Dyadic Systems

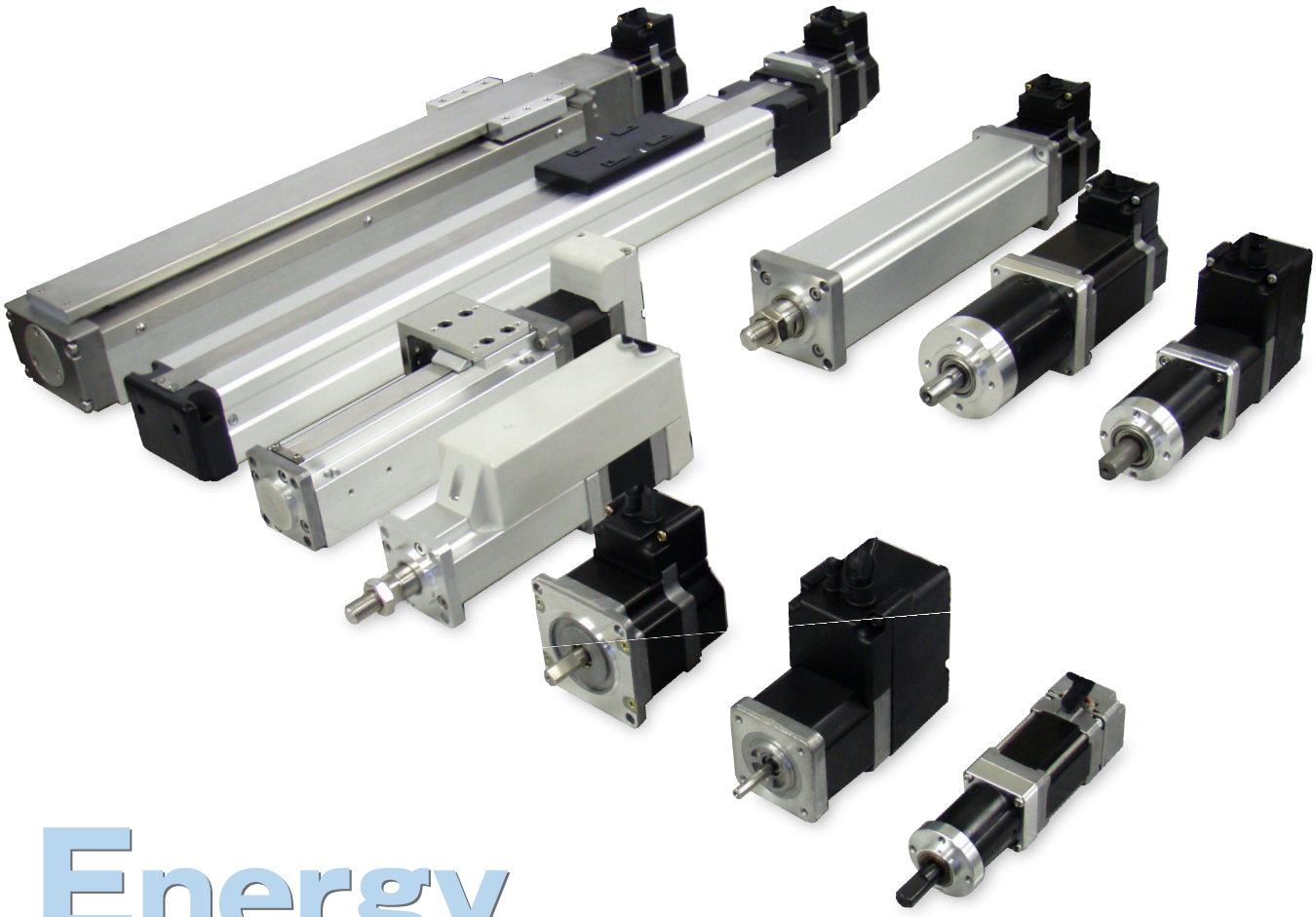
Mechatronics Cylinder

& Easy Servo System

Dyadic Systems Catalog

Substantial reduction in CO_2

Ultimate Solution for Energy-saving Actuators!



Energy Saving

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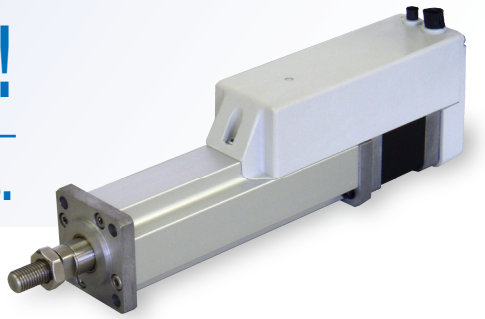
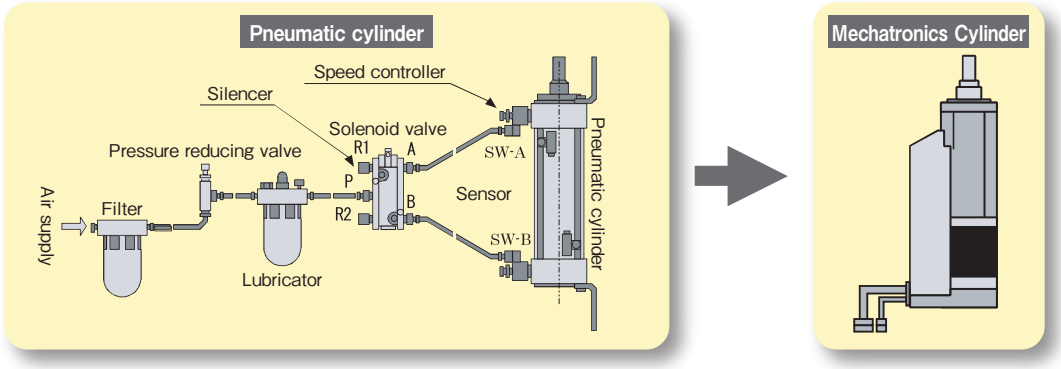
Easy to connect! Easy to operate!

Competitive price with pneumatic cylinders.



Feature 1 When compared to pneumatic cylinders:

(1) Can be used immediately after easy connection.
(2) Power consumption can be reduced substantially (1/3 - 1/10).
(3) Can be operated with DC 24V and ON/OFF signal.
(4) No shock absorber and sensor is required.
(5) Output of zone signal is possible.
(6) There is no splash of oil mist.
(7) Maintenance-free! Long-time continuous operation is possible.



Feature 2 Things that cannot be done with pneumatic cylinders can be achieved easily.

Multipoint positioning (with 16 positions) can be set easily.
Pressing thrust can be varied easily.
Travelling speed can be varied easily.
Multiracial synchronous operation can be achieved.

Feature 3 When compared to the conventional servomotors:

After the power is turned on, the cylinder returns to the home position automatically by the first positioning instruction and then performs the positioning to the target position.
No special knowledge about servo systems is required.
The teaching tool can be operated intuitively even without the instruction manual.

Feature 4 All the interfaces of the amplifiers (separate type) are common.

As all the interfaces of the amplifiers (separate type) are same and have backward compatibility, they can be used for a long period without compatibility problem.

Feature 5 Unique ancillary functions are provided.

All the cylinders and motors are equipped with the pneumatic cylinder compatible mode* and the self-sequence-control mode*, and they can be used easily by just switching the mode.

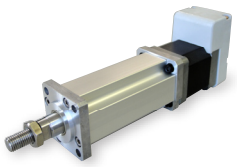
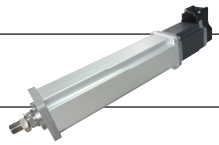
* We have detailed information, so please contact our dealers or sales offices.

CE

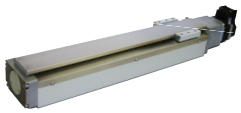
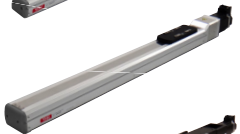
For the R series servo system (except for RCB0411) and the SCN5 series mechatronics cylinders, the CE mark, which indicates that the product is in conformity with the following EC directive, is attached to them.

EMC Directive 89 / 336 / EEG

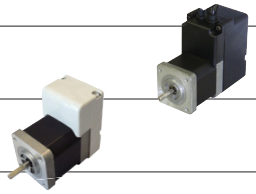
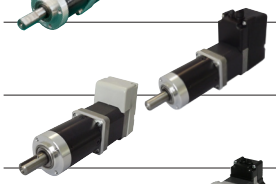
Mechatronics Cylinder Rod Type

Exterior (Representative model)	Model	Max. thrust (N)/(kgf): typ. value	Push mode max. thrust: typ. value	Stroke (mm)	Max. speed (mm/sec)	Page
	SCN3-004-B	40/4	30/3	30/50	400	5
	SCN3R-004-B			50		
	SCN5-005-S03	50/5	35/3.5	50-300	800	6
	SCN5-010-S03	100/10.2	70/7.1		400	
	SCN5-020-S03	200/20.4	140/14		100	
	SCN5-005-B	50/5	35/3.5	50-300	800	7
	SCN5-010-B	100/10.2	70/7.1		400	
	SCN5-020-B	200/20.4	140/14		100	
	SCN6-020-B BW	200/20.4	140/14.2	50-300	200	8
	SCN6-040-B BW	400/40.8	280/28.5		200	
	SCN6-050-B BW	500/51.0	350/35.5		B: 100 BW: 80	
	SCN6-060-B BW	650/66.3	450/45.9	50-300	100	
	SCN6-080Q-B	800/81.6	450/45.9	100	100	9

Mechatronics Cylinder Rodless Type

Exterior (Representative model)	Model	Max. thrust (N)/(kgf): typ. value	Holizontal max. transportable weight (kg)	Stroke (mm)	Max. speed (mm/sec)	Page
	SCLG5-010-B	100/10.2	10	50-300	300	10
	SCLG6-020-B	200/20.4	20	200-1000	150-300	11
	SCLG6-030-B	300/30.6			75-150	
	SCLT4-015-S SBR	150/15	5	50-500	680-700	12
	SCLT4-030-S SBR	300/30	10		340-400	
	SCLT6-025-B BBR	250/25	16	50-700	500-600	13
	SCLT6-050-B BBR	500/50	30		250-350	
	SCKSF4-020-S SBR	180/18	8	300-900	200-500	14
	SCKSF6-020-B BBR	200/20	14	700-1300	480-1400 When using 48V Power supply	15
	SCKSF6-030-B BBR	300/30	22		320-900 When using 48V Power supply	
	SCKR6A-025-B	300/30	60	200-1400	270-600	16

Servo Motor

Exterior (Representative model)	Model	Gear	Gear ratio	Max revolution speed (r/min)	Max. toque (N·m)	Page
	RSA0241	No gear		4500	0.11	24
	RSA0242					
	RCB0411				0.3	
	RSA0411					
	RSA0611				0.6	
	RSA1211-0101				0.9	
	RSA1611				1.2	
	RSA0611-G1	With Gear	1/5	600	1.5	25
	RSA0611-G2		1/10	300	2.5	
	RSA0241-G5-10-0101	With High-Precision Gear	1/10	450	0.8	25
	RSA0242-G5-10-0101					
	RCB0411-G5-06-02		1/6	750	1.4	
	RSA0411-G5-06-0201					
	RSA0611-G8-05-0201		1/5	850	3.0	
	RSA1211-G8-05-0201				5.0	

SCN3

4kgf type

Compact rod type mechatronics cylinder equipped with a 30mm square servo motor.

SCN3 SCN3R

System type meaning **SCN3 □ - 004 - □□□ - □ B □**

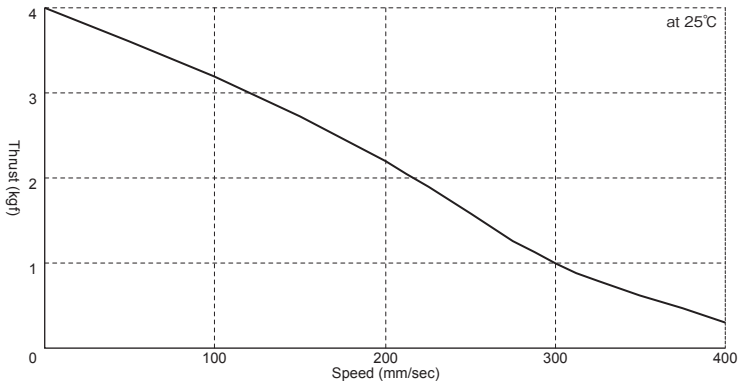
Model | Blank: Standard, R: Motor reverse mounting model | Max. Thrust (kgf) | Stroke (mm) | Blank: NPN, A: PNP | Standard | Blank: Standard set, -M: Cylinder only, -A: Amplifier only

Specification

System type			SCN3-004-□□□-B	Motor reverse mounting: SCN3R-004-□□□-B
System type □□□ part			030/050	050
Stroke (mm)			30/50	50
Max. thrust (N)/(kgf): typ. value			40/4	
Maximam vertical transportable mass (kg) when power-on			3	
Push mode max. thrust (N)/(kgf): typ. value			30/3	
Screw lead (mm)			6	
Max. speed (mm/s): typ. value at 25°C			400	
Repeatable positioning accuracy (mm)			±0.01 Note 1) & Note 2)	
Lost motion (mm)			0.3	
Rod diameter (mm)			Ø12	
Screw diameter of rod tip			M5, pitch 0.8 (made of metal SUS303)	
Number of positioning point			16 (No limit for serial connection)	
Power supply			DC 24 V ±10% (Drive power supply: Max. 2.0 A, Control power supply: Max. 0.2 A)	
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)	
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)	
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)	
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)	
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-	
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break	
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C	
	Humidity		Service/storage humidity: 90%RH or lower No condensation	
Weight (kg)			0.35/0.45	0.46
Outline drawing			**See page 17**	
Amplifier specification			See page 29	

Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05 - 0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction.

Speed–Thrust Characteristics

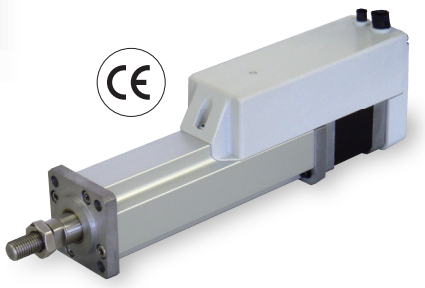


SCN5-S03

Amplifier integrated type

10kgf type

This is a Mechatronics Cylinder with integrated amplifier and compact design.
Equivalent to pneumatic cylinder models with inner diameter of ϕ16 - 20.



System type meaning **SCN5** - ☐ - ☐☐☐ - ☐ **S03** ☐

- SCN5: Model
- Max. Thrust (kgf)
- Stroke (mm)
- Blank: NPN, A: PNP
- S03: Amplifier integrated type
- Blank: Standard set, -M: Cylinder only, -A: Amplifier only

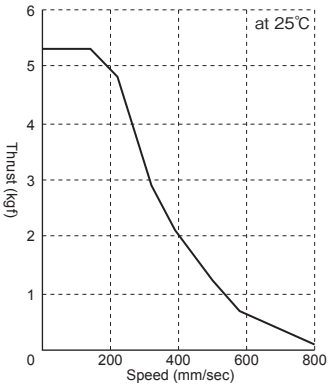
Specification

System type			SCN5-005-☐☐☐-S03	SCN5-010-☐☐☐-S03	SCN5-020-☐☐☐-S03
System type ☐☐☐ part			050/100/150/200/250/300		
Stroke (mm)			50/100/150/200/250/300		
Max. thrust (N)/(kgf): typ. value			50/5	100/10.2	200/20.4
Maximam vertical transportable mass (kg) when power-on			3.5	7	14
Push mode max. thrust (N)/(kgf): typ. value			35/3.5	70/7.1	140/14
Screw lead (mm)			12	6	1.5
Max. speed (mm/s): typ. value at 25°C			800/800/800/400/320/240	400/400/400/200/160/120	100/100/100/50/40/30
Repeatable positioning accuracy (mm)			±0.02 Note 1) & Note 2)	±0.01 Note 1) & Note 2)	
Lost motion (mm)			0.3		
Rod diameter (mm)			Ø15		
Screw diameter of rod tip			M10, pitch 1.25 (made of metal SUS303)		
Number of positioning point			16 (No limit for serial connection)		
Power supply			DC 24 V ±10% (Drive power supply: Max. 2.0 A, Control power supply: Max. 0.2 A)		
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)		
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)		
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone (ZONE), alarm (ALM)		
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)		
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-		
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality		
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C		
	Humidity		Service/storage humidity: 90%RH or lower No condensation		
Protection structure			IP-40 equivalent		
Weight (kg)			1.1/1.2/1.4/1.6/1.6/1.8/2.0		
Outline drawing			**See page 17**		
Amplifier specification			See page 29		

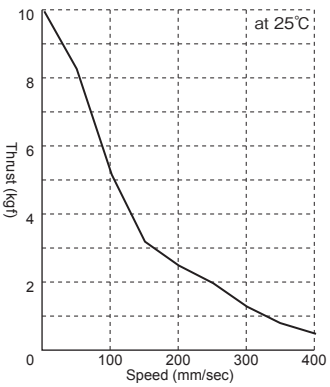
Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05 - 0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction.

Speed–Thrust Characteristics

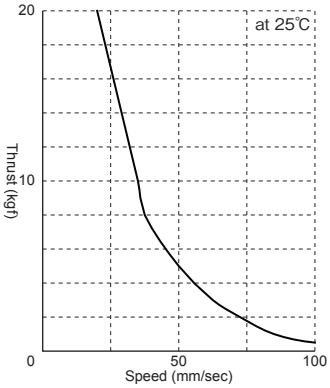
SCN5-005-S03



SCN5-010-S03



SCN5-020-S03



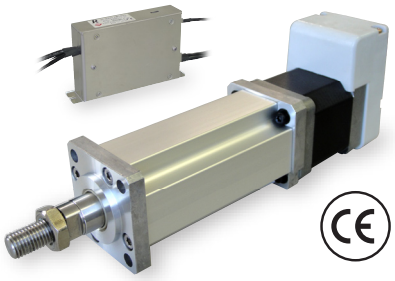
Brackets for SCN5 *Option

Model: FT-001

SCN5-B

10kgf type

Equivalent to pneumatic cylinder models with inner diameter of ϕ16 - 20.



System type meaning **SCN5** - [Max. Thrust (kgf)] - [Stroke (mm)] - [Blank: NPN, A: PNP] **B** [Blank: Cylinder and Amplifier set, -M: Cylinder only, -A: Amplifier only]

Model: SCN5 | Standard: B

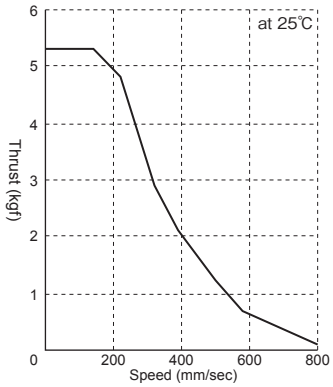
Specification

System type			SCN5-005-□□□-B	SCN5-010-□□□-B	SCN5-020-□□□-B
System type □□□ part			050/100/150/200/250/300		
Stroke (mm)			50/100/150/200/250/300		
Max. thrust (N)/(kgf): typ. value			50/5	100/10.2	200/20.4
Maximam vertical transportable mass (kg) when power-on			3.5	7	14
Push mode max. thrust (N)/(kgf): typ. value			35/3.5	70/7.1	140/14
Screw lead (mm)			12	6	1.5
Max. speed (mm/s): typ. value at 25°C			800/800/800/400/320/240	400/400 /400/200/160/120	100/100 /100/50/40/30
Repeatable positioning accuracy (mm)			±0.02 Note 1) & Note 2)	±0.01 Note 1) & Note 2)	±0.01 Note 1) & Note 2)
Lost motion (mm)			0.3		
Rod diameter (mm)			Ø15		
Screw diameter of rod tip			M10, pitch 1.25 (made of metal SUS303)		
Number of positioning point			16 (No limit for serial connection)		
Power supply			DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)		
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)		
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)		
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)		
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)		
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-		
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break		
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C		
	Humidity		Service/storage humidity: 90%RH or lower No condensation		
Protection structure			Standard model: IP-40 equivalent		
Weight (kg)			1.1/1.2/1.4/1.6/1.8/2.0		
Outline drawing			**See page 17**		
Amplifier specification			See page 29		

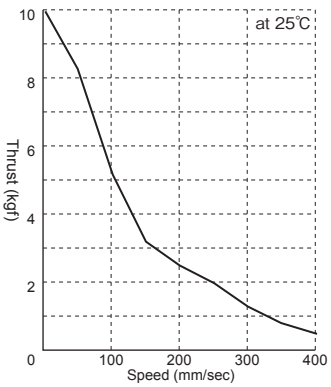
Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05 - 0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction.

Speed–Thrust Characteristics

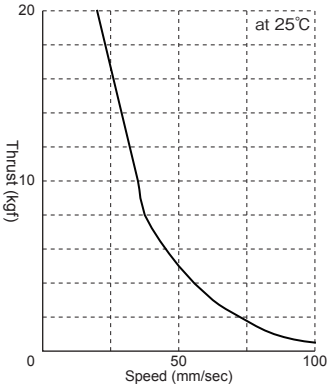
SCN5-005-B



SCN5-010-B



SCN5-020-B



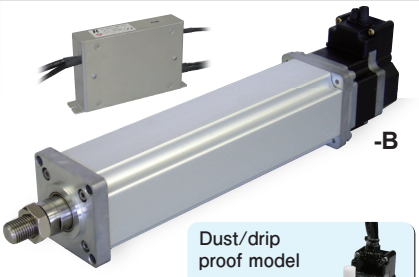
Brackets for SCN5 *Option

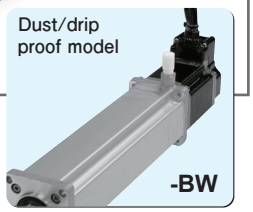
Model: FT-001

SCN6

20kgf type 40kgf type 50kgf type 60kgf type

Equivalent to pneumatic cylinder models with inner diameter of ϕ25 - 40.
The servo amplifier is mounted separately.
The dust/drip proof model (IP54 equivalent) is also available.





System type meaning **SCN6** - ☐ - ☐☐☐ - ☐

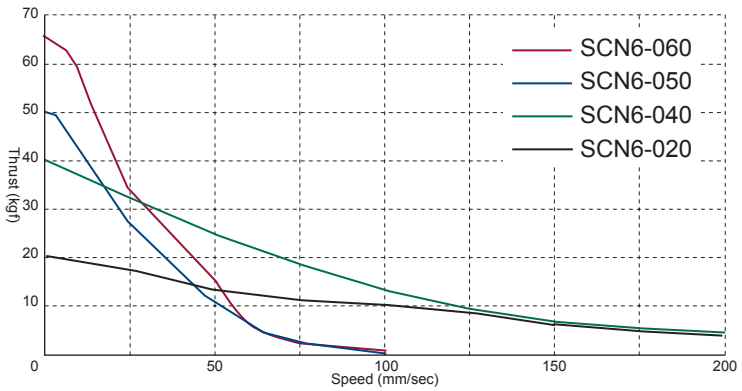
- SCN6: Model
- ☐: Max. Thrust (kgf)
- ☐☐☐: Stroke (mm)
- ☐: Blank: NPN, A: PNP
- ☐: Blank: Standard, BW: Dust/drip proof model
- ☐: Blank: Cylinder and Amplifier set, -M: Cylinder only, -A: Amplifier only

Specification

System type			SCN6-020-☐☐☐-B SCN6-020-☐☐☐-BW	SCN6-040-☐☐☐-B SCN6-040-☐☐☐-BW	SCN6-050-☐☐☐-B SCN6-050-☐☐☐-BW	SCN6-060-☐☐☐-B SCN6-060-☐☐☐-BW
System type ☐☐☐ part			050/100/150/200/250/300			
Stroke (mm)			50/100/150/200/250/300			
Max. thrust (N)/(kgf): typ. value			200/20.4	400/40.8	500/51.0	650/66.3
Maximam vertical transportable mass (kg) when power-on			14	28	30	45
Push mode max. thrust (N)/(kgf): typ. value			140/14.2	280/28.5	350/35.5	450/45.9
Screw lead (mm)			8		3	
Max. speed (mm/s): typ. value at 25°C			200		100 (SCN6-050-☐☐☐-BW: 80)	
Repeatable positioning accuracy (mm)			±0.01 (Short-time Repeatable positioning accuracy) Note 1) & Note 2)			
Lost motion (mm)			0.3			
Rod diameter (mm)			Ø22			
Screw diameter of rod tip			M14, pitch 1.5 (made of metal SUS303)			
Number of positioning point			16 (No limit for serial connection)			
Power supply			DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)			
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)			
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)			
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)			
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)			
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-			
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break			
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C			
	Humidity		Service/storage humidity: 90%RH or lower No condensation			
Protection structure			SCN6-***-☐☐☐-B: IP-40 equivalent SCN6-***-☐☐☐-BW: IP-54			
Weight (kg)			1.6/1.9/2.2/2.5/2.8/2.8	1.9/2.2/2.5/2.8/3.1/3.4		
Outline drawing			**See page 18**			
Amplifier specification			See page 29			

* The dust/drip proof model is not waterproof. The mode may not be used depending on the type of the additives in the coolant or oil.
Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction.

Speed–Thrust Characteristics



Brackets for SCN6 *Option

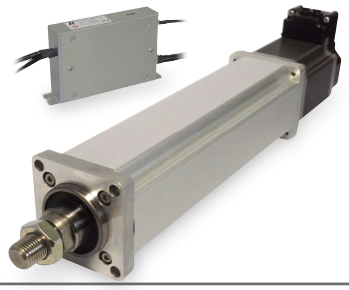
Model: FT-002

*Cannot be used for SCN6-080Q

SCN6-080Q

80kgf type

A strong guide mechanism can withstand a large radial load.



