DA180A series basic AC servo

invt

About us

Shenzhen INVT Electric Co., Ltd. (INVT for short, stock code: 002334) was founded in 2002, focusing on the fields of industrial automation and energy power. It was listed on Shenzhen Stock Exchange (SZSE) and issued A shares in 2010. Adhering to the core values of "Achieve customers, performance orientation, open and win-win cooperation, struggle and innovation" and with the mission of making every effort to offer most valuable products and services to strengthen customer competitiveness, INVT provides differentiated and specialized industry solutions, customized technical services, global localization operations, and digital management models to global customers.

Core competitiveness

Company scale: In 2023, the total operating revenue was approximately RMB 4.59 billion, a year-on-year increase of 12.03%. The net profit was approximately 371 million Yuan, a year-on-year increase of 35.06%. The total assets reached 5.186 billion Yuan, a year-on-year increase of 6.13%. INVT has 4 large bases of production and research, 15 holding subsidiaries, and over 5000 employees.

R&D capability: INVT is a national key high-tech enterprise in China's Torch Program and a drafting unit for the national standard of low-voltage VFDs.

It has established a strict quality management system and passed CNAS certification. The R&D testing laboratory has been awarded the Acceptance of Client Testing (ACT) accreditation by TUV-SUD in Germany, and the main products are CE-compliant. INVT has also been recognized as the National Enterprise Technology Center, and Guangdong Engineering Technology Research Center, and has undertaken a number of national, provincial and municipal science and technology projects. By the end of 2023, INVT has 1538 patents and 283 computer software copyrights.

Marketing and service network: INVT has set up dozens of branches and hundreds of joint warranty centers around the world, and has established strong cooperative relationships with many domestic and international channel partners. This comprehensive sales and service network enables INVT to respond quickly to global market demands and provide immediate technical support and quality after-sales service.

Business segments

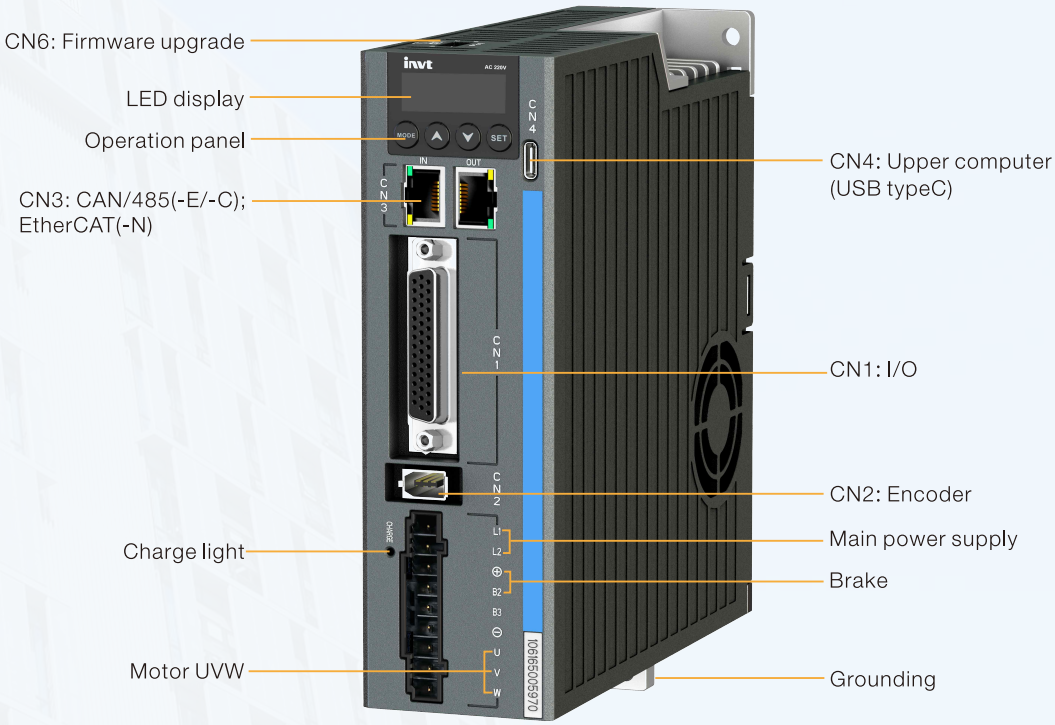
Industrial automation: Offering VFDs, servo systems, motors, controllers, human-machine interfaces, sensors, elevator drive systems, industrial internet, and other products and integrated solutions, which are widely used in compressors, cranes, solar pumps, printing and packaging machinery, 3C electronics, lithium-ion battery equipment, semiconductor equipment, offshore equipment, iron and steel, petroleum, chemical industry, and other fields.

Network power: Offering micro module data centers, power supply and distribution products, intelligent temperature control products, intelligent monitoring products, and integrated solutions, which are widely used in cloud data centers, finance, communication, medical, energy, and other fields.

New energy vehicle: Offering comprehensive products such as main motor controllers, auxiliary motor controllers, vehicle controllers, and onboard power supplies, covering the full range of solutions for commercial vehicles and passenger cars.

