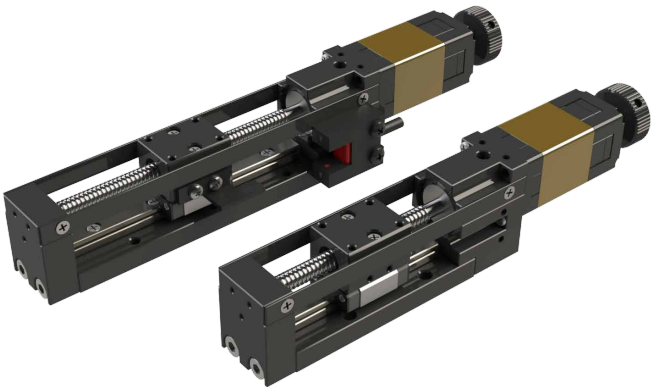


Compact Actuator NEMA 6 size

CAS Series

The most compact single axis Actuator in KSS with NEMA 6 size of 2 phase stepping Motor.

- Features
- Realized compactness not only the body width, but total length of the Actuator by combining NEMA 6 Stepping Motor using our unique coupling - less connection.



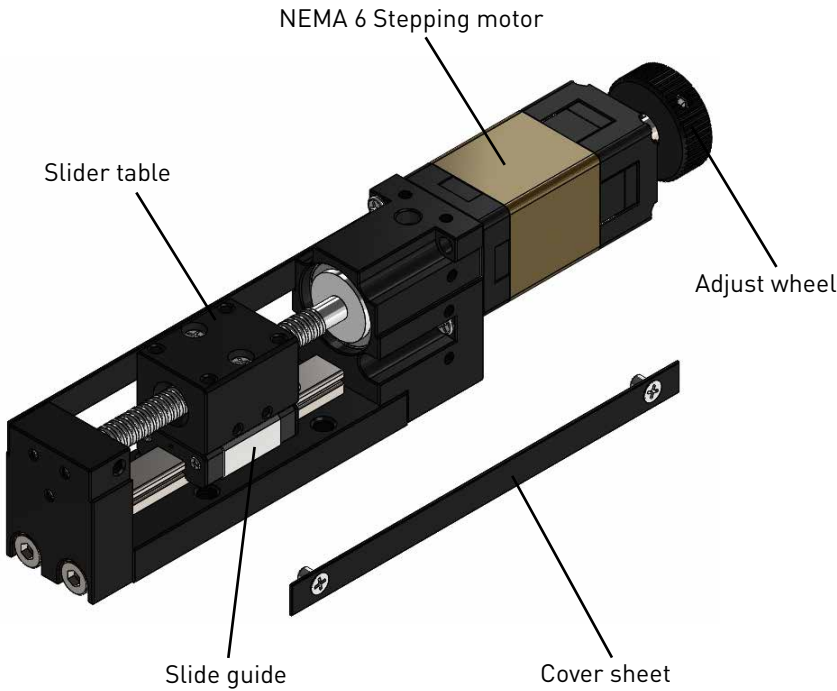
●Specifications

	Lead 1mm	Lead 2mm
Travel (mm)	20、 40	
Drive Screw	Rolled Ball Screw	
Resolution (mm)	0.005	0.01
Repeatability (mm)	Max. ±0.010	
Lost motion (mm)	Max. 0.010	
Horizontal Load Capacity (N)	Max. 10	Max. 5
Vertical Load Capacity (N)	Max. 5	Max. 3
Permissible speed (mm/sec)	Max. 20	Max. 40
Maximum acceleration (m/sec ²)	0.1	0.2
Permissible Moment Mp (Nm) (Pitching)	0.14	
Permissible Moment My (Nm) (Yawing)	0.12	
Permissible Moment Mr (Nm) (Rolling)	0.22	

Recommended Drivers	SD4015B3
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Note) Refer to page Q130 for connection diagram of recommended Drivers.

