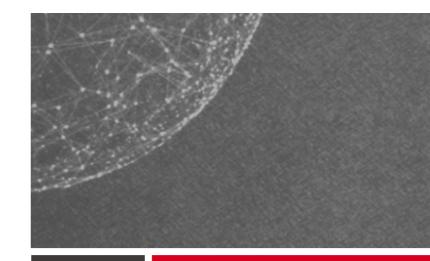
PROVEN PERFORMANCE

Customers in over 60 countries and in diverse markets and sectors.





Motion Control Servo System

Kinco i Series General Catalog €



Kinco[®] Automation www.en.kinco.cn Email:sales@kinco.cn

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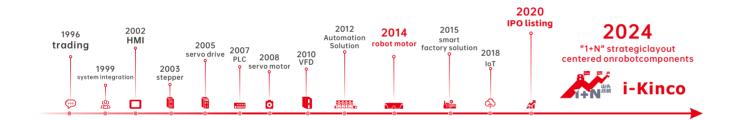




- iWMC Integrated Servo Wheel - iSMK drive and motor integrated machine

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. It is a leading supplier of automation control, robot power and digital factory solutions in China.

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.

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



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

03 iWMC Integrated Servo Wheel

- Naming Rules
- Parameter Specifications
- **Dimension Diagram**
- **External Wiring Diagram**
- **Explanation of Wiring Ports**

10 Integrated Servo Motor

Naming Rules Technical Parameters Dimension Diagram **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	104	09 -	022	22 -	Α	165-	ΜB	D	<u>T</u> -	XXXX
1	2	3	4	(5)	6	(7)	8 9	10	11	12

①-Series name iWMC:4-in-1 servo wheel with drive WMC:3-in-1 servo wheel without drive	⑤-Wheel speed (after reducer output) 17:17*10rpm 22:22*10rpm	 8-Encoder type M:Single turn communication type magnetoelectric encoder
②-Outer diameter of motor stator 056=56mm 104=104mm	©-Wheel Covering Material/Pattern Type	⑨-BrakeA: Without brakeB: With brake
③-Reducer speed ratio 06=6 speed ratio 09=9 speed ratio 11=11 speed ratio	A: Polyurethane B: Rubber C: Other 0: No rubber covered wheel	⑩ -Supply voltage:D: DC48V
15=15 speed ratio 20=120 speed ratio 00=No reducer	⑦-Wheel outer diameter	① -Connector type/wire length, etc.T:Standard connector
 ④-Torque: 022:22Nm 040:40Nm 054:54Nm 060:60Nm 080:80Nm 	150:150mm 165:165mm 180:180mm 000:0mm	 @ - Customized code Customized code: can be freely combined with numbers and letters (0-10 digits)

