PROVEN PERFORMANCE

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Kinco® Automation

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Kinco

Motion Control
Servo System

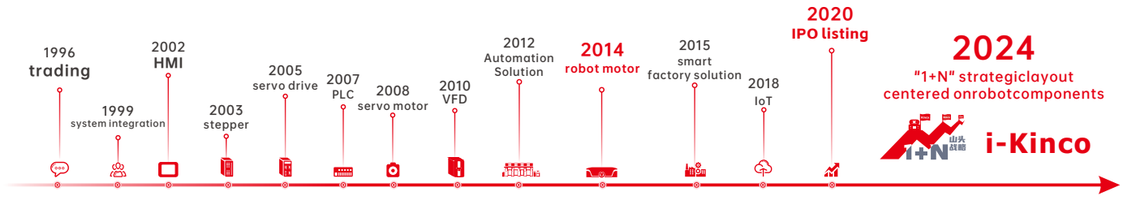
Kinco i Series General Catalog

- iWMC Integrated Servo Wheel
- iSMK drive and motor integrated machine



About us





Kinco was founded in 1996, and successfully listed on the Shanghai Stock Exchange in 2020 (abbreviated name: Kinco share, stock code 688160), which is a high-tech, specialized and sophisticated enterprise that attaches great importance to independent research and development and innovation, mainly engaged in the research and development, production, sales and related technical services of industrial automation and robot core components and digital factory hardware and software.Leading Chinese supplier of motion control and human-machine interaction components for robotics and intelligent devices.

After years of continuous research and development and innovation, Kinco has established a complete product line with independent intellectual property rights, covering a series of products from machine iot to human-machine interaction, control, drive and execution, which are widely used in robots, medical equipment, logistics equipment, packaging equipment, food equipment, clothing equipment, environmental protection equipment, etc. New energy equipment, rail transit equipment and other automation equipment industry.

Based on the comprehensive industrial automation and digital technology platform, the company has in-depth application scenarios in the robot industry, providing display, control, drive and other multi-dimensional solutions for industrial mobile robots, collaborative robots, industrial robots, pan-service robots, and bionic robots. Through the insight of the industry pain points, deep links with robot customers, combined with the advantages of product research and development, the company continues to innovate, and launches industry-leading low-voltage servo products for mobile robots, integrated servo wheel, frameless torque motor for collaborative robots, robot human-machine interfaces, robot controllers and other products. The company has formed a relatively complete robot core parts capability, and after nearly 10 years of hard work in the robot industry, it has become a leading enterprise in the field of mobile robot low-voltage servo, and has a high brand influence in the industry.

Kinco has four research and development centers in Shanghai, Shenzhen, Changzhou and Chengdu, and two manufacturing bases in Shenzhen and Changzhou, a total of 10+ domestic marketing centers, 100+ domestic service providers, 40+ global partners, and products are exported to 70+ countries overseas. In terms of after-sales service, Kinco has established after-sales service centers in Shanghai, Shenzhen and Changzhou.

Four R&D centers and two manufacturing bases



Shanghai



Shenzhen



Changzhou



Chengdu



Shenzhen Manufacturing Center
HMI, PLC, and drive systems



Changzhou Manufacturing Base Motor

i-Kinco is a new integration concept proposed by Kinco based on the technology trend.

The core of i-Kinco is the integration, and compatibility of power components, it takes motor technology as the core, and integrates with drive, reducer, encoder, sensor and other technologies as a whole, developing small volume, lightweight, high protection, easy maintenance of power module.With the ultimate integrated innovative solution, it reduces the comprehensive use cost including hardware, debugging, maintenance, etc. for customers.

In addition, i-Kinco will focus on the robot power standardization construction, deeply explore common needs, and develop standardized products with the universality of subdivided industries, as far as possible to reduce the additional costs caused by customer customization, while improving delivery efficiency. iWMC,iSMK and other products have been launched, will continue to launch more i integrated product.

Ultimate integration all in i-Kinco



Reduce space occupation **Reduce design difficulty** **Simplify installation process**

Release cost reduction space **Energy saving and efficiency improvement**

Improve space utilization:

The integrated product structure is compact, which is conducive to the miniaturization of the vehicle body;

Improve installation efficiency:

Modular vehicle power components, high reliability and can be quickly assemble and disassemble, installation time saving 50%;

Reduce costs:

Integrated and modular products reduce procurement communication costs and overall equipment manufacturing costs;

Assist in going global:

With CE/UL/STO/dual encoder and other safety certifications, it can meet the safety standard requirements of different markets at domestic and international.

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- Explanation of Wiring Ports

iWMC Integrated Servo Wheel

Highly integrated: The four main components of the driver, motor, reducer, and wheel are highly integrated, resulting in a compact structure that facilitates downsizing;

High mounting accuracy: Supported mounting, simple and convenient mounting method, high mounting accuracy, and high control accuracy;

High reliability: The integrated module, with only external power supply and communication cables, is resistant to nickel-contacts and improves the stability and reliability of the entire system;

Compatible design & seamless switching: The communication and usage modes of the servo wheel products are no different from those of the standard Kinco products, allowing seamless switching;

Good maintainability: A single supplier for the integrated product facilitates the maintenance of the product at a later stage and reduces supply chain and after-sale costs.



