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AMPSTech

SMARTDRIVE THE FUTURE PREMIER CUSTOM SOLUTIONS



Shenzhen Amps Intelligent Technology Co., Ltd.



0755-82591645



zhuangzp@amps-tech.com



www.amps-tech.com



Room 906, Office Building, Skyworth Digital Building, Songbai Road,
Tangtou Community, Shiyan Street, Bao'an District, Shenzhen

HUB SERVO CATALOG

Since its establishment in 2017, Shenzhen AMPS Intelligent Technology Co., Ltd. has been committed to driving the progress of intelligent civilization, focusing on innovative R&D of brushless drive and servo drive technologies. AMPS continuously enhances the stability and performance of industrial automation products and provides customized and comprehensive solutions to deliver high-quality, easy-to-use product experiences to global customers and meet diverse application needs.



◆ Hub Servo Core Products



Split hub driver servo ■ **Premium Servo Control:** Precise & Efficient Motor Operation

■ **Smart Design:** Drives Dual Hub Motors & Space-saving

■ **High Compatibility:** Choose RS485 or CAN for Easy System Integration

■ **Smart Safety:** Multi-Protection for Continuous Operation



Integrated hub motor servo

■ **Premium Performance:** Precision Servo Control for Efficient Operation

■ **Easy Installation:** Integrated Wheels & Drive System for Compact Space

■ **High Compatibility:** Dual-interface support (RS485/CAN) enables seamless integration with diverse control systems

■ **Robust Safety:** Short-circuit/overload/overtemperature/stall protection ensures reliable operation

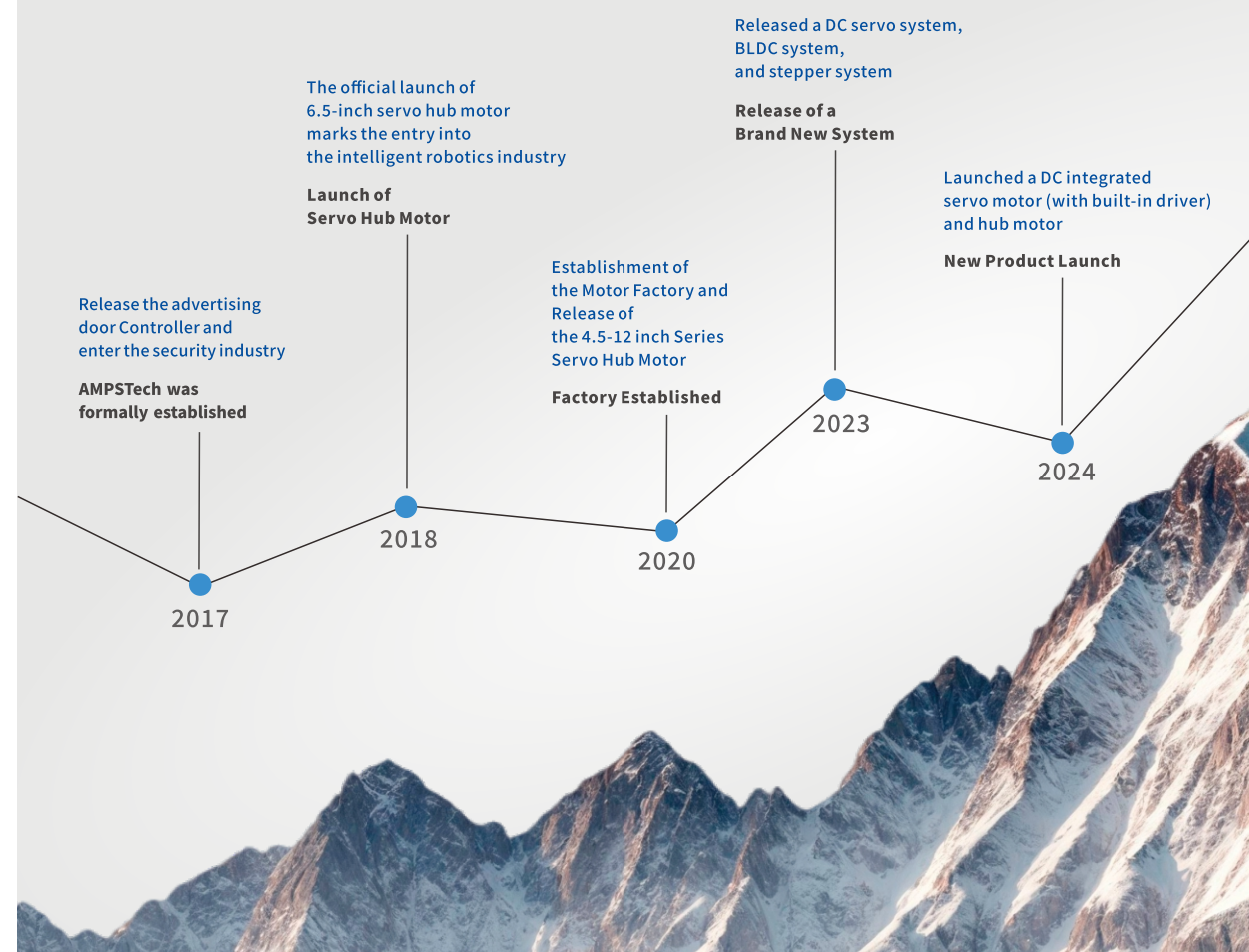
■ **Durability Focus:** Direct-drive (gearless) enables ultra-quiet, long-life, maintenance-free operation