PV energy storage: Offering grid-tie inverters, energy storage inverters, off-grid inverters, monitoring accessories, which have been applied in many scenarios at home and abroad.

Introduction



Simple look, utility power

INVT DA180A series basic AC servo drive

DA180A series basic AC servo drive, the new generation of INVT simplified single-axis servo product, is utility oriented, making expansion easy. It provides efficient and competitive solutions for the simplification, networking, and high-performance requirements of general-purpose equipment.

Features

High speed response
With a response frequency up to 2.5kHz, DA180A can significantly improve processing speed, shorten tuning time, and maximize mechanical performance

Light and compact
Compared to DA200, DA180A is up to 45% smaller in size, with flexible driving and handy control, saving installation space and achieving device miniaturization

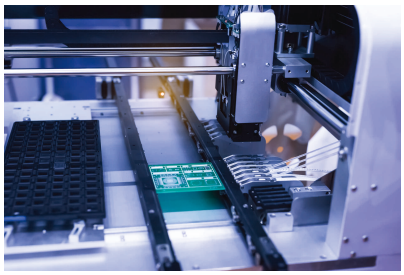
Accurate positioning
17bits magnetic and 23bits optic absolute optical

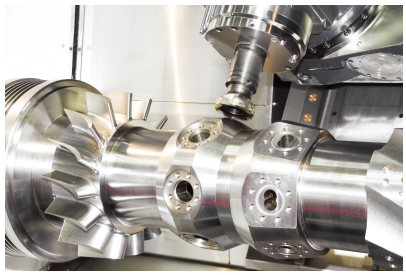
Enriched communication interfaces
Support bus communication protocols such as Modbus, CANopen, and EtherCAT. Long-distance, multi-axis high-speed synchronous control is achieved through networking

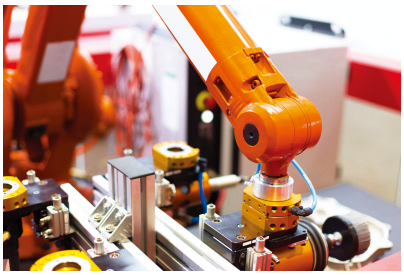
Environmental adaptability
Models with an output current of 2.8A use an independent heat sink for natural cooling

Long guarantee
24 months

Applications







Drive model naming

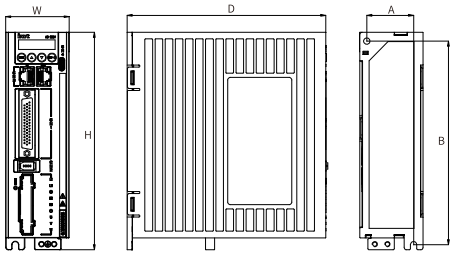
DA180A-E-2R8-S-2

Item	Description
Product series	DA180A: Servo drive series
Product category	E: Pulse type C: CANopen bus type (dynamic brake) N: EtherCAT bus type (dynamic brake)
Rated output current	2R8: 2.8A 6R0: 6.0A
Voltage class	S: 220V
Encoder category	2: Communication encoder

Drive ratings and frame sizes

Drive model	Function description	Input		Output		Frame size
		Voltage (V)	Rated current (A)	Power (kW)	Rated current (A)	
DA180A-E-2R8-S-2	Pulse+12bits analog	1PH 220	3.6	0.4	2.8	A
DA180A-C-2R8-S-2	Pulse+CANopen+dynamic brake	1PH 220	3.6	0.4	2.8	A
DA180A-N-2R8-S-2	EtherCAT+dynamic brake	1PH 220	3.6	0.4	2.8	A
DA180A-E-6R0-S-2	Pulse+12bits analog	1PH 220	9.1	1.0	6	A
DA180A-C-6R0-S-2	Pulse+CANopen+dynamic brake	1PH 220	9.1	1.0	6	A
DA180A-N-6R0-S-2	EtherCAT+dynamic brake	1PH 220	9.1	1.0	6	A

Drive dimensions



Unit: mm

Frame	Drive model	Outline dimensions			Installation dimensions		Installation hole
		H	W	D	A	B	
A	DA180A-E-2R8-S-2	172	50	157	37	161	M4(Φ5)
	DA180A-C-2R8-S-2						
	DA180A-N-2R8-S-2						
	DA180A-E-6R0-S-2						
	DA180A-C-6R0-S-2						
	DA180A-N-6R0-S-2						

EMI filter

Drive model	EMI filter model
DA180A-E-2R8-S-2	FLT-PS2010H-B
DA180A-C-2R8-S-2	
DA180A-N-2R8-S-2	
DA180A-E-6R0-S-2	
DA180A-C-6R0-S-2	
DA180A-N-6R0-S-2	

Note: EMI filter models in the table are EMI filter models of our company.
Used for power input side.

