Kinco

Kinco Servo System
CD/FD/JD/FD122 Series

Kinco®Automation

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Kinco Servo System

CD/FD/JD Series

FD122 Series

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Model Description of Servo Drivers and Motors

Kinco CD Series Servo Drivers

CD422-AA-000

Note: Users select the motor themselves

CD	CD series
4	Input voltage 220V
6	Input voltage 380V
2	Driver size
000	Software version
AA	Standard version
2	CD Generation 2

Kinco FD Series Servo Driver

FD422-AA-000

Note: Users configure motor for this driver themselves

FD	FD series
1	Input voltage DC24V~70V
4	Input voltage AC220V
6	Input voltage AC380V
2	Driver size
000	Software version
LA	RS232, RS485
AA/CA	RS232, CAN
2	FD generation 2

Kinco JD Series Servo Driver

JD430-AA-000

Note: Users configure motor for this driver themselves

JD	JD series
4	Input voltage 220V
6	Input voltage 380V
3	Driver size
000	Software version
LA	RS232, RS485
AA	RS232, RS485, CAN
0	Reserved

Kinco Servo Motors

SMH 60S-0040-30AAK-3LKH

SMH	SMH series
SME	SME series
60	Flange size 60*60mm
S	Small inertia
D	Medium inertia
H	High inertia
0040	Rated power 40*10(W)
30	Rated speed 30*100(RPM)
A	2500PPR incremental encoder
A	Without brake
B	With brake
K	With Keyway
A	Without keyway
H	Direct cable connector
N	HFO series standard connector
C	YL series standard connector
M	2xM17 series Intercontec connector
E	2xM23 series Intercontec connector
D	M17+M23 (Power M23 Intercontec connector, Encoder M17 Intercontec connector)
K	History code
D	DC70V
L	AC220V
H	AC380V
F	50 Pole pairs
3	3 Pole pairs
4	4 Pole pairs

Model Description of Servo Drivers and Motors

Kinco Multi-pole Servo Motor

57S-0010-10AAK-FDFH

57	Flange size 57×57mm
85	Flange size 85×85mm
S	Small inertia
0010	Rated power 100W
10	Rated speed 1000(rpm)
A	2500PPR incremental encoder

H	Direct cable connector
N	HFO series standard connector
F	History code
D	DC60V
F	50 Pole pairs
K	With Keyway
A	Without brake

Model Description of Cable

Power, Brake and Encoder Cable of Motors

MOT - 005 - LL - KL - B

MOT	Power cable
005	Rated current 5A
008	Rated current 8A
03、05 10、15	Length of cable: 3m,5m,10m,15m

No suffix	No brake lead contained in the power cable
B	Brake lead contained in the power cable (For KC/KM/KD motor with brake)

KL	4 pins power connector
KC0	HF0 series standard connector
KC1	YL22 series standard connector
KC2	YL24 series standard connector
KM1	M17 series Intercontec connector
KM2	M23 series Intercontec connector

ENCCA - LL - KH

ENCCA	SMH series motor encoder cable
03、05 10、15	Length of cable: 3m,5m,10m,15m

KH	Cable connector
KC0	HF0 series standard connector
KC1	YL22 series standard connector
KM1	M17 series Intercontec connector
KM2	M23 series Intercontec connector

ENCCF - 03 - FH (SME series motor encoder cable)

ENCCF	SME series motor encoder cable
03、05 10、15	Length of cable: 3m,5m,10m,15m

FH	Cable connector
FC0	HFO series standard connector

BRA-LL-KL

BRA	Brake cable
03、05 10、15	Length of cable: 3m,5m,10m,15m

KL	Cable Connector

For KH suffix motors with brake, please order power cable and brake cable separately

CD & CDII Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torgue/ Rated Current
Small Inertia 220V	CD412–AA–000	SMH40S–0005–30AAK–4LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 0.16Nm/ 0.7A
		SMH40S–0005–30ABK–4LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH40S–0010–30AAK–4LKH	Cable connector	MOT–005–LL–KL		3000rpm/ 0.32Nm/ 1.4A
		SMH40S–0010–30ABK–4LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
	CD420–AA–000 CD422–AA–000	SMH60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL		3000rpm/ 0.64Nm/ 1.6A
		SMH60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0020–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0020–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 1.27Nm/ 3.1A
		SMH60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0040–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0040–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 2.39Nm/ 3.9A
		SMH80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH80S–0075–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH80S–0075–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SME60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 0.64Nm/ 1.6A
		SME60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 1.27Nm/ 3.1A
		SME60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 2.39Nm/ 3.9A
		SME80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	

Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

CD & **CD**II Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torgue/ Rated Current
Small Inertia 220V	CD430–AA–000 CD432–AA–000	SMH110D–0105–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	2000rpm/ 5Nm/ 5.9A
		SMH110D–0105–20ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0105–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0105–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0126–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	2000rpm/ 6Nm/ 6.2A
		SMH110D–0126–20ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
Medium Inertia 220V		SMH110D–0126–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0126–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0125–30AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	3000rpm/ 4Nm/ 6.5A
		SMH110D–0125–30ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0125–30AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0125–30ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 380V	CD620–AA–000 CD622–AA–000	SMH110D–0126–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	3000rpm/ 4Nm/ 4.3A
		SMH110D–0126–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0126–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0126–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0157–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	3000rpm/ 5Nm/ 5.9A
		SMH110D–0157–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0157–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0157–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0188–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA-LL-KC1	3000rpm/ 6Nm/ 6.2A
		SMH110D–0188–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0188–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA-LL-KM1	
		SMH110D–0188–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 220V	CD430–AA–000 CD432–AA–000 CD620–AA–000 CD622–AA–000	SMH130D–0105–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2	ENCCA-LL-KC1	2000rpm/ 5Nm/ 4.3A
		SMH130D–0105–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH130D–0157–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 7.5Nm/ 6.3A
		SMH130D–0157–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
Medium Inertia 380V	CD620–AA–000 CD622–AA–000	SMH130D–0210–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 10Nm/ 7.6A
		SMH130D–0210–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH150D–0230–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 11.1Nm/ 7.1A
		SMH150D–0230–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		

Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

FD Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torgue/ Rated Current
Small Inertia 220V	FD412–LA–000 FD412–CA–000 FD412–AA–000	SMH40S–0005–30AAK–4LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 0.16Nm/ 0.7A
		SMH40S–0005–30ABK–4LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH40S–0010–30AAK–4LKH	Cable connector	MOT–005–LL–KL		3000rpm/ 0.32Nm/ 1.4A
		SMH40S–0010–30ABK–4LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
	FD422–LA–000 FD422–CA–000 FD422–AA–000	SMH60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL		3000rpm/ 0.64Nm/ 1.6A
		SMH60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0020–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0020–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 1.27Nm/ 3.1A
		SMH60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0040–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0040–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 2.39Nm/ 3.9A
		SMH80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH80S–0075–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH80S–0075–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SME60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 0.64Nm/ 1.6A
		SME60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 1.27Nm/ 3.1A
		SME60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 2.39Nm/ 3.9A
		SME80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	

Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

FD Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torque/ Rated Current
Medium Inertia 220V	FD432–LA–000 FD432–CA–000 FD432–AA–000	SMH110D–0105–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	2000rpm/ 5Nm/ 5.9A
		SMH110D–0105–20ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0105–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0105–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0126–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	2000rpm/ 6Nm/ 6.2A
		SMH110D–0126–20ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0126–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0126–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0125–30AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 4Nm/ 6.5A
		SMH110D–0125–30ABK–4LKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0125–30AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0125–30ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 380V	FD622–LA–000 FD622–CA–000 FD622–AA–000	SMH110D–0126–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 4Nm/ 4.3A
		SMH110D–0126–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0126–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0126–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0157–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 5Nm/ 5.9A
		SMH110D–0157–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0157–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0157–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0188–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 6Nm/ 6.2A
		SMH110D–0188–30ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH110D–0188–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0188–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 220V/380V	FD432–LA–000 FD432–CA–000 FD432–AA–000 FD622–LA–000 FD622–CA–000 FD622–AA–000	SMH130D–0105–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2	ENCCA–LL–KC1	2000rpm/ 5Nm/ 4.3A
		SMH130D–0105–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH130D–0157–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 7.5Nm/ 6.3A
		SMH130D–0157–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
Medium Inertia 380V	FD622–LA–000 FD622–CA–000 FD622–AA–000	SMH130D–0210–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 10Nm/ 7.6A
		SMH130D–0210–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		
		SMH150D–0230–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 11.1Nm/ 7.1A
		SMH150D–0230–20ABK–4HKC	YL24 standard connector and brake	MOT–008–LL–KC2–B		

Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

JD Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torque/ Rated Current
Small Inertia 220V	JD430–AA–000	SMH60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 0.64Nm/ 1.6A
		SMH60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0020–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0020–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 1.27Nm/ 3.1A
		SMH60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH60S–0040–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH60S–0040–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SMH80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCA–LL–KH	3000rpm/ 2.39Nm/ 3.9A
		SMH80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SMH80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCA–LL–KC0	
		SMH80S–0075–30AAK–3LKM	Intercontec connector	MOT–005–LL–KM1	ENCCA–LL–KM1	
		SMH80S–0075–30ABK–3LKM	Intercontec connector with brake	MOT–005–LL–KM1–B		
		SME60S–0020–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 0.64Nm/ 1.6A
		SME60S–0020–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0020–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME60S–0040–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 1.27Nm/ 3.1A
		SME60S–0040–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME60S–0040–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
		SME80S–0075–30AAK–3LKH	Cable connector	MOT–005–LL–KL	ENCCF–LL–FH	3000rpm/ 2.39Nm/ 3.9A
		SME80S–0075–30ABK–3LKH	Cable connector and brake	MOT–005–LL–KL/BRA–LL–KL		
		SME80S–0075–30AAK–3LKN	HFO standard connector	MOT–005–LL–KC0	ENCCF–LL–FC0	
Medium Inertia 220V		SMH110D–0105–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	2000rpm/ 5Nm/ 5.9A
		SMH110D–0105–20ABK–4LKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0105–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0105–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0126–20AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	2000rpm/ 6Nm/ 6.2A
		SMH110D–0126–20ABK–4LKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0126–20AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0126–20ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		

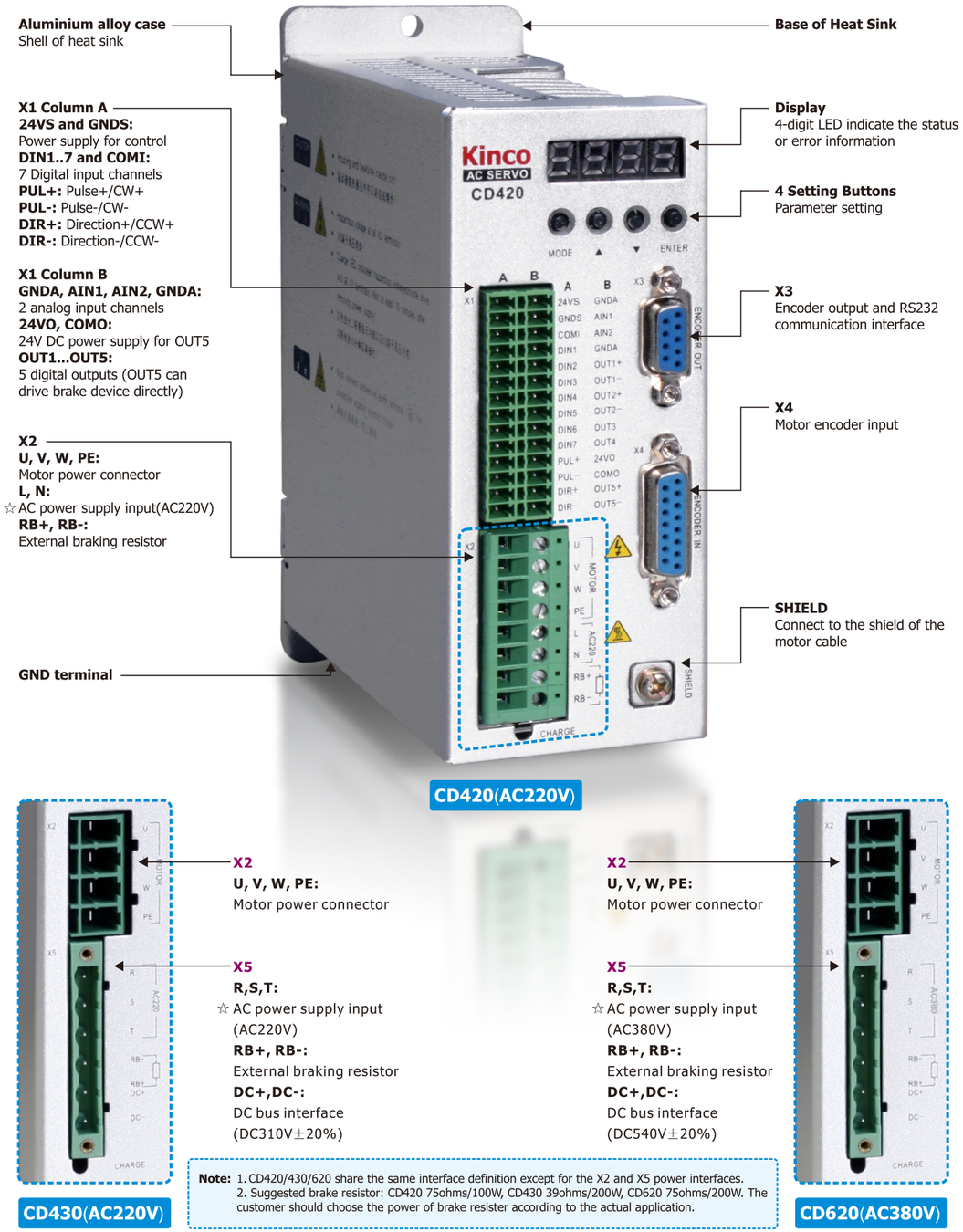
Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

JD Servo Driver and Motor Selection Table

Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torque/ Rated Current
Medium Inertia 220V	JD430–AA–000	SMH110D–0125–30AAK–4LKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 4Nm/ 6.5A
		SMH110D–0125–30ABK–4LKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0125–30AAK–4LKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0125–30ABK–4LKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 380V	JD620–AA–000	SMH110D–0126–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 4Nm/ 4.3A
		SMH110D–0126–30ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0126–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0126–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0157–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 5Nm/ 5.9A
		SMH110D–0157–30ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0157–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0157–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
		SMH110D–0188–30AAK–4HKC	YL22 standard connector	MOT–008–LL–KC1	ENCCA–LL–KC1	3000rpm/ 6Nm/ 6.2A
		SMH110D–0188–30ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH110D–0188–30AAK–4HKD	Intercontec connector	MOT–008–LL–KM2	ENCCA–LL–KM1	
		SMH110D–0188–30ABK–4HKD	Intercontec connector with brake	MOT–008–LL–KM2–B		
Medium Inertia 220V/380V	JD430–AA–000 JD620–AA–000	SMH130D–0105–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2	ENCCA–LL–KC1	2000rpm/ 5Nm/ 4.3A
		SMH130D–0105–20ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH130D–0157–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 7.5Nm/ 6.3A
		SMH130D–0157–20ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
Medium Inertia 380V	JD620–AA–000	SMH130D–0210–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 10Nm/ 7.6A
		SMH130D–0210–20ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH150D–0230–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 11.1Nm/ 7.1A
		SMH150D–0230–20ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
	JD630–LA–000 JD630–AA–000	SMH150D–0300–20AAK–4HKC	YL24 standard connector	MOT–008–LL–KC2		2000rpm/ 14.3Nm/ 8.5A
		SMH150D–0300–20ABK–4HKC	YL24 standard connector with brake	MOT–008–LL–KC2–B		
		SMH150D–0380–20AAK–4HKC	YL24 standard connector	MOT–015–LL–KC2		2000rpm/ 18Nm/ 9.3A
		SMH150D–0380–20ABK–4HKC	YL24 standard connector with brake	MOT–015–LL–KC2–B		
		SMH180D–0350–15AAK–4HKC	YL24 standard connector	MOT–015–LL–KC2		1500rpm/ 22Nm/ 10.3A
		SMH180D–0350–15ABK–4HKC	YL24 standard connector with brake	MOT–015–LL–KC2–B		
	JD640–LA–000 JD640–AA–000	SMH180D–0440–15AAK–4HKC	YL24 standard connector	MOT–015–LL–KC2		1500rpm/ 28Nm/ 13.3A
		SMH180D–0440–15ABK–4HKC	YL24 standard connector with brake	MOT–015–LL–KC2–B		

Note: 1. User select the compatible motors themselves.
2. SMH series motors can adapt to temperature sensors, when temperature exceeds a certain value, driver will cut off power supply automatically.

