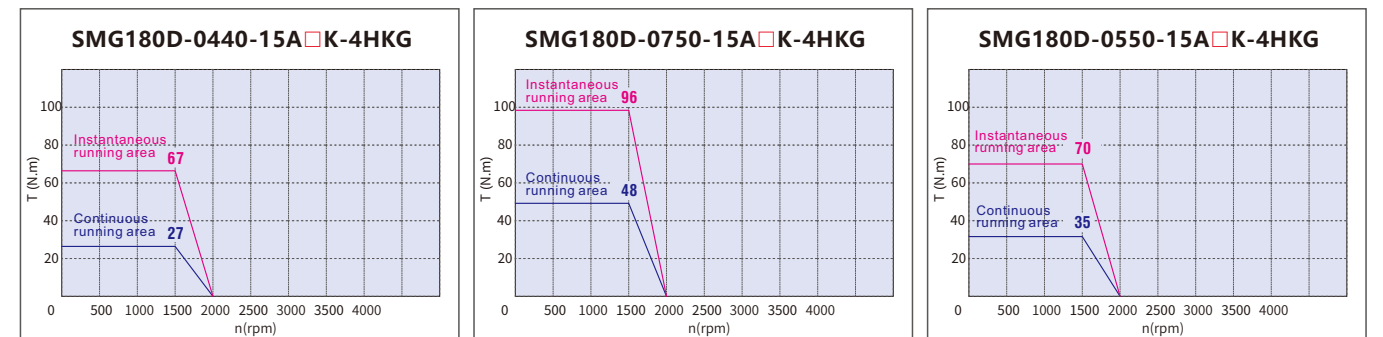
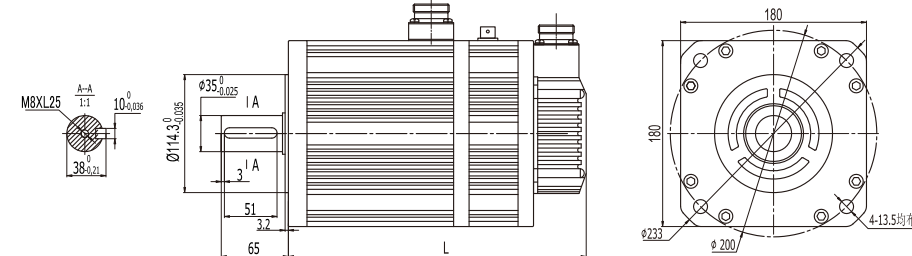
SMG Series 130 Flange General Aviation Socket Motor (with brake)

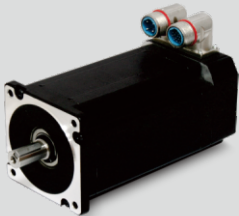


SMG Series 180 Flange General Aviation Socket Motor



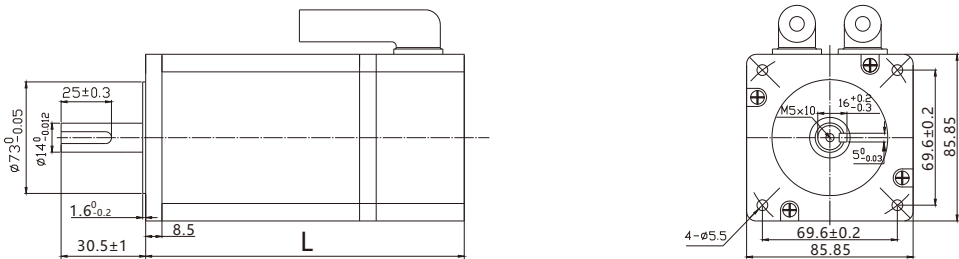
SMG Series 180 Flange General Aviation Socket Motor (with brake)



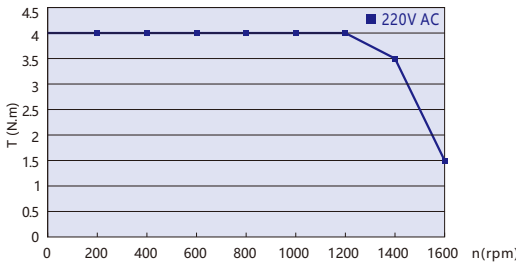


Multi-pole servo motor	Multipole servo motor		
	Small inertia flange size 85mm		
Model	85S-0025-05AAK-FLFN-02	85S-0035-05AAK-FLFN-02	85S-0045-05AAK-FLFN-02
Driver matching	FD422S-CA-000 FD422S-LA-000 FD422S-EA-000 CD422S-AA-000		
Rated phase current (A)	4	4	4
Holding torque (Nm)	4.18	6	7.5
Damping torque (Nm)	0.3	0.4	0.45
Resistance line-line (Ω)	1.13	2.3	1.78
Inductance line-line (mH)	5.75	12.4	17.1
Rotor moment of inertia J _m (Kg·cm2)	0.232	0.33	0.44
Length L (mm)	142±1	172±1	202±1
Maximum radial force F _r (N)	60	60	60
Maximum axial force F _a (N)	220	220	220
weight (Kg)	2.7	3.8	5.3
Dielectric strength	1500V AC 1S 5mA		
Insulation class	B		
operation teperature	- 20 ~ 50℃		
Surface temperature rising	Max,80℃		
Insulation impedance	Min.100MΩ, 500V DC		

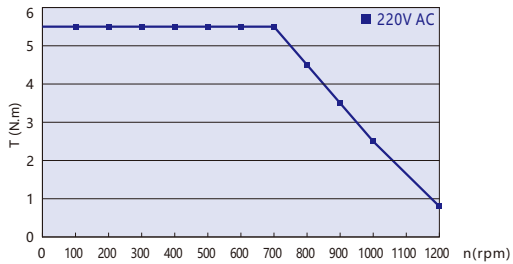
Multipole 85S Aviation Socket Motor



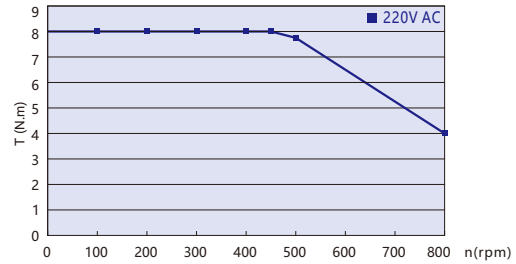
85S-0025-05AAK-FLFN-02 4.18NM



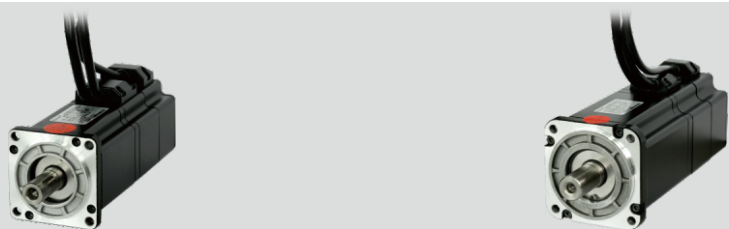
85S-0035-05AAK-FLFN-02 6NM



85S-0045-05AAK-FLFN-02 8NM



Technical Specifications of SMC Magnetolectric Encoder Motor (1)