●Structure



●Model number notation

CAS 14 - R 010 - 020 H R S

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ①Series No.
CA : KSS Compact Actuator Series
- ②Motor Frame Size
14 : NEMA 6
- ③Drive Screw type
R : Rolled Ball Screw
- ④Lead / Pitch (mm) : 010 means 1mm
- ⑤Travel (mm) 020 means 20mm
- ⑥Connector type
N : No connector (Bare)
H : HIROSE RP17
E : EI connector (TE Connectivity)
S : Others
- ⑦Direction of Motor leads
R : Right (from shaft end side)
L : Left
T : Top
B : Bottom
- ⑧Option
S : Sensor outside

Standard style of CAS series

Rolled Ball Screw + 2-phase Stepping Motor

CAS□14 / CAS NEMA 6

Shaft dia. $\phi 4$

Motor Model : SH2141-5511(Double Shaft)

Sanyo Denki

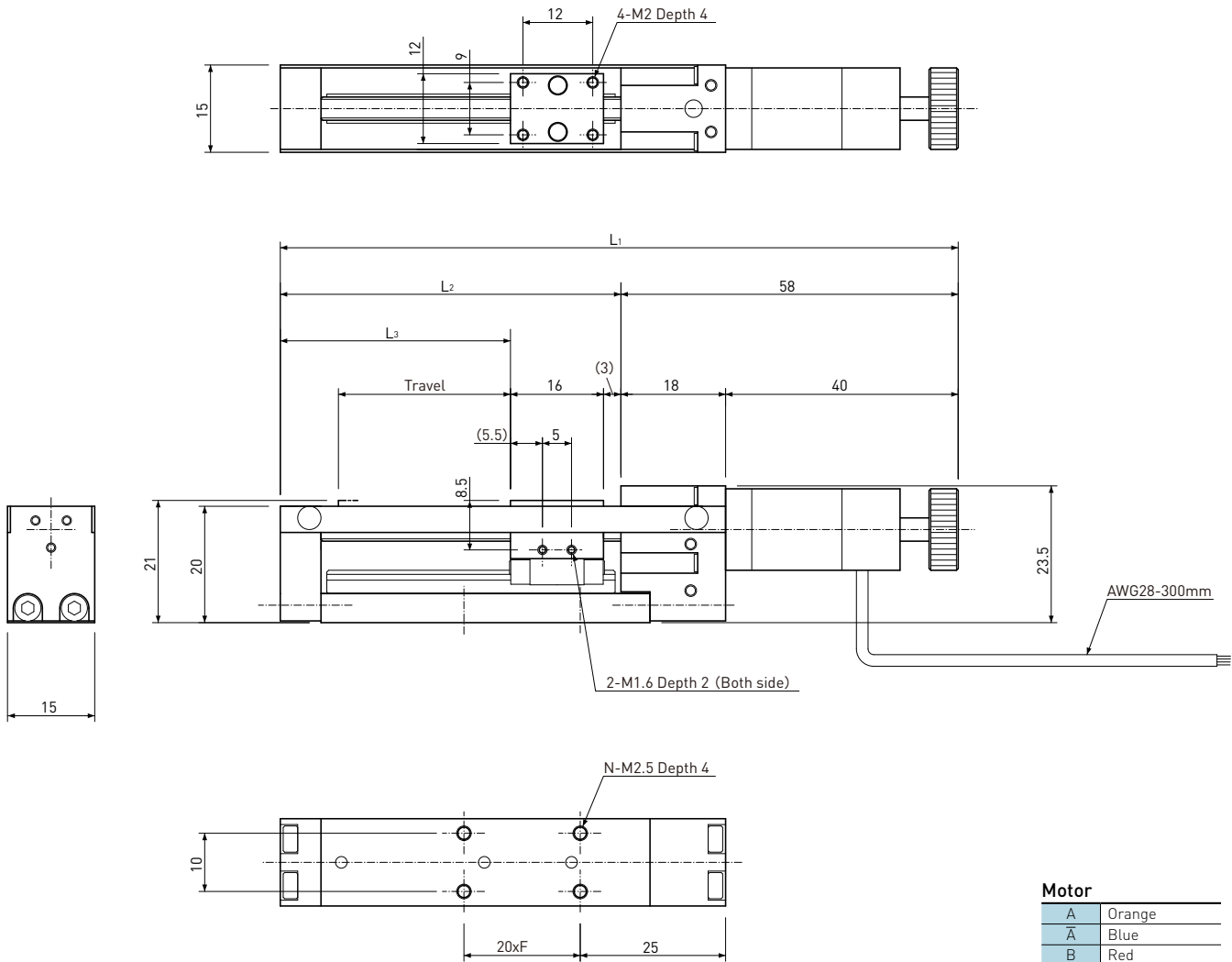
Driver recommendation : SD4015B3

Connector choice

Please designate connector type below.

No connector if there is no designation.

- 1)None(Bare)
- 2)RP17-13J-12SC(HIROSE)
- 3)EI-Connector(TE connectivity)
- 172211-6 pins for Motor +172211-4 pins for Sensor



Motor	
A	Orange
$\bar{A}$	Blue
B	Red
$\bar{B}$	Yellow

Model Number	Travel (mm)	Screw Lead (mm)	Resolution (μm)	Length (mm)						Max. Load Capacity (N)		Permissible speed (mm / sec)	Mass (g)
				L ₁	L ₂	L ₃	F	N		Hor.	Vert.		
CAS14 - R010 - 020	20	1	0.005	107	49	30	1	4		10	5	20	88
CAS14 - R010 - 040	40	1	0.005	127	69	50	2	6		10	5	20	96
CAS14 - R020 - 020	20	2	0.01	107	49	30	1	4		5	3	40	88
