

We provide gearmotors that meet the global directive, standards and institutions.

UL Standard Gearmotors

About UL Standards

UL is the abbreviation of "Underwriters Laboratories Inc.", a private testing organization which was established in 1894 by the Association of American Fire Insurance, with the aim to protect human lives and properties from fire, disasters and other accidents. This organization performs testing and certification of all kinds of products, parts and materials. This is the safety standard employed by most of the American states.

Relevant Standards

Number of Phase	UL Standard
1-Phase	UL1004 (Regulations on overall structures of motors) UL2111 (Regulations on overheating protection of motors)
3-Phase	UL1004 (Regulations on overall structures of motors)

* 3-phase motors are only evaluated by structures and not evaluated by the overheating protection test.

UL File No.

- 1-Phase No. E141674
- 3-Phase No. E172621

About CSA Standards

In Canada, it is regulated by law that all products must conform to CSA Standards. UL is authorized as a certification organization for CSA Standards, therefore, when a product is certified by CSA Standards, it can also be allowed to display "cUL" mark and used in the domestic Canadian market.

Relevant Standards

Number of Phase	CSA Standards
1-Phase	C22. 2 No.100(Regulations on general matters for motors) C22. 2 No.77 (Regulations on requirements for the motors with overheating protection device)
3-Phase	C22 2 No.100(Regulations on general matters for motors)

Both Nissei's 1 and 3-phase gearmotors are certified by UL and CSA and allowed to display "UL" and "cUL" marks.

CE Marking Gearmotors

About CE Marking

All the machines exported to Europe are required to have "CE Marking". In order to comply with the "CE Marking", products must be in conformity with the EC Directive. For the verification of conformity with the EC Directive, the approval from the EN Standards is a must.

Nissei declares that all the Nissei "CE Marking" products conform to the EC Directive.

Relevant Directives/Standards

EC Directives	Low Voltage Directive 73/23/EEC(Low Voltage Directive)
EN Standards	EN60034-1(Regulations on motors in general)

* "CE" Marking

Nissei affixes the "CE Marking" on the gearmotors which conform to EC Directive (Low Voltage Directive).

China CCC Certified Gearmotor



China: About the CCC marking

In China, on the occasion of joining the WTO, the China Compulsory Certification started operation in August, 2003, unifying all the certification systems existed and obligating to affix the CCC mark to all the items distributed in the domestic China market. Relevant Nissei products to this certification are gearmotors with the capacity of less than 0.75kW with induction motor. Products certified by CCC are regarded as the CE Marking certified products. (Refer to page E70)

In case exporting gearmotors as an independent unit to Mainland China, the CCC certification for the gearmotor itself is needed. However, in case of exporting gearmotor as a component of a machine, only certification of the machine is needed.

3-phase 0.1 kW ~ 2.2 kW

G3·H2·F·F3 Series	UL	CE	CCC
Gearmotor			
Brake Gearmotor			
Gearmotor with Brake Manual Release Device			
Water-resistant Gearmotor			
Water-resistant Brake Gearmotor			

- Note 1) Water-resistant Brake Gearmotor is under 0.75kW only.
 2) Motor capacity above 1.5kW gearmotor is not included in CCC standards.



1-phase 100W

Note) Not available for the G3 type.

H2·F·F3 Series	UL	CE	CCC
Gearmotor			×
Brake Gearmotor			×
Gearmotor with Brake Manual Release Device			×

UL

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW	200V/50Hz, 200V/60Hz, 220V/60Hz
	2.2kW	208V/60Hz, 230V/60Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz 415V/50Hz, 460V/60Hz 420V/50Hz, 440V/50Hz, 480V/60Hz 575V/60Hz
1-phase	100W	100V/50Hz, 100V/60Hz 115V/60Hz 120V/60Hz 200V/50Hz, 200V/60Hz 220V/60Hz 230V/60Hz

We have motor type and brake type.
 Brake Manual Release is available.
 For 3-phase, dual motor (specification) is available.
 Blue ink voltage/frequency indicates " X " on the tail.
 Please contact us about the other voltage.

CE

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW	200V/50Hz, 200V/60Hz, 220V/60Hz
	2.2kW	220V/50Hz, 230V/50Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz 415V/50Hz 420V/50Hz, 440V/50Hz
1-phase	100W	100V/50Hz, 100V/60Hz 200V/50Hz, 200V/60Hz 220V/50Hz 230V/50Hz

We have motor type and brake type.
 Brake Manual Release is available.
 Blue ink voltage/frequency indicates " X " on the tail.
 Please contact us about the other voltage.