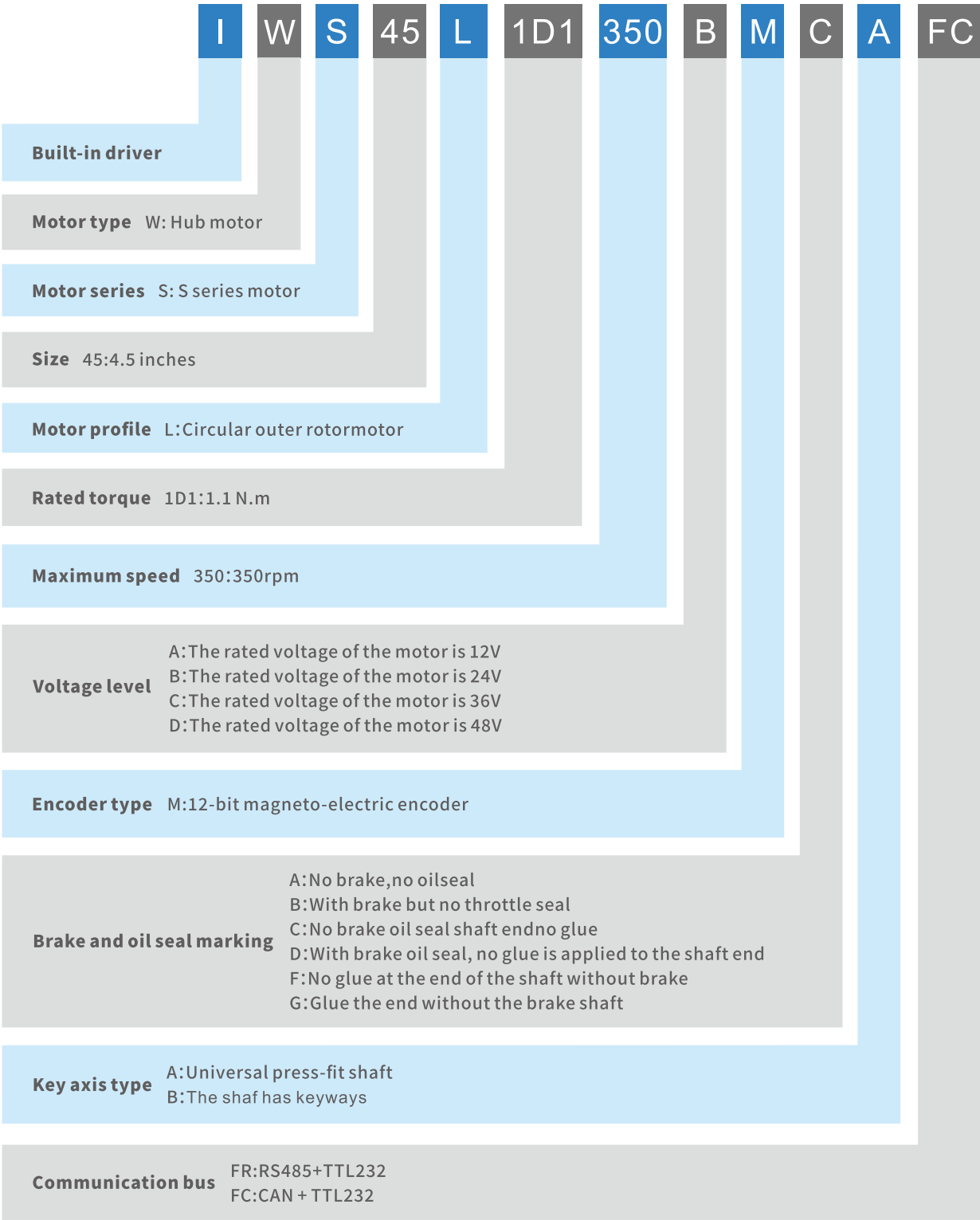
Split hub motor servo

■ **Modular Range:** Multi-specs (size/torque) for wide-fit applications

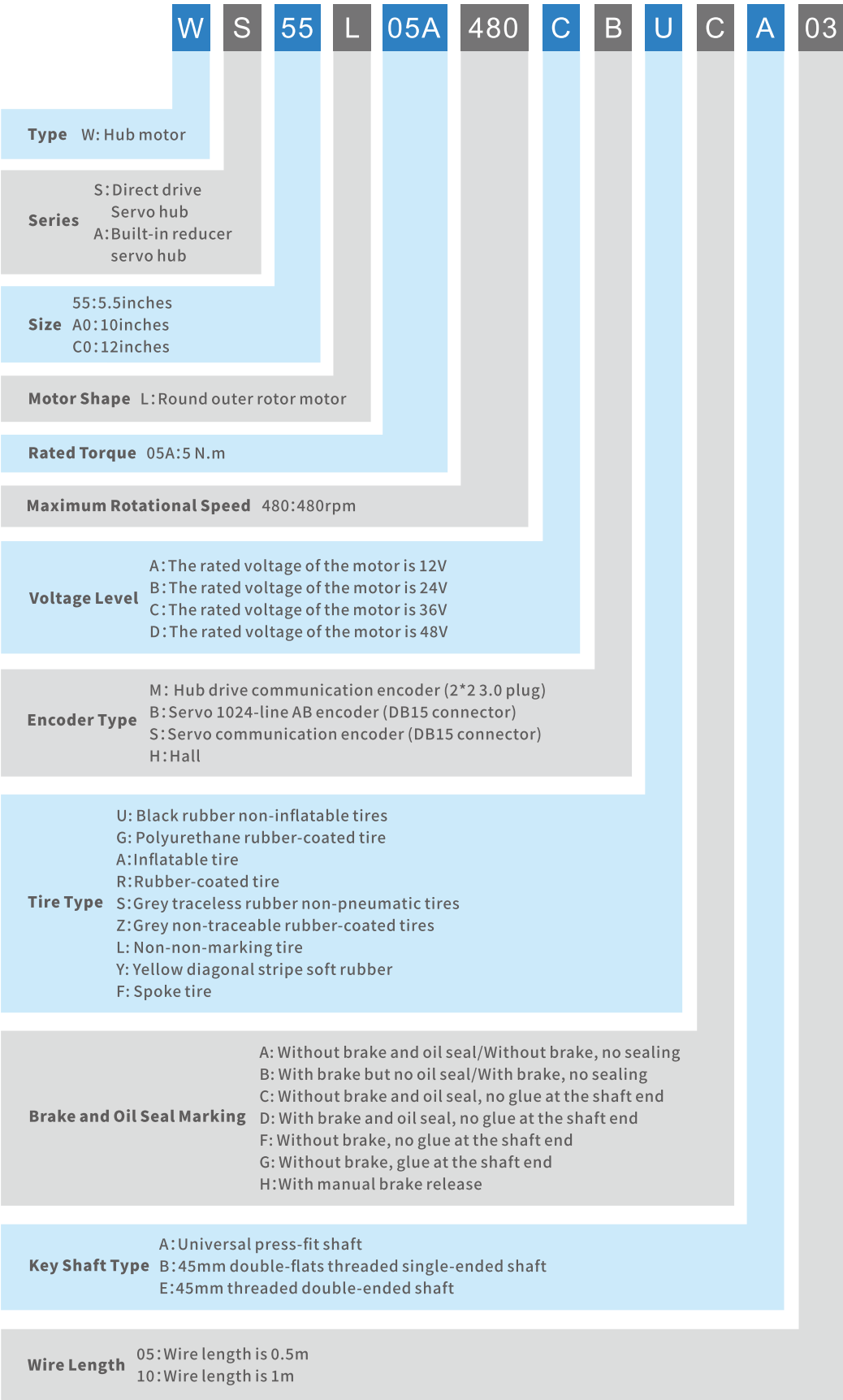
■ **Direct-drive:** Ultra-quiet, long-life, maintenance-free



◆ Specifications of Integrated Hub Motor



					
Model	4.5 inches 1.1 Nm	5.5 inches 2.2 Nm	5 inches 3.5 Nm (anti-slip)	5.5 inches 3.5 Nm	7 inches 3.5 Nm
Outer diameter dimension	110mm	140mm	130mm	140mm	180mm
Rated voltage	24VDC				24VDC / 48VDC
Rated current	2.2Arms	3.7Arms	5.8Arms	5.8Arms	5.8Arms / 2.9Arms
Maximum speed	350 rpm (2m/s)	270 rpm (2m/s)	250 rpm (1.7m/s)	250 rpm (1.8m/s)	250 rpm (2.3m/s) 220 rpm (2m/s)
Rated torque	1.1 N.m	2.2N.m	3.5 N.m	3.5N.m	3.5N.m
Peak torque	3N.m	3.55N.m	8N.m	8N.m	8N.m / 10N.m
Communication type	UART+CAN or UART+RS485				
UART baud rate	115,200 bps (Supports control by controller or computer host)				
CAN baud rate	500kbps(Default value, can be modified)				
RS485 baud rate	115200kbps(Default value, can be modified)				
Protection functions	Overvoltage protection, undervoltage protection, motor overheat (I ² T) protection, short-circuit protection, driver overheat protection, stall protection, etc.				
Operating temperature	-10°C~40°C (non-freezing)				
Operating humidity	5~95%RH (no condensation)				
Storage temperature	-10°C~70°C (non-freezing)				
Storage humidity	Below 90%RH (no condensation)				
Protection level	IP67 except for the shaft end				
Number of pole pairs	10				
Weight	1.3kg	1.5kg	1.9kg	2kg	3.65Kg
Maximum load (2W-Diff)	45kg	60kg	110kg	100kg	100Kg



◆ Specifications of Integrated Hub Motor

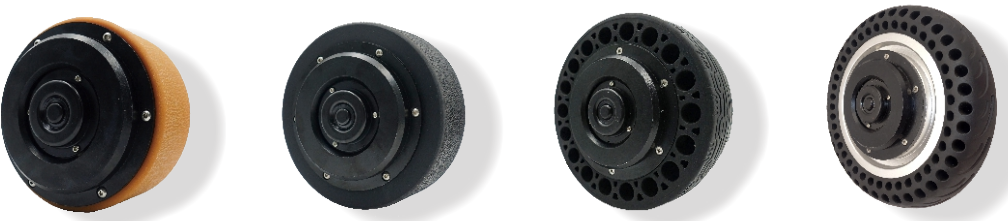


Model	5.5 inches 5 Nm (anti-slip)	6.5 inches 5 Nm	8 inches 5 Nm
Outer diameter dimension	140mm	170mm	200mm
Rated voltage	36 VDC		
Rated current	8.1 Arms		
Maximum speed	480 rpm (3.4m/s)	480 rpm (4.2m/s)	480 rpm (4.9m/s)
Rated torque	5 N.m		
Peak torque	15 N.m		
Operating temperature	-10°C~40°C (non-freezing)		
Operating humidity	5~95%RH (no condensation)		
Storage temperature	-10°C~70°C (non-freezing)		
Storage humidity	Below 90%RH (no condensation)		
Protection level	IP67 except for the shaft end		
Number of pole pairs	15		
Weight	3.2kg	3kg	3.25kg
Maximum load (2W-Diff)	170kg	140kg	120kg

