

Goniometer Stage Ball screw □60:KGB06/KAB06

KGB06050T-LC

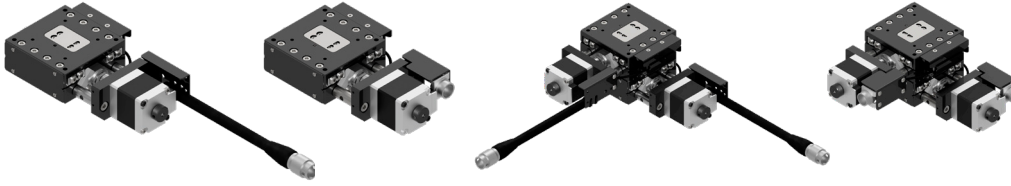
KGB06050M-LC

KAB06050T-LC

KAB06050M-LC

RoHS

Freely customize the motor



* The picture is an image.

KGB06050-C-LC

1 2 3 4 5 6 6 7 7

Cables P. 1-207 ~
Electrical specification P.1-KGB-013~

1 Axis

G	1-axis
A	2-axis

2 Stage table size

06	□60mm
----	-------

3 Height of center rotation (W.D.)

050	50mm
075	75mm
100	100mm
125	125mm

4 Connector specifications

T	Pig tail	
M	Panel mount	

5 Sensor cover location specification

L	Lposition	
R	Opposite hand	

6 Motor option

Code	Specification
C	Standard(5 Phase stepping motor)
G	High resolution
T	2 Phase stepping motor

7 Cable option (Motor: C, F, G, H, MG)

Code	Specification	Cable type	Cable type
A	2m	D214-2-2E	—
B	2m One end loose	D214-2-2EK	DS1-2C-2-2EK
C	4m	D214-2-4E	—
D	4m One end loose	D214-2-4EK	DS1-2C-2-4EK
E	Only connector (Cable is not included)	—	—
F	Robot cable 2m	D214-2-2R	—
G	Robot cable 2m one end loose	D214-2-2RK	DS1-2C-2-2RK
H	Robot cable 4m	D214-2-4R	—
J	Robot cable 4m one end loose	D214-2-4RK	DS1-2C-2-4RK
Blank	Cable is not included (Standard)	—	—

Note:For T-phase stepping, only one end rose (B, D, G, J) is supported.

6 Motor option

Code	Specification
ZA	αSTEP (AZ Series)

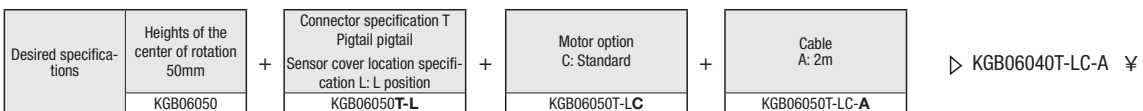
7 Cable option(for ZA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	3A:Screwdriver (3m cable set)
5A	3A:Screwdriver (5m cable set)

Motor option:Accessories when selecting ZA.

Cable option code	sensor cable model	motor cable model	Driver model
Blank	HR10AP-S-SB-6-2	—	—
3	HR10AP-S-SB-6-3	—	—
5	HR10AP-S-SB-6-5	—	—
3A	HR10AP-S-SB-6-3	CC030VZ2R2	AZD-K
5A	HR10AP-S-SB-6-5	CC050VZ2R2	AZD-K

Selection example



X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball Screw

Worm Gear

□40

□50

□60

□70

□80

□100

□120

Other

1-KGB
001

New

Motorized
Stage
goniometer

Specification

		SPEC							
Model		KGB06050□-LC	KGB06075□-LC	KGB06100□-LC	KGB06125□-LC	KAB06050□-LC	KAB06075□-LC	KAB06100□-LC	
Opposite hand		KGB06050□-RC	KGB06075□-RC	KGB06100□-RC	KGB06125□-RC	KAB06050□-RC	KAB06075□-RC	KAB06100□-RC	
Mechanical specification	Travel distance Upper/Lower axis	±8.5°	±5.5°	±5°	±4°	±8.5° /±5.5°	±5.5° /±5°	±5° /±4°	
	Stage table size	60×60mm							
	Travel mechanism (Reduction ratio)	Ball φ6 Lead 1							
	Guide	Cross roller guide							
	Main material—Surface finishing	Aluminum—Black alumite processing							
Dimensional tolerance	Weight	0.52kg				1.04kg			
	Height of stage	25± 0.2mm				50± 0.4mm			
	Height of center rotation	50± 0.2mm	75± 0.2mm	100± 0.2mm	125± 0.2mm	50± 0.4mm	75± 0.4mm	100± 0.4mm	
	Center of rotation precision	0.01mm				—			
Accuracy specification	Resolution/Pulse	Upper at the full	≒ 0.0021°	≒ 0.0014°	≒ 0.0011°	≒ 0.0009°	≒ 0.0021°	≒ 0.0014°	≒ 0.0011°
		Upper at the full	—				≒ 0.0014°	≒ 0.0011°	≒ 0.0009°
	MAX speed	Upper	31.4°/sec [15kHz]	21.5°/sec [15kHz]	16.4°/sec [15kHz]	13.2°/sec [15kHz]	31.4°/sec [15kHz]	21.5°/sec [15kHz]	16.4°/sec [15kHz]
	MAX speed	Lower	—				21.5°/sec [15kHz]	16.4°/sec [15kHz]	13.2°/sec [15kHz]
	Repeatability positioning accuracy	±0.001°							
	Load capacity	5kgf [49N]				4.5kgf [44.1N]			
	Moment stiffness	Pitch 0.30/yaw 0.10/roll 0.11 ["/N · cm]				Pitch 0.41/yaw 0.2/roll 0.41 ["/N · cm]			
Sensor	Lost motion	0.003°							
	Limit sensor	Available							
	Origin sensor	Available							
	Slit origin sensor	—							
Provided screw (Hexagon-headed bolt)		4 of M4—10							

* The SPEC varies depending on the motor.
 - For the exact calculation formula for the movement amount, please refer to P.1-140.
 - The maximum speed is the theoretical speed when driven at 15kHz for the full stroke travel pulse.

Resolution · MAX speed · Weight

Motor code	C	G	T	ZA
Specification	Standard	High resolution	2 Phase stepping motor	αSTEP (AZ)
Motor model ¹	C005C-90215P-1	PK523HPMB-C1	SJA28N32-0674B-01	AZM24AK
Step angle	0.72°	0.36°	1.8°	0.36° ^{※2}
Resolution (Full)	KGB06050T/M	≒ 0.0021°	≒ 0.0010°	≒ 0.0052°
	KGB06075T/M	≒ 0.0014°	≒ 0.0007°	≒ 0.0017° ^{※2}
	KGB06100T/M	≒ 0.0011°	≒ 0.0005°	≒ 0.0005° ^{※2}
	KGB06125T/M	≒ 0.0009°	≒ 0.0004°	≒ 0.0004° ^{※2}
MAX speed	KGB06050T/M	31.4°/sec [15kHz]	26.1°/sec [25kHz]	31.4°/sec [30kHz]
	KGB06075T/M	21.5°/sec [15kHz]	17.9°/sec [25kHz]	21.5°/sec [30kHz]
	KGB06100T/M	16.4°/sec [15kHz]	13.7°/sec [25kHz]	16.4°/sec [30kHz]
	KGB06125T/M	13.2°/sec [15kHz]	11.0°/sec [25kHz]	13.2°/sec [30kHz]
Weight	KGB06*T/M	0.52kg	0.52kg	0.56kg
	KAB06*T/M	1.04kg	1.04kg	1.12kg

※1 Model is our own management model.
 ※2 1000P/R setting
 ※3 The weight of the pigtail/panel mount model is the same.

