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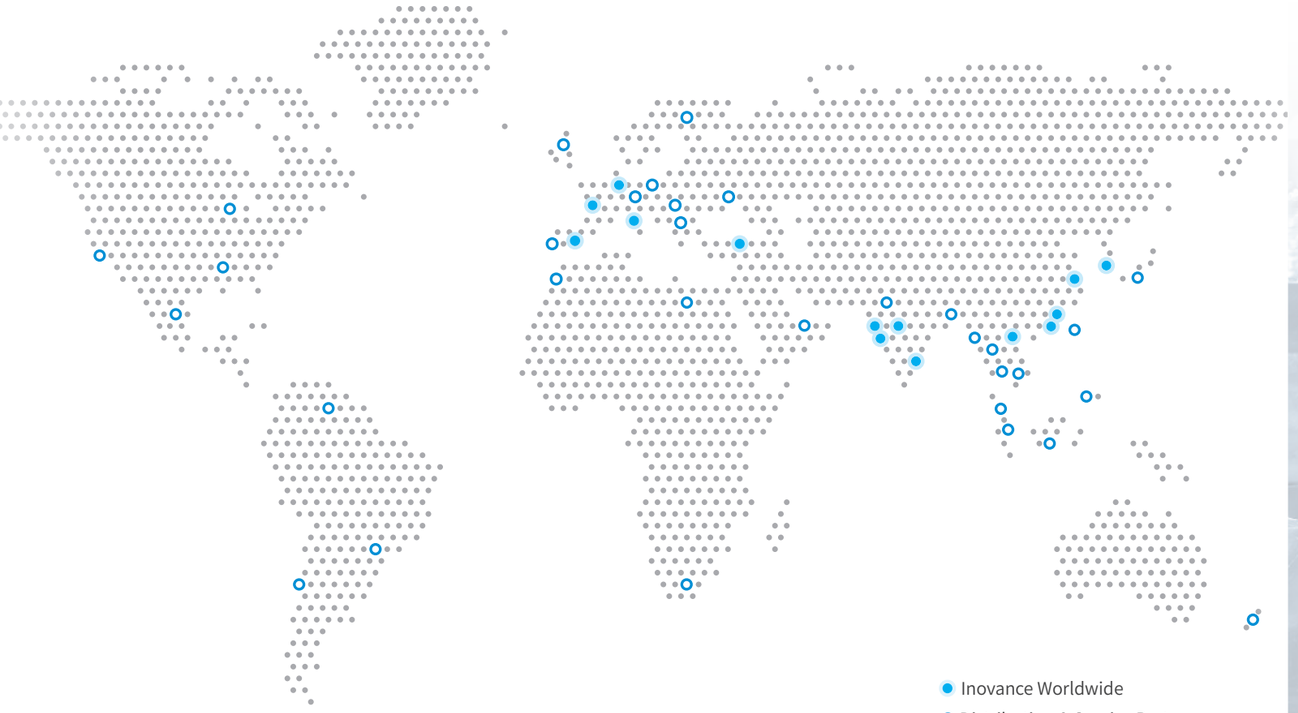

Inovance Worldwide
Distribution & Service Partners

Advancing industrial technology, for a better world

Europe

Germany-Stuttgart
+49 (0) 7144 8990
sales.de@inovance.eu

France-Bordeaux
+33 (0) 5594 01050
sales.fr@inovance.eu

Spain-Barcelona
+34 93 504 94 48
sales.es@inovance.eu

Italy-Milano
+39 (0) 2268 22318
sales.it@inovance.eu

Turkey-Istanbul
+90 (216) 706 17 89
sales.tr@inovance.eu

Asia Pacific

India
Chennai (Head Office) | +91 (0) 44 4380 0201
Ahmedabad | +91 794003 4272
Mumbai | +91 22 4971 5883
New Delhi | +91 11 4165 4524
Sales Network
Kolkata, Bengaluru, Pune, Coimbatore, Hyderabad, Vadodara, Jaipur

South Korea-Seoul
+82 (0)2 3489 8850
INOVANCEKR@inovance.eu

China
Shenzhen Inovance Technology Co., Ltd.
Suzhou Inovance Technology Co. Ltd.
4000-300124 (within China)
info@inovance.com
service@inovance.com

Hong Kong SAR (International Export Office)
+852 2751 6080
info@inovance.eu

Vietnam - Hanoi
+84 948118793
tiendinh@inovance.com

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INOVANCE

ISMG Series

General-Purpose High-Power Servo Motor

Features & functions

- IP54 overall protection and IP67 encoder protection
- Standard 23-bit multi-turn absolute encoder
- Vibration resistance up to 5G
- IE4 energy efficiency equal
- Mainstream configurations supporting over 250% maximum output torque
- Two inertia types available