☑ Design of dual power supply for driver
☑ Support external forced unlocking
☑ Standard CANopen communication protocol
☑ The reducer has low back seam and high precision

■ Application Scenario



50kg~2T
Load various types
of mobile robots

■ Naming rules

iWMC ① 104 ② 09 ③ - 022 ④ 22 ⑤ - A ⑥ 165 ⑦ - M ⑧ B ⑨ D ⑩ T ⑪ - XXXX ⑫

①-Series name
iWMC:4-in-1 servo wheel with drive

②-Outer diameter of motor stator
056=56mm
057=57mm
104=104mm

③-Reducer speed ratio
06=6 speed ratio
09=9 speed ratio
10=10 speed ratio
11=11 speed ratio
15=15 speed ratio
20=20 speed ratio
00=No gearbox

④-Torque:
004:3.6Nm 054:54Nm
012:12Nm 060:60Nm
022:22Nm 080:80Nm
040:40Nm

⑤-Wheel speed (after reducer output)
12:12*10rpm
17:17*10rpm
22:22*10rpm
23:23*10rpm
30:30*10rpm
50:50*10rpm

⑥-Wheel Covering Material/Pattern Type
A: Polyurethane
B: Rubber
C: Other
0: No rubber covered wheel

⑦-Wheel outer diameter
130:130mm
150:150mm
165:165mm
180:180mm
000:0mm

⑧-Encoder type
M:Single turn communication type magnetoelectric encoder

⑨-Brake
A : Without brake
B : With brake

⑩ -Supply voltage:
D: DC48V

⑪ -Connector type/wire length, etc.
T:Standard connector
R:Common body special socketfor

⑫ - Customized code
Customized code: can be freely combined with numbers and letters (0-10 digits)

iWMC Integrated Servo Wheel Module Parameter Specifications

■ Product Parameters

iWMC Integrated Servo Wheel Model Number		iWMC05606-00450-A150-M■DT-L iWMC05606-00450-A150-M■DT-R	iWMC05606-00850-A150-M■DT-L iWMC05606-00850-A150-M■DT-R	iWMC05710-01230-A130-M■DT	iWMC05710-01230-A150-M■DT	iWMC05710-01230-A165-M■DT
Power Supply		24VDC～60VDC	24VDC～60VDC	24VDC～60VDC	24VDC～60VDC	24VDC～60VDC
Logic Supply		24VDC	24VDC	24VDC	24VDC	24VDC
Motor shaft output power (W)		200W	400W	400W	400W	400W
Rated current In (rms)		6A	10A	10A	10A	10A
Rated RPM nN(rpm)		3000	3000	3000	3000	3000
Rated Torque Tn(Nm)		0.64	1.27	1.27	1.27	1.27
Max currentIm(rms)		24	48	48	48	48
Brake Holding Torque T(Nm)		2	2	2	2	2
Whole machine	Rated power (W)	190	379	379	379	379
	Rated Linear Speed (m/s)	3.9	3.9	2	2	2.59
	Max Linear Speed (m/s)	5.2	5.2	2.3	2.7	3
	Rated Torque Tn(Nm)	3.6	7.2	12	12	12
	Peak Torque Tn(Nm)	10.9	21.7	36.1	36.1	36.1
	Tire Diameter (mm)	150	150	130	150	165
	Tire Width (mm)	40	40	35	35	35
	Tire Material	Polyurethane	Polyurethane	Polyurethane	Polyurethane	Polyurethane
	Tire Hardness Rating	73A	73A	85A± 2	85A± 2	85A± 2
	Max radial force N	1500	1500	2500	2500	2500
	Max axial force N	280	280	500	500	500
Energy Consumption Braking		External braking resistor is required (depending on the operating conditions, mainly used for rapid starting and stopping)				
Energy Consumption Braking Voltage Absorption Point		None				
Overvoltage alarm point		DC68V ± 2V				
Undervoltage alarm point		DC18V ± 2V				
Input Specifications		iWMC05606 2 digital inputs ,iWMC05710 4 digital inputs ;Common COMI terminal , High level: 12.5-30VDC ,Low level: 0-5VDC , Maximum frequency: 1KHz ,Input impedance: 5KΩ.				
Output Specifications		1 digital output common COMO terminal,Maximum output current: 100mA				
Brake		Built-in brake and control circuit				
Forced Unlock Interface		1-way forced unlock interface, only for use when there is no power input to the servo wheel	No external forced release interface			
RS485 Debug Port		Maximum support for 115.2Kbps baud rate				
CAN BUS		Maximum support for 1Mbps baud rate, CANopen protocol can be used to communicate with the controller				
Noise		<65dB				
Cooling Methods		Natural cooling & Body-assisted cooling				
Operating Environment	Operating Temperature	0～40°C				
	Storage Temperature	Short-term storage (within 1 month)：-20～65°C;Long-term storage (within 1 month)：-20～65°C				
	Humidity (non-condensing)	90%RH below				
	Protection Level	IP54				
	Altitude	The rated working altitude is up to 1000m above sea level. For working altitudes above 1000m, a reduction of 1.5% is required for every 100 meters of rise in altitude, with a maximum working altitude of 3000 meters above sea level				
	Atmospheric Pressure	67kpa～106kpa				