System type meaning **SCN6 - 080 Q - 100 - [ ] B [ ]**

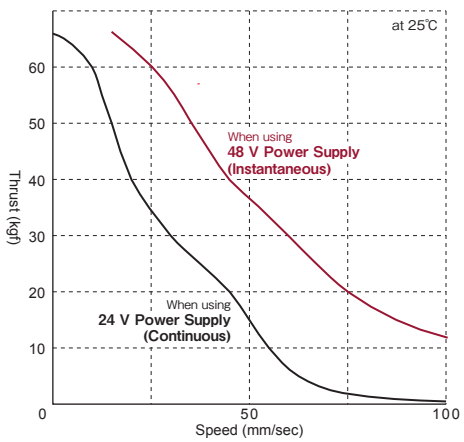
- SCN6: Model
- 080: Max. Thrust (kgf)
- Q: Built-in ball spline
- 100: Stroke (mm)
- [ ]: Blank: NPN; A: PNP
- B: Standard
- [ ]: Blank: Cylinder and Amplifier set; -M: Cylinder only; -A: Amplifier only

Specification

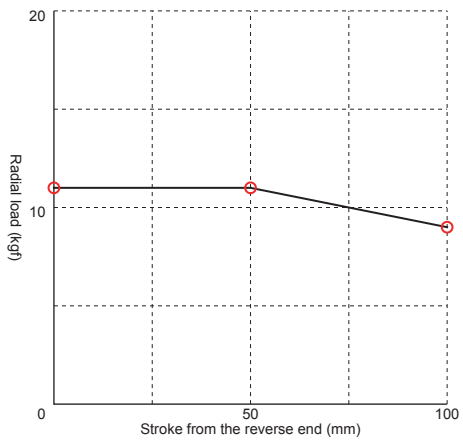
System type			SCN6-080Q-100-B
Stroke (mm)			100
Max. thrust (N)/(kgf): typ. value			800/81.6
Maximam vertical transportable mass (kg) when power-on			45
Push mode max. thrust (N)/(kgf): typ. value			450/45.9
Screw lead (mm)			3
Max. speed (mm/s): typ. value at 25°C			100
Repeatable positioning accuracy (mm)			±0.01 Note 1) & Note 2)
Lost motion (mm)			0.3
Allowable radial load (N)/(kg)			Load moment at expected running life of 10000km: 90/9.2 (At 100mm stroke from reverse end *See graph 1)
Rod diameter (mm)			ϕ25
Screw diameter of rod tip			M14, pitch 1.5 (made of metal SUS303)
Number of positioning point			16 (No limit for serial connection)
Power supply			DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)
Input/ output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break
Environmental condition		Temperature	Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C
		Humidity	Service/storage humidity: 90%RH or lower No condensation
Weight (kg)			2.5
Outline drawing			**See page 18**
Amplifier specification			See page 29

Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05 - 0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction.

Speed–Thrust Characteristics



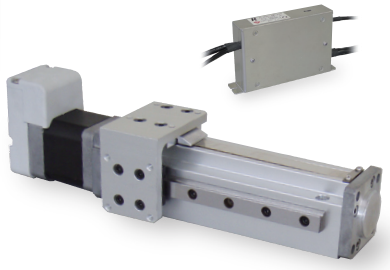
Graph 1 Load Moment at Expected Running Life of 10000km



SCLG5

10kgf type

THK's mini LM guide is mounded on the SCLG 5 series as standard equipment.



System type meaning **SCLG5 - 010 - □□□ - □ B □**

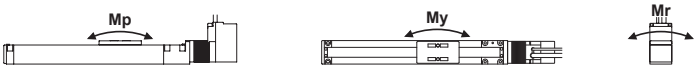
See explanation at bottom of page

- SCLG5: Model
- 010: Max. Thrust (kgf)
- □□□: Stroke (mm)
- Blank: NPN / A: PNP
- B: Standard
- Blank: NPN / B01: Slider reverse mounting
- Blank: Cylinder and Amplifier set / -M: Cylinder only / -A: Amplifier only

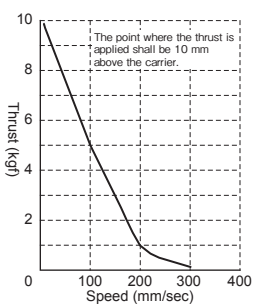
Specification

System type			SCLG5-010-□□□-B
System type □□□ part			050/100/150/200/300
Stroke (mm)			50/100/150/200/300 250 mm stroke model is not available.
Max. thrust (N)/(kgf): typ. value			100/10.2
Maximam vertical transportable mass (kg) when power-on			3
Push mode max. thrust (N)/(kgf): typ. value			70/7.1
Screw lead			6
Max. speed (mm/s): typ. value at 25°C			300
Repeatable positioning accuracy (mm)			±0.01 Note 1) & Note 2)
Lost motion (mm)			0.3
Horizontal max. transportable weight (kg)			10
Vertical max. transportable weight (kg)			3
Acceptable load moment (Nm)/(kgfcm)			Mp = 1.5/15, My = 1.5/15, Mr = 5/51 Note 3)
Overhanging load length (mm)			150 or less Note 4)
Number of positioning point			16 (No limit for serial connection)
Power supply			DC 24 V ±10% (Drive power supply: Max. 2.0 A, Control power supply: Max. 0.2 A)
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C
	Humidity		Service/storage humidity: 90%RH or lower No condensation
Weight (kg)			1.3/1.5/1.7/1.9/2.3
Outline drawing			**See page 18**
Amplifier specification			See page 29

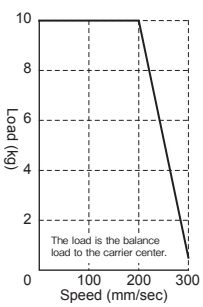
* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality. Note 4) Overhanging load length: The acceptable length of the work when it overhangs from the slider (carrier) portion.



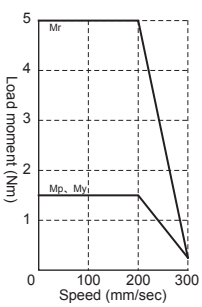
Thrust–Speed Characteristics



Load Weight–Speed Characteristics (Horizontal)



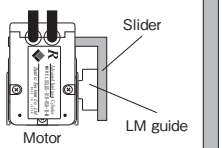
Load Moment–Speed Characteristics (Horizontal)



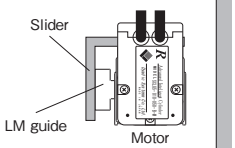
Slider mounting direction can be selected.

Mounting direction and model name of the slider
*figure seen from the motor side

SCLG5-010-□□□-B



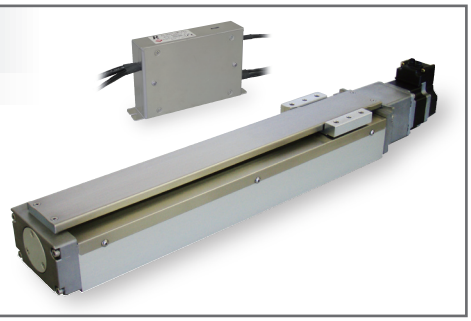
SCLG5-010-□□□-B01



SCLG6

20kgf type 30kgf type

Rod-less cylinder for single axis application
Max. transportable weight: 20 kg (Horizontal)
Stroke: 200–1,000 mm



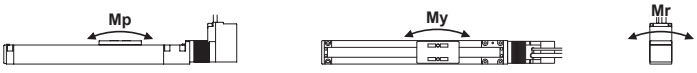
System type meaning **SCLG6** – [Max. Thrust (kgf)] – [Stroke (mm)] – [Blank: NPN / A: PNP] **B** [Blank: Cylinder and Amplifier set / -M: Cylinder only / -A: Amplifier only]

Model | Standard

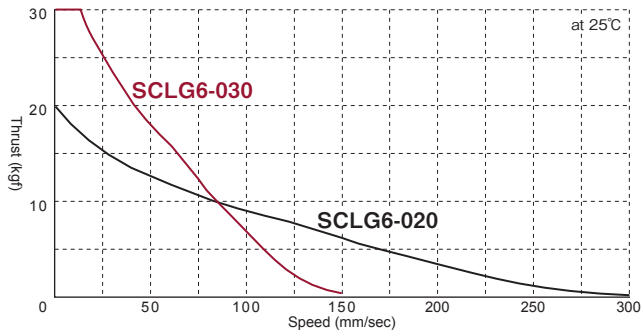
Specification

System type			SCLG6-020-□□□-B	SCLG6-030-□□□-B
System type □□□ part			200/300/400/500/600/700/800/A00	
Stroke (mm)			200/300/400/500/600/700/800/1000	
Max. thrust (N)/(kgf): typ. value			200/20.4	300/30.6
Maximam vertical transportable mass (kg) when power-on			140/14.2	280/28.6
Push mode Max. thrust (N)/(kgf): typ. value			140/14.2	280/28.6
Screw lead (mm)			8	4
Max. speed (mm/s): typ. value at 25°C			300/300/300/300/300/280/220/150	150/150/150/150/150/140/110/75
Repeatable positioning accuracy (mm)			±0.01 Note 1) & Note 2)	
Lost motion (mm)			0.3	
Horizontal max. transportable weight (kg)			20	
Vertical max. transportable weight (kg)			10	20
Acceptable load moment (Nm)/(kgfcm)			Mp = 6/60, My = 6/60, Mr = 10/100 Note 3)	
Overhanging load length (mm)			150 or less Note 4)	
Number of positioning point			16 (No limit for serial connection)	
Power supply			DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)	
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)	
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)	
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)	
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)	
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-	
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break	
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C	
	Humidity		Service/storage humidity: 90%RH or lower No condensation	
Weight (kg)			2.7/3.7/4.7/5.7/6.7/7.7/8.7/10.7	2.7/3.7/4.7/5.7/6.7/7.7/8.7/10.7
Outline drawing			**See page 19**	
Amplifier specification			See page 29	

* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality. Note 4) Overhanging load length: The acceptable length of the work when it overhangs from the slider (carrier) portion.



Speed–Thrust Characteristics

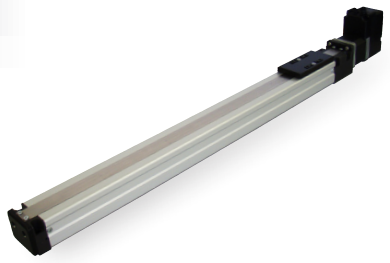


SCLT4

Amplifier integrated type

SCLT4: 15kgf type 30kgf type

High-load and high-speed travel is made possible with the feed mechanism by the strong LM guide and ball screw drive.
This model can be used as a base machine for an orthogonal robot.



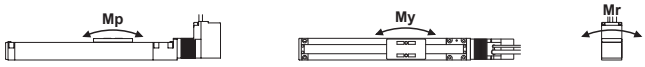
System type meaning **SCLT4** – [Max. Thrust (kgf)] – [Stroke (mm)] – [Blank: NPN, A: PNP] [S: Standard, SBR: With brake] [Motor mounting direction *See explanation at bottom of page]

Model

Specification

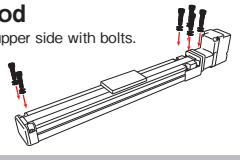
System type	SCLT4-015-□□□-S	SCLT4-015-□□□-SBR (Model with brake)	SCLT4-030-□□□-S	SCLT4-030-□□□-SBR (Model with brake)
System type □□□ part	050/100/150/200/250/300/350/400/450/500			
Stroke (mm)	50/100/150/200/250/300/350/400/450/500			
Max. thrust (N)/(kgf): typ. value	150/15		300/30	
Maximam vertical transportable mass (kg) when power-on	105/10.5		210/21	
Push mode max. thrust (N)/(kgf): typ. value	105/10.5		210/21	
Screw lead (mm)	12		6	
Max. speed (mm/s): typ. value at 25°C	700 (Stroke 500 mm: 680)		400 (Stroke 500 mm: 340)	
Repeatable positioning accuracy (mm)	±0.02 Note 1) & Note 2)			
Lost motion (mm)	0.1			
Horizontal max. transportable weight (kg)	5		10	
Vertical max. transportable weight (kg)	1.5/5 (when using external regeneration unit)		2.5/10 (when using external regeneration unit)	
Acceptable load moment (Nm)/(kgfcm)	Mp = 12/120, My = 12/120, Mr = 31/310 Note 3)			
Number of positioning point	16 (No limit for serial connection)			
Power supply	DC 24 V ±10% (Drive power supply: Max. 2.0 A, Control power supply: Max. 0.2 A)			
Brake power supply *Only for the model with brake	DC 24 V ±15% Excitation open type Max. 0.3 A when opened			
Input/output signal: Descrete input signal: Signal name	DC 24 V classed descrete input (connector PIO), Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR), axis travel interlock (ILK)			
Input/output signal: Descrete input signal: Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)			
Input/output signal: Descrete output signal: Signal name	DC24V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal(ZONE), alarm (ALM)			
Input/output signal: Descrete output signal: Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)			
Input/output signal: Serial communication signal	Serial interface (connector SIO), +5 V, 0 V, S+, S-			
Protection function	Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality			
Environmental condition: Service/storage temperature	Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C			
Environmental condition: Service/storage humidity	Service/storage humidity: 90%RH or lower No condensation			
Weight (kg)	1.5/1.6/1.7/1.8/1.9/2.0/2.1/2.2/2.3/2.4	1.8/1.9/2.0/2.1/2.2/2.3/2.4/2.5/2.6/2.7	1.5/1.6/1.7/1.8/1.9/2.0/2.1/2.2/2.3/2.4	1.8/1.9/2.0/2.1/2.2/2.3/2.4/2.5/2.6/2.7
Outline drawing	**See page 19**	**See page 20**	**See page 19**	**See page 20**
Amplifier specification	See page 29			

* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality.

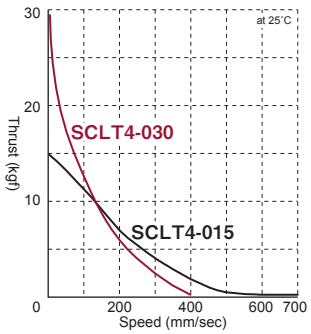


Mounting Method

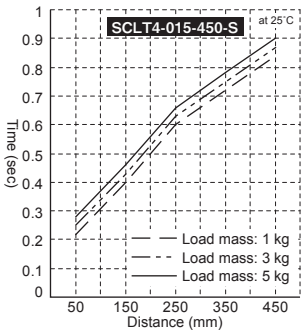
Attach directly from the upper side with bolts.

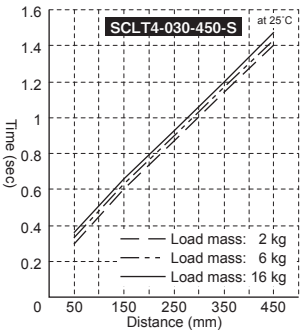


Speed-Thrust Characteristics



Horizontal Load-Positioning Time Characteristics *Reference Value



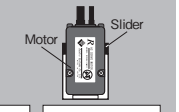


Motor mounting direction can be selected.

Motor mounting direction and end of model numbr

* figure seen from the motor side

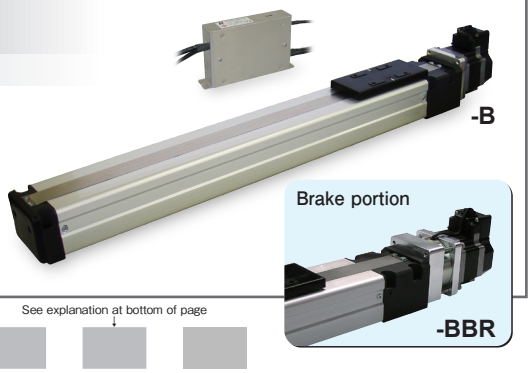
Standard mounting direction
SCLT4-015/030-□□□-S
SCLT4-015/030-□□□-SBR



SCLT6

SCLT4: 15kgf type 30kgf type SCLT6: 25kgf type 50kgf type

High-load and high-speed travel is made possible with the feed mechanism by the strong LM guide and ball screw drive.
This model can be used as a base machine for an orthogonal robot.



System type meaning **SCLT6** – ☐☐☐ – ☐☐☐ – ☐ ☐ ☐ ☐ ☐

See explanation at bottom of page

Model	Max. Thrust (kgf)	Stroke (mm)	Blank: NPN A: PNP	B: Standard BBR: With brak	Motor mounting direction	Blank: Cylinder and Amplifier set -M: Cylinder only -A: Amplifier only
SCLT6		☐☐☐				

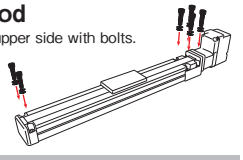
Specification

System type	SCLT6-025-☐☐☐-B	SCLT6-025-☐☐☐-BBR (Model with brake)	SCLT6-050-☐☐☐-B	SCLT6-050-☐☐☐-BBR (Model with brake)
System type ☐☐☐ part	050/100/150/200/250/300/350/400/450/500/550/600/700			
Stroke (mm)	50/100/150/200/250/300/350/400/450/500/550/600/700			
Max. thrust (N)/(kgf): typ. value	250/25		500/50	
Maximam vertical transportable mass (kg) when power-on	175/17.5		350/35	
Push mode max. thrust (N)/(kgf): typ. value	175/17.5		350/35	
Screw lead (mm)	12		6	
Max. speed (mm/s): typ. value at 25°C	600 (Stroke 700 mm: 500)		350 (Stroke 600 mm: 340 Stroke 700 mm: 250)	
Repeatable positioning accuracy (mm)	±0.02 Note 1) & Note 2)			
Lost motion (mm)	0.1			
Horizontal max. transportable weight (kg)	16		30	
Vertical max. transportable weight (kg)	4/16 (when using external regeneration unit)		6/30 (when using external regeneration unit)	
Acceptable load moment (Nm)/(kgfcm)	Mp = 25.7/257, My = 25.7/257, Mr = 58/580 Note 3)			
Number of positioning point	16 (No limit for serial connection)			
Power supply	DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)			
Brake power supply *Only for the model with brake	DC 24 V ±15% Excitation open type Max. 0.3 A when opened (With brake: Max. 0.4 A when opened)			
Input/output signal: Descrete input signal: Signal name	DC 24 V classed descrete input (connector PIO), Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR), axis travel interlock (ILK)			
Input/output signal: Descrete input signal: Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)			
Input/output signal: Descrete output signal: Signal name	DC 24 V classed descrete output (connector PIO), completion position number (4-bit binary code: PM1, PM2, PM4, PM8 completion of positioning (PFIN), completion of return to home (ZFIN), zone signal(ZONE), alarm (ALM)			
Input/output signal: Descrete output signal: Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)			
Input/output signal: Serial communication signal	Serial interface (connector SIO), +5 V, 0 V, S+, S-			
Protection function	Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break			
Environmental condition: Service/storage temperature	Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C			
Environmental condition: Service/storage humidity	Service/storage humidity: 90%RH or lower No condensation			
Weight (kg)	2.4/2.6/2.8/3.0/3.2/3.4/3.6/3.8/4.0/4.2/4.5/4.7/5.1	3.3/3.5/3.7/3.9/4.1/4.3/4.5/4.7/4.9/5.1/5.4/5.6/6.0	2.4/2.6/2.8/3.0/3.2/3.4/3.6/3.8/4.0/4.2/4.5/4.7/5.1	3.3/3.5/3.7/3.9/4.1/4.3/4.5/4.7/4.9/5.1/5.4/5.6/6.0
Outline drawing	**See page 20**	**See page 21**	**See page 20**	**See page 21**
Amplifier specification	See page 29			

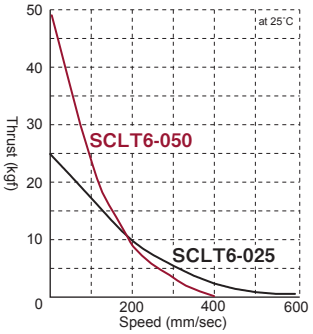
* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality.

Mounting Method

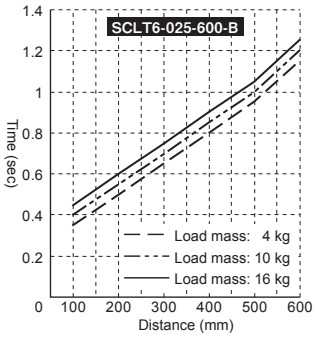
Attach directly from the upper side with bolts.

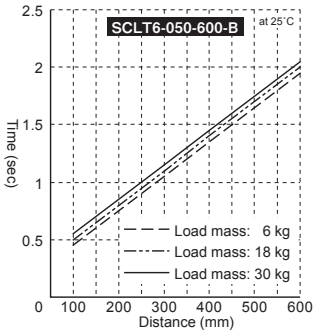


Speed-Thrust Characteristics



Horizontal Load–Positioning Time Characteristics *Reference Value

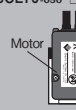




For model with a brake, the mounting of the motor can direction can be selected.

Motor mounting direction and end of model numbr
* figure seen from the motor side

Standard mounting direction
SCLT6-025/050-☐☐☐-BBR



SCKSF4

Amplifier integrated type

20kgf type

The powerful LM guide and ball screw drive feed mechanism realize high load and high speed movement.
Strokes up to 900mm are available.
Uses THK's KSF4.

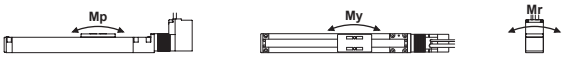
System type meaning **SCKSF4 - 020 - □□□ - ■ ■ ■**

- SCKSF4: Model
- 020: Max. Thrust (kgf)
- □□□: Stroke (mm)
- ■: Blank: NPN, A: PNP
- ■: S: Standard, SBR: With brak
- ■: Motor mounting direction, See explanation at bottom of page

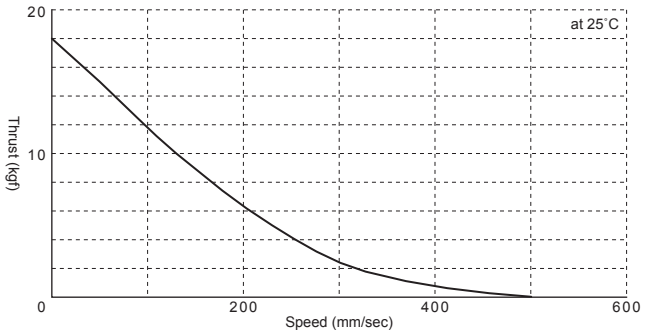
Specification

System type	SCKSF4-020-□□□-S	SCKSF4-020-□□□-SBR (Model with brake)
System type □□□ part	300/350/400/450/500/550/600/650/700/750/800/850/900	
Stroke (mm)	300/350/400/450/500/550/600/650/700/750/800/850/900	
Max. thrust (N)/(kgf): typ. value	180/18	
Maximam vertical transportable mass (kg) when power-on	120/12	
Push mode max. thrust (N)/(kgf): typ. value	120/12	
Screw lead (mm)	10	
Max. speed (mm/s): typ. value at 25°C	500/500/500/500/500/500/430/370/320/290/250/230/200	
Repeatable positioning accuracy (mm)	±0.02 Note 1) & Note 2)	
Lost motion (mm)	0.1	
Horizontal max. transportable weight (kg)	12 *At 0.5G 8 *At 1G	
Vertical max. transportable weight (kg)	2/8 (when using external regeneration unit) *At 0.5G 2/6 (when using external regeneration unit) *At 1G	
Static acceptable load moment (Nm)	Mp = 103, My = 103, Mr = 58 Note 3)	
Number of positioning point	16 (No limit for serial connection)	
Power supply (*Only for the model with brake)	DC24V ±10% (Drive power supply: Max. 2.0 A, Control power supply: Max. 0.2 A)	
Brake power supply	DC24V ±15% Excitation open type Max. 0.4 A when opened	
Input/output signal: Descrete input signal: Signal name	DC24V classed descrete input (connector PIO), Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR), axis travel interlock (ILK)	
Input/output signal: Descrete input signal: Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)	
Input/output signal: Descrete output signal: Signal name	DC24V classed descrete output (connector PIO), completion position number, completion of positioning (PFIN), completion of return to home (ZFIN), zone signal(ZONE), alarm (ALM)	
Input/output signal: Descrete output signal: Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)	
Input/output signal: Serial communication signal	Serial interface (connector SIO), +5 V, 0 V, S+, S-	
Protection function	Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality	
Environmental condition: Service/storage temperature	Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C	
Environmental condition: Service/storage humidity	Service/storage humidity: 90%RH or lower No condensation	
Weight (kg)	3.2/3.4/3.6/3.7/3.9/4.1/4.3/4.5/4.7/4.9/5.1/5.3/5.4	3.5/3.7/3.9/4.0/4.2/4.4/4.6/4.8/5.0/5.2/5.4/5.6/5.7
Outline drawing	**See page 21**	
Amplifier specification	See page 29	

* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality.



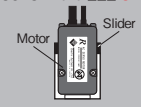
Speed-Thrust Characteristics

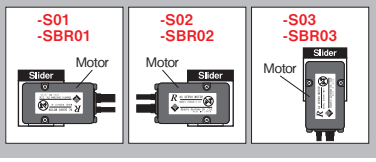


Motor mounting direction can be selected.

Motor mounting direction and end of model numbr
* figure seen from the motor side

Standard mounting direction
SCKSF4-020-□□□-S
SCKSF4-020-□□□-SBR

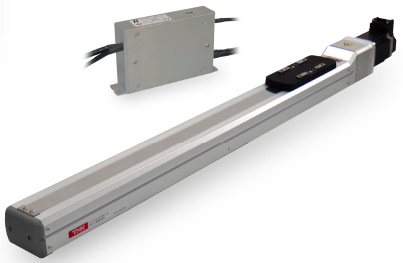




SCKSF6

20kgf type

The powerful LM guide and ball screw drive feed mechanism realize high load and high speed movement.
Strokes up to 1300mm are available.
Uses THK's KSF6.