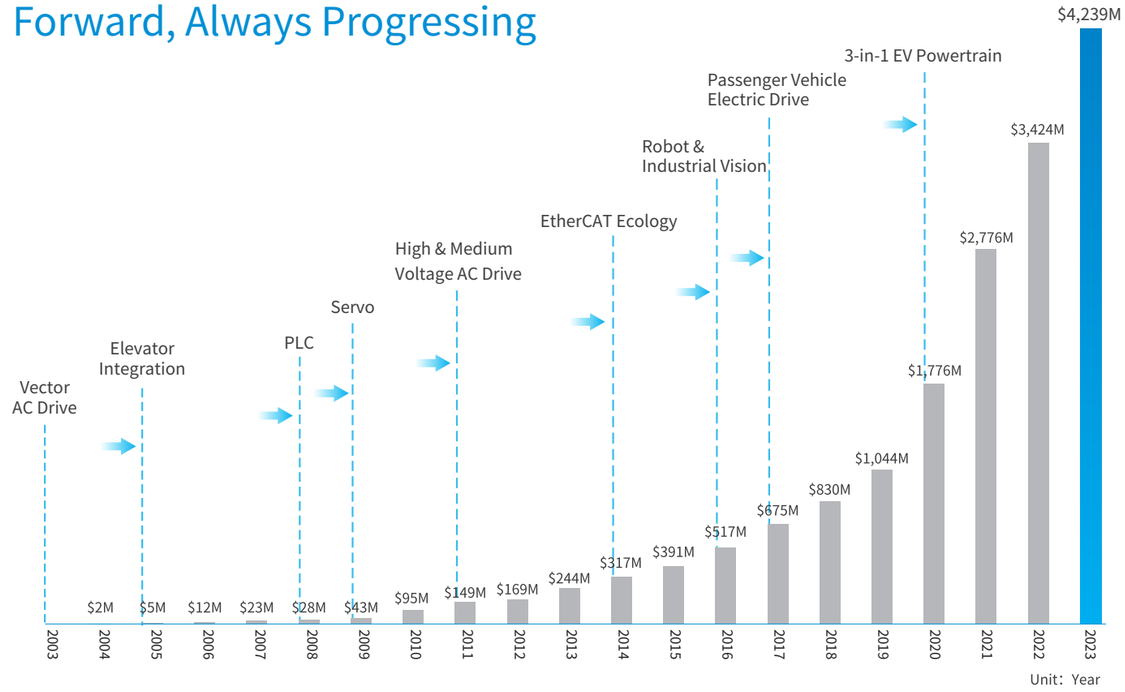
CE

About Inovance

The Inovance Group, founded in 2003, is a rising star in the global industrial automation business and has revenues of $4.2 in 2023. Inovance is headquartered in Shenzhen, China, and has built a global operation with offices and facilities in Germany, France, Italy, Spain, Turkey, India, and South Korea. Additionally, the company has a strong network of distribution partners around the world.

The company 's flexible production techniques and expert understanding of all industry sectors - from plastics to printing to packaging to iron & steel production - have allowed it to establish globally leading industry-specific business units. Over the years, Inovance has built an engineering team with specialist expertise in industrial automation. This knowledge allows it to form strong partnerships with OEMs and end users, providing ongoing advice about how to get the most out of their automation solutions today, and how to stay prepared for the market and technology changes that are coming in future.

Forward, Always Progressing



2003
founded

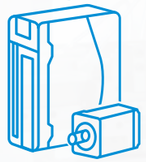
IPO:2010
Shenzhen, China

20,000
employees

Global
network of offices and distributors

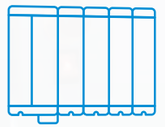
$4.2+bn
revenues in 2023

Servo System



4,500,000+
sets delivered in 2023

AC Drive

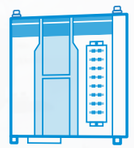


2,20,000+
sets delivered in 2023

Industrial Robot

22,000+
sets delivered in 2023

Controller



3,400,000+
sets delivered in 2023

Global Factories

Inovance has built digital factories around the world, including one in India that has been in operation for a decade. In 2022,we started to build the Hungary factory for localized manufacturing in Europe.

Founded in: Apr. 1992
Area covered: 3,800 m²

Founded in: Mar. 1998
Area covered: 35,753 m²

Founded in: Dec. 2003
Area covered: 7,500 m²

Put into operation in: May 2019
Area covered: 66,000 m²

Founded in: June 2002
Area covered: 10,000 m²

Founded in: Dec. 2003
Area covered: 18,000 m²

Factory in India

Founded in: 2012

Factory in Hungary

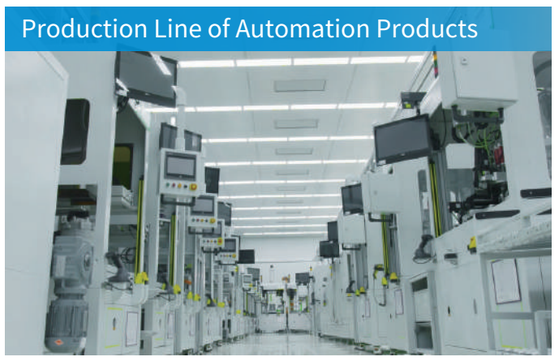
Founded in: 2022

Subsidiary：SBC，Korea

Acquisition: 2023

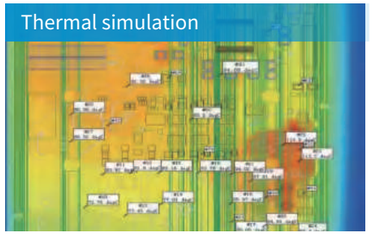
Automated Line for EV Powertrain

Production Line of Automation Products



Worldwide R&D network

Inovance invests heavily in R&D, enabling the company to continuously releease a steady stream of new and innovative products. To ensure that all products meet all key global standards wherever possilble, Inovance's R&D teams in Europe, India, and China, all work together seamlessly and virtually on engineering projects. Inovance calls this co-development, and the practice ensures that the best technology knowledge and solutions can be gathered from all around the business; and that they are always implemented and adapted in a way that meets the needs of local markets. The company's commitment to innovation is demonstrated through its headcount: over 20% of Inovance's entire global workforce is in R&D.



6 R&D Centers
Shenzhen, Suzhou, Xi'an,Nanjing, Milan (Italy), Stuttgart (Germany)

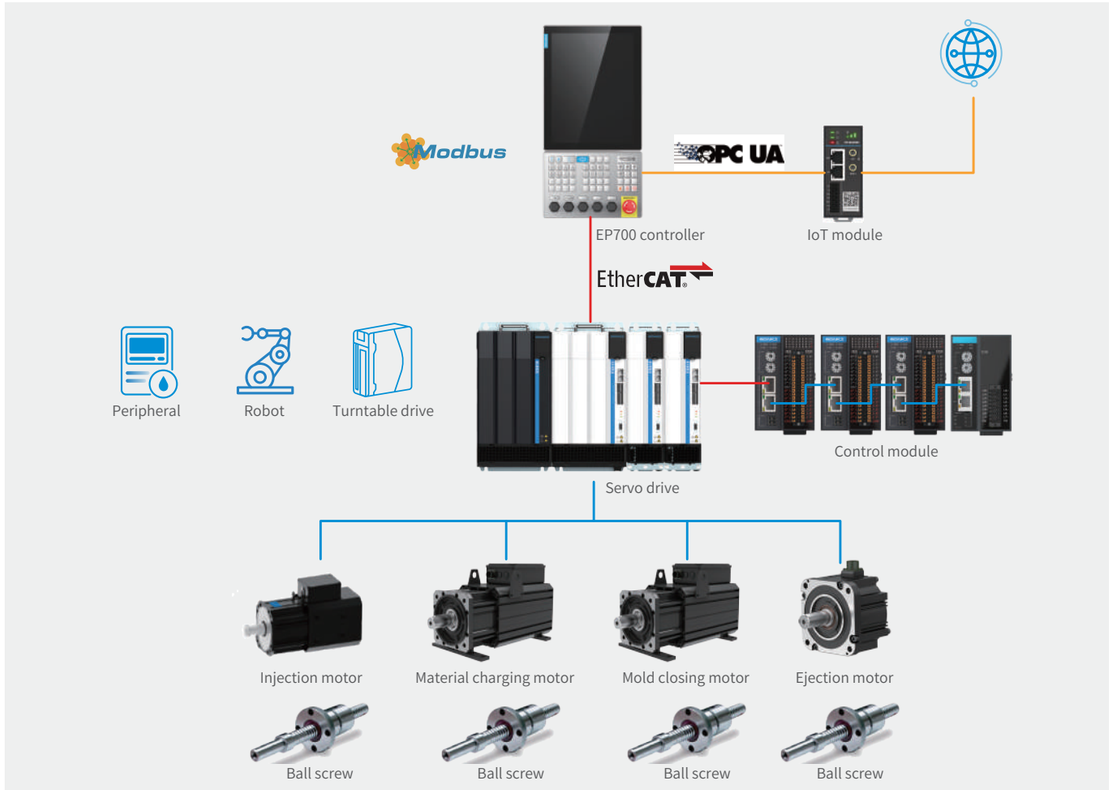
3297 Patents and software copyrights
Invention479 / Utility model 1850 / Industrial design 523 / Software copyright 445