Brake resistor

Drive model	Built-in braking resistor specifications	Min. allowed resistance of external braking resistor
DA180A-E-2R8-S-2	-	60Ω
DA180A-C-2R8-S-2	-	60Ω
DA180A-N-2R8-S-2	-	60Ω
DA180A-E-6R0-S-2	45Ω 60W	45Ω
DA180A-C-6R0-S-2	45Ω 60W	45Ω
DA180A-N-6R0-S-2	45Ω 60W	45Ω

Drive introduction

DA180A series servo drive (400W/1kW)				
Specifications			Description	
Power supply	220V System input voltage		1PH, AC 220V(±15%), 47–63Hz	
Port	Control signal	Input	10 inputs (The function is configurable through parameter settings.) (7 inputs for EtherCAT models.)	
		Output	2/4 differential outputs (The function is configurable through parameter settings.)	
	Analog	Input	Two 12bit analog inputs (None for EtherCAT models.)	
	Pulse signal	Input	Two groups (mode: open collector input or differential input)	
		Output	One group differential output (A+, A-; B+, B-; Z+, Z-); One group open collector output (A, B, Z)	
	Encoder	Input	2/4-PPR absolute encoder interface	
	Communi-cation	USB	1:1 communication upper PC software	
		RS485	1:n communication (optional)	
		CANopen	1:n communication (optional)	
		EtherCAT	1:n communication (optional)	
Function	Control mode		1. Position control; 2. Speed control; 3. Torque control; 4. Position/Speed mode switching; 5. Speed/Torque mode switching; 6. Position/Torque mode switching; 7. CANopen mode; 8. EtherCAT mode	
	Position control	Control input	1. Retention pulse clearing;2. Command pulse input disabled; 3. Electronic gear ratio switching;4. Vibration control switching, etc	
		Control output	Positioning completion output, etc	
		Pulse input	Max. pulse input frequency	Optical coupling: differential input 4Mpps, open collector input 200kpps
			Pulse input mode	1. Pulse +direction;2. CW +CCW; 3. Quadrature
			Electronic gear (e-gear)	1/10000-1000 times
			Filter	1. Command smoothing filter;2. FIR filter
		Analog input	Torque limit command input	Can independently perform clockwise/counterclockwise torque limit
		Vibration control	Able to suppress 1-200Hz front-end vibration and overall machine vibration	
		Pulse output	1. Can perform arbitrary frequency division settings under the encoder resolution; 2. B phase reverse function	
	Speed control	Control input	1. Internal command speed 1; 2. Internal command speed 2; 3. Internal command speed 3; 4. Zero speed clamp, etc.	
		Control output	Speed reaching, etc	
		Analog input	Speed command input	The speed command input can be set according to the analog voltage DC ±10V
			Torque limit input	Can independently perform clockwise/counterclockwise torque limit
		Internal speed commands	8 step speed can be switched according to the external control input	
		ACC/DEC adju-stment of speed command	ACC/DEC time setting and S curve setting	
		Zero-speed clamp	In the speed mode, it can set the operation mode as the speed mode and position mode	
		Speed command filter	A delay filter of analog input speed command	
		Speed command zero drift control	Zero drift control against outside interference	
	Torque control	Control input	Zero speed clamp input, etc	
		Control output	Speed reaching, etc	
		Speed limit	Torque command input	Analog torque command input, gain and polarity can be set based on analog voltage
			Speed limit input	Analog speed limit
		Torque	Set the speed limit by parameters	
		command filter	A delay filter of analog input torque command	
		Torque command zero drift control	Zero drift control against outside interference	
	Internal position plan	Plan bits	128 bits internal position planning, the positioning can be controlled through communication	
		Route setting	1. Position; 2. Speed; 3. ACC time; 4. DEC time; 5. Stop timer; 6. Various state output; 7. Operational mode	
		Homing	1. LS signal; 2. Z phase signal; 3. LS signal+Z phase signal; 4. Torque limit signal	

DA180A series servo drive (400W/1kW)		
Specifications		Description
Protection	Protection function	Such as protection against phase-loss, overvoltage, undervoltage, overcurrent, overheating, storage fault, initialization fault, I/O distribution abnormalities and large position deviation, braking resistor overload, and drive overload.
	Dynamic braking	For emergency stop function, including stop and fault stop scenarios.
	Protection and fault record	1. Up to 10 faults can be recorded; 2. The key parameters can be recorded when fault occurs.
Environment	Working temperature	0-55°C (Derate 80% when the ambient temperature is 45-55°C.)
	Storage temperature	-20°C-70°C (No freezing)
	Operation/storage humidity	≤90%RH (no condensation)
	IP rating	IP20
	Altitude	Lower than 1000m
	Vibration	≤5.88m/s2, 10-60Hz (Working at the resonance point is not allowed)

Motor model naming

IMS20B - 06 M 40B 30C - 2 - M3 4

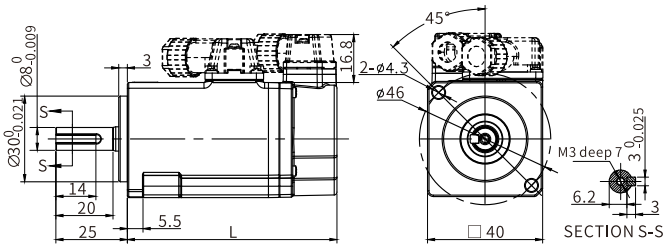
Item	Description
Product series	IMS20B: IMS20B series
Base model No.	04:40 06: 60 10: 100 13: 130
Inertia classification	L: Small inertia M: Medium inertia H: Large inertia
Rated power (W)	Composition of base (number) * magnification (letter) A: *1 B: *10 C: *x100 ... E.g.: 40B: 400W; 15C: 1.5kW
Rated power (rmp)	Composition of base (number) * magnification (letter) A: *1 B: *10 C: *x100 ... E.g.: 80B: 800rpm; 30C: 3000rpm
Voltage class (V)	2: 220
Encoder type	M4: 17-bit multi-turn P9: 23-bit multi-turn
Optional part	0: With oil seal but no brake (empty by default) 4: With oil seal and electromagnetic brake

