Product Data Sheet

Actuator
01DS60

01DS60 is a quiet and powerful actuator up to 6000N thrust, designed for use in furniture application. Our T-control box, which can be perfectly attached and integrated to 01DS60, is available for customers to choose.

Features and Options

Main application: Furniture

Standard features:

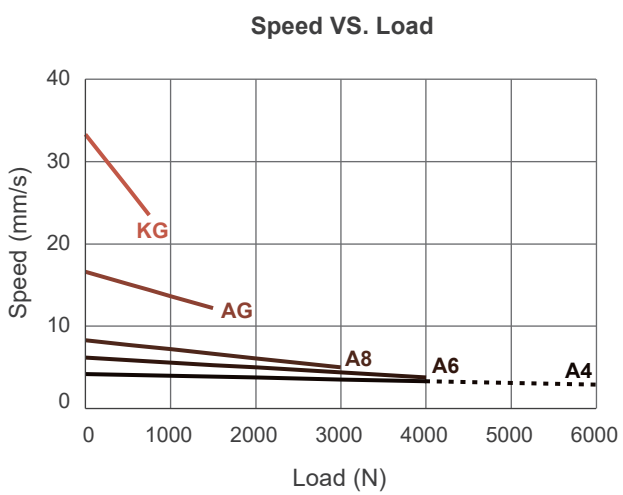
- Input voltage: 12V DC / 24V DC
- Max. load: 6000N (Push) / 4000N (Pull)
- Max. speed at no load: 33.3mm/sec (Typical value)
- Speed at full load: 2.9mm/sec (Typical value @6000N loaded)
- Stroke: 50 ~ 300mm
- Noise level: ≦50dB
- IP level: IP42 (Static; non-action)
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -20°C ~ +65°C
- Certified: UL 962 Standard for Household and Commercial Furnishings
- Compliant with CE Marking, EMC Directive 2014/30/EU

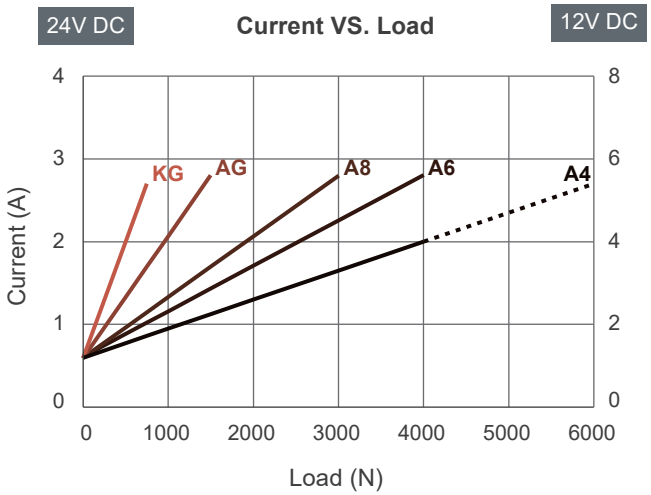
Options:

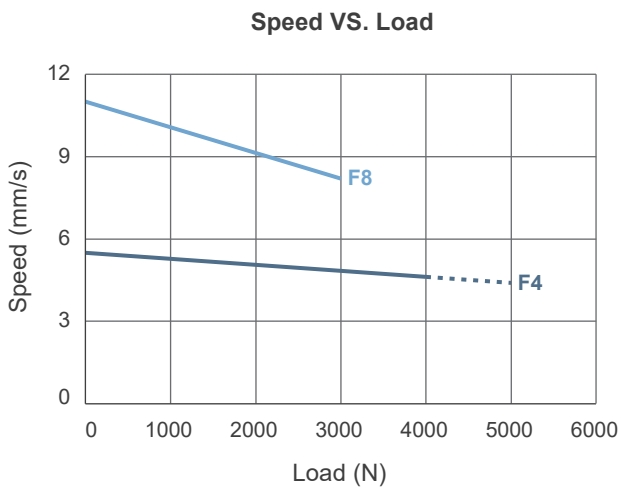
- Positioning signal feedback with Hall effect sensor x 1
- Positioning signal feedback with Hall effect sensor x 2
- Mechanical push only extension tube
- Mechanical brake