iWMC Integrated Servo Wheel Module Parameter Specifications

Product Parameters

<table-container> Percent Part Part Part Part Part Part Part Par</table-container>	iWMC Integrated Servo Wheel Model Number		iWMC05606-00450-A150-M DT-L iWMC05606-00450-A150-M DT-R	iWMC10409-02222-A165-M DT	iWMC10411-04023-A180-M∎DT		
Rated Linear Speed //r Jone Sea 1.9 2.14 Accessed Rated Torque Tn(N/m //r S 3.6 2.1 40 40 Peak Torque Tn(N/m //r S 10.9 60 9 9 Tice Joanset (rouge Tn(N/m //r S)) 10.9 60 9 30 Tice Marker //r S 40 3.5 5 30 Tice Marker //r S 73.4 64 9 9 30 Tice Marker //r S 73.4 64 9 9 30 <td>Power</td> <td>Power Supply</td> <td colspan="5">24VDC~60VDC</td>	Power	Power Supply	24VDC~60VDC				
<table-container>Rated Torque Tn(H)s.6.9.4Peak Torque Tn(H)10.960.09.9Tre Barder Composition10.010.010.0Tre Wated/Tre Wated/Tre Water60.08.00.0Tre Marcines Patting7.08.09.00.0Tre Marcines Patting7.08.09.00.0Tre Marcines PattingNonDiscription of the composition of the</table-container>		Logic Supply	24VDC				
Peak Torque Tn(Hm) ID.9 60 9 Tire Wather 150 165 180 Tire Wather 40 39.50.00 50 Tire Markers Rating FAA 5A 90A Energy Consumptions Parking Voltage Absorption Point None External braking resistor is required (depending and storps) For early for analy starting and storps) Converolateg analytic Marker Store Stor	Rated Linear Speed	d (m/s)	3.9	1.9	2.14		
The bianeter (mm)150160160Tre Width(rm)403.550Tre Width(rm)60/urethare56.030.0Tre Hardness Raiter73.656.030.0Energy ConsumptionsNoneExternal braking resistor is required (depending on the operating conditions, aniny used for rapid starting and stoppicty)Energy ConsumptionsNoneDEGSY ± 2VOvervoltage alarm pointCGSY ± 2VStarting and stoppicty)Undervoltage alarm pointCGSY ± 2VStarting and stoppicty)Undervoltage alarm pointCGSY ± 2VStarting and stoppicty)Inductive alard alard (and the point)Starting and stoppicty)Starting and stoppicty)Undervoltage alarm pointCGSY ± 2VStarting and stoppicty)Inductive alard and and another (creating and stoppicty)Starting and stoppicty)Starting Starting and stoppicty)Starting and stoppicty)Starting and stoppicty)Inductive add another (creating and stoppicty)Starting and stoppicty)Starting and stoppicty)Starting Starting and stoppicty)Starting and stoppicty)Starting and stoppicty)Starting Starting and stoppicty)Starting and stoppicty)Starting and stoppicty)Starting Starting Starting and stoppicty)Starting and stoppicty)Starting and stoppicty)Starting Starting Starting Starting and stoppicty)Starting and stoppicty)Starting and stoppicty)Starting Starting Sta	Rated Torque Tn(N	m)	3.6	21	40		
Intervise And Solution Solution The Waterial Polyurethane Polyurethane Polyurethane The Markers Rating TaA SSA 90A Energy Consumption None External bracking resistors is required (dep undig resistor) is requir	Peak Torque Tn(Nr	n)	10.9	60	99		
Tre Material Polyuretane Tre Hardness Rating 73A 85A 90A Energy Consumption Braking None External Insegner sistors is required (dep=ruling on the operating conditions, minally used for rapid starting and stopp). Internal Insegner sistors is required (dep=ruling on the operating conditions, minally used for rapid starting and stopp). Energy Consumption Braking Voltage Absorption Point None CGSV ± 2v Overoltage alarry Fort DGSV ± 2v Undervoltage alarry Undervoltage alarry Fort DGSV ± 2v Undervoltage alarry Undervoltage alarry Output Sequefifications To GSV ± 2v Undervoltage alarry Undervoltage alarry Sequefifications To Galary ± 2v Undervoltage alarry Undervoltage alarry Sequefifications Galage donoto drout forcut Undervoltage alarry Undervoltage alarry Sequefifications Asaforce (D	Tire Diameter (mm)	150	165	180		
The Hardness Rating YaA SAA Main Energy Consumption None External braking resistor is required (deporting on the operating conditions, mainly used for rapid starting and stopping) Energy Consumption None DGSV ± 2v Overvoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint DCGSV ± 2v DCGSV ± 2v SGA DCGSV ± 2v DCGSV ± 2v Indervoltage alarm pint Builtin brake and control Grouti Ensemptint = 100 mainting and stoppint = 100 main	Tire Width(mm)		40	39.5	50		