CAS14 - R020 - 040	40	2	0.01	127	69	50	2	6		5	3	40	96

Permissible Moment		
Pitching	Mp	0.14Nm
Yawing	My	0.12Nm
Rolling	Mr	0.22Nm

Lubrication	Grease MSG No.2 (KSS)
Operating Temp.	0~40℃

Please refer to Technical Description page S106 for the Datum clamp face of the Actuator.

HIROSE RP17 Connector

Upper side (white dot)

RP17-13J-12SC
(female)

1	None
2	None
3	Stepping Motor A(Orange)
4	Stepping Motor A̅(Blue)
5	Stepping Motor B(Red)
6	Stepping Motor B̅(Yellow)
7	None
8	None
9	None
10	None
11	None
12	None

Upper side (white dot)

RP17-13J-12SC
(female)

When Sensor option is selected

1	None
2	None
3	Stepping Motor A(Orange)
4	Stepping Motor A̅(Blue)
5	Stepping Motor B(Red)
6	Stepping Motor B̅(Yellow)
7	+5~24V(Blown)
8	COM(Blue)
9	Short circuit with No.8
10	ORGLS Sensor NC(Black)
11	None
12	None

172211-6 (male)

EI Connector

1	None
2	None
3	Stepping Motor A(Orange)
4	Stepping Motor A̅(Blue)
5	Stepping Motor B(Red)
6	Stepping Motor B̅(Yellow)

172211-4 (male)

When Sensor option is selected

1	+5~24V(Blown)
2	COM(Blue)
3	Short circuit with No.2
4	ORGLS Sensor NC(Black)

- Note**
- 1)There should be no condensation when using.
 - 2)Permissible Moment is the number when no load in other direction.
 - 3)Resolution represents the values for full step.
 - 4)Model number is for no-connector and lead wire is set on right side on Motor.
 - 5)Vibration may increase at low speed or zero return.