Servo motor technical parameters

Motor model	Rated power (kW)	Rated current (A)	Max. transient current (A)	Rated torque (Nm)	Max. transient torque (Nm)	Rated speed (rpm)	Max. speed (rpm)	Rotation inertia Standard/With brake (kg·cm²)	Voltage (V)	Weight Standard/ With brake (kg)
IMS20B-04L10B30C-2-□	0.1	0.98	3.9	0.32	1.12	3000	6000	0.031/0.034	220	0.36/0.55
IMS20B-06M20B30C-2-□	0.2	1.3	4.4	0.64	2.23	3000	6000	0.34/0.35	220	0.8/1.2
IMS20B-06M40B30C-2-□	0.4	2.6	8.6	1.27	4.445	3000	6000	0.59/0.6	220	1.2/1.6
IMS20B-08M75B30C-2-□	0.75	4.6	16.3	2.38	8.36	3000	6000	1.72/1.77	220	2.2/2.9
IMS20B-08M10C30C-2-□	1	6.3	20.9	3.18	11.3	3000	6000	2.23/2.28	220	2.6/3.3
IMS20B-10M10C30C-2-□	1	6.6	19.8	3.18	9.55	3000	6000	1.84/2.59	220	3.3/4.1
IMS20B-13M85B30C-2-□	0.85	6.2	14.9	5.4	13.5	1500	4500	13.1/14.3	220	5.7/7.3
IMS20B-13M10C20C-2-□	1	5.4	16.9	4.8	14.3	2000	4500	6.3/7.95	220	4.4/6.0
Insulation class	Class F(155°C)									
IP rating	IP65/IP67 (IMS20B)									
Application environment	Temperature: -10°C~+40°C (non-frozen)									

Servo motor dimensions

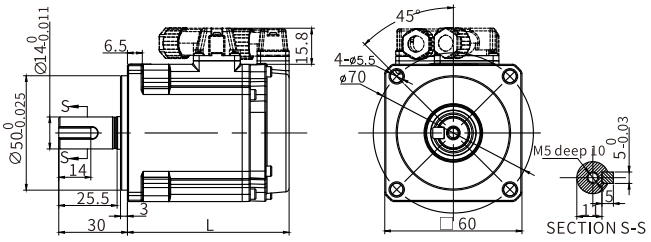
Dimensions for base-40 motors



Unit: mm

Motor model	L	
	Without brake	Electromagnetic brake
IMS20B-04L10B30C-2-□-□	73.4	100.1

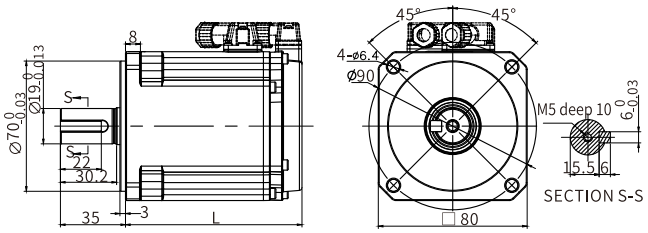
Dimensions for base-60 motors



Unit: mm

Motor model	L	
	Without brake	Electromagnetic brake
IMS20B-06M20B30C-2-□-□	70.5	99.7
IMS20B-06M40B30C-2-□-□	88	117.2

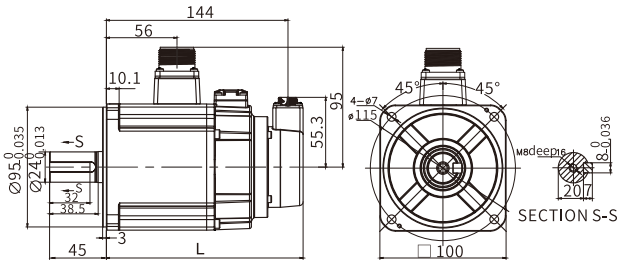
Dimensions for base-80 motors



Unit: mm

Motor model	L	
	Without brake	Electromagnetic brake
IMS20B-08M75B30C-2-□-□	94.6	107.9
IMS20B-08M10C30C-2-□-□	107.9	142.1

