Zilvertron
mechanics & electronics

Kinco

Motion Control
Servo System

Low-voltage Servo System Catalog

- iSMK drive and motor integrated machine

iSMK drive and motor integrated machine

Product features:

Compact body, highly integrated motor, driver, encoder and brake in one;

Support 24～60VDC wide voltage.
Supports CANopen, Modbus RTU, etc.
A variety of safety protection measures such as overvoltage protection, under pressure protection, short-circuit protection, motor overheating (IIT) protection, and driver overheating protection;

iSMK naming rules

iSMK 60 - 040 - D M A K - AA - 000 - L001
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑨

①-Series name	iSMK：iSMK Integrated servo motor	⑥-Brake	A：Without brake B：With brake
②-Flange	60：60x60(mm) 80：80x80(mm)	⑦-Output axis style	K：With key
③-Rated power	020：20x10(W) 075：75x10(W) 040：40x10(W)	⑧-Control mode	AA：RS485、CANopen、Not pulse、 24V logic power supply
④-Supply voltage	D：Input Voltage DC24～60V		
⑤-Encoder type	M：Singleturn communication type magnetoelectric encoder	⑨-Version number	000： Software version L001： IP67 connectors

Note: The oil seal is an optional accessory, and it can be omitted if it is not necessary.

iSMK integrated servo drive motor technical parameters

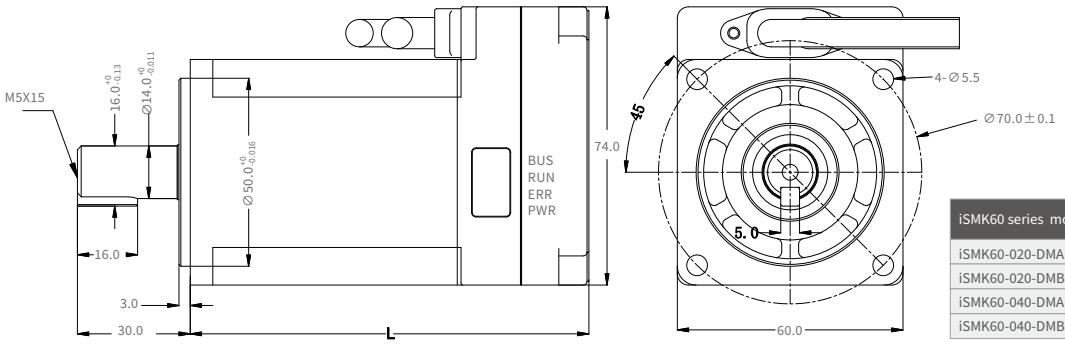
Model parameter		iSMK drive and motorintegrated machine		
		iSMK60-020-DM■K-AA-000-L001	iSMK60-040-DM■K-AA-000-L001	iSMK80-075-DM■K-AA-000-L001
Input	power	24VDC～60VDC	24VDC～60VDC	24VDC～60VDC
	Built-in fuse	Null	Null	Null
	Logic power	24V	24V	24V
Rated power Pn(W) @ 48VDC		200 @ S3* - 140 @ S1 (continuous)	400 @ S3* - 280 @ S1 (continuous)	750 @ S3* - 525 @ S1 (continuous)
Rated speed nN(rpm) @ 48VDC		3000	3000	3000
Rated torque Ts(Nm)		0.64 @ S3* - 0.45 @ S1 (continuous)	1.27 @ S3* - 0.90 @ S1 (continuous)	2.39 @ S3* - 1.67 @ S1 (continuous)
Maximum torque Tm(Nm)		1.92	3.81	7.17
Weight (Kg)		1.1	1.3	2.5
		1.6 (With brake)	1.8 (With brake)	3.0 (With brake)
Rotational inertia Jm(Kg·cm^2)		0.17	0.31	0.85
		0.176 (With brake)	0.314 (With brake)	0.91 (With brake)
Logic loss power (mW)		900		
Energy consumption brake		There is no brake circuit inside the driver, and an external brake module is required		
Overvoltage alarm voltage		The default is 70V, which can be set by software		
Undervoltage alarm voltage		The default is 18V, which can be set by software		
Cooling mode		Natural cooling		
General function	Input specification	Two digital inputs, high: 12.5VDC ～ 30VDC Low: 0VDC ～5VDC Input impedance: 5KΩ Input frequency: <1KHz		
	Input function	Freely defined as required, the functions are as follows: drive enable, drive error reset, drive mode control, speed loop proportional control, positive limit, negative limit, origin signal, command reverse, internal speed segment control, internal position segment control, emergency stop, start to find the origin, command activation, electronic gear ratio switching, gain switching		
	Output specification	1 digital output, OUT1 for the open collector output, the highest voltage 30V, driving capacity of 100mA		
	Output function	Freely defined according to needs, the functions are as follows: driver ready, driver error, motor position to, motor zero speed, motor lock brake, motor speed to, index Z signal appears, maximum limit speed in torque mode, motor lock shaft, motor limit medium, origin finding		
	Protection function	Overvoltage protection, undervoltage protection, motor overheat (I2T) protection, short circuit protection, driver overheat protection		
Bus function	RS485	It supports a maximum 115.2Kbps baud rate and can communicate with the controller using the Modbus RTU		
	CANopen	It supports a maximum 1Mbps baud rate and can communicate with the controller using the CANopen		
Apply environment	Operation temperature	-20°C～40°C (no freezing) ,When the operating temperature exceeds 40°C, the driver needs to be derated		
	Operating humidity	Less than 90%RH (no condensation)		
	Storage temperature	-40°C～70°C (no freezing)		
	Storage humidity	90%RH (no condensation)		
	Installation method	Motor flange installation (vertical side installation)		
	Protection grade	IP65, shaft end IP54		
	Altitude	The rated working altitude is less than 1000 meters above sea level. When the working altitude is higher than 1000 meters, it is necessary to reduce the rated value by 1.5% for every 100 meters of elevation. The maximum working altitude is 4000 meters above sea level.		
	Atmospheric pressure	86kpa～106kpa		