Common Specifications	
Repeatability	Max. ± 0.01 mm
Lost Motion	Max. 0.01mm
Body Material	Aluminum
Sliding guide	Slide Guide rail

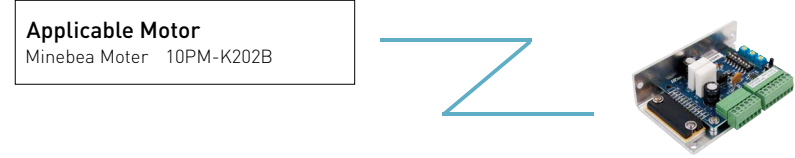
Motor Specifications	
Driving method	2-phase Bi-polar
Rated Voltage	6.3V(DC)
Rated current	0.3A/phase(※)
Winding resistance	21 Ω
Insulation Class	Class B(130℃)

※SD4015B3 (Vanguard Systems Co., Ltd.) is recommended for driver.
Please use Run current 0.4A setting.

Connection diagrams

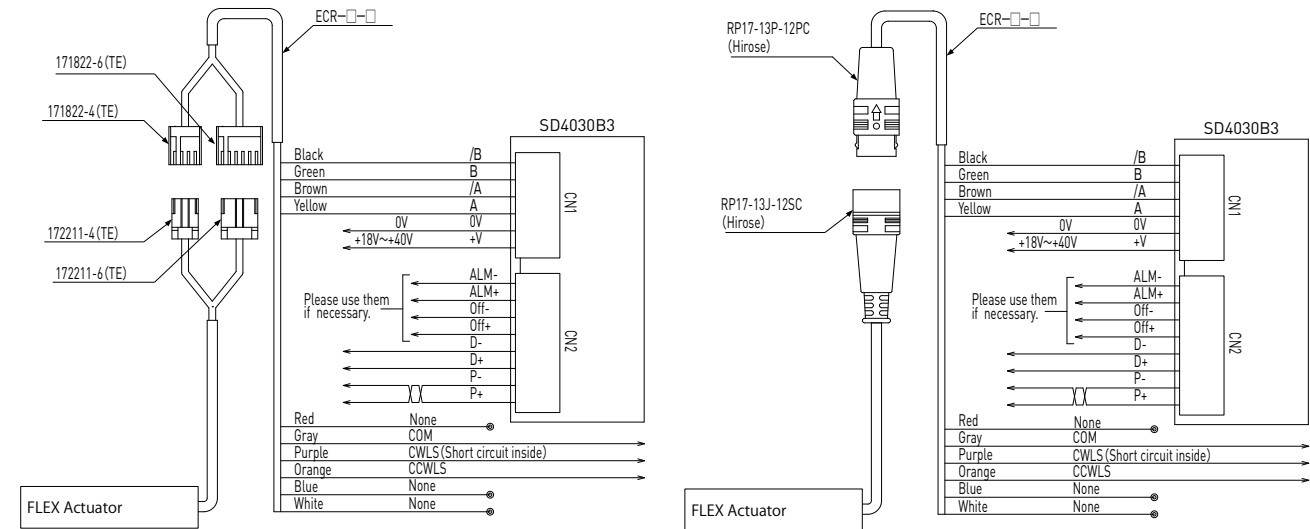
● For Flex series

[SD4030B3 Connection diagrams]

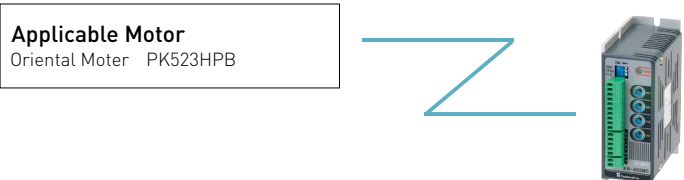


[EI connector]

[HIROSE connector]