Note: ■ = A : Without brake B : With brake

iWMC Integrated Servo Wheel Module Parameter Specifications

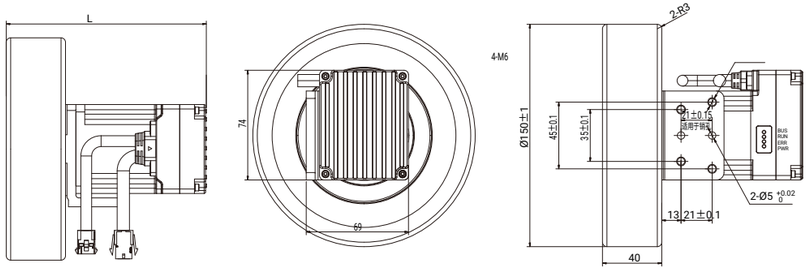
■ Product Parameters

iWMC Integrated Servo Wheel Model		iWMC10409-02222-A165-M■D□	iWMC10411-04023-A180-M■D□	iWMC10415-05417-A180-M■D□	iWMC10420-07512-A180-M■DT
Power Supply		24VDC～60VDC	24VDC～60VDC	24VDC～60VDC	24VDC～60VDC
Logic Supply		24VDC	24VDC	24VDC	24VDC
Motor shaft output power (W)		530W	1050W	1050W	1150W
Rated current In (rms)		12.5A	25A	25A	27.5A
Rated RPM nN(rpm)		2000	2500	2500	2500
Rated Torque Tn(Nm)		2.53	4	4	4.4
Max currentIm(rms)		40A	70A	70A	70A
Brake Holding Torque T(Nm)		4	4	4	4
Whole machine	Rated power (W)	500	950	950	980
	Rated Linear Speed (m/s)	1.9	2.14	1.57	1.57
	Max Linear Speed (m/s)	2.2	2.48	1.82	1.82
	Rated Torque Tn(Nm)	22	40	54	60
	Peak Torque Tn(Nm)	66	99	150	150
	Tire Diameter (mm)	165	180	180	180
	Tire Width (mm)	39.5	50	50	50
	Tire Material	Polyurethane	Polyurethane	Polyurethane	Polyurethane
	Tire Hardness Rating	85A	90A	93A±2	93A±2
	Max radial force N	3000	7000	7000	7000
	Max axial force N	1000	1500	1500	1500
Energy Consumption Braking		External braking resistor is required (depending on the operating conditions, mainly used for rapid starting and stopping)			
Energy Consumption Braking Voltage Absorption Point		DC63V ± 2V			
Overvoltage alarm point		DC68V ± 2V			
Undervoltage alarm point		DC18V ± 2V			
Input Specifications		2 digital inputs ,Common COMI terminal , High level: 12.5-30VDC ,Low level: 0-5VDC ,Maximum frequency: 1KHz ,Input impedance: 5KΩ.			
Output Specifications		1 digital output common COMO terminal,Maximum output current: 100mA			
Brake		Built-in brake and control circuit			
Forced Unlock Interface		1-way forced unlock interface, only for use when there is no power input to the servo wheel.			
RS485 Debug Port		Maximum support for 115.2Kbps baud rate			
CAN BUS		Maximum support for 1Mbps baud rate, CANopen protocol can be used to communicate with the controller			
Noise		<65dB			
Cooling Methods		Natural cooling & Body-assisted cooling			
Operating Environment	Operating Temperature	0～40°C			
	Storage Temperature	Short-term storage (within 1 month): -20～65°C,Long-term storage (within 1 month): -20～65°C			
	Humidity (non-condensing)	90%RH below			
	Protection Level	IP54			
	Altitude	The rated working altitude is up to 1000m above sea level. For working altitudes above 1000m, a reduction of 1.5% is required for every 100 meters of rise in altitude, with a maximum working altitude of 3000 meters above sea level.			
	Atmospheric Pressure	67kpa～106kpa			