Energy Consumption braking None Determal braking resistor is required (depending on the operating conditions, mainly used for rapid starting and stoppin). Energy Consumption braking Voltage Absorption Point None DCG3V ± 2V Overvoltage alarr point CCG3V ± 2V V Input Specifications CCG3V ± 2V V Undervoltage alarr point CCG3V ± 2V V Output Specifications 2 digital inputs, common COM terminal, High Heit L25 300PC, Low level 0-5VDC, Maximum fequency, 1KHz, Input impedance: 5KQ. Output Specifications I digital output, common COM terminal, Maximum output current: 100mA Energy Common COM terminal, Maximum output current: 100mA Brake Built-In brake and control circuit Justificat output, common COM terminal, Maximum output current: 100mA StaS Debug Port Exavg forced unlock interface, only for use who reprotocol can be used to communicate the controller RA48 TONU point Support for 1152Kbys band rate, CAME point Support for 1152Kbys band rate, CAME point Support for 1150 point Support f	Tire Material		Polyurethane				
Energy Consumption binking None mainly used for rapid starting and stopping. The Call of the Call	Tire Hardness Rati	ng	73A	85A	90A		
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: 5KQ. Output Specifications 1 digital output, Common COMI terminal, High level: 12.5.30VDC, Low level: 0-5VDC, Maximum frequency: 1KHz, Input impedance: 5KQ. Brake 8uilt-in brake and control circuit Enternational distribution output current: 100mA Forced Unlock InterFace 1 vag forced unlock interface, only for usw-in three is no power input to the servo with the controller RS485 Debug Port Maximum support for 115.2Kbps bad rate; CANBUS Maximum support for 115.2Kbps bad rate; CANBUS Drive Current Max. continuous output current(TOM 26A 26A Porke Current (PEAK) 26Ap 64AP 100AP(<23)	Energy Consumpti	on Braking	None				
DEBY ± 2V Seligital inputs, Common COM terminal, High I=vel: 125-30VDC, Low level: 0-SVDC, Maximum Feuency: 1KH2, Input impedance: SKO. Output Specification: 1 digital output, Common COM terminal, Maximum output current: 100mA Brake Seligital inputs, Common COM terminal, Maximum output current: 100mA Brake Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Brake Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital output, Common COM terminal, Maximum output current: 100mA Seligital Contrent (PEAK) Seligital Seligital Seligital Seligital Seligital Seligital Seligital Seligita	Energy Consumpti	on Braking Voltage Absorption Point	None	$DC63V \pm 2V$			
Input Specifications 2 digital inputs, common COM terminal, High-Is-125.300 C, Low level: 0-500 C, Maximum requency: 1MHz, Input impedance: SGA. Output Specifications 1 digital output, Common COM terminal, Jught-Isomon output current: 100mA Brake Built-in brake and control circuit Forced Unlock InterFace I-way forced unlock interface, only for us w-there is no power input to the servo w-terminal output current: 100mA R5455 Debug Port Maximum support for 115.2Kbps band rate CAN BUS Maximum support for 1Mbps band rate, CAM power input to the servo w-terminal output current: W-terminal outpu	Overvoltage alarm	point	$DC68V \pm 2V$				
Output Specificativedigital output , Commo COMO terminal , Maximum output current: 100mABrakeBuilt-in brake and control circuitForced Unlock Inter-F1-way forced unlock interface, only for use where is no power input to the servo whereR5485 Debug Port1-way forced unlock interface, only for use where is no power input to the servo whereR5485 Debug Port1-way forced unlock interface, only for use where is no power input to the servo whereR5485 Debug Port1-way forced unlock interface, only for use where is no power input to the servo whereR5485 Debug PortMaxic ontinuous output current (maximum support for 115.2%Ds bad rateCAN BUSMax. continuous output current (maximum support for 115.2%Ds bad ratePorte Current (PEAK)Apa Contol (and Cance)Porte Current (PEAK)Apa Contol (and Cance)MotorRated RPM nN(rpm)0-00Add Torque TN(nn)0-002-00Orige Methody2-004NoiseCostand Cance)4Coling Methody-0-40°CStrate Coling & Body-assisted cooling-0-40°CNoter-0-40°C	Undervoltage aları	m point	$DC18V \pm 2V$				