5400+ R&D Employees
Account for 23% of total employees

USD **320+** Million
Account for 8.6% of revenue 2023

Solutions for the Injection Molding Industry

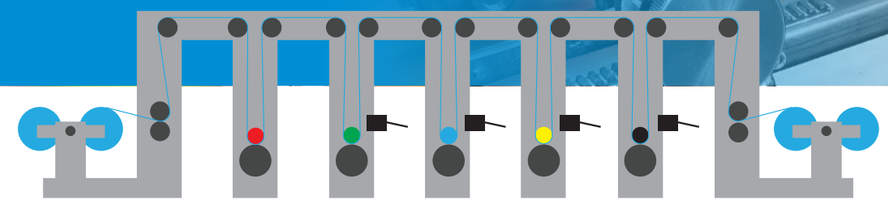
System topology



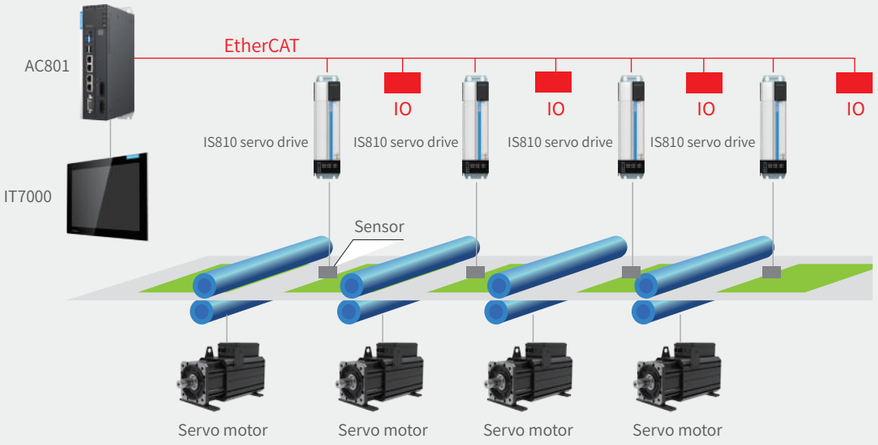
Solution benefits

- Applicable to standard horizontal all-electric injection molding machines, oil-electric hybrid injection molding machines, vertical injection molding machines, electric secondary carriages, dual-color injection molding machines, and other electric injection molding equipment
- Covers mold closing force of 10 tons to 1000 tons and injection speed of 0 mm/s to 800 mm/s
- Supports secondary development as a complete process program; covers most injection molding applications when used with the standard software directly
- All-in-one Inovance solutions including a cloud platform, control system, servo drives, servo motors, heavy-duty ball screws, electrical accessories, and core components

Solutions for the Printing Industry



System topology



Solution benefits

- 350 m/min; overprint accuracy: ±0.05 mm
- Vision/Double electric eye color registration module (standard), allowing automatic pre-registration at start
- Direct-drive motor (optional), eliminating the need for reducers; 23-bit absolute encoder, ensuring transmission accuracy
- Servo-integrated analog probe function, allowing direct connection of photoelectric sensors without color registration boxes and ensuring reliable latching in microseconds
- Vision static image and color registration systems (optional), allowing intelligent monitoring of horizontal and vertical deviations, printing pressure, and color deviation
- IoT functions, facilitating remote maintenance, online commissioning, and production capacity statistics

Ordering code

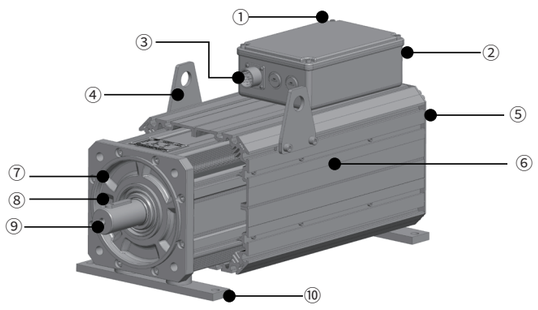
ISM G1 - 30D 15C D - A3 3 1 F A - INT
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① ISM series servo motor	④ Rated speed (rpm) Consists of two digits and one letter B: x 10 C: x 100 For example, 15C means 1500 rpm.	⑦ Shaft connection method 3: Keyed solid shaft with tapped holes; rotor with exterior magnet A: Keyed solid shaft with tapped holes; rotor with interior magnet
② Flange size 1: 200 x 200 2: 266 x 266		⑧ Brake, reducer, and oil seal 1: w/ oil seal, w/o brake 4: w/ oil seal, w/ brake Note: The ISMG1 models support the brake option.
③ Rated power in S4 duty (W) Consists of two digits and one letter C: x 100 D: x 1000 E: x 10000 For example, 30D means 3000 W.	⑤ Voltage class (V) D: 380 V	⑨ Customized feature F: Forced air cooling
	⑥ Encoder type Consists of one letter and one digit A3: 23-bit multi-turn absolute encoder	⑩ Product version A: Second generation
		⑪ Version: INT: International

Note: [1] The motor model naming rules adopt the S4 duty cycle.