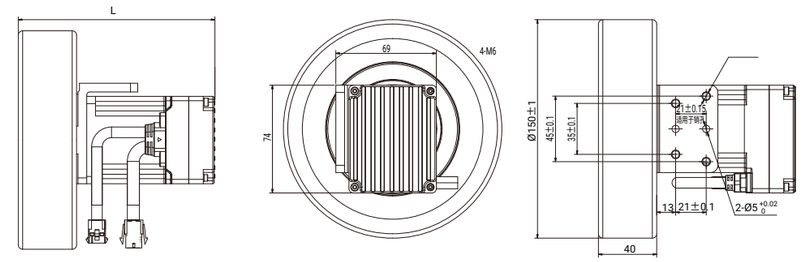
Note: ■= A : Without brake
B : With brake
□= T : Standard connector
R : Common body special socketfor

iWMC Integrated Servo Wheel Module Mechanical Dimensional Drawing

■ iWMC05606-00450-A150-M■DT-L
iWMC05606-00850-A150-M■DT-L



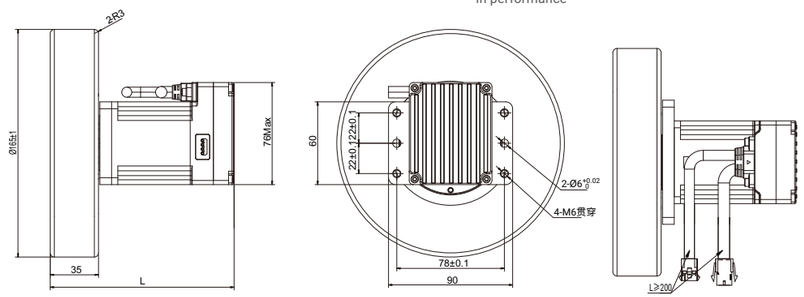
■ iWMC05606-00450-A150-M■DT-R
iWMC05606-00850-A150-M■DT-R



Model	With brake	The length of the whole machine L (mm)
iWMC05606-00450-A150-MADT-L		135±1.5
iWMC05606-00450-A150-MADT-R		
iWMC05606-00450-A150-MBDT-L	✓	174.5±1.5
iWMC05606-00450-A150-MBDT-R		
iWMC05606-00850-A150-MADT-L		153±1.5
iWMC05606-00850-A150-MADT-R		
iWMC05606-00850-A150-MBDT-L	✓	192.5±1.5
iWMC05606-00850-A150-MBDT-R		

Note: - L and - R represent the output schemes of servo wheel motors, with no difference in performance

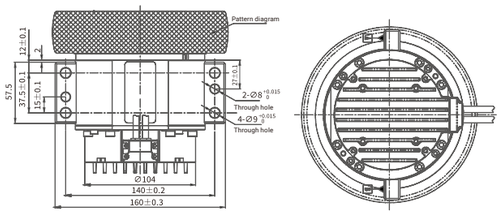
■ iWMC05710

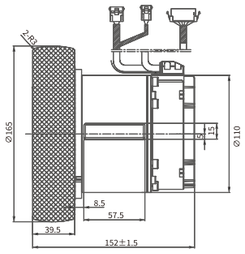


Model	With brake	The length of the whole machine L (mm)
iWMC05710-01230-A130-MADT		133.3
iWMC05710-01230-A150-MADT		
iWMC05710-01230-A165-MADT		
iWMC05710-01230-A130-MBDT	✓	172.8
iWMC05710-01230-A150-MBDT		
iWMC05710-01230-A165-MBDT		

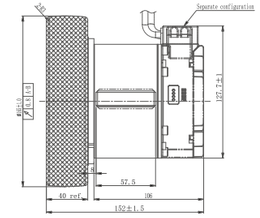
iWMC Integrated Servo Wheel Module Mechanical Dimensional Drawing

■ iWMC10409-02222-A165-M■D□



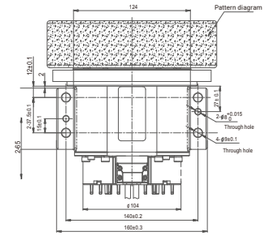


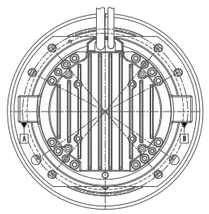
Note: Applicable to □=T: standard connector

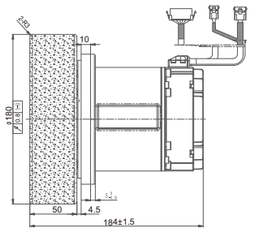


Note: Applicable to □=R:Common body special socketfor

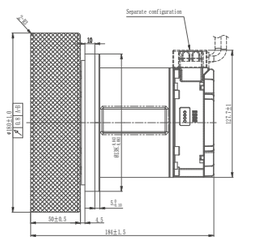
■ iWMC10411-04023-A180-M■D□





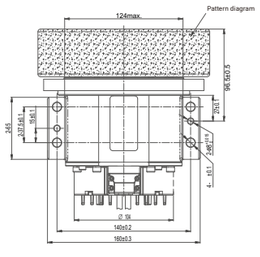


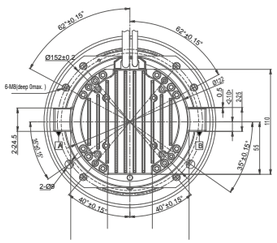
Note: Applicable to □=T: standard connector