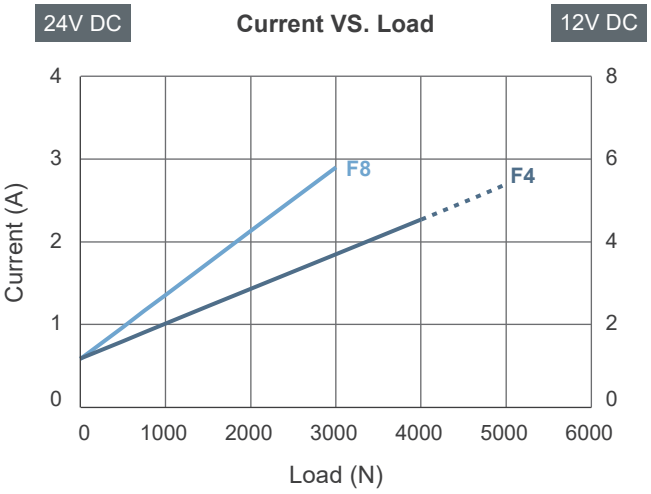
Performance Data

Model No.	Push Max. (N)	Pull Max. (N)	Self-locking ability (N) *	Typical speed (mm/s) **		Typical current (A) **			
				No load	Full load	No load		Full load	
						12V	24V	12V	24V
01DS60-XX-**A4**	6000	4000	5000	4.2	2.9	1.2	0.6	5.4	2.7
01DS60-XX-**A6**	4000	4000	2500	6.2	3.8	1.2	0.6	5.6	2.8
01DS60-XX-**A8**	3000	3000	2000	8.3	5.0	1.2	0.6	5.6	2.8
01DS60-XX-**AG**	1500	1500	700	16.6	12.2	1.2	0.6	5.6	2.8
01DS60-XX-**KG**	750	750	0	33.3	23.5	1.2	0.6	5.4	2.7
01DS60-XX-**F4**	5000	4000	5000	5.5	4.4	1.2	0.6	5.6	2.8
01DS60-XX-**F8**	3000	3000	2000	11.0	8.2	1.2	0.6	5.8	2.9









Push / Pull load ——— Push load - - -

Remarks:

* The self-locking ability is performed by short circuit the motor terminals when the actuator is powered off. All compatible control boxes are designed with this feature. Mechanical brake in push direction is available upon request, to further enhance the self-locking ability to maximum load.

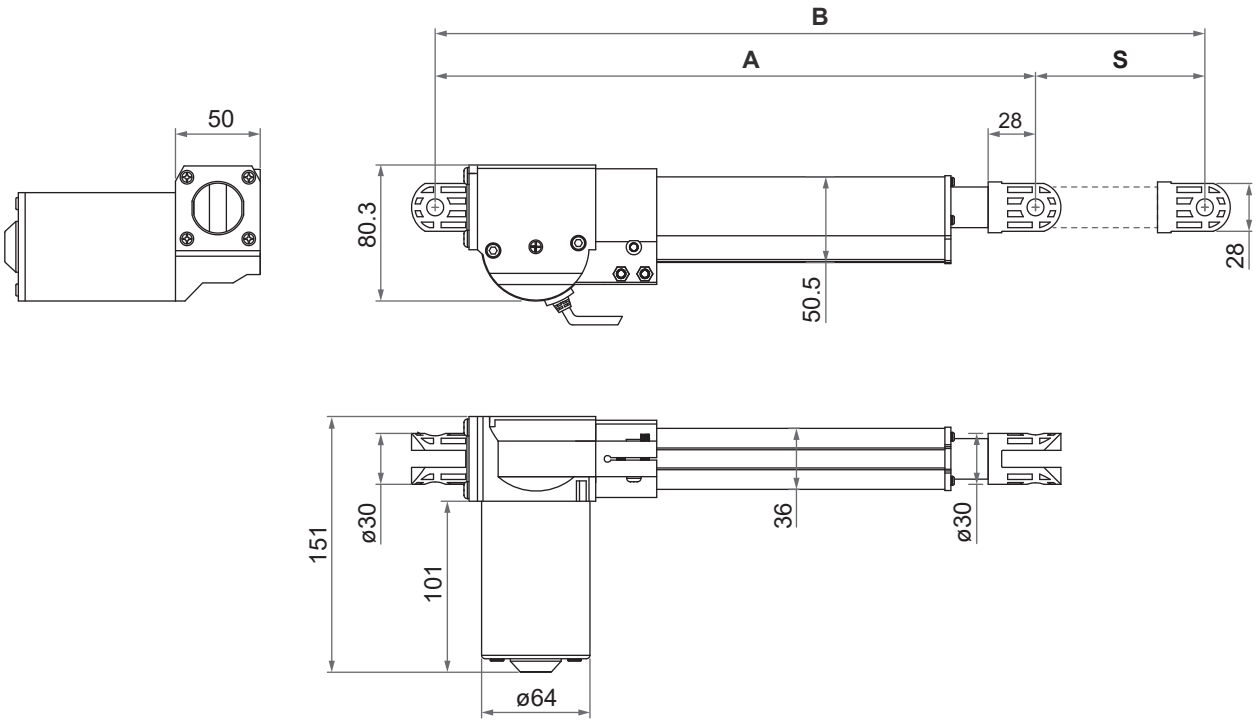
** The typical speed or typical current means the average value neither upper limit nor lower limit, which measured under room temperature and stable power. The performance curves are made with typical values.