◆ Specifications of Split Hub Motor

					
Model	5.5 inches 7 Nm (anti-slip)	6.5 inches 7 Nm	6.5 inches 7 Nm (anti-slip)	8 inches 7 Nm	8 inches 7 Nm (Omni Wheel)
Outer diameter dimension	140mm	170mm	170mm	200mm	214mm
Rated voltage	36 VDC				48 VDC
Rated current	7 Arms				
Maximum speed	250 rpm (1.8m/s)	250 rpm (2.2m/s)	250 rpm (2.2m/s)	250 rpm (2.6m/s)	300 rpm (3.4m/s)
Rated torque	7 N.m				
Peak torque	18 N.m				
Operating temperature	-10°C~40°C (non-freezing)				
Operating humidity	5~95%RH (no condensation)				
Storage temperature	-10°C~70°C (non-freezing)				
Storage humidity	Below 90%RH (no condensation)				
Protection level	IP67 except for the shaft end				
Number of pole pairs	15				
Weight	3.2kg	3kg	3kg	3.25kg	4.35kg
Maximum load (2W-Diff)	220kg	180kg	180kg	160kg	/

◆ Specifications of Split Hub Motor

				
Model	5.5 inches 15 Nm (anti-slip)	6.5 inches 15 Nm (anti-slip)	8 inches 15 Nm	10 inches 15 Nm
Outer diameter dimension	140mm	165mm	200mm	254mm
Rated voltage	36 VDC			
Rated current	7.4 Arms			
Maximum speed	110 rpm (0.97m/s)	110 rpm (0.97m/s)	110 rpm (1.1m/s)	110 rpm (1.46m/s)
Rated torque	15 N.m			
Peak torque	24 N.m			
Operating temperature	-10°C~40°C (non-freezing)			
Operating humidity	5~95%RH (no condensation)			
Storage temperature	-10°C~70°C (non-freezing)			
Storage humidity	Below 90%RH (no condensation)			
Protection level	IP67 except for the shaft end			
Number of pole pairs	15			
Weight	5.3kg	5.6kg	5.15kg	6.6kg
Maximum load (2W-Diff)	500kg	450kg	350kg	250kg

◆ Specifications of Split Hub Motor

			
Model	8 inches 30 Nm (anti-slip)	10 inches 30 Nm	12 inches 30 Nm
Outer diameter dimension	200mm	243mm	315mm
Rated voltage	48 VDC		
Rated current	18.5 Arms		
Maximum speed	250 rpm (5.6m/s)	250 rpm (3.17m/s)	250 rpm (4.1m/s)
Rated torque	30 N.m		
Peak torque	60 N.m		
Operating temperature	-10°C~40°C (non-freezing)		
Operating humidity	5~95%RH (no condensation)		
Storage temperature	-10°C~70°C (non-freezing)		
Storage humidity	Below 90%RH (no condensation)		
Protection level	IP67 except for the shaft end		
Number of pole pairs	20		
Weight	5.6kg	5.6kg	8.32kg
Maximum load (2W-Diff)	600kg	400kg	350kg

◆ Specifications of Split Hub Motor (With gear)

				
Model	6 inches 13 Nm	8 inches 13 Nm	10 inches 13 Nm	12 inches 13 Nm
Outer diameter dimension	158mm	203mm	238mm	300mm
Rated voltage	48 VDC			
Rated current	10.2 Arms			
Maximum speed	280 rpm (2.3m/s)	280 rpm (3m/s)	280 rpm (3.5m/s)	280 rpm (4.3m/s)
Rated torque	13 N.m			
Peak torque	60 N.m			
Operating temperature	-10°C~40°C (non-freezing)			
Operating humidity	5~95%RH (no condensation)			
Storage temperature	-10°C~70°C (non-freezing)			
Storage humidity	Below 90%RH (no condensation)			
Protection level	IP67 except for the shaft end			
Number of pole pairs	10			

◆ Specifications of Split Hub Motor (With gear)

				
Model	6 inches 15 Nm	8 inches 15 Nm	10inches 15Nm	12 inches 15 Nm
Outer diameter dimension	159mm	198mm	238mm	300mm
Rated voltage	48 VDC			
Rated current	7.5 Arms			
Maximum speed	170 rpm (1.4m/s)	170 rpm (1.8m/s)	170 rpm (2.1m/s)	170 rpm (2.7m/s)
Rated torque	15 N.m			
Peak torque	60 N.m			
Operating temperature	-10°C~40°C (non-freezing)			
Operating humidity	5~95%RH (no condensation)			
Storage temperature	-10°C~70°C (non-freezing)			
Storage humidity	Below 90%RH (no condensation)			
Protection level	IP67 except for the shaft end			
Number of pole pairs	10			