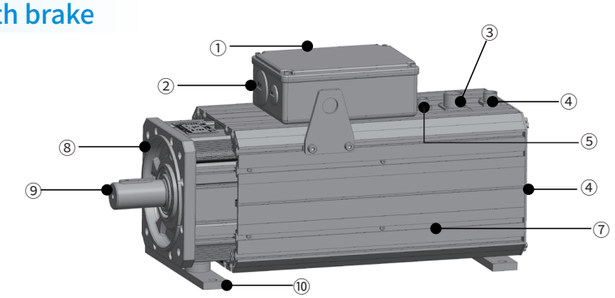
Components of the ISMG series motors

ISMG1/G2 standard models



No.	Name	No.	Name
①	Junction box (with wiring instruction labels)	⑥	Air filter
②	Power cable input end	⑦	Mounting flange
③	Aviation plug for encoder	⑧	Flange mounting spigot
④	Hoisting lug	⑨	Output shaft
⑤	Independent cooling fan	⑩	Foot

ISMG1 models with brake



No.	Name	No.	Name
①	Junction box (with wiring instruction labels)	⑥	Independent cooling fan
②	Power cable input end	⑦	Air filter
③	Aviation plug for encoder	⑧	Flange mounting spigot
④	Aviation plug (2-pin) for fan	⑨	Output shaft
⑤	Aviation plug (4-pin) for brake	⑩	Foot

Mechanical specifications

Item	Description
Duty	Continuous S1
Insulation resistance	Over 50 MΩ at 500V DC
Ambient temperature	-20°C to +50°C (non-freezing)
Ambient humidity	20% to 90% RH (non-condensing)
Storage temperature	-20°C to +60°C (non-freezing)
Storage humidity	20% to 90% RH (non-condensing)
Installation mode	IM B35
Insulation class	155(F)
Insulation voltage	180V AC for 1 minute (for the 380 V class)
Housing IP rating	IP54
Cooling method	IC416 (independent fan ventilated)
Impact	Below 200 m/s^2
Maximum radial vibration	Below 200 m/s^2
Maximum axial vibration	Below 45 m/s^2
Fan type	Capacitor-operated single-phase centrifugal fan
Fan power	ISMG1: 41 W; ISMG2: 134 W
Fan voltage	220V AC/230V AC
Fan frequency	50 Hz/60 Hz
Built-in PTC limit[1]	130°C
KTY resistance at 10°C to 30°C [1]	514 Ω to 653 Ω
Certification	CE/EAC/UKCA
Number of motor poles (2p)	8
Winding typology	Y
Excitation mode	Permanent magnetic
Rotation direction	The motor rotates counterclockwise (CCW) as observed from the load side under the forward rotation command.

Note: [1] For models without brake, the PTC and KTY drain wires are built into the encoder aviation plug. For models with brake, the PTC and KTY lead wires are connected in the junction box.

Performance Parameters of ISMG Series G1 Motors

Specifications

Motor Model			ISMG1-*******-**3**A-INT				
Item		Unit	95C15CD	12D20CD	14D15CD	17D15CD	18D20CD
Rated power (S1)	P N	kW	7.9	10.5	11.8	14.5	15.7
Rated power (S4)	P N	kW	9.5	12.6	14.1	17.3	18.8
Rated current (S1)	I N	A	15.4	20.8	24.4	29.9	28.6
Rated current (S4)	I N	A	18.5	26	29.2	35.7	36.4
Rated torque (S1)	T N	N·m	50	50	75	92	75
Rated torque (S4)	T N	N·m	60	60	90	110	90
Rated speed	n N	rpm	1500	2000	1500	1500	2000
Rated voltage	U N	V	380	380	380	380	380
Rated frequency	f N	Hz	100	133.33	100	100	133.33
Torque constant at 20°C	K T	N·m/A	3.24	2.31	3.07	3.08	2.62
Max. speed (flux weakening ON)	n max	rpm	2500	3000	2500	2500	3000
Max. speed (flux weakening OFF)	n max	rpm	1800	2200	1800	1800	2200
Max. torque	T max	N·m	135	135	203	248	203
Max. current	I max.	A	43.2	60.4	68.3	86.5	85.2
Rotor moment of inertia	J m	kg·cm^2	75	75	90	105	90
Back EMF constant at 20°C	K e	V/krpm	207.9	148.5	198	198	158.4
Rated point efficiency		%	91	94.1	92	92.5	92.9
D-axis inductance	L d	mH	8.08	4.12	5.38	4.12	2.24
Q-axis inductance	L q	mH	8.08	4.12	5.38	4.12	2.24
Phase resistance at 20°C	R phi	mΩ	480	240	282.8	200.35	174
Net weight	-	kg	45.2 (53.2)	45.2 (53.2)	51.9 (59.9)	59 (67)	51.9 (59.9)

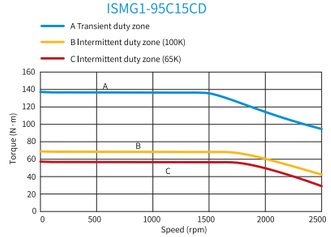
Motor Model			ISMG1-*******-**3**A-INT				
Item		Unit	22D15CD	23D20CD	28D20CD	30D15CD	41D20CD
Rated power (S1)	P N	kW	18.1	19.3	24.1	23.6	31.4
Rated power (S4)	P N	kW	22	23	28.3	30.6	41
Rated current (S1)	I N	A	35.5	37	49.8	48.7	57.3
Rated current (S4)	I N	A	41.7	47.6	58.4	63.3	78.9
Rated torque (S1)	T N	N·m	115	92	115	150	150
Rated torque (S4)	T N	N·m	135	110	135	195	195
Rated speed	n N	rpm	1500	2000	2000	1500	2000
Rated voltage	U N	V	380	380	380	380	380
Rated frequency	f N	Hz	100	133.33	133.33	100	133.33
Torque constant at 20°C	K T	N·m/A	3.24	2.46	2.31	3.08	2.62
Max. speed (flux weakening ON)	n max	rpm	2500	3000	3000	2500	3000
Max. speed (flux weakening OFF)	n max	rpm	1800	2200	2200	1800	2200
Max. torque	T max	N·m	311	248	311	405	405
Max. current	I max.	A	99.4	110.9	139.1	138.5	177.1
Rotor moment of inertia	J m	kg·cm^2	120	105	120	150	150
Back EMF constant at 20°C	K e	V/krpm	207.9	148.5	148.5	198	158.4
Rated point efficiency		%	93	93.3	93.6	93.7	93.9
D-axis inductance	L d	mH	3.01	1.53	1.26	2.64	1.05
Q-axis inductance	L q	mH	3.01	1.53	1.26	2.64	1.05
Phase resistance at 20°C	R phi	mΩ	171.9	114.9	87.7	108.1	69.8
Net weight	-	kg	66 (74)	59 (69)	66 (74)	79.8 (87.8)	79.8 (87.8)

Torque-Speed characteristics

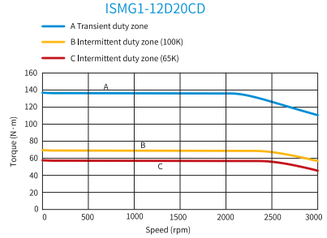
Color	Definition	Description	Remarks
	Peak	Relationship between the maximum torque and speed of the motor, representing the short-time overload capacity of the motor	Typically, it is advisable to select a motor whose rated operating point is between the S1-65K and S1-100K curves.
	S1-100K	Relationship between torque and speed at 100K temperature rise when the motor runs in the S1 (continuous) duty	
	S1-65K	Relationship between torque and speed at 65K temperature rise when the motor runs in the S1 (continuous) duty	

Note: When the bus voltage is low, the torque output in the area above the rated speed may fall. Please consult the technical experts from Inovance when making your selection.