See explanation at bottom of page

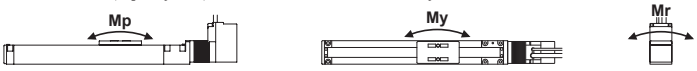
System type meaning **SCKSF6** - [Max. Thrust (kgf)] - [Stroke (mm)] - [Blank: NPN / A: PNP] [B: Standard / BBR: With brak] [Motor mounting direction] [Blank: Cylinder and Amplifier set / -M: Cylinder only / -A: Amplifier only]

Model

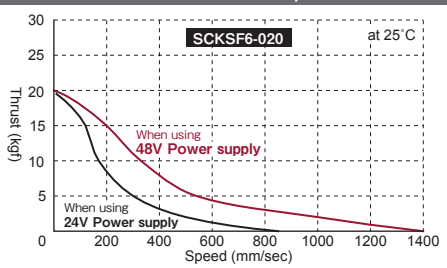
Specification

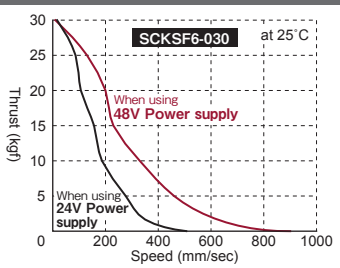
System type	SCKSF6-020-□□□-B	SCKSF6-020-□□□-BBR (Model with brake)	SCKSF6–030-□□□-B	SCKSF6-030-□□□-BBR (Model with brake)
System type □□□ part	700/750/800/850/900/950/1000/1050/1100/1150/1200/1250/1300			
Stroke (mm)	700/750/800/850/900/950/1000/1050/1100/1150/1200/1250/1300			
Max. thrust (N)/(kgf): typ. value	200/20		300/30	
Maximam vertical transportable mass (kg) when power-on	120/12		180/18	
Push mode max. thrust (N)/(kgf): typ. value	120/12		180/18	
Screw lead (mm)	30		20	
Max. speed (mm/s) — When using 24V power supply	850/850/850/850/850/850/780/710/650/600/550/510/480		500/500/500/500/500/500/500/470/430/400/370/340/320	
Max. speed (mm/s) — When using 48V Power supply	1400/1300/1160/1040/940/850/780/710/650/600/550/510/480		900/870/770/690/630/570/520/470/430/400/370/340/320	
Repeatable positioning accuracy (mm)	±0.05 Note 1) & Note 2)		±0.04 Note 1) & Note 2)	
Lost motion (mm)	0.1			
Horizontal max. transportable weight (kg)	14 *At 1G		22 *At 1G	
Vertical max. transportable weight (kg)	4 (when using external regeneration unit) *At 0.3G 1 (when using external regeneration unit) *At 1G		10 (when using external regeneration unit) *At 0.3G 3 (when using external regeneration unit) *At 1G	
Acceptable load moment (Nm)/(kgfcm)	Mp = 330, My = 216, Mr = 188 Note 3)			
Number of positioning point	16 (No limit for serial connection)			
Power supply	DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)			
Brake power supply *Only for the model with brake	DC 24 V ±15% Excitation open type Max. 0.4 A when opened			
Input/output signal — Descrete input signal — Signal name	DC 24 V classed descrete input (connector PIO), Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR), axis travel interlock (ILK)			
Input/output signal — Descrete input signal — Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)			
Input/output signal — Descrete output signal — Signal name	DC 24 V classed descrete output (connector PIO), completion position number (4-bit binary code: PM1, PM2, PM4, PM8), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal(ZONE), alarm (ALM)			
Input/output signal — Descrete output signal — Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)			
Input/output signal — Serial communication signal	Serial interface (connector SIO), +5 V, 0 V, S+, S-			
Protection function	Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break			
Environmental condition — Service/storage temperature	Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C			
Environmental condition — Service/storage humidity	Service/storage humidity: 90%RH or lower No condensation			
Weight (kg) — SCKSF6-020/030-B	10.2/10.6/11/11.4/11.8/12.2/12.6/13/13.3/13.7/14.1/14.5/14.9			
Weight (kg) — SCKSF6-020/030-BBR	11.1/11.5/11.9/12.3/12.7/13.1/13.5/13.9/14.2/14.6/15/15.4/15.8			
Outline drawing	**See page 22**			
Amplifier specification	See page 29			

* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality.



Speed–Thrust Characteristics



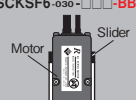


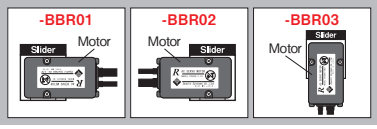
For model with a brake, the mounting of the motor can direction can be selected.

Motor mounting direction and end of model numbr

* figure seen from the motor side

Standard mounting direction
SCKSF6-020/030-□□□-BBR





SCKR6A

20kgf type 30kgf type

The powerful LM guide and ball screw drive feed mechanism realize high load and high speed movement.
Strokes up to 1400mm are available.
Uses THK's KR45H□□A.

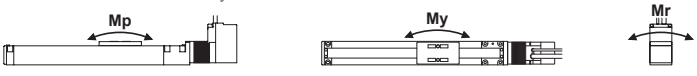
System type meaning **SCKR6A - 025 - □□□ -** (See explanation at bottom of page)

- SCKR6A: Model
- 025: Max. Thrust (kgf)
- □□□: Stroke (mm)
- Blank: NPN, A: PNP
- B: Standard, BBR: With brak
- Motor mounting direction
- Blank: Cylinder and Amplifier set, -M: Cylinder only, -A: Amplifier only

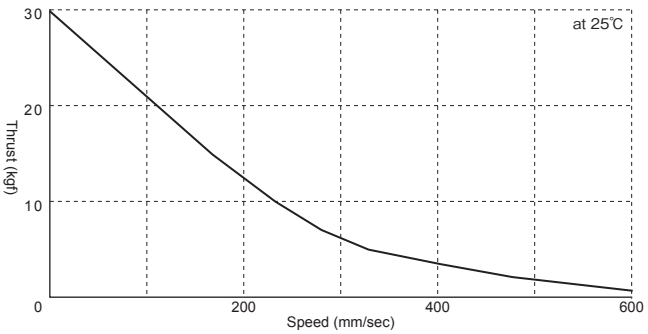
Specification

System type			SCKR6A-025-□□□-B	Model with brake SCKR6A-025-□□□-BBR
System type □□□ part			200/300/400/500/600/700/800/900/A00/B00/C00/D00/E00	
Stroke (mm)			200/300/400/500/600/700/800/900/1000/1100/1200/1300/1400	
Max. thrust (N)/(kgf): typ. value			300/30	
Maximam vertical transportable mass (kg) when power-on			210/21	
Push mode Max. thrust (N)/(kgf): typ. value			210/21	
Screw lead (mm)			20	
Max. speed (mm/s): typ. value at 25°C			600/600/600/600/600/600/600/600/510/430/370/310/270	
Repeatable positioning accuracy (mm)			±0.04 Note 1) & Note 2)	
Lost motion (mm)			0.1 or less	
Horizontal max. transportable weight (kg)			60	
Vertical max. transportable weight (kg)			4/15 (when using external regeneration unit)	
Acceptable load moment (Nm)/(kgfcm)			Mp = 243/2430, My = 243/2430, Mr = 400/4000 Note 3)	
Number of positioning point			16 (No limit for serial connection)	
Power supply			DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply: Max. 0.2 A)	
Brake power supply *Only for the model with brake			DC 24 V ±15% Excitation open type Max. 0.3 A when opened	
Input/output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), axis travel interlock (ILK) Target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR)	
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)	
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8)	
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)	
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-	
Protection function			Overspeed, main power supply overvoltage, regeneration voltage abnormality, overload, sensor abnormality, servo abnormality, encoder wire break	
Environmental condition	Temperature		Service temp.: 0°C to 40°C, storage temp.: -20°C to 60°C	
	Humidity		Service/storage humidity: 90%RH or lower No condensation	
Weight (kg)			7.2/8.3/9.4/10.5/11.6/12.7/13.8/14.9/16/17.1/18.2/19.3/20.4	8.1/9.2/10.3/11.4/12.5/13.6/14.7/15.8/16.9/18/19.1/20.2/21.3
Outline drawing			**See page 23**	
Amplifier specification			See page 29	

* Do not use this product in a place where there is a lot of dust or water drops fall on it. Note 1) When the return to home operation is performed, the cylinder perform the Push operation to one of the stopper at both ends of stroke. The reference position of the coordinate system is determined at the stopped position of this operation. At the reason that the material of the stopper is the urethane rubbers (Shore 90). The deterioration of the rubber with age is estimated 0.05–0.07 mm/1–2 years at maximum. Consequently, it is likely that the home position shifts about 0.05 mm at a maximum due to the deterioration with age, so an action such as data compensation may be required depending on the use. Note 2) This is the value of positioning from one direction. Note 3) Load moment: The load that occurs when the work (m kg) is attached with an overhang (L cm) from the slider (carrier) portion (Calculation of load moment (kgfcm): m (kg) x L (cm) < Mp, My, Mr). Note that the load moments in 3 directions (Mp, My, Mr) act on in combination in reality.



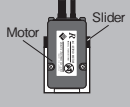
Speed–Thrust Characteristics



For model with a brake, the mounting of the motor can direction can be selected.

Motor mounting direction and end of model numbr
* figure seen from the motor side

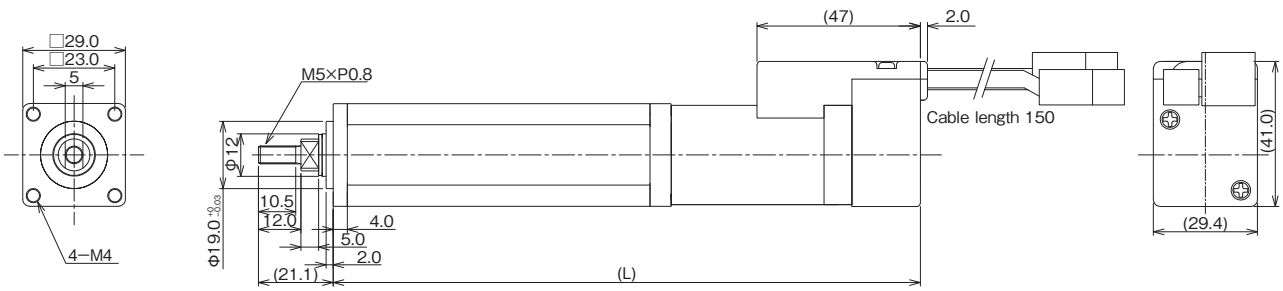
Standard mounting direction
SCKR6A-025-□□□-BBR



SCN3-004-B

See page 29 for the drawing of the servo amplifier

Unit (mm)



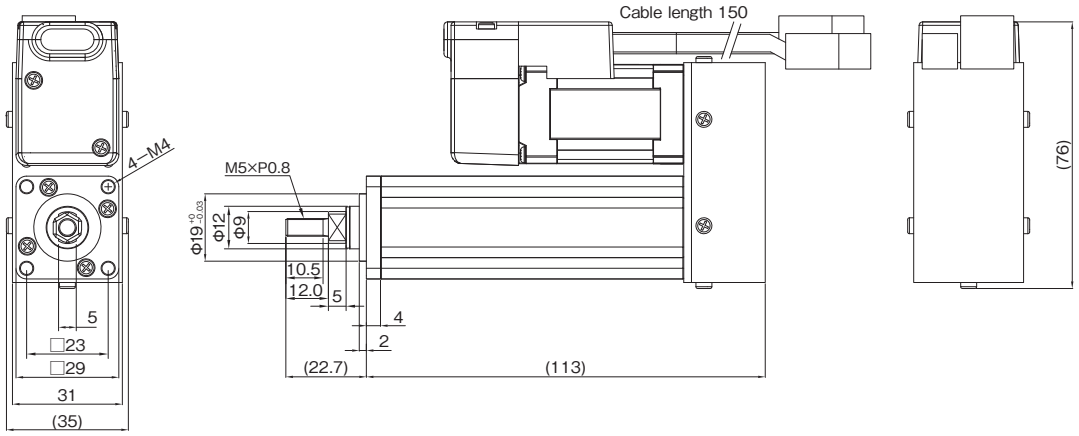
Stroke	30mm	50mm
Model: SCN3-004-	030-B	050-B
L	147	167

One nut is attached to the threaded part at the tip of the rod.

SCN3R-004-050-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

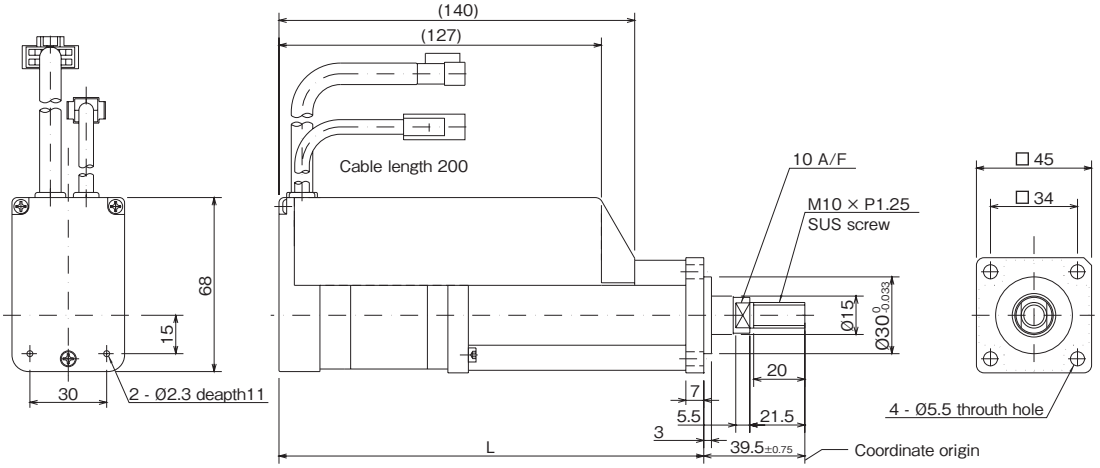


One nut is attached to the threaded part at the tip of the rod.

SCN5-005-S03/SCN5-010-S03/SCN5-020-S03

Amplifier integrated type

Unit (mm)



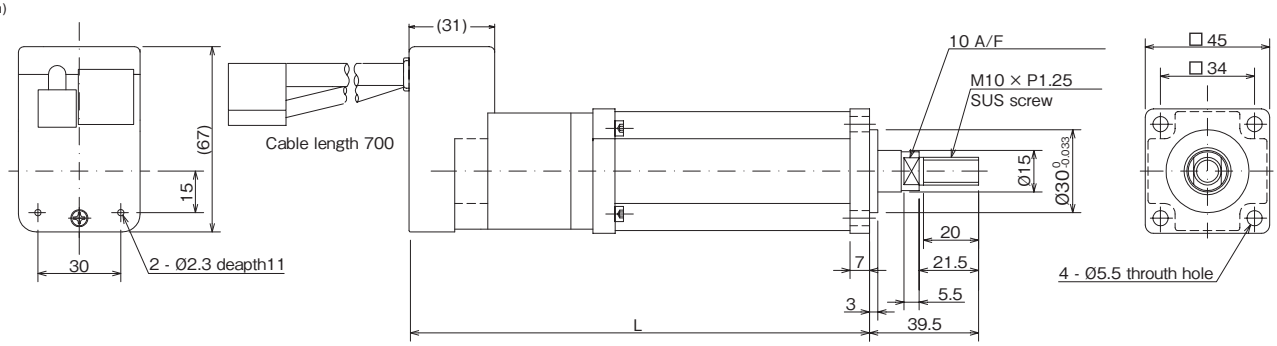
Stroke:	50mm	100mm	150mm	200mm	250mm	300mm
Model: SCN5-005/010/020-	050-S03	100-S03	150-S03	200-S03	250-S03	300-S03
L	166	216	266	316	366	416

One nut is attached to the threaded part at the tip of the rod.

SCN5-005-B/SCN5-010-B/SCN5-020-B

See page 29 for the drawing of the servo amplifier

Unit (mm)



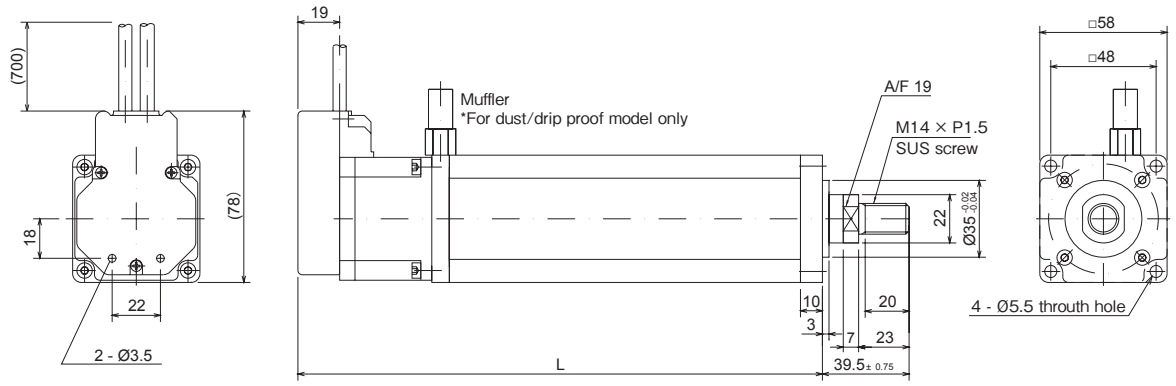
Stroke:	50mm	100mm	150mm	200mm	250mm	300mm
Model: SCN5-005/010/020-	050-B	100-B	150-B	200-B	250-B	300-B
L	166	216	266	316	366	416

One nut is attached to the threaded part at the tip of the rod.

SCN6-B/BW

See page 29 for the drawing of the servo amplifier

Unit (mm)



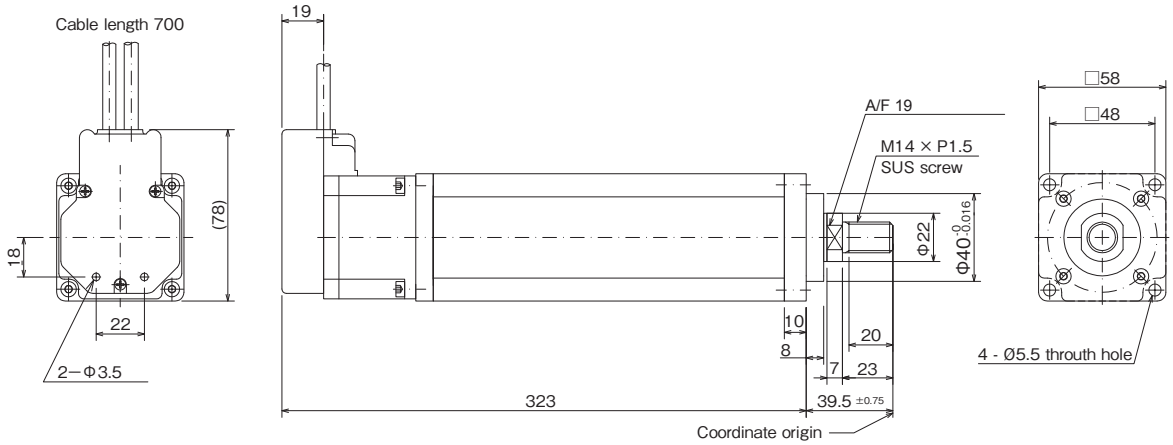
Stroke:	50mm	100mm	150mm	200mm	250mm	300mm
Model: SCN6-020-	**050-B/BW**	**100-B/BW**	**150-B/BW**	**200-B/BW**	**250-B/BW**	**300-B/BW**
L	189	239	289	339	389	439
Model: SCN6-040-	**050-B/BW**	**100-B/BW**	**150-B/BW**	**200-B/BW**	**250-B/BW**	**300-B/BW**
L	223	273	323	373	423	473
Model: SCN6-050-	**050-B/BW**	**100-B/BW**	**150-B/BW**	**200-B/BW**	**250-B/BW**	**300-B/BW**
L	201	251	301	351	401	451
Model: SCN6-060-	**050-B/BW**	**100-B/BW**	**150-B/BW**	**200-B/BW**	**250-B/BW**	**300-B/BW**
L	223	273	323	373	423	473

One nut is attached to the threaded part at the tip of the rod.

SCN6-080Q-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

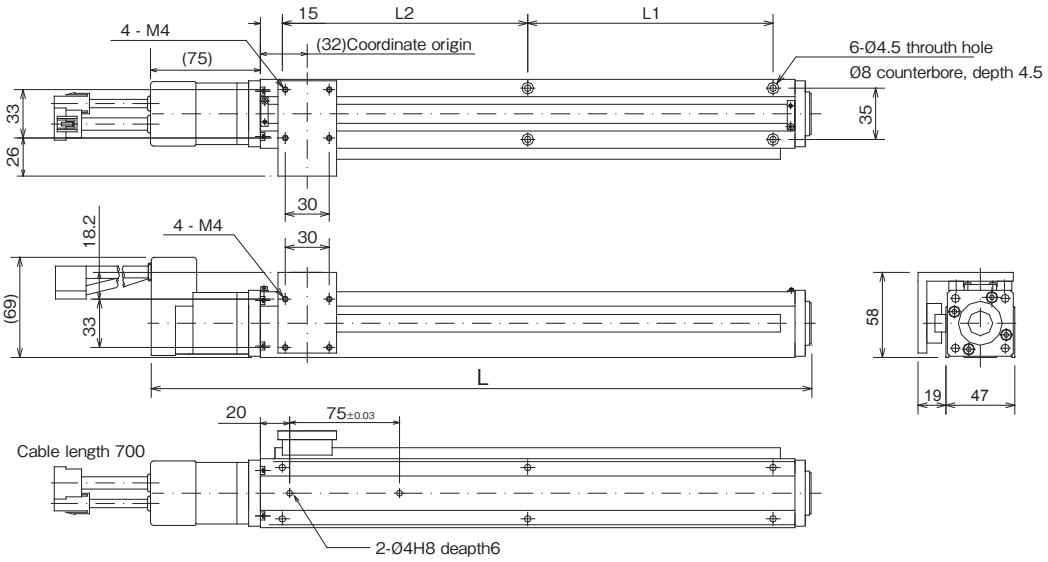


One nut is attached to the threaded part at the tip of the rod.

SCLG5-010-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

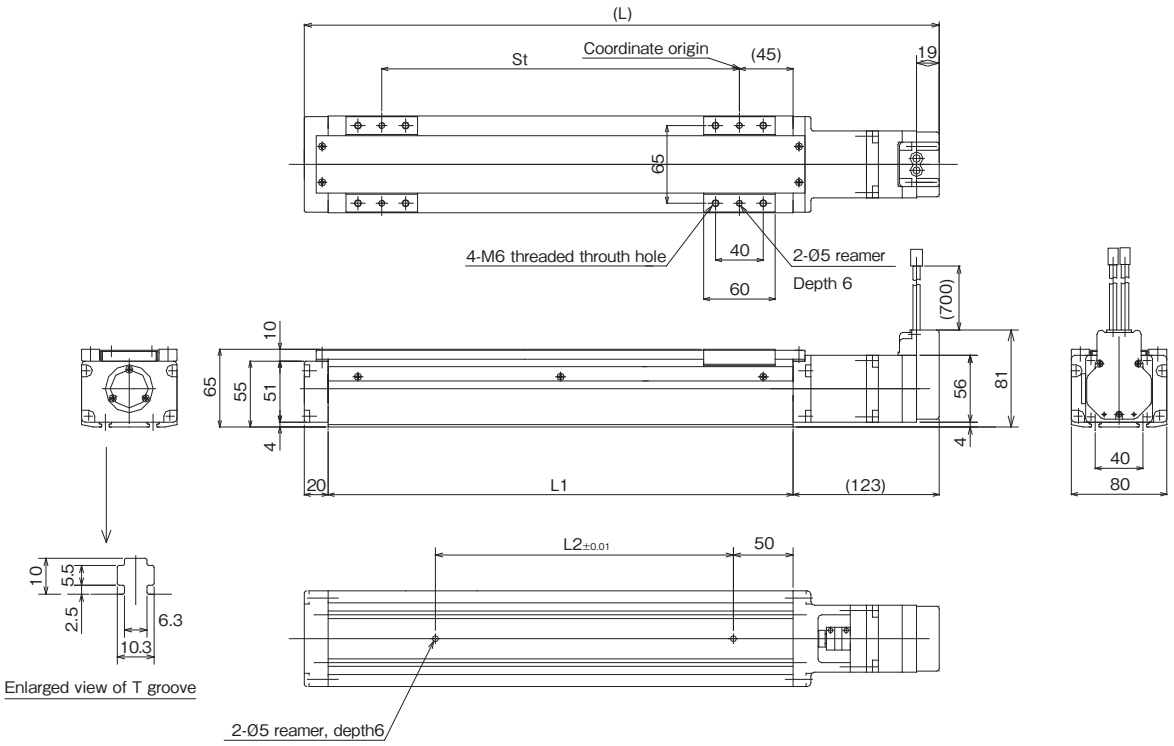


Stroke:	50mm	100mm	150mm	200mm	300mm
Model: SCLG5-010-	**050-B**	**100-B**	**150-B**	**200-B**	**300-B**
L	201	251	301	351	451
L1	85	135	185	117.5	167.5
L2	—	—	—	117.5	167.5

SCLG6-020/030-B

See page 29 for the drawing of the servo amplifier

Unit (mm)