Panel and Interface Description of **CD** Servo Drivers



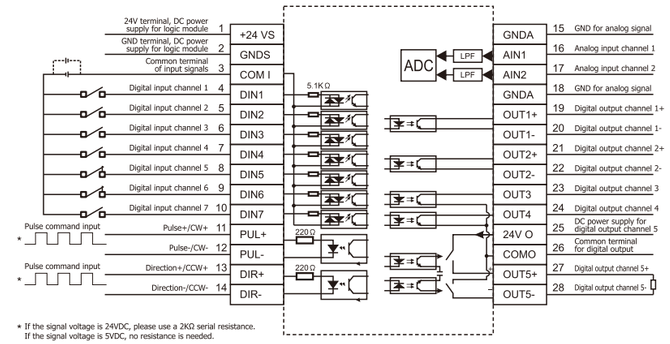
Note: 1. CD420/430/620 share the same interface definition except for the X2 and X5 power interfaces.
2. Suggested brake resistor: CD420 75ohms/100W, CD430 39ohms/200W, CD620 75ohms/200W. The customer should choose the power of brake resister according to the actual application.

Technical Specifications of **CD** Servo Drivers

Model parameter		CD420-AA-000	CD430-AA-000	CD620-AA-000
Power	Main supply voltage	Single-phase AC220V -20/+15% 47~63Hz	Single-phase or 3-phase AC220V -20/+15% 47~63Hz	3-phase AC380V -20/+15% 47~63Hz
	Control circuit voltage	18VDC~30VDC 1A		
Current	Max. continuous current	4A	10A	7A
	Peak current(PEAK)	15A	27. 5A	25A
Feedback signal		2500PPR (incremental encoder with 5V		
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	
Weight		1.2kg	2.4kg	
Position Mode	Max. frequency of input pulse	Differential signal: 500KPPS, Open-collector signal: 200KPPS		
	Pulse command mode	Pulse+direction, CCW+CW, (5V, if the input is 24V, the 2K resistor is needed) (do not support A+B phase)		
	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	-10V~+10V(Resolution 12bit)		
	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 settiong	Adjustable by internal parameter setting		
	Speed limit	Adjustable by internal parameter setting		
	Torque limit	Adjustable by internal parameter setting / External analog command control		
	Speed loop sampling frequency	4KHz		
Torque Mode	Analog voltage input range	-10V~+10V(Resolution 12bit)		
	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 control		
	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	Input specification	7 digital inputs, with COMI terminal for PNP (high level valid 12.5-30V) or NPN (low level valid) connection.		
	Input function	Define freely according to requirement, supporting following functions: Driver enable,driver fault reset,driver mode control, proportional control, positive limit, negetive limit, homing signal,reverse command, internal speed section control, internal positive section control, quick stop, start homing, active command, switch electronic gear ratio, switch gain		
Digital Output	Output specification	5 digital outputs,OUT1~OUT4 current is 100mA,OUT5 current is 800mA, can drive brake device directly		
	Output function	Define freely according to 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, multi–position reached		
Protection functions		Over–voltage protection,under–voltage protection,motor over–heat protection(I^2T),short–circuit protection,drive over–heat protection,etc.		
Communication interface		RS232 (Connections with PC: 2-5, 3-1, 5-6)		
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		
	Altitude	No power limitation below 1000m		
	Atmospheric pressure	86kpa~106kpa		

Wiring Diagram for **CD** Servo Drivers

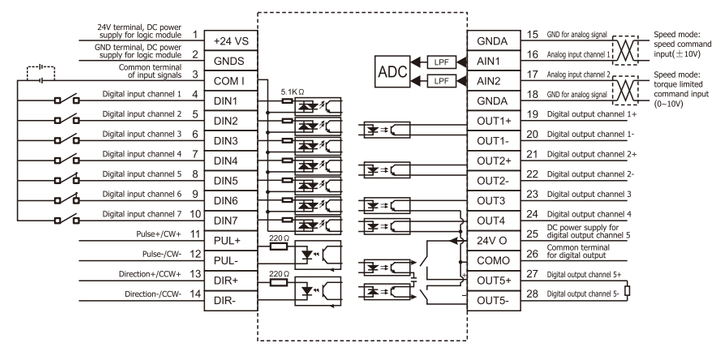
Wiring Diagram for Position Control Mode



* If the signal voltage is 24VDC, please use a 2KΩ serial resistance.
If the signal voltage is 5VDC, no resistance is needed.

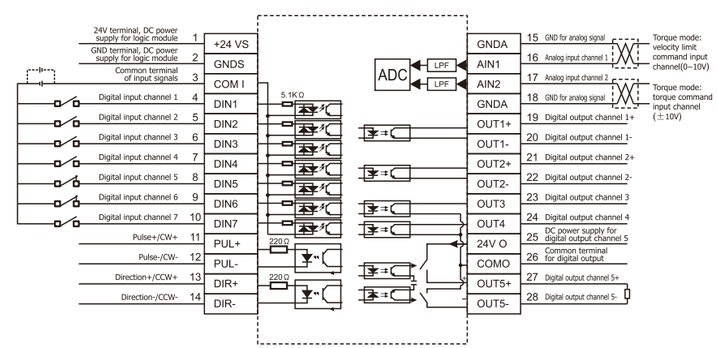
Default setting for digital inputs: Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Default setting for digital output: Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

Wiring Diagram for Speed Control Mode



Default setting for digital inputs: Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Default setting for digital output: Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

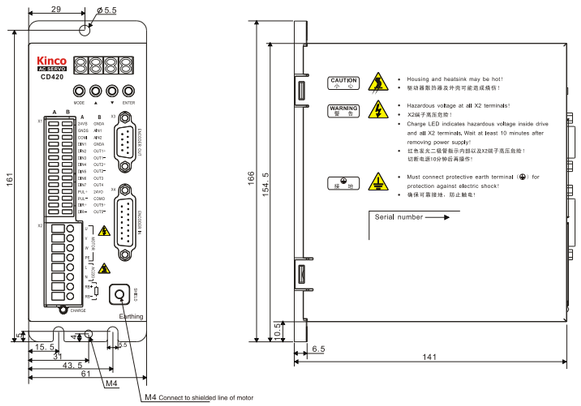
Wiring Diagram for Torque Control Mode

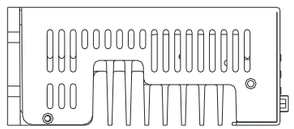


Default setting for digital inputs: Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Default setting for digital output: Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

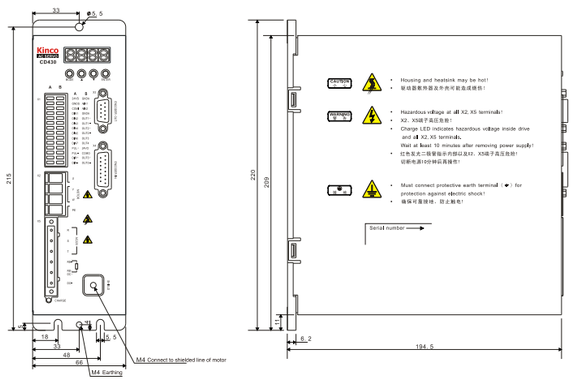
Mechanical Dimension Diagram for **CD** Servo Driver (Unit: mm)

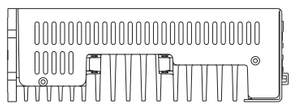
Mechanical Dimension Diagram for CD420



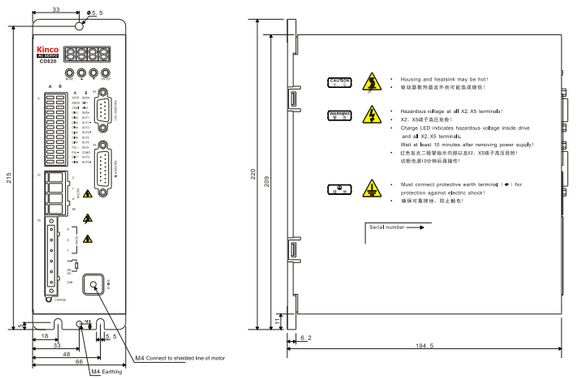


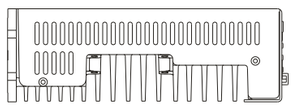
Mechanical Dimension Diagram for CD430



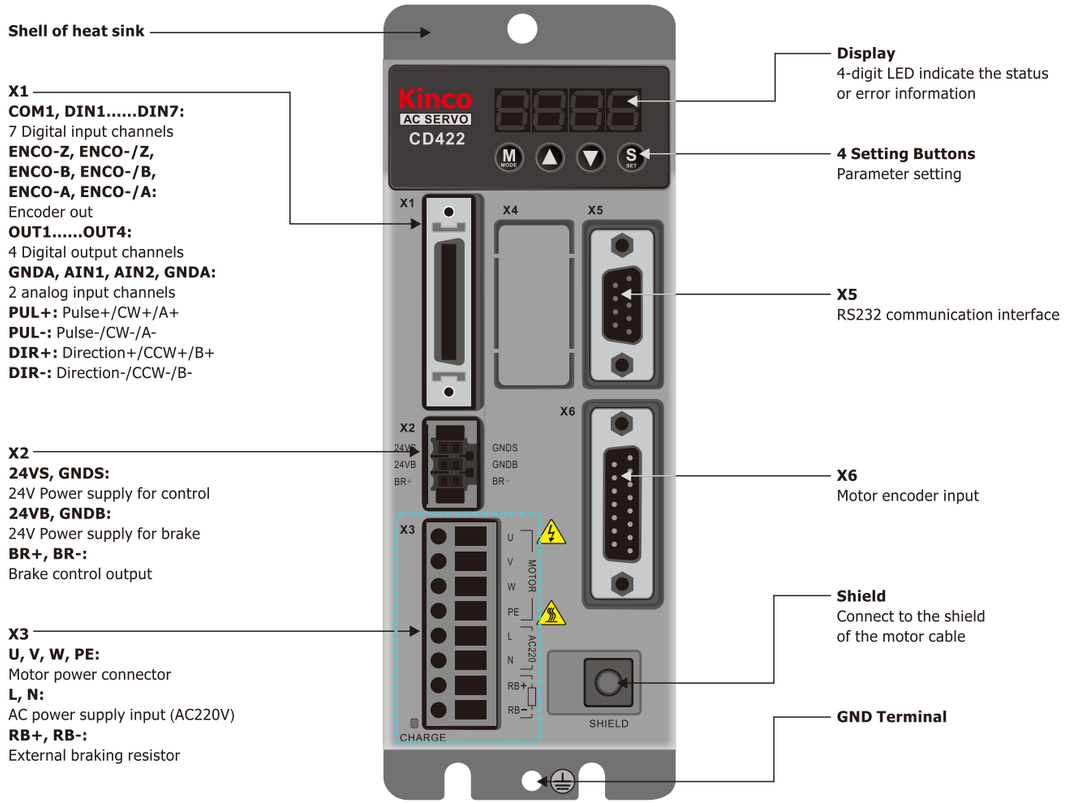


Mechanical Dimension Diagram for CD620

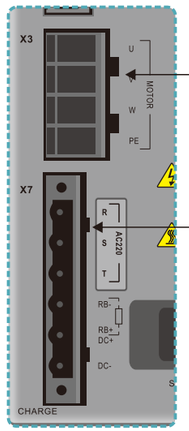




Panel and Interface Description of **CD**II Servo Drivers



CD422(AC220V)



CD432(AC220V)

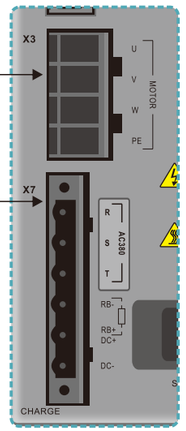
X3
U, V, W, PE:
Motor power connector

X7
R, S, T:
AC power supply input
(AC220V)
RB+, RB-:
External braking resistor
DC+, DC-:
DC bus interface
(DC310V ± 20%)

X3
U, V, W, PE:
Motor power connector

X7
R, S, T:
AC power supply input
(AC380V)
RB+, RB-:
External braking resistor
DC+, DC-:
DC bus interface
(DC540V ± 20%)

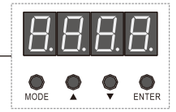
Note: 1. CD412/CD422/432/622 share the same interface definition except the X3 and X7 power interfaces;
2. Suggested brake resistor: CD412/CD422 75ohms/100W, CD432 39ohms/200W, CD622 75ohms/200W. The customer should choose the power of brake resistor according to the actual application.



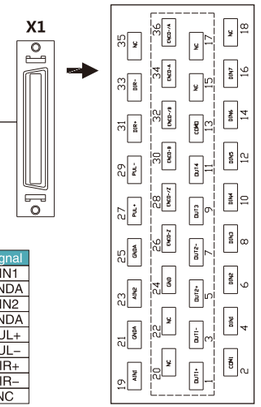
CD622(AC380V)

Port Description of **CD**II Servo Drivers

LED display and Setting Buttons



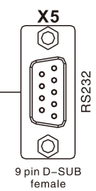
Signal input/output interface



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

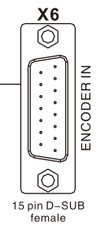
RS232 communication interface，can be used to debug and import/export project data via PC.