* S3 intermittent duty cycle : 10 min. 60% : In a cycle time of 10min. the motor can run at rated load for max. 6min, then the motor has to stop for 4 min. minimum

Note : ■=A : Without brake
B : With brake (Power supply conversion, external unlocking.)

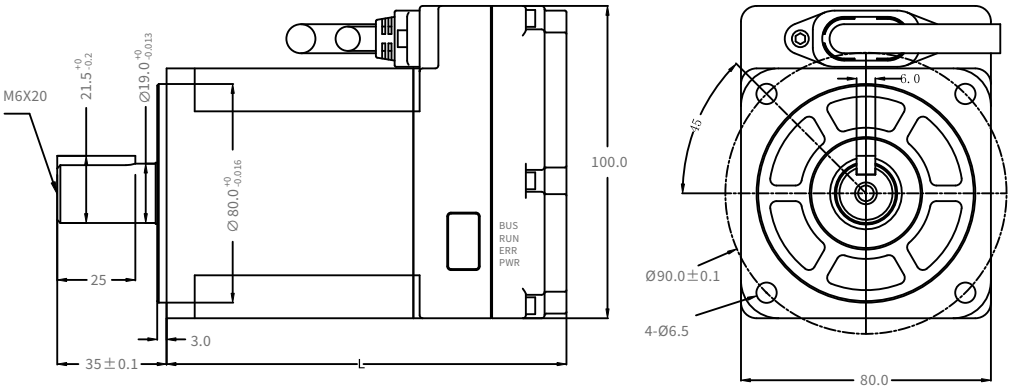
iSMK integrated servo drive motor mechanical dimensions

iSMK60 series mechanical dimension diagram (unit:mm)



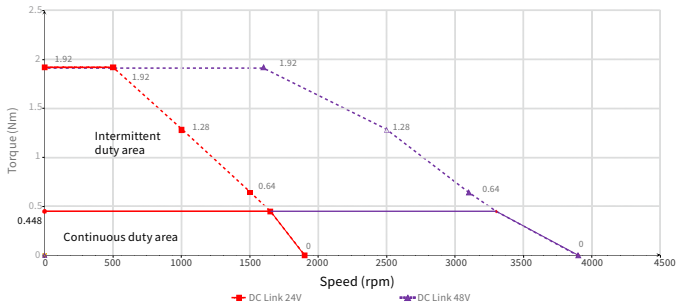
iSMK60 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK60-020-DMAK-AA-000		1.1	88
iSMK60-020-DMBK-AA-000	√	1.6	127.5
iSMK60-040-DMAK-AA-000		1.3	106
iSMK60-040-DMBK-AA-000	√	1.8	145.5

iSMK80 series mechanical dimension diagram (unit:mm)