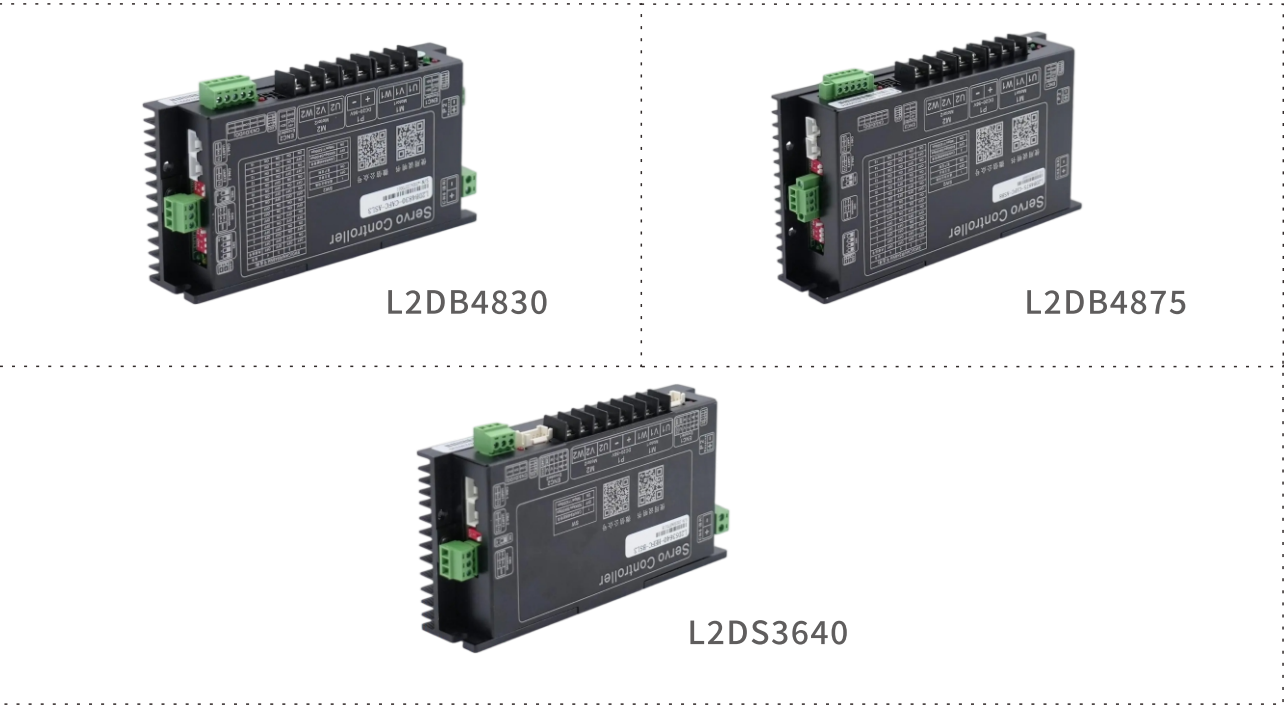
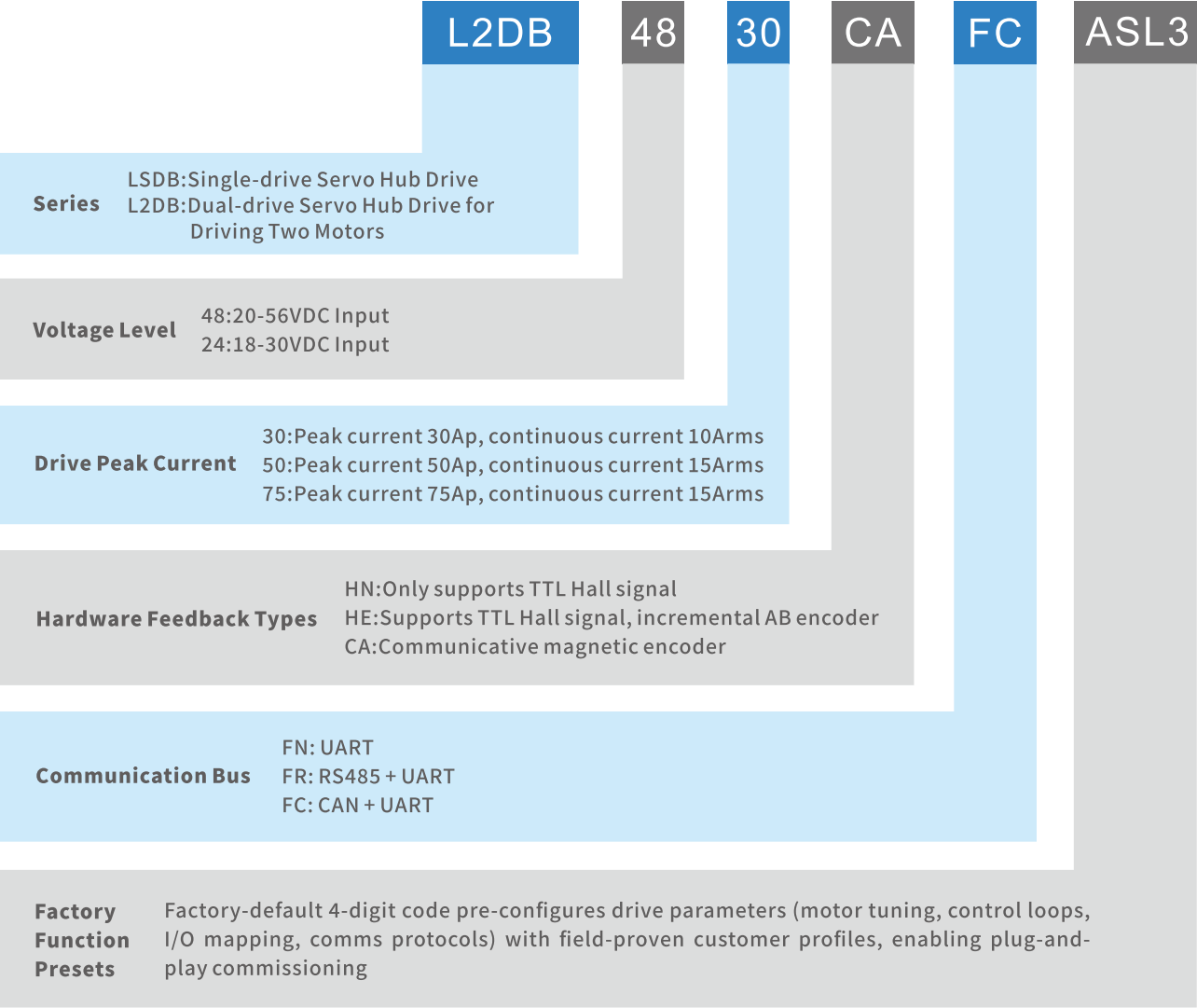
◆ Hub Motor Selection Table

Drive Model		Size	Rated Torque	Peak Torque	Rated Voltage	Max. R/min
IWS Series	IWS45L-1D1350B-MCAFC	4.5 inches	1.1N.m	3N.m	24V	350rpm
	IWS50L-3D5250B-MCAFC	5 inches	3.5N.m	8N.m		250rpm
	IWS55L-2D2270B-MCAFC	5.5 inches	2.2N.m	3.55N.m		270rpm
	IWS55L-3D5250B-MCAFC		3.5N.m	8N.m		250rpm
	IWS70L-3D5250B-MKAFC IWS70L-3D5220D-MKAFC	7 inches	3.5N.m	8N.m 10N.m	24V 48V	250rpm 220rpm
WS Series	WS55L-05A480C-MUGA03 WS55L-05A480C-BUGA03	5.5 inches	5N.m	15N.m	36V	480rpm
	WS55L-06A200B-MUGA03 WS55L-06A200B-BUGA03		6N.m	14N.m	24V	200rpm
	WS55L-07A250C-MUGA03 WS55L-07A250C-BUGA03		7N.m	18N.m	36V	250rpm
	WS55L-15A150B-MUGA05 WS55L-15A150B-BUGA03		15N.m	19N.m	24V	150rpm
	WS55L-15A110C-MUGA05 WS55L-15A110C-BUGA03	6.5 inches		24N.m	36V	110rpm
	WS65L-05A480C-MUGA03 WS65L-05A480C-BUGA03		5N.m	15N.m	36V	480rpm
	WS65L-06A200B-MUGA03 WS65L-06A200B-BUGA03		6N.m	14N.m	24V	200rpm
	WS65L-07A200B-BYGQ03		7N.m	16N.m	24V	200rpm
	WS65L-07A250C-MUGA03 WS65L-07A250C-BUGA03		7N.m	18N.m	36V	250rpm
	WS65L-15A150B-MUGA05 WS65L-15A150B-BUGA05		15N.m	19N.m	24V	150rpm
	WS65L-15A110C-MUGA05 WS65L-15A110C-BUGA05			24N.m	36V	110rpm
	WS80L-05A480C-MUGA03 WS80L-05A480C-BUGA03	8 inches	5N.m	15N.m	36V	480rpm
	WS80L-06A200B-MUGA03 WS80L-06A200B-BUGA03		6N.m	14N.m	24V	200rpm
	WS80L-07A250C-MUGA03 WS80L-07A250C-BUGA03		7N.m	18N.m	36V	250rpm
	WS80L-10A150C-MUGA03 WS80L-10A150C-BUGA03		10N.m	24N.m	36V	150rpm
	WS80L-15A150B-MUGA03 WS80L-15A150B-BUGA03		15N.m	19N.m	24V	150rpm
	WS80L-15A110C-MUGA03 WS80L-15A110C-BUGA03			24N.m	36V	110rpm
	WS80L-30A250D-MUGA10		30N.m	60N.m	48V	250rpm
	WSA0L-15A150B-MUGA05 WSA0L-15A150B-BUGA05	10 inches	15N.m	19N.m	24V	150rpm
	WSA0L-15A110C-MUGA05 WSA0L-15A110C-BUGA05			24N.m	36V	110rpm
	WSA0L-30A250D-MUGA05		30N.m	60N.m	48V	250rpm
	WSC0L-15A150B-MUGA05 WSC0L-15A150B-BUGA05	12 inches	15N.m	19N.m	24V	150rpm
	WSC0L-15A110C-MUGA05 WSC0L-15A110C-BUGA05			24N.m	36V	110rpm
	WSC0L-30A250D-MUGA05		30N.m	60N.m	48V	250rpm
WA Series	WA60L-15A170D-MRAB05 WA60L-15A170D-MRHB05 WA60L-15A170D-MGHB05	6 inches	15N.m	60N.m	48V	170rpm
	WA65L-15A170D-MGHB05	6.5 inches				
	WA80L-15A170D-MUAB05 WA80L-15A170D-MUHB05 WA80L-15A170D-MRAB05 WA80L-15A170D-MGAB05	8 inches				
	WA95L-15A170D-MUAB05 WA95L-15A170D-MUHB05	10inches				
	WAC0L-15A170D-MUAB05 WAC0L-15A170D-MUHB05 WAC0L-15A170D-MAAB05	12 inches	13N.m			280rpm
	WA60L-13A280D-MRAB05 WA60L-13A280D-MRHB05 WA60L-13A280D-MGHB05	6 inches				
	WA65L-13A280D-MGHB05	6.5 inches				
	WA80L-13A280D-MUAB05 WA80L-13A280D-MUHB05 WA80L-13A280D-MRAB05 WA80L-13A280D-MGAB05	8 inches				
	WA95L-13A280D-MUAB05 WA95L-13A280D-MUHB05	10inches				
	WAC0L-13A280D-MUAB05 WAC0L-13A280D-MUHB05 WAC0L-13A280D-MAAB05	12 inches				