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

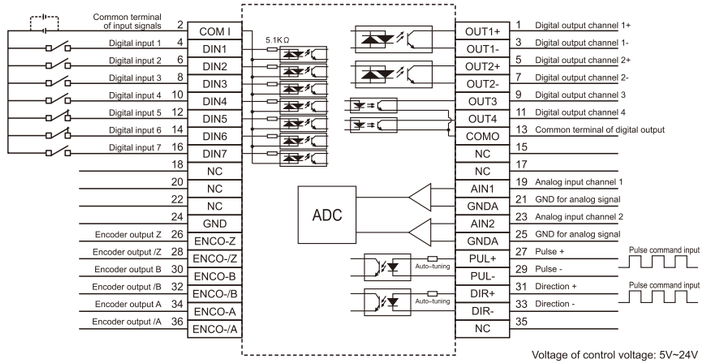
Pin No.	Signal
1	+5V
2	A
3	B
4	Z
5	U
6	V
7	W
8	PTC_IN
9	GND
10	/A
11	/B
12	/Z
13	/U
14	/V
15	/W

Technical Specifications of **CD**II Servo Drivers

Model parameter		CD412-AA-000	CD422-AA-000	CD432-AA-000	CD622-AA-000
Power	Main supply voltage	Single-phase AC220V -20/+15% 47~63Hz		Single-phase or 3-phase AC220V -20/+15% 47~63Hz	3-phase AC380V -20/+15% 47~63Hz
	Control circuit voltage	18VDC~30VDC 1A			
Current	Max. continuous current	2A	4A	10A	7A
	Peak current(PEAK)	12A	15A	27.5A	25A
	Feedback signal	2500PPR (incremental encoder with 5V			
	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	
	Weight	1.2kg		2.4kg	
Position Mode	Max. frequency of input pulse	Differential signal: 500KPPS, Open–collector signal: 200KPPS			
	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	–10V~+10V(Resolution 12bit)			
	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 settiong	Adjustable by internal parameter setting			
	Speed limit	Adjustable by internal parameter setting			
	Torque limit	Adjustable by internal parameter setting / External analog command control			
	Speed loop sampling frequency	4KHz			
Torque Mode	Analog voltage input range	–10V~+10V(Resolution 12bit)			
	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 control			
	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	Input specification	7 digital inputs, with COMI terminal for PNP (high level valid 12.5–30V) or NPN (low level valid) connection.			
	Input function	Define freely according to requirement, supporting following functions: Driver enable,driver fault reset,driver mode control, proportional control, positive limit, negetive limit, homing signal,reverse command, internal speed section control, internal positive section control, quick stop, start homing, active command, switch electronic gear ratio, switch gain			
Digital Output	Output specification	5 digital outputs,OUT1~OUT4 current is 100mA,OUT5 current is 800mA, can drive brake device directly			
	Output function	Define freely according to 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, multi–position reached			
	Protection functions	Over–voltage protection,under–voltage protection,motor over–heat protection(I^2T),short–circuit protection,drive over–heat protection,etc.			
	Communication interface	RS232 (Connections with PC: 2–2, 3–3, 5–5)			
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			
	Altitude	No power limitation below 1000m			
	Atmospheric pressure	86kpa~106kpa			

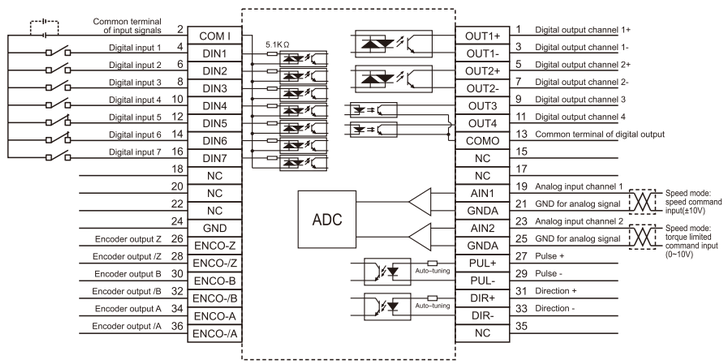
Wiring Diagram for **CD**II Servo Drivers

Wiring Diagram for Position Control Mode



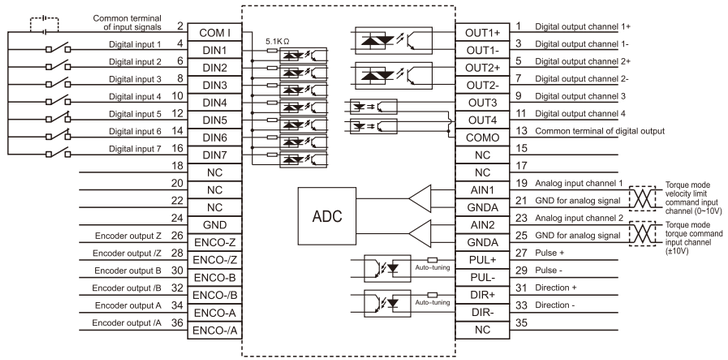
Default setting for digital inputs:	Default setting for digital output:
Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

Wiring Diagram for Speed Control Mode



Default setting for digital inputs:	Default setting for digital output:
Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

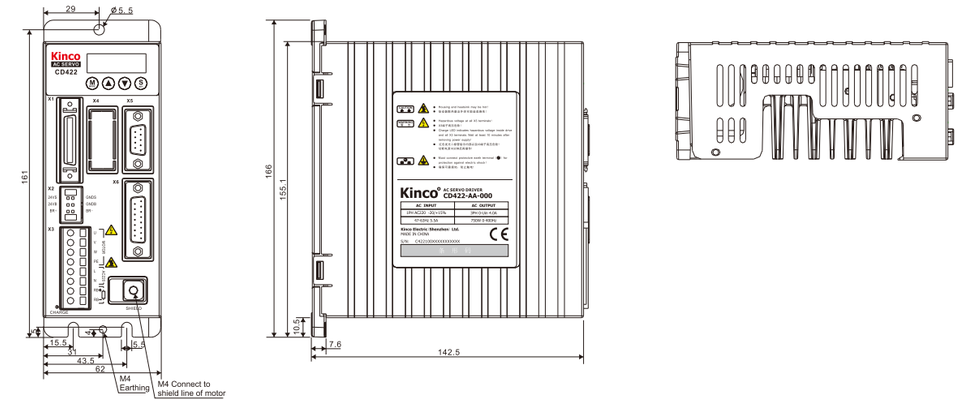
Wiring Diagram for Torque Control Mode



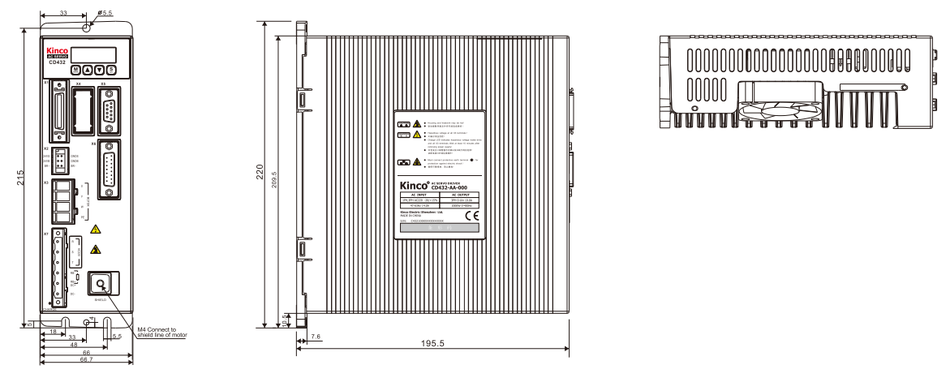
Default setting for digital inputs:	Default setting for digital output:
Din 1: Driver enable Din 2: Fault reset Din 3: Operation mode Din 4: P control Din 5: Positive limit Din 6: Negative limit Din 7: Home signal To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Reverse command – Internal speed section control – Internal position section control – Start homing – Active command – Quick stop – Switch electronic gear ratio – Switch gain	Out 1: Ready Out 2: Error Out 3: Position reached Out 4: Zero velocity Out 5: Motor brake To use other functions, please redefine the digital inputs, Other functions that can be defined are as followings: – Index – Motor brake – Position limiting – References found – Multi–function output signal (Multi–position reached)

Mechanical Dimension Diagram for **CD**II Servo Driver (Unit: mm)

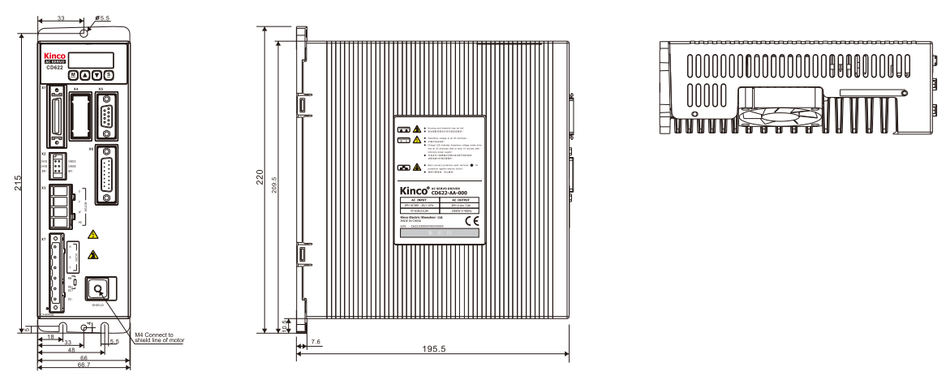
Mechanical Dimension Diagram for CD412/CD422



Mechanical Dimension Diagram for CD432



Mechanical Dimension Diagram for CD622



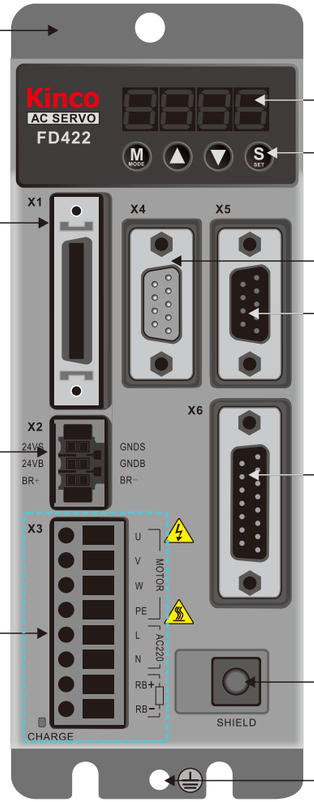
Panel and Interface Description of **FD** Servo Drivers

Shell of heat sink

X1
COM1, DIN1.....DIN7:
7 Digital programmable input channels
ENCO-Z, ENCO-/Z,
ENCO-B, ENCO-/B,
ENCO-A, ENCO-/A:
Encoder out
OUT1.....OUT4:
4 Digital programmable output channels
GNDA, AIN1, AIN2, GNDA:
2 analog input channels
PUL+: Pulse+/CW+/A+
PUL-: Pulse-/CW-/A-
DIR+: Direction+/CCW+/B+
DIR-: Direction-/CCW-/B-

X2
24VS, GNDS:
24V Power supply for control
24VB, GNDB:
24V Power supply for brake
BR+, BR-:
Brake control output

X3
U, V, W, PE:
Motor power connector
L, N:
AC power supply input (AC220V)
RB+, RB-:
External braking resistor



Display
4-digit LED indicate the status or error information

4 Setting Buttons
Parameter setting

X4
Male: CAN bus communication interface
Female: RS485 communication interface

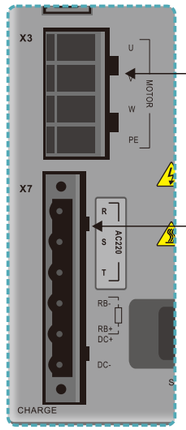
X5
RS232 communication interface

X6
Motor encoder input port

Shield
Fix the Shield Layer of Power Cable

GND Terminal

FD422(AC220V)



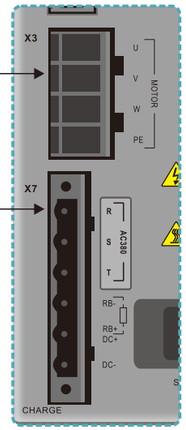
X3
U, V, W, PE:
Motor power connector

X7
R, S, T:
AC power supply input (AC220V)
RB+, RB-:
External braking resistor
DC+, DC-:
DC bus interface
(DC310V ± 20%)

FD432(AC220V)

X3
U, V, W, PE:
Motor power connector

X7
R, S, T:
AC power supply input (AC380V)
RB+, RB-:
External braking resistor
DC+, DC-:
DC bus interface
(DC540V ± 20%)

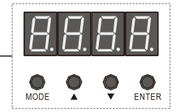


Note: 1. FD422/432/622 share the same interface definition except the X3 and X7 power interfaces;
2. Suggested brake resistor: FD422 75ohms/100W, FD432 39ohms/200W, FD622 75ohms/200W. The customer should choose the power of brake resistor according to the actual application.

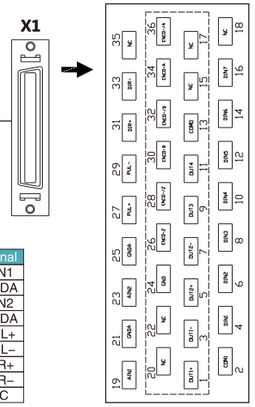
FD622(AC380V)

Port Description of **FD** Servo Drivers

LED display and operation buttons



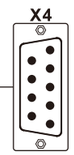
Digital signal input/output port



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

Male: CAN bus communication port
Female: RS485 communication port



9 pin DB

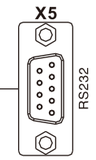
CAN

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 communication port, can be connected to PC to set parameters and import/export project data

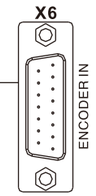


9 pin DB female

RS232

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

Motor encoder input port



15 pin DB female

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

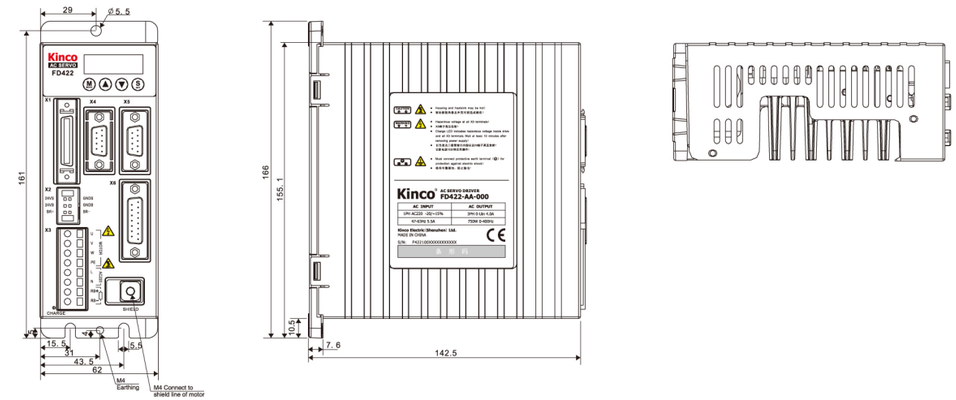
Technical Specifications of **FD** Servo Drivers