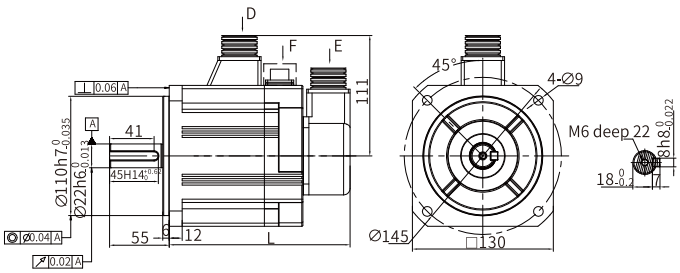
Dimensions for base-100 motors



Unit: mm

Motor model	L	
	Without brake	Electromagnetic brake
IMS20B-10M10C30C-2-□	127.4	156

Dimensions for base-130 motors

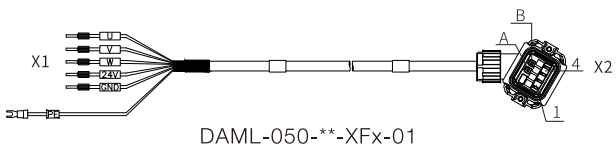
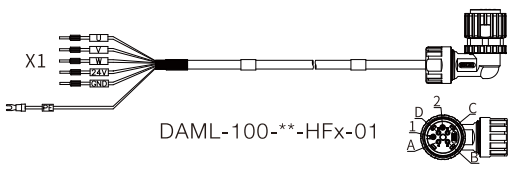
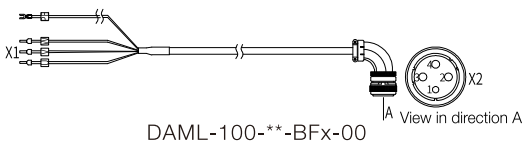


Unit: mm

Motor model	L	
	Without brake	Electromagnetic brake
IMS20B-13M85B30C-2-□	138	167
IMS20B-13M10C20C-2-□	130	159

Servo motor power cable

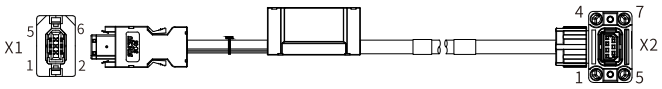
PS: ## as 00 (means without brake); ## as 01 (means with brake)

	Wiring mapping			
	Definition	X1	X2	Core wire color
Power cable for base-40/60/80 100–1000W motors				
 DAML-050-**-XFx-01	U	Tubular terminal	X2.2	Red
	V	Tubular terminal	X2.1	White
	W	Tubular terminal	X2.3	Black
	PE	Ground terminal	X2.4	Yellow/green
	BK+	Tubular terminal	X2.A	Blue
	BK-	Tubular terminal	X2.B	Brown
Power cable for base-100 850–1000W motors				
 DAML-100-**-HFx-01	U	Tubular terminal	X2.A	Red
	V	Tubular terminal	X2.B	White
	W	Tubular terminal	X2.C	Black
	PE	Ground terminal	X2.D	Yellow/green
	BK+	Tubular terminal	X2.1	Brown
	BK-	Tubular terminal	X2.2	Blue
Power cable for base 130 100~1000W motor				
 DAML-100-**-BFx-00	U	Tubular terminal	X2.2	Yellow
	V	Tubular terminal	X2.3	Green
	W	Tubular terminal	X2.4	Red
	PE	Ground terminal	X2.1	Yellow/green

Servo motor encoder cable

PS: ** means length, you can choose (03,05,10,15,20,25) meters; x means cable type, you can choose (0: standard F: flexible D: standard with battery H: flexible with battery)

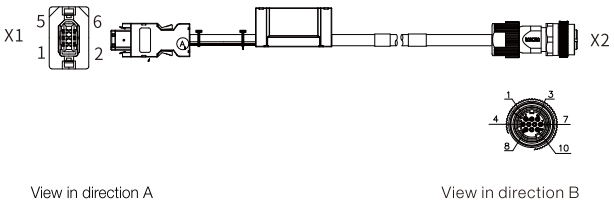
Cable for 17-bit and 23-bit absolute encoder used by base-40/60/80 motors



DBEL-06-**-XIx-04A0

Wiring mapping			
Signal	X1	X2	Core wire
SD+	X1.5	X2.1	Twisted pair
SD-	X1.6	X2.2	
5V	X1.1	X2.5	
GND	X1.2	X2.6	
VB+	/	X2.3	
VB-	/	X2.4	
PE	Metal shell	X2.7	Braid

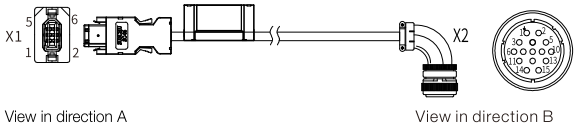
Cable for 17-bit and 23-bit absolute encoder used by base-100 motors



DBEL-06-**–JIx-04A0

Wiring mapping			
Signal	X1	X2	Core wire
SD+	X1.5	X2.1	Twisted pair
SD-	X1.6	X2.2	
5V	X1.1	X2.4	
GND	X1.2	X2.9	
VB+	/	X2.6	
VB-	/	X2.5	
PE	Metal shell	X2.1	Braid