Model		SMC Series Motor		
		Small inertia flange size 60mm		Small inertia flange size 80mm
Driver matching		SMC60S-0020-30A□K-3LK□	SMC60S-0040-30A□K-3LK□	SMC80S-0075-30A□K-3LK□
DC link voltage UDC		FD422S-CA-000 FD422S-LA-000 FD422S-EA-000 CD422S-AA-000		
DC link voltage UDC		300	300	300
Maintain torque	Rated power P_N (W)	200	400	750
	Rated torque T_N (Nm)	0.64	1.27	2.39
	Rated speed n_N (rpm)	3000	3000	3000
	Rated current I_N (A)	1.4	2.4	3.8
	maximum torque T_m (Nm)	1.92	3.81	7.17
maximum current I_m (A)		4.2	7.2	11.4
Standstill torque T_s (Nm)		0.7	1.4	2.63
Standstill current I_s (A)		1.5	2.6	4.2
Resistance Line - Line R_L (Ω)		11.2	5.8	2.1
Inductance Line - Line L_L (mH)		20.9	11.5	10.5
Electrical time constant τ_e (ms)		1.87	1.98	5
Mechanical time constant τ_m (ms)		1.8	1.29	0.9
Reverse voltage constant K_e (V/krpm)		29	34	40
Torque constant K_t (Nm/A)		0.48	0.562	0.662
Rotor moment of inertia J_m (Kg·cm ²)		0.214	0.405	1.087
		0.218(with brake)	0.409(with brake)	1.099(with brake)
Maintain torque T (Nm)		1.3	1.3	3.2
pole pair number		3	3	3
Maximum voltage rising du/dt (KV/ μ s)		8	8	8
Insulation class		F	F	F
Maximum radial force F_r (N)		180	180	335
Maximum axial force F_a (N)		90	90	167.5
Weight G (Kg)		1.1	1.6	2.8
		1.6(with brake)	2.1(with brake)	3.4(with brake)
Length of motor L (mm)		109±1.5	135±1.5	139±1.5
		150±1.5(with brake)	176±1.5(with brake)	182±1.5(with brake)
Position feedback device		2500 P/R Incremental encoder		
Cooling method		Totally enclosed, non - ventilated		
Protection level		IP65, shaft sealing IP54		
Environment conditions for operation	Temperature	- 20 ~ 40°C (non-freezing)		
	Humidity	Below 90 % RH (no condensation)		
	Ambient environment	Away from active gas,combustible gas,oil drops and dust		
	Altitude	Maximum altitude 4000 m, rated power at 1000 m or below. Above 1000m, decreasing 1.5 % per every 100m rise		

Note: □=A — without brake □=H — 3 rows of 15-pin Connector
□=B — with brake □=N — HFO18 series aviation standard connector(towards the shaft)
□=P — HFO21+HFO18 series aviation standard connector(HFO21 power connector,HFO18 encoder connector)

Technical Specifications of SMC Magnetolectric Encoder Motor (2)



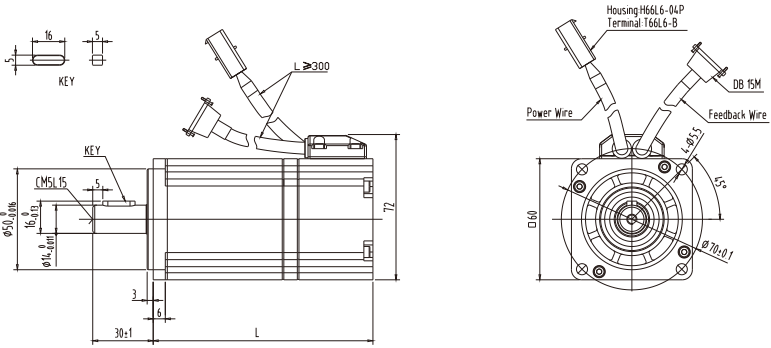
Model		SMC Series Motor		
		Medium inertia flange size 130mm		
Driver matching		SMC130D-0100-20A□K-4LKP	SMC130D-0150-20A□K-4LKP	SMC130D-0200-20A□K-4LKP
DC link voltage UDC		FD422S-CF-000 FD422S-LF-000 FD422S-EF-000 CD422S-AF-000	FD432S-CA-000 FD432S-LA-000 FD432S-EA-000 CD432S-AA-000	
DC link voltage UDC		300	300	300
Maintain torque	Rated power P_N (W)	1000	1500	2000
	Rated torque T_N (Nm)	4.8	7.2	9.6
	Rated speed n_N (rpm)	2000	2000	2000
	Rated current I_N (A)	4.4	6.8	8.8
	maximum torque T_m (Nm)	12	18	24
maximum current I_m (A)		13.2	20.4	26.4
Standstill torque T_s (Nm)		5.28	7.92	10.56
Standstill current I_s (A)		4.84	7.48	9.68
Resistance Line - Line R_L (Ω)		3.1	1.51	0.93
Inductance Line - Line L_L (mH)		24.07	13.8	8.8
Electrical time constant τ_e (ms)		7.76	9.14	9.46
Mechanical time constant τ_m (ms)		2.72	2.28	1.97
		2.76 (with brake)	2.3 (with brake)	1.98 (with brake)
Reverse voltage constant K_e (V/krpm)		73	71	72.8
Torque constant K_t (Nm/A)		1.21	1.17	1.2
Rotor moment of inertia J_m (Kg·cm ²)		7.4	12	17.7
		7.5 (with brake)	12.1 (with brake)	17.8 (with brake)
Maintain torque T (Nm)		10	10	10
pole pair number		4	4	4
Maximum voltage rising du/dt (KV/ μ s)		8	8	8
Insulation class		F	F	F
Maximum radial force F_r (N)		900	900	900
Maximum axial force F_a (N)		450	450	450
Weight G (Kg)		6.2	7.5	9.1
		8.5 (with brake)	9.8 (with brake)	11.4 (with brake)
Length of motor L (mm)		143±1.5	159±1.5	179±1.5
		204±1.5 (with brake)	220±1.5 (with brake)	240±1.5 (with brake)
Position feedback device		2500 P/R Incremental encoder		
Cooling method		Totally enclosed, non - ventilated		
Protection level		IP65, shaft sealing IP54		
Environment conditions for operation	Temperature	- 20 ~ 40°C (non-freezing)		
	Humidity	Below 90 % RH (no condensation)		
	Ambient environment	Away from active gas,combustible gas,oil drops and dust		
	Altitude	Maximum altitude 4000 m, rated power at 1000 m or below. Above 1000m, decreasing 1.5 % per every 100m rise		

Note: □=A — without brake
□=B — with brake

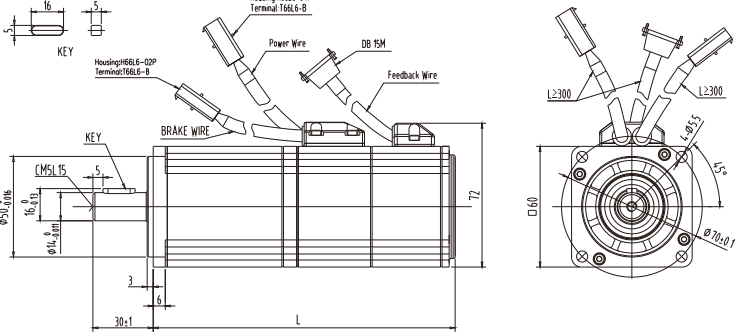
			
SMC Series Motor			
Medium inertia flange size 130mm			
Model			
Driver matching	SMC130D-0150-20A□K-4HKP	SMC130D-0200-20A□K-4HKP	SMC130D-0300-20A□K-4HKP
DC link voltage UDC	FD612S-CA-000 FD612S-LA-000 FD612S-EA-000 CD612S-AA-000		FD622S-CA-000 FD622S-LA-000 FD622S-EA-000 CD622S-AA-000
DC link voltage UDC	560	560	560
Maintain torque	Rated power P _N (W)	1500	2000
	Rated torque T _N (Nm)	7.2	9.6
	Rated speed n _N (rpm)	2000	2000
	Rated current I _N (A)	4.5	6.2
	maximum torque T _m (Nm)	18	24
	maximum current I _m (A)	13.5	18.6
	Standstill torque T _s (Nm)	7.92	10.56
	Standstill current I _s (A)	4.95	6.82
	Resistance Line - Line R _L (Ω)	3.44	1.72
	Inductance Line - Line L _L (mH)	31.26	17.1
	Electrical time constant τ _e (ms)	9.09	9.9
	Mechanical time constant τ _m (ms)	2.33	1.85
		2.35 (with brake)	1.86 (with brake)
	Reverse voltage constant K _e (V/krpm)	106	102
	Torque constant K _t (Nm/A)	1.75	1.69
	Rotor moment of inertia J _m (Kg·cm ²)	12	12
		12.1 (with brake)	12.1 (with brake)
	Maintain torque T(Nm)	10	10
	pole pair number	4	4
	Maximum voltage rising du/dt (KV/μs)	8	8
	Insulation class	F	F
	Maximum radial force F _r (N)	900	900
	Maximum axial force F _a (N)	450	450
	Weight G(Kg)	7.5	9.1
		9.8 (with brake)	11.4 (with brake)
	Length of motor L(mm)	159±1.5	179±1.5
		220±1.5 (with brake)	240±1.5 (with brake)
	Position feedback device	2500 P/R Incremental encoder	
	Cooling method	Totally enclosed, non - ventilated	
	Protection level	IP65, shaft sealing IP54	
Environment conditions for operation	Temperature	- 20 ~ 40°C (non-freezing)	
	Humidity	Below 90 % RH (no condensation)	
	Ambient environment	Away from active gas,combustible gas,oil drops and dust	
	Altitude	Maximum altitude 4000 m, rated power at 1000 m or below. Above 1000m, decreasing 1.5 % per every 100m rise.	