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball
Screw

Worm
Gear

□40

□50

□60

□70

□80

□100

□120

Other

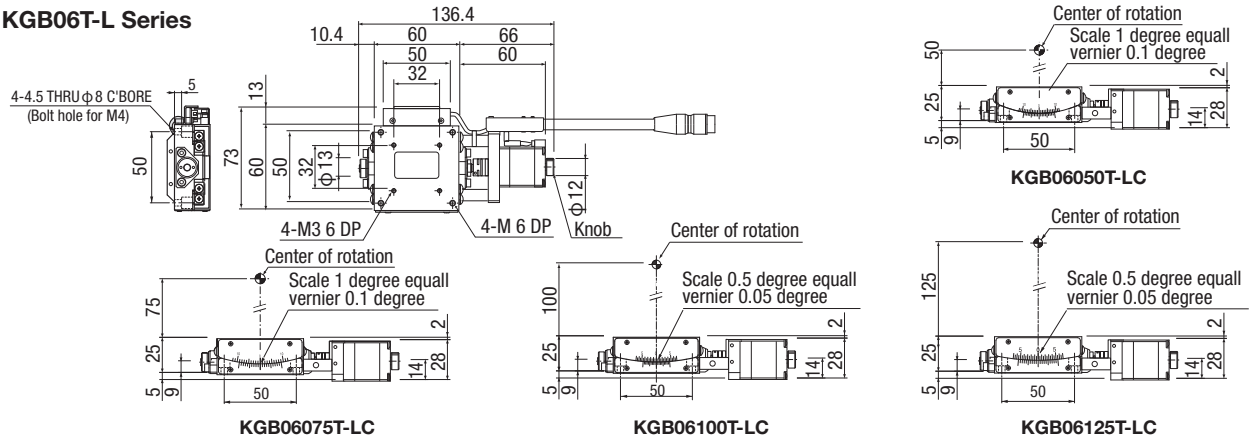
1-KGB
002

Motorized Stage

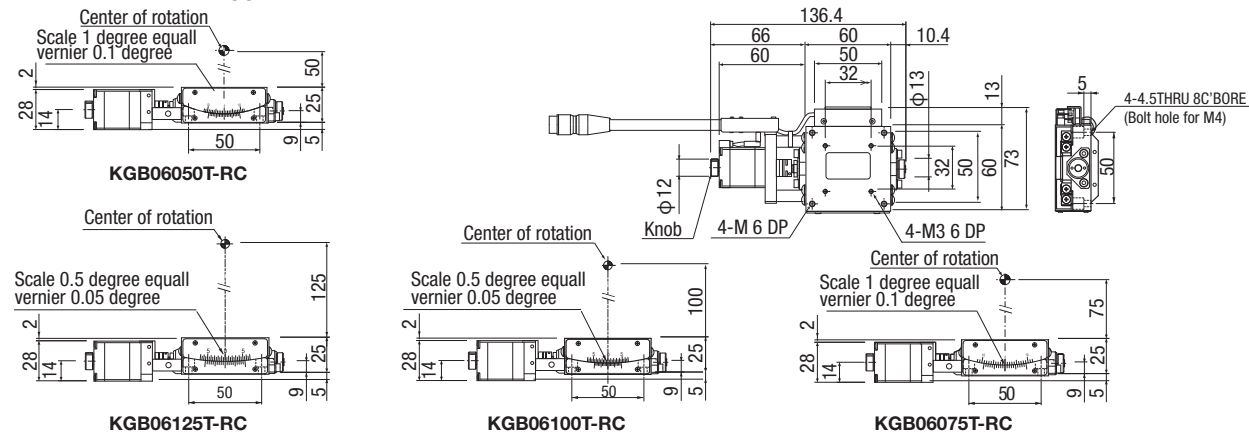
Goniometer Stage Ball screw □60:KGB06/KAB06

Dimensional outline drawings (1-axis)

KGB06T-L Series

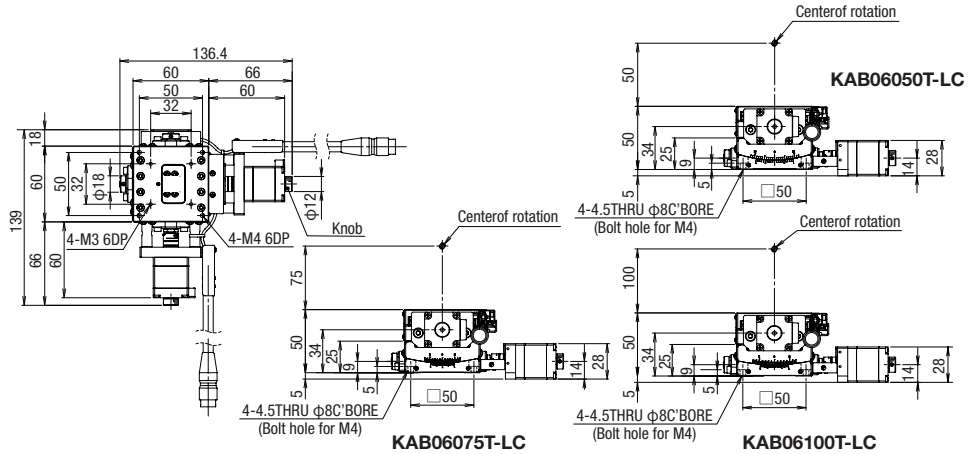


KGB06T-R Series (Opposite hand)



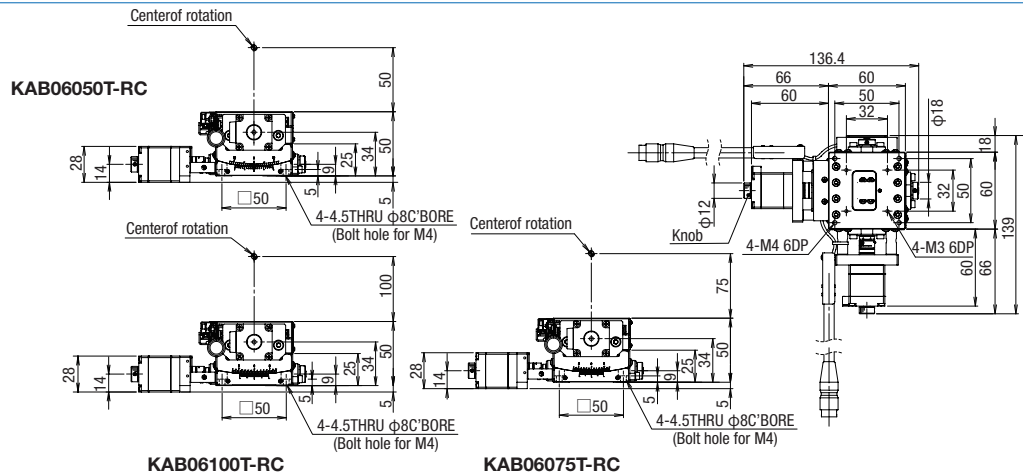
Dimensional outline drawings (2-axis)

KAB06T-L Series



KAB06T-R Series

(Opposite hand)



Motorized goniometer Stage

- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller

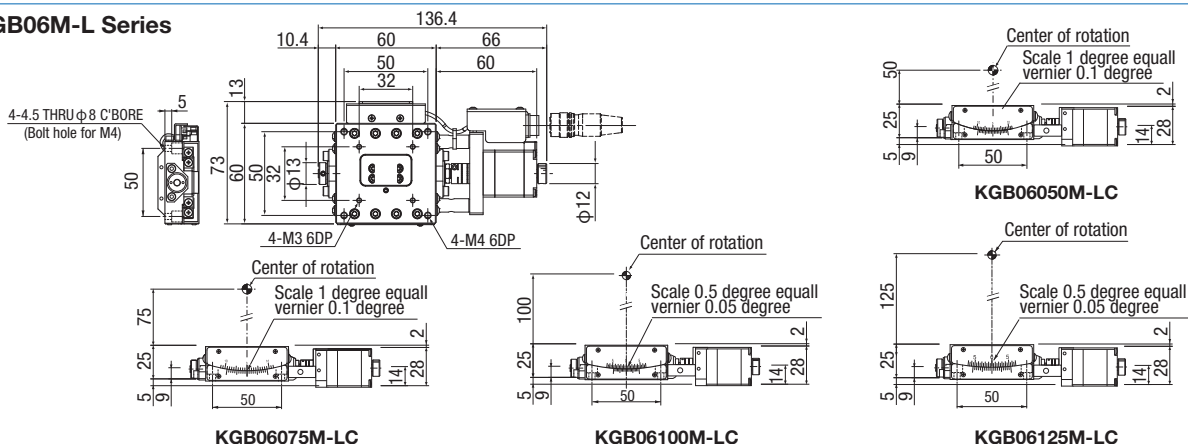
Ball Screw

Worm Gear

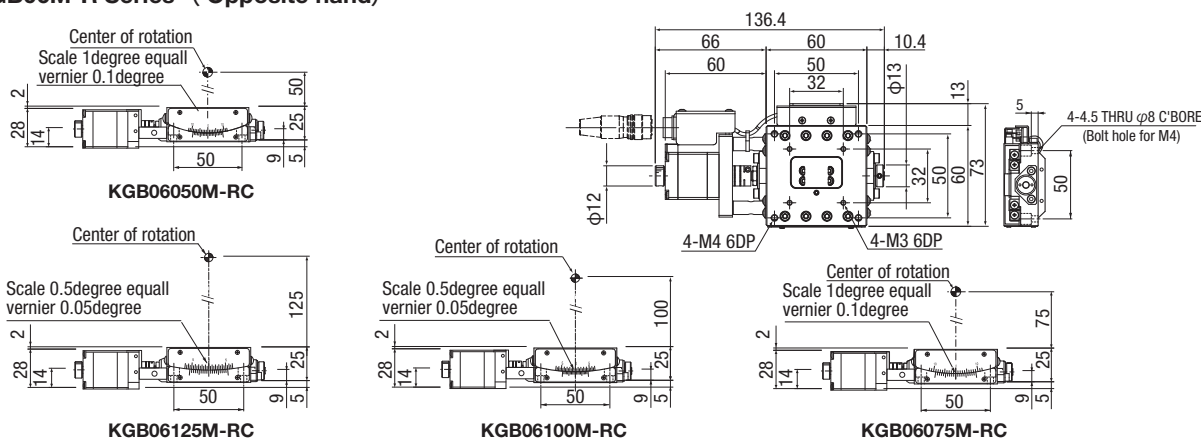
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- Other