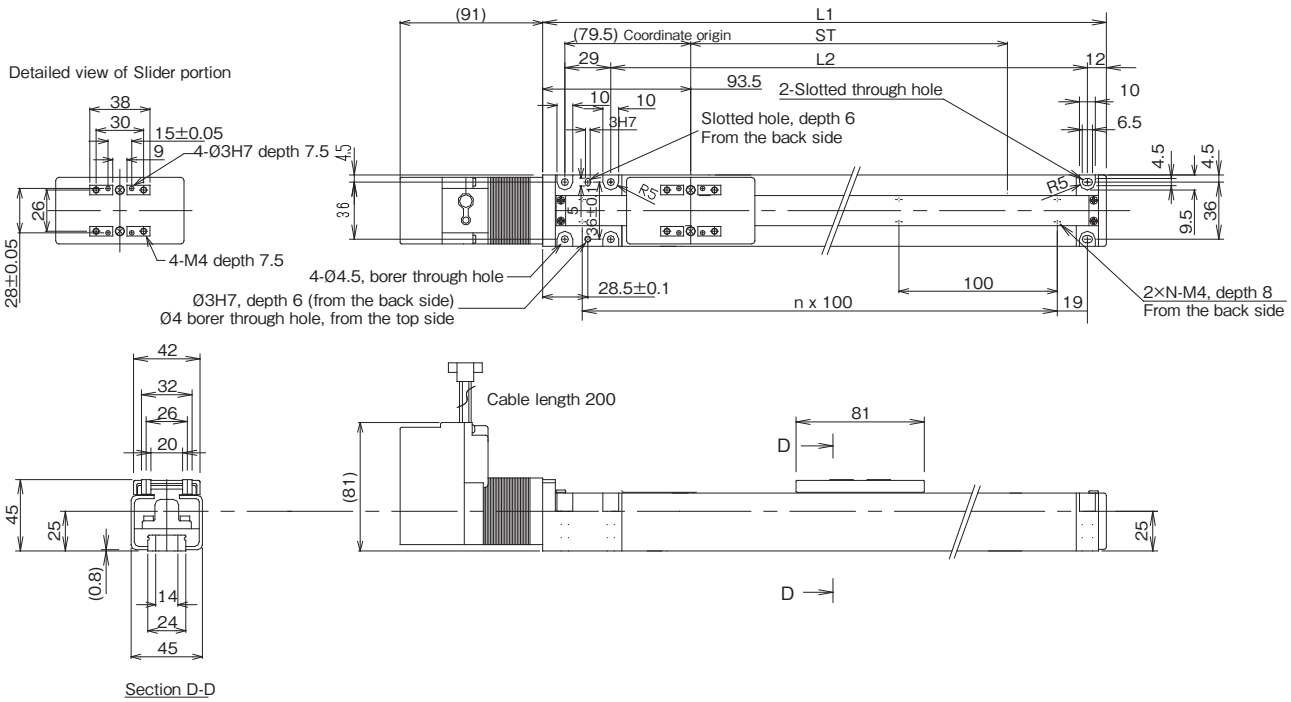
Stroke	200mm	300mm	400mm	500mm	600mm	700mm	800mm	1000mm
Model: SCLG6-020/030-	**200-B**	**300-B**	**400-B**	**500-B**	**600-B**	**700-B**	**800-B**	**A00-B**
L	433	533	633	733	833	933	1033	1233
L1	290	390	490	590	690	790	890	1090
L2	150	250	250	250	250	250	250	250

Number of attached M6 nut for T groove
Stroke 200 mm , 300 mm: 4 pcs
Stroke 400–700 mm: 6 pcs
Stroke 800 mm: 8 pcs
Stroke 1,000 mm: 10 pcs

SCLT4-015/030-S

Amplifier integrated type

Unit (mm)

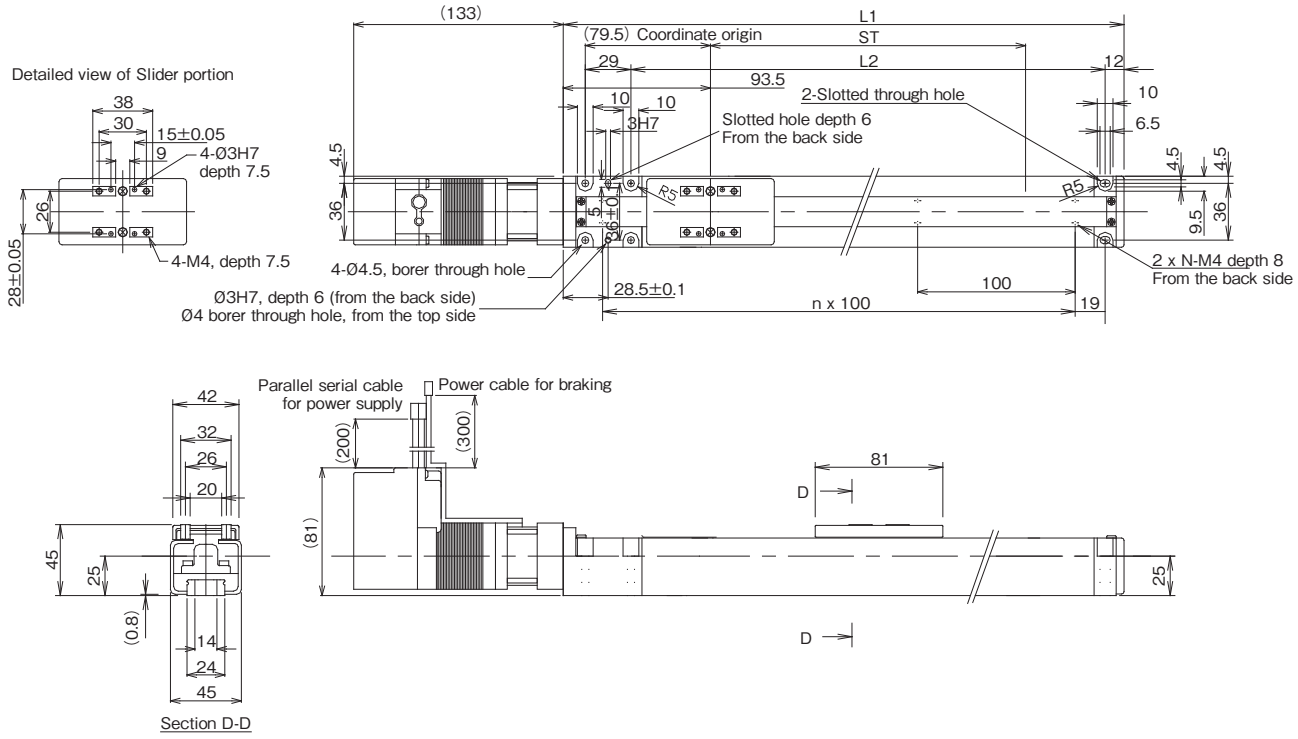


Stroke	50mm	100mm	150mm	200mm	250mm	300mm	350mm	400mm	450mm	500mm
Model: SCLT4-015/030-	**050-B**	**100-B**	**150-B**	**200-B**	**250-B**	**300-B**	**350-B**	**400-B**	**450-B**	**500-B**
L1	206	256	306	356	406	456	506	556	606	656
L2	151	201	251	301	351	401	451	501	551	601
n	1	2	2	3	3	4	4	5	5	6
N	2	3	3	4	4	5	5	6	6	7

SCLT4-015/030-SBR

Amplifier integrated type

Unit (mm)

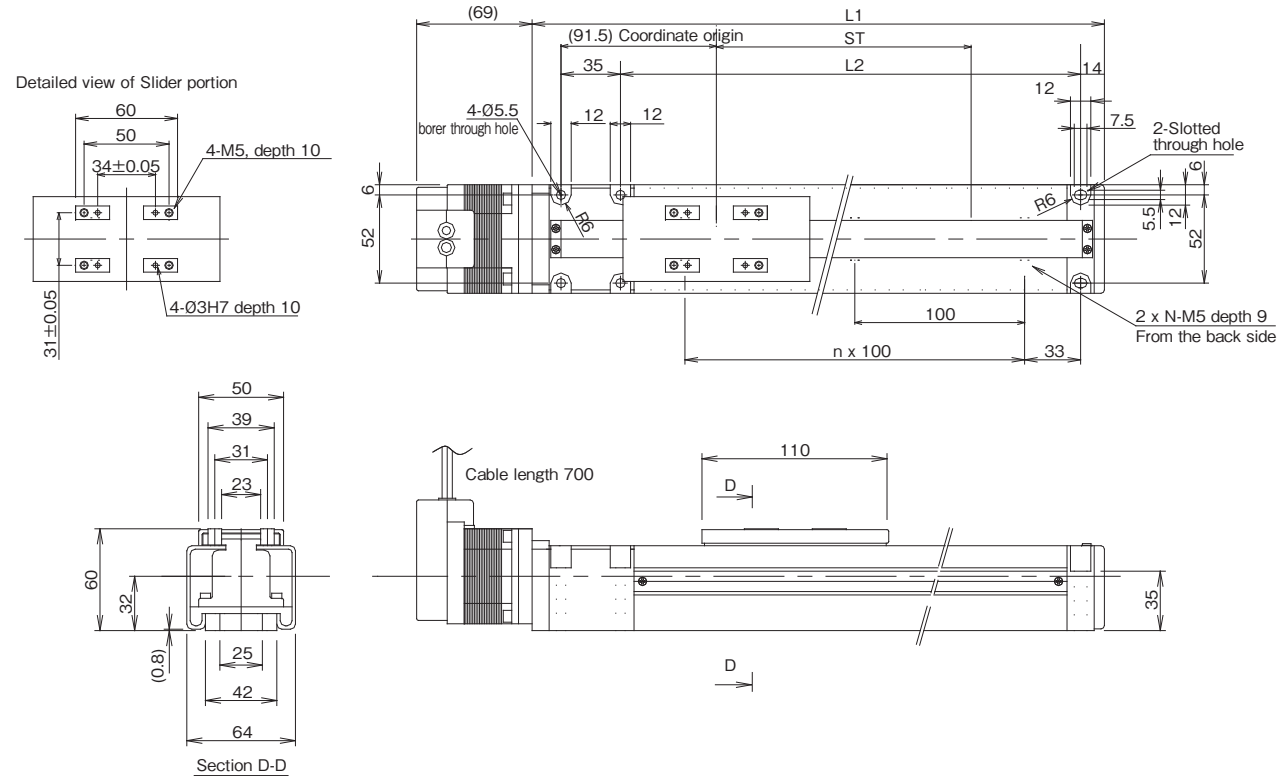


Stroke	50mm	100mm	150mm	200mm	250mm	300mm	350mm	400mm	450mm	500mm
Model: SCLT4-015/030-	**050-SBR**	**100-SBR**	**150-SBR**	**200-SBR**	**250-SBR**	**300-SBR**	**350-SBR**	**400-SBR**	**450-SBR**	**500-SBR**
L1	206	256	306	356	406	456	506	556	606	656
L2	151	201	251	301	351	401	451	501	551	601
n	1	2	2	3	3	4	4	5	5	6
N	2	3	3	4	4	5	5	6	6	7

SCLT6-025/050-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

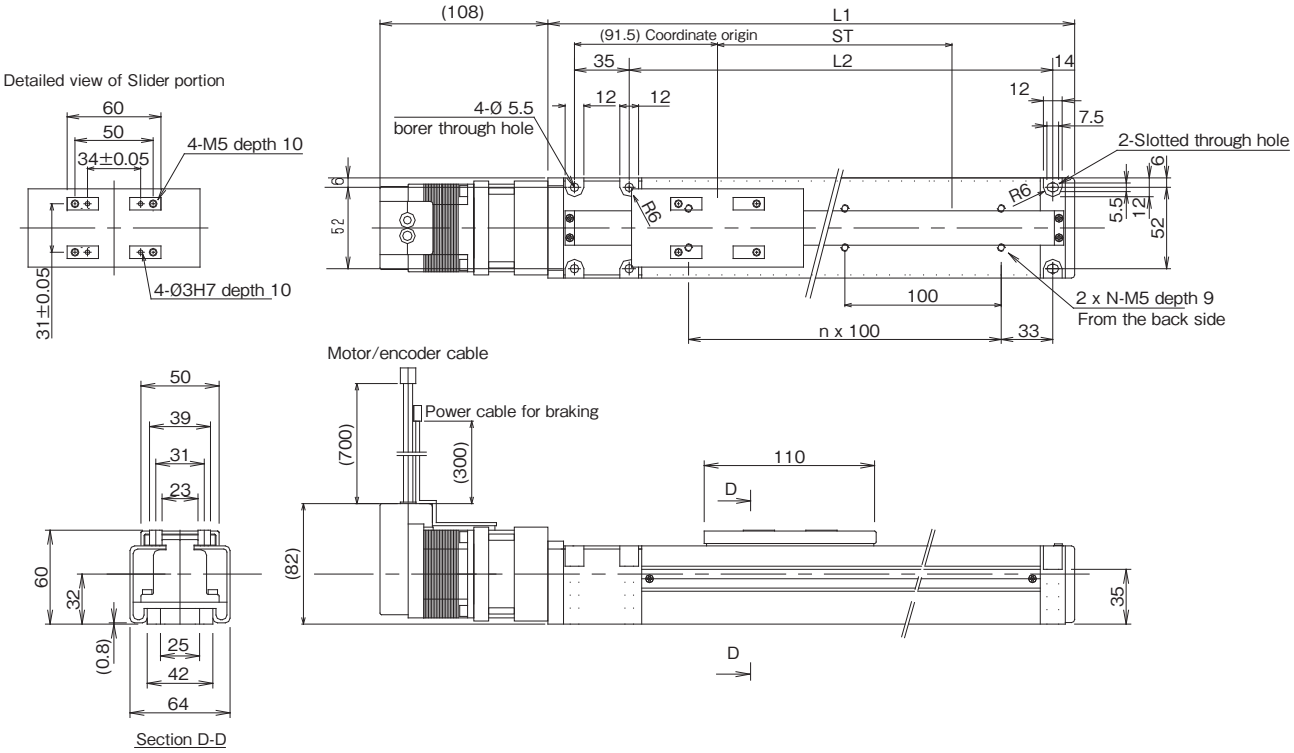


Stroke	50mm	100mm	150mm	200mm	250mm	300mm	350mm	400mm	450mm	500mm	550mm	600mm	700mm
Model: SCLT6-025/050-	**050-B**	**100-B**	**150-B**	**200-B**	**250-B**	**300-B**	**350-B**	**400-B**	**450-B**	**500-B**	**550-B**	**600-B**	**700-B**
L1	237	287	337	387	437	487	537	587	637	687	737	787	887
L2	171	221	271	321	371	421	471	521	571	621	671	721	821
n	1	2	2	3	3	4	4	5	5	6	6	7	8
N	2	3	3	4	4	5	5	6	6	7	7	8	9

SCLT6-025/050-BBR

See page 29 for the drawing of the servo amplifier

Unit (mm)



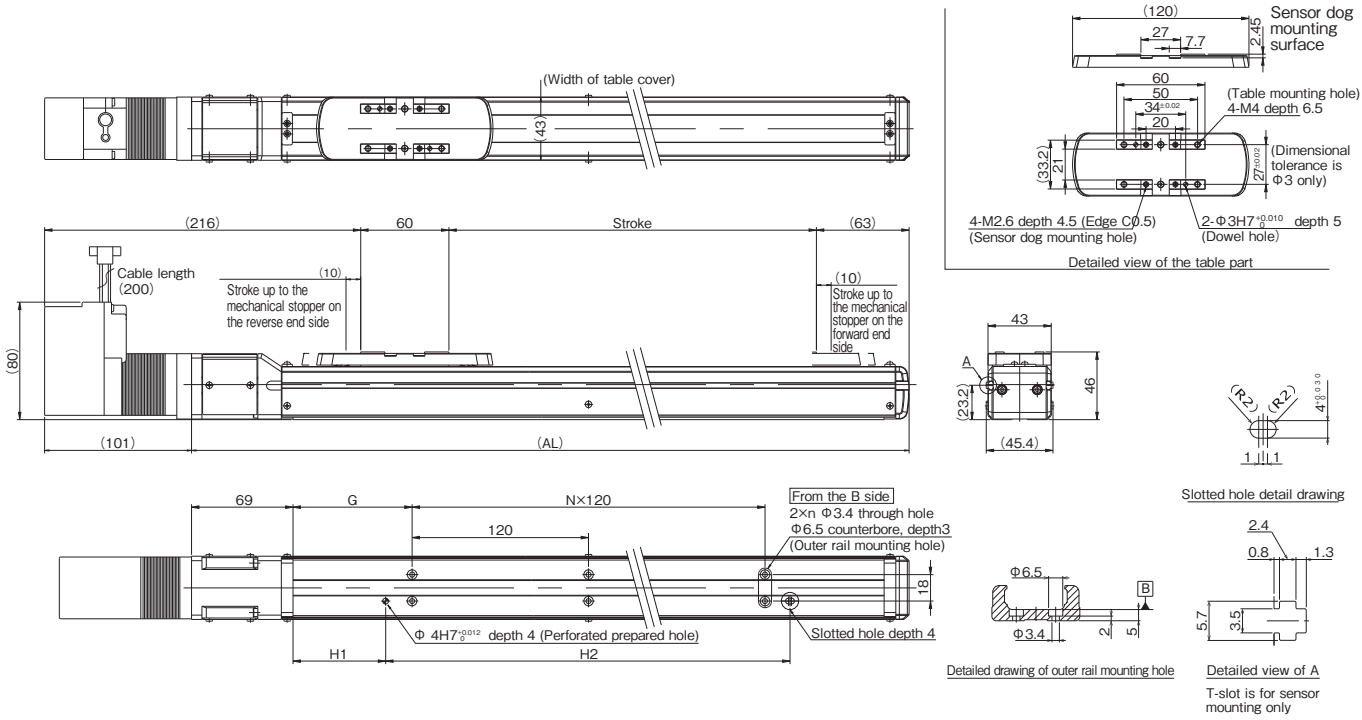
Stroke:	50mm	100mm	150mm	200mm	250mm	300mm	350mm	400mm	450mm	500mm	550mm	600mm	700mm
Model: SCLT6-025/050-	**050-BBR**	**100-BBR**	**150-BBR**	**200-BBR**	**250-BBR**	**300-BBR**	**350-BBR**	**400-BBR**	**450-BBR**	**500-BBR**	**550-BBR**	**600-BBR**	**700-BBR**
L1	237	287	337	387	437	487	537	587	637	687	737	787	887
L2	171	221	271	321	371	421	471	521	571	621	671	721	821
n	1	2	2	3	3	4	4	5	5	6	6	7	8
N	2	3	3	4	4	5	5	6	6	7	7	8	9

SCKSF4-020-S

Amplifier integrated type

Unit (mm)

Installation method: Remove the table cover and side cover and fix them with bolts.



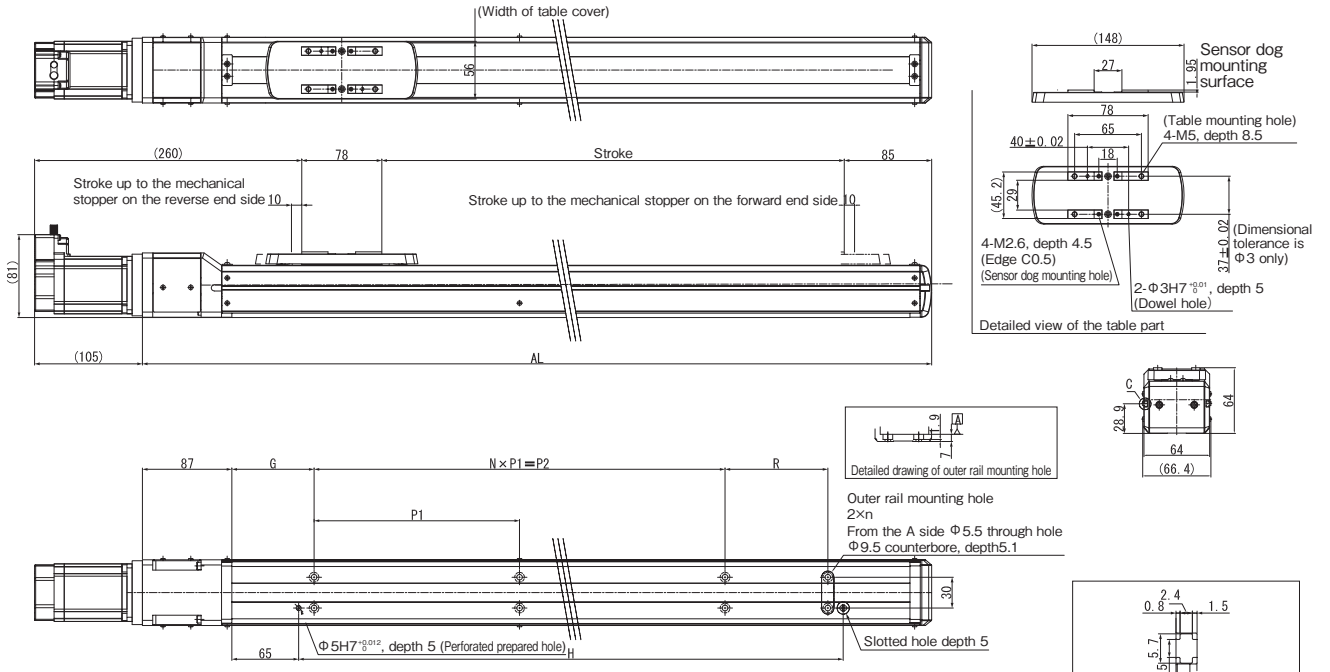
Stroke:	300mm	350mm	400mm	450mm	500mm	550mm	600mm	650mm	700mm	750mm	800mm	850mm	900mm
Model: SCKSF4-020-	**300-S**	**350-S**	**400-S**	**450-S**	**500-S**	**550-S**	**600-S**	**650-S**	**700-S**	**750-S**	**800-S**	**850-S**	**900-S**
Stroke between mechanical stoppers	320	370	420	470	520	570	620	670	720	770	820	870	920
AL	538	588	638	688	738	788	838	888	938	988	1038	1088	1138
G	46	71	96	61	86	51	76	41	66	91	56	81	46
H1	63	48	48	48	63	63	63	48	48	48	63	63	63
H2	325	375	425	475	525	575	625	675	725	775	825	875	925
N (Number of mounting pitches)	3	3	3	4	4	5	5	6	6	6	7	7	8
n (Number of mounting hole)	4	4	4	5	5	6	6	7	7	7	8	8	9

SCKSF6-020/030-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

Installation method: Remove the table cover and side cover and fix them with bolts.



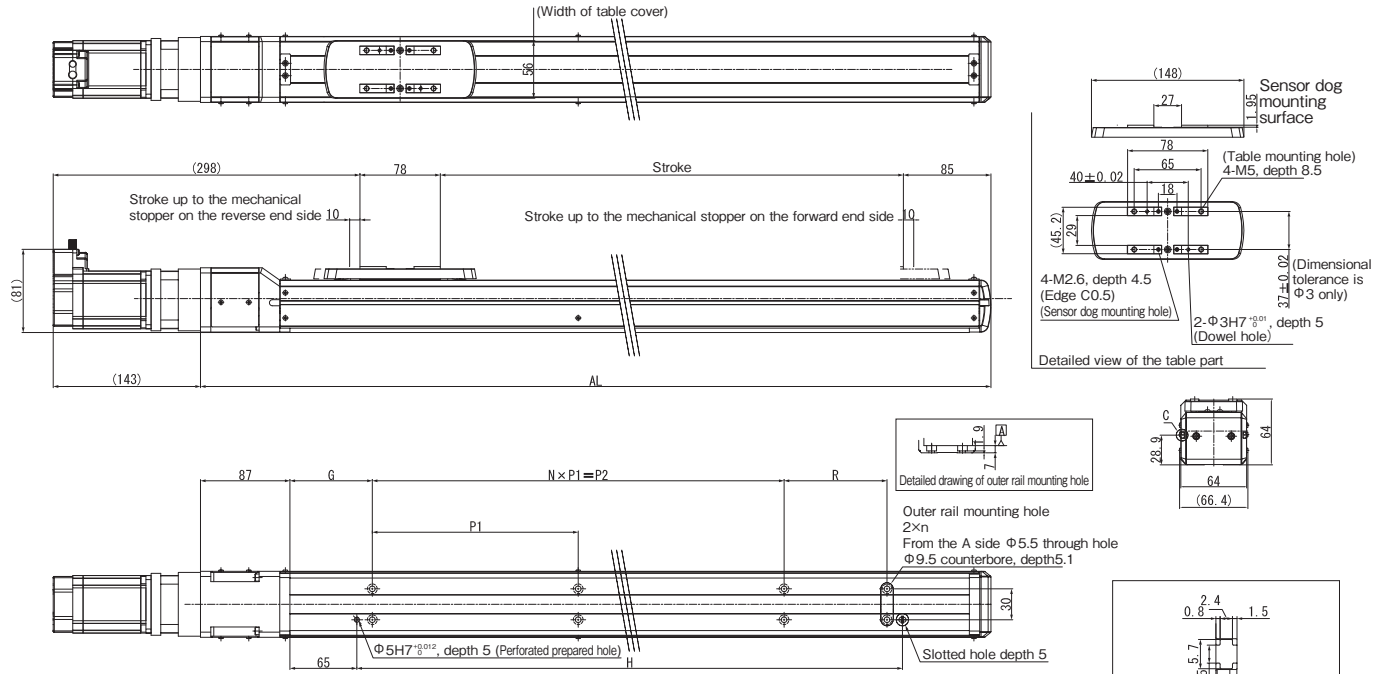
Stroke:	700mm	750mm	800mm	850mm	900mm	950mm	1000mm	1050mm	1100mm	1150mm	1200mm	1250mm	1300mm
Model: SCKSF6-020/030-	**700-B**	**750-B**	**800-B**	**850-B**	**900-B**	**950-B**	**1000-B**	**1050-B**	**1100-B**	**1150-B**	**1200-B**	**1250-B**	**1300-B**
Stroke between mechanical stoppers	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320
AL	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618
G	105	80	105	80	105	80	105	80	105	80	105	80	105
P1	200	200	200	200	200	200	200	200	200	200	200	200	200
P2	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
R	100	—	—	100	100	—	—	100	100	—	—	100	100
H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
N (Number of mounting pitches)	3	4	4	4	4	5	5	5	5	6	6	6	6
n (Number of mounting hole)	5	5	5	6	6	6	6	7	7	7	7	8	8

SCKSF6-020/030-BBR

See page 29 for the drawing of the servo amplifier

Unit (mm)

Installation method: Remove the table cover and side cover and fix them with bolts.