Note: □=A — without brake
□=B — with brake

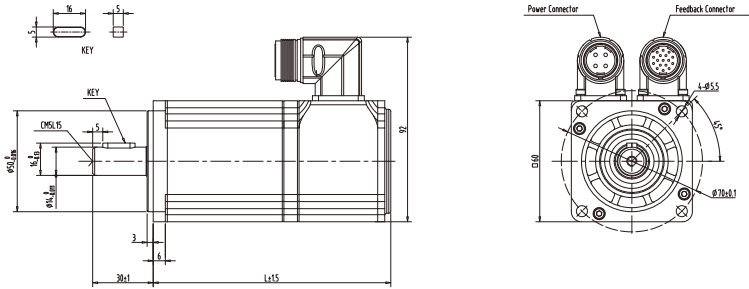
SMC Series 60 Flange Lead - Out Motor



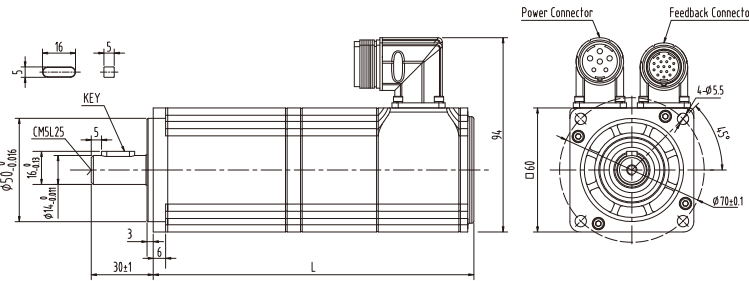
SMC Series 60 Flange Lead - Out Motor(with brake)



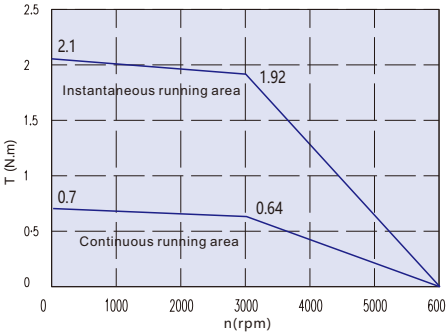
SMC Series 60 Flange HFO Aviation Socket Motor



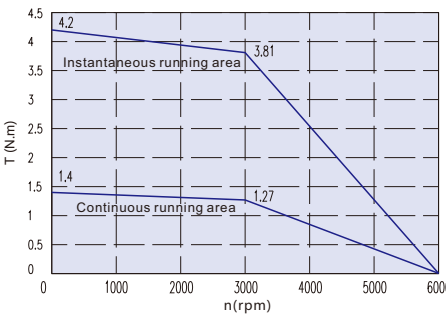
SMC Series 60 Flange HFO Aviation Socket Motor(with brake)



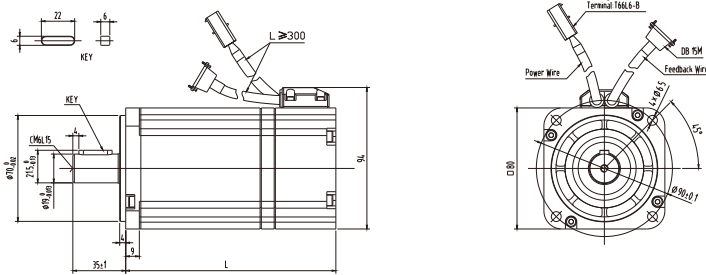
SMC60S-0020-30A□K-3LK□ 200W



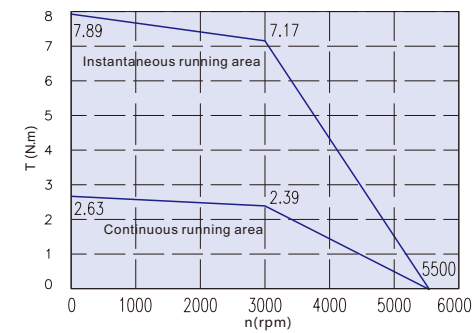
SMC60S-0040-30A□K-3LK□ 400W



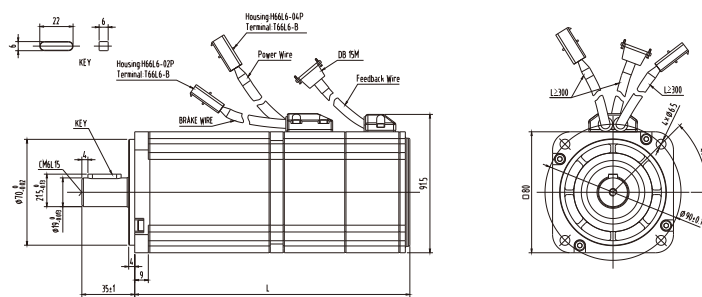
SMC Series 80 Lange Lead - Out Motor



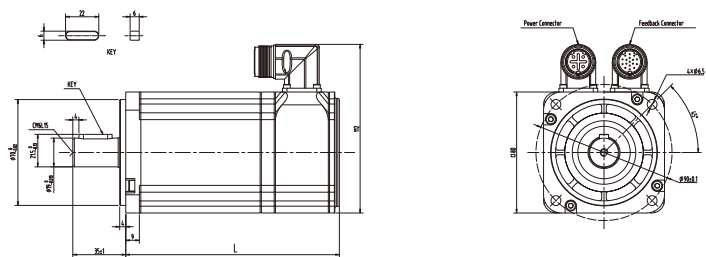
SMC80S-0075-30A ☐ K-3LK ☐ **750W**



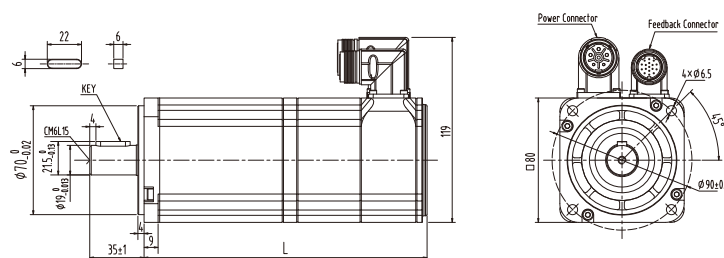
SMC Series 80 Flange Lead - Out Motor^(with brake)



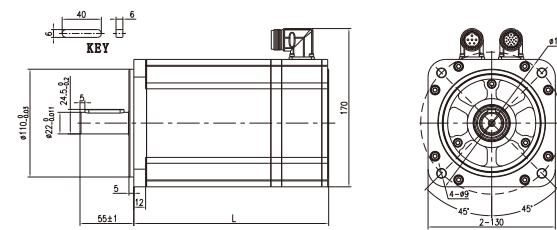
SMC Series 80 Flange HFO Aviation Socket Motor



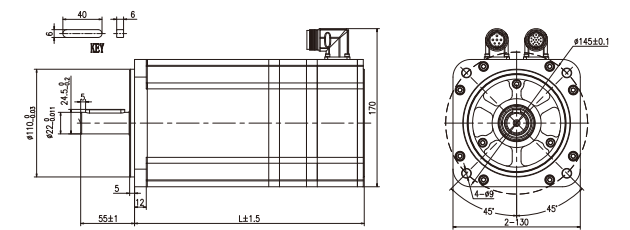
SMC Series 80 Flange HFO Aviation Socket Motor (with brake)