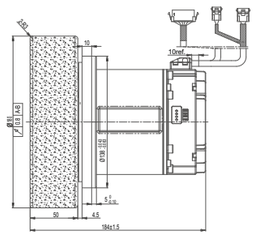


Note: Applicable to □=R:Common body special socketfor

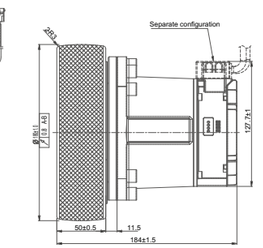
■ iWMC10415-05417-A180-M■D□







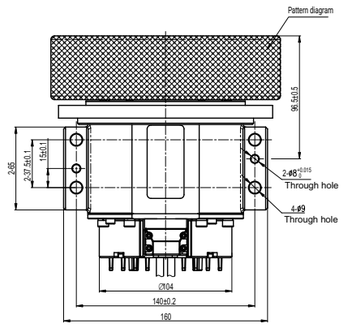
Note: Applicable to □=T: standard connector

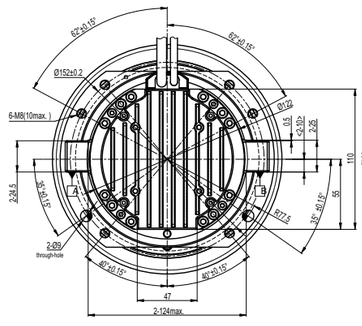


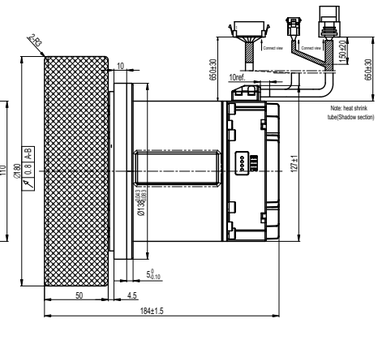
Note: Applicable to □=R:Common body special socketfor

iWMC Integrated Servo Wheel Module Mechanical Dimensional Drawing

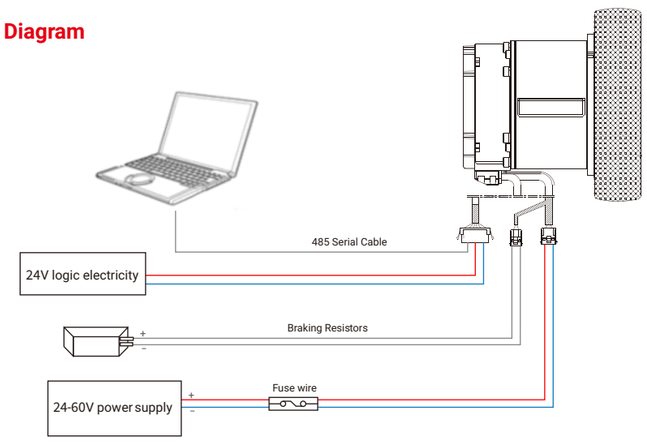
■ iWMC10420-07512-A180-M■DT





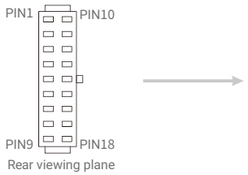


■ External Wiring Diagram



iWMC Integrated Servo Wheel Module Wiring Port Instructions

■ Terminal definition



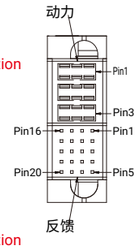
PIN	Signal	PIN	Signal
1	24V	10	GND
2	LOCK+	11	LOCK-
3	CANH	12	CANL
4	CANH	13	CANL
5	485A	14	485B
6	485A	15	485B
7	OUT1+	16	COMO
8	COMI	17	DI1
9	空	18	DI2

Note: 1. Only applicable to iWMC05606, iWMC104 (standard connector) series 2. Pin 9: iWMC05606 signal is GNDC, iWMC104 series signal is empty.

PIN	Signal	PIN	Signal
1	24V	10	GND
2	DI4	11	GNDC
3	CANH	12	CANL
4	CANH	13	CANL
5	485A	14	485B
6	485A	15	485B
7	OUT1+	16	COMO
8	COMI	17	DI1
9	DI3	18	DI2

Note: Applicable to iWMC05710 series.

Feedback terminal definition



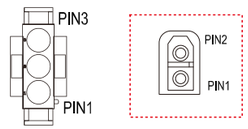
PIN	Signal	PIN	Signal
1	LOCK-	11	/
2	LOCK+	12	CANL
3	+24V	13	CANH
4	GND	14	CANL
5	OUT+	15	CANH
6	/	16	/
7	DI1	17	485B
8	DI2	18	485A
9	COMI	19	485B
10	COMO	20	485A

Power terminal definition

PIN	signal
1	48V+
2	48V-
3	RB-

Note: Applicable to iWMC104 (Common body special socketfor) series.