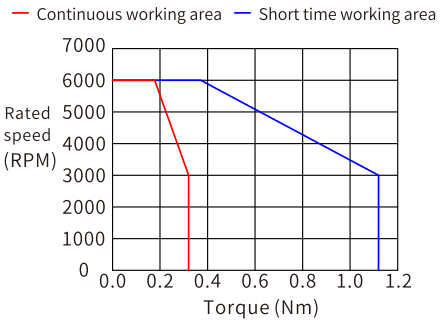
Cable for 17-bit and 23-bit absolute encoder used by base-130 motors



DBEL-06-**-BIx-04A0

Wiring mapping			
Signal	X1	X2	Core wire
SD+	X1.5	X2.2	Twisted pair
SD-	X1.6	X2.3	
5V	X1.1	X2.4	
GND	X1.2	X2.5	
VB+	/	X2.6	
VB-	/	X2.7	
PE	Metal shell	X2.1	Braid

TN curve of machine



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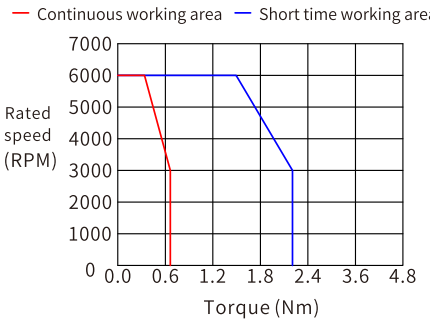

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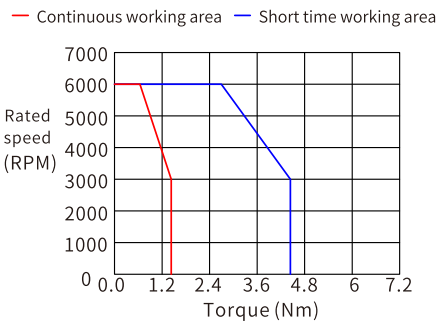

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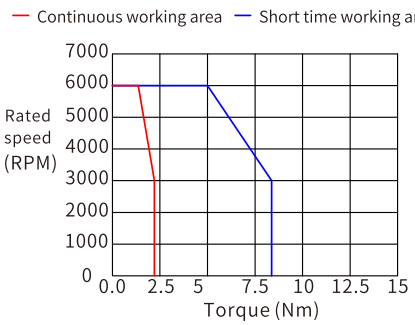
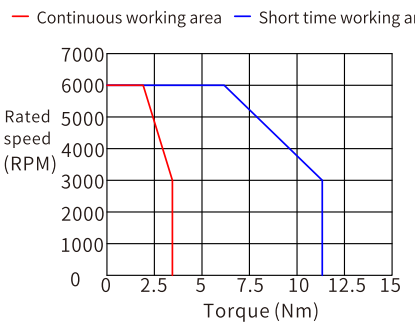


IMS20B-08M75B30C-2-□



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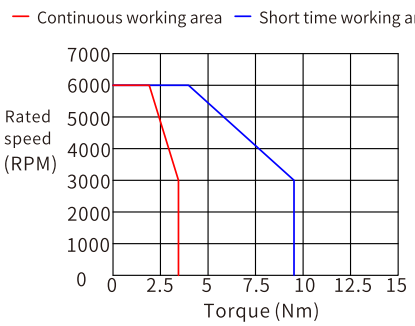

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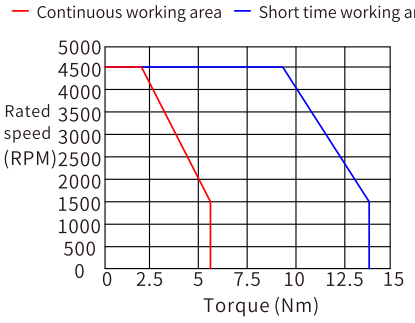

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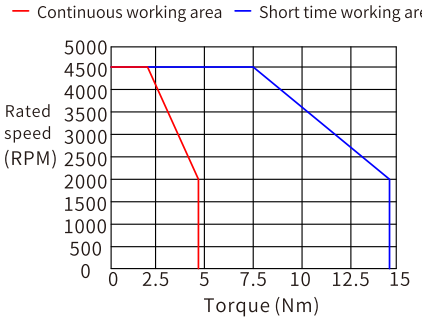