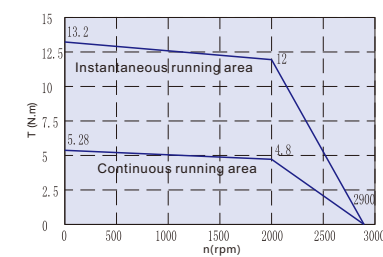
SMC Series 130 Flange General Aviation Socket Motor



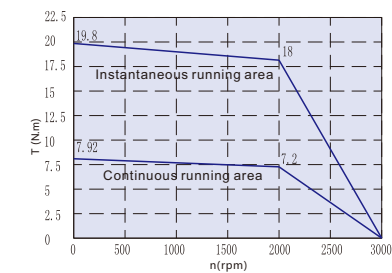
SMC Series 130 Flange General Aviation Socket Motor (with brake)



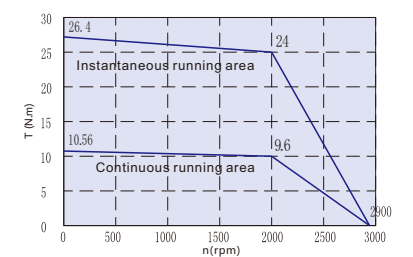
SMC130D-0100-20A ☐ K-4LKP



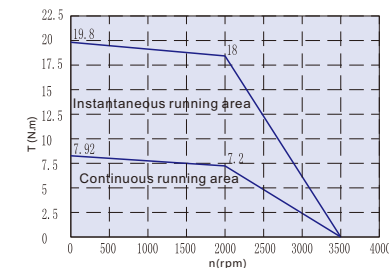
SMC130D-0150-20A□K-4LKP



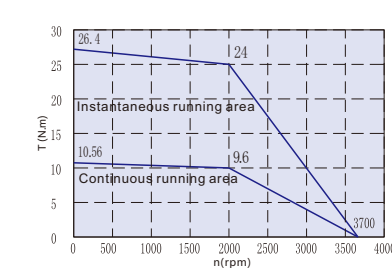
SMC130D-0200-20A□K-4LKP



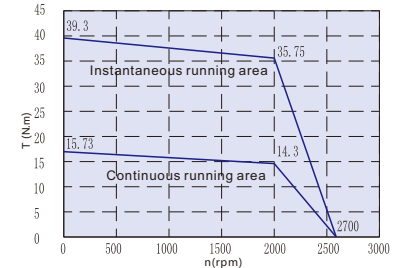
SMC130D-0150-20A□K-4HKP



SMC130D-0200-20A□K-4HKP



SMC130D-0300-20A□K-4HKP

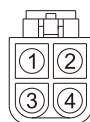


Power Cable Wiring List

Power Cable Wiring List

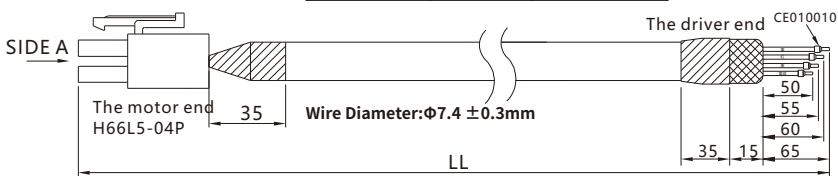
MOT-005-LL-KL

Wire Spec: UL2586 4C*18AWG(41/0.16T)
18AWG cross sectional area=0.8107mm²



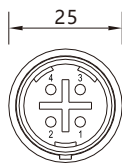
Side A
4 pin connector

MOT-005-LL-KL		
Wire color	Signal	4PIN Terminal
White	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow green	PE	PIN4



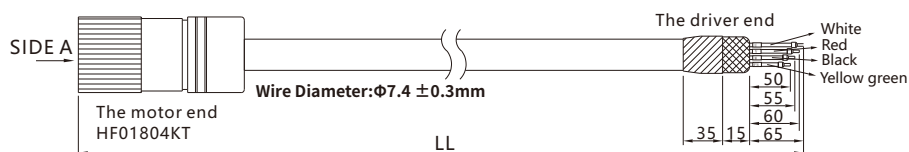
MOT-005-LL-KC0

Wire Spec: UL2586 4C*18AWG(41/0.16T)
18AWG cross sectional area=0.8107mm²



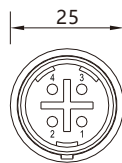
SIDE A
4 PIN

MOT-005-LL-KC0		
Wire color	Signal	4PIN Terminal
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN1
Metal ring	Shield	Shielded



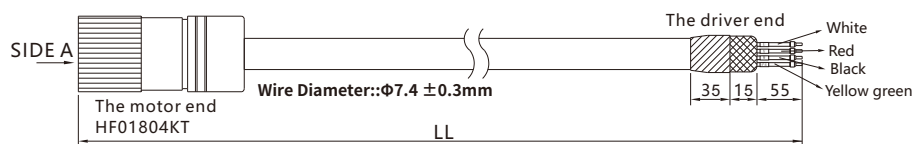
MOTE-005-LL-KC0

Wire Spec: UL2586 4C*18AWG(41/0.16T)
18AWG cross sectional area=0.8107mm²



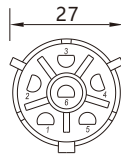
SIDE A
4 PIN

MOTE-005-LL-KC0		
Wire color	Signal	4PIN Terminal
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN1
Metal ring	Shield	Shielded



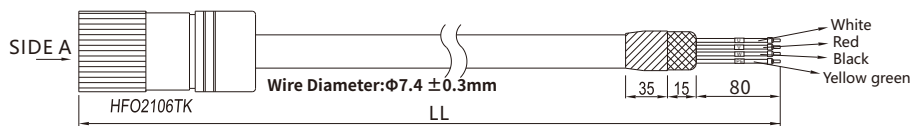
MOT-005-LL-KC4

Wire Spec: UL2586 4C*18AWG(41/0.16T)
18AWG cross sectional area=0.8107mm²



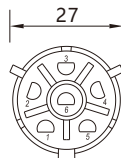
SIDE A
6PIN

MOT-005-LL-KC4		
Wire color	Signal	HFO2106TK
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN6



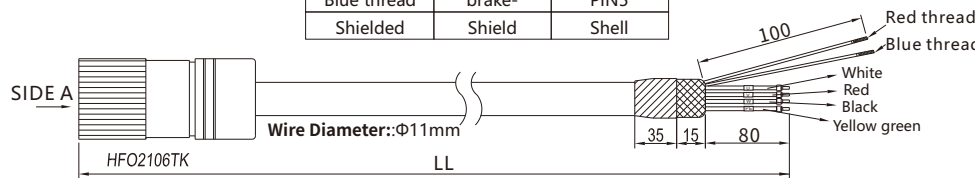
MOT-005-LL-KC4-B

Wire Spec: RVVYP 4*18AWG+2*20AWG BLACK
18AWG cross sectional area=0.8107mm²
20AWG cross sectional area=0.5189mm²



SIDE A
6PIN

MOT-005-LL-KC4-B		
Wire color	Signal	HFO2106TK
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN6
Red thread	brake+	PIN1
Blue thread	brake-	PIN5
Shielded	Shield	Shell