Bake Built in brake and control circuit Forced Unlock InterFace, only for use were there is no power input to the servo were the servor the servor the servor the servor were the servor the ser	Input Specification	IS	2 digital inputs , Common COMI terminal , High level: 12.5-30VDC , Low level: 0-5VDC , Maximum frequency: 1KHz , Input impedance: 5KΩ.				
Forced I-way forced unlock interface, only for use t-there is no power input to the servour input to the	Output Specificatio	ons	1 digital output , Common COMO terminal , Maximum output current: 100mA				
R485 Debug Port Maximum support for 115.2kbps baid rate. CAN BUS Maximum support for 1Mbps baid rate, CAN-buscol can be used to communicate the controller Drive Current Max. continuous output current (rm) 7A 16A 26A Peak Current (PEAK) 26Ap 64AP 100AP(<2s)	Brake		Built-in brake and control circuit				
CAN BUS Maximum support for 1Mbps baud rate, CAN-per protocol can be used to communicate with the controller Drive Current Max. continuous output current (rms) 7A 16A 26A Peak Current (PEAK) 26Ap 64AP 100AP(<2s)	Forced Unlock Inte	rface	1-way forced unlock interface, only for use when there is no power input to the servo wheel				
NoteMax. continuous output current (m) Peak Current (PEAK)7A16A26APeak Current (PEAK)26Ap64AP100AP(<2s)	RS485 Debug Port		Maximum support for 115.2Kbps baud rate				
Drive CurrentPeak Current (PEAK)26Ap64AP100AP(<2s)MotorRated RPM nN(rpm)300020002500MotorRated Torque Tn(Nm)0.642.44Brake Holding Torque T(Nm)244Noise<65B	CAN BUS		Maximum support for 1Mbps baud rate, CANopen protocol can be used to communicate with the controller				
Peak Current (PEAK)26Ap64AP100AP(<2s)MotorRated RPM nN(rpm)300020002500MotorRated Torque Tn(Nm)0.642.44Noise2442Noise<65dB	Drive Current	Max. continuous output current (rms)	7A	16A	26A		
Motor Rated Torque Tn(Nm) 0.64 2.4 4 Brake Holding Torque T(Nm) 2 4 4 Noise <65dB	Drive Current	Peak Current (PEAK)	26Ap	64AP	100AP(<2s)		
Brake Holding Torque T(Nm) 2 4 Noise <65dB		Rated RPM nN(rpm)	3000	2000	2500		
Noise <66dB Cooling Methods Natural cooling & Body-assisted cooling Operating Temperature 0~40°C Storage Temperature -20°C~60°C Humidity (non-condensing) 90%RH below Protection Level IP54 Altitude The rated working altitude is up to 1000m above sea level. For working altitude of 2000 meters of rise in altitude, with a maximum working altitude of 2000 meters sea level.	Motor	Rated Torque Tn(Nm)	0.64	2.4	4		
Cooling Methods Natural cooling & Body-assisted cooling Operating Temperature 0~40°C Storage Temperature -20°C~60°C Humidity (non-condensing) 90%RH below Protection Level IP54 Altitude The rated working altitude is up to 1000m above sea level. For working altitude of 2000 meters above sea level.		Brake Holding Torque T(Nm)	2	4	4		
Operating Temperature 0~40°C Storage Temperature -20°C~60°C Humidity (non-condensing) 90%RH below Protection Level IP54 Altitude The rated working altitude is up to 1000m above sea level. For working altitude of 2000 meters above sea level.	Noise		<65dB				
Storage Temperature -20°C~60°C Humidity (non-condensing) 90%RH below Protection Level IP54 Altitude The rated working altitude is up to 1000m above sea level. For working altitude of 2000 meters above sea level.	Cooling Methods		Natural cooling & Body-assisted cooling				
Operating Environment 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 2000 meters above sea level.	Operating Temperature		0~40°C				
Operating Protection Level IP54 Intract 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 2000 meters above sea level.		Storage Temperature	-20°C~60°C				
Protection Level IP54 Environment 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 2000 meters above sea level.	Onertine	Humidity (non-condensing)	90%RH below				
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 2000 meters above sea level.		Protection Level	IP54				
Atmospheric Pressure 86kpa~106kpa	Livitonment	Altitude	• ·	·			
		Atmospheric Pressure	86kpa~106kpa				