CCC

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW	200V/50Hz, 200V/60Hz, 220V/60Hz
	0.75kW	220V/50Hz, 230V/50Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz

1.5kW and 2.2kW is out of control subject.
 We have motor type and brake type.
 Brake Manual Release is available.
 Blue ink voltage/frequency indicates " X " on the tail.
 Please contact us about the other voltage.
 220V/50Hz or 380V/50Hz is usually standard voltage in China.

Parallel Shaft (Performance Table/Dimension)

Gearmotor with Brake

Water-resistant, Outdoor Gearmotor with Brake

Gearmotor with Clutch/Brake

Reducer (Double Shaft)

S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)

Gearmotor with Brake

Water-resistant, Outdoor Gearmotor with Brake

Gearmotor with Clutch /Brake

Reducer (Double Shaft)

S-Type Reducer

Hollow Shaft Solid Shaft Performance Table/Dimension

Gearmotor with Brake

Water-Resistant, Outdoor Gearmotor with Brake

Reduce (Double Shaft)

S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension

Gearmotor with Brake

Water-Resistant, Outdoor Gearmotor with Brake

Reducer (Parallel Shaft)

S-Type Reducer

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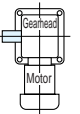
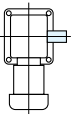
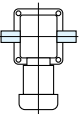
GT-STEP Index Gearmotor

KOMPASS Gearbox

Overseas standard product Gearmotor

GTR MIDI SERIES Overseas standard product gearmotor (0.1kW ~ 2.2kW) are classified by codes as shown below, Specify these codes in your inquiry and order.

Type	Frame Number	Shaft Arrangement	Reduction Ratio	Standards	Phase	Classification by Motor Type	Motor Capacity	Voltage Frequency	Terminal Box	Auxiliary Mark	Specification Code
G3L	18	N	015	U	T	M	010	N	N		
H2L	40	R	12X	Y	T	WB	020	W	E		
FS	45	N	120	C	T	J	075	N	S	X	T9HZ
F3F	40	T	060	Y	T	B	150	W	S		

Type	G3L : G3 Series (Parallel Shaft) Foot Mount
	G3F : G3 Series (Parallel Shaft) Flange Mount
	G3K : G3 Series (Parallel Shaft) Small Flange Mount
	H2L : H2 Series (Right Angle Shaft) Foot Mount
	H2F : H2 Series (Right Angle Shaft) Flange Mount (Frame No.22 only)
	FS : F Series (Hollow Shaft)
	FF : F Series (Solid Shaft)
	F3S : F3 Series (Concentric Hollow Shaft) F3F : F3 Series (Concentric Solid Shaft)
Frame NO. and Diameter of Output Shaft	Output Shaft Diameter (Hollow Shaft type is the bore and other type type is the outside diameter)
Shaft Arrangement H2L,H2F,FF,F2F,F3F only, other than those above type is "N"	L: Output shaft on the left viewing from Input shaft side.  R: Output shaft on the right viewing from Input shaft side.  T: Output shaft on both side 
Reduction Ratio (Reduction Ratio is all triple digits display.)	005 : 1 / 5 ~ 15X : 1 / 1500 (10 010, 1200 12X)
Standards	U : UL Standards (UL, cUL) Y : CE Marking Products C : Products Certified by CCC (1.5kW, and 2.2kW are except from CCC regulation)
Phase Note1: NO 1-phase of CCC certification	T : 3-phase S : 1-phase (Note 1)
Classification by Motor Type	M : With Motor B : With Brake Motor J : With Brake Manual Release Device WM : With Water-resistant Motor (IP65) WB : With Water-resistant Brake Motor (IP65)
Capacity	010 : 3-phase 0.1kW 100 : 1-phase 100W (only H2,F,F3 Series) 020 : 3-phase 0.2kW 040 : 3-phase 0.4kW 075 : 3-phase 0.75kW 150 : 3-phase 1.5kW 220 : 3-phase 2.2kW
Voltage/Frequency	N : Standard Voltage 3-phase : 200V / 50Hz, 200V / 60Hz, 220V / 60Hz 1-phase : 100V / 50Hz, 100V / 60Hz
	W : High Voltage 3-phase : 380V / 50Hz, 400V / 50Hz, 400V / 60Hz, 440V / 60Hz 1-phase : 200V / 50Hz, 200V / 60Hz
Terminal Box Note2: The spec is different each Standards, Please make sure to read "The spec of overseas standard product" and confirm.	A : A type Terminal Box for 0.1kW ~ 0.4kW Z : Z type Terminal Box (Rectifier built-in Terminal Box) for 0.1kW ~ 0.4kW brake motor. S : S type Terminal Box for 0.75kW ~ 2.2kW (The same spec for domestic spec " T type Terminal Box ") E : E type Terminal Box for water resistant (IP65) exclusive use. N : No Terminal Box (lead wire disassemble)
Auxiliary Code	Blank : Standard Specs X : Mark for Additional Specs
Specification Code Note3: Spec Code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Indication of Terminal Box lead wire position Refer to the indication mark list in P.E34 ~ E39 for details.