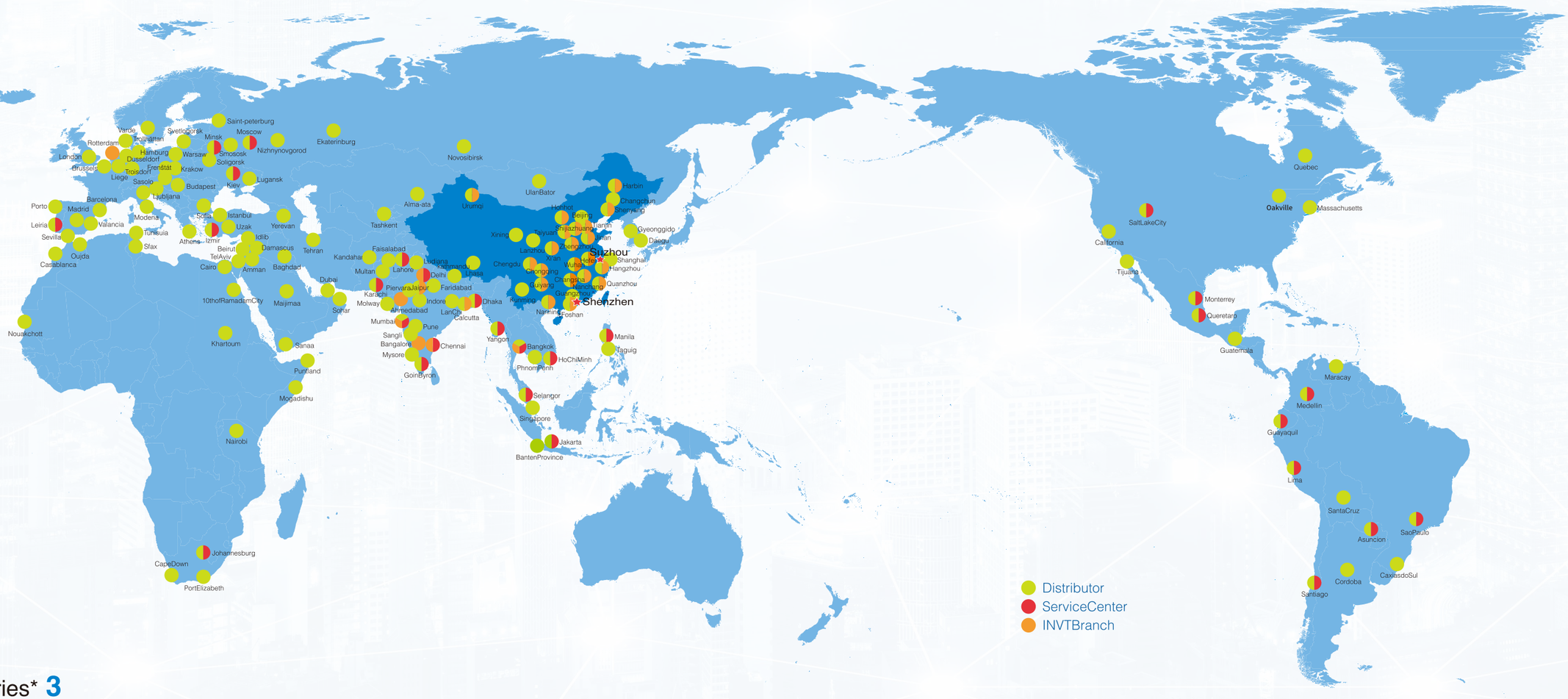
IMS20B-13M10C20C-2-□

Servo configuration

Flang (mm)	Rated power (kW)	Rated speed (rpm)	Rated touque (Nm)	Rated current (A)	Rated voltage (V)	Inertia (kg/cm²)	Motor ERP	Motor model	Encoder	Brake	Remark	Adapted Drive	Power cable type (length: 3,5,7,10,15,20,25meter)	Encoder cable type (length: 3,5,7,10,15,20,25meter)
40	0.1	3000	0.3	0.98	220	0.031	91015-00068	IMS20B-04L10B30C-2-M4-J	17bits multi-turn magnetic	/	Plug type B	DA180A-*-2R8-S-2	Standard: DAML-050-xx-XF0-00 Flexible with brake: DAML-050-xx-XFF-00 Standard with brake: DAML-050-xx-XF0-01 Flexible with brake: DAML-050-xx-XFF-01 xx means lenth, eg: 03-3m	Without battery Standard: DBEL-04-xx-XI0-04A0 Flexible with brake: DBEL-04-xx-XIF-04A0 With battery Standard: DBEL-06-xx-XID-04A0 Flexible with brake: DBEL-06-xx-XIH-04A0 xx means lenth, eg: 03-3m
	0.1	3000	0.3	0.98	220	0.034	91015-00069	IMS20B-04L10B30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Plug type B			
	0.1	3000	0.3	0.98	220	0.031	91015-00070	IMS20B-04L10B30C-2-P9-J	23bits multi-turn optical	/	Plug type B			
	0.1	3000	0.3	0.98	220	0.034	91015-00071	IMS20B-04L10B30C-2-P94-J	23bits multi-turn optical	EM Brake	Plug type B			
60	0.2	3000	0.64	1.3	220	0.34	91015-00072	IMS20B-06M20B30C-2-M4-J	17bits multi-turn magnetic	/	Plug type B			
	0.2	3000	0.64	1.3	220	0.35	91015-00073	IMS20B-06M20B30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Plug type B			
	0.2	3000	0.64	1.3	220	0.34	91015-00074	IMS20B-06M20B30C-2-P9-J	23bits multi-turn optical	/	Plug type B			
	0.2	3000	0.64	1.3	220	0.35	91015-00075	IMS20B-06M20B30C-2-P94-J	23bits multi-turn optical	EM Brake	Plug type B			
	0.4	3000	1.27	2.6	220	0.59	91015-00076	IMS20B-06M40B30C-2-M4-J	17bits multi-turn magnetic	/	Plug type B			
	0.4	3000	1.27	2.6	220	0.6	91015-00077	IMS20B-06M40B30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Plug type B			
	0.4	3000	1.27	2.6	220	0.59	91015-00078	IMS20B-06M40B30C-2-P9-J	23bits multi-turn optical	/	Plug type B			
	0.4	3000	1.27	2.6	220	0.6	91015-00079	IMS20B-06M40B30C-2-P94-J	23bits multi-turn optical	EM Brake	Plug type B			
80	0.75	3000	2.39	4.6	220	1.72	91015-00080	IMS20B-08M75B30C-2-M4-J	17bits multi-turn magnetic	/	Plug type B	DA180A-*-6R0-S-2		
	0.75	3000	2.39	4.6	220	1.77	91015-00081	IMS20B-08M75B30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Plug type B			
	0.75	3000	2.39	4.6	220	1.72	91015-00082	IMS20B-08M75B30C-2-P9-J	23bits multi-turn optical	/	Plug type B			
	0.75	3000	2.39	4.6	220	1.77	91015-00083	IMS20B-08M75B30C-2-P94-J	23bits multi-turn optical	EM Brake	Plug type B			
	1	3000	3.18	6.3	220	2.23	91015-00084	IMS20B-08M10C30C-2-M4-J	17bits multi-turn magnetic	/	Plug type B			