Note: = A : Without brake B : With brake

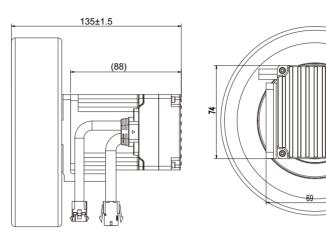
Product Parameters

iWMC Integrated	d Servo Wheel Model Number	iWMC10415-05417-A180-M DT	iWMC10415-06017-A180-M■DT	iWMC10420-08012-A180-M■DT		
Power	Power Supply	24VDC~60VDC				
	Logic Supply	24VDC				
Rated Linear Speed	(m/s)	1.57	1.57	1.18		
Rated Torque Tn(Nm	n)	54	60	80		
Peak Torque Tn(Nm))	150	150	200		
Tire Diameter (mm)		180	180	180		
Tire Width(mm)		50	50	50		
Tire Material		Polyurethane				
Tire Hardness Rating	g	93A±2				
Energy Consumption	n Braking	External braking resistor is required (depend	ing on the operating conditions, mainly used	for rapid starting and stopping)		
Energy Consumption	n Braking Voltage Absorption Point	DC63V \pm 2V (Default, settable)				
Overvoltage alarm p	point	$DC68V \pm 2V$				
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 Specification	ns	1 digital output , Common COMO terminal , Maximum output current: 100mA				
Brake		Built-in brake and control circuit				
Forced Unlock Inter	face	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				
Drive Current	Max. continuous output current (rms)	25A	27A	27A		
Drive Current	Peak Current (PEAK)	100Ap(<2s)	100Ap(<2s)	100Ap(<2s)		
	Rated RPM nN(rpm)	2500	2500	2500		
Motor	Rated Torque Tn(Nm)	4	4.4	4.4		
	Brake Holding Torque T(Nm)	4	4	4		
Noise		<65dB				
Cooling Methods		Natural cooling & Body-assisted cooling				
	Operating Temperature	0~40°C				
	Storage Temperature	-20~60°C				
0	Humidity (non-condensing)	90%RH below				
Operating Environment	Protection Level	IP54				
Livioiment	Altitude	The rated working altitude is up to 1000m at	Ŭ.			
	Atmospheric Pressure	for every 100 meters of rise in altitude, with a 86kpa~106kpa	a maximum working attitude of 2000 meters a	אטטער ארש ופאפו.		

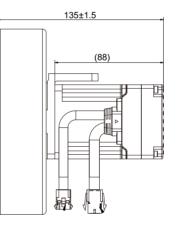
Note: = A : Without brake B : With brake

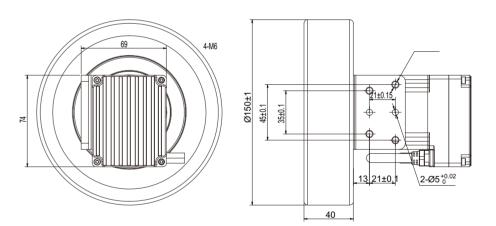
iWMC Integrated Servo Wheel Module Mechanical Dimensional Drawing

• iWMC05606-00450-A150-M DT-L

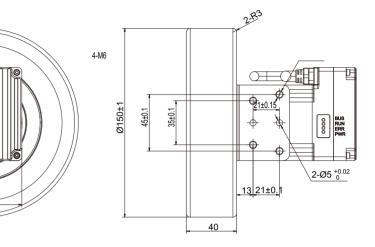


• iWMC05606-00450-A150-M DT-R





Model	The length of the motor bodyL (mm)	The length of the whole machine L1 (mm)	
iWMC05606-00450-A150-MADT-L	88	135±1.5	
iWMC05606-00450-A150-MADT-R	00		
iWMC05606-00450-A150-MBDT-L	127.5	174.5+1.5	
iWMC05606-00450-A150-MBDT-R	121.3	174.5±1.5	