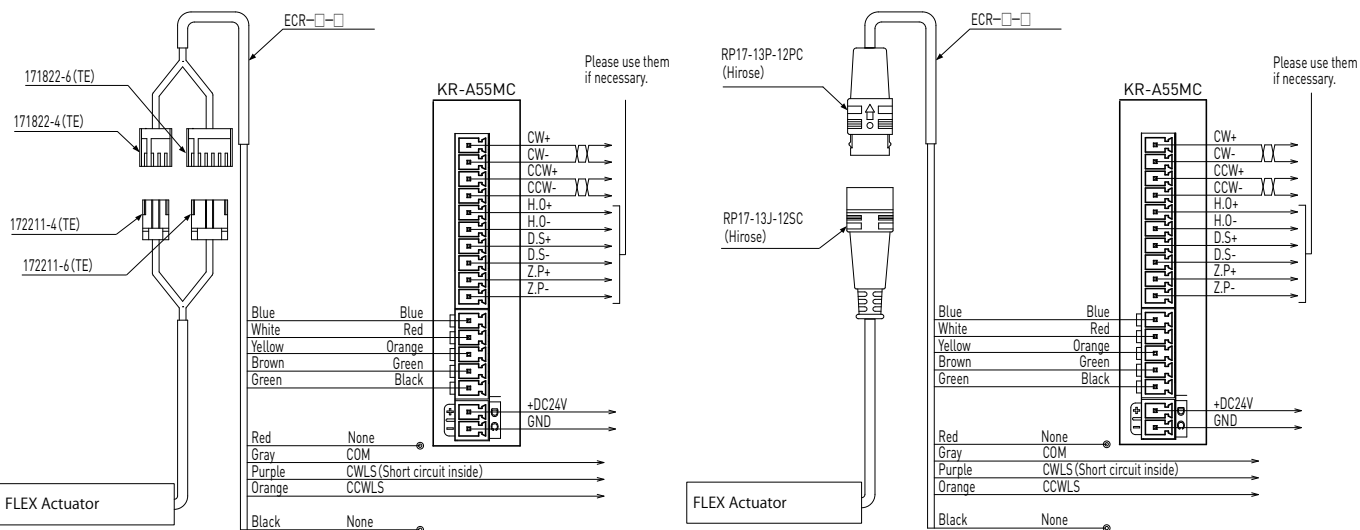


[KR-A55MC Connection diagrams]

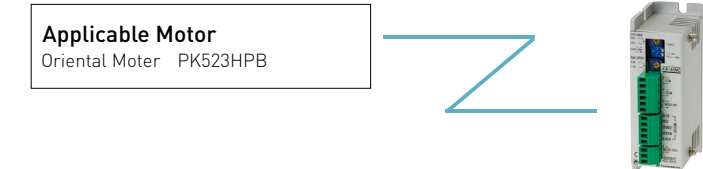


[EI connector]

[HIROSE connector]