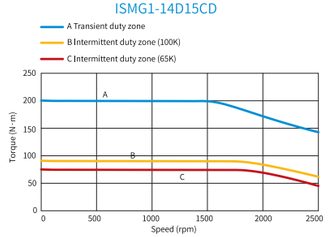
ISMG1-95C15CD



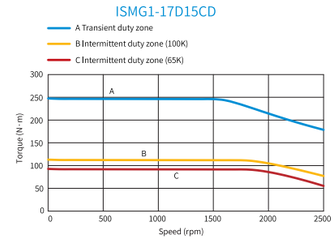
ISMG1-12D20CD



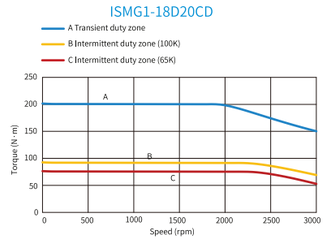
ISMG1-14D15CD



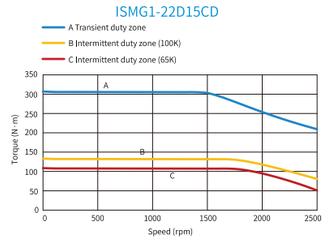
ISMG1-17D15CD



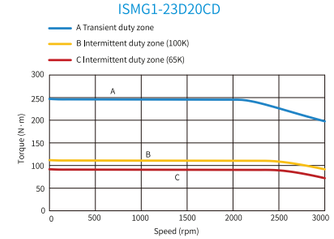
ISMG1-18D20CD



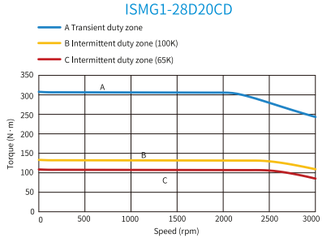
ISMG1-22D15CD



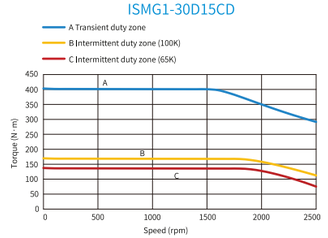
ISMG1-23D20CD



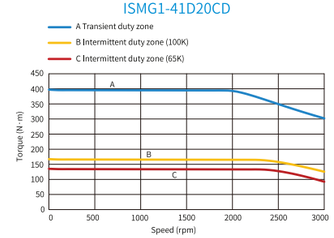
ISMG1-28D20CD



ISMG1-30D15CD



ISMG1-41D20CD



Performance Parameters of ISMG Series G2 Motors

Specifications

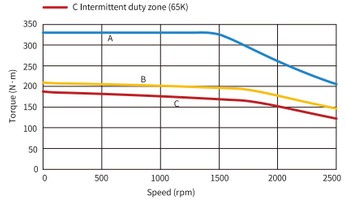
Motor Model			ISMG1-*******-**3**A-INT					
Item		Unit	31D15CD	42D15CD	42D20CD	52D15CD	57D20CD	60D15CD
Rated power (S1)	P N	kW	27	36.1	35.6	44.8	48.2	53.4
Rated power (S4)	P N	kW	31.4	42.4	41.9	52.6	56.5	60.5
Rated current (S1)	I N	A	49.4	74	69.1	87.2	93.1	98.8
Rated current (S4)	I N	A	61.7	87.7	86.6	104.4	109.3	118.8
Rated torque (S1)	T N	N·m	180	230	170	285	230	340
Rated torque (S4)	T N	N·m	200	270	200	335	270	385
Rated speed	n N	rpm	1500	1500	2000	1500	2000	1500
Rated voltage	U N	V	380	380	380	380	380	380
Rated frequency	f N	Hz	100	100	133.33	100	133.33	100
Torque constant at 20°C	K T	N·m/A	3.44	3.08	2.46	3.27	2.47	3.44
Max. speed (flux weakening ON)	n max	rpm	2500	2500	3000	2500	3000	2500
Max. speed (flux weakening OFF)	n max	rpm	1800	1800	2200	1800	2200	1800
Max. torque	T max	N·m	366	440	330	550	440	731
Max. current	I max.	A	117	166.5	163.7	206.2	207.8	233.8
Rotor moment of inertia	J m	kg·cm^2	296	368	296	434	368	500
Back EMF constant at 20°C	K e	V/krpm	207.93	198	148.5	198	158.4	207.9
Rated point efficiency		%	93.7	94.1	94.3	94.8	96.4	94.8
D-axis inductance	L d	mH	2.22	1.53	1.13	1.14	0.93	1.03
Q-axis inductance	L q	mH	2.22	1.53	1.13	1.14	0.93	1.03
Phase resistance at 20°C	R phi	mΩ	70.7	42.45	36.2	30.9	26.9	30.4
Net weight	-	kg	122	141.3	122	158.4	141.3	175.4

Torque-Speed characteristics

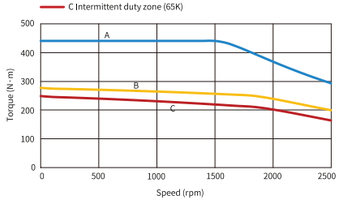
Color	Definition	Description	Remarks
	Peak	Relationship between the maximum torque and speed of the motor, representing the short-time overload capacity of the motor	Typically, it is advisable to select a motor whose rated operating point is between the S1-65K and S1-100K curves.
	S1-100K	Relationship between torque and speed at 100K temperature rise when the motor runs in the S1 (continuous) duty	
	S1-65K	Relationship between torque and speed at 65K temperature rise when the motor runs in the S1 (continuous) duty	

Note: When the bus voltage is low, the torque output in the area above the rated speed may fall. Please consult the technical experts from Inovance when making your selection.