Dimensions

- **Available stroke (S) range** = 50 ~ 300mm (±3mm)
- **Extended length (B)** = Retracted length (A) + Stroke (S)
- **Retracted length (A)**

Front connector code / Rear connector code	1, 5, 8	2, 3, 7
1, 2	A≧S+188mm (±3mm)	A≧S+160mm (±3mm)
5 (with crank function)	A≧S+198mm (±3mm)	A ≧S+170mm (±3mm)

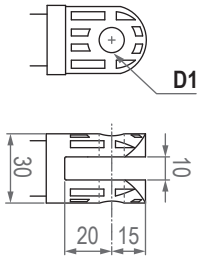
- **Drawing**



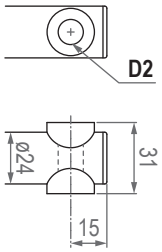
Unit: mm

● Front connector

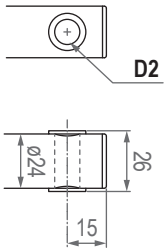
1: Plastic



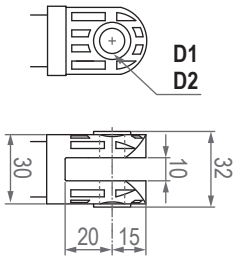
2: Brass bushing



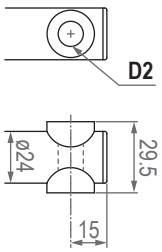
3: Drilled hole



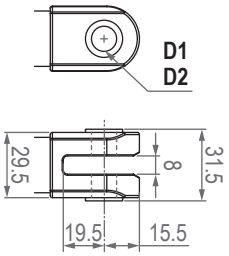
5: Metal



7: Plastic bushing



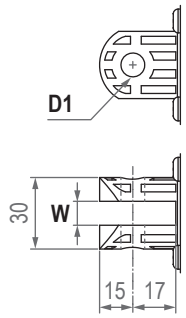
8: Enhanced metal



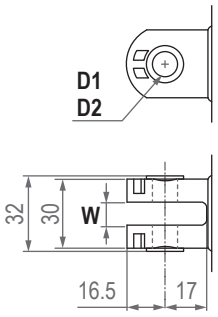
Front connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
1	ø8, ø10, ø12	N/A
2	N/A	ø10
3	N/A	ø8, ø10
5	ø8, ø10, ø12	ø8, ø10
7	N/A	ø10
8	ø10, ø12	ø8, ø10

● Rear connector

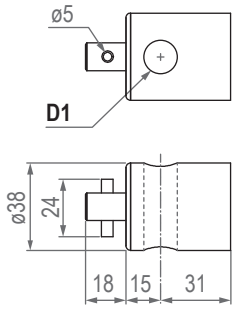
1: Plastic



2: Metal



5: Metal (with crank function)