Model Parameter		FD412-□A-000	FD422-□A-000	FD432-□A-000	FD622-□A-000
Power	Main supply voltage	Single-phase AC220V -20/+15% 47~63Hz		Single-phase or 3-phase AC220V -20/+15% 47~63Hz	3-phase AC380V -20/+15% 47~63Hz
	Control circuit voltage	18VDC~30VDC 1A			
Current	Rated current(RMS)	2A	4A	10A	7A
	Peak current(PEAK)	12A	15A	27.5A	25A
	Feedback signal	2500PPR (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	
	Weight(Kg)	1.2		2.4	
General Functions	Digital input specification	7 digital inputs, with COMI terminal for PNP (high level valid 12.5–30V) 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, negetive 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 specification	5 digital outputs,OUT1 ~ OUT4 current is 100mA, BR+/BR– (Brake control ourtput) current is 500mA, can drive brake device directly			
	Digital output function	Define freely according to 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, multi–position reached.			
	Analog input	2 analog input, can be used to control speed and torque, the input range is –10V~10V.			
	Encoder signal output function	Output encoder signal is optional, can be used in the multiple axises synchronization, the max. output frequency is 2MHz.			
	RS232	The max. baudrate is 115.2KHz, use JD–PC software to communicate with PC, or via free protocol to communicate with controller.			
	Protection functions	Over–voltage protection,under–voltage protection,motor over–heat protection(I←T),short–circuit protection,drive over–heat protection,etc.			
	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.			
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	86kpa~106kpa			

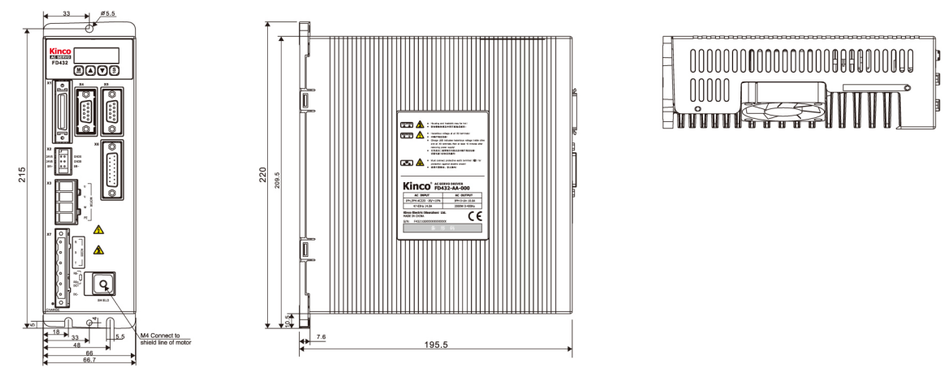
Note: □=L: Communication port RS232, RS485.
□=A/C: Communication port RS232, CANopen.

Mechanical Dimension Diagram for **FD** Servo Driver (Unit: mm)

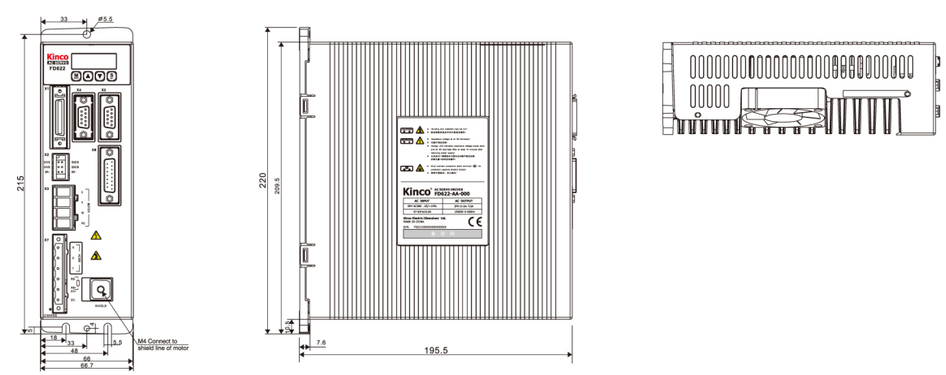
Mechanical Dimension Diagram for FD422



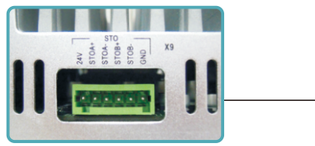
Mechanical Dimension Diagram for FD432



Mechanical Dimension Diagram for FD622



Panel and Interface Description of **JD** Servo Drivers



X9 STO Connector
24V，GND: 24V Power supply
STOA+，STOA–: Safe port A
STO**B**+，STO**B**–: Safe port B

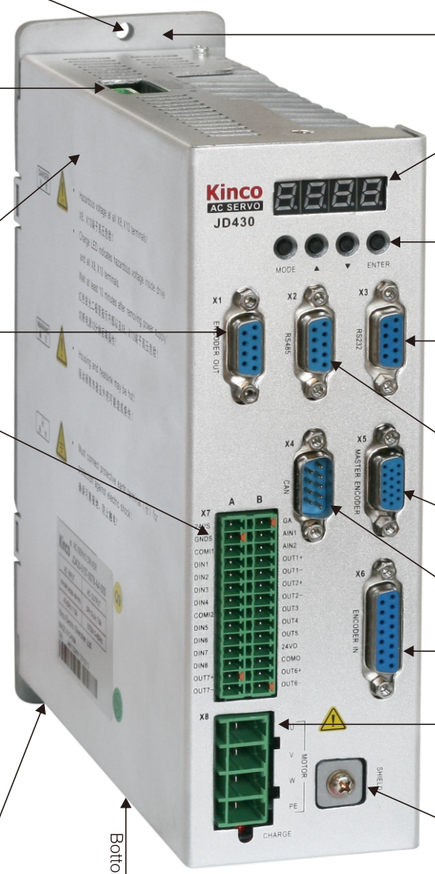
Driver Shell

X1
Encoder output port

X7 Column A
24V**A** and GNDS:
Power supply for control
DIN1...DIN**8**:
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
OUT**1**...OUT**7**:
7 digital programmable output ports
OUT6 can drive brake device directly

GND Terminal



JD430(AC220V)

Installation hole

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
Motor encoder input port

X8
U，V，W，PE:
Motor power cable

Fix The Shield Layer of Power Cable

JD430(AC220V)

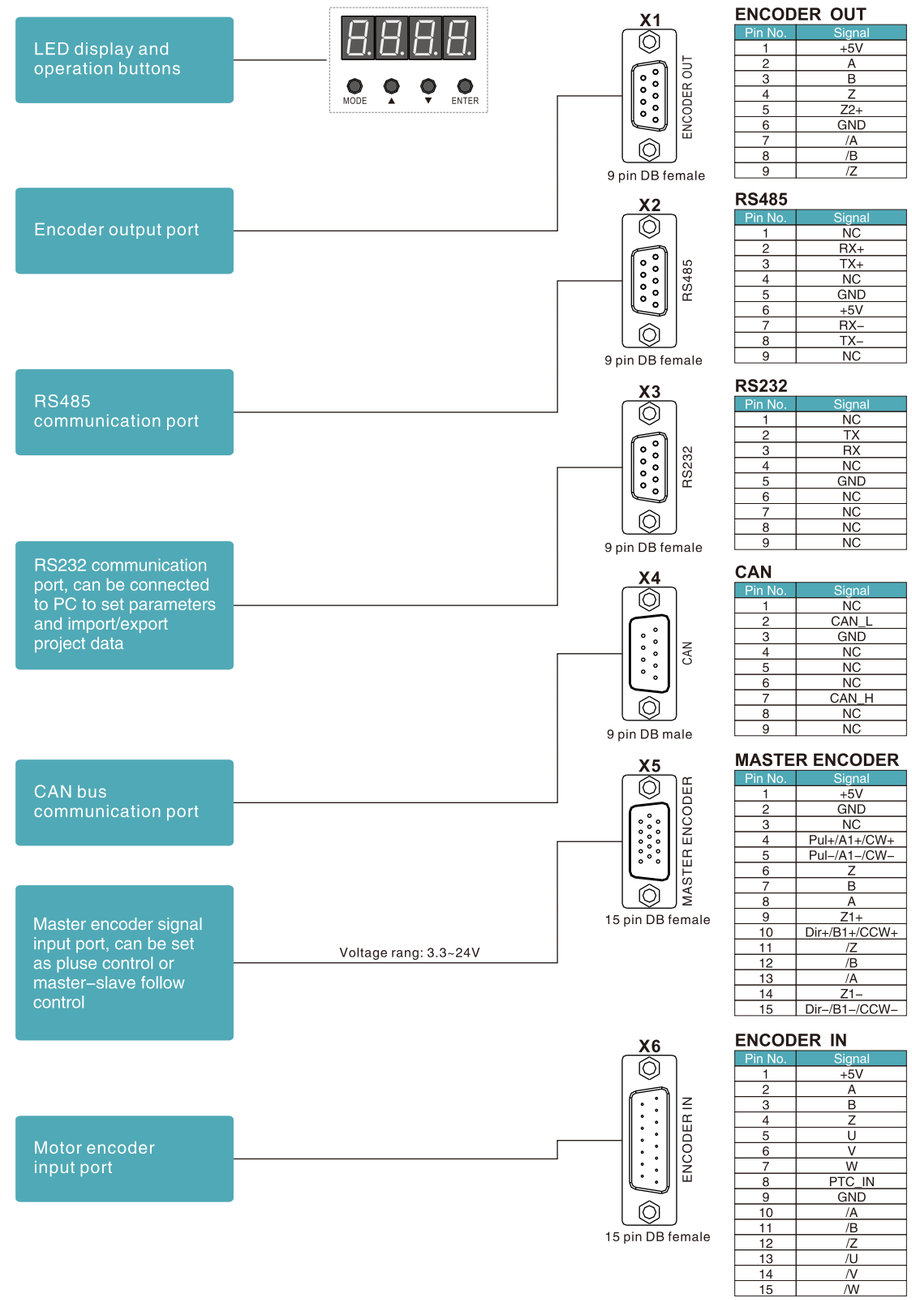
X10
DC+，DC–:
DC bus port
RB+，RB–:
External brake resistor
R，S，T:
AC power supply input
(220V AC)

JD620(AC380V)

X10
DC+，DC–:
DC bus port
RB+，RB–:
External brake resistor
R，S，T:
AC power supply input
(380V AC)

Note: 1. JD430/JD620 drivers share the same interface definition, except for X10 power interfaces.
2. Suggested brake resistor: JD430 39ohms/200W, JD620 75ohms/100W, JD620 75ohms/200W. The customer should chose the power of brake resister according to the actual application.

Port Description of **JD** Servo Drivers



ENCODER OUT

Pin No.	Signal
1	+5V
2	A
3	B
4	Z
5	Z2+
6	GND
7	/A
8	/B
9	/Z

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

CAN

Pin No.	Signal
1	NC
2	CAN_L
3	GND
4	NC
5	NC
6	NC
7	CAN_H
8	NC
9	NC

MASTER ENCODER

Pin No.	Signal
1	+5V
2	GND
3	NC
4	Pul+/A1+/CW+
5	Pul–/A1–/CW–
6	Z
7	B
8	A
9	Z1+
10	Dir+/B1+/CCW+
11	/Z
12	/B
13	/A
14	Z1–
15	Dir–/B1–/CCW–

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

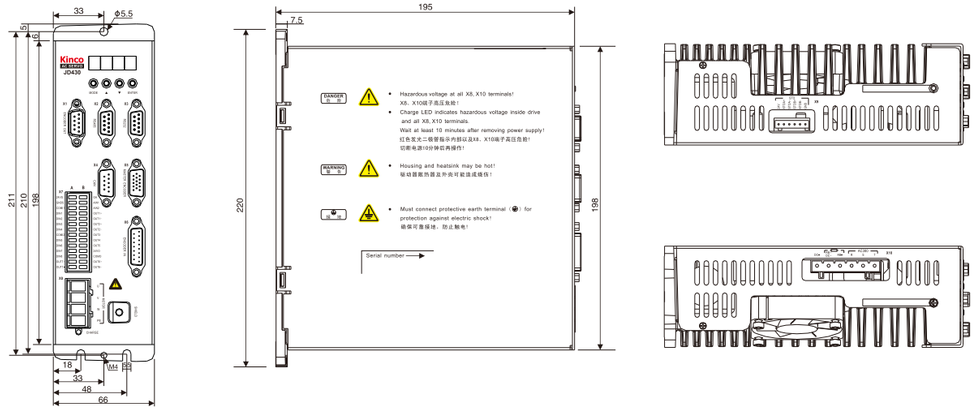
Technical Specifications of **JD** Servo Drivers

Model Parameter		JD430-AA-000	JD620-AA-000	JD630-□A-000	JD640-□A-000
Power	Main supply voltage	Single–phase or 3–phase AC220V –20/+15% 47~63Hz	3–phase AC380V –20/+15% 47~63Hz	3–phase AC380V –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
Current	Rated current(RMS)	10A	7A	10A	13A
	Peak current(PEAK)	27.5A	25A	35A	45A
	Brake chopper threshold	DC380V ± 5V	DC680V ± 5V	DC680V ± 5V	DC680V ± 5V
	Over–voltage alarming threshold	DC400V ± 5V	DC700V ± 5V	DC700V ± 5V	DC700V ± 5V
	Under–voltage alarming threshold	DC200V ± 5V	DC400V ± 5V	DC400V ± 5V	DC400V ± 5V
	Cooling method	Forced air cooling		Forced air cooling	
	Weight(Kg)	2.51		3.62	
	Size(width*hight*thicker)	220 × 195 × 66 mm		255 × 230 × 77 mm	
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	Output encoder signal and master encoder signal are optional, can be used in the multiple axises synchronization, the max. output frequency is 2MHz.			
	Master encoder input function	Can receive 3.3V~4.4V pulse/direction signal, CW/CCW signal, and the RS422 difference signal, the max. input frequency is 4MHz.			
	Feedback signal	Incremental A. B. Z. U. V. W. A/. B/. Z/. U/. V/. W/. signal			
	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	86kpa~106kpa			

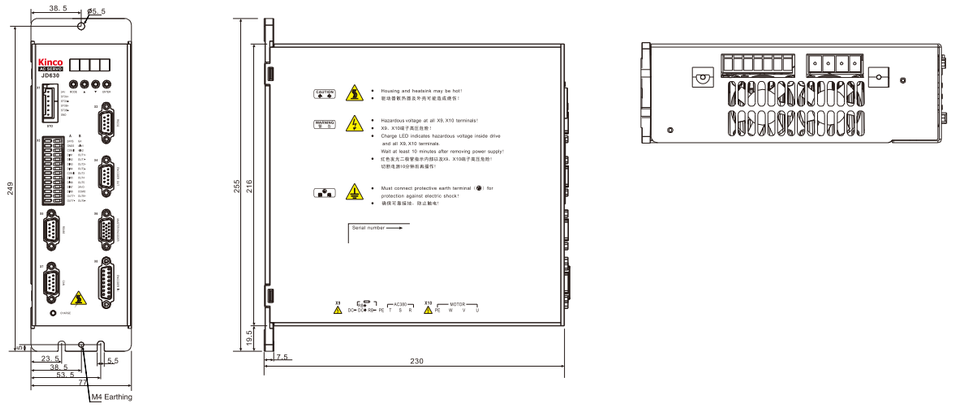
Note: □=L: Communication port RS232, RS485.
□=A: Communication port RS232, RS485, CANopen.