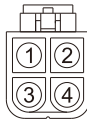


Power Cable Wiring List

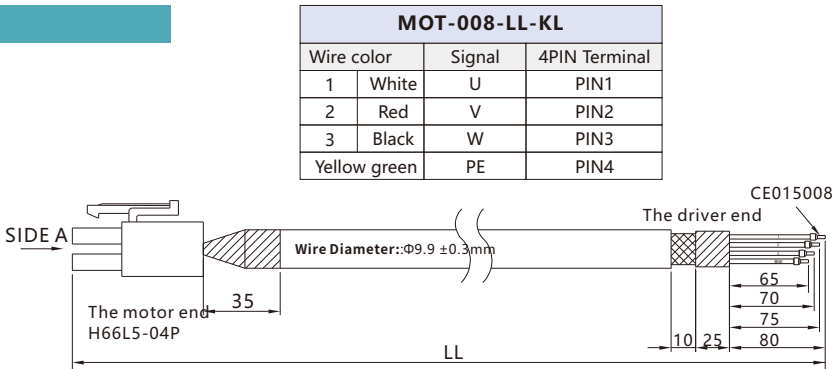
Power Cable Wiring List

MOT-008-LL-KL

Wire Spec: UL2586 4*16AWG
16AWG cross sectional area=1.318mm²



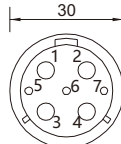
SIDE A
4PIN



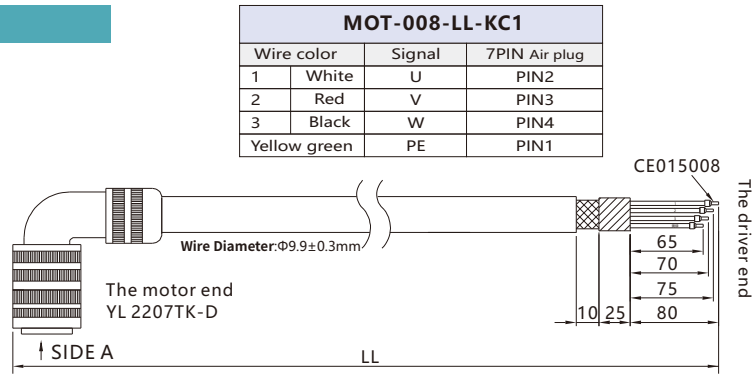
MOT-008-LL-KL			
Wire color	Signal	4PIN Terminal	
1 White	U	PIN1	
2 Red	V	PIN2	
3 Black	W	PIN3	
Yellow green	PE	PIN4	

MOT-008-LL-KC1

Wire Spec: UL2586 4*16AWG
16AWG cross sectional area=1.318mm²



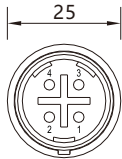
SIDE A
The driver end



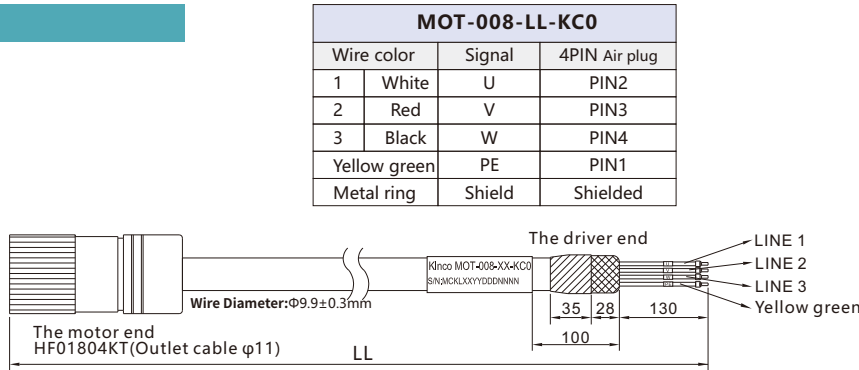
MOT-008-LL-KC1			
Wire color	Signal	7PIN Air plug	
1 White	U	PIN2	
2 Red	V	PIN3	
3 Black	W	PIN4	
Yellow green	PE	PIN1	

MOT-008-LL-KC0

Wire Spec: UL2586 4*16AWG
16AWG cross sectional area=1.318mm²



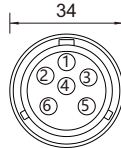
SIDE A
4 PIN



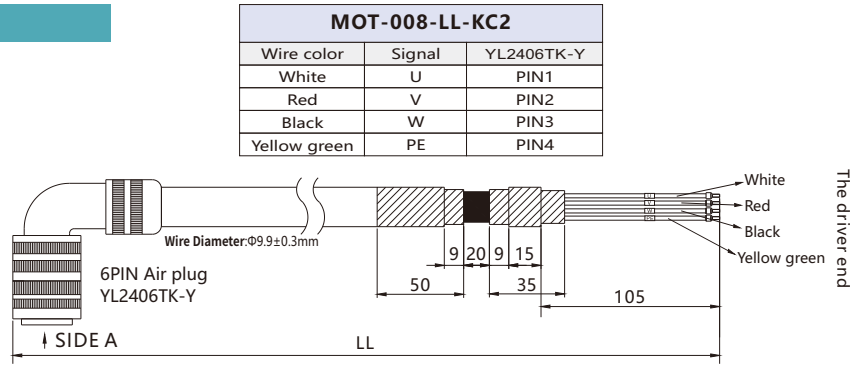
MOT-008-LL-KC0			
Wire color	Signal	4PIN Air plug	
1 White	U	PIN2	
2 Red	V	PIN3	
3 Black	W	PIN4	
Yellow green	PE	PIN1	
Metal ring	Shield	Shielded	

MOT-008-LL-KC2

Wire Spec: UL2586 4*16AWG
16AWG cross sectional area=1.318mm²



SIDE A
The driver end



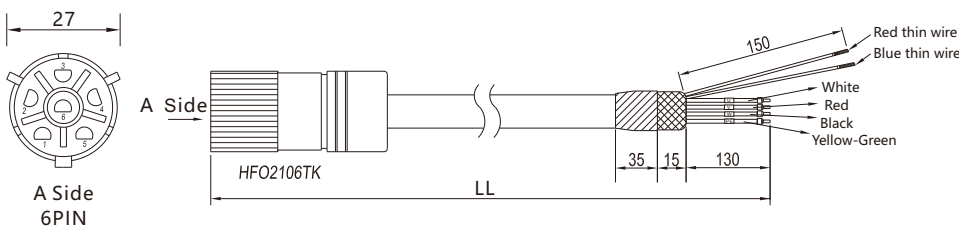
MOT-008-LL-KC2			
Wire color	Signal	YL2406TK-Y	
White	U	PIN1	
Red	V	PIN2	
Black	W	PIN3	
Yellow green	PE	PIN4	

Power Cable Wiring List

Power Cable Wiring List

MOT-008-LL-KC4-B

Wire Spec. 4×1.5mm²+2×0.5mm²

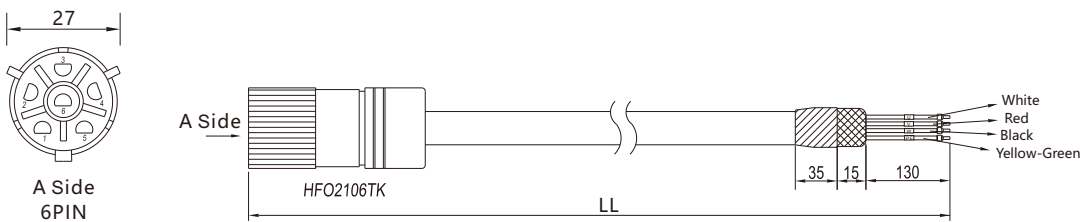


MOT-008-LL-KC4-B		
Cable color	Signal	HFO2106TK
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow-Green	PE	PIN6
Red thin wire	brake+	PIN1
Blue thin wire	brake-	PIN5

MOT-008-LL-KC4

Wire Spec. UL2586 4×16AWG

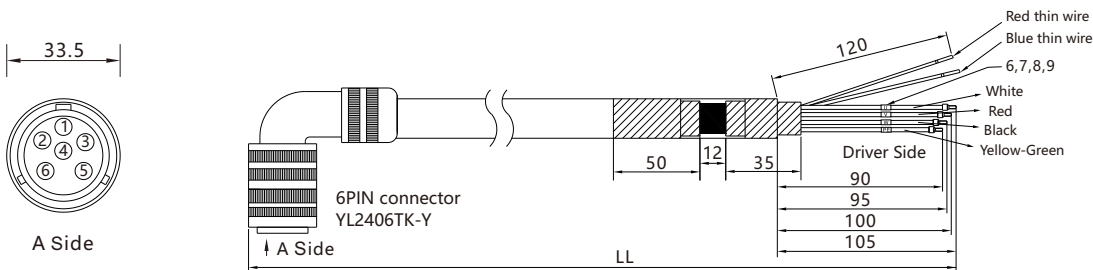
The sectional area of 16AWG is 1.318mm²



MOT-008-LL-KC4		
Cable color	Signal	HFO2106TK
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow-Green	PE	PIN6