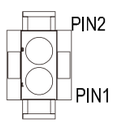
Power port



Pin number	Pin name	Pin function
3	DC-	The input end ofthe power supply of the driver must be connected. Input voltage:24~60VDC
1	DC+	

Note: Marking interface applicable to iWMC10420-07512-A180-M■DT(PIN1 DC+ ;PIN2 DC-)

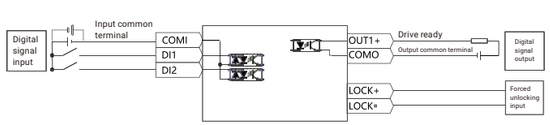
Brake resistance port



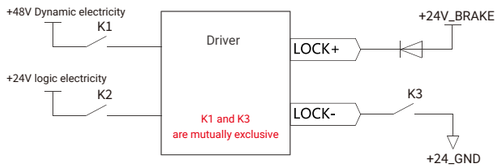
Pin number	Pin name	Pin function
1	RB+	External braking resistor input terminal
2	RB-	

Note: iWMC05606 and iWMC05710 do not have this port

iWMC Integrated Servo Wheel Control Wiring Diagram



Wiring Diagram of Recommended Circuit for Forced Unlocking Brake



Note1: Not applicable to iWMC05710 series
Note2: The forced unlocking function needs to be used after the power supply of the servo wheel is cut off.

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, EtherCAT,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;
Can be equipped with a standard reducer, suitable for rotary jacking and other scenes.



iSMK naming rules

Model: iSMK 60- 040- D M A K- AA- 000- D000
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①-Series name	iSMK:iSMK Integrated servo motor	⑥-Brake	A:Without brake B:With brake
②-Flange	40:40x40(mm) 60:60x60(mm) 80:80x80(mm)	⑦-Output axis style	K: With key
③-Rated power	010:10x10(W) 020:20x10(W) 040:40x10(W) 075:75x10(W)	⑧-Contro mode	AA:RS485、CANopen、Not pulse、24V logic power supply EA:RS485、EtherCAT、Not pulse、24V logic power supply
④-Supply voltage	D:Input Voltage DC24～60V	⑨-Software version number	000:Software version number
⑤-Encoder type	M:Singleturn communication type magnetoelectric encoder	⑩-Model	D000: IO upgrade model

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

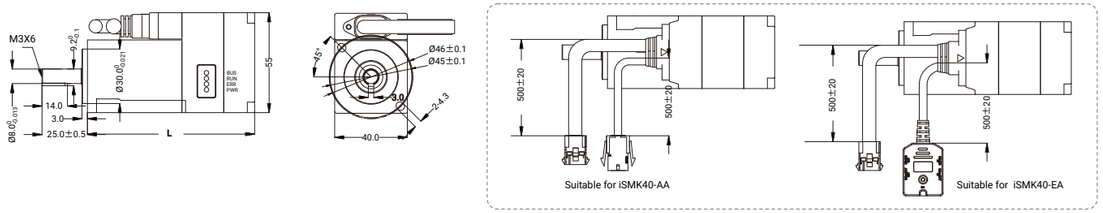


Model parameter		iSMK drive and motorintegrated machine			
		iSMK40-010-DM■K-□A-000-D000	iSMK60-020-DM■K-□A-000-D000	iSMK60-040-DM■K-□A-000-D000	iSMK80-075-DM■K-□A-000-D000
Input	power	24VDC～60VDC			
	Built-in fuse	Null			
	Logic power	24V			
Output	Maximum continuous output current (rms)	4	7	12	23
	Peak current (AP)	18	24	48	100
Motor part	Rated power Pn(W)	100	200	400	750
	Rated speed nN(rpm)	3000	3000	3000	3000
	Rated torque Ts(Nm)	0.32	0.64	1.27	2.39
	Maximum torque Tm(Nm)	0.96	1.92	3.81	7.17
	Rotational inertia Jm (Kg•cm²)	0.044	0.17	0.31	0.85
		0.046 (With brake)	0.174 (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 68V±2V			
Undervoltage alarm voltage		The default is 68V±2V			
Cooling mode		Natural cooling			
	Input specification	iSMK40 2 digital inputs，iSMK60&80 4 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			
	Protect function	Overvoltage protection, undervoltage protection, motor overheat (I^2T) protection, short circuit protection, drive 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			
	EtherCAT	Support CoE(CiA402 protocol)and CSP/CSV/PP/PV/PT/HM mode,communication speed 100M			
Apply environment	Working Temperature	-20°C～40°C (no freezing),When the operating temperature exceeds 40°C, the driver needs to be derated			
	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 3000 meters above sea level.			
	Atmospheric pressure	67kpa～106kpa			

Note1:■=A: Without brake
=B: With brake (Power supply conversion, external unlocking)
Note2:□=A: RS485、CANopen
=E: RS485、EtherCAT