Dimensional outline drawings (1-axis)

KGB06M-L Series

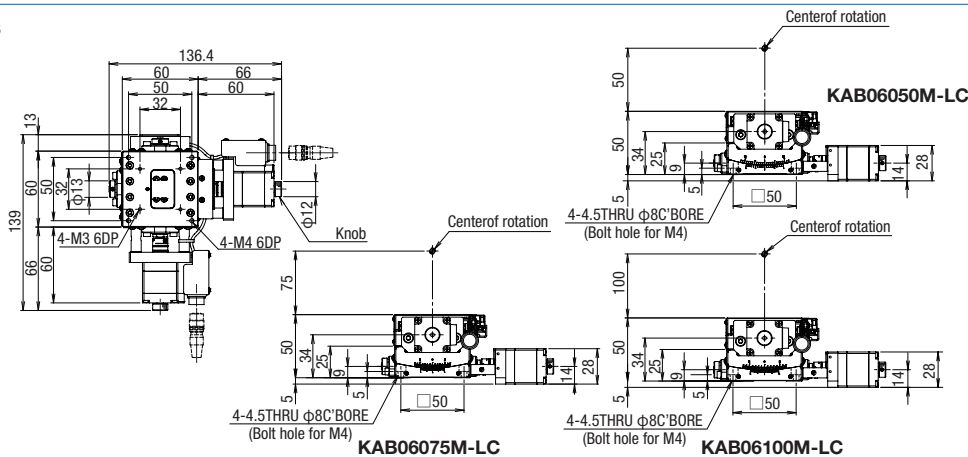


KGB06M-R Series (Opposite hand)



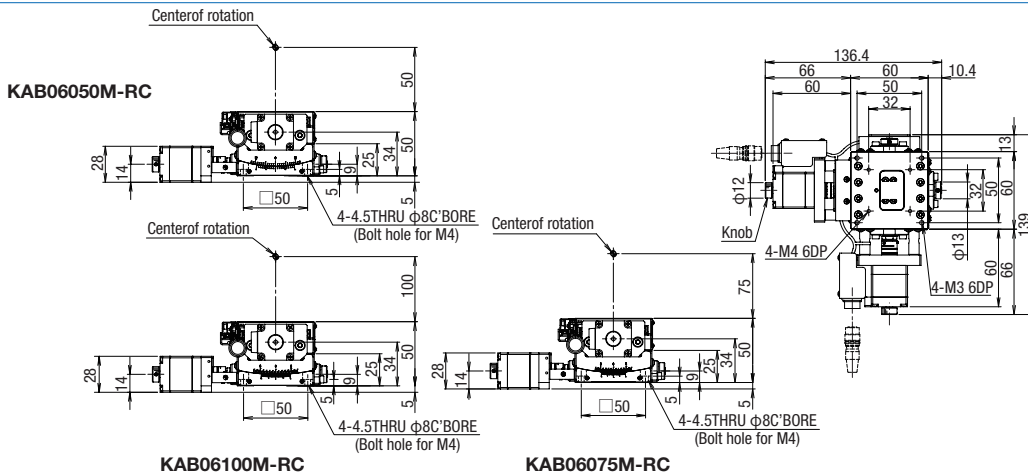
Dimensional outline drawings (2-axis)

KAB06M-L Series



KAB06M-R Series

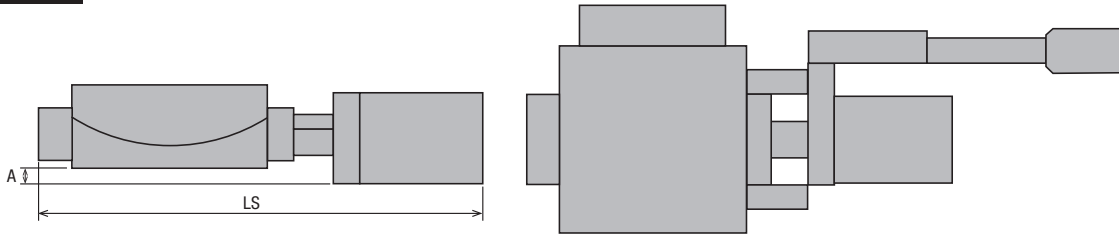
(Opposite hand)



Motorized Stage

Goniometer Stage Ball screw □60:KGB06

Dimensions



C Standard

Motor model: C005C-90215P-1

G High resolution

Motor model: PK523HPMB-C1

T 2 Phase stepping motor

Motor model: SJA28N32-0674B-01

Model	Motor	Motor size	Connector	A(mm)	LS(mm)
KGB06050T-□□	C • G • T	□ 28	T	5	136.4
KGB06075T-□□					
KGB06100T-□□					
KGB06125T-□□					
KGB06050M-□□			M		
KGB06075M-□□					
KGB06100M-□□					
KGB06125M-□□					

ZA αSTEP (AZ)

Motor model: AZM24AK

Model	Motor	Motor size	Connector	A(mm)	LS(mm)
KGB06050T-□ZA	ZA	□ 28	T	5	159.4
KGB06075T-□ZA					
KGB06100T-□ZA					
KGB06125T-□ZA					
KGB06050M-□ZA			M		
KGB06075M-□ZA					
KGB06100M-□ZA					
KGB06125M-□ZA					

Motorized goniometer Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball Screw

Worm Gear

□40

□50

□60

□70

□80

□100

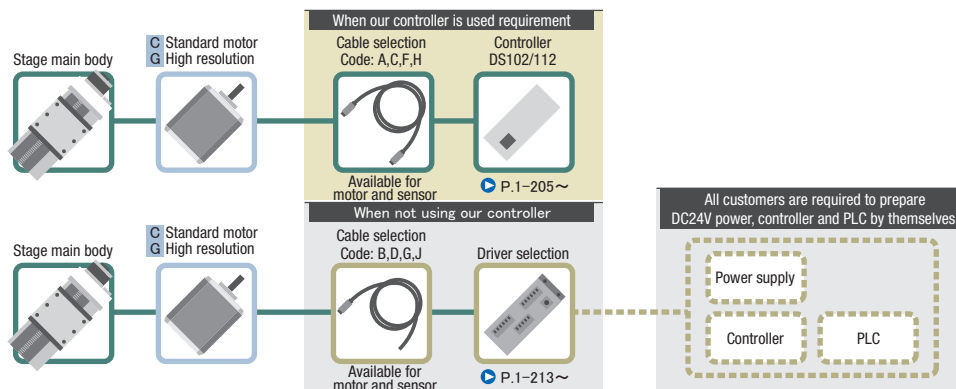
□120

Other

Motor option

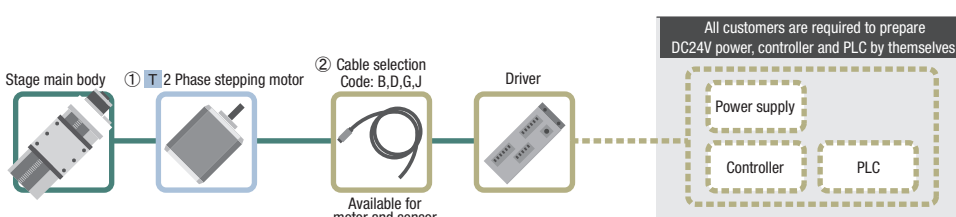
C Standard motor
 Motor model
 C005C-90215P-1

G High resolution
 Motor model
 PK523HPMB-C1



Motor option

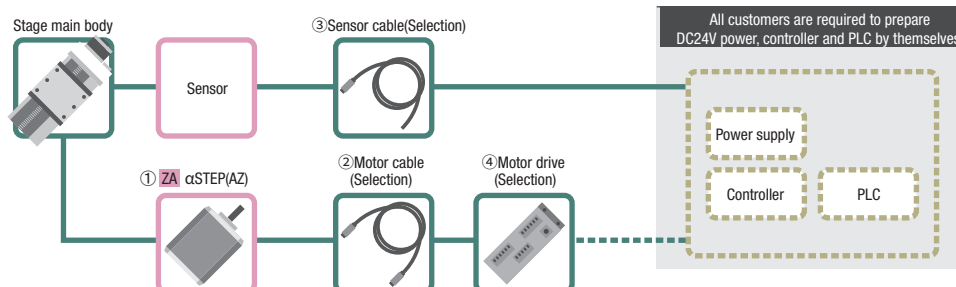
T 2 Phase stepping motor
 Motor model
 SJA28N32-0674B-01



Code	① Motor model	② Motor + Sensor cable selection(common)
T	SJA28N32-0674B-01	B · D : DS1-2C-2-□EK G · J : DS1-2C-2-□RK

Motor option

ZA αSTEP (AZ Series)
 Motor model
 AZM24AK



Code	① Motor model	② Motor cable selection	③ Sensor cable selection	④ Driver selection
ZA	AZM24AK	3A : CC030V2R2 5A : CC050V2R2 Blank · 3 · 5 : None	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : AZD-K Blank · 3 · 5 : None

- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller

Ball Screw

Worm Gear

- 40
- 50
- 60
- 70
- 80
- 100
- 120
- Other

Motorized Stage

Goniometer Stage Ball screw □70:KGB07/KAB07

KGB07070AT-LC

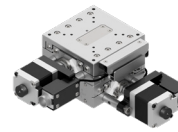
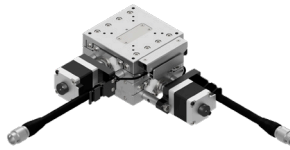
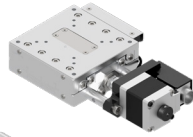
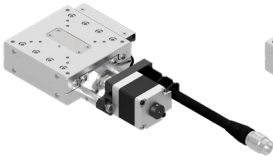
KGB07070AM-LC

KAB07070AT-LC

KAB07070AM-LC

RoHS

Freely customize the motor



* The picture is an image.