Mechanical Dimension Diagram of **JD** Servo Drivers (Unit: mm)

Mechanical Dimension Diagram of JD430/JD620

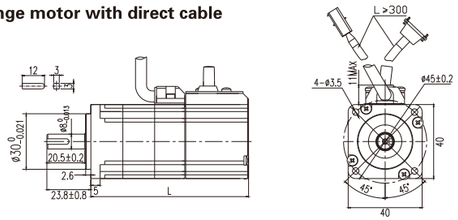


Mechanical Dimension Diagram of JD630/JD640

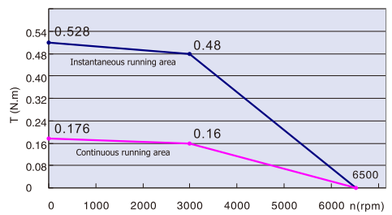


Dimensions/Torque curve of Servo Motors (40/60 flange)

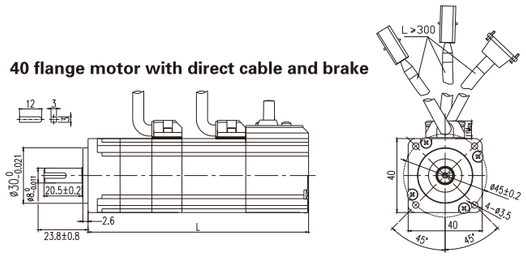
40 flange motor with direct cable



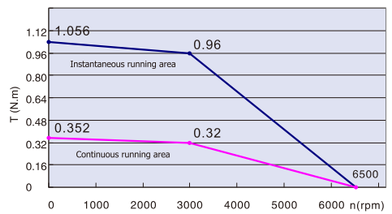
SMH40S-0005-30A□K-4LKH 50W



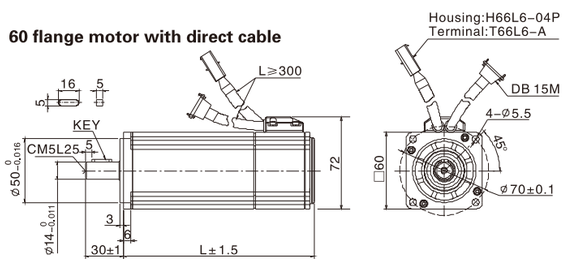
40 flange motor with direct cable and brake



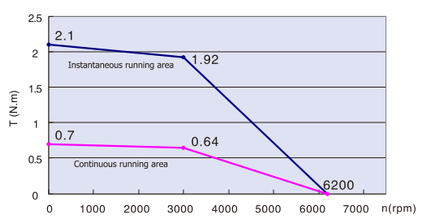
SMH40S-0010-30A□K-4LKH 100W



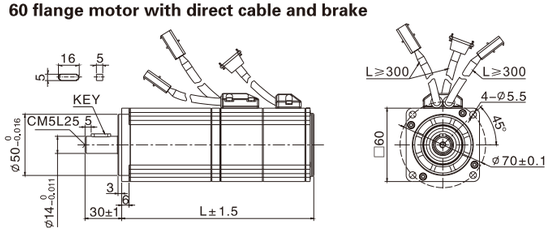
60 flange motor with direct cable



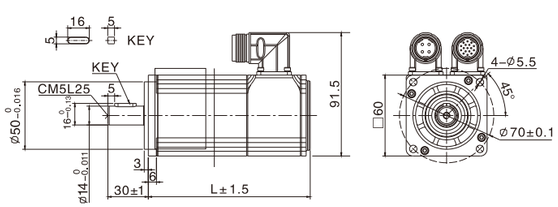
SMH/SME60S-0020-30A□K-3LK□ 200W



60 flange motor with direct cable and brake

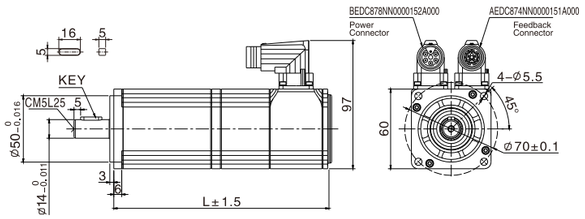


60 flange motor with HFO series standard connector

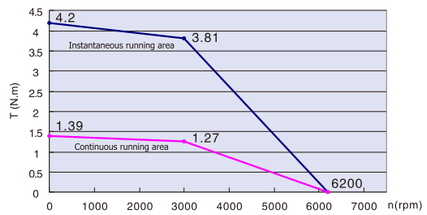


Dimensions/Torque curve of Servo Motors (60/80 flange)

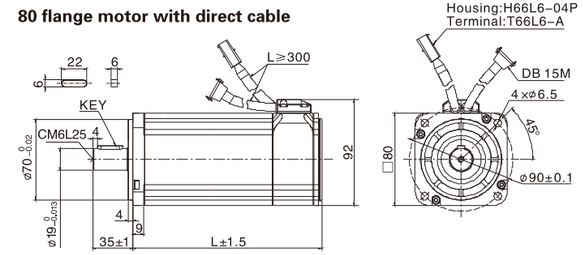
60 flange motor with Intercontec connector



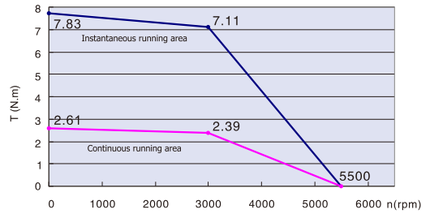
SMH/SME60S-0040-30A□K-3LK□ 400W



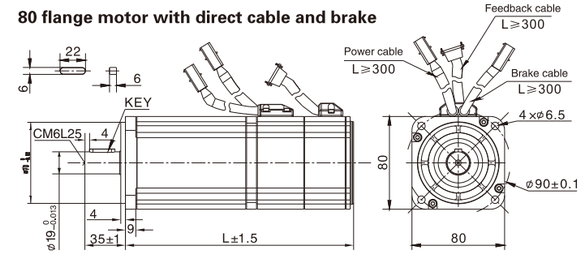
80 flange motor with direct cable



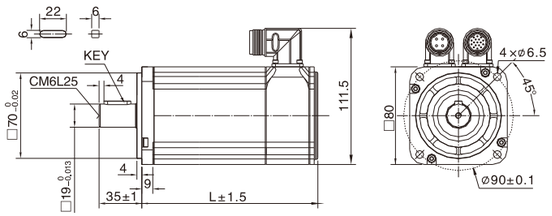
SMH/SME80S-0075-30A□K-3LK□ 750W



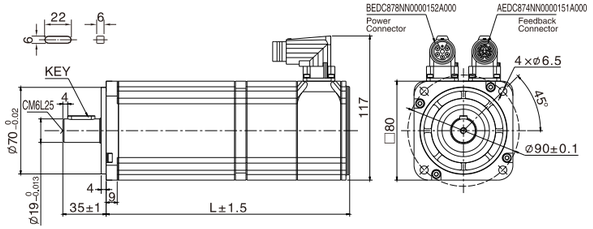
80 flange motor with direct cable and brake



80 flange motor with HFO series standard connector



80 flange motor with Intercontec connector



Technical Specifications of SMH40/60/80 Motors

Motor series		SMH Series Motor				
		Small inertia flange size 40mm		Small inertia flange size 60mm		Small inertia flange size 80mm
Model		SMH40S–0005–30A□K–4LKH	SMH40S–0010–30A□K–4LKH	SMH60S–0020–30A□K–3LK□	SMH60S–0040–30A□K–3LK□	SMH80S–0075–30A□K–3LK□
DC link voltage UDC		300	300	300	300	300
Continuous performance	Rated power P_N (W)	50	100	200	400	750
	Rated torque T_N (Nm)	0.16	0.32	0.64	1.27	2.39
	Rated speed n_N (rpm)	3000	3000	3000	3000	3000
	Rated current IN (A)	0.7	1.4	1.6	3.1	3.9
Maximum torque	T_m (Nm)	0.48	0.96	1.92	3.82	7.17
Maximum current	I_m (A)	2.1	4.2	4.8	9.3	11.7
Standstill torque	T_S (Nm)	0.176	0.352	0.7	1.39	2.63
Standstill current	IS (A)	0.77	1.54	1.79	3.38	4.4
Resistance line–line	RL (Ω)	16.6	5.53	8.02	3.52	1.4
Inductance line–line	LL (mH)	14	6	16.3	7.8	7.5
Electrical time constant	τe (ms)	0.84	1.08	2.03	2.22	5.35
Mechanical time constant	τm (ms)	1.28	0.86	2.26	1.35	0.75
Reverse voltage constant	Ke (V/krpm)	16	14	29	29	40
Torque constant	Kt (Nm/A)	0.265	0.265	0.48	0.48	0.662
Rotor moment of inertia	J_m (Kg・cm^2)	0.031	0.059	0.375	0.51	1.36
		0.031 (with brake)	0.061 (with brake)	0.379 (with brake)	0.514 (with brake)	1.385 (with brake)
Pole pair number		4	4	3	3	3
Maximum voltage rising	du/dt (KV/μs)	8	8	8	8	8
Insulation class		F	F	F	F	F
Maximum radial force	F (N)	120	120	180	180	335
Maximum axial force	F (N)	60	60	90	90	167.5
Weight	G(Kg)	0.5	0.8	1.3	1.8	3.3
		0.8 (with brake)	1.0 (with brake)	1.8 (with brake)	2.3 (with brake)	4 (with brake)
Length of motor	L(mm)	85.3±1	110.8 ± 1	120	150	147
		119 ± 1.5 (with brake)	145 ± 1.5 (with brake)	159 ± 1.5 (with brake)	189 ± 1.5 (with brake)	197 ± 1.5 (with brake)
Position feedback device		Incremental encoder 2500ppr				
Cooling method		Totally enclosed, non–ventilated				
Protection level		IP65 for body, shaft sealing IP54				
Environmental conditions for operation	Temperature	–20℃ ~ 40℃ (Non–freezing)				
	Humidity	Below 90% RH (Non–condensing)				
	Ambient enviroment	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: no brake □=B: brake

□=H: Cable connector
□=N: HFO series standard connector
□=M: Intercontec connector

Technical Specifications of SME60/80 Motors

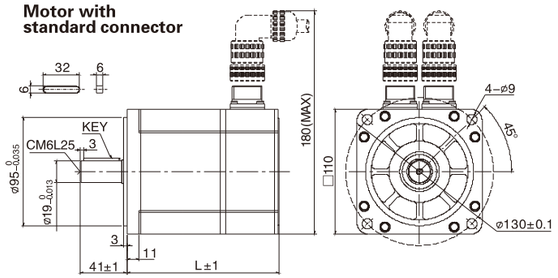
Motor series		SME Series Motor		
		Small inertia flange size 60mm		Small inertia flange size 80mm
Model		SME60S–0020–30A□K–3LK□	SME60S–0040–30A□K–3LK□	SME80S–0075–30A□K–3LK□
DC link voltage UDC		300	300	300
Continuous performance	Rated power P_N (W)	200	400	750
	Rated torque T_N (Nm)	0.64	1.27	2.39
	Rated speed n_N (rpm)	3000	3000	3000
	Rated current IN (A)	1.6	3.1	3.9
Maximum torque	T_m (Nm)	1.92	3.81	7.17
Maximum current	I_m (A)	4.8	9.3	11.7
Standstill torque	T_S (Nm)	0.7	1.4	2.63
Standstill current	IS (A)	1.76	3.41	4.29
Resistance line–line	RL (Ω)	10.4	5.8	3
Inductance line–line	LL (mH)	25.4	15	16.2
Electrical time constant	τe (ms)	2.44	2.59	5.4
Mechanical time constant	τm (ms)	2.93	1.93	1.49
Reverse voltage constant	Ke (V/krpm)	29	29	40
Torque constant	Kt (Nm/A)	0.48	0.48	0.662
Rotor moment of inertia	J_m (Kg・cm^2)	0.375	0.443	1.255
		0.379 (with brake)	0.447 (with brake)	1.28 (with brake)
Pole pair number		3	3	3
Maximum voltage rising	du/dt (KV/μs)	8	8	8
Insulation class		F	F	F
Maximum radial force	F (N)	180	180	335
Maximum axial force	F (N)	90	90	167.5
Weight	G(Kg)	1.3	1.6	2.9
		1.8 (with brake)	2.1 (with brake)	3.6 (with brake)
Length of motor	L(mm)	120±1.5	135±1.5	132±1.5
		159 ± 1.5 (with brake)	174 ± 1.5 (with brake)	182 ± 1.5 (with brake)
Position feedback device		Incremental encoder 2500ppr		
Cooling method		Totally enclosed, non–ventilated		
Protection level		IP65 for body, shaft sealing IP54		
Environmental conditions for operation	Temperature	–20℃ ~ 40℃ (Non–freezing)		
	Humidity	Below 90% RH (Non–condensing)		
	Ambient enviroment	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: no brake □=B: brake

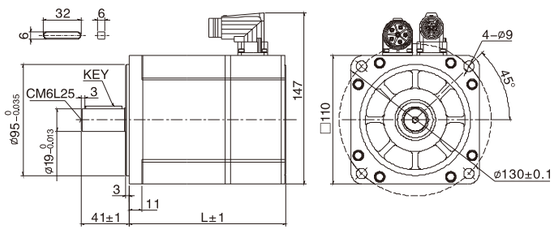
□=H: Cable connector
□=N: HFO series standard connector
□=M: Intercontec connector

Dimensions/Torque curve of Servo Motors (110 flange)

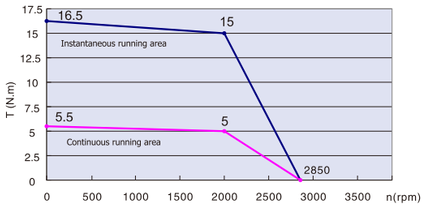
Motor with standard connector



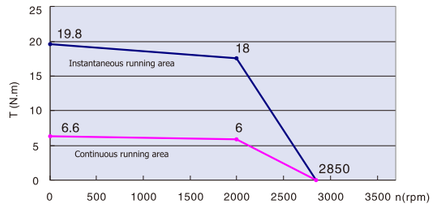
Motor with Intercontec connector



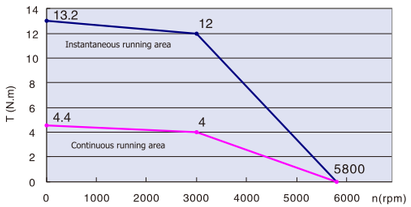
SMH110D-0105-20A□K-4LK□ 1.05KW



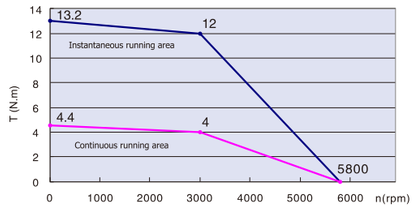
SMH110D-0126-20A□K-4LK□ 1.26KW



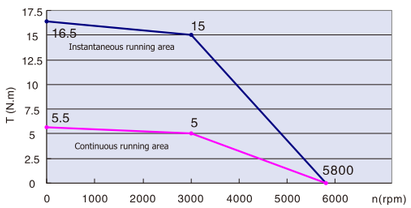
SMH110D-0125-30A□K-4LK□ 1.25KW



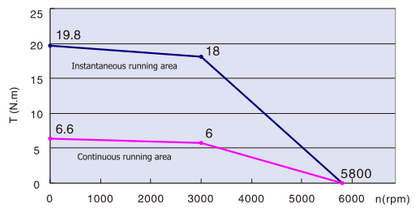
SMH110D-0126-30A□K-4HK□ 1.26KW



SMH110D-0157-30A□K-4HK□ 1.57KW



SMH110D-0188-30A□K-4HK□ 1.88KW



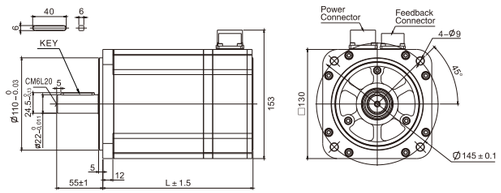
Technical Specifications of SMH110 Servo Motors