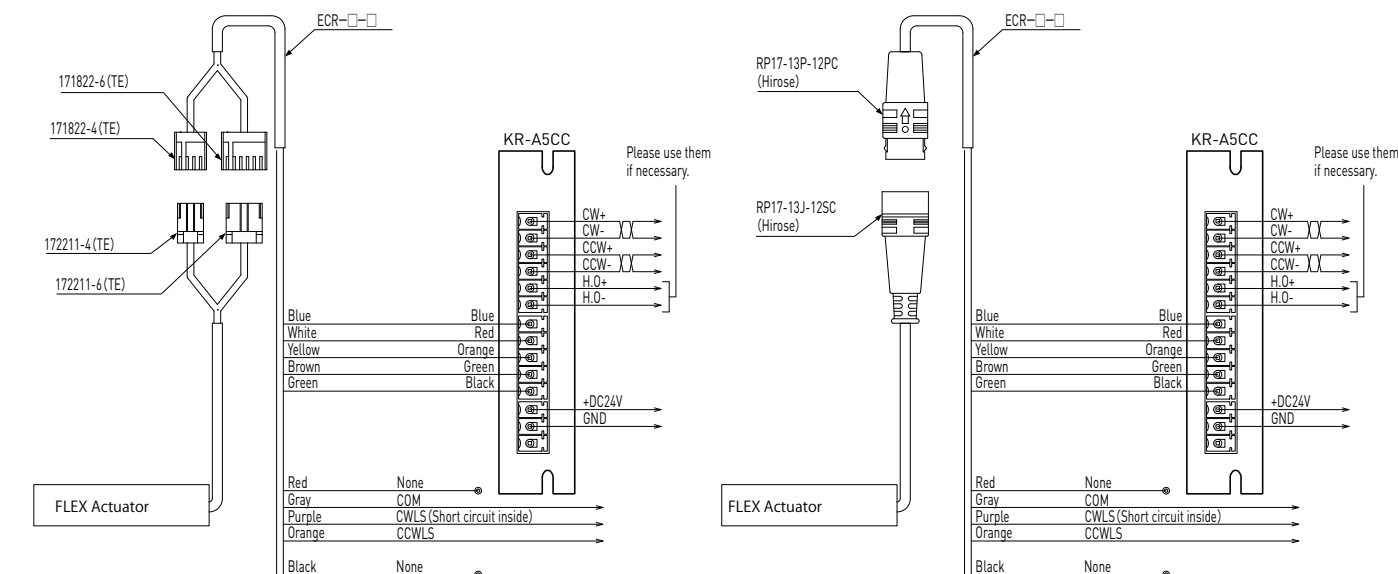


[KR-A5CC Connection diagrams]



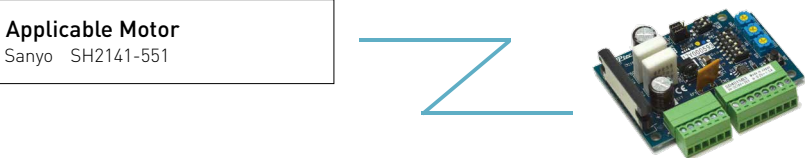
[EI connector]

[HIROSE connector]



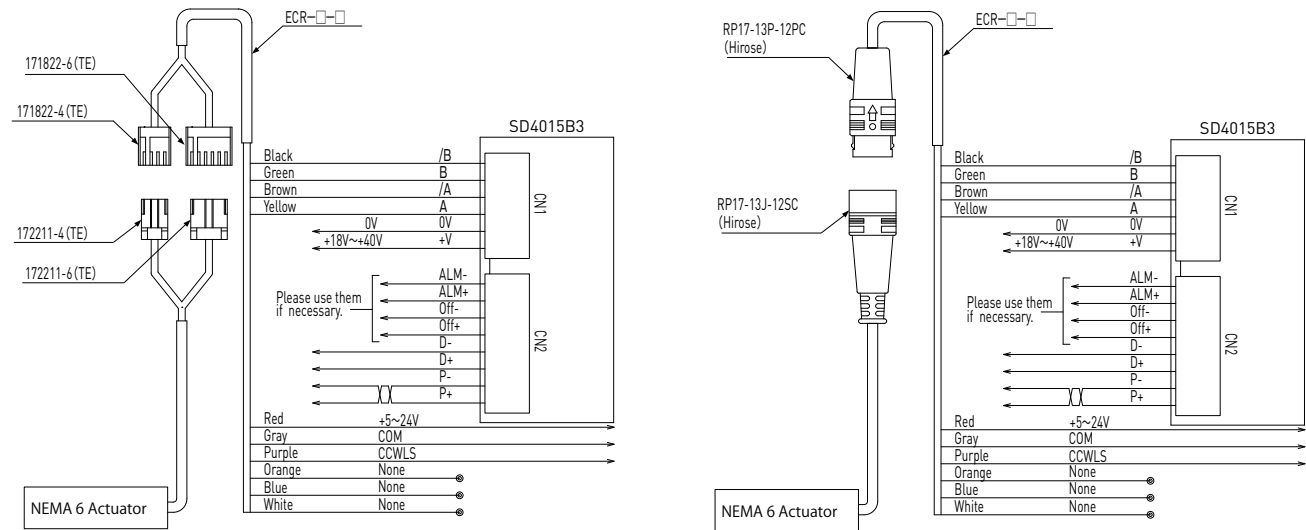
● For CAS series

[SD4015B3 Connection diagrams]