KGB07070 A T-LC - □



☐ Cables P. 1-207 ~
 ☐ Electrical specification P.1- KGB-013~

1 Axis

G	1-axis
A	2-axis

2 Stage table size

07	□70mm
----	-------

3 Height of center rotation (W.D.)

070	70mm
096	96mm
122	122mm

4 Sensor logic

Code	CWLS	ORG	CCWLS
A	N.C.	N.C.	N.C.
B	N.O.	N.O.	N.O.
C	N.C.	N.O.	N.C.

5 Connector specifications

T	Pig tail	
M	Panel mount	

6 Sensor cover location specification

L	
R	

7 Motor option

Code	Specification
C	Standard(5 Phase stepping motor)
G	High resolution
T	2 Phase stepping motor

8 Cable option (Motor: C, F, G, H, MG)

Code	Specification	Cable type	2 phase Cable type
A	2m	D214-2-2E	-
B	2m One end loose	D214-2-2EK	DS1-2C-2-2EK
C	4m	D214-2-4E	-
D	4m One end loose	D214-2-4EK	DS1-2C-2-4EK
E	Only connector (Cable is not included)	-	-
F	Robot cable 2m	D214-2-2R	-
G	Robot cable 2m one end loose	D214-2-2RK	DS1-2C-2-2RK
H	Robot cable 4m	D214-2-4R	-
J	Robot cable 4m one end loose	D214-2-4RK	DS1-2C-2-4RK
Blank	Cable is not included (Standard)	-	-

Note:For T-phase stepping, only one end rose (B, D, G, J) is supported.

7 Motor option

Code	Specification
ZA	αSTEP (AZ Series)

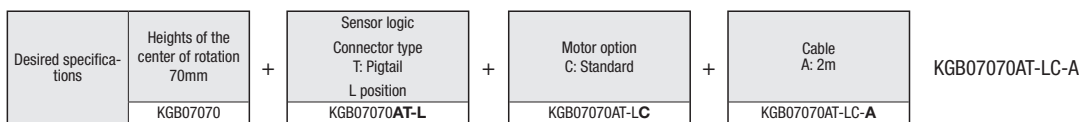
8 Cable option(for motorless)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	3A:Screwdriver (3m cable set)
5A	3A:Screwdriver (5m cable set)

Motor option: Accessories when ZA is selected.

Cable option code	Sensor cable model	Sensor cable model	Driver model
Blank	HR10AP-S-SB-6-2	-	-
3	HR10AP-S-SB-6-3	-	-
5	HR10AP-S-SB-6-5	-	-
3A	HR10AP-S-SB-6-3	CC030VZ2R2	AZD-K
5A	HR10AP-S-SB-6-5	CC050VZ2R2	AZD-K

Selection example



X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball Screw

Worm Gear

□40

□50

□60

□70

□80

□100

□120

Other

1-KGB
007

New

Motorized goniometer
Stage

Specification

		SPEC					
Model		KGB07070A□-LC	KGB07096A□-LC	KGB07122A□-LC	KAB07070A□-LC	KAB07096A□-LC	
Opposite hand		KGB07070A□-RC	KGB07096A□-RC	KGB07122A□-RC	KAB07070A□-RC	KAB07096A□-RC	
Mechanical specification	Travel distance Upper/Lower axis	±5°	±4°	±3°	±5°/±4°	±4°/±3°	
	Stage table size	70×70mm					
	Travel mechanism (Reduction ratio)	Ball φ6 Lead 1					
	Guide	Cross roller guide					
Main material—Surface finishing		Aluminum—White alumite processing					
Weight		0.67kg			1.34kg		
Dimensional tolerance	Height of stage	26± 0.2mm			52± 0.4mm		
	Height of center rotation	70± 0.2mm	96± 0.2mm	122± 0.2mm	70± 0.4mm	96± 0.4mm	
	Center of rotation precision	0.01mm					
Accuracy specification	Resolution/Pulse	Upper at the full	≒0.0015°	≒0.0011°	≒0.0009°	≒0.0015°	
		Upper at the full	—			≒0.0011°	≒0.0009°
	MAX speed	Upper	22.6°/sec [15kHz]	16.9°/sec [15kHz]	13.4°/sec [15kHz]	22.6°/sec [15kHz]	16.9°/sec [15kHz]
		Lower	—			16.9°/sec [15kHz]	13.4°/sec [15kHz]
	Repeatability positioning accuracy	±0.003°					
Load capacity	5.0kgf [49N]			4.0kgf [39.2N]			
Moment stiffness	Pitch 0.28/yaw 0.06/roll 0.06["/N · cm]			Pitch 0.34/yaw 0.12/roll 0.34["/N · cm]			
Lost motion	0.003°						
Sensor	Limit sensor	Available					
	Origin sensor	Available					
	Slit origin sensor	—					
Provided screw (Hexagon-headed bolt)		4 of M4—8					

- ※ Might be changed specification due to motors.
- ※ For the exact calculation formula for the movement amount, please refer to page 1-140.
- ※ The maximum speed is the theoretical speed when driven at 15kHz for the full stroke travel pulse.

Resolution · MAX speed · Weight

Motor code		C	G	T	ZA
Specification		Standard	High resolution	2 Phase stepping motor	αSTEP (AZ)
Motor model ^{*1}		C005C-90215P-1	PK523HPMB-C1	SJA28N32-0674B-01	AZM24AK
Step angle		0.72°	0.36°	1.8°	0.36° ^{※2}
Resolution (Full)	KGB07070□T/M	≒0.0015°	≒0.0008°	≒0.0038°	≒0.0008° ^{※2}
	KGB07096□T/M	≒0.0011°	≒0.0006°	≒0.0028°	≒0.0006° ^{※2}
	KGB07122□T/M	≒0.0009°	≒0.0004°	≒0.0022°	≒0.0004° ^{※2}
MAX speed	KGB07070□T/M	22.6°/sec [15kHz]	18.9°/sec [25kHz]	18.9°/sec [5kHz]	22.6°/sec [30kHz]
	KGB07096□T/M	16.9°/sec [15kHz]	14.1°/sec [25kHz]	14.1°/sec [5kHz]	16.9°/sec [30kHz]
	KGB07122□T/M	13.4°/sec [15kHz]	11.2°/sec [25kHz]	11.2°/sec [5kHz]	13.4°/sec [30kHz]
Weight	KGB07□T/M	0.67kg	0.67kg	0.67kg	0.71kg
	KAB07□T/M	1.34kg	1.34kg	1.34kg	1.42kg

- *1 Model is our own management model.
- ※ 2 1000P/R setting
- ※ 3 The weight of the pigtail/panel mount model is the same.