Motor series		Medium inertia,flange size 110mm					
Model		SMH110D-0125-30A□K-4LK□	SMH110D-0126-30A□K-4HK□	SMH110D-0105-20A□K-4LK□	SMH110D-0157-30A□K-4HK□	SMH110D-0126-20A□K-4LK□	SMH110D-0188-30A□K-4HK□
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)	4.0	4.0	5.0	5.0	6.0	6.0
	Rated speed n_N (rpm)	3000	3000	2000	3000	2000	3000
	Rated current IN (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	IS (A)	6.82	4.73	6.49	6.49	6.765	6.765
Resistance line-line	RL (Ω)	0.8	1.83	1.03	1.03	1.258	1.258
Inductance line-line	LL (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	Ke (V/krpm)	45	64	55	55	64	64
Torque constant	Kt (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		Incremental encoder 2500ppr					
Cooling method		Totally enclosed, non-ventilated					
Protection level		IP65 for body, shaft sealing IP54					
Environmental conditions for operation	Temperature	-20℃ ~ 40℃ (Non-freezing)					
	Humidity	Below 90% RH (Non-condensing)					
	Ambient enviroment	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					

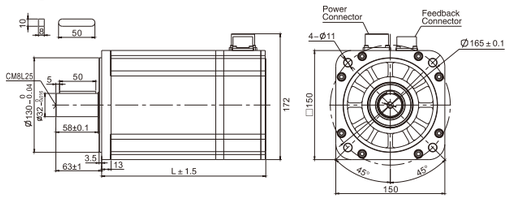
Note: □=A: no brake □=C: Standard connector
□=B: brake □=D: Intercontec connector

Dimensions/Torque curve of Servo Motors (130/150/180 flange)

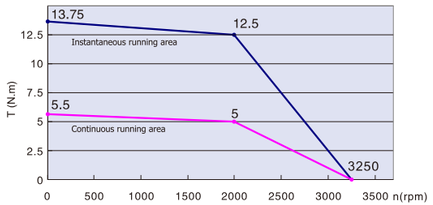
SMH Series Motors with standard connector, flange size 130mm



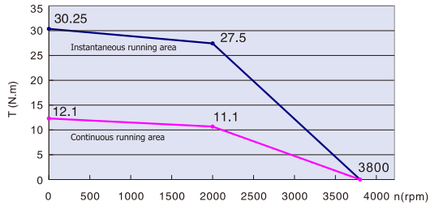
SMH Series Motors with standard connector, flange size 150mm



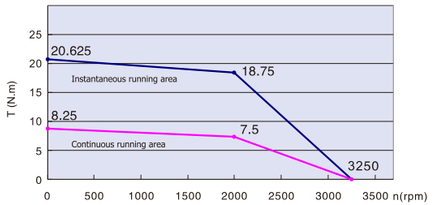
SMH130D-0105-20A□K-4HK□ 1.05KW



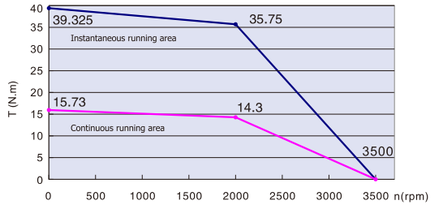
SMH150D-0230-20A□K-4HK□ 2.3KW



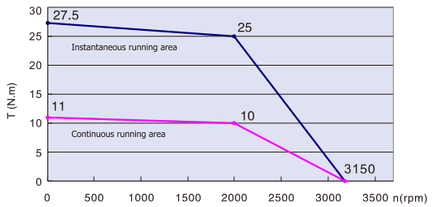
SMH130D-0157-20A□K-4HK□ 1.57KW



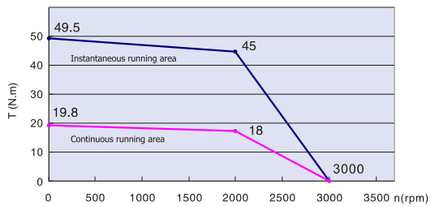
SMH150D-0300-20A□K-4HK□ 3KW



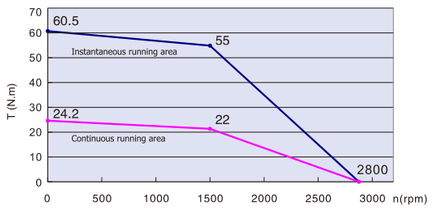
SMH130D-0210-20A□K-4HK□ 2.1KW



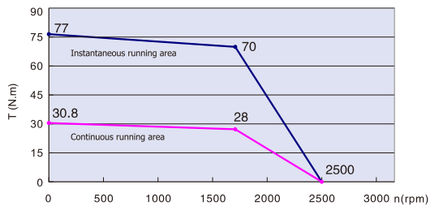
SMH150D-0380-20A□K-4HK□ 3.8KW



SMH180D-0350-15A□K-4HK□ 3.5KW

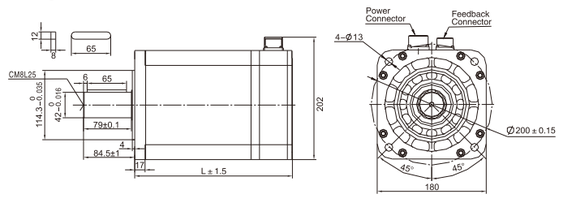


SMH180D-0440-15A□K-4HK□ 4.4KW



Dimensions of Servo Motors (180 flange)

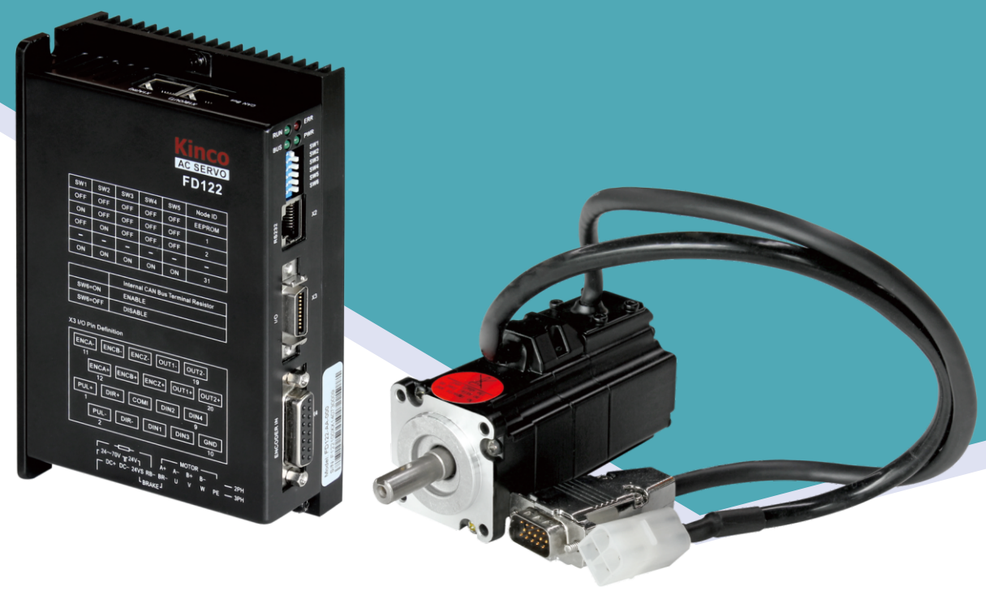
SMH Series Motors with standard connector, flange size 180mm



Technical Specification of SMH130/150/180 Motors

Motor series		Medium inertia, flange size 130mm			Medium inertia, flange size 150mm			Medium inertia, flange size 150mm	
Model		SMH130D-0105-20A□K-4HK□	SMH130D-0157-20A□K-4HK□	SMH130D-0210-20A□K-4HK□	SMH150D-0230-20A□K-4HK□	SMH150D-0300-20A□K-4HK□	SMH150D-0380-20A□K-4HK□	SMH180D-0350-15A□K-4HK□	SMH180D-0440-15A□K-4HK□
DC link voltage UDC		560	560	560	560	560	560	560	560
Continuous performance	Rated power P_N (W)	1050	1570	2100	2300	3000	3800	3500	4400
	Rated torque T_N (Nm)	5	7.5	10	11.1	14.3	18	22	28
	Rated speed n_N (rpm)	2000	2000	2000	2000	2000	2000	1500	1500
	Rated current IN (A)	4.3	6.3	7.6	7.1	8.5	9.3	10.3	11.9
Maximum torque	T_m (Nm)	12.5	18.75	25	27.5	35.75	45	55	70
Maximum current	I_m (A)	10.75	15.75	19	17.75	21.25	23.25	25.75	29.75
Standstill torque	T_s (Nm)	5.5	8.25	11	12.1	15.73	19.8	24.2	30.8
Standstill current	IS (A)	4.73	6.93	8.36	7.81	9.35	10.23	11.33	13.09
Resistance line-line	RL (Ω)	1.85	1.17	0.98	2.2	1.4	1.3	1.2	0.65
Inductance line-line	LL (mH)	23.7	16.2	14.3	14(AVG)	10.6(AVG)	10.5(AVG)	12.7(AVG)	8.5
Electrical time constant	τe (ms)	12.81	13.846	14.592	6.36	7.57	8.08	10.58	13.08
Mechanical time constant	τm (ms)	2.868	2.529	2.268	4.68	3.68	3.32	3.42	2.16
Reverse voltage constant	Ke (V/krpm)	70	72	80	100	107	125	135	150
Torque constant	Kt (Nm/A)	1.1578	1.191	1.3232	1.65	1.77	2.07	2.23	2.48
Rotor moment of inertia	J_m (Kg · cm^2)	12	17.7	23.4	33.5	47.6	63.1	82	118
		12.04 (With brake)	17.74 (With brake)	23.44 (With brake)	33.6 (With brake)	47.7 (With brake)	63.2 (With brake)	82.2 (With brake)	118.2 (With brake)
Pole pair number		4	4	4	4	4	4	4	4
Maximum voltage rising du/dt (KV/μs)		8	8	8	8	8	8	8	8
Insulation class		F	F	F	F	F	F	F	F
Maximum radial force	F (N)	900	900	900	1200	1200	1200	1600	1600
Maximum axial force	F (N)	450	450	450	600	600	600	800	800
Weight	G(Kg)	7.5	9.1	10.7	12	15	18	22.7	28.6
		9.7 (With brake)	11.3 (With brake)	12.9 (With brake)	15.5 (With brake)	18.5 (With brake)	22.5 (With brake)	27.9 (With brake)	33.8 (With brake)
Length of motor	L(mm)	159 ± 1.5	179 ± 1.5	199 ± 1.5	226 ± 1.5	254 ± 1.5	282 ± 1.5	260 ± 1.5	298 ± 1.5
		220 ± 1.5 (With brake)	240 ± 1.5 (With brake)	260 ± 1.5 (With brake)	292 ± 1.5 (With brake)	320 ± 1.5 (With brake)	352 ± 1.5 (With brake)	332 ± 1.5 (With brake)	370 ± 1.5 (With brake)
Position feedback device		Incremental encoder 2500ppr							
Cooling method		Totally enclosed, non-ventilated							
Protection level		IP65 for body, shaft sealing IP54							
Environmental conditions for operation	Temperature	-20℃ ~ 40℃ (Non-freezing)							
	Humidity	Below 90% RH (Non-condensing)							
	Ambient enviroment	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: No brake □=C: Standard connector
□=B: Brake □=D: Intercontec connector

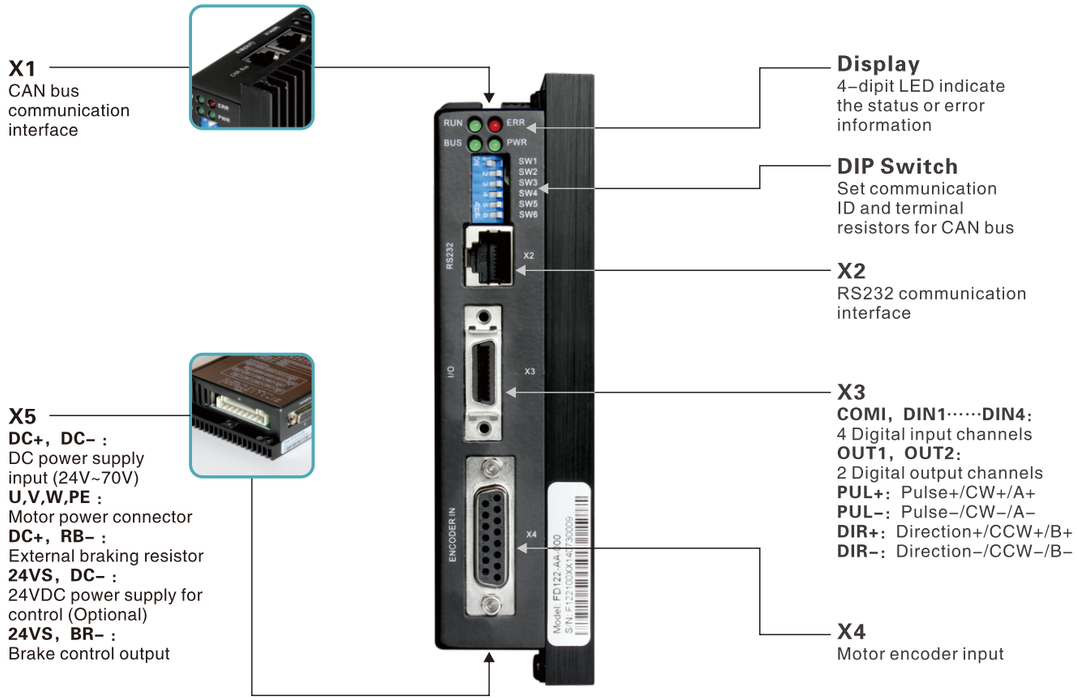


FD Series Low-voltage Servo System

Servo Driver and Motor Selection Table

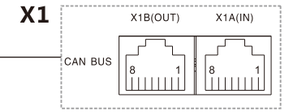
Catagory	Servo Driver	Servo Motor	Description	Power/brake Cable	Encoder Cable	Rated Speed/ Rated Torgue/ Rated Current
Small Inertia DC60V	FD122–AA–000	SMH40S–0005–30AAK–4DKH	Cable connector	MOT–005–LL–KL–D	ENCCA–LL–KH	3000rpm/ 0.16Nm/1.2A
		SMH40S–0005–30ABK–4DKH	Cable connector and brake	MOT–005–LL–KL–D/BRA–LL–KL		
		SMH40S–0010–30AAK–4DKH	Cable connector	MOT–005–LL–KL–D		3000rpm/ 0.32Nm/2.5A
		SMH40S–0010–30ABK–4DKH	Cable connector and brake	MOT–005–LL–KL–D/BRA–LL–KL		
		SME60S–0020–30AAK–3DKH	Cable connector	MOT–005–LL–KL–D	ENCCF–LL–FH	3000rpm/ 0.64Nm/4.6A
		57S–0010–10AAK–FDFH	Cable connector	MOT–005–LL–KL–D		1000rpm/ 1Nm/6.5A
		57S–0015–08AAK–FDFH	Cable connector	MOT–005–LL–KL–D		800rpm/ 1.5Nm/5.8A
		85S–0020–05AAK–FLFN	HFO standard connector	MOTE–005–LL–KC0	ENCCF–LL–FC0	500rpm/ 2Nm/6A

Panel and Interface Description



Interface Description of FD122 Servo Driver

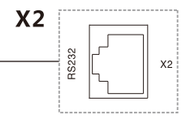
CAN bus communication interface



CAN

PIN No.	Signal
1	CAN_H
2	CAN_L
3	GND
Others	NC

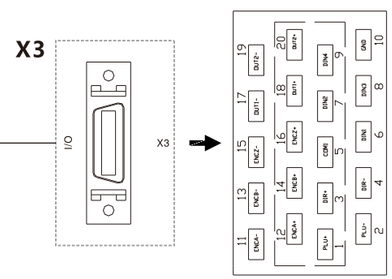
RS232 communication interface, can be used for debugging and import/export project data via PC.