◆ Split Hub Motor Selection & Configuration Table

	Drive Model	Size	Motor model	Encoder Type
Split Dual-Drive Servo Hub	L2DB4830-CAFR-XXXX L2DB4830-CAFC-XXXX	5.5 inches	WS55L-05A480C-MUGA03 WS55L-06A200B-MUGA03 WS55L-07A250C-MUGA03 WS55L-15A150B-MUGA03 WS55L-15A110C-MUGA05	Protocol Encoder
		6.5 inches	WS65L-05A480C-MUCA03 WS65L-06A200B-MUCA03 WS65L-07A250C-MUCA03 WS65L-15A150B-MUGA05 WS65L-15A110C-MUGA05	
		8 inches	WS80L-05A480C-MUGA03 WS80L-06A200B-MUGA03 WS80L-07A250C-MUGA03 WS80L-10A150C-MUGA03 WS80L-15A150B-MUGA03 WS80L-15A110C-MUGA03	
		10 inches	WSA0L-15A150B-MUGA05 WSA0L-15A110C-MUGA05	
		12 inches	WSC0L-15A150B-MUGA05 WSC0L-15A110C-MUGA05	
		8 inches	WS80L-30A250D-MUGA10	
		10 inches	WSA0L-30A250D-MUGA05	
		12 inches	WSC0L-30A250D-MUGA05	
	L2DB4875-CAFR-XXXX L2DB4875-CAFC-XXXX	5.5 inches	WS55L-05A480C-BUGA03 WS55L-06A200B-BUGA03 WS55L-07A250C-BUGA03 WS55L-15A150B-BUGA03 WS55L-15A110C-BUGA03	Incremental Encoder
		6.5 inches	WS65L-05A480C-BUGA03 WS65L-06A200B-BUGA03 WS65L-07A200B-BYGQ03 WS65L-07A250C-BUGA03 WS65L-15A150B-BUGA03 WS65L-15A110C-BUGA03	
		8 inches	WS80L-05A480C-BUGA03 WS80L-06A200B-BUGA03 WS80L-07A250C-BUGA03 WS80L-10A150C-BUGA03 WS80L-15A150B-BUGA03 WS80L-15A110C-BUGA03	
		10 inches	WSA0L-15A150B-BUGA05 WSA0L-15A110C-BUGA05	
		12 inches	WSC0L-15A150B-BUGA05 WSC0L-15A110C-BUGA05	
		6 inches	WA60L-15A170D-MRHB05	
	L2DB4875-CAFC-AAB5 ASDB4845-AAFA-AAB5	6.5 inches	WA65L-15A170D-MGHB05	Protocol Encoder
		8 inches	WA80L-15A170D-MUHB05	
		9.5 inches	WA95L-15A170D-MUHB05	
		12 inches	WAC0L-15A170D-MUHB05	
		6 inches	WA60L-15A170D-MRAB05	
	L2DB4830-CAFC-AAC5 (Peak torque 40Nm) L2DB4875-CAFC-AAC5 ASDB4845-AAFA-AAC5	8 inches	WA80L-15A170D-MUAB05 WA80L-15A170D-MRAB05 WA80L-15A170D-MGAB05	
		9.5 inches	WA95L-15A170D-MUAB05	
		12 inches	WAC0L-15A170D-MUAB05 WAC0L-15A170D-MAAB05	
	L2DB4875-CAFC-AAB3 ASDB4845-AAFA-AAB3 (Peak torque 35Nm) ASDB48100-AAFA-AAB3	6 inches	WA60L-13A280D-MRHB05	
		6.5 inches	WA65L-13A280D-MGHB05	
		8 inches	WA80L-13A280D-MUHB05	
		9.5 inches	WA95L-13A280D-MUHB05	
		12 inches	WAC0L-13A280D-MUHB05	
	L2DB4875-CAFC-AAC3 ASDB4845-AAFA-AAC3 (Peak torque 35Nm) ASDB48100-AAFA-AAC3	6 inches	WA60L-13A280D-MRAB05	
		8 inches	WA80L-13A280D-MUAB05 WA80L-13A280D-MRAB05 WA80L-13A280D-MGAB05	
		9.5 inches	WA95L-13A280D-MUAB05	
		12 inches	WAC0L-13A280D-MUAB05 WAC0L-13A280D-MAAB05	