Accreditation for the various safety standards is received for the motor models. [E.g.] G3L18N015-CTM010NA Registered model CTM010NA
For adapting from domestic models refer to the transformation table on page E73.

Domestic model and Overseas standard product model.

Format of international standard supporting products

International standard supporting product formats are different than domestic standard specifications so when ordering it is necessary to indicate the international standard supporting product format. First select the domestic specification product from this catalog with equivalent specifications (volume, reduction ratio, motor category, etc.) and change the format to an international standard supporting product format using the diagram below as a reference. Factors such as dimensions, functionality will be the same as the domestic specification product.

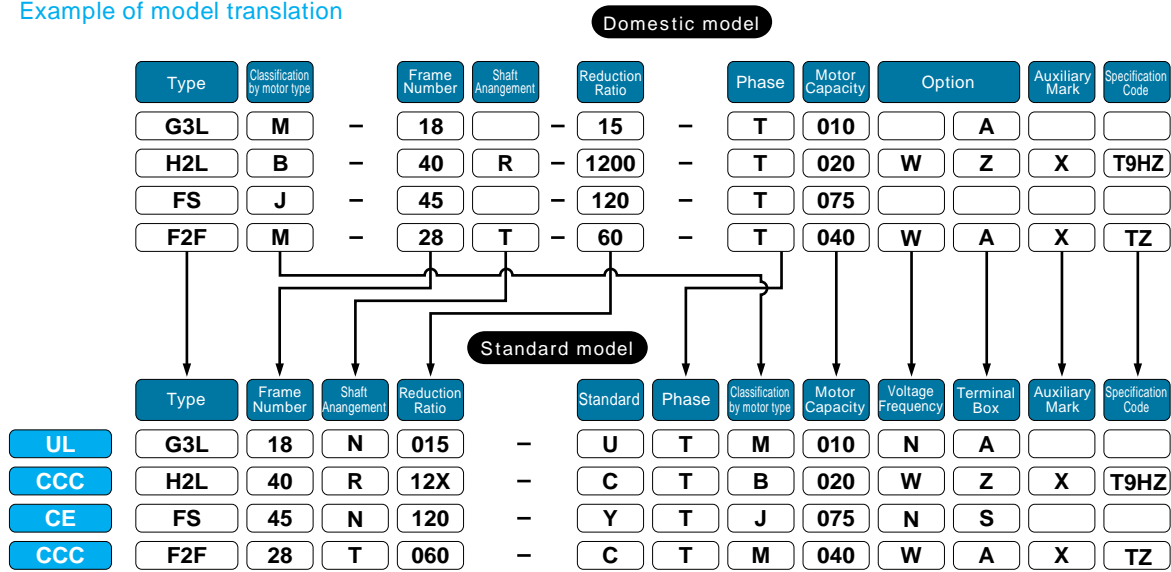
Main precautions regarding format changes

The reducer and motor are expressed with different formats.