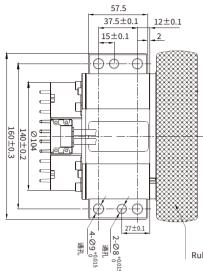


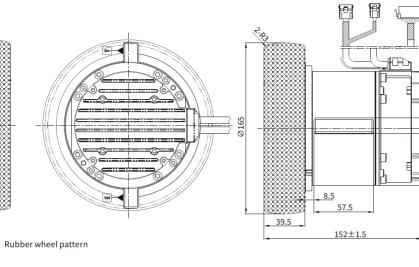
iWMC10409-02222-A165-M DT

iWMC10415-06017-A180-M DT

2-65 <u>22.5+0</u>,1 /.5±0.1

- 0 0 0

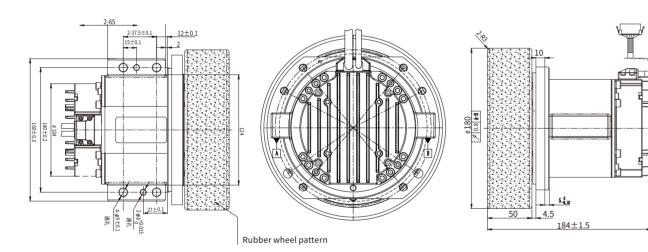




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110

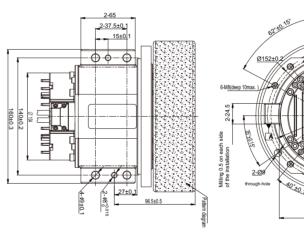
• iWMC10411-04023-A180-M DT



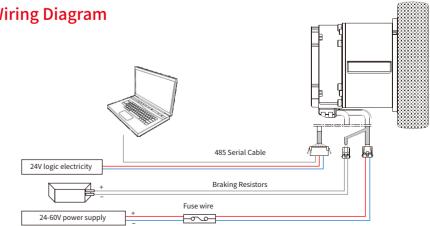
Ø Ø O 15±0. 96.5±1.0 lå

20±0.2

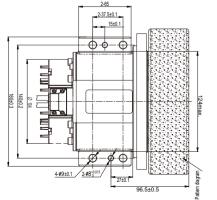
iWMC10420-08012-A180-M DT

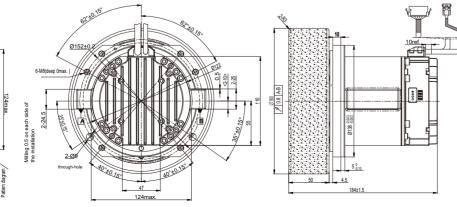


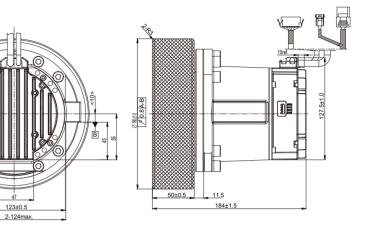
External Wiring Diagram

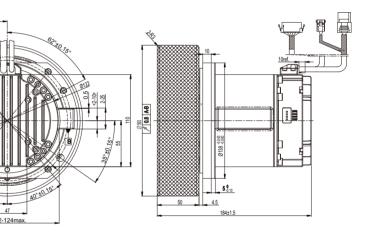


• iWMC10415-05417-A180-M DT









Terminal definition

PIN1 PIN10 PIN9 PIN18 Rear viewing plane

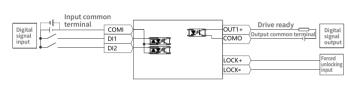
PIN	signal	PIN	signal
1	24V	10	GND
2	LOCK+	11	LOCK-
3	CANH	12	CANL
4	CANH	13	CANL
5	485A	14	485B
6	485A	15	485B
7	OUT1+	16	СОМО
8	COMI	17	DI1
9	Empty	18	DI2

+48V Dynamic electricity

+24V logic electricity K2

K1

iWMC Integrated Servo Wheel Control Wiring Diagram



+24_GND Note: The forced unlocking function needs to

Driver

K1 and K3

mutually exclusion

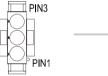
Wiring Diagram of Recommended Circuit for Forced Unlocking Brake

LOCK+

LOCK-

+24V_BRAKE

Power port



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

Brake resistance port



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

Note: Applicable to iWMC10415-06017-A180-M DT and iWMC10420-08012-A180-M DT

Brake resistance port



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

Note: iWMC05606 does not have this port

iSMK drive and motor integrated machine

Product features:

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

Support 24 \sim 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

$\frac{\mathsf{i}\,\mathsf{S}\,\mathsf{M}\,\mathsf{K}}{1}\,\frac{\mathsf{60}}{2}\,-\,\frac{\mathsf{0}\,\mathsf{40}}{3}\,-\,\frac{\mathsf{D}}{4}\,\frac{\mathsf{M}}{5}\,\frac{\mathsf{A}}{6}\,\frac{\mathsf{K}}{7}\,-\,\frac{\mathsf{A}\,\mathsf{A}}{8}\,-\,\frac{\mathsf{0}\,\mathsf{00}}{9}$ 型号:

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
④-Supply voltage	D:Input Voltage DC24~60V		EA:RS485、EtherCAT、Not pulse、 24V logic power supply
⑤-Encoder type	M:Singleturn communication type magnetoelectric encoder	③-Software version r	number 000:Software version number

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



be used after the power supply of the servo wheel is cut off.