MOT-008-LL-KC2-B

Wire Spec. ECHU RVVYP 4×1.5mm²+2×0.5mm²

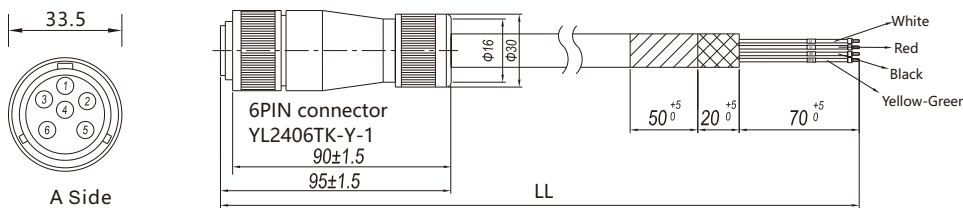


MOT-008-LL-KC2-B		
Cable color	Signal	YL2406TK-Y
White	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-Green	PE	PIN4
Red thin wire	brake+	PIN5
Blue thin wire	brake-	PIN6
Shield terminal	Shield	Metal ring

MOT-015-LL-KC2

Power Cable Cableplus UL2856 4×14AWG(50/0.25T)

The sectional area of 14AWG is 2.075mm²

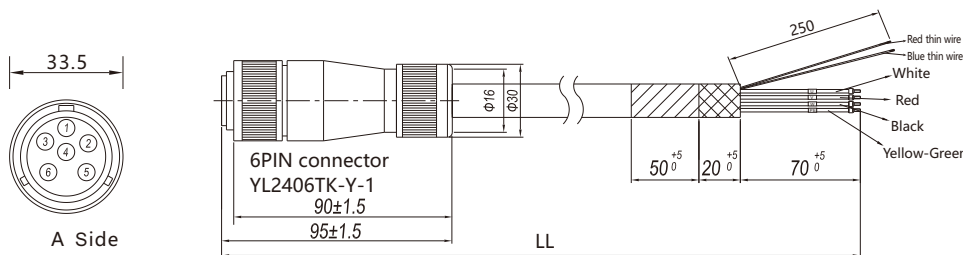


MOT-015-LL-KC2		
Cable color	Signal	YL2406TK-Y-1
White	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-Green	PE	PIN4
Shield terminal	Shield	Metal ring

MOT-015-LL-KC2-B

Power Cable Cableplus

EKM715734x2.5mm²+2x0.5mm²



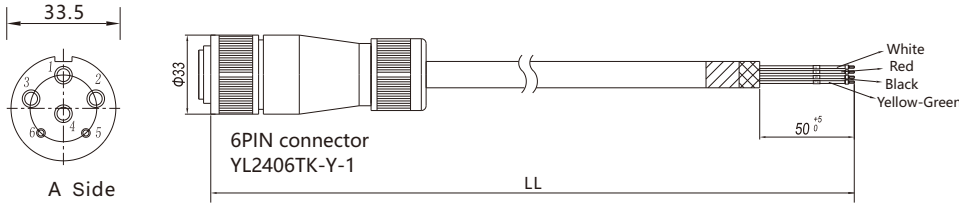
MOT-015-LL-KC2-B		
Cable color	Signal	YL2406TK-Y-1
White	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-Green	PE	PIN4
Red thin wire	brake+	PIN5
Blue thin wire	brake-	PIN6
Shield terminal	Shield	Metal ring

Power Cable Wiring List

MOT-030-LL-KC3

Wire Spec. ECHU RVVYP 4×4mm²

MOT-030-LL-KC3		
Cable color	Signal	YL2406TK-Y-1
White	U	PIN1
Red	V	PIN2
Green	W	PIN3
Yellow-Green	PE	PIN4
Shield terminal	Shield	Metal ring

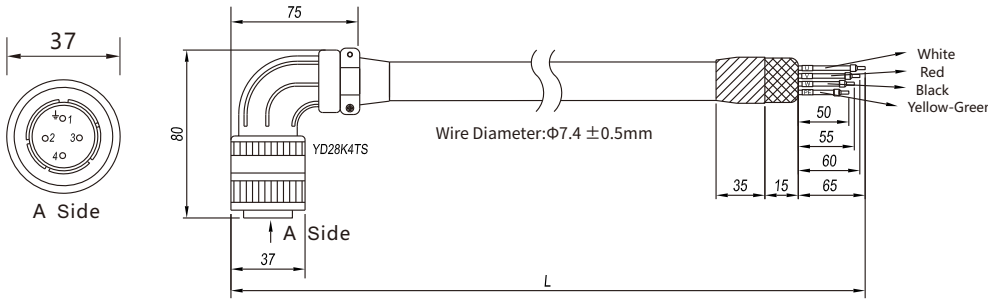


MOT-005-LL-KG1

Wire specifications: 4C*18AWG(41/0.16T)

18AWGCorresponding sectional area 0.8107mm²

MOT-005-LL-KG1		
Color	Signal	YD32K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellowgreen	PE	PIN1
shield	shielding	PIN1



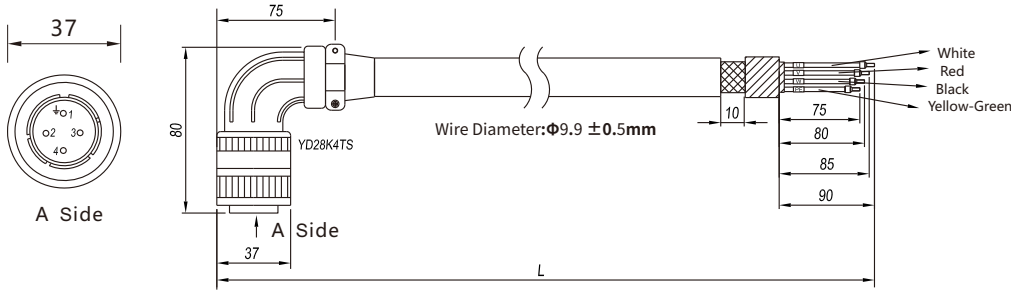
Power Cable Wiring List

MOT-008-LL-KG1

Wire specifications: 4C*16AWG

16AWG Corresponding sectional area 1.318mm²

MOT-008-LL-KG1		
Color	Signal	YD28K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellowgreen	PE	PIN1
shield	shielding	PIN1

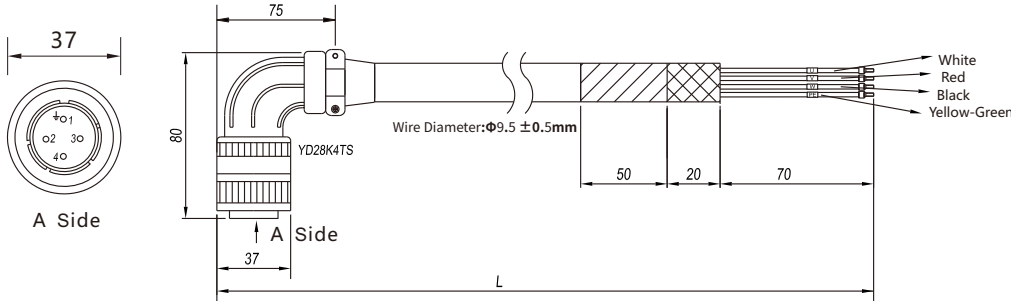


MOT-015-LL-KG1

Wire specifications: 4*14AWG(50/0.25T)

14AWG Corresponding sectional area 2.075mm²

MOT-015-LL-KG1		
Color	Signal	YD28K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellowgreen	PE	PIN1
shield	shielding	PIN1