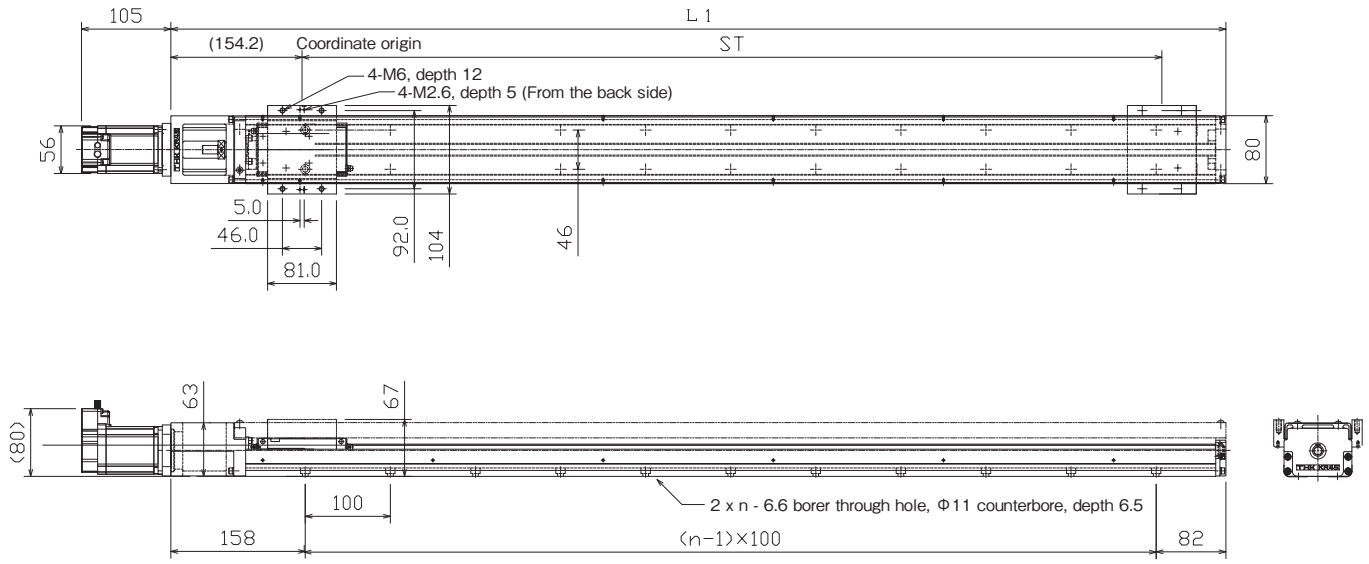


Stroke:	700mm	750mm	800mm	850mm	900mm	950mm	1000mm	1050mm	1100mm	1150mm	1200mm	1250mm	1300mm
Model: SCKSF6-020/030-	**700-BBR**	**750-BBR**	**800-BBR**	**850-BBR**	**900-BBR**	**950-BBR**	**1000-BBR**	**1050-BBR**	**1100-BBR**	**1150-BBR**	**1200-BBR**	**1250-BBR**	**1300-BBR**
Stroke between mechanical stoppers	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320
AL	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618
G	105	80	105	80	105	80	105	80	105	80	105	80	105
P1	200	200	200	200	200	200	200	200	200	200	200	200	200
P2	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
R	100	—	—	100	100	—	—	100	100	—	—	100	100
H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
N (Number of mounting pitches)	3	4	4	4	4	5	5	5	5	6	6	6	6
n (Number of mounting hole)	5	5	5	6	6	6	6	7	7	7	7	8	8

SCKR6A-025-B

See page 29 for the drawing of the servo amplifier

Unit (mm)

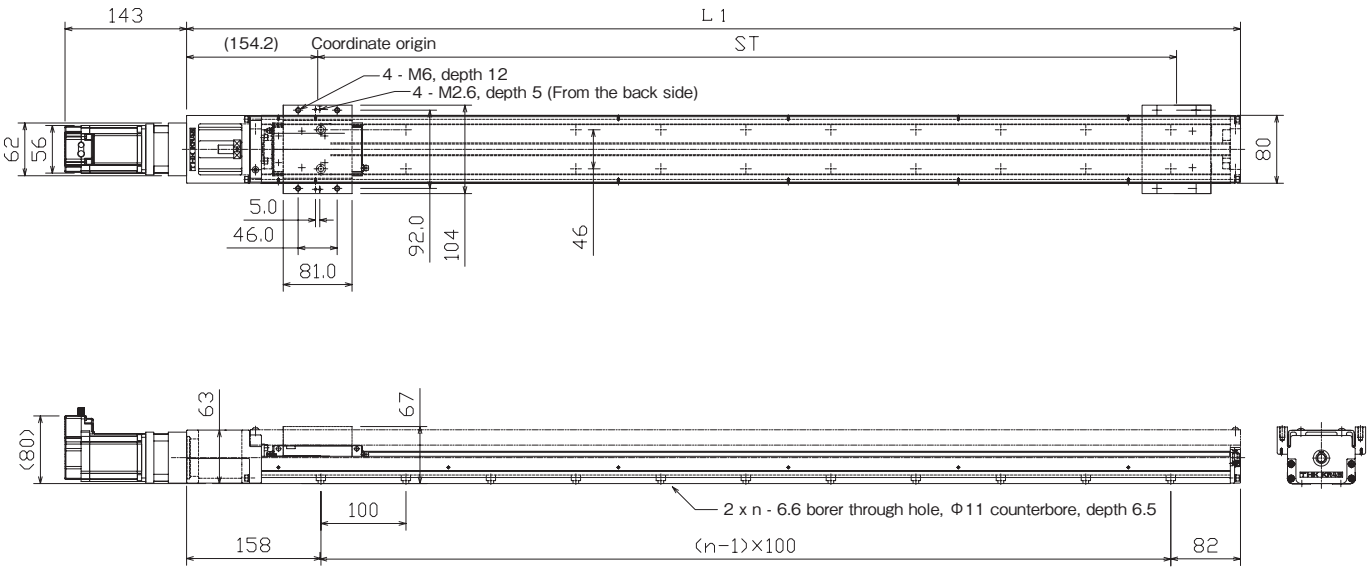


Stroke:	200mm	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm
Model: SCKR6A-025-	**200-B**	**300-B**	**400-B**	**500-B**	**600-B**	**700-B**	**800-B**	**900-B**	**A00-B**	**B00-B**	**C00-B**	**D00-B**	**E00-B**
L1	440	540	640	740	840	940	1040	1140	1240	1340	1440	1540	1640
n	3	4	5	6	7	8	9	10	11	12	13	14	15

SCKR6A-025-BBR

See page 29 for the drawing of the servo amplifier

Unit (mm)



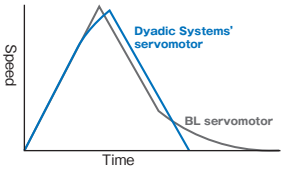
Stroke:	200mm	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm
Model: SCKR6A-025-	**200-B**	**300-B**	**400-B**	**500-B**	**600-B**	**700-B**	**800-B**	**900-B**	**A00-B**	**B00-B**	**C00-B**	**D00-B**	**E00-B**
L1	440	540	640	740	840	940	1040	1140	1240	1340	1440	1540	1640
n	3	4	5	6	7	8	9	10	11	12	13	14	15

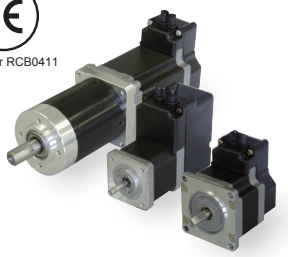
AC Servomotor

20W type 50W type 60W type 90W type 100W type 200W/300W type

Except for RCB0411

AC servomotor for positioning/transfer applications
Can be set easily as is the case with Mechatronics Cylinders.
Any 16 points can be positioned with ON/OFF signals.





System type meaning

R

RCB: Motor/Amplifier integrated model
RSA: Motor/Amplifier separate model

-G: Model with gear
Blank: Model without gear

Gear Ratio

Motor specification

Blank: NPN
-A: PNP

Motor type meaning

RMJ

Model

-G: Model with gear
Blank: Model without gear

Gear Ratio

Blank: NPN
A: PNP

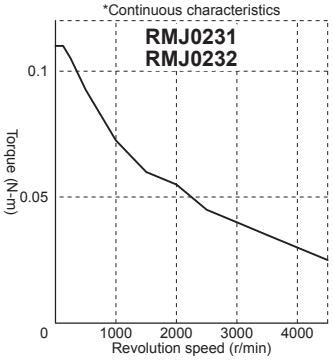
Specification of Standard Servomotor

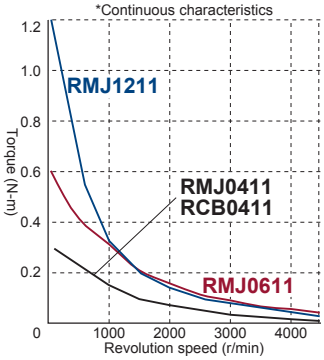
Note 1), Note 2) see page 26

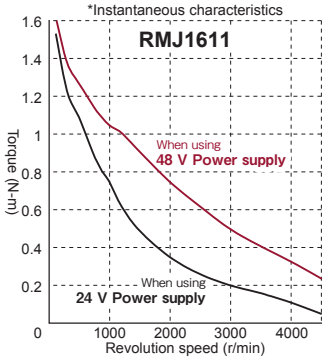
System type	RSA0241	RSA0242	RCB0411	RSA0411
Motor type	RMJ0231	RMJ0232	Motor/amplifier integrated type	RMJ0411
Amplifier type	RAD0211			RAD0111
Output (Equivalent value of LB motor) (W) Note 1)	20		50	50
Max. revolution speed (r/min)	4500		4500	4500
Max. toque (N•m)	0.11/1.1		0.3/3.1	0.3/3.1
Rotor inertia (kg•m2)	0.022×10^{-4}		0.076×10^{-4}	0.076×10^{-4}
Max. acceptable load inertia limit (kg•m2)	1.8×10^{-4}		Refer to the "Revolution speed–Max. acceptable inertia" graph.	
Acceptable friction load (N•m)	0.03		0.083	0.083
Acceptable unbalance load (Nm) Note 2)	0.03		0.075	0.075
Allowable radial load (N (kgf))	19.6 (2) or lower			
Acceptable thrust load (N (kgf))	4.9 (0.5) or lower		9.8 (1) or lower	
Positional speed detector	Incremental encoder 200 P/R (4 multiplication 800P/R)			
Weight (g)	500		550 (incl. Servo Amplifier)	500
Electric Specification	See page 26			
Outline drawing	**See page 27**			
Amplifier specification	See page 29			

System type	RSA0611	RSA1211-0101	RSA1611
Motor type	RMJ0611	RMJ1211-01	RMJ1611
Amplifier type	RAD0311	RAD2311-01	RAD0611
Output (Equivalent value of LB motor) (W) Note 1)	90	100	200 (When using 24 V power supply) /300 (When using 48 V power supply)
Max. revolution speed (r/min)	4500	4500	4500
Max. toque (N•m)	0.6/6.1	1.2/12.2	1.6/16.3
Rotor inertia (kg•m2)	0.115×10^{-4}	0.269×10^{-4}	0.269×10-4
Max. acceptable load inertia limit (kg•m2)	Refer to the "Revolution speed–Max. acceptable inertia" graph.		
Acceptable friction load (N•m)	0.229	0.5	0.5
Acceptable unbalance load (Nm) Note 2)	0.229	0.5	0.5
Allowable radial load (N (kgf))	49 (5) or lower		
Acceptable thrust load (N (kgf))	19.6 (2) or lower		
Positional speed detector	Incremental encoder 200 P/R (4 multiplication 800P/R)		
Weight (g)	650	1200	1200
Electric Specification	See page 26		
Outline drawing	**See page 27**		
Amplifier specification	See page 29		

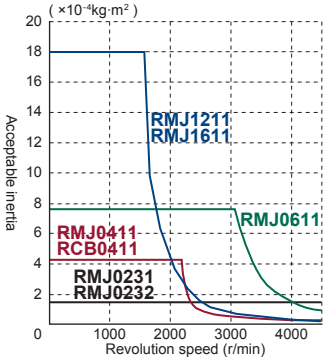
Speed-Torque Characteristics







Speed-Allowable Characteristics



Specification of Servomotor with Gear

Note 1), Note 2) see page 26

System type	RSA0611-G1	RSA0611-G2
Motor type	RMJ0611-G1	RMJ0611-G2
Amplifier type	RAD0311	RAD0311
Max. revolution speed (r/min)	600	300
Reduction gear ratio	1/5	1/10
Max. toque (N•m)	1.5/15.3	2.5/25.5
Rotor inertia (kg•m2)	0.14×10^{-4}	
Allowable radial load (N (kgf))	49(5)or lower	
Acceptable thrust load (N (kgf))	29.4(3)or lower	
Positional speed detector (Incremental encoder)	1000P/R(4multiplication 4000P/R)	2000P/R(4multiplication 4000P/R)
Backlash (min)	120	
Weight (g)	900	
Electric Specification	See page 26	
Outline drawing	**See page 27**	
Amplifier specification	See page 29	

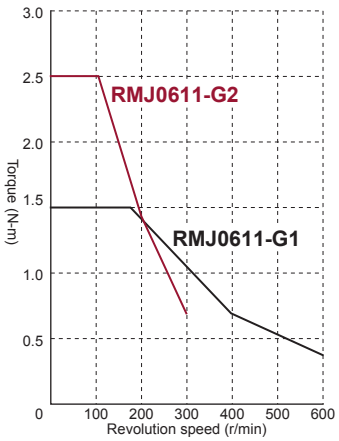
Specification of Servomotor with High-Precision Gear

Note 1), Note 2) see page 26

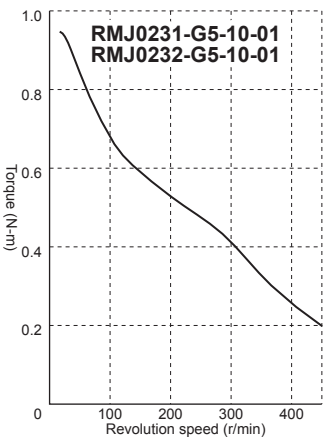
System type	RSA0241-G5-10-0101	RSA0242-G5-10-0101	RCB0411-G5-06-02
Motor type	RMJ0231-G5-10-01	RMJ0232-G5-10-01	Motor/amplifier integrated type
Amplifier type	RAD0211-01	RAD0211-01	
Max. revolution speed (r/min)	450		750
Reduction gear ratio	1/10		1/6
Max. toque (N•m)	0.8/8.2		1.4/14.3
Rotor inertia (kg•m2)	0.018×10^{-4}		0.078×10^{-4}
Allowable radial load (N (kgf))	49(5)or lower		118(12)or lower
Acceptable thrust load (N (kgf))	24.5(2.5)or lower		59(6)or lower
Positional speed detector (Incremental encoder)	2000P/R(4multiplication8000P/R)		1200P/R(4multiplication4800P/R)
Backlash (min)	60		30
Weight (g)	350		900(Including servo Amplifier)
Electric Specification	See page 26		
Outline drawing	**See page 28**		
Amplifier specification	See page 29		

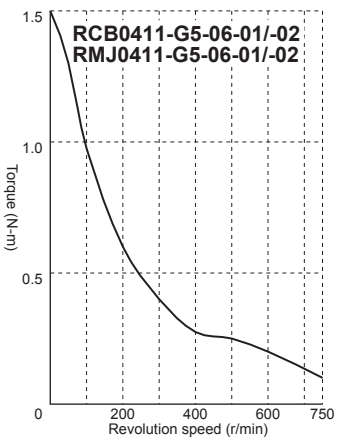
System type	RSA0411-G5-06-0201	RSA0611-G8-05-0201	RSA1211-G8-05-0201
Motor type	RMJ0411-G5-06-02	RMJ0611-G8-05-02	RMJ1211-G8-05-02
Amplifier type	RAD0111-01	RAD0311-01	RAD2311-01
Max. revolution speed (r/min)	750	850	850
Reduction gear ratio	1/6	1/5	1/5
Max. toque (N•m)	1.4/14.3	3/31	5/51
Rotor inertia (kg•m2)	0.078×10^{-4}	0.215×10^{-4}	0.369×10^{-4}
Allowable radial load (N (kgf))	118(12)or lower	600(61)or lower	600(61)or lower
Acceptable thrust load (N (kgf))	59(6)or lower	300(30.6)or lower	300(30.6)or lower
Positional speed detector (Incremental encoder)	1200P/R(4multiplication4800P/R)	1000P/R(4multiplication4000P/R)	1000P/R(4multiplication4000P/R)
Backlash (min)	30	7	7
Weight (g)	850	1650	2200
Electric Specification	See page 26		
Outline drawing	**See page 28**		
Amplifier specification	See page 29		

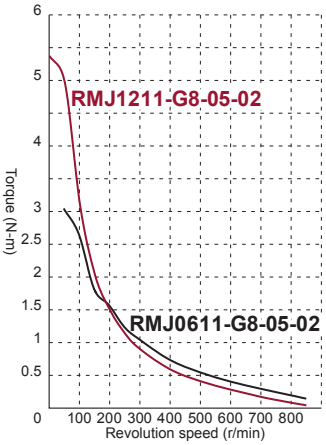
Speed-Torque Characteristics of servo motor with gear



Speed-Torque Characteristics of Servomotor with High-precision Gear







Electric Specification Common for All Motors

Number of positioning point			16 (No limit for serial connection)
Power supply	**Target model A** *See table below		DC 24 V ±10% (Drive power supply: Max. 2.0 A, Control power supply; Max. 0.2 A)
	Target model B *See table below		DC 24 V ±10% (Drive power supply: Max. 3.0 A, Control power supply; Max. 0.2 A)
	RSA1611		DC 24 V ±10% (Drive power supply: Max. 6.2 A, Control power supply; Max. 0.2 A) DC 48 V ±5% (Drive power supply: Max. 6.2 A, Control power supply; Max. 0.2 A)
Input/ output signal	Descrete input signal	Signal name	DC 24 V classed descrete input (connector PIO), +/- direction rotation inhibited (INH+, INH-), target position no. (4-bit binary code: PC1, PC2, PC4, PC8), start (CSTR), axis travel interlock (ILK)
		Input current	Max. 4 mA/port (to be connected to an output circuit of sink type)
	Descrete output signal	Signal name	DC 24 V classed descrete output (connector PIO), completion of positioning (PFIN), completion of return to home (ZFIN), zone signal (ZONE), alarm (ALM), completion position number (4-bit binary code: PM1, PM2, PM4, PM8 *Except for RCB0411 & RCB0411-G5.)
		Output current	Max. 30 mA/port (open collector output for Mechatronics Cylinders)
	Serial communication signal		Serial interface (connector SIO), +5 V, 0 V, S+, S-
Protection function			Bank data error, encoder stop judgment error, encoder counter abnormality, setting overspeed at home adjustment, E2PROM checksum error, overspeed, runaway, main power overvoltage, regeneration voltage abnormality, deviation counter abnormality, overload, encoder wire break, (Common for A & B, A only, B only) *There is no encoder wire break function for RCB0411 & RCB0411-G5.
LED display			RDY: ready、ALM: alarm *Except for RCB0411 & RCB0411-G5
Amplifier structure			Base mount *Except for RCB0411 & RCB0411-G5
Motor insulation class			Class E *Class B for RSA0211
Motor protection type			IP-40
Environ-mental condition	Temperature		Service temp.: 0°C to 40°C　Storage temp.: -20°C to 60°C
	Humidity		90%RH or lower　*No condensation
	Vibration resistance/shock resistance		2.5 G/10 G (2 times) *Note 3)
Motor mounting method			Flange mount

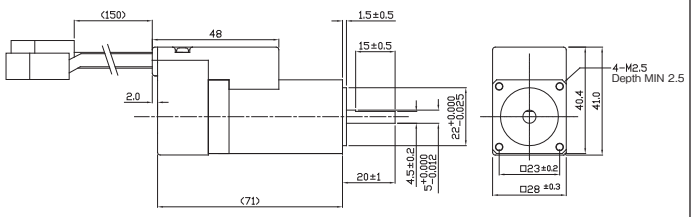
Target model A	RSA0241、RSA0242、RCB0411、RSA0411、RSA0241-G5-10-0101、RSA0242-G5-10-0101、RCB0411-G5-06-02 and RSA0411-G5-06-0201
Target model B	RSA0611、RSA0911、RSA1211-0101、RSA0611-G1、RSA0611-G2、RSA0611-G8-05-0201 and RSA1211-G8-05-0201

Note 1) The values are when driven by a triangle signal with a revolution speed of max. 1000 r/min.　Note 2) The point where the radial load is applied is 10 mm inside from the edge of the axis. * Please consult us when your service condition includes repetition of forward/reverse rotations or repetition of abrupt acceleration/deceleration.　Note 3) The allowable vibration/shock resistance of the motor is when the axis of the servomotor is installed horizontally. The value of the shock resistance is that when a shock is applied in the vertical direction.

RSA0241

See page 29 for the drawing of the servo amplifier

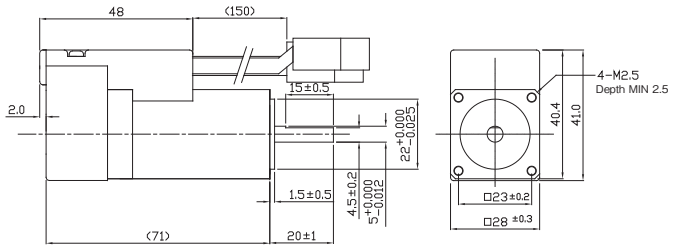
Unit (mm)



RSA0242

See page 29 for the drawing of the servo amplifier

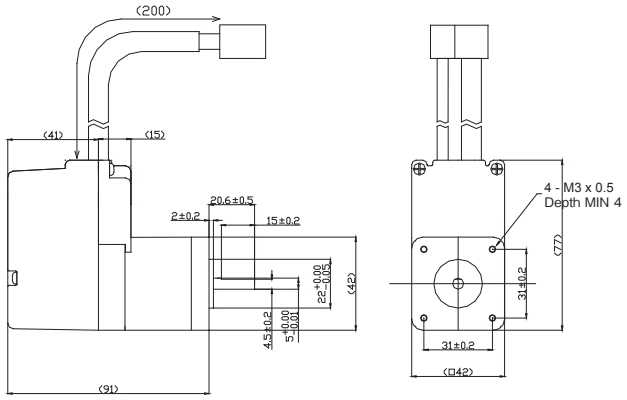
Unit (mm)



RCB0411

Amplifier integrated type

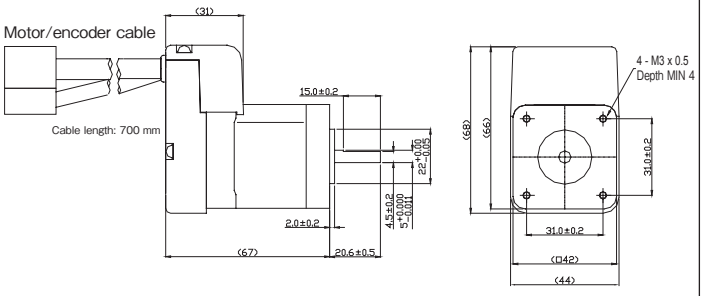
Unit (mm)



RSA0411

See page 29 for the drawing of the servo amplifier

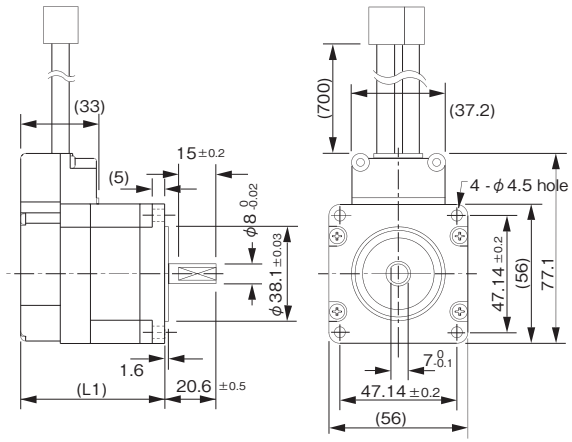
Unit (mm)



RSA 0611/1211/1611

See page 29 for the drawing of the servo amplifier

Unit (mm)

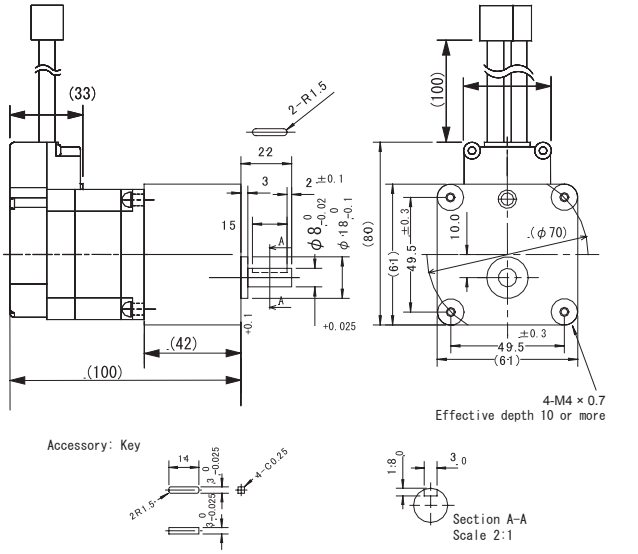


model	RMJ0611	RMJ1211	RMJ1611
L1	61	95	95

RSA0611-G1/G2

See page 29 for the drawing of the servo amplifier

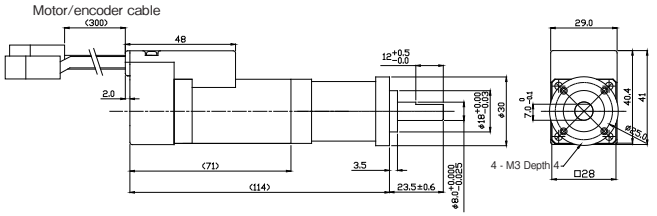
Unit (mm)



RSA0241-G5-10-0101

See page 29 for the drawing of the servo amplifier

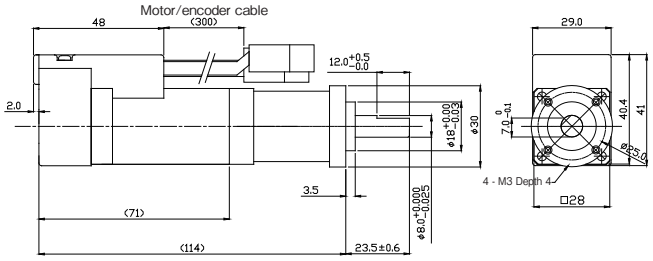
Unit (mm)