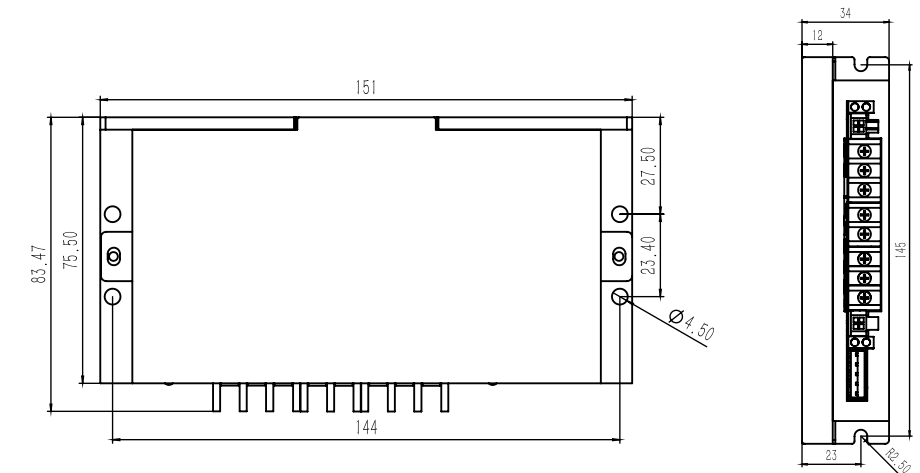
◆ Naming rules for split drives



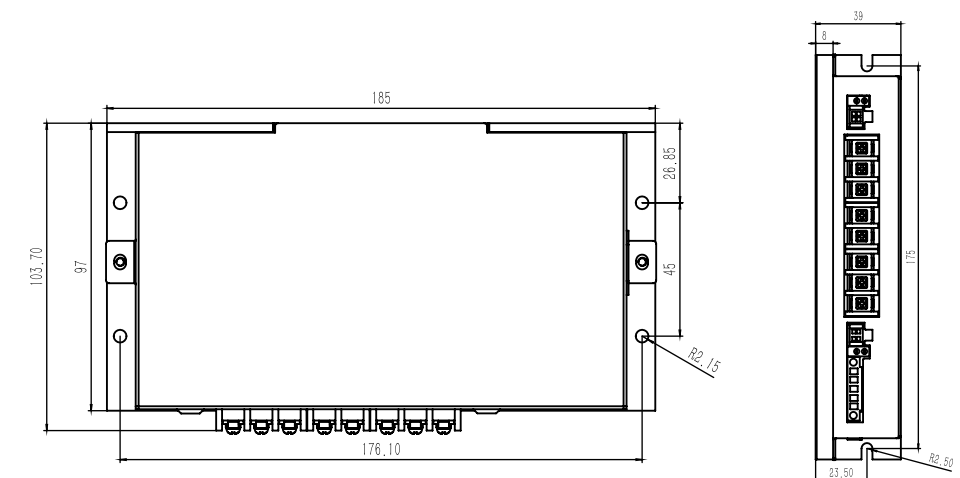
◆ Dimension

			
Model	L2DB4830	L2DB4875	L2DS3640
Input voltage	20~56V		20~48V
Maximum continuous output current	10 Arms per axis	15 Arms per axis	10 Arms per axis
Peak current	30 Ap per axis	75 Ap per axis	40 Ap per axis
Supported motor type	Servo hub motor (can drive 2 axes)		
Digital input ports	1 emergency stop, 2 reserved		1 emergency stop
Digital output ports	1 alarm output		
Communication type	UART+RS485 or UART+CAN		
UART baud rate	115200bps, supports control by controller or computer host		
Rs485 baud rate	38400bps/115200bps is set by DIP switch		
CAN baud rate	500kbps/1Mbps is set by DIP switch		
Protection functions	Over - voltage protection, under - voltage protection, motor overheat (I ² T) protection, short - circuit protection, driver overheat protection, stall protection, etc		
Operating temperature	-10°C~40°C (non-freezing)		
Operating humidity	5~95%RH (no condensation)		
Storage temperature	-10°C~70°C (non-freezing)		
Storage humidity	Below 90%RH (no condensation)		
Weight	0.3kg	0.5kg	0.3kg
Compatible Encoder	Support for Communicative Magnetolectric Encoder		Support for AB Encoder

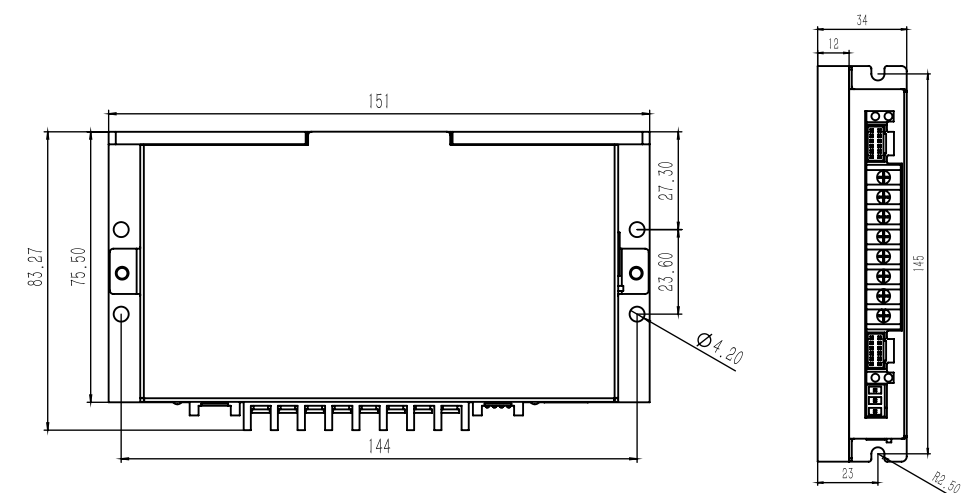
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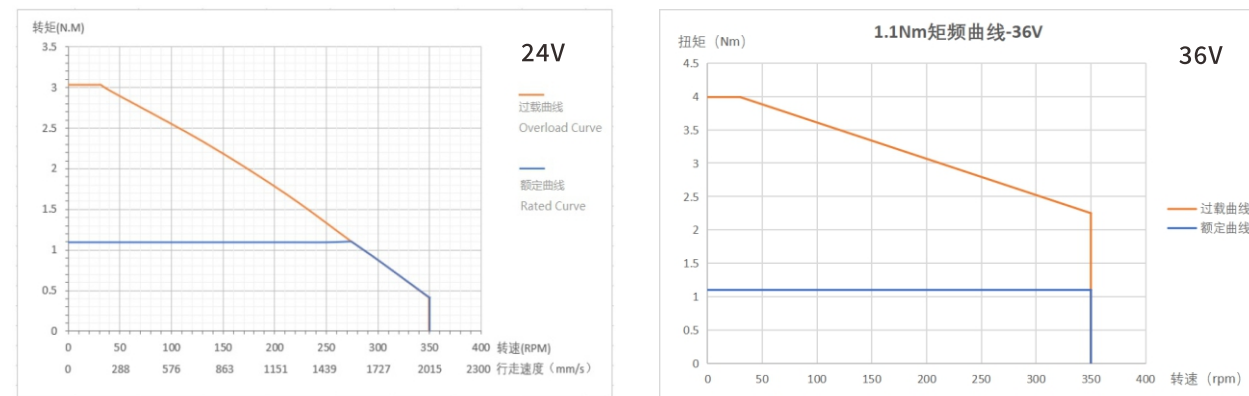
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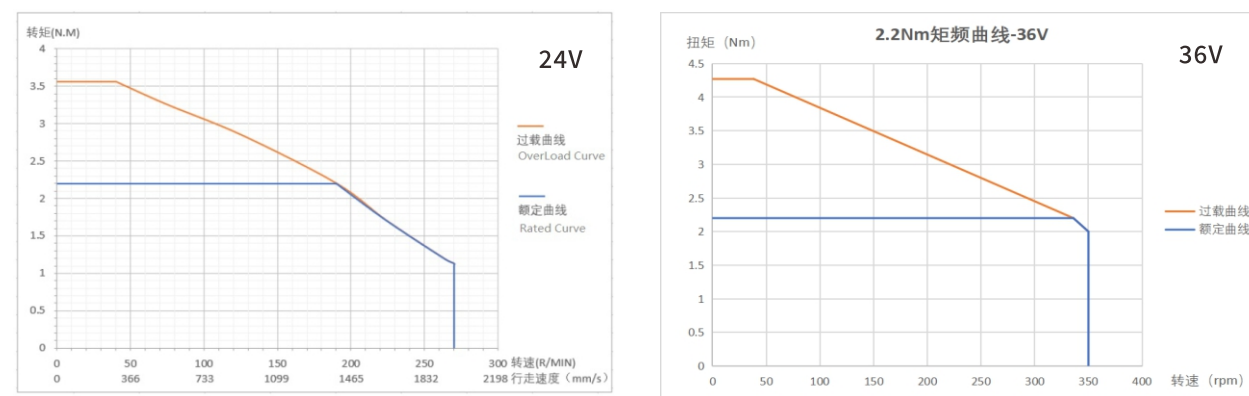
L2DS3640



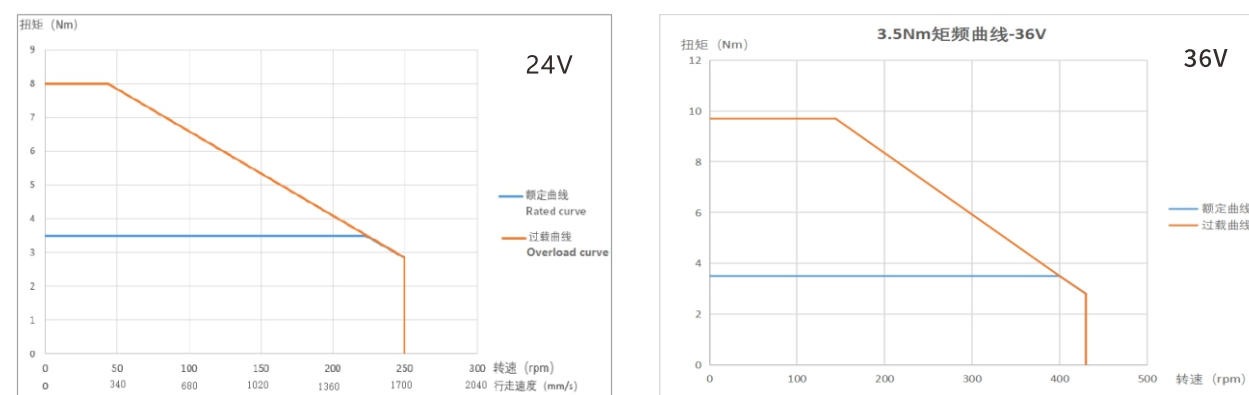
◆ Integrated hub motor torque-frequency curve: 1.1 N.m