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball
Screw

Worm
Gear

□40

□50

□60

□70

□80

□100

□120

Other

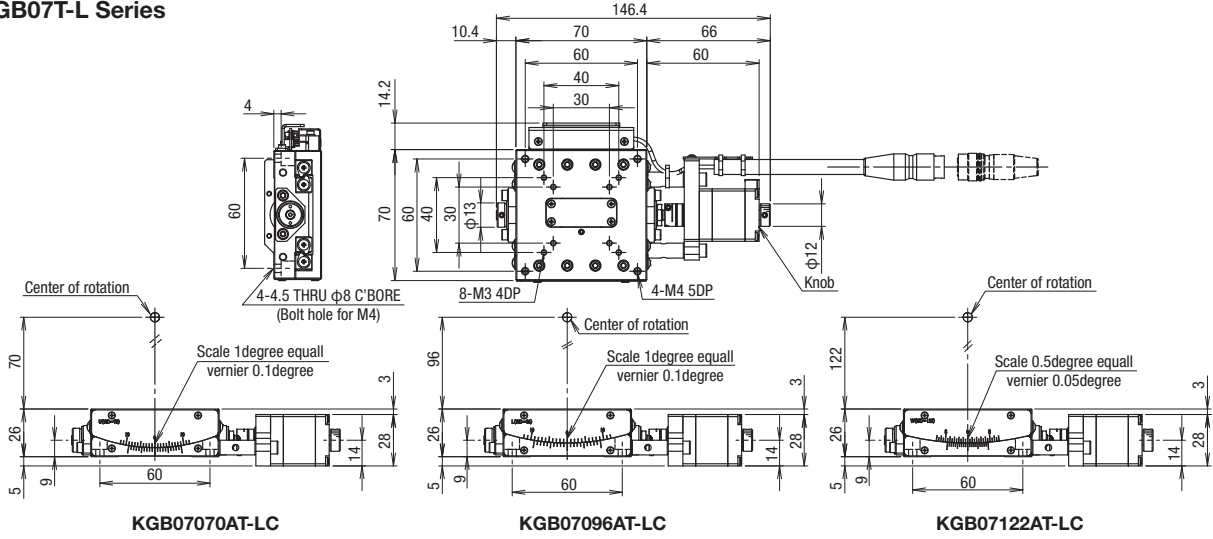
**1-KGB
008**

Motorized Stage

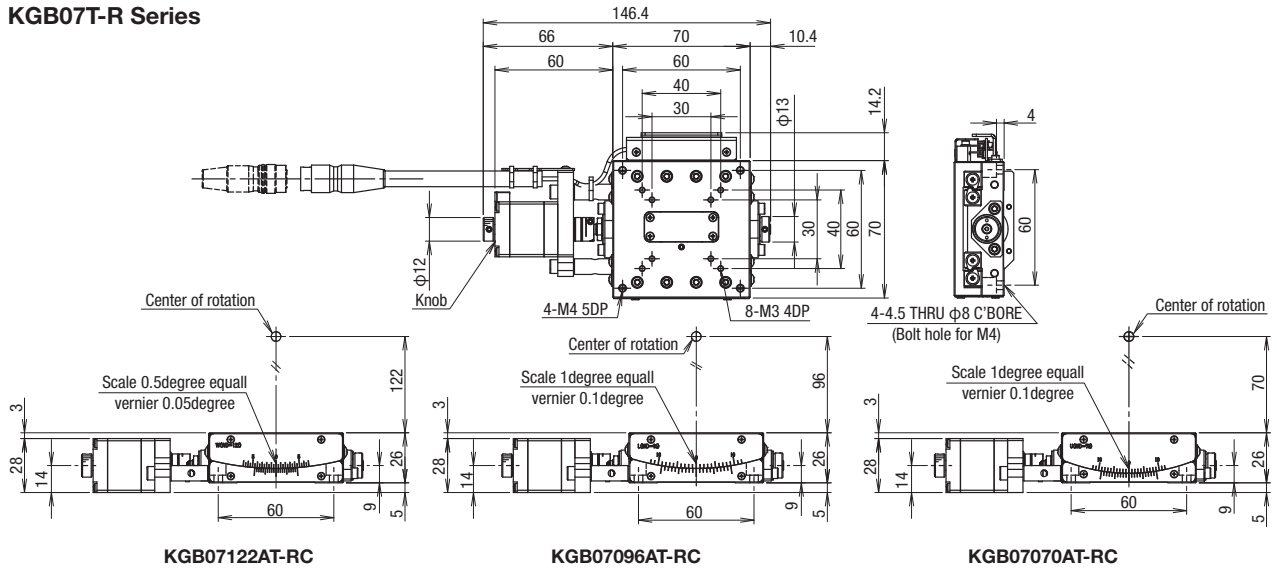
Goniometer Stage Ball screw □70:KGB07/KAB07

Dimensional outline drawings (1-axis)

KGB07T-L Series

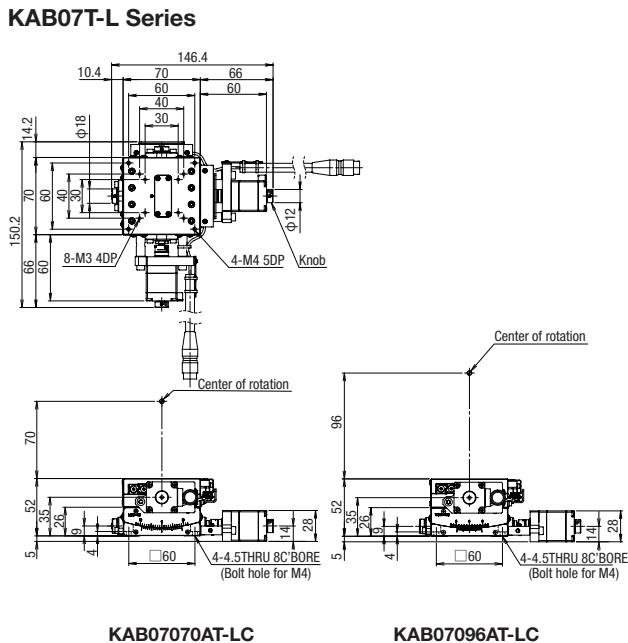


KGB07T-R Series

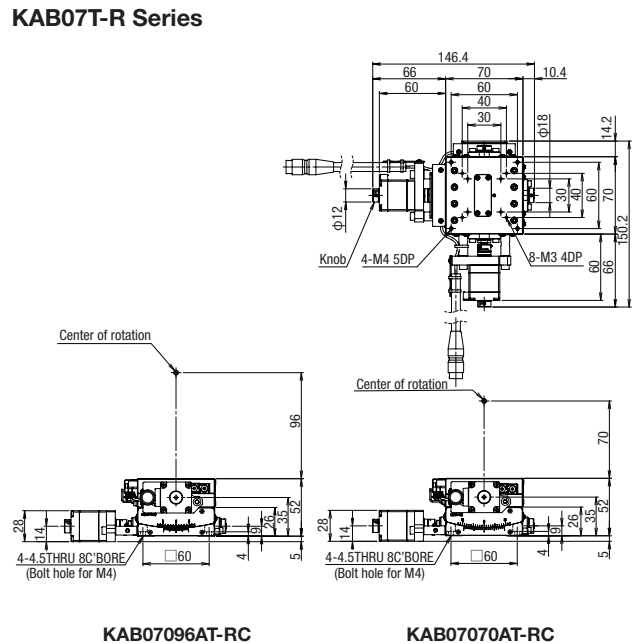


Dimensional outline drawings (2-axis)