RSA0242-G5-10-0101

See page 29 for the drawing of the servo amplifier

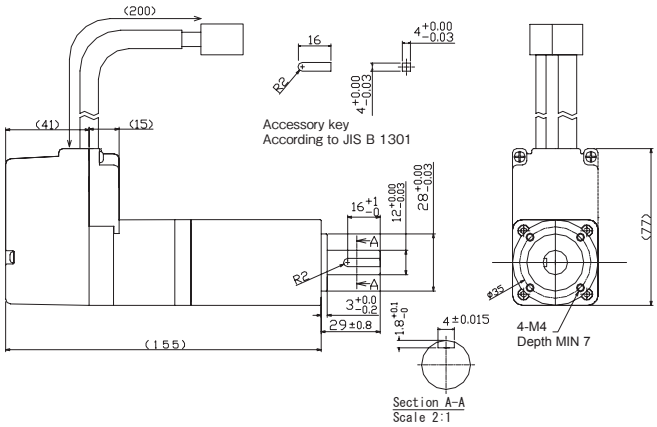
Unit (mm)



RCB0411-G5-06-02

Amplifier integrated type

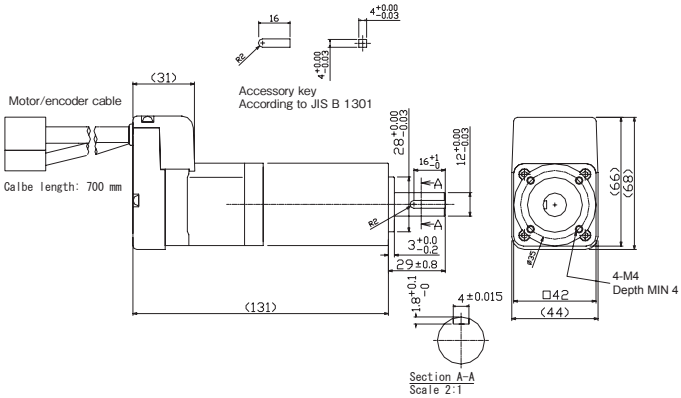
Unit (mm)



RSA0411-G5-06-0201

See page 29 for the drawing of the servo amplifier

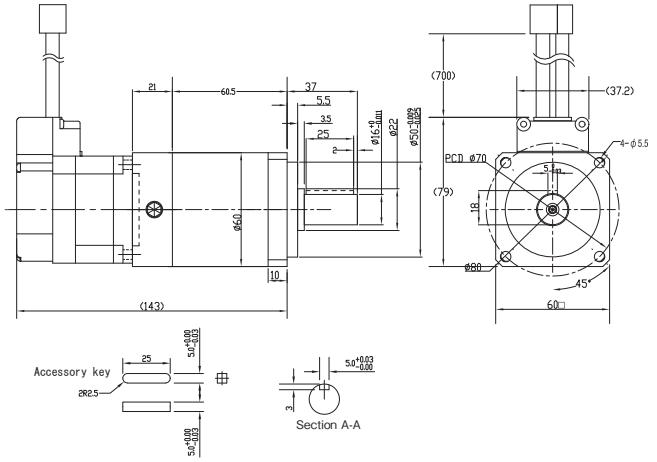
Unit (mm)



RSA0611-G8-05-0201

See page 29 for the drawing of the servo amplifier

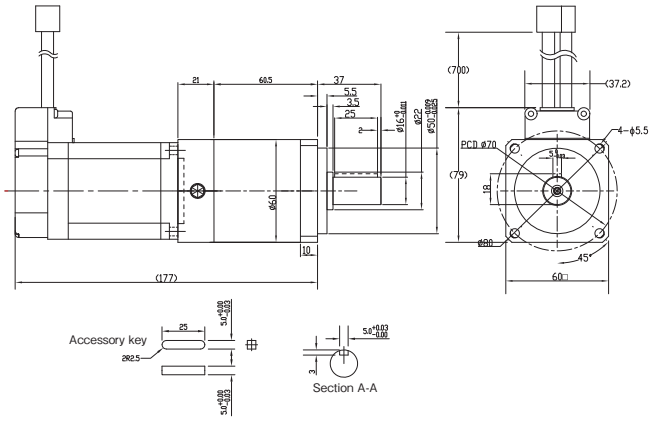
Unit (mm)



RSA1211-G8-05-0201

See page 29 for the drawing of the servo amplifier

Unit (mm)



Servo Amplifier

Aluminum totally enclosed type
Connector connection type
Less susceptible to electrical noise

Separate type servo Amplifier system type meaning

For mechatronics Cylinder Rod type **SCN□-□□□-□□□-□□-A**
(Model / Max Thrust (kgf) / Stroke (mm) / Blank: NPN A: PNP / B: Standard BW: Dust/drip proof model)

For mechatronics Cylinder Rodless type **SCL□□-□□□-□□□-□□-A**
(Model / Max Thrust (kgf) / Stroke (mm) / Blank: NPN A: PNP / B: Standard BW: Dust/drip proof model)

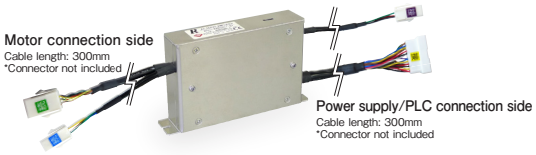
For servo motor **RAD□□□□-□□**
(Blank: NPN A: PNP / 01: Standard)

Specification

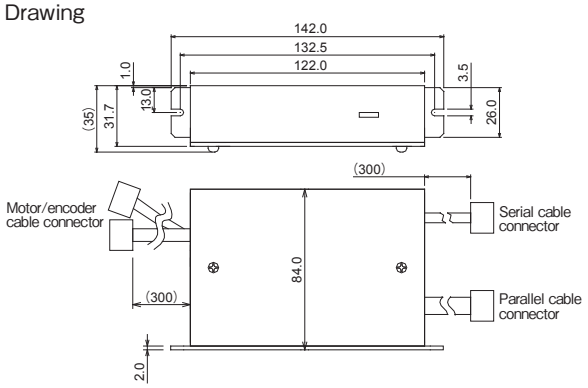
LED display		RDY(ready)、ALM(alarm) *Except for integrated servo amplifier
Environmental condition	Service temperature	0～55℃ *Except for integrated servo amplifier
	Strage temperature	−20～60℃
	Service/storage humidity	20～80%RH or lower *No condensation
Amplifier structure		Base mount *Except for integrated servo amplifier
Amplifier weight		400 (g) *Except for integrated servo amplifier

Separate Servo Amplifier other than SCN3

Exterior



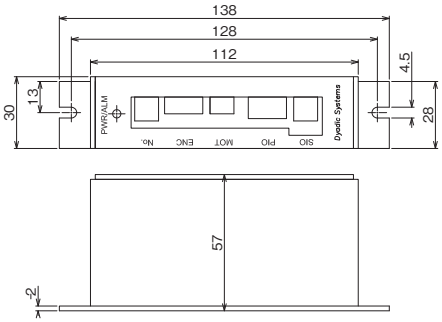
Outline Drawing
Unit (mm)



Separate Servo Amplifier for SCN3

Exterior

Outline Drawing
Unit (mm)



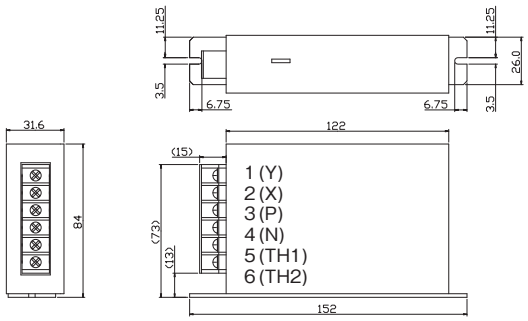
External Regeneration Unit REG-1024

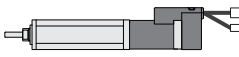
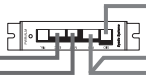
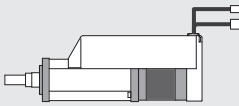
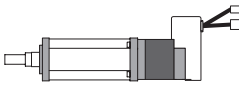
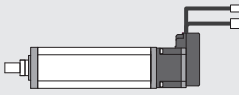
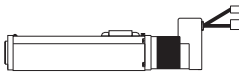
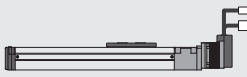
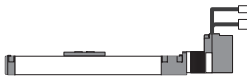
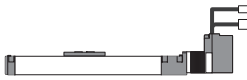
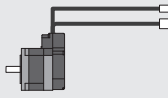
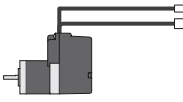
A resistance unit that consumes the regenerative energy generated by the rotation of the servo motor.
For example, when lowering a heavy work piece, the retenerative energy from the servo motor increases.
If this regenerative energy cannot be consumed by the servo Amplifier's self-regenerative capacity alone, install a regenerative unit to consume the regenerative energy and suppress the overvoltage error.

External Regeneration Unit REG-1024

Exterior

Outline drawing
Unit (mm)



Model	Cylinder/Motor	Motor/encoder extension cable	Servo Amplifier	Parallel connection cable	PLC, Power supply, Teaching tool
Mechatronics Cylinder **SCN3**		RP9136-□□□/RP9136-□□□R2	 Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9110-□□□/RP9110-□□□R2 RP9113-□□□/RP9113-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCN5-S03**		RP9050-010 (Attached to teaching tool)	Amplifier integrated type	RP9100-□□□/RP9100-□□□R2 RP9103-□□□/RP9103-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCN5-B**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCN6**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCLG5**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCLG6**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCLT4**		RP9050-010 (Attached to teaching tool)	Amplifier integrated type	RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCLT6**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCKSF4**		RP9050-010 (Attached to teaching tool)	Amplifier integrated type	RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCKSF6**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Mechatronics Cylinder **SCKR6**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Servo motor **RSA**		RP9135□□□/RP9135-□□□R2	Included whith Mechatoronics Cylinder	RP9050-010 (Attached to teaching tool) RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply
Servo motor **RCB**		RP9050-010 (Attached to teaching tool)	Amplifier integrated type	RP9120-□□□/RP9120-□□□R2 RP9123-□□□/RP9123-□□□R2	Teaching tool PLC 24V power supply

Name		Model	Page
Parallel Connection Cable for SCN3	1m	RP9110-010	
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	5m	RP9110-050	
	10m	RP9110-100	
	15m	RP9110-150	
	20m	RP9110-200	
Flex-proof Parallel Connection Cable for SCN3	1m	RP9110-010R2	
	3m	RP9110-030R2	
	5m	RP9110-050R2	
	10m	RP9110-100R2	
	15m	RP9110-150R2	
	20m	RP9110-200R2	35
Parallel Connection Cable for SCN3 for serial communication	1m	RP9113-010	
	3m	RP9113-030	
	5m	RP9113-050	
	10m	RP9113-100	
	15m	RP9113-150	
	20m	RP9113-200	
Flex-proof Parallel Connection Cable for SCN3 for serial communication	1m	RP9113-010R2	
	3m	RP9113-030R2	
	5m	RP9113-050R2	
	10m	RP9113-100R2	
	15m	RP9113-150R2	
	20m	RP9113-200R2	
Parallel Connection Cable for SCN5-S03	1m	RP9100-010	
	3m	RP9100-030	
	5m	RP9100-050	
	10m	RP9100-100	
	15m	RP9100-150	
	20m	RP9100-200	
Flex-proof Parallel Connection Cable for SCN5-S03	1m	RP9100-010R2	
	3m	RP9100-030R2	
	5m	RP9100-050R2	
	10m	RP9100-100R2	
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Parallel Connection Cable for SCN5-S03 for serial communication	1m	RP9103-010	
	3m	RP9103-030	
	5m	RP9103-050	
	10m	RP9103-100	
	15m	RP9103-150	
	20m	RP9103-200	
Flex-proof Parallel Connection Cable for SCN5-S03 for serial communication	1m	RP9103-010R2	
	3m	RP9103-030R2	
	5m	RP9103-050R2	
	10m	RP9103-100R2	
	15m	RP9103-150R2	
	20m	RP9103-200R2	
Parallel Connection Cable	1m	RP9120-010	
	3m	RP9120-030	
	5m	RP9120-050	
	10m	RP9120-100	
	15m	RP9120-150	
	20m	RP9120-200	
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	5m	RP9120-050R2	
	10m	RP9120-100R2	
	15m	RP9120-150R2	
	20m	RP9120-200R2	

Name		Model	Page
Parallel Connection Cable for serial communication	1m	RP9123-010	36
	3m	RP9123-030	
	5m	RP9123-050	
	10m	RP9123-100	
	15m	RP9123-150	
	20m	RP9123-200	
Flex-Proof Parallel Connection Cable for serial communication	1m	RP9123-010R2	
	3m	RP9123-030R2	
	5m	RP9123-050R2	
	10m	RP9123-100R2	
	15m	RP9123-150R2	
	20m	RP9123-200R2	
ADP Cable	1m	RP9050-010	37
	3m	RP9050-030	
	5m	RP9050-050	
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	3m	RP9050-030R2	
	5m	RP9050-050R2	
	10m	RP9050-100R2	
	15m	RP9050-150R2	
	20m	RP9050-200R2	
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	2m	RP9136-020	
	3m	RP9136-030	
	4m	RP9136-040	
	5m	RP9136-050	
	10m	RP9136-100	
	15m	RP9136-150	
	20m	RP9136-200	
Flex-Proof Motor/Encoder Cable for SCN3	1m	RP9136-010R2	
	2m	RP9136-020R2	
	3m	RP9136-030R2	
	4m	RP9136-040R2	
	5m	RP9136-050R2	
	10m	RP9136-100R2	
	15m	RP9136-150R2	
	20m	RP9136-200R2	
Motor/Encoder Cable Extension Cable	1m	RP9135-010	37
	2m	RP9135-020	
	3m	RP9135-030	
	4m	RP9135-040	
	5m	RP9135-050	
	9m	RP9135-090	
	10m	RP9135-100	
	15m	RP9135-150	
	20m	RP9135-200	
Flex-Proof Motor/Encoder Extension Cable	1m	RP9135-010R2	
	2m	RP9135-020R2	
	3m	RP9135-030R2	
	4m	RP9135-040R2	
	5m	RP9135-050R2	
	9m	RP9135-090R2	
	10m	RP9135-100R2	
	15m	RP9135-150R2	
	20m	RP9135-200R2	

Cable, Peripheral Eqipment List

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	1m	RP9170-010	
	3m	RP9170-030	
	5m	RP9170-050	
	10m	RP9170-100	
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	3m	RP9161-030	
	5m	RP9161-050	
	10m	RP9161-100	
Expansion I/O Connection Cable	50cm	RP9201-005	
	1m	RP9201-010	
	3m	RP9201-030	
	5m	RP9201-050	
Expansion I/O Connection Cable One side terminal stand type	50cm	RP9202-005	
	1m	RP9202-010	
	3m	RP9202-030	
	5m	RP9202-050	
Brake Power Cable	1m	RP9023-010	
	3m	RP9023-030	
	5m	RP9023-050	
	10m	RP9023-100	37
Flex-Proof Brake Power Cable	1m	RP9023-010R2	
	3m	RP9023-030R2	
	5m	RP9023-050R2	
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		CTC-77-SET	
		CTC-77-TP01T-SET	42-44
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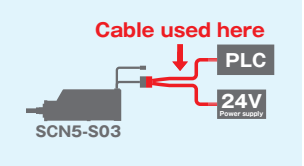
	For SCN6	FT-002	8

Parallel Connection Cable for SCN5-S03



Parallel Connection Cable for I/O Control for SCN5-S03

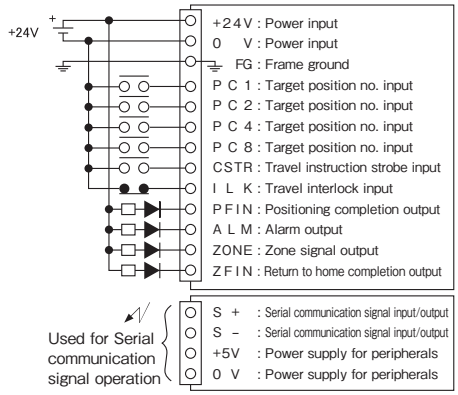
RP9100-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

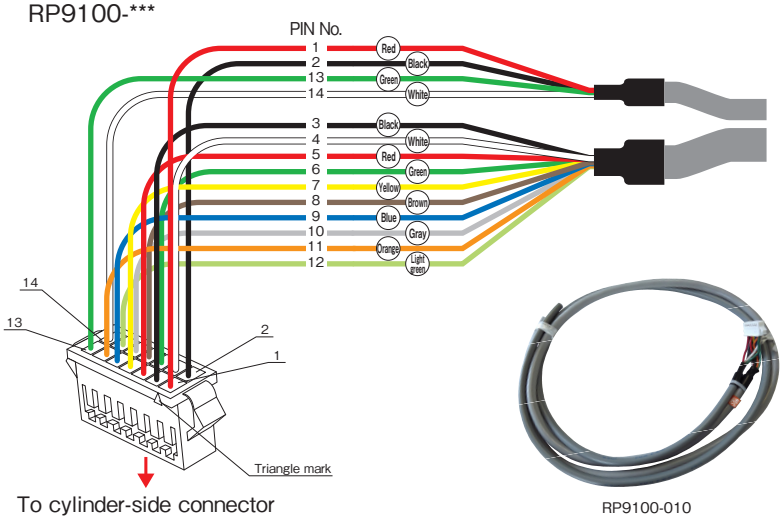
PIN No.	1	2	13	14
Signal name	+24V	0V	FG	FG
Cable color	Red	Black	Green	White

3	4	5	6	7	8	9	10	11	12
PC1	PC2	PC4	PC8	CSTR	ILK	PFIN	ZFIN	ZONE	ALM
Black	White	Red	Green	Yellow	Brown	Blue	Gray	Orange	Light green

RP9100-*** External connection diagram



RP9100-***



Flex-Proof Parallel Connection Cable for I/O Control for SCN5-S03

RP9100-□□□R2

Bending radius: 70mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	13	14
Signal name	+24V	0V	FG	FG
Cable color	Yellow	Brown	Blue	White

3	4	5	6	7	8	9	10	11	12
PC1	PC2	PC4	PC8	CSTR	ILK	PFIN	ZFIN	ZONE	ALM
Blue	White	Yellow	Brown	Green	Black	Red	Gray	Purple	Orange

Parallel Connection Cable for Serial Cotrol/CTC Control for SCN5-S03

RP9103-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	8	9	12	14
Signal name	+24V	0V	ILK	PFIN	ALM	FG
Cable color	Red	Black	White	Yellow	Brown	Green

Flex-Proof Parallel Connection Cable for Serial Cotrol/CTC Control for SCN5-S03

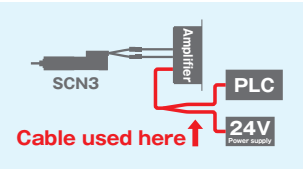
RP9103-□□□R2

Bending radius: 68mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	8	9	12	14
Signal name	+24V	0V	ILK	PFIN	ALM	FG
Cable color	White	Black	Brown	Blue	Yellow	Green

Parallel Connection Cable for SCN3



Parallel Connection Cable for I/O Control for SCN3

RP9110-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Signal name	+24V	0V	PC1	PC2	PC4	PC8	CSTR	ILK	PFIN	ZFIN	ZONE	ALM	FG	FG
Cable color	Red	Black	Yellow	Brown	Blue	Gray	Orange	Sky blue	Pink	Grass green	Purple	White / black	White	Green

RP9110-030

Flex-Proof Parallel Connection Cable for I/O Control for SCN3

RP9110-□□□R2

Bending radius: 90mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

	Pair		Pair		Pair		Pair		Pair		Pair		Pair	
PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Signal name	+24V	0V	PC1	PC2	PC4	PC8	CSTR	ILK	PFIN	ZFIN	ZONE	ALM	FG	FG
Cable color	Blue	White	Yellow	Brown	Green	Black	Red	Gray	Purple	Orange	Blue	Brown	Yellow	Black

There are multiple cables of the same color, but please distinguish by the cable color of the pair.

Parallel Connection Cable for Serial Cotrol/CTC Control for SCN3

RP9113-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	8	9	12	14
Signal name	+24V	0V	ILK	PFIN	ALM	FG
Cable color	Red	Black	White	Yellow	Brown	Green

Flex-Proof Parallel Connection Cable for Serial Cotrol/CTC Control for SCN3

RP9113-□□□R2

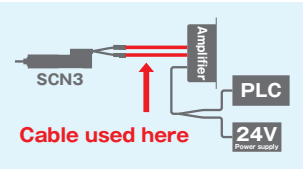
Bending radius: 60mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

	Pair		Pair		Pair	
PIN No.	1	2	8	9	12	14
Signal name	+24V	0V	ILK	PFIN	ALM	FG
Cable color	Blue	White	Yellow	Brown	Green	Black

There are multiple cables of the same color, but please distinguish by the cable color of the pair.

Motor/Encoder Extension Cable for SCN3



Motor/Encoder Extension Cable for SCN3

RP9136-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

RP9136-030

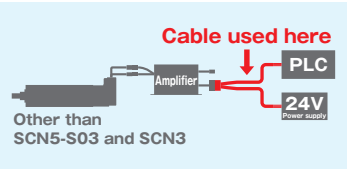
Flex-Proof Parallel Connection Motor/Encoder Extension Cable for SCN3

RP9136-□□□R2

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

Flex-proof motor cable bending radius: 53mm or more
Flex-proof encoder cable (5m or less) bending radius: 46mm or more
Flex-proof encoder cable (10m or more) bending radius: 61mm or more

Parallel Connection Cable for other than SCN5-S03 and SCN3



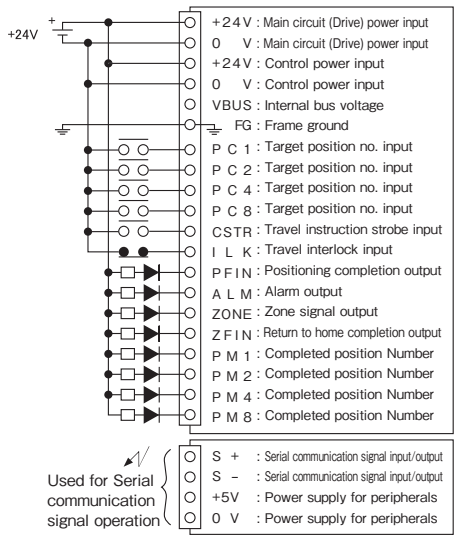
Parallel Connection Cable for I/O Control for other than SCN5-S03 and SCN3

RP9120-□□□

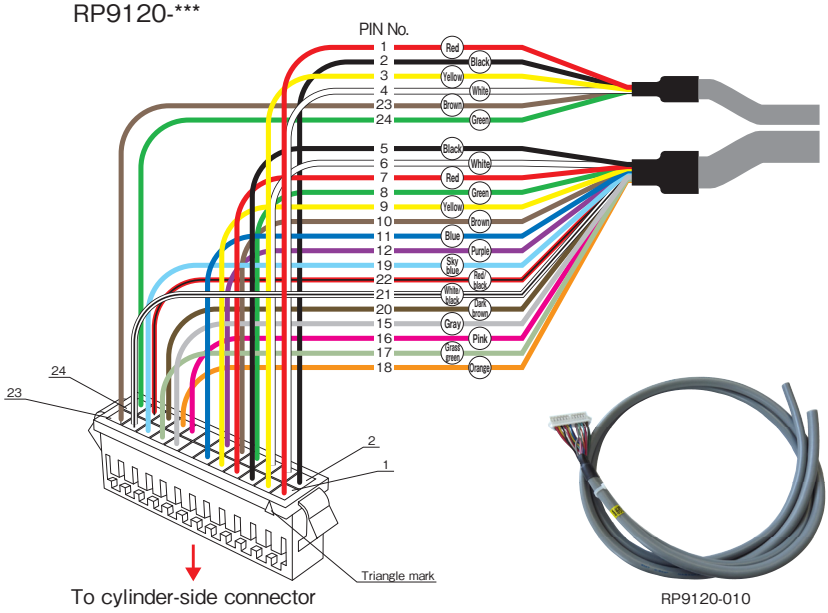
Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	3	4	23	24	5	6	7	8	9	10	11	12	15	16	17	18	19	20	21	22
Signal name	+24V	0V	+24V	0V	VBUS	FG	PC1	PC2	PC4	PC8	CSTR	INH+	INH-	ILK	PM1	PM2	PM4	PM8	PFIN	ZFIN	ZONE	ALM
Cable color	Red	Black	Yellow	White	Brown	Green	Black	White	Red	Green	Yellow	Brown	Blue	Purple	Gray	Pink	Grass green	Orange	Sky blue	Dark brown	White / black	Red / black

RP9120-*** External connection diagram



RP9120-***



RP9120-010

Flex-Proof Parallel Connection Cable for I/O Control for other than SCN5-S03 and SCN3

RP9120-□□□R2

Bending radius: 86mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	3	4	23	24	Pair 5	6	Pair 7	8	Pair 9	10	Pair 11	12	Pair 15	16	Pair 17	18	Pair 19	20	Pair 21	22
Signal name	+24V	0V	+24V	0V	VBUS	FG	PC1	PC2	PC4	PC8	CSTR	INH+	INH-	ILK	PM1	PM2	PM4	PM8	PFIN	ZFIN	ZONE	ALM
Cable color	Blue	Black	Yellow	White	Brown	Green	Blue	White	Yellow	Brown	Green	Black	Red	Gray	Purple	Orange	Blue	Brown	Yellow	Black	Green	Gray

There are multiple cables of the same color, but please distinguish by the cable color of the pair.