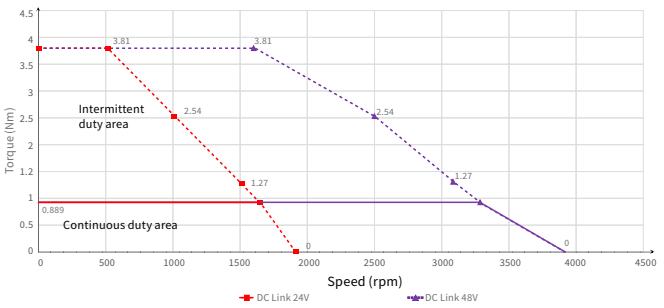


iSMK80 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK80-075-DMAK-AA-000		2.5	128
iSMK80-075-DMBK-AA-000	√	3	158

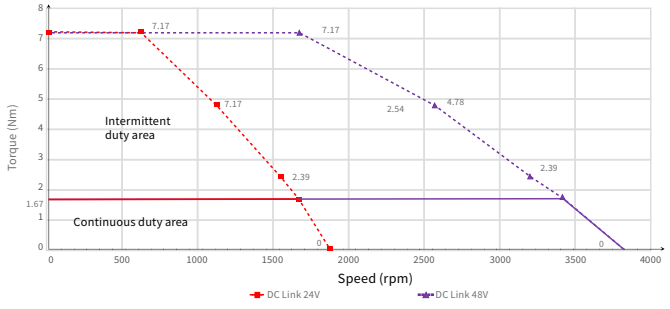
iSMK60-020-DM■K-AA-000



iSMK60-040-DM■K-AA-000

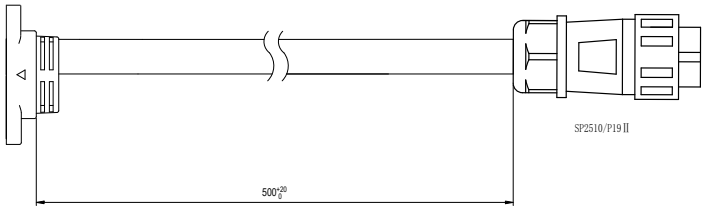


iSMK80-075-DM■K-AA-000



iSMK integrated servo drive motor connection port description

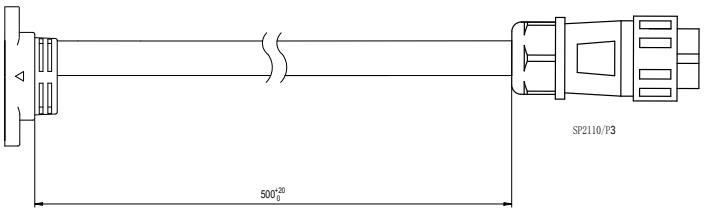
I/O and Communication cable terminal definition



Pin	Name
1	24V
2	BR+
3+4	CANH
5+6	RS485A
7	OUT1+
8	COM_I
9	GND_C
10	GND
11	BR-
12+13	CANL
14+15	RS485B
16	COM_O
17	D11
18	D12
19	NC

Signal	Function description
24V	Using the logic power supply is optional. When using the logic power supply, ensure that the power supply and logic are completely isolated. If the system power supply is not isolated, the logical ground cable is not connected. The logic power supply is connected at GND and 24V
GND	Logic electrical reference ground
BR+ BR-	External release brake input The input voltage is 24V, the maximum input current is 0.7A.
CANH	CAN signal positive end
CANL	CAN signal negative end
485A	RS485 data positive end
485B	RS485 data negative end
GND_C	CAN Signal ground
DIN1 DIN2	Digital signal input；High level: 12.5VDC~30VDC Low level: 0VDC~5VDC Input impedance: 5KΩ Input frequency: <1KHz
COM_I	Digital signal input common
OUT1+	Digital signal output；1 digital output, maximum output current: 100mA
COM_O	Digital signal output common

Power cable port definition



Power line terminal SP2110/P3	Signal
1	48V+
2	48V-
3	NC

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