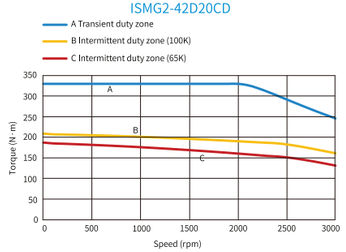
ISMG2-31D15CD



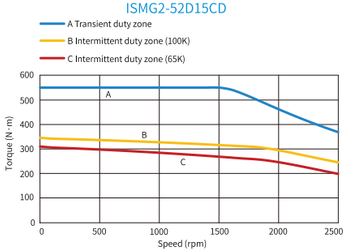
ISMG2-42D15CD



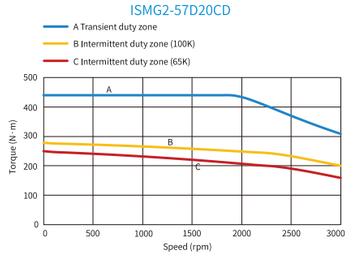
ISMG2-42D20CD



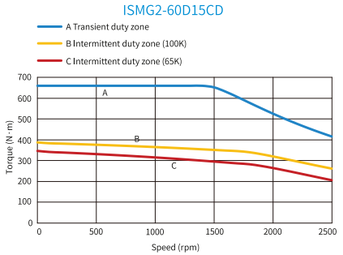
ISMG2-52D15CD



ISMG2-57D20CD



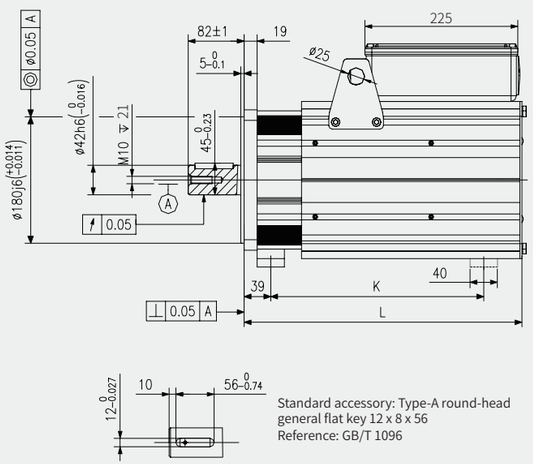
ISMG2-60D15CD

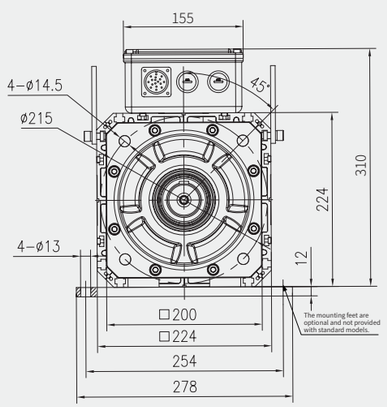


Dimensions of Standard ISMG Series Models

Dimensions of G1 standard models

Unit: millimeters (mm)





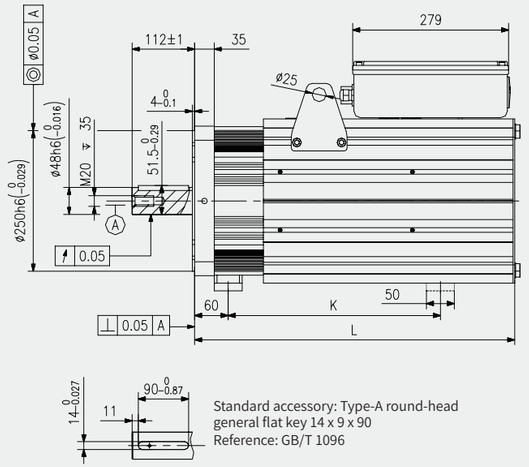
Standard accessory: Type-A round-head general flat key 12 x 8 x 56
Reference: GB/T 1096

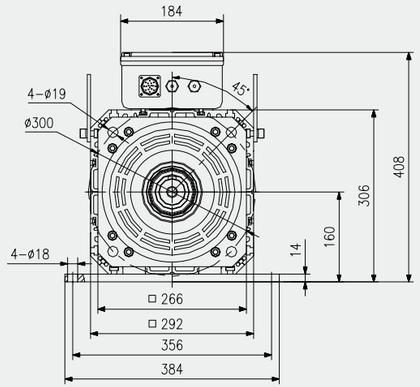
Motor Model	L (mm)	K[1] (mm)	Standard Feet
ISMG1-95C15CD-A331FA-INT	376	285	No
ISMG1-12D20CD-A331FA-INT			No
ISMG1-14D15CD-A331FA-INT	410	321	No
ISMG1-18D20CD-A331FA-INT			Yes
ISMG1-17D15CD-A331FA-INT	445	354	No
ISMG1-23D20CD-A331FA-INT			Yes
ISMG1-22D15CD-A331FA-INT	482	396	Yes
ISMG1-28D20CD-A331FA-INT			Yes
ISMG1-30D15CD-A331FA-INT	553	471	Yes
ISMG1-41D20CD-A331FA-INT			Yes

Note: [1] K is the distance between the mounting feet.

Dimensions of G2 standard models

Unit: millimeters (mm)





Standard accessory: Type-A round-head general flat key 14 x 9 x 90
Reference: GB/T 1096

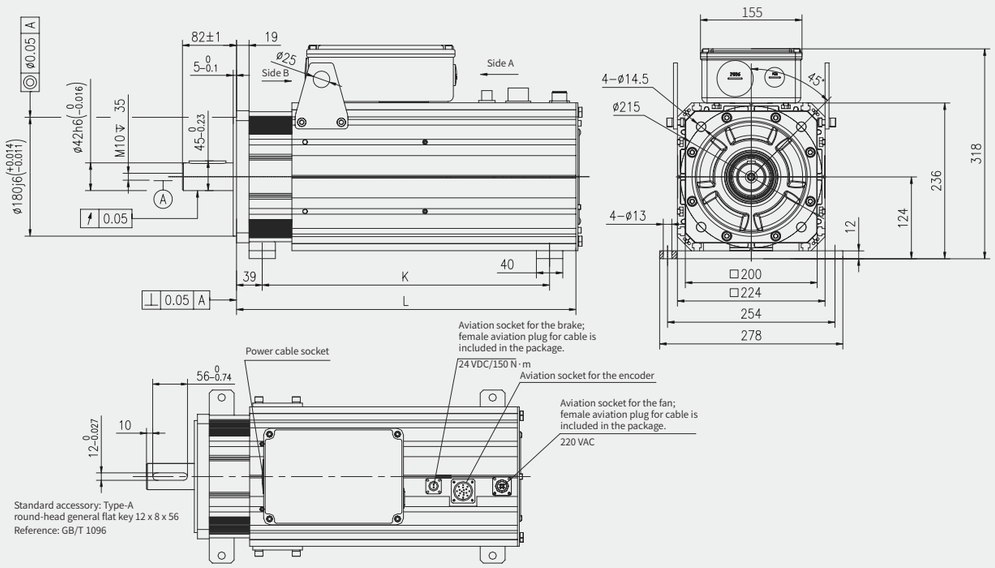
Motor Model	L (mm)	K[1] (mm)	Standard Feet
ISMG2-31D15CD-A331FA-INT	525	360	Yes
ISMG2-42D20CD-A331FA-INT			Yes
ISMG2-42D15CD-A331FA-INT	577	370	Yes
ISMG2-57D20CD-A331FA-INT			Yes
ISMG2-52D15CD-A331FA-INT	629	476	Yes
ISMG2-60D15CD-A331FA-INT	680		Yes

Note: [1] K is the distance between the mounting feet.