iSMK integrated servo drive motor technical parameters

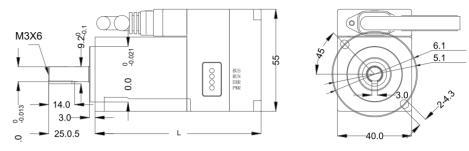




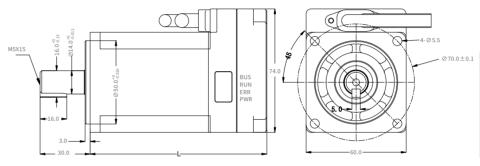


Mod	el parameter	iSMK drive and motorintegrated machine					
mou	et purumeter	iSMK40-010-DM E K-□A-000	iSMK60-020-DM E K-	iSMK60-040-DM ■ K-□A-000	iSMK80-075-DM II K-□A-000		
	power	24VDC~60VDC					
Input	Built-in fuse	Null					
	Logic power	24V					
Output	Maximum continuous output current (rms)	4	7	12	23		
	Peak current (AP)	18	24	48	100		
	Rated power Pn(W)	100	200	400	750		
	Rated speed nN(rpm)	3000	3000	3000	3000		
Motor	Rated torque Ts(Nm)	0.32	0.64	1.27	2.39		
part	Maximum torque Tm(Nm)	0.96	1.92	3.81	7.17		
	Rotational inertia Jm	0.044	0.17	0.31	0.85		
	(Kg•cm ²)	0.046 (With brake)	0.174 (With brake)	0.314 (With brake)	0.91 (With brake)		
Logic loss	power (mW)	900					
Energy cor	sumption brake	There is no brake circuit insid	de the driver, and an external brake	module is required			
Overvoltag	e alarm voltage	The default is 68V±2V					
Undervolta	age alarm voltage	The default is 68V±2V					
Cooling mo	ode	Natural cooling					
	Input specification	2 digital inputs, High: 12.5VD	C \sim 30VDC Low: 0VDC \sim 5VDC Input	t 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 vo	oltage 30V, driving capacity of 100m/	A		
	Output function		eeds, the functions are as follows: dri l appears, maximum limit speed in to		on to, motor zero speed, motor lock bra r limit medium, origin finding		
	Protect function	Overvoltage protection, und	ervoltage protection, motor overhe	eat (I ² T) protection, short circuit pro	tection, drive overheat protection		
	RS485	It supports a maximum 115.2	Kbps baud rate and can communic	ate with the controller using the M	odbus RTU		
Bus	CANopen	It supports a maximum 1Mbps baud rate and can communicate with the controller using the CANopen					
function	EtherCAT	Support CoE(CiA402 protoco	l)and CSP/CSV/PP/PV/PT/HM mode,	communication speed 100M			
	Working Temperature	-20°C~40°C (no freezing) ,Whe	en the operating temperature exceeds	s 40°C, the driver needs to be derated	1		
	Storage temperature	-40°C~70°C (no freezing)					
	Storage humidity	90%RH (no condensation)					
Apply	Installation method	Motor flange installation (verti	cal side installation)				
environment	Protection grade	IP65, shaft end IP54					
		The rated working altitude is le	ess than 1000 meters above sea level.	. When the working altitude is higher	than 1000 meters,		
	Altitude	it is necessary to reduce the ra	ted value by 1.5% for every 100 mete	rs of elevation. The maximum worki	ng altitude is 2000 meters above sea lev		
	Atmospheric pressure	it is necessary to reduce the rated value by 1.5% for every 100 meters of elevation. The maximum working altitude is 2000 meters above sea leve 86kpa~106kpa					

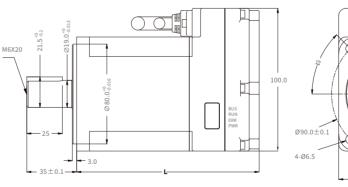
iSMK40 series mechanical dimension diagram (unit:mm)



iSMK60 series mechanical dimension diagram (unit:mm)



iSMK80 series mechanical dimension diagram (unit:mm)



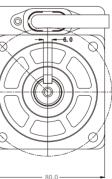
Note1:**=**=A:Without brake

=B:With brake (Power supply conversion, external unlocking.) Note2: 🗆 = A: RS485、CANopen

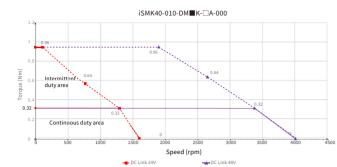
=E: RS485、EtherCAT

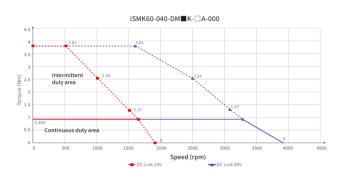
iSMK40 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK40-010-DMAK-AA-000		0.6	92
iSMK40-010-DMBK-AA-000	√	0.8	126
iSMK40-010-DMAK-EA-000		0.7	92
iSMK40-010-DMBK-EA-000	1	0.9	126