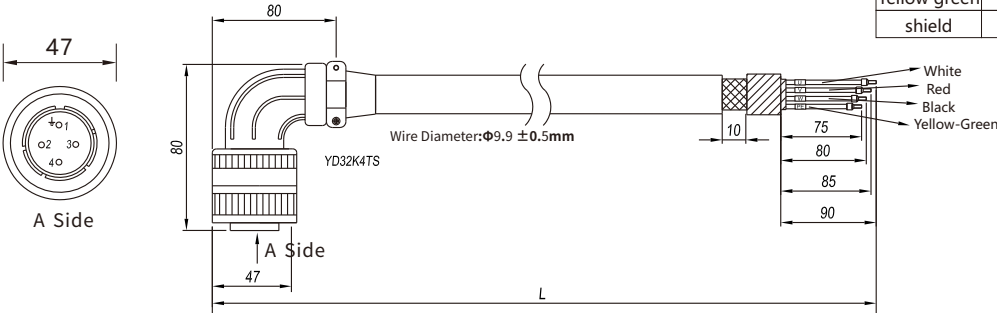
Power Cable Wiring List

Brake Cable Wiring Diagram

MOT-008-LL-KG2

Wire specifications: 4*16AWG
16AWG Corresponding sectional area 1.318mm²

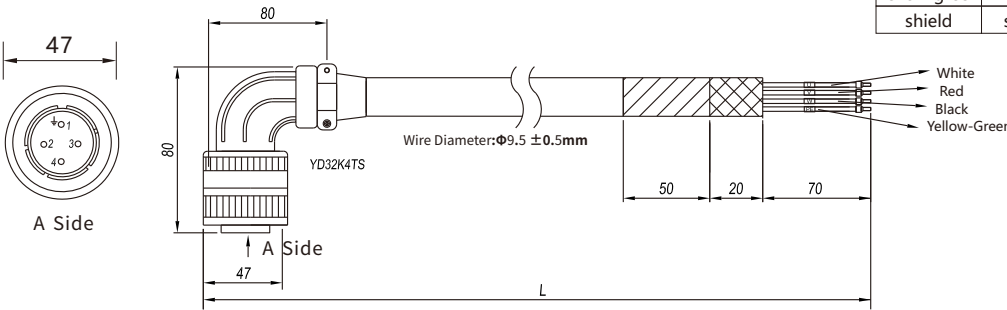
MOT-008-LL-KG2		
Color	Signal	YD32K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN1
shield	shielding	PIN1



MOT-015-LL-KG2

Wire specifications: 4*14AWG(50/0.25T)
14AWG Corresponding sectional area 2.075mm²

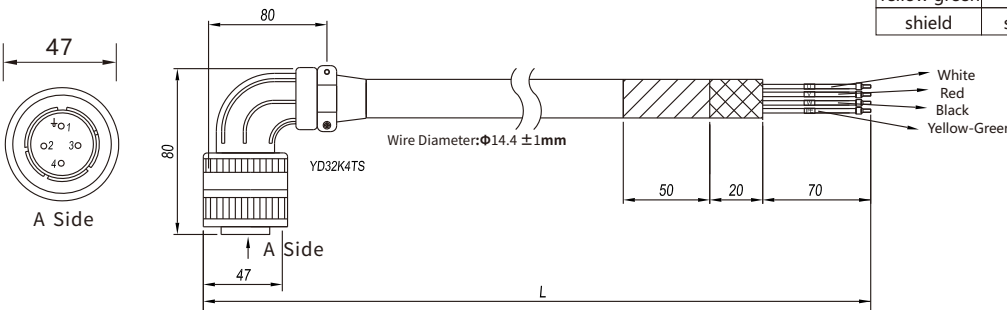
MOT-015-LL-KG2		
Color	Signal	YD32K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN1
shield	shielding	PIN1



MOT-030-LL-KG2

Wire specifications: 4*4mm²

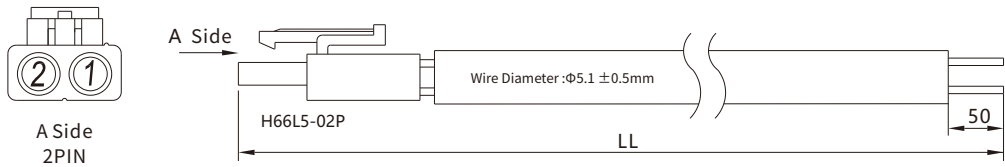
MOT-030-LL-KG2		
Color	Signal	YD32K4TS aviation plug
White	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow green	PE	PIN1
shield	shielding	PIN1



BRA-LL-KL

Wire specifications: 2C*20AWG
20AWG Corresponding sectional area 0.5189mm²

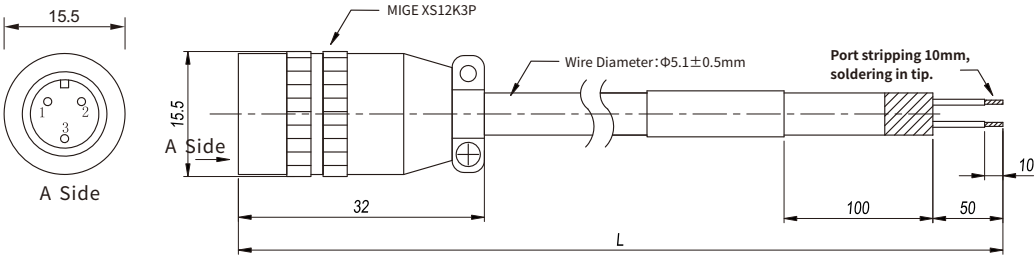
BRA-LL-KL		
Color	Signal	2PIN plug
Red	brake+	PIN1
Blue	brake-	PIN2



BRA-LL-MG

Wire specifications: 2*20AWG
20AWG Corresponding sectional area 0.5189mm²

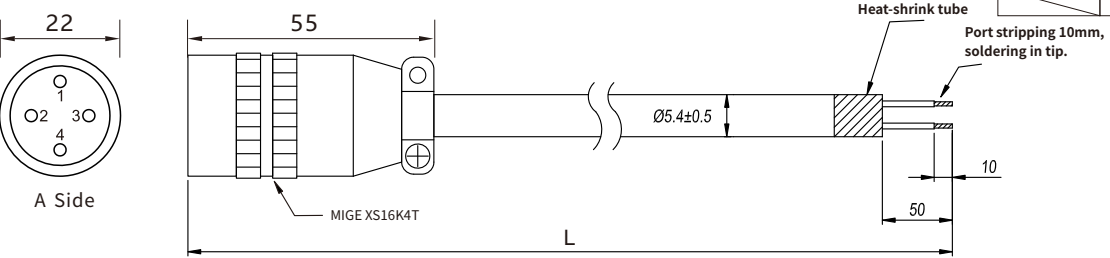
BRA-LL-MG		
Color	Signal	PIN
Red	brake+	PIN1
Blue	brake-	PIN2



BRA-LL-MG1

Wire specifications: 2*20AWG
20AWG Corresponding sectional area 0.5189mm²

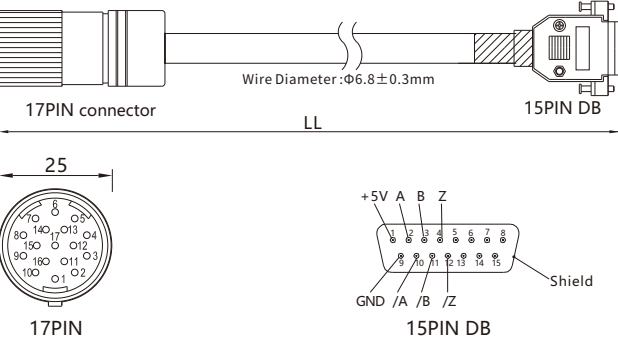
BRA-LL-MG1		
Color	Signal	PIN
Red	brake+	PIN1
Blue	brake-	PIN2
		PIN3
		PIN4



Wiring Diagram for The Encoder Cable

ENCCE-LL-FC0

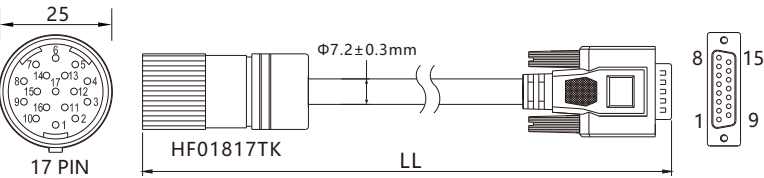
Wire specifications: 24AWG/1P+28AWG/4P+AB(85%) 1061
The sectional area of 24AWG is 0.2047mm²
The sectional area of 28AWG is 0.0804mm²