Dimensions of ISMG Series Models with Brake

Dimensions of G1 models with brake

Unit: millimeters (mm)



Motor Model	L (mm)	K[1] (mm)	Standard Feet
ISMG1-95C15CD-A334FA-INT	484	396	Yes
ISMG1-12D20CD-A334FA-INT			Yes
ISMG1-14D15CD-A334FA-INT	518	436	Yes
ISMG1-18D20CD-A334FA-INT			Yes
ISMG1-17D15CD-A334FA-INT	553	471	Yes
ISMG1-23D20CD-A334FA-INT			Yes
ISMG1-22D15CD-A334FA-INT	590	506	Yes
ISMG1-28D20CD-A334FA-INT			Yes
ISMG1-30D15CD-A334FA-INT	661	576	Yes
ISMG1-41D20CD-A334FA-INT			Yes

Note: [1] K is the distance between the mounting feet.

[2] The L-shaped aviation plug, used to connect the motor's brake and cooling fan, is included in the motor packaging box and delivered with the product (no need to purchase separately).

Brake specifications

Motor Model	Holding Torque (N·m)	Supply Voltage (VDC) ±10%	Rated Power (W)	Coil Resistance at 20°C (Ω) ±5%	Exciting Current at 20°C (A) ±10%	Close Time (ms)	Release Time (ms)	Backlash (°)
ISMG1-95C15CD-**34*A-INT	150	24	70	8.2	2.9	225	301	0.3 to 0.5
ISMG1-12D20CD-**34*A-INT								
ISMG1-14D15CD-**34*A-INT								
ISMG1-17D15CD-**34*A-INT								
ISMG1-18D20CD-**34*A-INT								
ISMG1-22D15CD-**34*A-INT								
ISMG1-23D20CD-**34*A-INT								
ISMG1-28D20CD-**34*A-INT								
ISMG1-30D15CD-**34*A-INT								
ISMG1-41D20CD-**34*A-INT								

Note: [1] The 24 VDC power supply shall be prepared by the user.

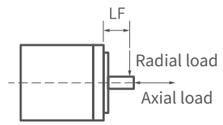
[2] The holding brake must not be used for braking.

[3] The time required to release brake and the time required to brake may vary with discharge circuits. Be sure to confirm the actual action delay of the product.

[4] When determining the length of the motor brake cable, take the voltage drop caused by cable resistance into account. The input voltage for the brake must be at least 21.6 V.

[5] Use a cable with a diameter greater than 0.5 mm² to connect the DC power supply to the motor brake. The brake must not share power supply with other appliances to prevent voltage or current fall due to the simultaneous operation of other appliances, which may lead to misoperation of the brake.

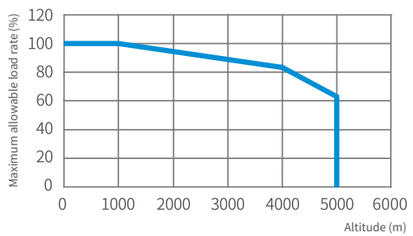
Allowable Axial and Radial Loads



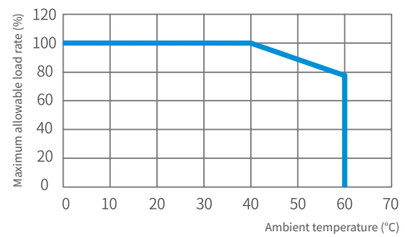
Model	Motor Model	Shaft Extension Length (mm)	Allowable Radial Load (N)	Allowable Axial Load (N)
ISMG1	95C15CD	41	2036	640
	12D20CD	41	1879	580
	14D15CD	41	2006	640
	17D15CD	41	1951	640
	18D20CD	41	1785	580
	22D15CD	41	1880	640
	23D20CD	41	1723	580
	28D20CD	41	1646	580
	30D15CD	41	1691	640
	41D20CD	41	1448	580
ISMG2	31D15CD	56	3686	1120
	42D20CD	56	3236	960
	42D15CD	56	3633	1120
	52D15CD	56	3533	1120
	57D20CD	56	3236	960
	60D15CD	56	3402	1120

Note: [1] LF is half of the shaft extension length.

Derating Characteristics



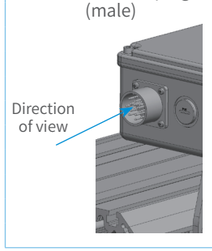
Altitude-based derating	1000 m	2000 m	3000 m	4000 m	5000 m
	1	0.947	0.887	0.824	0.645

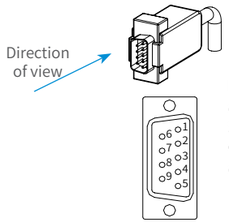


Temperature-based derating	40°C	40°C	40°C	40°C	40°C
	1			0.824	

Aviation Plug Pin Assignment for ISMG Motors with A3-23 Bit Encoder

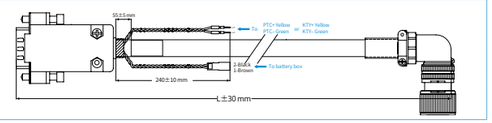
Encoder Aviation Plug on Motor	Pin Assignment			Encoder Plug on Drive	Pin Assignment	
	Pin No.	Signal	Color		Pin No.	Signal
17-Pin aviation plug (male)	A	PS+	Yellow	DB9P plug (male)	1	PS+
	B	PS–	Yellow/black		2	PS–
	E	VB battery+	Blue		-	-
	F	VB battery–	Blue/Black		-	-
	G	+5 V	Red		7	+5 V
	H	GND	Orange		8	GND
	J	Shield	Metallic silver		Housing	Shield
	K	PTC+	Blue		5	PTC+
	L	PTC–	Blue		6	PTC–
		KTY+	White			KTY+
	M	KTY–	Green		5	KTY–





Note: The pin assignment of DB9P plugs may vary slightly depending on drive models. For details, see relevant drive guides.