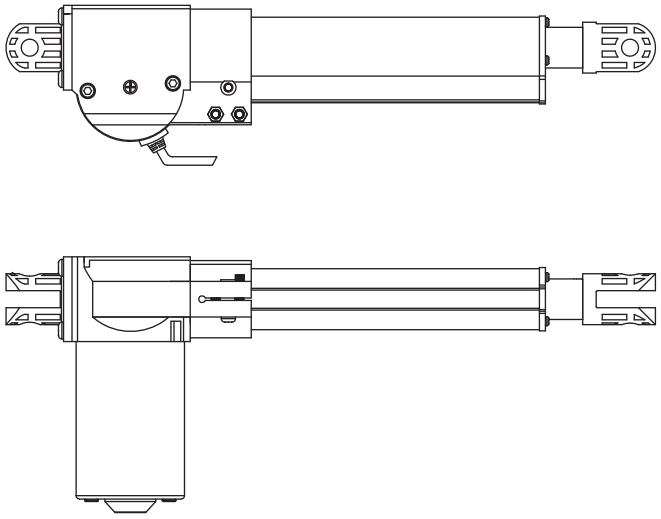


Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)	Slot width (W)
1	ø8, ø10, ø12	N/A	6, 10
2	ø8, ø10, ø12	ø8, ø10	6, 10
5	ø14.5	N/A	N/A

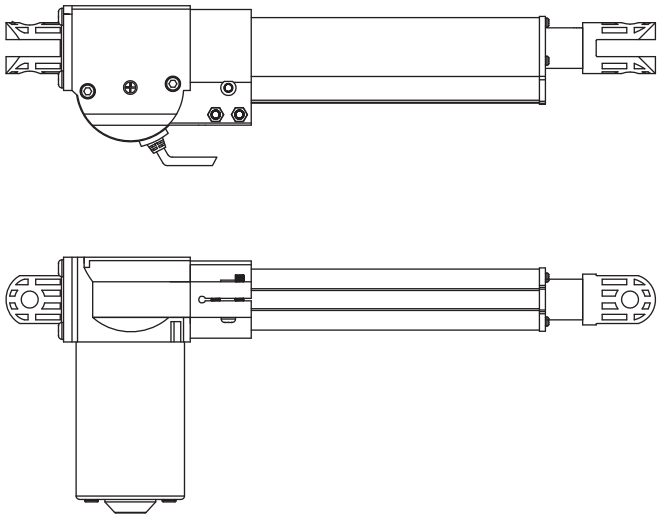
Unit: mm

- **Pivot orientation of rear connectors**

0° (standard)



90°



Compatibility

Product	Model	01DS60 spec
Control box	T-control, 01XA1, 01XA2, 01XV3R, 01XV4N, 01XVR2	• Without positioning sensor • With F-type 4-pin DIN plug
	01XD11G, 01XD12G	• Without positioning sensor • With L3-type minifit 6-pin plug
	01XV3R-SY, 01XV4N-S, 01XV4N-B	• With dual Hall effect sensors for positioning • With F-type 6-pin DIN plug
	01XV3R-SYD	• 12V DC motor • With dual Hall effect sensors for positioning • With F-type 6-pin DIN plug
	01XD11A, 01XD12A	• With dual Hall effect sensors for positioning • With L3-type minifit 6-pin plug
	01RZ2L	• With direct-cut power cable DL1
Hand control	Depend on control box	• Powered by control box
	01GA15	• With S-type DIN 41529 male plug (1)
	01GV, 01ROAK, 01GA02, 01GM02, 01GM03, 01GM04, 01GM05, 01GM06	• With direct-cut power cable DL1 (2)
Accessory	Power adapter: DPA-58-2920-C8 (formerly TSW1), DPA-87-2930-C6 (formerly TSW3), WPA-29-2910-SR (formerly TSW4), DPA-87-2930-C8	• With direct-cut power cable DL1

Remarks:

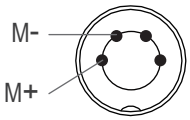
(1) The S-type DIN 41529 plug of the actuator is connected to the 01GA15 hand control directly, no control box.

(2) The actuator is connected to the hand control through the DL1 cable directly, no control box.