KAB07T-L Series



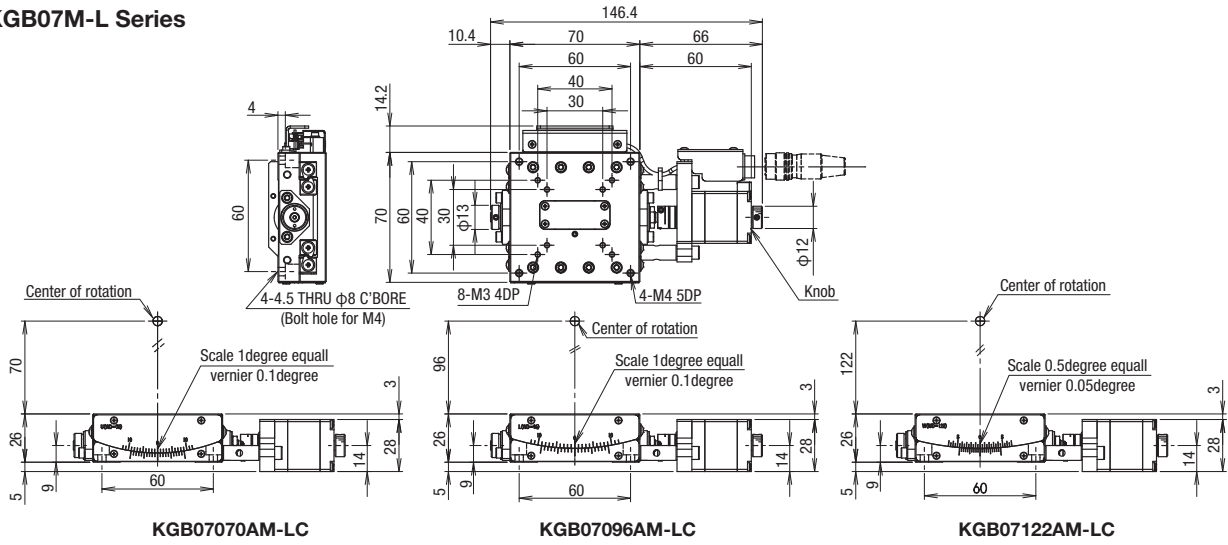
KAB07T-R Series



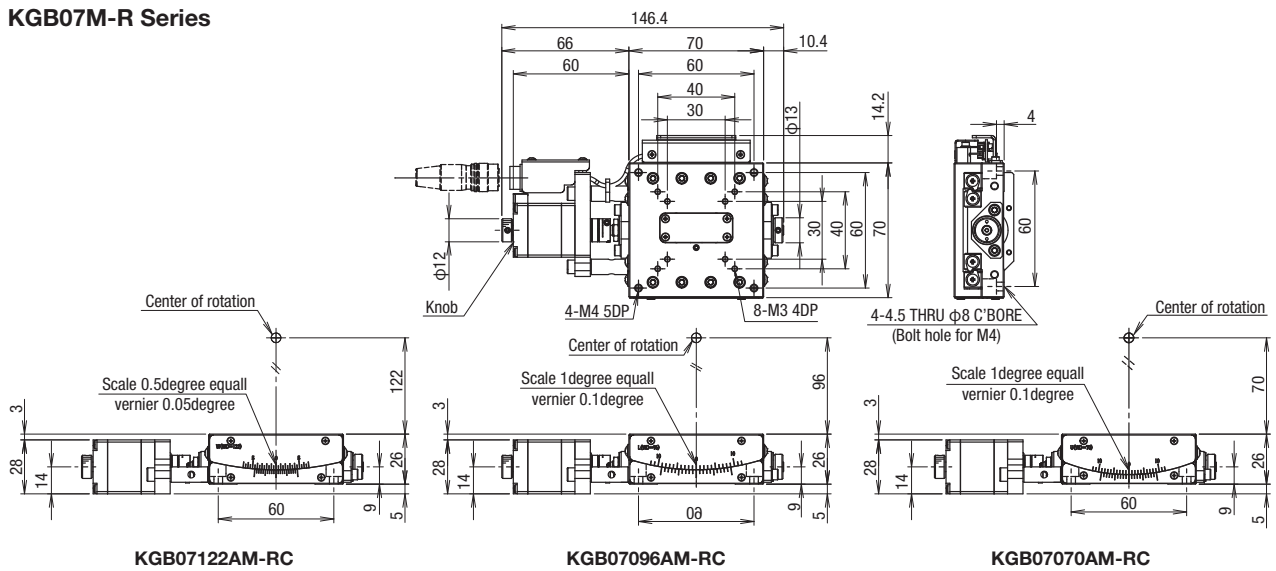
- New
- Motorized goniometer
- Stage
- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller
- Ball Screw
- Worm Gear
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- Other
- 1-KGB 009

Dimensional outline drawings (1-axis)

KGB07M-L Series

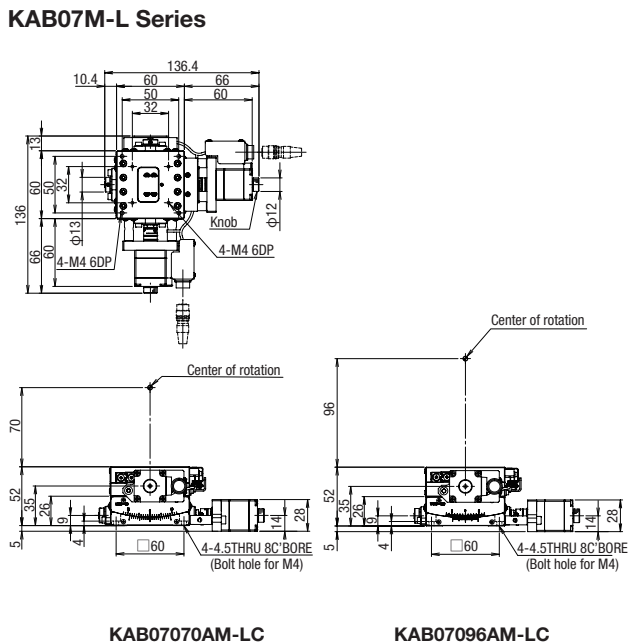


KGB07M-R Series

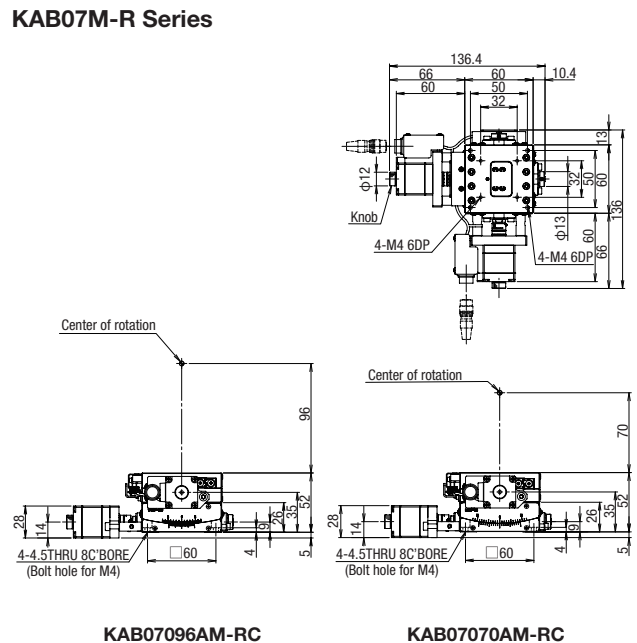


Dimensional outline drawings (2-axis)

KAB07M-L Series



KAB07M-R Series



- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller

Ball Screw

Worm Gear

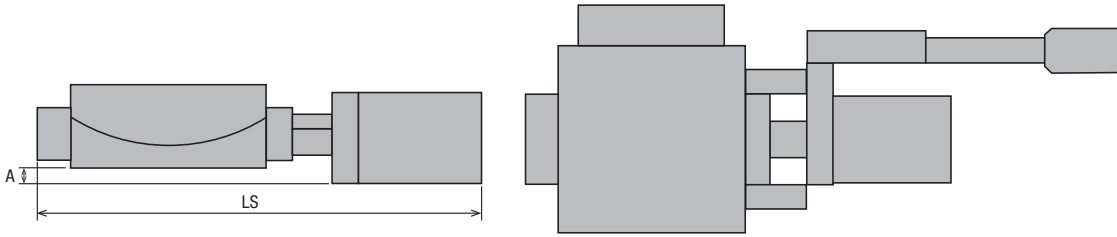
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- Other

1-KGB 010

Motorized Stage

Goniometer Stage Ball screw □70:KGB07

Dimensions



C Standard

Motor model: C005C-90215P-1

G High resolution

Motor model: PK523HPMB-C1

T 2 Phase stepping motor

Motor model: SJA28N32-0674B-01

Model	Motor	Motor size	Connector	A(mm)	LS(mm)
KGB07070 □T-□□	C • G • T	□ 28	T	5	146.4
KGB07096 □T-□□					
KGB07122 □T-□□					
KGB07070 □M-□□			M		
KGB07096 □M-□□					
KGB07122 □M-□□					

ZA αSTEP (AZ)

Motor model: AZM24AK

Model	Motor	Motor size	Connector	A(mm)	LS(mm)
KGB07070 □T-□□	ZA	□ 28	T	5	169.4
KGB07096 □T-□□					
KGB07122 □T-□□					
KGB07070 □M-□□			M		
KGB07096 □M-□□					
KGB07122 □M-□□					

Motorized goniometer Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball Screw

Worm Gear

□40

□50

□60

□70

□80

□100

□120

Other

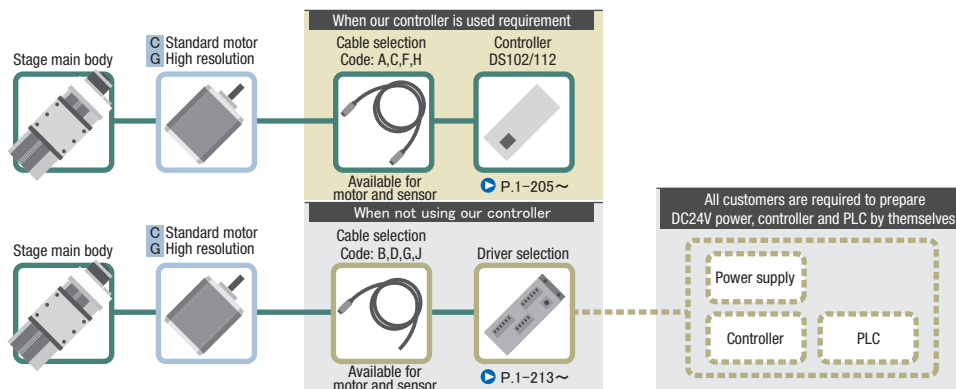
1-KGB

011

Motor option

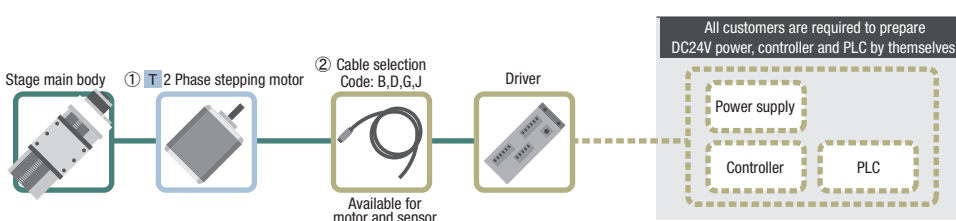
C Standard motor
 Motor model
 C005C-90215P-1

G High resolution
 Motor model
 PK523HPMB-C1



Motor option

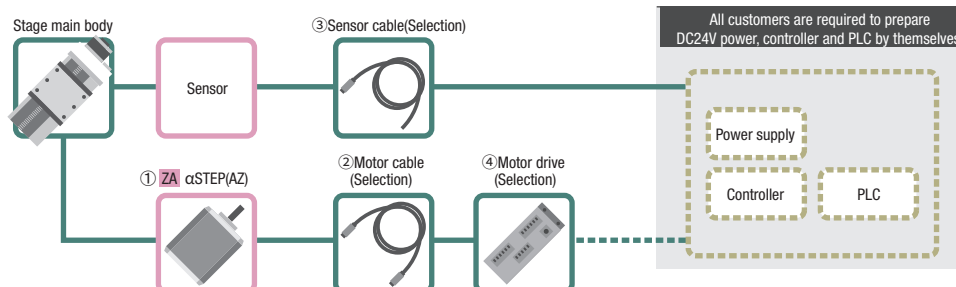
T 2 Phase stepping motor
 Motor model
 SJA28N32-0674B-01