Cable Selection for ISMG Motors with A3-23 Bit Encoder

Cable	Cable Model for External PTC	Cable Model for External KTY	Cable Length (L)	Cable Diagram
Encoder cable connecting ISMG motor to IS810 servo drive	S6-L-P021-3.0-PTC	S6-L-P021-3.0-KTY	3000 mm	
	S6-L-P021-5.0-PTC	S6-L-P021-5.0-KTY	5000 mm	
	S6-L-P021-10.0-PTC	S6-L-P021-10.0-KTY	10000 mm	

Note: [1] This cable is suitable for ISMG motors and IS810 servo drives. For details, see relevant drive user guides.

[2] This cable is suitable for ISMG motors with or without brakes.

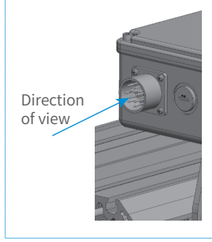
[3] The cable for PTC is suitable for connecting the PTC thermistor signal of the motor stator winding to the drive, while the cable for KTY is suitable for connecting the KTY thermistor signal of the motor stator winding to the drive.

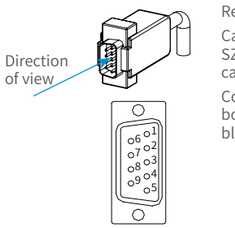
[4] When the cable is connected to a model without a brake, leave the two PTC drain wires at the DB9 terminal on the drive unconnected and wrap them.

[5] When the cable is connected to a model with a brake, connect the two PTC or KTY drain wires at the DB9 terminal on the drive to one end of a pre-prepared two-core wire harness. The other end of the wire harness should be connected to the PTC or KTY terminal in the junction box of the motor.

Aviation Plug Pin Assignment for ISMG Motors with R1 Resolver

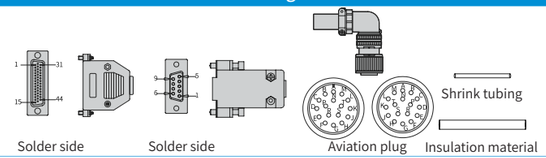
Encoder Aviation Plug on Motor	Pin Assignment			Encoder Plug on Drive	Pin Assignment	
	Pin No.	Signal	Color		Pin No.	Signal
17-Pin aviation plug (male)	A	REF+	Red/White	DB9P plug (male)	1	REF+
	B	REF–	Yellow/White		2	REF–
	C	COS+	Red		3	COS+
	D	COS–	Black		4	COS–
	E	SIN+	Yellow		5	SIN+
	F	SIN–	Blue		9	SIN–
	G	PTC+	Blue		7	PTC+
	H	PTC–	Blue		8	PTC–
	J	Shield	Metallic silver		Housing	Shield
	K	KTY+	White		6	KTY+
	L	KTY–	Green		8	KTY–





Note: The pin assignment of DB9P plugs may vary slightly depending on drive models. For details, see relevant drive guides.

Connector Kit Selection

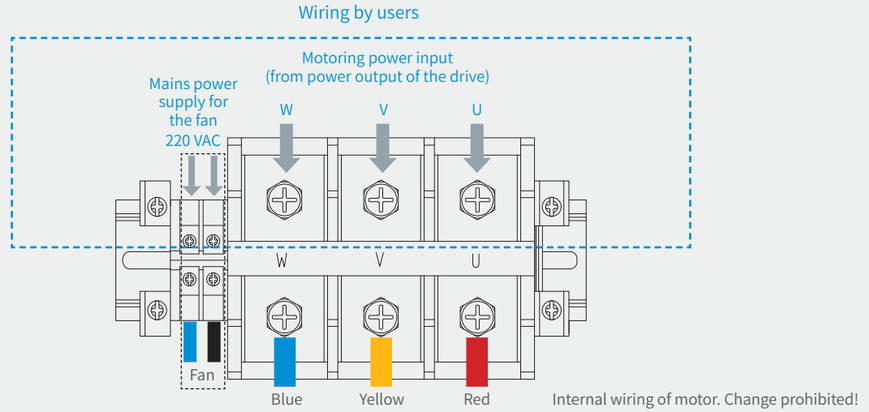
Connector Kit	Model	Diagram
ISMG-DB9 terminal 20-29 aviation plug	S6-C5	

Note: [1] DSUB connectors are suitable for IS810 P-type drives. N-type drives do not require this connector. For details, see relevant drive user guides.

Wiring

Wiring for standard models

Wiring of the terminal block in the junction box



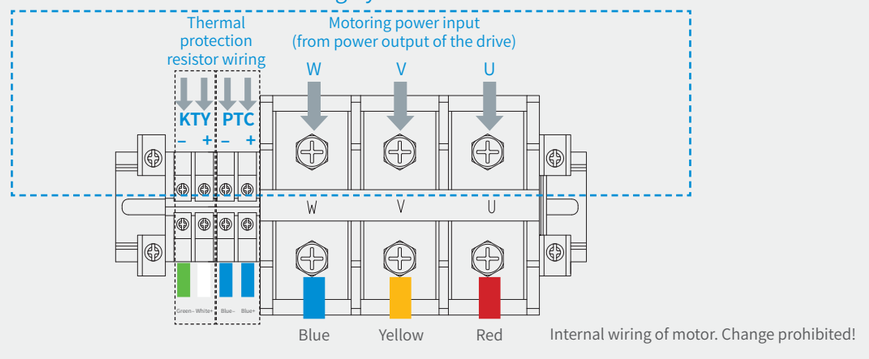
Note: [1] Please refer to the wiring guide label on the inner side of the junction box lid.

[2] Connecting the fan to a 380 VAC power supply will damage the fan.

[3] The PTC and KTY drain wires of models without brake are built in the encoder aviation plug.

Wiring for models with brake

Wiring of the terminal block in the junction box



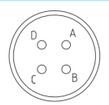
Note: [1] Please refer to the wiring guide label on the inner side of the junction box lid.

[2] For the wiring between the PTC or KTY thermal protection resistor and the servo drive, see pin assignment specified in the relevant servo drive guide.

Brake wiring

Picture	No.	Description
	1	The aviation plug is near the output shaft end of the motor.
	2	2-pin connector
	3	Connect to a 24 VDC power supply; connecting to a 220 V power will damage the brake.
	4	Use a cable with a diameter greater than 0.5 mm^2 to connect the DC power supply to the motor brake.

Fan wiring

Picture	No.	Description
	1	The fan aviation plug is near the fan end of the motor.
	2	Connect to pins B and D.
	3	Connect to single-phase 220 VAC power supply.