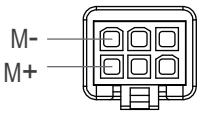
Cable Plug

A. Connecting control devices that provide power

● Without positioning feedback



With F-type 4-pin DIN plug

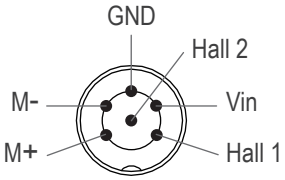


With L3-type Minifit 6-pin plug

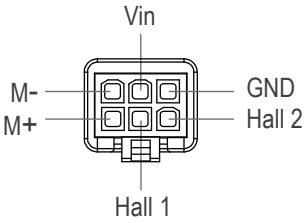
F-type plug

L3-type plug

● Positioning feedback with dual Hall effect sensors



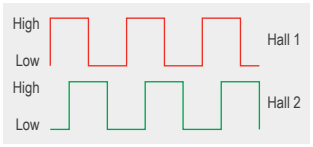
With F-type 6-pin DIN plug



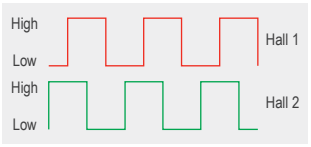
With L3-type Minifit 6-pin plug

Note: Pin definition

	Definition	Descriptions
Power	M+	Connect M+ to “Vdc +” & M- to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	M-	
Signal	Vin	Voltage input range: 5 ~ 20V
	Hall 1 output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data:
	Hall 2 output	Hall effect sensor resolution:
	GND	



Actuator extends



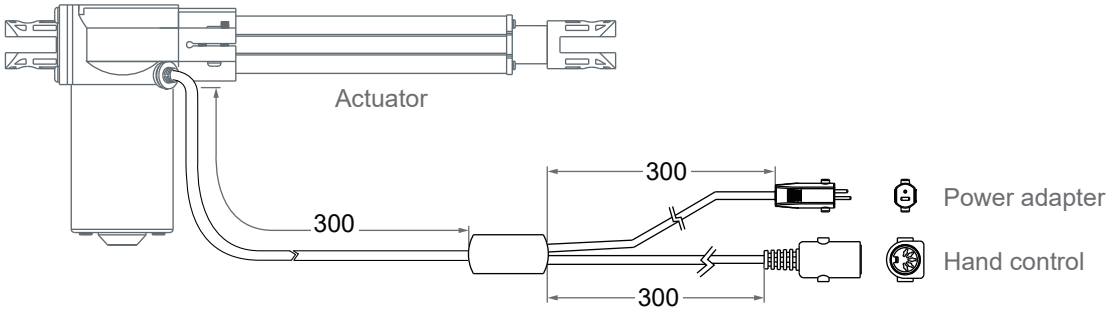
Actuator retracts

Model No.	Resolution (pulses/mm)
01DS60-XX-**A4**-XXX.XXX-CXX-**HSX**	10.0
01DS60-XX-**F4**-XXX.XXX-CXX-**HSX**	10.0
01DS60-XX-**A6**-XXX.XXX-CXX-**HSX**	6.67
01DS60-XX-**A8**-XXX.XXX-CXX-**HSX**	5.0
01DS60-XX-**F8**-XXX.XXX-CXX-**HSX**	5.0
01DS60-XX-**AG**-XXX.XXX-CXX-**HSX**	2.50
01DS60-XX-**KG**-XXX.XXX-CXX-**HSX**	1.25

B. Connecting control devices that DO NOT provide power

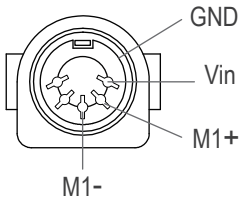
1. Cable solution

- With direct-cut power cable DL1



2. Hand control connector: U-type DIN 5-pin female connector

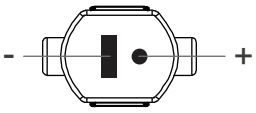
- 1 drive



Note: Connect M1+ to “Vdc +” & M1- to “Vdc -“ of DC power to extend the M1 actuator. Switch the polarity of DC input to retract it.