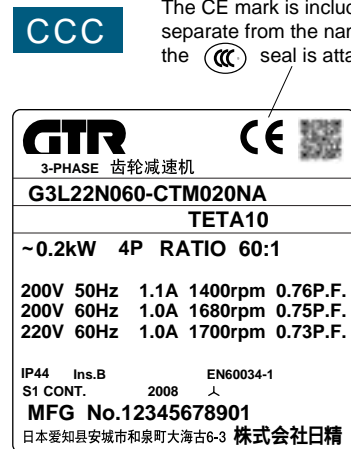
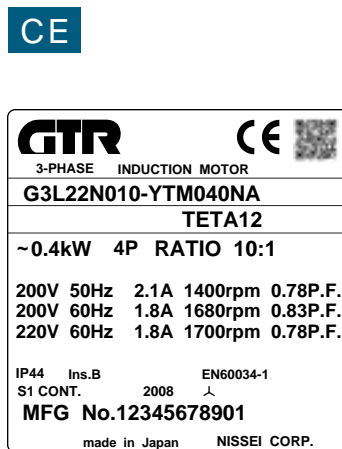
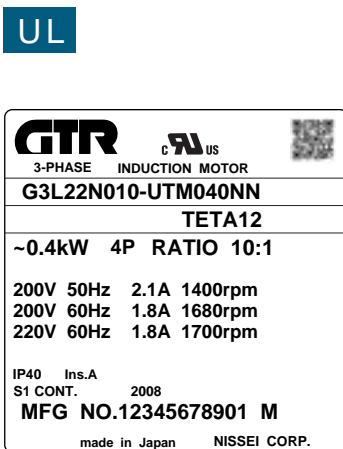
The reduction ratio is expressed differently, all expressions using three digits. [Examples] 5 005, 1200 12x

The terminal box for 0.75kW to 2.2 kW is the S model, coded "S."

Example of model translation



Motor Nameplate



The CE mark is included. Also, separate from the nameplate, the seal is attached.

Parallel Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reduce (Double Shaft)
- S-Type Reducer

Hollow Shaft Solid Shaft Performance Table/Dimension

- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/Dimension

- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer

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GT-STEP Index Gearmotor

KOMPASS Gearbox

Specifications of standard Motor

Terminal Box type and specification is following chart, please confirm and issue all necessary instructions

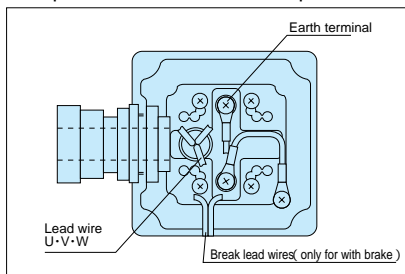
UL Terminal Box for UL standard

for indoor

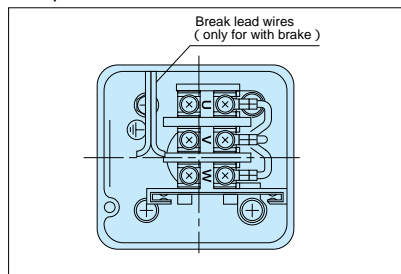
Capacity	Specification	Flying Lead	Terminal Box Type	
			A-BOX	S-Box
0.1kW ~ 0.4kW	without brake			×
	with brake			×
0.75kW ~ 2.2kW	without brake	×	×	
	with brake	×	×	

- Note 1**) A-box is without terminal. For with brake, break lead wires are employed terminal.
2) S-box is with terminal. For with brake, break lead wires are taken terminal as flying lead.
3) For more than 230V, 200V terminal is taken separately. Red is for 0.1kW ~ 0.4kW, and black is for 0.75kW ~ 2.2kW.

A type Terminal Box
 3-phase 0.1kW ~ 0.4kW 1-phase 100W



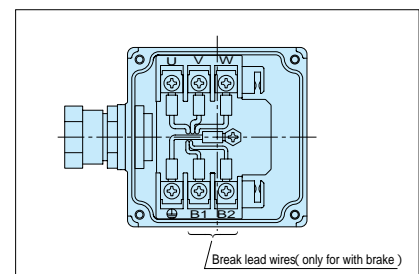
S type Terminal Box
 3-phase 0.75kW ~ 2.2kW



Water-resistant(IP65)

Capacity	Specification	E-BOX
0.1kW ~ 2.2kW	without brake	
	with brake(~ 0.75kW)	

- Note 1**) E-Box is with terminal. For with brake, break lead wires are employed terminal.
2) For more than 230V, 200V terminal is taken separately. Red is for 0.1kW ~ 0.4kW, and Black is for 0.75kW ~ 2.2kW.



CE CCC Terminal Box for CCC standard

for indoor

Capacity	Specification	Flying Lead	Terminal Box Type		
			A-Box	Z-Box	S-Box
0.1kW ~ 0.4kW	without brake			×	×
	with brake				×
0.75kW ~ 2.2kW	without brake	×	×	×	
	with brake	×	×	×	

- Note 1**) Same as Japanese domestic standard. Please refer to P.E17, P.E23 ~ P.E26.
2) For more than, 230V, 200V terminal is taken separately. red is for 0.1kW ~ 0.4kW and Black is for 0.75kW to 2.2kW
3) Voltage 400V class is not available for flying lead. Please choose with terminal box.