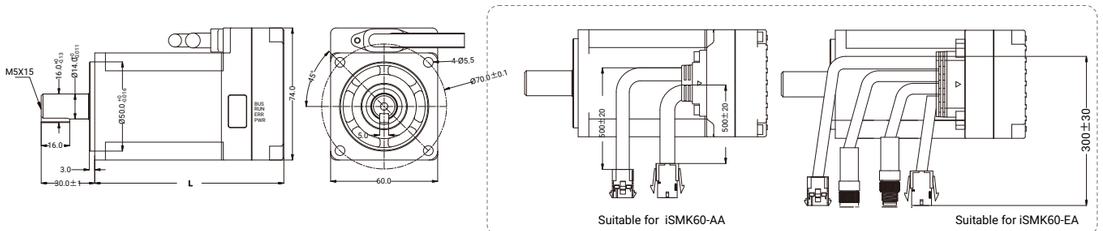
iSMK integrated servo drive motor mechanical dimensions

iSMK40 series mechanical dimension diagram (unit:mm)



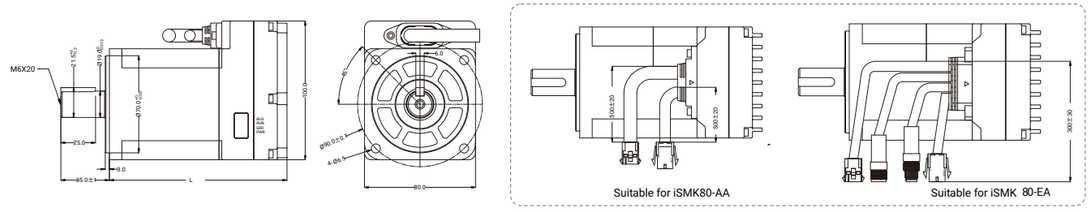
iSMK40 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK40-010-DMAK-AA-000-D000		0.6	92
iSMK40-010-DMBK-AA-000-D000	√	0.8	126
iSMK40-010-DMAK-EA-000-D000		0.7	92
iSMK40-010-DMBK-EA-000-D000	√	0.9	126

iSMK60 series mechanical dimension diagram (unit:mm)



iSMK60 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK60-020-DMAK-AA-000-D000		1.1	88
iSMK60-020-DMBK-AA-000-D000	√	1.6	127.5
iSMK60-020-DMAK-EA-000-D000		1.3	88
iSMK60-020-DMBK-EA-000-D000	√	1.9	127.5
iSMK60-040-DMAK-AA-000-D000		1.3	106
iSMK60-040-DMBK-AA-000-D000	√	1.8	145.5
iSMK60-040-DMAK-EA-000-D000		1.6	106
iSMK60-040-DMBK-EA-000-D000	√	2.1	145.5

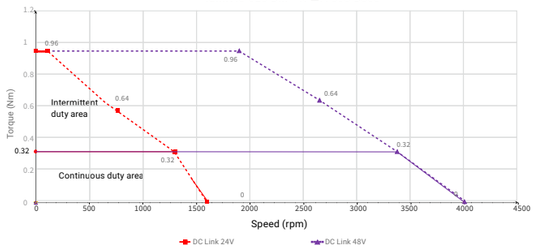
iSMK80 series mechanical dimension diagram (unit:mm)



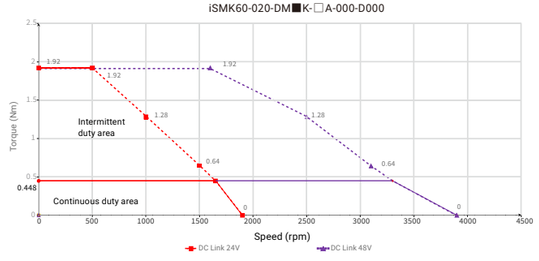
iSMK60 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK80-075-DMAK-AA-000-D000		2.5	128
iSMK80-075-DMBK-AA-000-D000	√	3	158
iSMK80-075-DMAK-EA-000-D000		2.8	128
iSMK80-075-DMBK-EA-000-D000	√	3.3	158

iSMK Series Torque Characteristic Curve of Integrated Servo Drive Motor

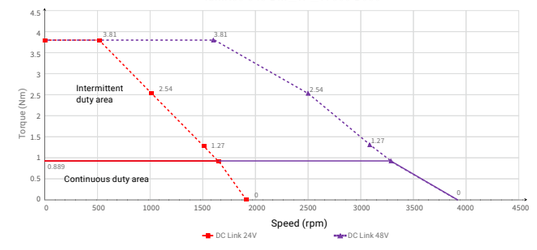
iSMK40-010-DM■K-□A-000-D000



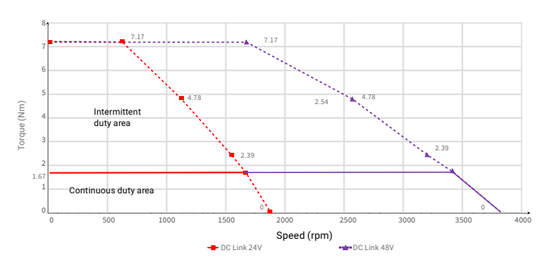
iSMK60-020-DM■K-□A-000-D000



iSMK60-040-DM■K-□A-000-D000

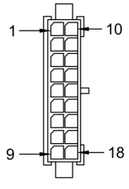


iSMK80-075-DM■K-□A-000-D000



iSMK integrated servo drive motor connection port description

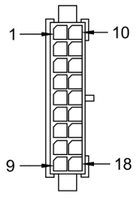
iSMK40-AA communication terminal definition