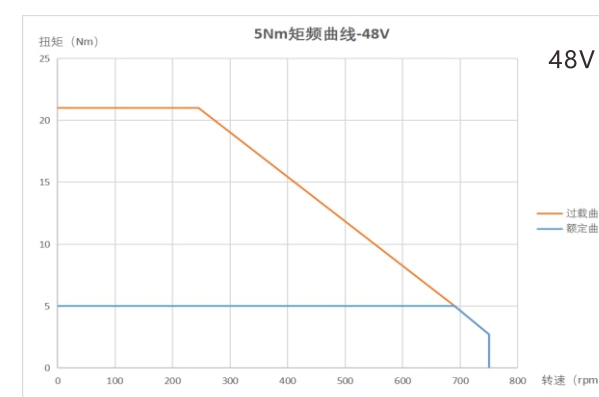
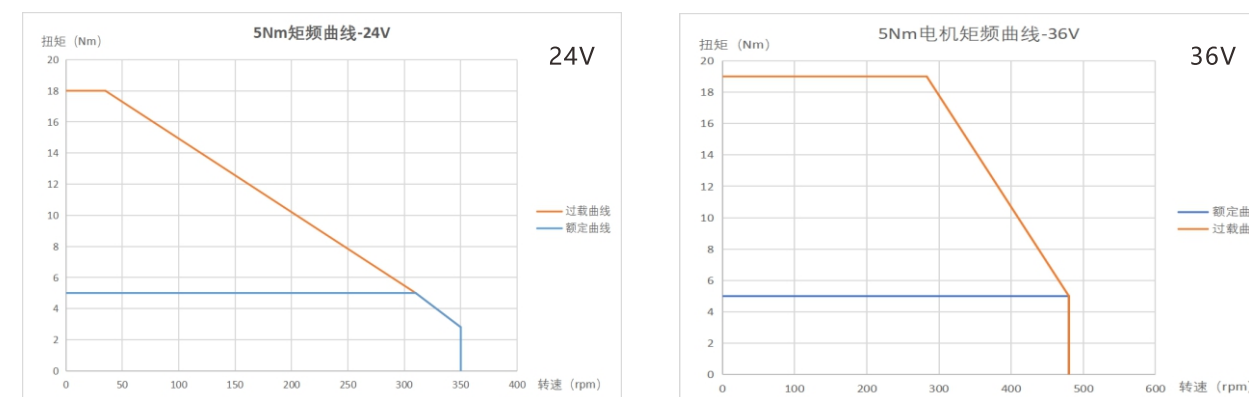
◆ Integrated hub motor torque-frequency curve: 2.2 N.m



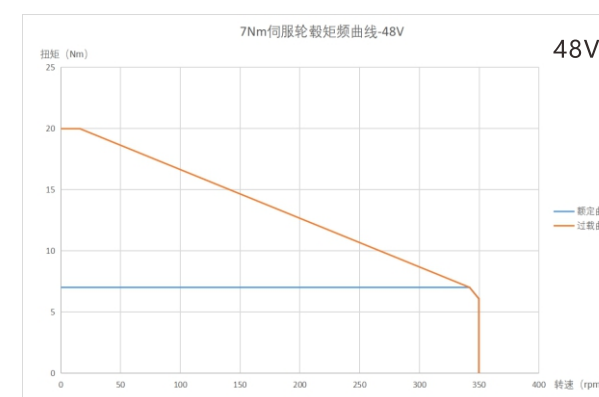
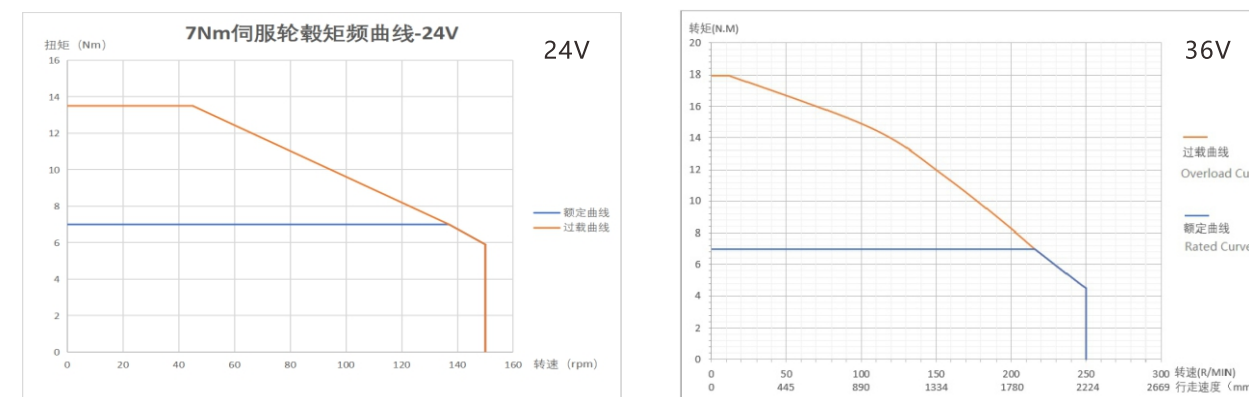
◆ Integrated hub motor torque-frequency curve: 3.5 N.m



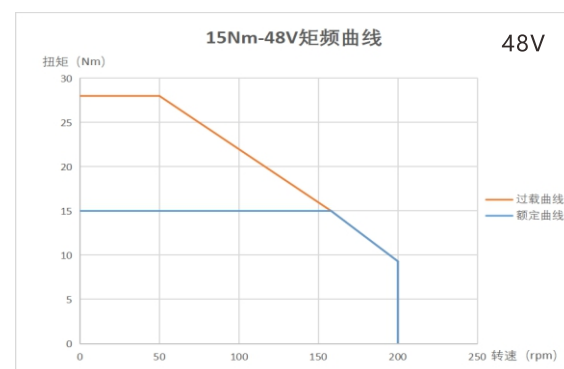
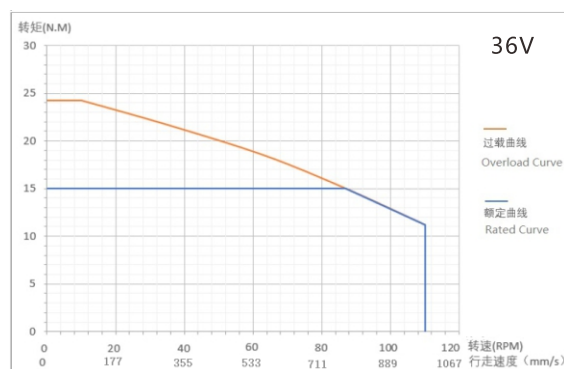
◆ Split hub motor torque-frequency curve: 5 N.m



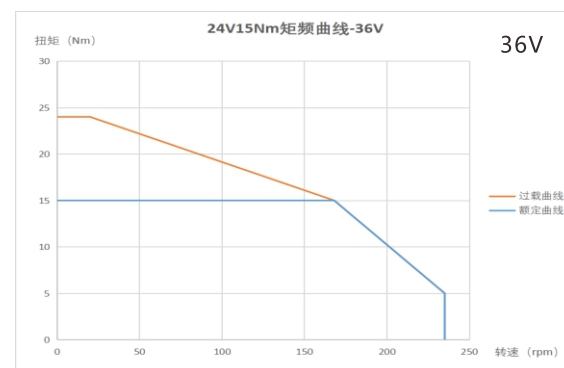
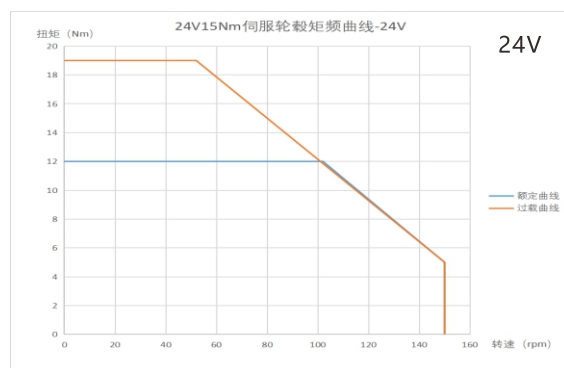
◆ Split hub motor torque-frequency curve: 7 N.m