Parallel Connection Cable for Serial Cotrol/CTC Control for other than SCN5-S03 and SCN3

RP9123-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	3	4	10	11	12	19	22	24
Signal name	+24V	0V	+24V	0V	INH+	INH-	ILK	PFIN	ALM	FG
Cable color	Red	Black	Yellow	White	Blue	Gray	Brown	Orange	Sky blue	Green

Flex-Proof Parallel Connection Cable for Serial Cotrol/CTC Control for other than SCN5-S03 and SCN3

RP9123-□□□R2

Bending radius: 85mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

PIN No.	1	2	3	4	10	11	12	19	22	24
Signal name	+24V	0V	+24V	0V	INH+	INH-	ILK	PFIN	ALM	FG
Cable color	Blue	Black	Yellow	White	Red	Gray	Purple	Orange	Brown	Green

ADP Cable

ADP Cable

RP9050-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

Flex-Proof ADP Cable

RP9050-□□□R2

Bending radius: 46mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

RP9050-010

SIO Cable

SIO Cable (6 core)

RP9041-□□□

Cable length	10cm	30cm	50cm
□□□ in the model number	001	003	005

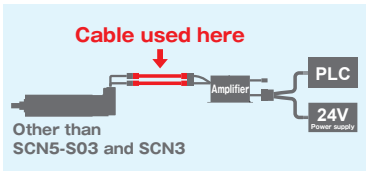
SIO Cable (4 core) Cable connecting ADP-2-4 and ADP-2-4

RP9040-□□□

Cable length	10cm	30cm	50cm
□□□ in the model number	001	003	005

RP9041-010

Motor/Encoder Extension Cable



Motor/Encoder Extension Cable

RP9135-□□□

Cable length	1m	2m	3m	4m	5m	9m	10m	15m	20m
□□□ in the model number	010	020	030	040	050	090	100	150	200

Flex-Proof Motor/Encoder Extension Cable

RP9135-□□□R2

Bending radius: 70mm or more

Cable length	1m	2m	3m	4m	5m	9m	10m	15m	20m
□□□ in the model number	010	020	030	040	050	090	100	150	200

RP9135-010

Brake Power Cable

Cable for mechatronics cylinder with brake

Brake Power Cable

RP9023-□□□

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

Flex-Proof Brake Power Cable

RP9023-□□□R2

Bending radius: 36mm or more

Cable length	1m	3m	5m	10m	15m	20m
□□□ in the model number	010	030	050	100	150	200

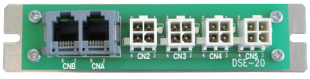
RP9023-010

RSA232C/485 Adaptor

ADP-1

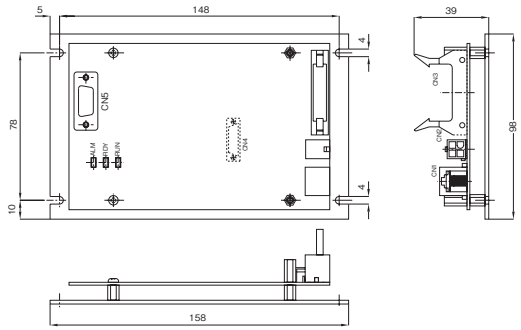
Conector Converter

ADP-2-4



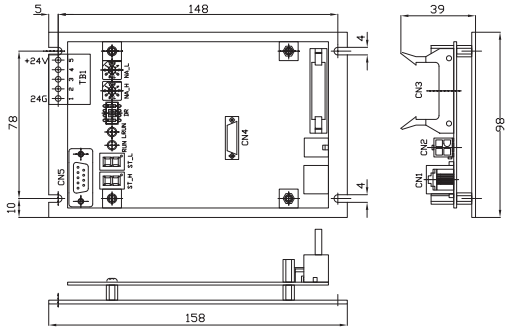
CTC-67 (Controller)

Unit (mm)



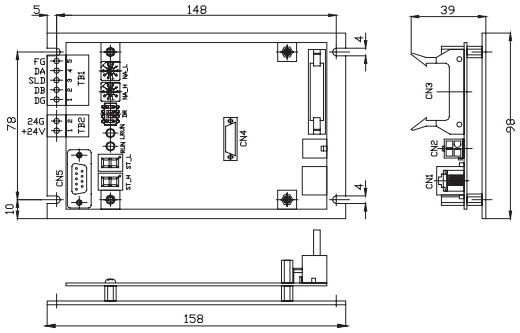
CTC-77 (Controller)

Unit (mm)



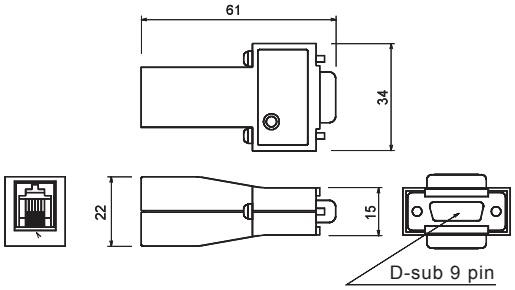
ADP-77 (Gateway)

Unit (mm)



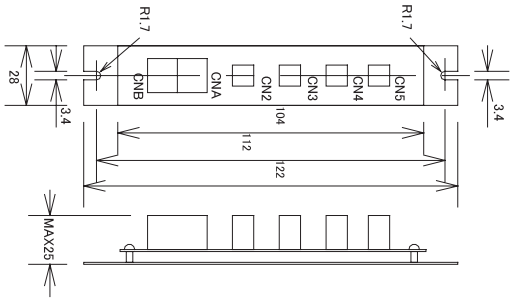
ADP-1 (RSA232C/485 Adaptor)

Unit (mm)



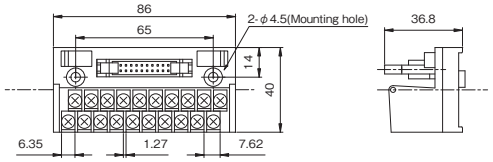
ADP-2-4 (Conector Converter)

Unit (mm)

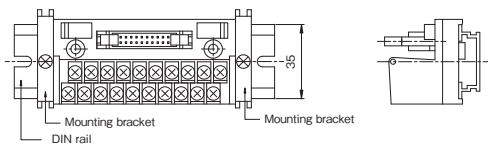


Terminal Block of I/O Cable RP9170

Unit (mm)

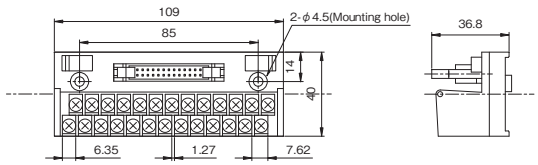


When mounting on a DIN rail

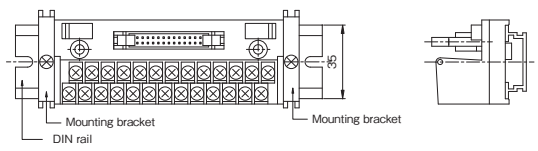


Terminal Block of Extension I/O Cable RP9202

Unit (mm)



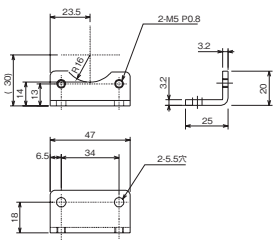
When mounting on a DIN rail



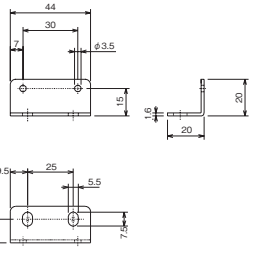
FT-001 (Brackets for SCN5)

Unit (mm)

Rod side bracket



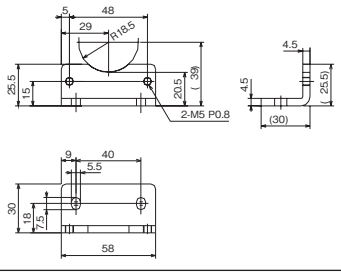
Motor side bracket



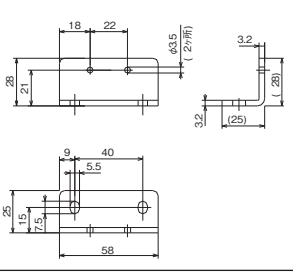
FT-002 (Brackets for SCN6) *Cannot be used for SCN6-080Q

Unit (mm)

Rod side bracket

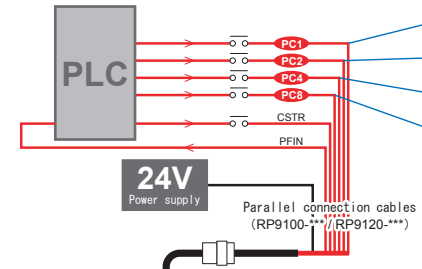


Motor side bracket



I/O Control by PLC, etc.

Max. positioning objects: 16



Data table

Point No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PC1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
PC2	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
PC4	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
PC8	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

0:OFF 1:ON

Set the point data, such as position, speed, acceleration, etc.

Teaching tool

Teaching Pendant

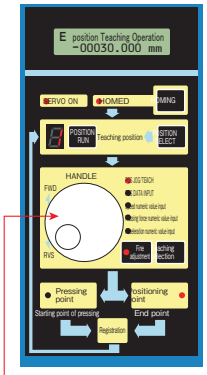
or

PC setting tool

Teaching Pendant

Teaching can be done simply by following the instructions on the panel.

CTA-23



Jog handle

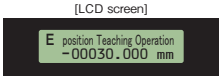
Position teaching

(1) Press POSITION SELECT to specify the position (Position '0' is displayed after the power is turned on).

(2) Turn the jog handle to determine the travel distance (mm). -> Press Write .

* The carrier (or rod) of the actuator moves simultaneously.

[LCD screen]



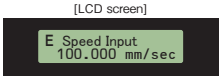
The carrier works with the jog handle.

Speed teaching

(1) Press Teach Mode Select twice to light the LED for "Speed Data Input."

(2) Turn the jog handle to determine the travel distance (mm). -> Press Write .

[LCD screen]



* In a similar manner, the instructions for teaching acceleration/deceleration, push force, etc., can be set easily.

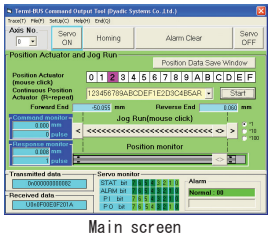
* For each position, repeat the series of operations above to set the instructions for teaching (up to 16 objects of positioning can be set).

PC Setting Tool

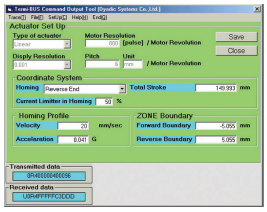
The objective position, travel speed, acceleration, push force (torque), etc., of the Mechatronics Cylinder/servomotor can be set from a PC.

Kit Contents:

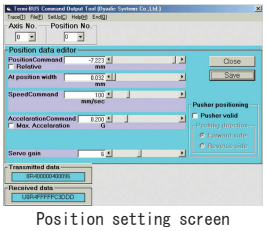
* Software disc
* RS232/485 converter ADP-1
* Connecter converter ADP-2
* ADP cable
* SIO cable



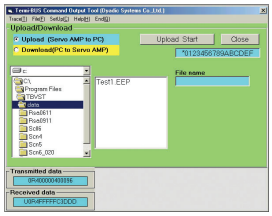
Main screen



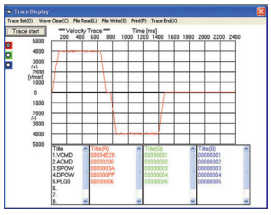
Parameter change screen



Position setting screen

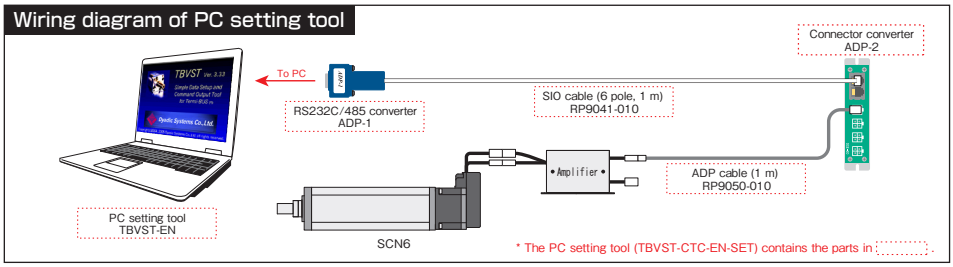


File operation screen



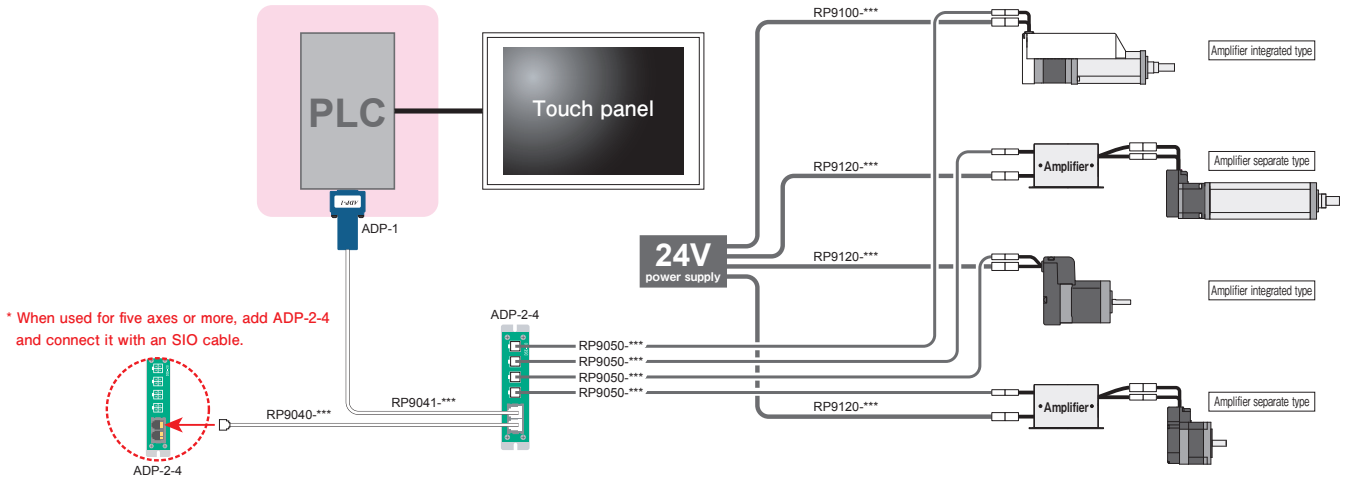
Trace screen

Wiring diagram of PC setting tool



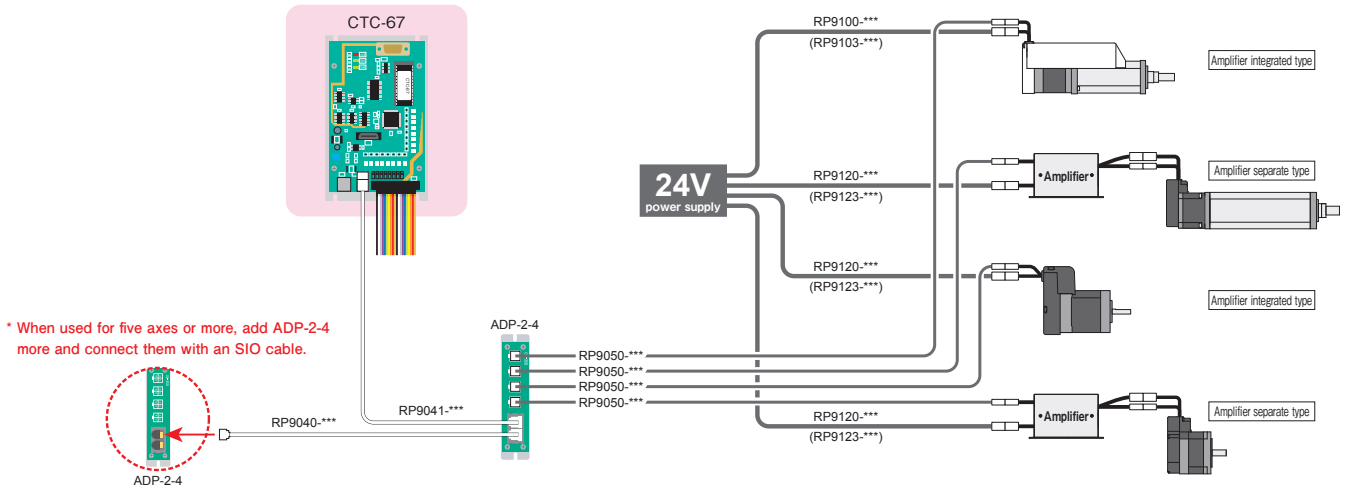
The Control via Serial Communication

Number of positions: No limit
Controlable axes: Max. 16 axes



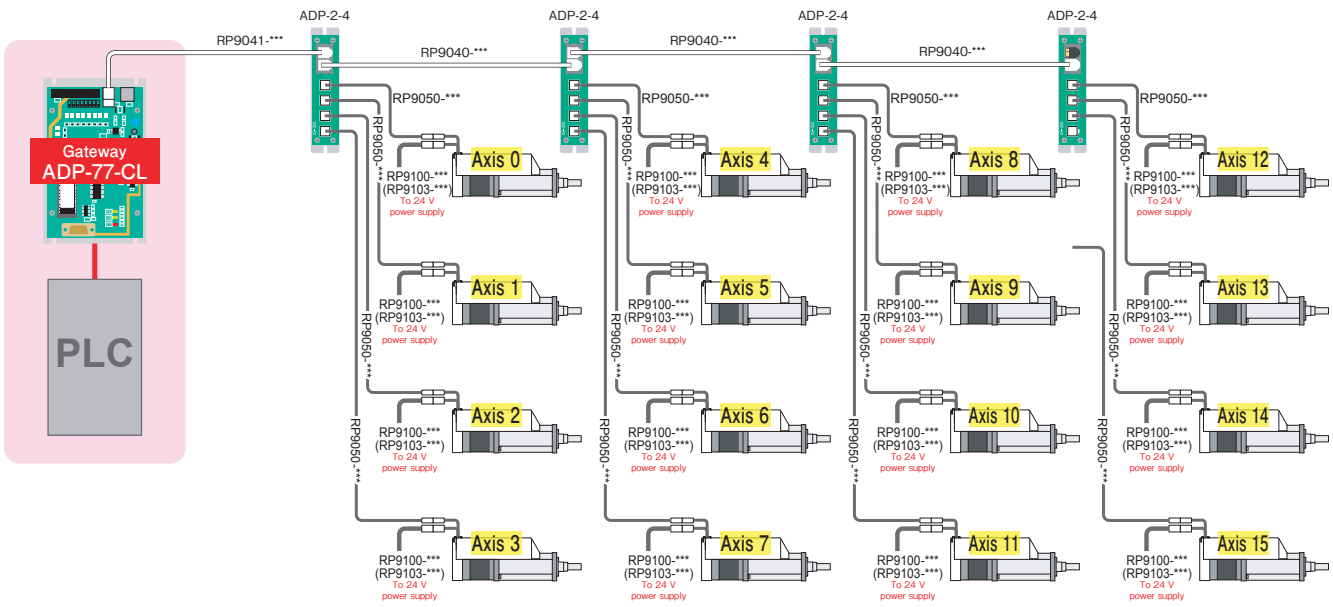
CTC-67 Control

Controlable axes: Max. 8 axes



CC-Link Control

Controlable axes: Max. 1,024 axes (when 64 gateways are connected)



Self-control Function

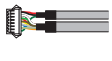
Since the amplifier has a built-in sequence control function, continuous motion is possible without using the PLC.

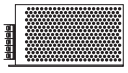
Air piping is not required. Program development for PLC is not necessary.

- Using the PC Settings Tool, programs can be created easily.
- Pressing the start switch starts a continuous motion.
- Motions can be performed, such as reciprocal motion between 2 points and continuous motion up to 16 points.
- Multiple programs can be created. A required program can be selected from them for execution.
- Changing from the standard function to the built-in sequence control function can be achieved with the PC Settings Tool.

Please prepare the following items other than the mechatronics cylinder

PC setting tool


Cable

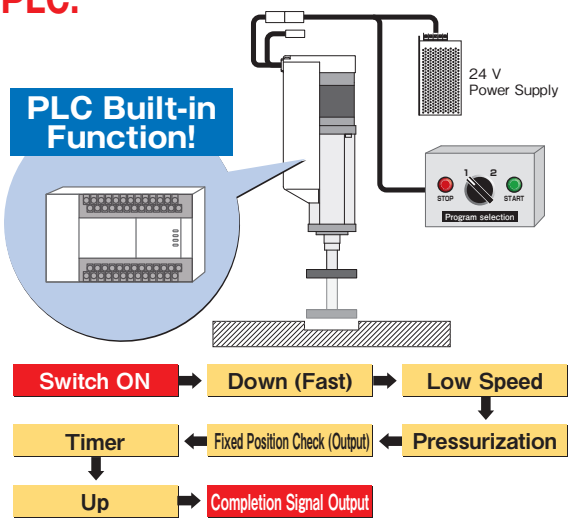

24 V power supply

Switch

* The self-control function can be used only when the product is used on one axis.

* Please clearly state at the time of the order that you want to use the self-control function.

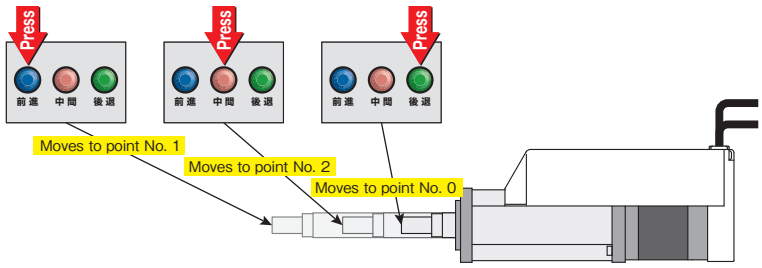
Example of work press fitting motion



Pneumatic Cylinder Compatible Function

Two-point or three-point movement can be achieved simply by using the switches!

The start, middle, and end points can be set arbitrarily.

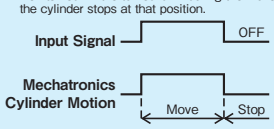


* The backward movement end, forward movement end, and middle point commands can be set arbitrarily.

Two modes are available depending on the input signal.

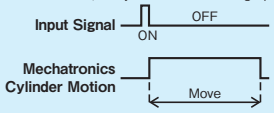
Air Compatible Mode 1 (Level Signal)

The ON status of the move command input must be maintained. If it is turned OFF during the movement, the cylinder stops at that position.

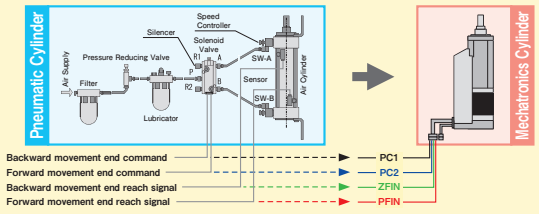


Air Compatible Mode 2 (Pulse Signal)

The ON signal of the move command input is a pulse signal (10 ms or longer). If the input signal is turned OFF after that, the cylinder moves to the target position.



If the four signal wires of the pneumatic cylinder are connected to the mechatronics cylinder, the same movement can be reproduced.
The existing wires and programs for the pneumatic cylinder can be used without modification!



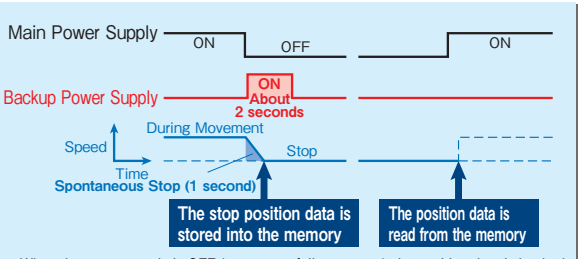
Code	Air Compatible Mode 1 (Level Signal)	Air Compatible Mode 2 (Pulse Signal)
PC1	Backward movement end command input (Point No. 0)	
PC2	Forward movement end command input (Point No. 1)	
PC4	Middle point command input (Point No. 2)	
PC8	Will not function	
CSTR	Will not function	
PFIN	Backward movement end reach output	
ZFIN	Forward movement end reach output	
ZONE	Middle point reach output	
ALM	Alarm output	
ILK	Will not function (Connection to 0V is necessary)	Interlock input (Movement distance cancel)

Battery-less Absolute Function

No Origin Return! No Battery!

Since the stop position is stored if the power supply is interrupted during a movement motion, the cylinder can be restarted from the stop position without origin return after the power supply is recovered.

- No battery replacement is required.
- A highly reliable absolute sensor is realized.
  (No malfunction because a very small electric current is not used.)
- High noise tolerance: No electricial energy is used during data backups.
- The price is equal to that of the incremental version.



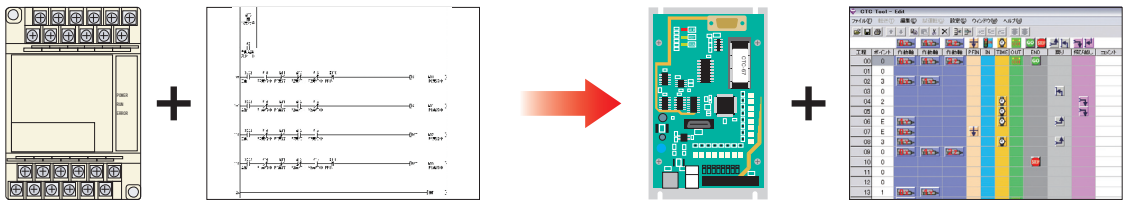
When the power supply is OFF (or a power failure occurs), the position data is backed up during the inertial motion only (about 1 second), and after the mechatronics cylinder stops, the data are stored in memory. However, if the cylinder may be moved from outside when the power supply is OFF, please select the model with a brake.

Compatible Model:
SCN6-050-□□□-B/BW、SCN6-060-□□□-B/BW、SCLL5-010-□□□-B、SCLG5-010-□□□-B、SCLG6-030-□□□-B、
SCLT4-015-□□□-SBR、SCLT4-030-□□□-SBR、SCLT6-025-□□□-BBR、SCLT6-050-□□□-BBR

* The incremental/absolute version can be changed in the PC Setting Software (TBVST Ver.3.30 or later).

CTC Control

The time required for programming can be reduced substantially when compared to that with the PLC+ ladder program.
Reduced to 1/50 - 1/200!
This is a general-purpose controller that does not require the ladder program and can be used easily by anyone.
The actuator and the peripheral equipment can be controlled simultaneously via an external I/O .