U-type
female connector

3. Power connector: S-type DIN 41529 2-pin male plug



S-type
male plug

Wiring with Flying Leads

● **Basic, without positioning feedback.**

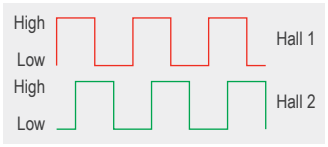
	Wire color	Definition	Descriptions
Power wires	White	DC Power	Connect white wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

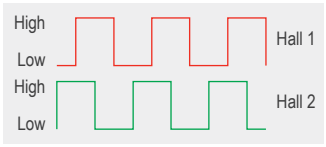
● **With single Hall effect sensor for positioning**

	Wire color	Definitions	Descriptions
Power wires	Blue	DC Power	Connect blue wire to “Vdc +” & brown wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Brown		
Signal wires	Yellow	Vin	Voltage input range: 5 ~ 20V
	Red	Hall output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data: Hall effect sensor resolution:
	Black	GND	

Model No.	Resolution (Pulses/mm)
01DS60-XX-**A4**-XXX.XXX-CXX-**HS3**	10.0
01DS60-XX-**F4**-XXX.XXX-CXX-**HS3**	10.0
01DS60-XX-**A6**-XXX.XXX-CXX-**HS3**	6.67
01DS60-XX-**A8**-XXX.XXX-CXX-**HS3**	5.0
01DS60-XX-**F8**-XXX.XXX-CXX-**HS3**	5.0
01DS60-XX-**AG**-XXX.XXX-CXX-**HS3**	2.50
01DS60-XX-**KG**-XXX.XXX-CXX-**HS3**	1.25

● With dual Hall effect sensors for positioning

<table>
<tr><th></th><th>Wire color</th><th>Definitions</th><th>Descriptions</th></tr>
<tr><td rowspan="2">Power wires</td><td>Blue</td><td rowspan="2">DC Power</td><td rowspan="2">Connect blue wire to “Vdc +” & brown wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.</td></tr>
<tr><td>Brown</td></tr>
<tr><td rowspan="4">Signal wires</td><td>Yellow</td><td>Vin</td><td>Voltage input range: 5 ~ 20V</td></tr>
<tr><td>Red</td><td>Hall 1 output</td><td rowspan="2">High= Input - 1.2V (±0.6V)
Low= GND
Hall signal data:
 

Actuator extends


Actuator retracts
Hall effect sensor resolution:
<table>
<tr><th>Model No.</th><th>Resolution (Pulses/mm)</th></tr>
<tr><td>01DS60-XX-A4-XXX.XXX-CXX-HS4</td><td>10.0</td></tr>
<tr><td>01DS60-XX-F4-XXX.XXX-CXX-HS4</td><td>10.0</td></tr>
<tr><td>01DS60-XX-A6-XXX.XXX-CXX-HS4</td><td>6.67</td></tr>
<tr><td>01DS60-XX-A8-XXX.XXX-CXX-HS4</td><td>5.0</td></tr>
<tr><td>01DS60-XX-F8-XXX.XXX-CXX-HS4</td><td>5.0</td></tr>
<tr><td>01DS60-XX-AG-XXX.XXX-CXX-HS4</td><td>2.50</td></tr>
<tr><td>01DS60-XX-KG-XXX.XXX-CXX-HS4</td><td>1.25</td></tr>
</table></td></tr>
<tr><td>Green</td><td>Hall 2 output</td></tr>
<tr><td>Black</td><td>GND</td><td></td></tr>
</table>

Ordering Key

01DS60- 24 - A4 - 350 . 470 - C 1 2 - HS3 - PO-BK - 0

Input voltage	**12**: 12V DC **24**: 24V DC
Motor and Spindle type	**A4:** 2500rpm / 4mm pitch **A6:** 2500rpm / 6mm pitch **A8:** 2500rpm / 8mm pitch **AG:** 2500rpm / 16mm pitch **KG:** 2500rpm / 16mm pitch **F4:** 3300rpm / 4mm pitch **F8:** 3300rpm / 8mm pitch
Retracted length (Refer to Page 3)	**XXX**
Extended length (Refer to Page 3)	**XXX**
Front connector (Refer to Page 4)	**1**: Plastic **2**: Brass bushing **3**: Drilled hole **5**: Metal **7**: Plastic bushing **8**: Enhanced metal
Rear connector (Refer to Page 4)	**1**: Plastic **2**: Metal **5**: Metal (with crank function)
Positioning feedback	**Blank**: None **HS3**: Hall effect sensor x 1 **HS4**: Hall effect sensor x 2
Option (Multiple choice is allowed)	**Blank**: None **PO**: Mechanical push only extension tube **BK**: Mechanical brake
Cable length	**0**: 300mm straight **1**: 1000mm straight **2**: 450mm with 300mm coiled **A**: Direct-cut power cable DL1 (Refer to Page 8)