ENCCE-LL-FC0				
17PIN connector	15PIN DB	Signal	External wire colour	Motor wire colour
PIN1	PIN1	+5V	Red(thick)	Red
PIN3	PIN2	A	Brown	Blue-black
PIN5	PIN3	B	Yellow	Green
PIN14	PIN4	Z	Green	Yellow
PIN2	PIN9	GND	Black(thick)	Black
PIN4	PIN10	/A	Brown-white	Blue
PIN6	PIN11	/B	Yellow-white	Green-black
PIN15	PIN12	/Z	Green-white	Yellow-black
Other pins empty	Other pins empty			
Metal coil	Shell	Shield	Shield	Shield

ENCCA-LL-KC0

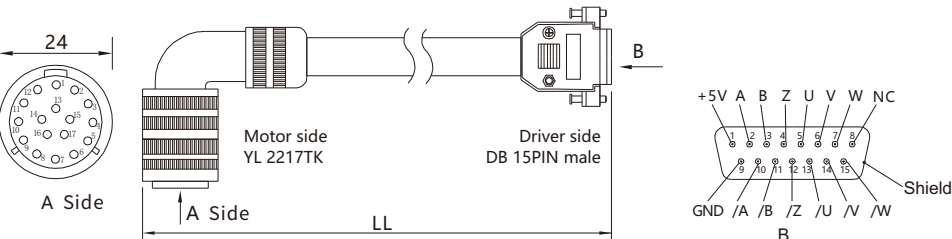
Wire specifications: 24AWG/1P+28AWG/7P+AB 1061
The sectional area of 24AWG is 0.2047mm²
The sectional area of 28AWG is 0.0804mm²



ENCCA-LL-KC0/ENCCA-LL-KC1				
17PIN	15PIN DB	Signal	External wire colour	Motor wire colour
PIN1	PIN1	+5V	Red(thick)	Red
PIN3	PIN2	A	Orange	Blue
PIN5	PIN3	B	Yellow	Green
PIN14	PIN4	Z	Green	Yellow
PIN9	PIN5	U	Brown	Brown
PIN11	PIN6	V	Purple	Gray
PIN16	PIN7	W	Blue	White
PIN2	PIN9	GND	Black(thick)	Black
PIN4	PIN10	/A	Orange-white	Blue-black
PIN6	PIN11	/B	Yellow-white	Green-black
PIN15	PIN12	/Z	Green-white	Yellow-black
PIN10	PIN13	/U	Brown-white	Brown-black
PIN12	PIN14	/V	Purple-white	Gray-black
PIN17	PIN15	/W	Blue-white	White-black
Internal metal ring	DB metal shell	Shield	Shield	Shield

ENCCA-LL-KC1

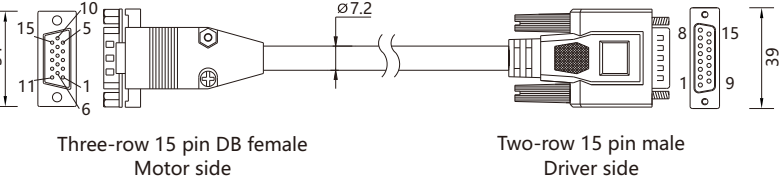
Wire specifications: 24AWG/1P+28AWG/7P+AB 1061
The sectional area of 24AWG is 0.2047mm²
The sectional area of 28AWG is 0.0804mm²



Wiring Diagram for The Encoder Cable

ENCCA-LL-KH

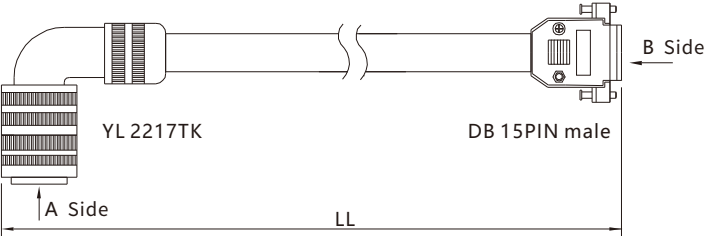
Wire Spec. 1P×24AWG(7/0.20T)+7P×28AWG(7/0.127T)
The sectional area of 24AWG is 0.2047mm²
The sectional area of 28AWG is 0.0804mm²



ENCCA-LL-KH				
Three-row 15 pin DB	Two-row 15 pin DB	Signal	External wire color	Motor wire color
PIN1	PIN1	+5V	Red(thick)	Red
PIN8	PIN2	A	Orange	Blue-black
PIN7	PIN3	B	Yellow	Green
PIN6	PIN4	Z	Green	Yellow
PIN4	PIN5	U	Brown	Brown-black
PIN10	PIN6	V	Purple	White-black
PIN9	PIN7	W	Blue	Gray-black
PIN2	PIN9	GND	Black(thick)	Black
PIN13	PIN10	/A	Orange-white	Blue
PIN12	PIN11	/B	Yellow-white	Green-black
PIN11	PIN12	/Z	Green-white	Yellow-black
PIN5	PIN13	/U	Brown-white	Brown
PIN15	PIN14	/V	Purple-white	White
PIN14	PIN15	/W	Blue-white	Gray
PIN3 empty	PIN8 empty			
Metal shell	DB metal shell	Shield	Shield	Metal shell

ENCCR-LL-FC1

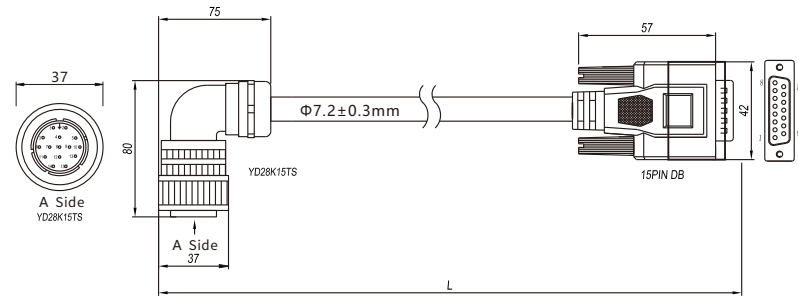
Wire Spec. UL2464 24AWG/1P+28AWG/4P
The sectional area of 24AWG is 0.2047mm²
The sectional area of 28AWG is 0.0804mm²



ENCCR-LL-FC1			
YL2217TK	15PIN DB	Signal	Wire color
PIN1	PIN6	ref+	Brown
PIN2	PIN14	ref-	Brown-white
PIN3	PIN2	cos+	Green
PIN4	PIN10	cos-	Green-white
PIN5	PIN3	sin+	Yellow
PIN6	PIN11	sin-	Yellow-white
PIN7	PIN8	KTY+	Blue
PIN8	PIN9	KTY-	Blue-white
Metal ring	Metal shell	Shield	Shield

ENCCA-LL-KG1

Wire specifications: 24AWG/1P+28AWG/7P+AB 1061
24AWG Corresponding sectional area 0.2047mm²
28AWG Corresponding sectional area 0.0804mm²



ENCCA-LL-KG1			
YD28K15TS	15PIN DB	Signal	Color
PIN2	PIN1	+5V	Red (thick)
PIN4	PIN2	A	Orange
PIN5	PIN3	B	Yellow
PIN6	PIN4	Z	Green
PIN10	PIN5	U	Brown
PIN11	PIN6	V	Purple
PIN12	PIN7	W	Blue
PIN3	PIN9	GND	Black(thick)
PIN7	PIN10	/A	Orange-white
PIN8	PIN11	/B	Yellow-white
PIN9	PIN12	/Z	Green-white
PIN13	PIN13	/U	Brown-white
PIN14	PIN14	/V	Purple-white
PIN15	PIN15	/W	Blue-white
PIN1	DB metal part	PE	Shield