[EI connector]

[HIROSE connector]



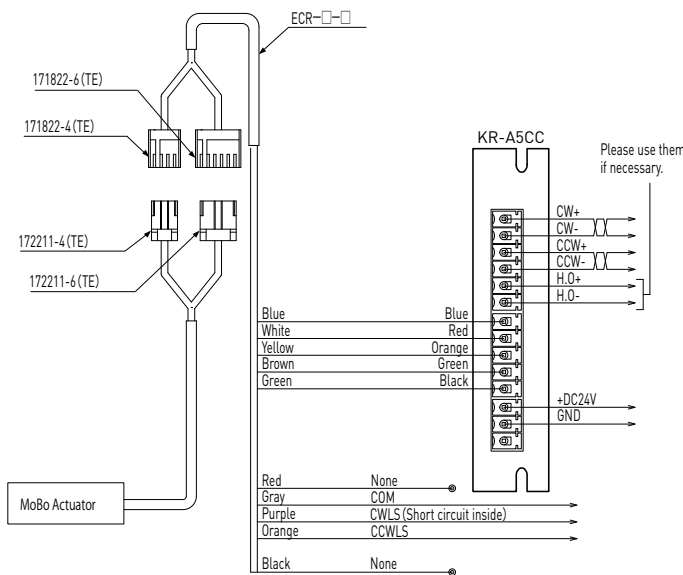
●For MA series

【KR-A5CC Connection diagrams】

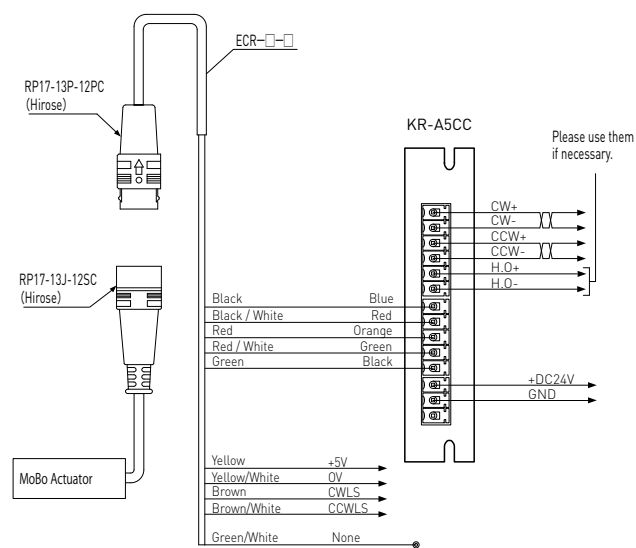
Applicable Motor
TAMAGAWA SEIKI Dedicated Motor for Linear Actuator