A			B		
PIN	Name	Cable color	PIN	Signal	Cable color
1	24V	Red	10	GND	Black
2	/	/	11	GNDC	Purple and black
3	RS485A	Outer lead A	12	CANL	Outer lead C
4	CANH	Blue and black+Outer lead A	13	CANL	Blue+Outer lead C
5	RS485A	Outer lead B	14	RS485B	Outer lead D
6	RS485A	Orange and black+Outer lead B	15	RS485B	Orange+Outer lead D
7	OUT1+	Yellow and black	16	COMO	Yellow
8	COMI	White	17	DI1	Green
9	/	/	18	DI2	White and black

Note: Kinco EXC-iGMK-AA-A6 external cable can be purchased

iSMK60&80-AA communication terminal definition

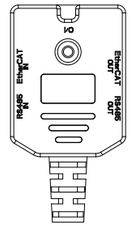


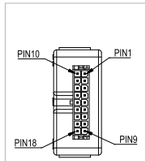
A			B		
Pin	NAME	Cable color	Pin	NAME	Cable color
1	24V	Red	10	GND	Black
2	DI4	Purple	11	GNDC	Purple and black
3	CANH	Blue and black	12	CANL	Blue
4	CANH	Blue and black	13	CANL	Blue
5	RS485A	Orange and black	14	RS485B	Orange
6	RS485A	Orange and black	15	RS485B	Orange
7	OUT1+	Yellow and black	16	COMO	Yellow
8	COMI	White	17	DI1	Green
9	DI3	Green and black	18	DI2	White and black

Note: Kinco EXC-iGMK-AA-A6 external cable can be purchased

iSMK integrated servo drive motor connection port description

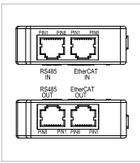
iSMK40-EA communication terminal definition





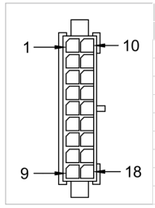
A		B	
PIN	Signal	PIN	Signal
1	24V	10	GND
2	/	11	GNDC
3	/	12	/
4	/	13	/
5	RS485A	14	RS485B
6	RS485A	15	RS485B
7	OUT1+	16	COMO
8	COMI	17	DI1
9	/	18	DI2

Note: Kinco EXC-iGMK-AA-A6 external cable can be purchased
(Pins 3, 4, 12, 13 of the iSMK-EA series are empty, and the corresponding color cable of these four pins of the external cable can be ignored)



PIN	RS485 IN/RS485 OUT	EtherCAT IN	EtherCAT OUT
1	/	IN TX+	OUT TX+
2	/	IN TX-	OUT TX-
3	/	IN RX+	OUT RX+
4	GND_C	/	/
5	RS485B	/	/
6	RS485A	IN RX-	OUT RX-
7	/	/	/
8	/	/	/

iSMK60&80-EA communication terminal definition



A		B	
PIN	Signal	PIN	Signal
1	24V	10	GND
2	DI4	11	GNDC
3	/	12	/
4	/	13	/
5	RS485A	14	RS485B
6	RS485A	15	RS485B
7	OUT1+	16	COMO
8	COMI	17	DI1
9	Di3	18	Di2



M8-PD4	PIN	Signal
	1	IN TX+
	2	IN RX+
	3	IN TX-
	4	IN RX-

Note: Kinco M8SD4-RJ45-LL-F and M8SD4-M8PD4-LL-F external cable can be purchased



M8-SD4	PIN	Signal
	1	OUT TX+
	2	OUT RX+
	3	OUT TX-
	4	OUT RX-

Note: Kinco M8PD4-RJ45-LL-Fand M8SD4-M8PD4-LL-F external cable can be purchased

Note: Kinco EXC-iGMK-AA-A6 external cable can be purchased (Pins 3, 4, 12, 13 of the iSMK-EA series are empty, and the corresponding color cable of these four pins of the external cable can be ignored)

IO signal description

Signal	Function description
24V	24V logic power input The logic power supply is an optional option. 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 DC- and 24V
GND	Logic electrical reference ground
CANH	CAN signal positive end (only the iSMK-AA series has this pin)
CANL	CAN signal negative end (only the iSMK-AA series has this pin)
RS485A	RS485 data positive end
RS485B	RS485 data negative end
DI1 DI2 DI3 DI4	Digital signal input,COMI terminal; High level: 12.5 ~ 30VDC Low level: 0 ~ 5VDC Input impedance: 5KΩ Maximum frequency: 1KHz
COMO	Digital signal output common terminal
COMI	Digital signal input common end
OUT1+	Digital signal output,OUT1 for the open collector output, the highest voltage 30V, driving capacity of 100mA

Definition of power cable ports

Power line terminal C6350HM-3P-V0	Signal	Color
1	48V+	Red
2	/	/
3	48V-	Black

Note: Kinco EXC-iGMK-AA-A6 external cable can be purchased