	1	3000	3.18	6.3	220	2.28	91015-00085	IMS20B-08M10C30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Plug type B			
	1	3000	3.18	6.3	220	2.23	91015-00086	IMS20B-08M10C30C-2-P9-J	23bits multi-turn optical	/	Plug type B			
	1	3000	3.18	6.3	220	2.28	91015-00087	IMS20B-08M10C30C-2-P94-J	23bits multi-turn optical	EM Brake	Plug type B			
100	1	3000	3.18	6.6	220	1.84	91015-00088	IMS20B-10M10C30C-2-M4-J	17bits multi-turn magnetic	/	Aviation plug	DA180A-*-6R0-S-2	Standard: DAML-100-xx-GF0-00 Flexible with brake: DAML-100-xx-GFF-00 Standard with brake: DAML-100-xx-HF0-01 Flexible with brake: DAML-100-xx-HFF-01 xx means lenth, eg: 03-3m	Without battery: Standard: DBEL-04-xx-JI0-04A0 Flexible with brake: DBEL-04-xx-JIF-04A0 With battery Standard: DBEL-06-xx-JID-04A0 Flexible with brake: DBEL-06-xx-JIH-04A0 xx means lenth, eg: 03-3m
	1	3000	3.18	6.6	220	2.59	91015-00089	IMS20B-10M10C30C-2-M44-J	17bits multi-turn magnetic	EM Brake	Aviation plug			
	1	3000	3.18	6.6	220	1.84	91015-00090	IMS20B-10M10C30C-2-P9-J	23bits multi-turn optical	/	Aviation plug			
	1	3000	3.18	6.6	220	2.59	91015-00091	IMS20B-10M10C30C-2-P94-J	23bits multi-turn optical	EM Brake	Aviation plug			
130	0.85	1500	5.4	6.2	220	13.1	11101-01256	IMS20B-13H85B15C-2-M4-A	17bits multi-turn magnetic	/	Aviation plug	DA180A-*-6R0-S-2	Standard: DAML-100-xx-BF0-00 Flexible with brake: DAML-100-xx-BFF-00 xx means lenth, eg: 03-3m	Without battery Standard: DBEL-04-xx-BI0-04A0 Flexible with brake: DBEL-04-xx-BIF-04A0 With battery Standard: DBEL-06-xx-BID-04A0 Flexible with brake: DBEL-06-xx-BIH-04A0 xx means lenth, eg: 03-3m
	0.85	1500	5.4	6.2	220	14.3	11101-01255	IMS20B-13H85B15C-2-M44-A	17bits multi-turn magnetic	EM Brake	Aviation plug			
	0.85	1500	5.4	6.2	220	13.1	11101-01257	IMS20B-13H85B15C-2-P9-A	23bits multi-turn optical	/	Aviation plug			
	0.85	1500	5.4	6.2	220	14.3	11101-01259	IMS20B-13H85B15C-2-P94-A	23bits multi-turn optical	EM Brake	Aviation plug			
	1	2000	4.8	5.4	220	6.3	11101-01258	IMS20B-13M10C20C-2-M4-A	17bits multi-turn magnetic	/	Aviation plug			
	1	2000	4.8	5.4	220	7.95	11101-01253	IMS20B-13M10C20C-2-M44-A	17bits multi-turn magnetic	EM Brake	Aviation plug			
	1	2000	4.8	5.4	220	6.3	11101-01243	IMS20B-13M10C20C-2-P9-A	23bits multi-turn optical	/	Aviation plug			
	1	2000	4.8	5.4	220	7.95	11101-01251	IMS20B-13M10C20C-2-P94-A	23bits multi-turn optical	EM Brake	Aviation plug			

PS: Encoder type, you can choose M3 (17-bits single turn magnetic), M4 (17-bits multi turn magnetic), P9 (23-bits multi turn optic absolute)
* In drive model means fieldbus type, you can choose E (plus), C (CANopen), N (EtherCAT)

INVT marketing service network



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