RS232

PIN No.	Signal
3	TXD
4	GND
6	RXD
Others	NC

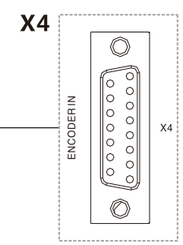
Digital input/output interface



I/O

PIN No.	Signal	PIN No.	Signal	PIN No.	Signal	PIN No.	Signal
2	PLU–	1	PLU+	12	ENCA+	11	ENCA–
4	DIR–	3	DIR+	14	ENCB+	13	ENCB–
6	DIN1	5	COM1	16	ENCZ+	15	ENCZ–
8	DIN3	7	DIN2	18	OUT1+	17	OUT1–
10	GND	9	DIN4	20	OUT2+	19	OUT2–

Motor encoder input interface



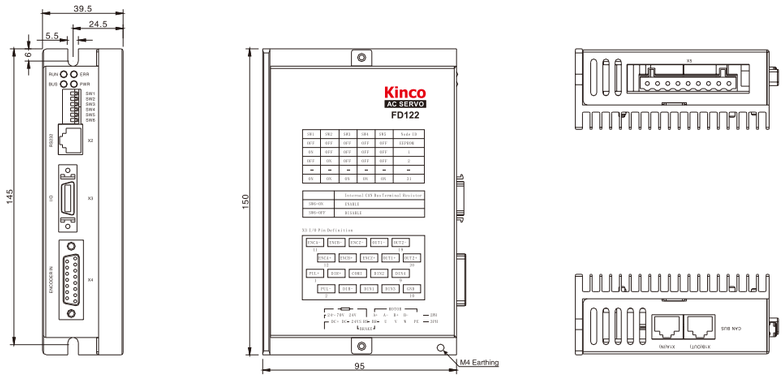
ENCODER IN

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

Technical Specification of FD122

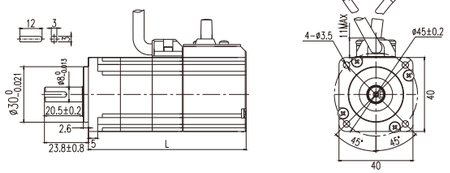
Model parameter		FD122-AA-000
Power	Main supply voltage	24VDC ~ 70VDC
	Control circuit voltage	DC24V 1A (Optional)
Current	Rated current(RMS)	6A
	Peak current(PEAK)	15A
	Feedback signal	2500PPR (incremental encoder with 5V supply)
	Brake chopper	Use an external braking resistor according to application, mainly in high speed start and stop application.
	Brake chopper threshold	DC79V ± 2V
	Over–voltage alarming threshold	DC86V ± 2V
	Under–voltage alarming threshold	18V ± 2V
	Cooling method	Natural air cooling
	Weight	0.565 Kg
Digital Input	Input specification	4 digital inputs, with COMI terminal for PNP (high level valid 12.5–30V) or NPN (low level valid) connection.
	Input function	Define freely according to requirement, supporting following functions: Driver enable, driver fault reset, driver mode control, proportional control, positive limit, negative limit, homing signal, reverse command, internal speed section control, internal positive section control, quick stop, start homing, active command, switch electronic gear ratio, switch gain
Digital Output	Output specification	3 digital outputs, OUT1–OUT2 current is 100mA, BR+/BR– (Brake control output) current is 500mA, can drive brake device directly
	Output function	Define freely according to requirement, supporting following functions: Driver ready, driver fault, position reached, motor at zero speed, motor brake, motor speed reached, N signal, maximum speed obtained in torque mode, motor brake, position limiting, reference found, multi–position reached
	Encoder Signal Output	Output the encoder signal of motor, Used in multiple axis synchronous control, supports 2M at most
	RS232	RS232, Connections with PC (2–2, 3–3, 5–5) or controller
	Protection Functions	Over–voltage protection, under–voltage protection, motor over–heat protection(I^2T), short–circuit protection, drive over–heat protection, etc
	CAN BUS	Supports 1M baud rate, communicates with controller via CANopen protocol
Operation Environment	Operating temperature	0 ~ 40℃
	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
	Altitude	No power limitation below 1000m
	Atmospheric pressure	86kpa ~ 106kpa

Mechanical Dimension Diagram for FD122

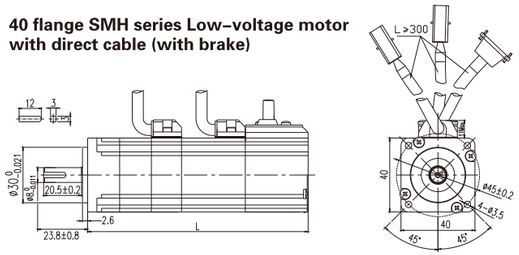


Dimensions/Torque curve of Low-voltage Servo Motor (40/60 flange)

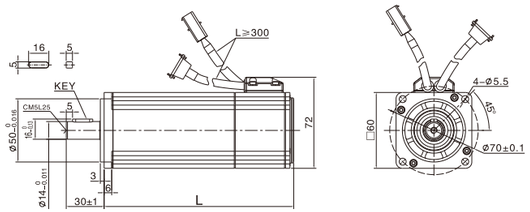
40 flange SMH series Low-voltage motor with direct cable



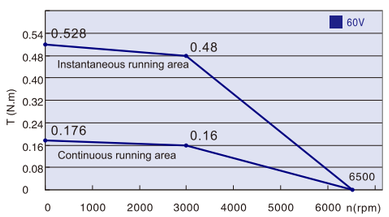
40 flange SMH series Low-voltage motor with direct cable (with brake)



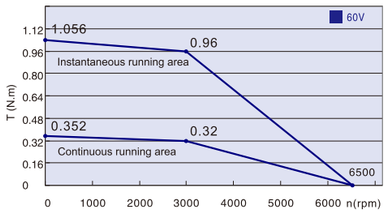
60 flange SMH series Low-voltage motor with direct cable



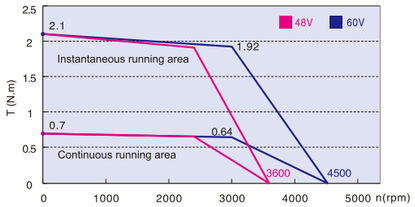
SMH40S-0005-30A□K-4DKH **50W**



SMH40S-0010-30A□K-4DKH **100W**



SME60S-0020-30AAK-3DKH **200W**



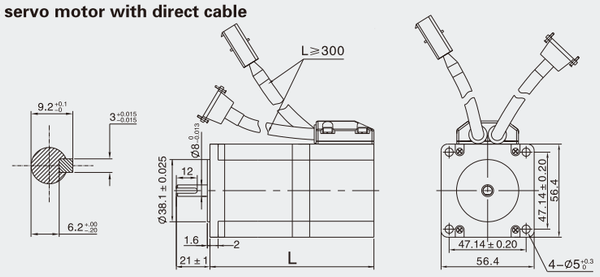
Technical Specifications of SMH40/60 Series Low-voltage Servo Motor

Motor series		SMH Series, small inertia, 40 flange				SMH Series, small inertia, 60 flange
Model		**SMH40S-0005-30A□K-4DKH**		**SMH40S-0010-30A□K-4DKH**		**SME60S-0020-30AAK-3DKH**
Adaptable driver		**FD122-AA-000**				
DC link voltage UDC		60		60		70
Continuous performance	Rated power P_N (W)	50		100		200
	Rated torque T_N (Nm)	0.16		0.32		0.64
	Rated speed n_N (rpm)	3000		3000		3000
	Rated current I_N (A)	1.2		2.5		4.6
Maximum torque T_m (Nm)		0.48		0.96		1.92
Maximum current I_m (A)		3.6		7.5		13.8
Standstill torque T_s (Nm)		0.176		0.352		0.7
Standstill current I_s (A)		1.32		2.75		5.06
Resistance line-line R_L (Ω)		4.2		2.1		0.7
Inductance line-line L_L (mH)		3.5		2.5		1.55
Electrical time constant τe (ms)		0.84		1.2		2.21
Mechanical time constant K_e (V/krpm)		1.28		1.22		2.05
Reverse voltage constant K_t (Nm/A)		8		8		9
Torque constant K_t (Nm/A)		0.1323		0.1323		0.149
Motor moment of inertia J_m (Kg・cm²)		0.031	0.033 (With brake)	0.059	0.061 (With brake)	0.375
Pole pair number		4		4		3
Maximum voltage rising du/dt (KV/μs)		8		8		8
Insulation class		F		F		F
Maximum radial force F (N)		120		120		180
Maximum axial force F (N)		60		60		90
Weight G(Kg)		0.5	0.8 (With brake)	0.8	1.0 (With brake)	1.3
Length of motor L(mm)		85.3 ± 1	119 ± 1.5 (With brake)	110.8 ± 1	145 ± 1.5 (With brake)	120 ± 1.5
Position feedback device		Incremental encoder 2500ppr				
Cooling method		Totally enclosed, non-ventilated				
Protection level		IP65 for body, shaft sealling IP54				
Environmental conditions for operation	Temperature	-20 ~ 40℃				
	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				

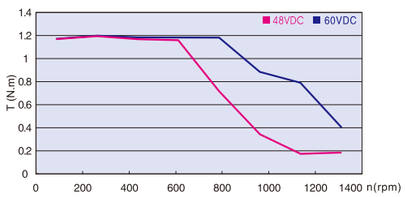
Note: □=A: No brake
□=B: Brake

Dimensions/Torque curve of 57S/85S series Multi-pole Servo Motor

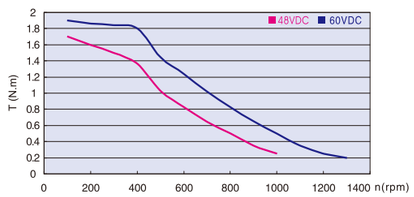
57S series Multi–pole servo motor with direct cable



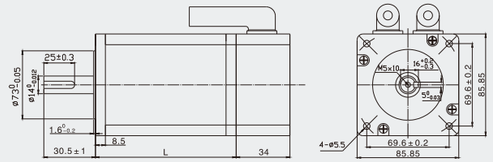
57S–0010–10AAK–FDFH **1NM**



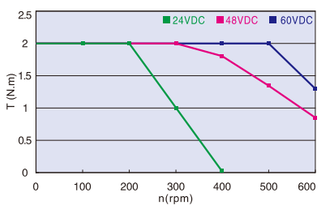
57S–0015–08AAK–FDFH **1.5NM**



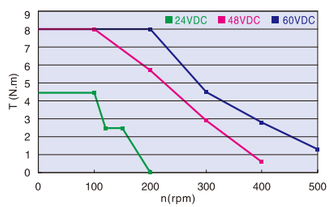
85S series Multi–pole servo motor with connector



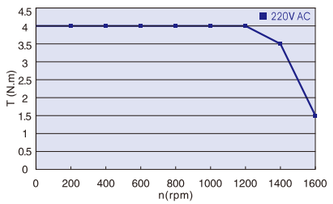
85S–0020–05AAK–FLFN **2.4NM**



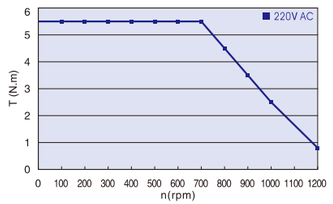
85S–0050–10AAK–FLFN–R30 **8NM**



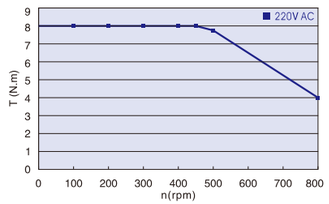
85S–0025–05AAK–FLFN **4.18NM**



85S–0035–05AAK–FLFN **6NM**



85S–0045–05AAK–FLFN **8NM**



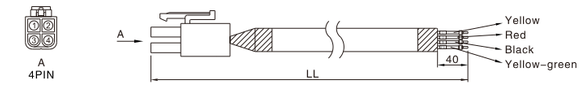
Technical Specifications of 57S/85S series Multi-pole Servo Motor

Multi–pole servo motor	Small Inertia, 57 Flange		Small Inertia, 85 Flange				
Model	57S-0010-10AAK-FDFH	57S-0015-08AAK-FDFH	85S-0020-05AAK-FLFN	85S-0025-05AAK-FLFN	85S-0035-05AAK-FLFN	85S-0045-05AAK-FLFN	85S-0050-10AAK-FLFN-R30
Rated phase current (A)	6.5	5.8	6	4	4	4	8.5
Holding torque (Nm)	1	1.5	2.4	4.18	6	8	8
Damping torque (Nm)	0.04	0.068	0.25	0.3	0.4	0.45	0.45
Resistance line-line (Ω)	0.35	0.7	0.44	1.13	2.3	1.78	0.43
Inductance line-line(mH)	1.28	2.4	3	5.75	12.4	17.1	3.9
Motor moment of inertia(Kg.cm^2)	300	480	1400	2320	3300	4400	4400
Length L (mm)	90 ± 1.5	113 ±1.5	80 ±1	97 ± 1	127 ± 1	157 ± 1	157 ± 1
Maximum radial force(N)	15	15	60	60	60	60	60
Maximum axial force (N)	75	75	220	220	220	220	220
Weight (Kg)	1.05	1.3	2.3	2.7	3.8	5.3	5.3
Dielectric strength	600V AC 1S 5mA		1200V AC 1S 2mA	1500V AC 1S 5mA			1800V AC 1S 5mA
Feedback device accuracy	2500p/r (Resolution : 10000)						
Insulation class	B						
Ambient temperature	-20～50℃						
Surface temperature rising	Max. 80℃						
Insulation impedance	Min. 100MΩ，500V DC						