【EI connector】



【HIROSE connector】

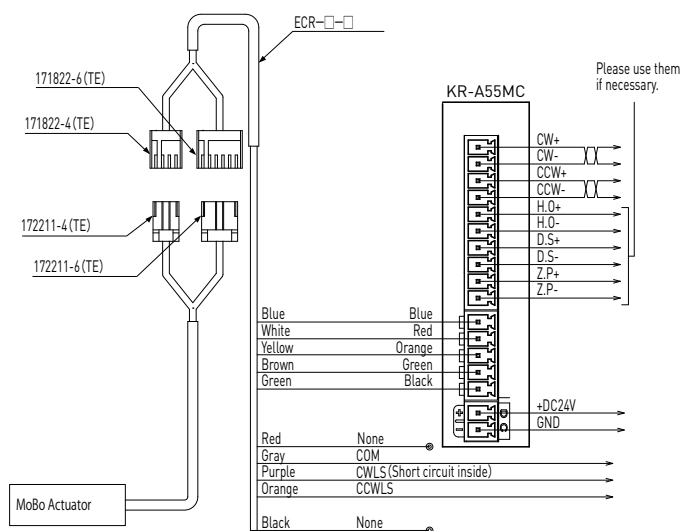


【KR-A55MC Connection diagrams】

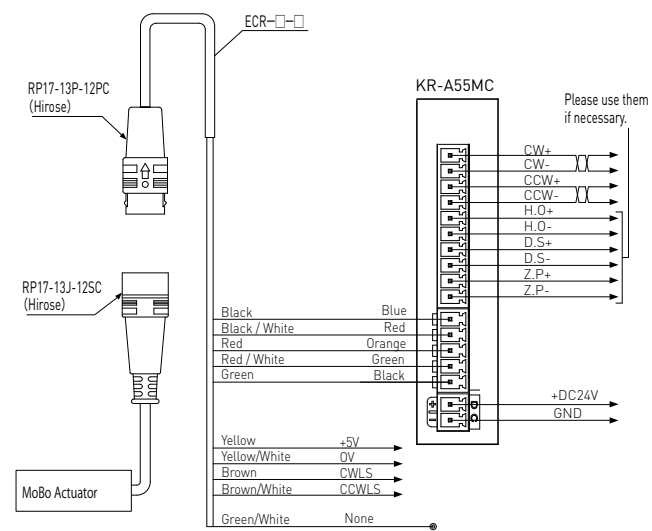
Applicable Motor
TAMAGAWA SEIKI Dedicated Motor for Linear Actuator



【EI connector】



【HIROSE connector】



●Precaution of handling and operating

【Precaution for safety】

- 1) Before using these products, please read instruction manuals and follow the precautions below.
- 2) Do not hit or drop the Shaft, do not apply Axial or Radial load exceeding specifications, it may cause malfunction.
- 3) Before using, please check that the product has no defect, and product is the same as your order.
- 4) Do not disassemble each component, dust may get inside the product. It may deteriorate accuracy.
- 5) Please prevent contamination from dust or swarf. Dust or swarf may cause damage to Ball Screw/Lead Screw, which lead to deteriorating the function.
- 6) Single axis Actuator should be checked the lubricant condition every 2 to 3 months. If Grease is contaminated, remove old Grease and replace with new one. Grease should be the same as the original Grease, which is described in dimension table.
- 7) Do not use Single axis Actuator exceeding our specifications in Load or Speed.
- 8) Do not use Single axis Actuator beyond the Maximum Acceleration.
- 9) Do not hold the Motor leads and Sensor leads, this may result in damage to the device or injury. The Motor lead wire should be fixed securely.
- 10) Keep away from Magnetic memory device.

【Precaution for safety】

- 1) If abnormal odor, noise, smoke overheating, or vibration occurs, stop operation immediately and turn the power off.
- 2) Do not use exceeding rated current.
- 3) The Motor may overheat depending on the load conditions or driver used. Make sure that the Motor surface temperature does not exceed 80℃ when in use.
- 4) Do not bend, pull or pinch the Motor lead wire.
- 5) Do not touch moving parts during operation.
- 6) Please switch off the Driver, when inspection or maintenance.

【Operating environment】

- 1) Operating environment should be 0~40℃ in temperature and 20~80%RH in humidity. Do not use these products under dew condensation, corrosive gas or inflammable gas environment.
- 2) Do not use these products under strong electric field, strong magnetic field.
- 3) Please prevent from swarf, oil mist, cutting fluid, Water/moisture, salt spray, organic solvent and other contamination.
- 4) Single axis Actuator cannot be used under the vibration, impact, vacuum, and other special environment.