Code	① Motor model	② Motor/sensor cable selection	③ Driver selection
T	SJA28N32-0674B-01	B · D : DS1-2C-2-□EK G · J : DS1-2C-2-□RK	AD1421

Motor option

ZA αSTEP (AZ Series)
 Motor model
 AZM24AK



Code	① Motor model	② Motor cable selection	③ Sensor cable selection	④ Driver selection
ZA	AZM24AK	3A : CC030V2R2 5A : CC050V2R2 None · 3 · 5 : None	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : AZD-K None · 3 · 5 : None

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball
Screw

Worm
Gear

□40

□50

□60

□70

□80

□100

□120

Other

1-KGB
012

Motor · Electrical specification(5/2 Phase stepping motor)

Motor code		C	G	T	
Stage model		KGB06050/KGB06075/KGB06100/KGB06125/KGB07070/KGB07096/KGB07122			
Motor Specification (*1)	Type	5 phase stepping motor (0.75A/Phase)		2 phase stepping motor (0.67A/Phase)	
	Feature	Standard	High resolution	—	
	Model*2	C005C-90215P-1	PK523HPMB-C1	SJA28N32-0674B-01	
	With electromagnetic brake	—	—	—	
	Manufacturer	Oriental Motor Co., Ltd.		SURUGA SEIKI	
	Step angle	0.72°	0.36°	1.8°	
	mass	0.11kg		—	
	Motor size	□ size	□28mm		—
		L size	37mm		—
	Excitation (moment) maximum torque	0.048N · m	0.038N · m	0.059N · m	
Driver model	CVD507-K-A9(Oriental Motor Co., Ltd.)			—	
Driver power input	DC24V±10% 1.4A(MAX)			—	
Brake power input	—			—	
Connector	Pig tail	HR10A-10J-12P(73) (HRS)	—	HR10A-10J-10P(73) (HRS)	
	Panel mount	HR10A-10R-12P(73) (HRS)	—	HR10A-10R-10P(73) (HRS)	
	Receiving connector	HR10A-10P-12S(73) (HRS)	—	HR10A-10P-10S(73) (HRS)	
Sensor board	Limit sensor	—		Available	
	Origin sensor	—		Available	
	Slit origin sensor	—		—	
	Sensor	Photo microsensor EE-SX4320 (Omron Co., Ltd.)			
	Power-supply voltage	DC5~24V±5%			
	Current consumption	Total 60mA or less			
	Control output	NPN open collector output DC30V 10mA or less			
	Output logic	KGB06	On detection (light shield condition): Output transistor OFF (Non-continuity)		
			Sensor logic option A	On detection : Output transistor OFF (Non-continuity)	
		KGB07	Sensor logic option B	On detection : Output transistor ON (Continuity)	
Sensor logic option C			When limit is detected: Output transistor OFF (Non-continuity) When returning to origin: Output transistor ON (Continuity)		

*1 P.1-213~ for details of single motor specification.

*2 Model is our own management model.

* 2 axis gonio (KAB) also has the same electrical specifications.

Pin allocation · Connection diagram

	Available for motor and sensor	□60		□70	
		Pin allocation	Connection diagram	Pin allocation	Connection diagram
C · G	Available for motor and sensor Pigtail connector model HR10A-10J-12P(73) (HRS) Panel mount specification : Connector model HR10A-10R-12P(73) (HRS)				
	Available for motor and sensor Pigtail connector model HR10A-10J-10P(73) (HRS) Panel mount specification : Connector model HR10A-10R-10P(73) (HRS)				

New
Motorized goniometer
Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Ball Screw

Worm Gear

□40

□50

□60

□70

□80

□100

□120

Other

1-KGB

013

Motor Specification(αSTEP)

Motor code		ZA		
Stage model		KGB06050/KGB06075/KGB06100/KGB06125/KGB07070/KGB07096/KGB07122		
Motor Specification (1)	Type	αSTEP (AZ Series)		
	Feature	Small step-out, absolute		
	Model*2	AZM24AK		
	With electromagnetic brake	-		
	Manufacturer	Oriental Motor Co., Ltd.		
	Step angle	0.36° (1000P/R setting)		
	mass	0.15kg		
	Motor size	□ size	28mm	
		L size	45mm	
	Excitation (moment) maximum torque	0.095N · m		
Driver model	AZD-(Oriental Motor Co., Ltd.)			
Driver power input	DC24V±5%			
Brake power input	-			
Connector	Pig tail	Motor: DF62B-13EP-2.2C (Hirose Electric Co., Ltd.) Sensor: HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)		
	Panel mount	Motor: DF62B-13EP-2.2C (Hirose Electric Co., Ltd.) Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)		
	Receiving connector	Motor: DF62C-13S-2.2C (Hirose Electric Co., Ltd.) Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)		
Sensor board	Limit sensor	Available		
	Origin sensor	Available		
	Slit origin sensor	-		
	Sensor	Photo microsensor EE-SX4320 (Omron Co., Ltd.)		
	Power-supply voltage	DC5~24V±5%		
	Current consumption	Total 60mA or less		
	Control output	NPN open collector output DC30V 10mA or less		
	Output logic	KGB06	On detection (light shield condition): Output transistor OFF (Non-continuity)	
			Sensor logic option A	On detection : Output transistor OFF (Non-continuity)
		KGB07	Sensor logic option B	On detection : Output transistor ON (Continuity)
Sensor logic option C			When limit is detected: Output transistor OFF (Non-continuity) When returning to origin: Output transistor ON (Continuity)	

*1 P.1-213~ for details of single motor specification.

*2 Model is our own management model.

* 2 axis gonio (KAB) also has the same electrical specifications.

Pin allocation · Connection diagram

ZA	Motor	<p>【Receiver cable】 Model : CC030VZ2R2(3m)/CC050VZ2R2(5m)※Flexible cable</p>	
	Sensor	<p>【Receiver cable】 Model : HR10AP-S-SB-6-□ ※□ : 2(2m)/3(3m)/5(5m) * Fixed</p> <p>Sensor side Connector (Female): HR10A-7P-6S (73) (HRS) ULAWM20276 AWG28 3P Black</p>	<p>【Stage connection diagram】 Pigtail connector model : HR10A-7J-6P(73)(HRS) Panel mount specification : Connector model : HR10A-7R-6P(73)(HRS)</p>
		<p>□60</p>	<p>【Stage connection diagram】 Pigtail connector model : HR10A-7J-6P(73)(HRS) Panel mount specification : Connector model : HR10A-7R-6P(73)(HRS)</p>

*The shields are connected with the connector shell.

Color	Pin	Signals
Orange/Black	1	CWLS
Orange/Red	2	CCWLS
Gray/Black	3	ORG
Gray/Red	4	NORG
White/Black	5	V+
White/Red	6	V-
Shield		

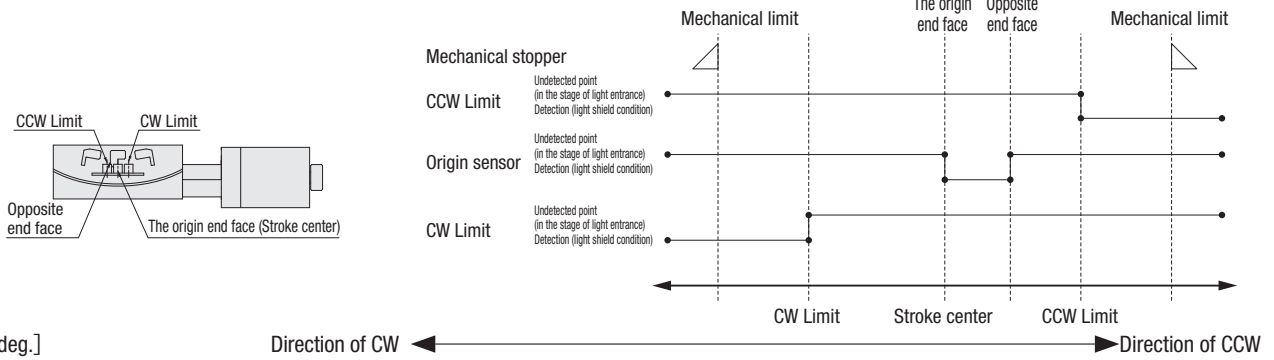
Motorized Stage

Electrical specification: KGB06/ KGB07

New

Motorized goniometer
Stage

Timing chart



	Reference coordinate	CW Limit	The origin end face Stroke center	Opposite end face	CCW Limit
KGB06050	Return to origin	8.7	0	2.5	8.7
KGB06075	Return to origin	5.7	0	1.8	5.7
KGB06100	Return to origin	5.2	0	1.4	5.2
KGB06125	Return to origin	4.2	0	1.1	4.2
KGB07070	Return to origin	5.3	0	2.1	5.3
KGB07096	Return to origin	4.2	0	1.5	4.2
KGB07122	Return to origin	3.2	0	1.3	3.2

* Return to origin means that is performed return to origin type 4 using DS102/DS112 series.
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 deg.