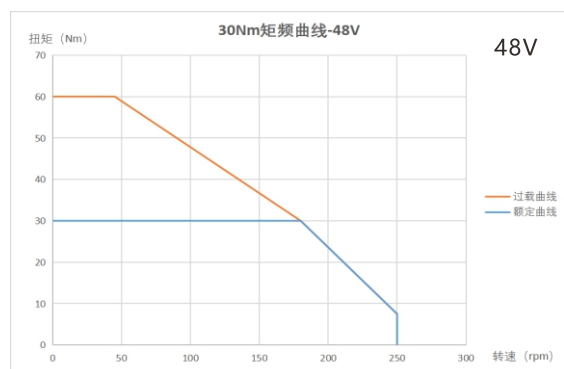
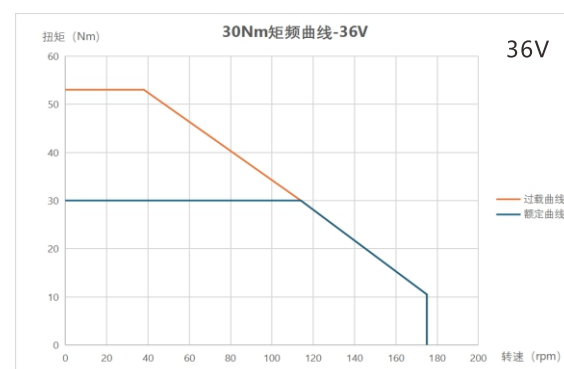
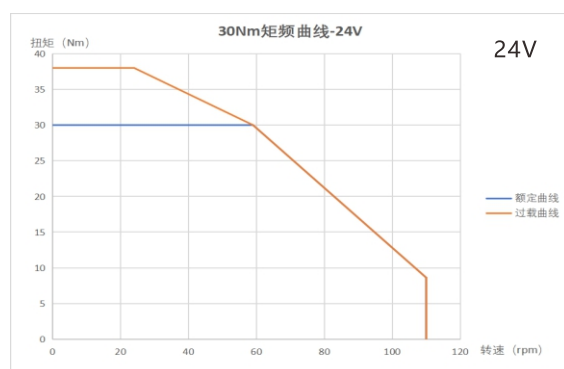
◆ Split hub motor torque-frequency curve: 15 N.m (36V or 48V winding)



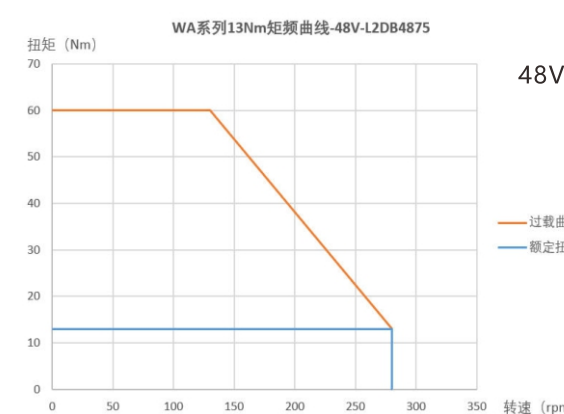
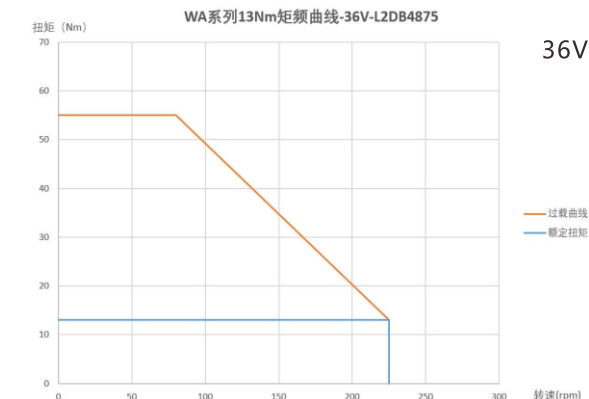
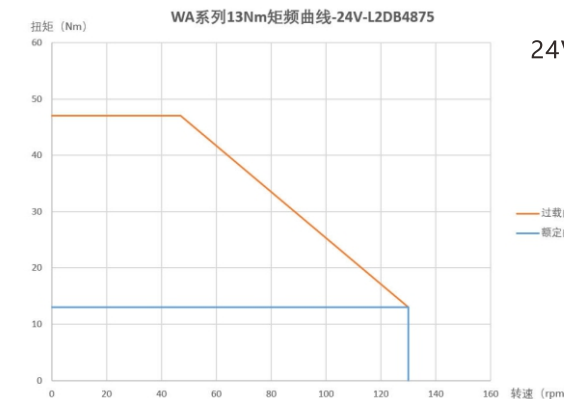
◆ Split hub motor torque-frequency curve: 15 N.m (24V winding)



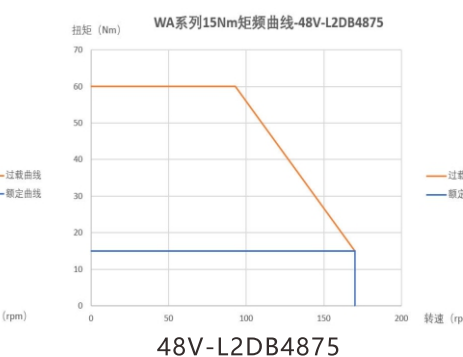
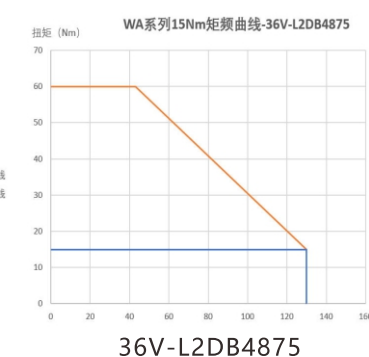
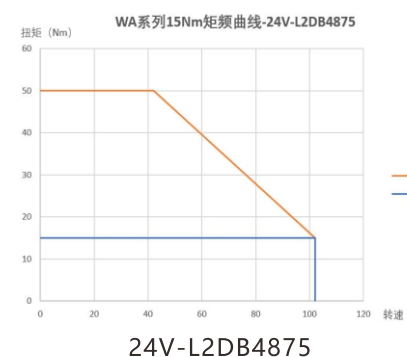
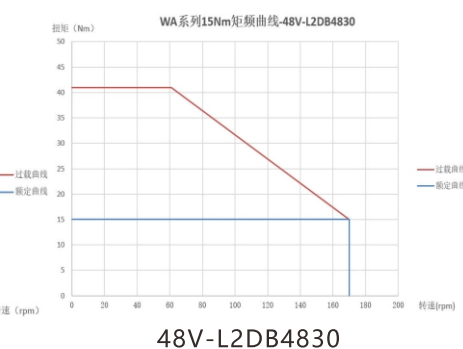
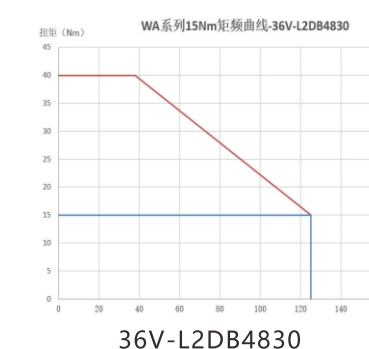
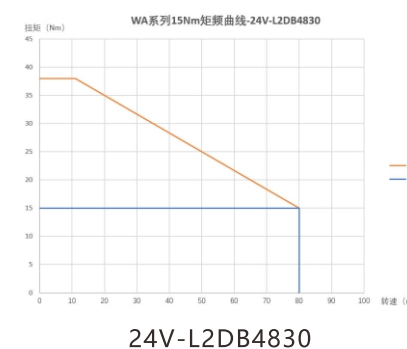
◆ Split hub motor torque-frequency curve: 30 N.m



◆ Split hub motor torque-frequency curve: 13 N.m



◆ Split hub motor torque-frequency curve: 15 N.m



OUR PARTNERS



Food delivery robot



Dual-arm robot chassis



Disinfection robot



Patrol robot



AMR



Delivery robot

Cleaning robot