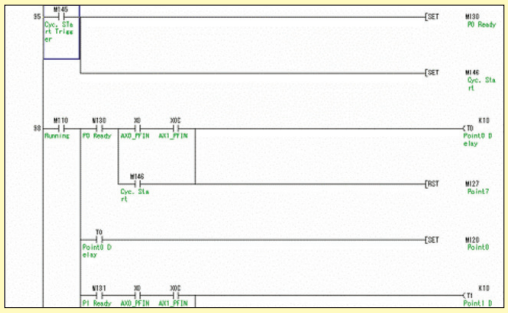


PLC　Ladder program　CTC-67/77　CTC tool

Comparison of CTC Tool and Conventional Ladder Program

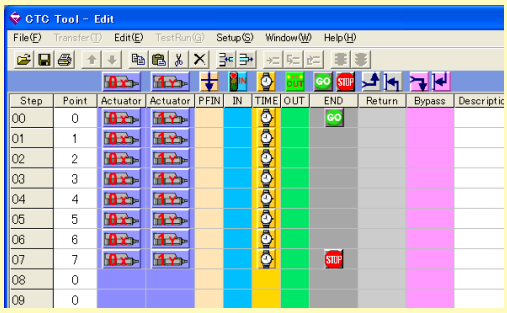
(Condition: The 2-axis servo is stopped at 8 positions and the timer is set at each point.)

Ladder program



The conventional ladder program requires 250 steps for a whole sequence and, thus, only 1/15 of the entire program can be seen on one screen.

CTC tool



With the CTC tool, the entire sequence program requires just 8 steps and all the operations are obvious at a glance.

Specification

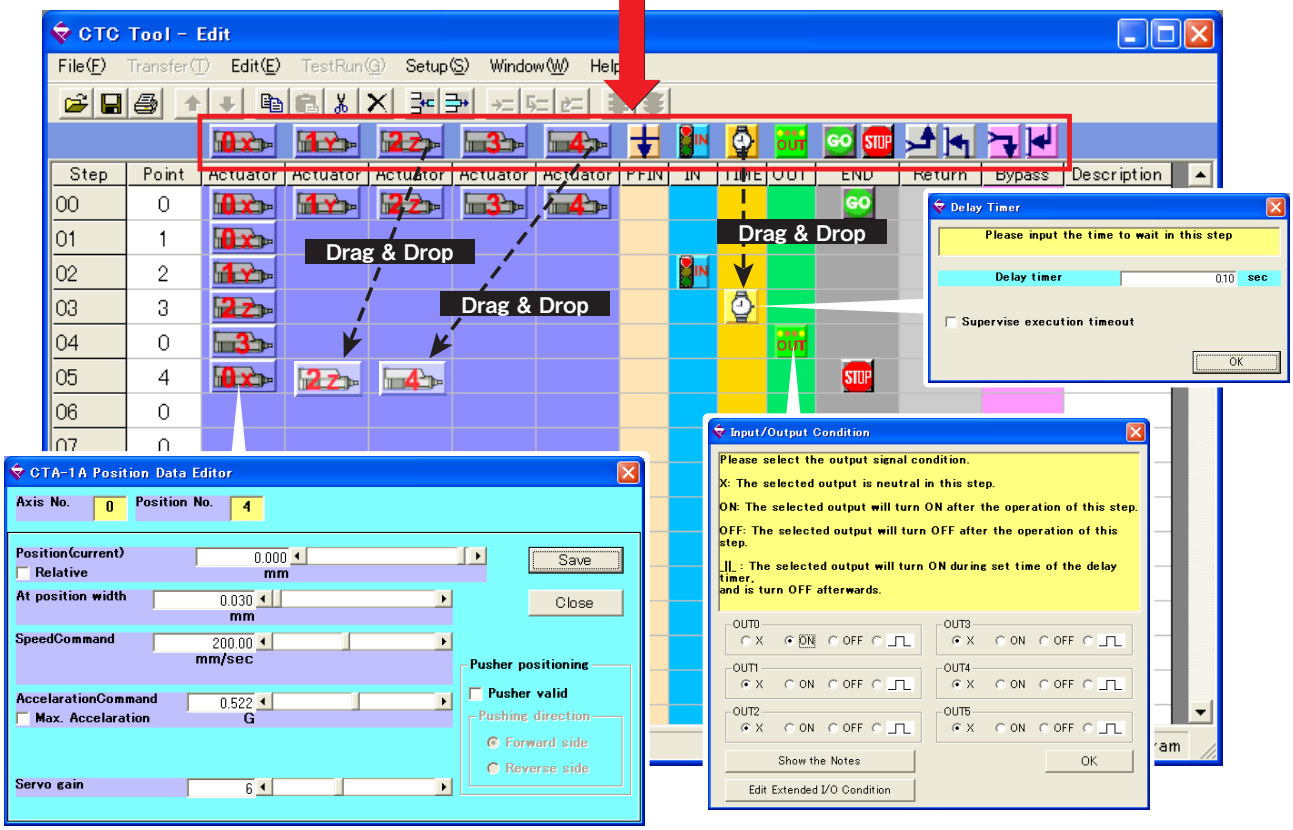
Model		CTC-67	CTC-67
Program control method		Stored program　Process stepping type	
Program capacity		100 process	256 process
Max. number of control axes / max. number of positioning points		8 axes / 128 position	8 axes / 128 position Note 1)
Input Number	Standard positioning points	Dedicated: 2 point, general purpose: 6 points	
	Extension positioning points	General purpose: 10 points (when the extended I/O unit is mounded)	
Signal current		About 3 mA	
Output Number	Standard positioning points	Number of dedicated inputs: 2, Number of general purpose inputs: 6	
	Extension positioning points	Numbetr of general purpose inputs: 10　(when the extended I/O unit is mounded)	
Output Max. load		30 mA / each output (Sum of output currents: 2 A/Unit)	300 mA / each output (Sum of output currents: 2 A/Unit)
Controller power supply		Supplied from the actuator	DC 24 V -30%, +15%
I/O power supply		DC 24 V –30% / +15%	
Environ-mental condition	Service temperature	0° C to 55° C	
	Storage temperature	-20° C to 60° C	
	Service/storage humidity	20% RH to 80%RH, no condensation	
	Allowable vibration/shock	0.5 G / 2 G (3 times)	
Touc panel connection		Not connectable	Connectable Note 2)

Note 1) Up to 256 points/axis with expanded fuction settings　Note 2) Please contact us for touch panel compatible models.

Creation of Program No special programming language is required.

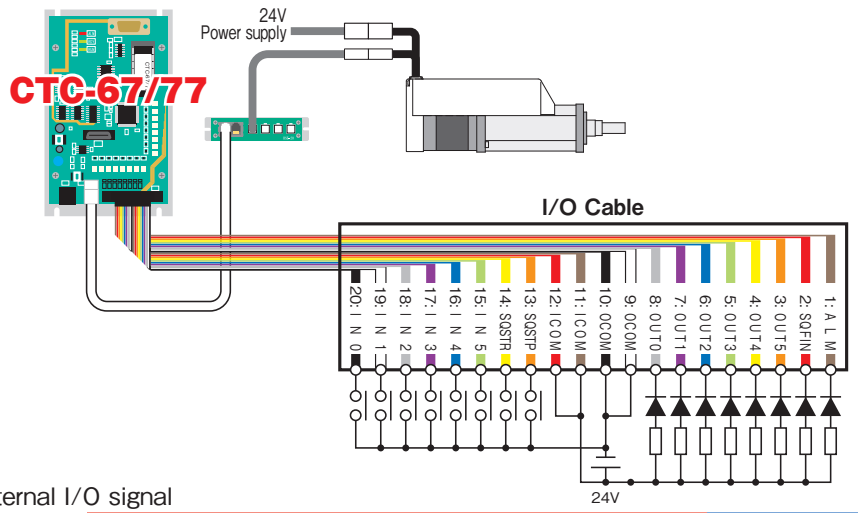
Patented

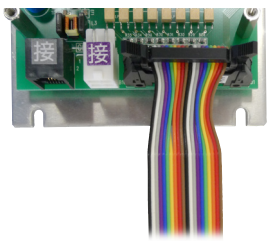
Drag these icons to the process to be used!



	Cylinder (Allocate the axis No.)		Specification of program start step (Program selection from the external I/O)
	Ignore the positioning completion signal		Program end step
	Waiting for external input conditions (6 points, can be extended up to 16 points)		Return assignment / condition comparison / repetition process (loop) assignment depending on the external input condition
	Delay timer		Skip assignment / condition comparison / subprogram assignment and call depending on the external input condition
	External output condition (6 points, can be extended up to 16 points)		

● I/O Connection Cable (used when input and output with outside are necessary)





One side terminal stand type

Model	Length
RP9170-030	3m
RP9170-050	5m
RP9170-100	10m

One side rose line type

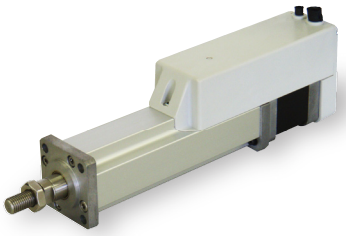
Model	Length
RP9161-030	3m
RP9161-050	5m
RP9161-100	10m

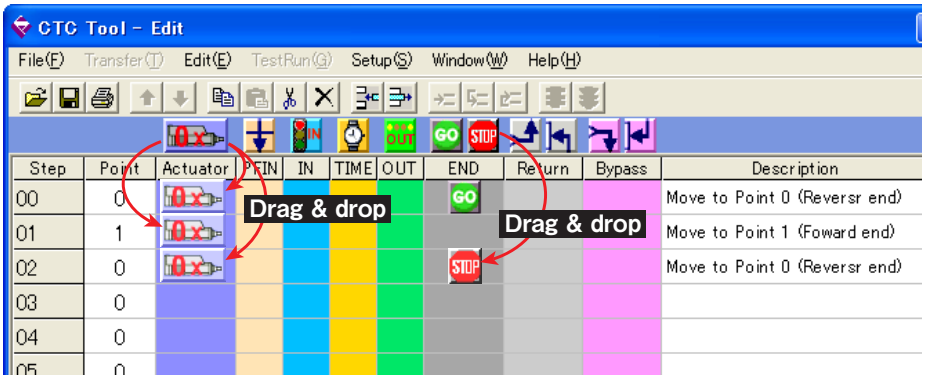
External I/O signal

	Input signal										Output signal									
PIN No.	20	19	18	17	16	15	14	13	12	11	8	7	6	5	4	3	2	1	10	9
Sign	IN0	IN1	IN2	IN3	IN4	IN5	SQSTR	SQSTP	ICOM	ICOM	OUT0	OUT1	OUT2	OUT3	OUT4	OUT5	SQFIN	ALM	OCOM	OCOM
Cable color	Black	White	Gray	Purple	Blue	Green	Yellow	Orange	Red	Brown	Gray	Purple	Blue	Green	Yellow	Orange	Red	Brown	Black	White
Terminal stand No.	B10	A10	B9	A9	B8	A8	B7	A7	B6	A6	B4	A4	B3	A3	B2	A2	B1	A1	B5	A5
Name	General-purpose input signal 0	General-purpose input signal 1	General-purpose input signal 2	General-purpose input signal 3	General-purpose input signal 4	General-purpose input signal 5	Sequence start	Sequence compulsion stop	Inputting common (+24V に接続)	Inputting common (+24V に接続)	General-purpose output signal 0	General-purpose output signal 1	General-purpose output signal 2	General-purpose output signal 3	General-purpose output signal 4	General-purpose output signal 5	Sequence completion output	Alarm output signal	Outputting common (0V に接続)	Outputting common (0V に接続)

Moving Mechatronics Cylinder

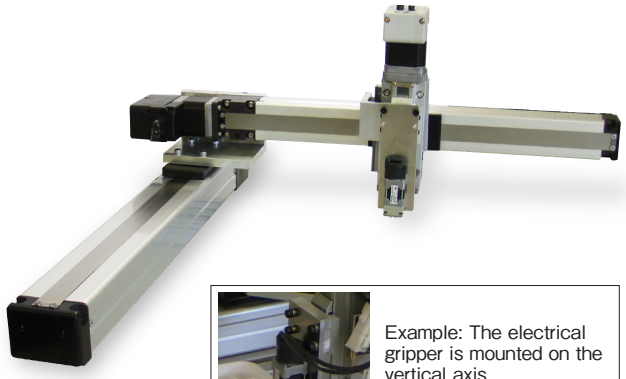
Easy programming is possible with "Drag & drop."

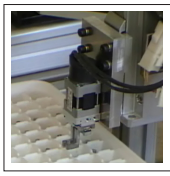




Palletizing

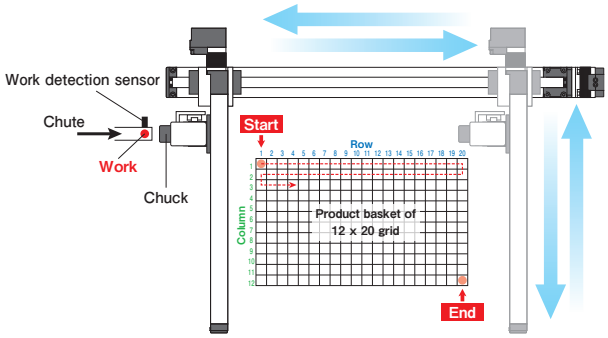
"Palletizing" is possible with a few steps.

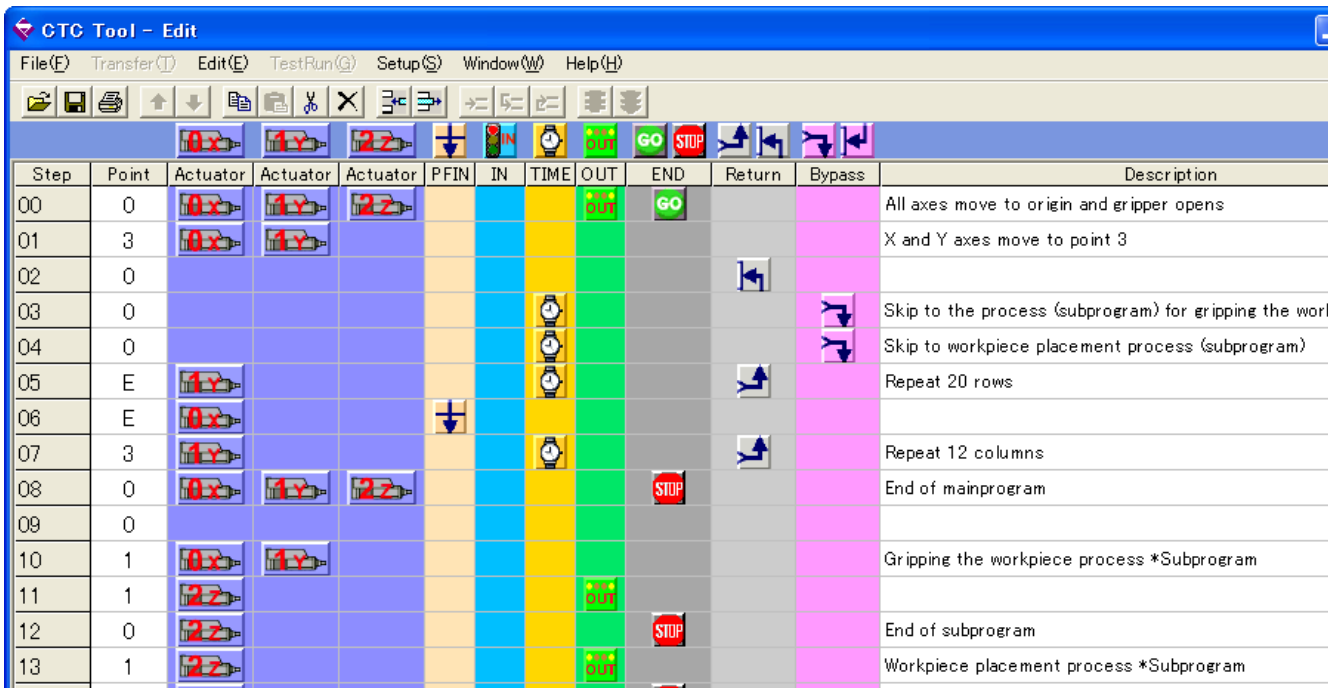




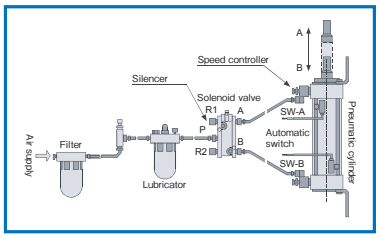
Example: The electrical gripper is mounted on the vertical axis

Programming of 12 x 20 grid is possible with 14 steps (9 steps of main program and 5 steps of subprogram).

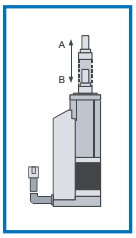




Simpler than pneumatic cylinder

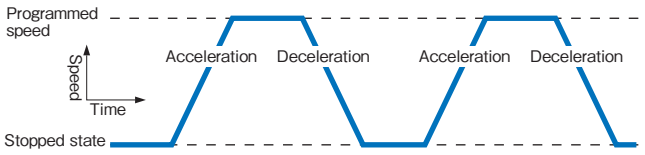


The system is substantially simpler than that of an pneumatic cylinder.



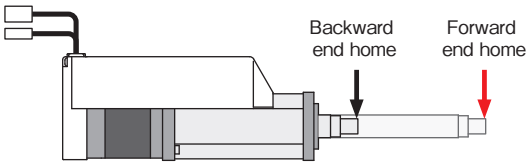
Positioning Operation

Position, speed, acceleration etc. can be set for each position.



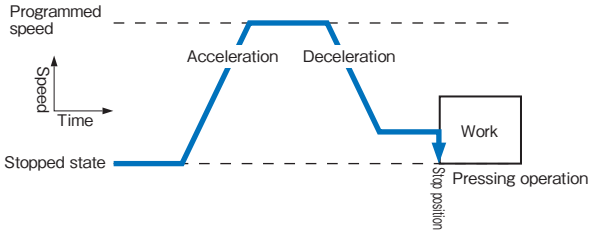
Change of home Direction

Select the forward end or backward end.



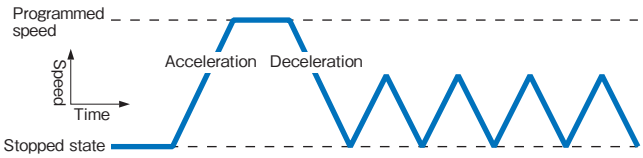
Pressing Operation

Entering the force (% of max. thrust) allows the use of the pressing operation.



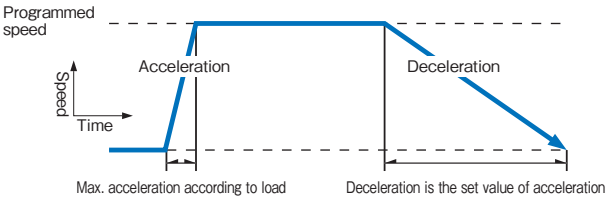
Pitch Feed Operation

In addition to the positioning operation using the coordinate values from the home, Repeatable travel for a specified distance can be done using the current position as a starting point. By specifying the distance of repeated travel, positioning with an equal pitch interval of 16 points or more can be achieved.



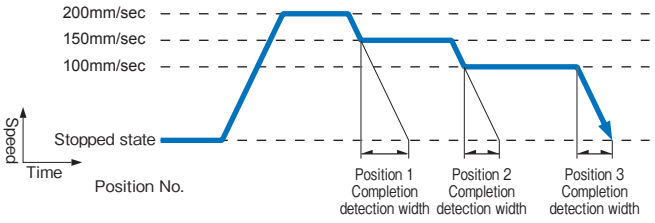
Setting of Acceleration/Deceleration

The setting changes of the acceleration and deceleration of the Mechatronics Cylinder and servomotor can be set for each position data. The factory setting works for normal application, but the acceleration/deceleration times can be changed by modifying the setting. Additionally, rapid acceleration and gradual deceleration are possible by setting the acceleration to its max. acceleration.



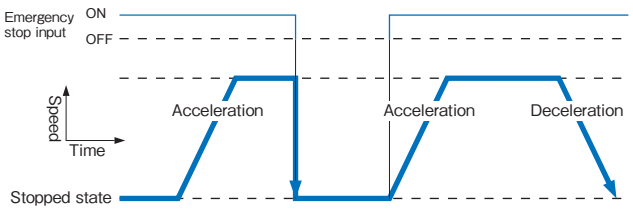
Change of Speed

By widening the width of the positioning completion detection signal (PFIN) to detect the signal in advance and by specifying the next position, the speed during travel can be changed continuously.



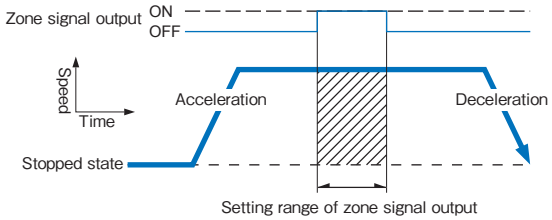
Sudden Stop Input

Emergency stop occurs when the sudden stop input (ILK) is interrupted. Depending on the setting, it can be selected that the remaining travel resumes after the emergency stop input is connected or travel does not resume.



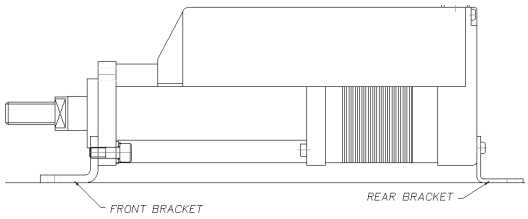
Zone signal output

Since the signal can be output at any position (the range is set by parameters) during travel, this can be used for setting of a dangerous area, management of the home position during press-fit, etc.



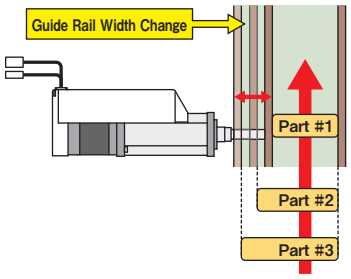
Mounting hardware

The mounting hardware for SCN5 and SCN6 are available.



By adopting the Mechatronics Cylinder, improvement of the functions of mechanical equipment can be achieved easily and at a lower cost.

Guide Rail Width Change



Small Board/Tray Loader/Unloader

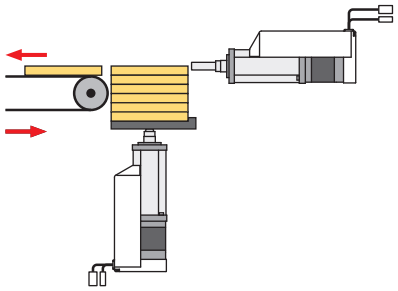
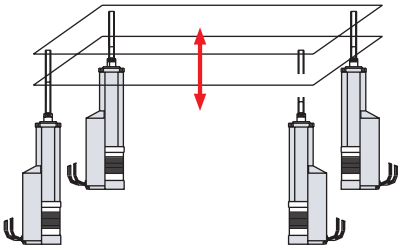
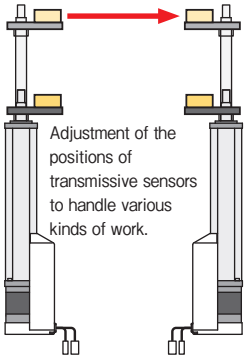


Plate Position Change

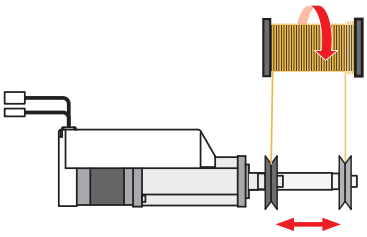
Multiple Mechatronics Cylinders can lift a large plate.



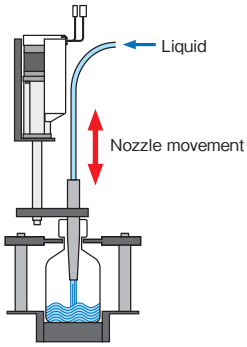
Sensor Position Change



Wire Feeding of Winding Machine

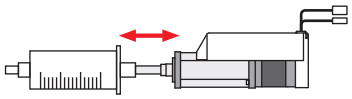


Fill Nozzle Positioning



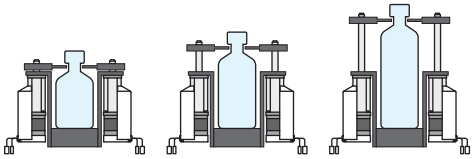
Liquid Injection

Constant volume injection is effectively possible.

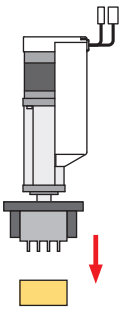


Bottle Guide Height Change

The height of the bottle guide can be moved to the programmed and prescribed position.



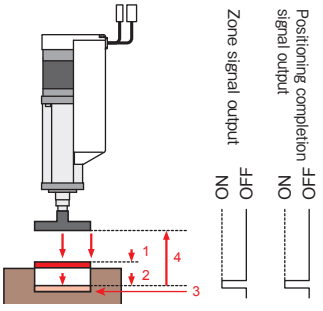
Pressing Machine



Judgment of acceptance/rejection of press-fit is possible.

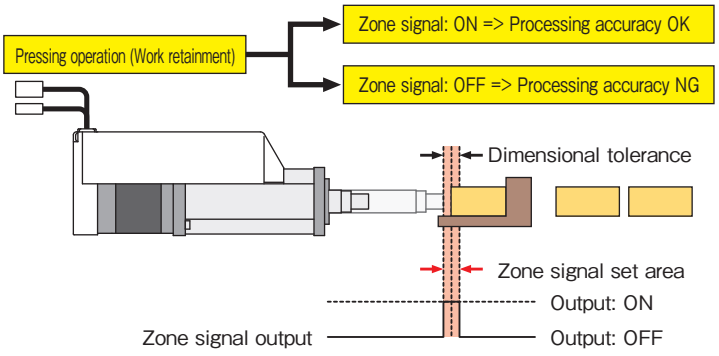
(1) High-speed travel to the place in front of the work → (2) Pressing with the set force → (3) Completion signal & zone signal output → (4) High-speed return → (1)

Pressing Operation & Inspection

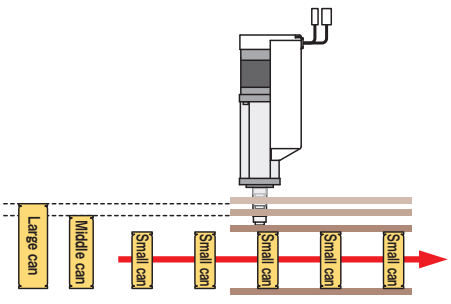


Dimensional Inspection of Work

If the processing error range of the work is set to the zone signal, the work can be inspected.



Upper Guide Height Adjustment




Dyadic Systems