Note: The timing chart shows only timing of sensor, it is not for output signal logic.
Refer to ON/OFF display of output transistor that shows on electrical specifications-sensor-output logic for output signal logic.

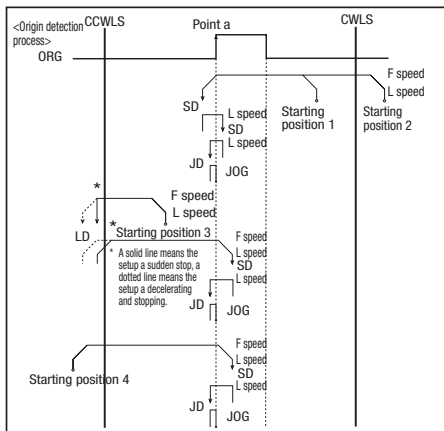
Return to origin

Suruga's motorized stages is different from the wire connection as the number of sensors depending on models. It is necessary to choose type to suit correctly as return to origin operation is divided into same types. Selected wrong type may be operated incorrectly. Choose your best one whatever you need according to be recommended as below.

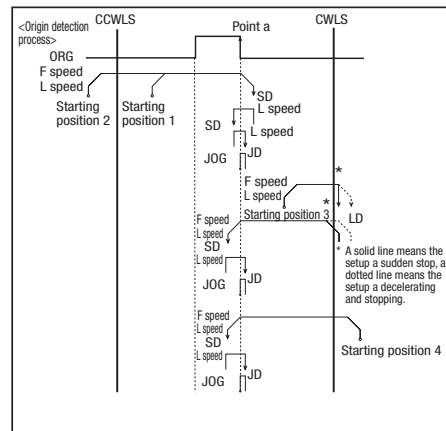
■ KGB06/KAB06/KGB07/KAB07 recommended return to origin Return to origin sequence [P.1-201~](#)

- Type 3: Detect in the direction of CCW and perform detected process for CCW edge of ORG signal.
- Type 4: Detect in the direction of CW and perform detected process for CW edge of ORG signal.
- Type 9: After finished Type3, perform detected process for CCW edge of TIMING signal.
- Type 10: After finished Type4, perform detected process for CW edge of TIMING signal.

[Type3] Detect in the direction of CCW and perform detected process for CCW edge (a point) of ORG signal.



[Type4] Detect in the direction of CW and perform detected process for CW edge of ORG signal.



- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller

Ball Screw

Worm Gear

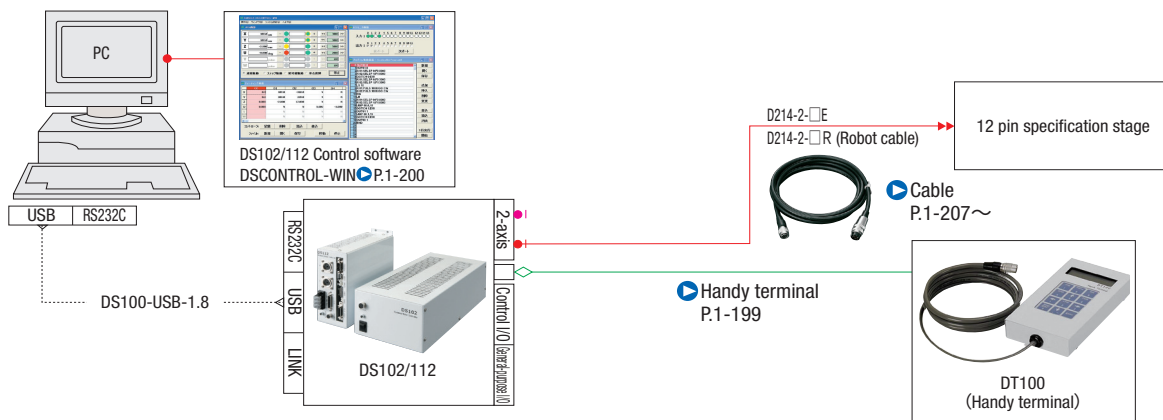
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- Other

1-KGB
015

Connectin example

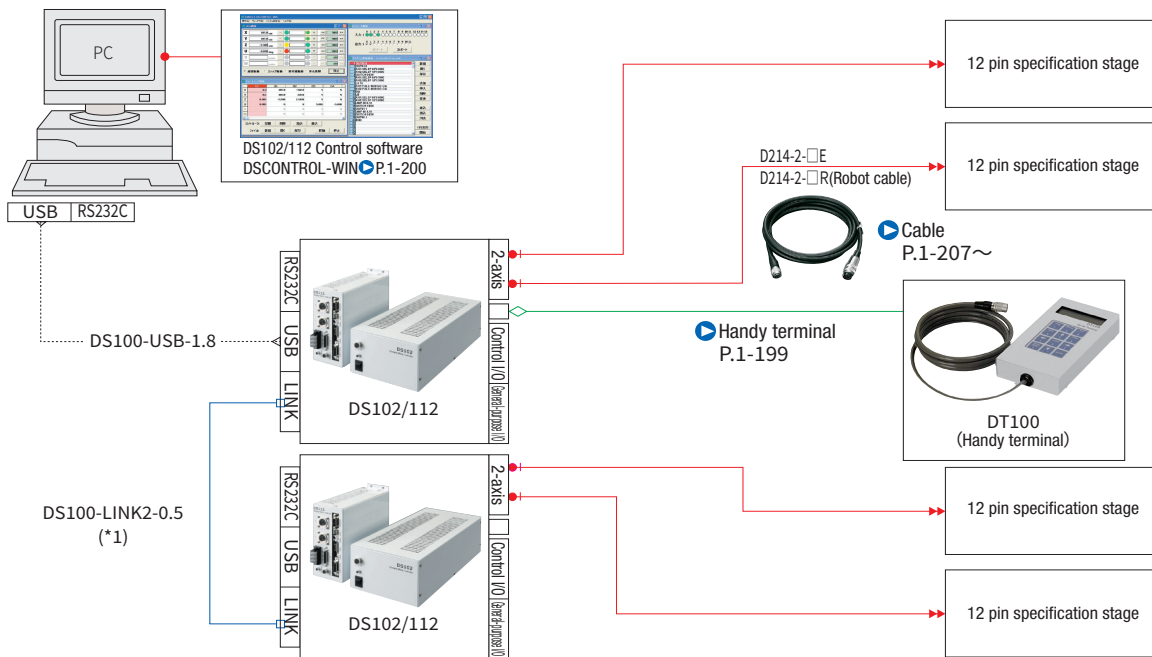
■ Connection example 1 Motorized Stage 1axis: When holding a terminal device (using control software)

*USB cable connection between PC and controller.



■ Connection example 2 Motorized Stage 4axis: When holding a terminal device (using control software)

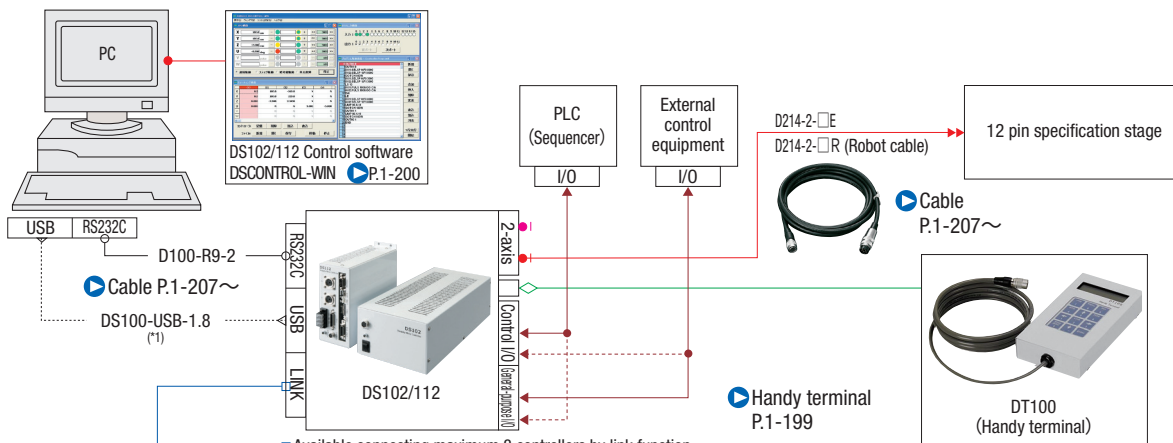
*USB cable connection between PC and controller.



(*1) It is possible to control up to 3 controllers (for a maximum of 6-axis control) with link function.

■ Connection example 3 When controlling from the PLC I/O Unit.

*USB cable connection between PC and controller.



(*1) Using the USB hub, it is controllable in a single PC up to four link networks (24-axis).