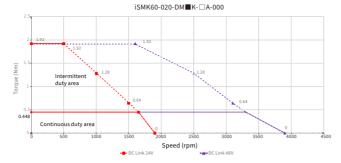
iSMK60 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK60-020-DMAK-AA-000		1.1	88
iSMK60-020-DMBK-AA-000	√	1.6	127.5
iSMK60-020-DMAK-EA-000		1.2	88
iSMK60-020-DMBK-EA-000	√	1.7	127.5
iSMK60-040-DMAK-AA-000		1.3	106
iSMK60-040-DMBK-AA-000	√	1.8	145.5
iSMK60-040-DMAK-EA-000		1.4	106
iSMK60-040-DMBK-EA-000	~	1.9	145.5



iSMK60 series model	With brake	Weight(kg)	Motor body size L (mm)
iSMK80-075-DMAK-AA-000		2.5	128
iSMK80-075-DMBK-AA-000	1	3	158
iSMK80-075-DMAK-EA-000		2.6	128
iSMK80-075-DMBK-EA-000	- √	3.1	158



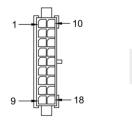


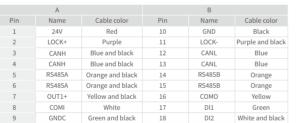


iSMK80-075-DM■K-□A-000 Intermitte duty area Continuous duty area 2000 Speed (rpm) 1500 - DC Link 24V

iSMK integrated servo drive motor connection port description

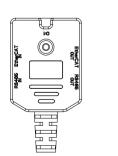
iSMK-AA communication terminal definition





Note: This definition applies to iSMK40&60&80AA. EXC-iSMK-AA-LL external cable can be purchased.

iSMK-EA communication terminal definition



	A		В	
	PIN	Signal	PIN	Signal
PIN10 PIN1	1	24V	10	GND
	2	LOCK+	11	LOCK-
	3	/	12	/
PIN18 PIN9	4	/	13	/
	5	RS485A	14	RS485B
	6	RS485A	15	RS485B
	7	OUT1+	16	COMO
	8	COMI	17	DI1
	9	GNDC	18	Di2

Note:Kinco EXC-iSMK-AA-LL 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)

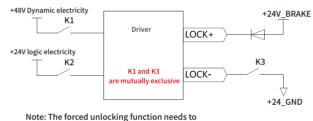
	PIN	RS485 IN/RS485 OUT	EtherCAT IN	EtherCAT OUT
	1	/	IN TX+	OUT TX+
	2	/	IN TX-	OUT TX-
	3	/	IN RX+	OUT RX+
	4	GND_C	/	/
	5	RS485B	/	/
	6	RS485A	IN RX-	OUT RX-
	7	/	/	/
	8	/	/	/

iSMK integrated servo drive motor connection port description

IO signal description

signal	Function description
	24V logic power input
24V	The logic power supply is an optional option. When using the logic power
	power supply is not isolated, the logical ground cable is not connected. T
GND	Logic electrical reference ground
Lock+	External release beake input (24V+) positive
	The input voltage is 24V, the maximum input current is 0.7A, only when the
	the power supply are powered off, the external lock can be unlocked. Do
Lock -	External release gate input (24V-) negative
	The input voltage is 24V, the maximum input current is 0.7A, only when the
	and the power supply are powered off, the external lock can be unlocked.
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	Disital signal issuet COMMany is all thick levels 12.5 - 20MDC Levels of 0
DI2	Digital signal input, COMI terminal; High level: 12.5 ~ 30VDC Low level: 0 ~
COMO	Digital signal output common terminal
COMI	Digital signal input common end
OUT1+	Digital signal output, OUT1 for the open collector output, the highest volt

Wiring Diagram of Recommended Circuit for Forced Unlocking Brake



be used after the power supply of the servo wheel is cut off.

Definition of power cable ports



er supply, ensure that the power supply and logic are completely isolated. If the system The logic power supply is connected at DC- and 24V

the AGV body battery is out of emergency use;Only when both the logic power supply and o not short-circuit or connect to other signals and enclosures during normal operation

the AGV body battery is out of emergency use;Only when both the logic power supply d. Do not short-circuit or connect to other signals and enclosures during normal operation

~ 5VDC Input impedance: 5KΩ Maximum frequency: 1KHz

ltage 30V, driving capacity of 100mA

Color	
Red	
/	
Black	