Wiring Diagram for The Power Cable

MOT-005-LL-KL-D

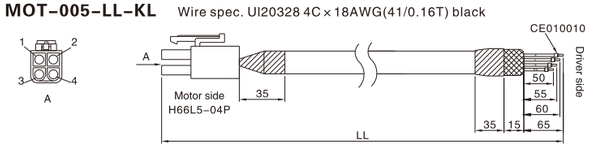
Wire Spec.: 4×18AWG(41/0.167)



MOT-005-LL-KL-D		
Cable color	Signal	Pin#
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	PIN4

MOT-005-LL-KL

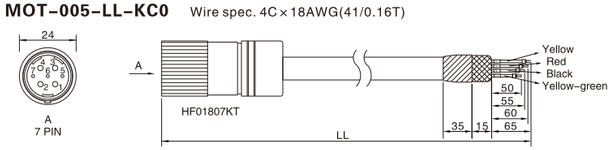
Wire spec. UI20328 4C×18AWG(41/0.16T) black



MOT-005-LL-KL		
Cable Color	Signal	PIN #
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	PIN4

MOT-005-LL-KC0

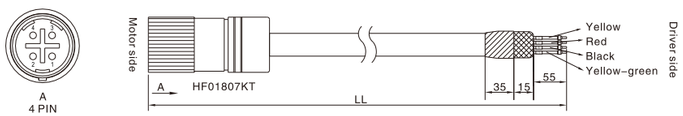
Wire spec. 4C×18AWG(41/0.16T)



MOT-005-LL-KC0		
Cable color	Signal	Pin#
Yellow	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow-green	PE	PIN1
metal ring	Shield	Shield cable

MOTE-005-LL-KC0

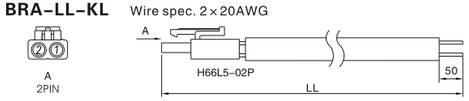
Wire Spec.: 4C×18AWG(41/0.16T)



MOTE-005-LL-KC0		
Cable color	Signal	Pin#
Yellow	U	PIN2
Red	V	PIN3
Black	W	PIN4
Yellow-green	PE	PIN1
metal ring	Shield	Shield cable

BRA-LL-KL

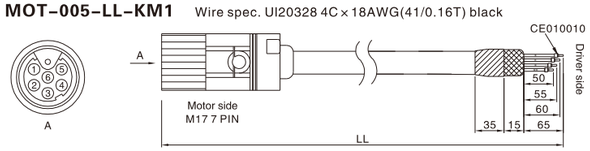
Wire spec. 2×20AWG



BRA-LL-KL		
Cable color	Signal	Pin#
Red	break+	PIN1
Blue	break-	PIN2

MOT-005-LL-KM1

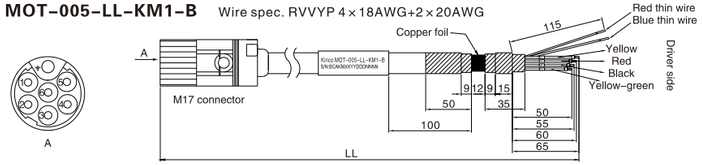
Wire spec. UI20328 4C×18AWG(41/0.16T) black



MOT-005-LL-KM1		
Cable Color	Signal	PIN #
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	⏚

MOT-005-LL-KM1-B

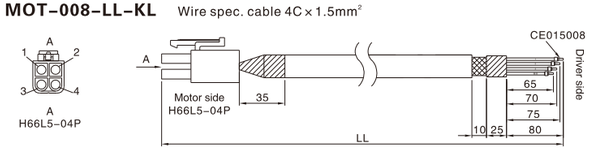
Wire spec. RVVYP 4×18AWG+2×20AWG



MOT-005-LL-KM1-B		
Cable Color	Signal	M17 7PIN
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	⏚
Shield terminal	shield	metal ring
Red(thin)	brake+	PIN4
Blue(thin)	brake-	PIN5

MOT-008-LL-KL

Wire spec. cable 4C×1.5mm²

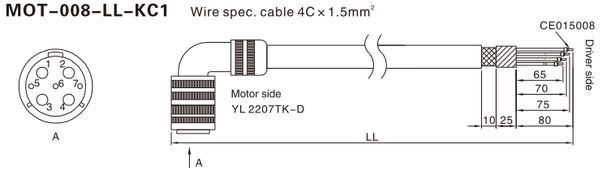


MOT-008-LL-KL		
Cable Color	Signal	PIN #
1	U	PIN1
2	V	PIN2
3	W	PIN3
Yellow-green	PE	PIN4

Wiring Diagram for The Power Cable

MOT-008-LL-KC1

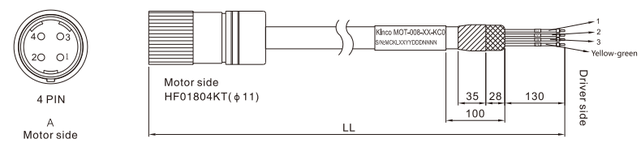
Wire spec. cable 4C×1.5mm²



MOT-008-LL-KC1		
Cable Color	Signal	PIN #
1	U	PIN2
2	V	PIN3
3	W	PIN4
Yellow-green	PE	PIN1

MOT-008-LL-KC0

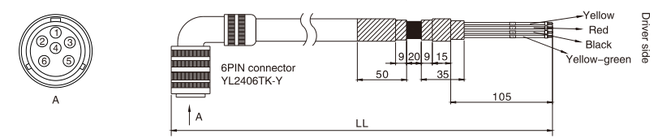
Wire Spec.: ECHU H05VVC4V5-K 4×1.5mm² BLACK



MOT-008-LL-KC0		
Cable color	Signal	Pin#
1	U	PIN2
2	V	PIN3
3	W	PIN4
Yellow-green	PE	PIN1
metal ring	Shield	Shield

MOT-008-LL-KC2

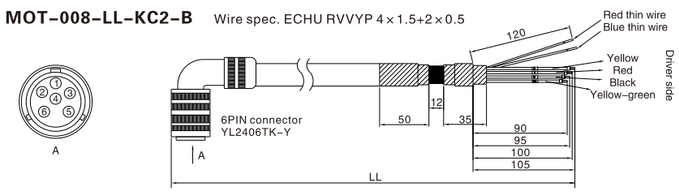
Power cable O-2395 4C×1.5mm²(30/0.25B)



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

MOT-008-LL-KC2-B

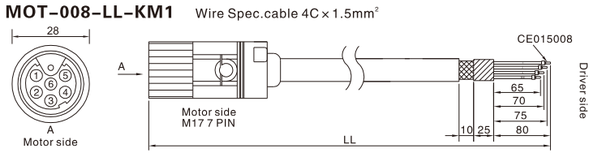
Wire spec. ECHU RVVYP 4×1.5+2×0.5



MOT-008-LL-KC2-B		
Cable Color	Signal	YL2406TK-Y
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	PIN4
Red(thin)	brake+	PIN5
Blue(thin)	brake-	PIN6
Shield terminal	Shield	metal ring

MOT-008-LL-KM1

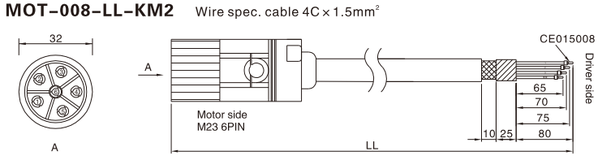
Wire Spec.cable 4C×1.5mm²



MOT-008-LL-KM1		
Cable color	Signal	M17 7Pin
1	U	PIN1
2	V	PIN2
3	W	PIN3
Yellow-green	PE	⏚

MOT-008-LL-KM2

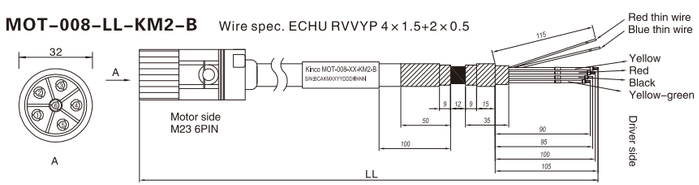
Wire spec. cable 4C×1.5mm²



MOT-008-LL-KM2		
Cable Color	Signal	PIN #
1	U	PIN1
2	V	PIN2
3	W	PIN4
Yellow-green	PE	PIN3

MOT-008-LL-KM2-B

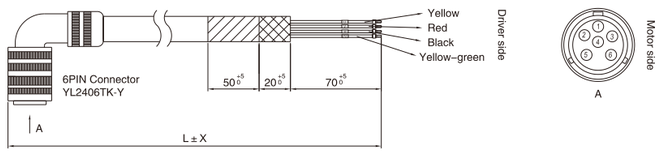
Wire spec. ECHU RVVYP 4×1.5+2×0.5



MOT-008-LL-KM2-B		
Cable Color	Signal	M23 6PIN
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN4
Yellow-green	PE	PIN3
Shield terminal	Shield	metal ring
Red(thin)	brake+	PIN5
Blue(thin)	brake-	PIN6

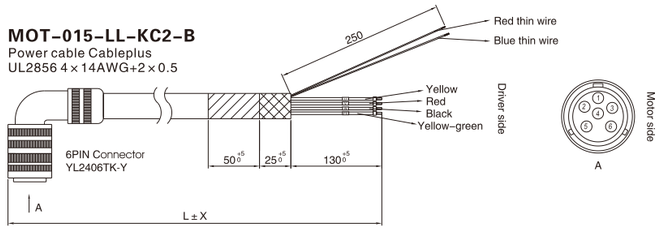
Wiring Diagram for The Power Cable

MOT-015-LL-KC2
Power cable Cableplus UL2856 4×14AWG(50/0.25T)



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

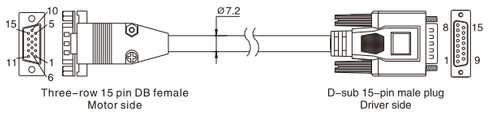
MOT-015-LL-KC2-B
Power cable Cableplus
UL2856 4×14AWG+2×0.5



MOT-015-LL-KC2-B		
Cable color	Signal	YL2406TK-Y
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow-green	PE	PIN4
Red(thin)	brake+	PIN5
Blue(thin)	brake-	PIN6
Shield	Shield	Metal ring

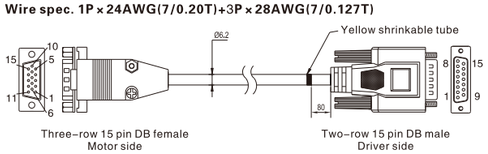
Wiring Diagram for The Encoder Cable

ENCCA-LL-KH
Wire spec. 1P×24AWG(7/0.20T)+7P×28AWG(7/0.127T)



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

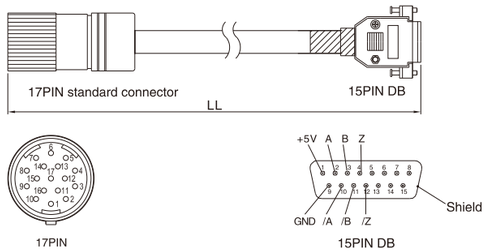
ENCCF-LL-FH
Wire spec. 1P×24AWG(7/0.20T)+3P×28AWG(7/0.127T)



ENCCF-LL-FH				
Three-row 15 pin DB	Two-row 15 pin DB	Signal	Wire color	Motor wire color
PIN1	PIN1	+5V	Red(thick)	Red
PIN8	PIN2	A	Brown	Blue-black
PIN7	PIN3	B	Yellow	Green
PIN6	PIN4	Z	Green	Yellow
PIN2	PIN9	GND	Black(thick)	Black
PIN13	PIN10	/A	Brown-white	Blue
PIN12	PIN11	/B	Yellow-white	Green-black
PIN11	PIN12	/Z	Green-white	Yellow-black
Other pins empty	Other pins empty			
Shell	Shell	Shield	Shield	Shield

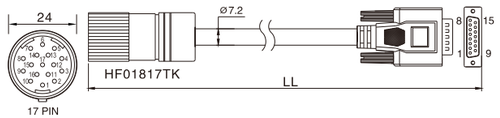
Wiring Diagram for The Encoder Cable

ENCCF-LL-FC0
Wire spec.1P×24AWG(7/0.20T)+3P×28AWG(7/0.127T)



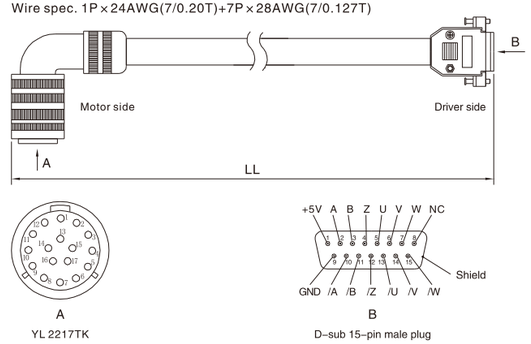
ENCCF-LL-FC0				
17PIN standard connector	15PIN DB	Signal	External wire colour	Motor wire colour
PIN1	PIN1	+5V	Red(thick)	Red
PIN3	PIN2	A	Brown	Blue-black
PIN5	PIN3	B	Yellow	Green
PIN14	PIN4	Z	Green	Yellow
PIN2	PIN9	GND	Black(thick)	Black
PIN4	PIN10	/A	Brown-white	Blue
PIN6	PIN11	/B	Yellow-white	Green-black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

ENCCA-LL-KC0
Wire spec. 1P×24AWG(7/0.20T)+7P×28AWG(7/0.127T)

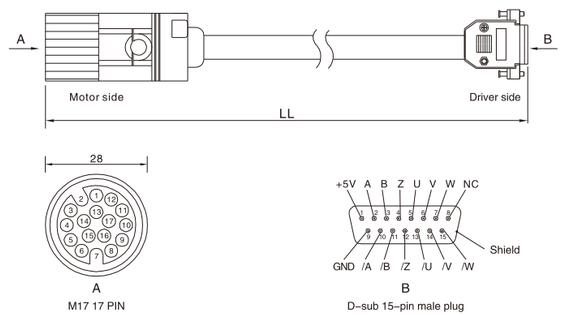


ENCCA-LL-KC0/ENCCA-LL-KC1				
17PIN	15PIN DB	Signal	External wire colour	Motor wire colour
PIN1	PIN1	+5V	Red(thick)	Red
PIN3	PIN2	A	Orange	Blue
PIN5	PIN3	B	Yellow	Green
PIN14	PIN4	Z	Green	Yellow
PIN9	PIN5	U	Brown	Brown
PIN11	PIN6	V	Purple	Gray
PIN16	PIN7	W	Blue	White
PIN2	PIN9	GND	Black(thick)	Black
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 spec. 1P×24AWG(7/0.20T)+7P×28AWG(7/0.127T)



ENCCA-LL-KM1
Wire spec. 1P×24AWG(7/0.20T)+7P×28AWG(7/0.127T)



ENCCA-LL-KM1				
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