Water-resistant(IP65)

Capacity	Specification	E-Box
0.1kW ~ 2.2kW	without brake	
	with brake	

- Note 1**) Same as Japanese domestic standard. Please refer to P.E28, P.E30 ~ E31.
2) For more than, 230V, 200V terminal is taken separately. red is for 0.1kW ~ 0.4kW and Black is for 0.75kW to 2.2kW

Motor Specifications

3-Phase Standard Voltage (3Rated)

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Rotation Speed (rpm)	Current Characteristics		Torque Characteristics	
					Rated Current (A)	Starting Current (A)	Starting Torque (%)	Braking Torque (%)
					0.1kW	T010	200	50
		200	60	1690	0.54	2.27	190	238
		220	60	1710	0.54	2.52	245	300
0.2kW	T020	200	50	1400	1.1	4.70	215	248
		200	60	1680	1.0	4.35	195	225
		220	60	1700	1.0	4.85	238	279
0.4kW	T040	200	50	1400	2.1	9.50	220	265
		200	60	1680	1.8	8.60	190	234
		220	60	1700	1.8	9.60	236	289
0.75kW	075	200	50	1410	3.7	17.7	246	266
		200	60	1690	3.3	16.7	228	244
		220	60	1720	3.2	17.7	258	297
1.5kW	150	200	50	1430	6.6	37.0	264	280
		200	60	1710	6.1	33.5	232	248
		220	60	1730	5.8	34.9	254	301
2.2kW	220	200	50	1420	9.0	46.6	245	252
		200	60	1690	8.6	41.2	202	225
		220	60	1720	8.0	45.6	251	275

Parallel Shaft
(Performance Table/Dimension)

Gearmotor with Brake

Water-resistant, Outdoor Gearmotor with Brake

Gearmotor with Clutch/Brake

Reducer (Double Shaft)

S-Type Reducer

Right Angle Shaft
(Performance Table/Dimension)

Gearmotor with Brake

Water-resistant, Outdoor Gearmotor with Brake

Gearmotor with Clutch /Brake

Reduce (Double Shaft)

S-Type Reducer

Hollow Shaft Solid Shaft
Performance Table/Dimension

Gearmotor with Brake

Water-Resistant, Outdoor Gearmotor with Brake

Reduce (Double Shaft)

S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft
Performance Table/Dimension

Gearmotor with Brake

Water-Resistant, Outdoor Gearmotor with Brake

Reducer (Parallel Shaft)

S-Type Reducer

Technical Information

Standard Motors

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GT-STEP Index Gearmotor

KOMPASS Gearbox

3-Phase High Voltage (4Rated)

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Rotation Speed (rpm)	Current Characteristics		Torque Characteristics	
					Rated Current (A)	Starting Current (A)	Starting Torque (%)	Braking Torque (%)
					0.1kW	T010W	380	50
		400	50	1410	0.31	1.18	199	250
		400	60	1690	0.28	1.12	180	233
		440	60	1720	0.28	1.22	217	285
0.2kW	T020W	380	50	1390	0.56	2.29	192	230
		400	50	1400	0.56	2.38	220	257
		400	60	1680	0.50	2.29	214	239
		440	60	1710	0.50	2.48	258	294
0.4kW	T040W	380	50	1390	1.0	4.35	194	225
		400	50	1400	1.0	4.65	216	258
		400	60	1680	0.9	4.30	184	232
		440	60	1710	0.9	4.75	221	286
0.75kW	075W	380	50	1400	1.8	8.15	202	233
		400	50	1410	1.8	8.65	228	258
		400	60	1690	1.7	8.15	207	236
		440	60	1720	1.6	8.95	252	287
1.5kW	150W	380	50	1420	3.3	17.5	218	258
		400	50	1430	3.3	18.5	245	278
		400	60	1710	3.0	16.5	200	245
		440	60	1730	2.9	18.3	248	298
2.2kW	220W	380	50	1400	4.6	22.3	215	226
		400	50	1420	4.5	23.6	243	252
		400	60	1690	4.3	20.9	200	224
		440	60	1720	4.0	23.1	247	273

1-phase Standard Voltage • High Voltage

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Rotation Speed (rpm)	Current Characteristics		Torque Characteristics	
					Rated Current (A)	Starting Current (A)	Starting Torque (%)	Braking Torque (%)
					100W	S100	100	50
		100	60	1710	1.90	4.17	77	158
	S100W	200	50	1410	0.80	2.15	61	142
		200	60	1700	0.95	2.02	78	154