

1.

Sizing of HIWIN Linear Actuator

Step 1: Determine the load and speed

Consider the operating environment, compare the specifications of various types of Hiwin Linear Actuators and select the most appropriate model.

Step 2: Stroke and retracted length sizing

Consider the dimensions of the operating area and select the appropriate actuator.

Step 3: Duty cycle

Duty cycles should not exceed 10%. If the duty cycles exceeds 10%, the life of the actuator can be reduced. Users should make sure that no torsion or impact forces are acting upon the actuator.

Step 4: Controller Sizing

The selection of controller should be made according to the power requirements of the actuator. Other considerations are number of axes, type of limit switches and the version of keypad.

2.

Installation of HIWIN Linear Actuator

1. Please ensure that the extension tube is in the “lowest position”. The term “lowest position” refers to the position where there is no further movement towards the DC motor while the actuator is powered on.
2. The front and end joints of the linear actuator should be mounted onto two fixed positions on the main chasis. Locations of these fixed positions should be chosen according to the stroke length of the linear actuator.
3. After the fixed positions have been selected, install the fixtures onto these selected positions of the main chasis. These fixtures are used to fix the front and end joints of the linear actuator.
4. Assemble the front and end joints of the linear actuator onto the two fixtures using fixture bolts. Please ensure that the fixture bolts rotate freely when this step is completed. Also, please ensure that the fixture bolts do not become loose and fall off during operation.
5. The chasis of the linear actuator should be mounted in the horizontal direction if it is going to be operated in this direction and likewise for vertical operation. Damages could occur to the actuator if these instructions are not followed.
6. Users of Hiwin actuators please make sure that:
 - The travel distance of the actuator matches the design requirements.
 - The upper and lower limit switches are functioning.
 - The motor stops when the extension tube reaches the upper and lower limit switches.

*** If the actuator does not operate as described above, please repeat steps 2 thru 4 make sure installation is correct.**

**** All *HIWIN* linear actuators and control boxes have to be grounded.**

3.***Safe Operating Regulation
of HIWIN Linear Actuators***

1. A no load operation may damage the actuator, especially if the actuator has external limit switches installed.
2. Please make sure actuators are installed where the motor or any mechanical parts can be damaged due to dangerous environments.
3. Make sure the DC voltage supplied to the actuator matches the specifications on the actuator. The power supply should supply enough power under maximum load.
4. Under extreme load situations the motor will try to draw more than the rated current. It is the operator's duty to ensure that the power supply does not provide more current than specified on the actuator. Excessive current will cause wiring damage and possible fatal failure to the actuator. Current can be controlled on the output of the power supply. Fuses or over-current devices are available to shut actuator off in extreme load situations.
5. Feedback signals from the thermal protection devices should be utilized to control and protect the actuator so the actuator shuts down if it over-heats.
6. If the actuator was purchased without limit switches please install appropriate limit switches that will comply with the power supply and any over-current protection devices that are used.
7. The movement of the extension tube can be reversed by changing the polarity of voltage supplied.
8. Make sure the actuator operates within its stroke length if it is not supplied with limit switches or over load protection devices.
9. The actuator should operate within the rated load specifications.
10. Please make sure the actuator is operating within the IP rating for dust and water.
11. For applications requiring high accuracy and tight speed requirements please see Hiwin's KK-series linear stages.

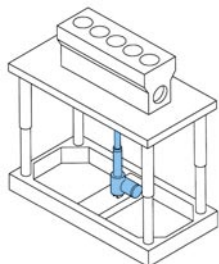
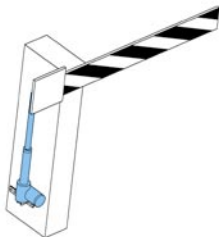
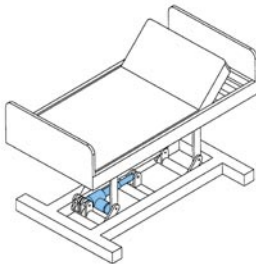
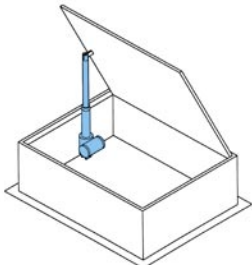
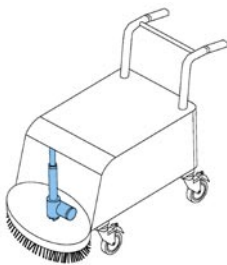
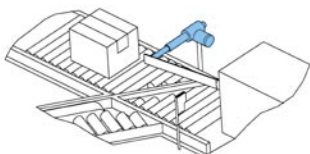
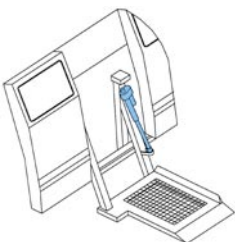
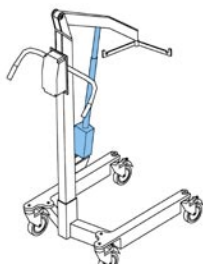
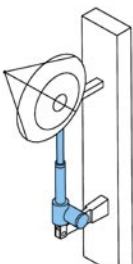
4.

Features & Applications

4-1 Features of Linear Actuator

1. Light weight and compact structure
2. User friendly
3. Simple installation
4. Low noise
5. High rigidity
6. Competitive price

4-2 Applications

		
		● Automation equipment ● Automatic windows and doors ● Automatic cupboard ● Automatic satellite antenna ● Automatic wheel chair ● Automatic hospital bed ● Entertainment facilities ● Household appliances ● Automatic drawing table ● Home care facilities ● Patient lifter ● Massage chair ● Traffic facilities ● Office automation ● Automatic PC desk ● Hospitals and rehabilitation centers ● Nursing homes
		
		

5.

HIWIN LAM Series (1)

LAM
CE


Screw type	Ball screw / ACME
Weight*	2.2 kg
Protection	IP 54
Compatible controller	LAK2/LAK2L
Working temp	+5°C ~40°C

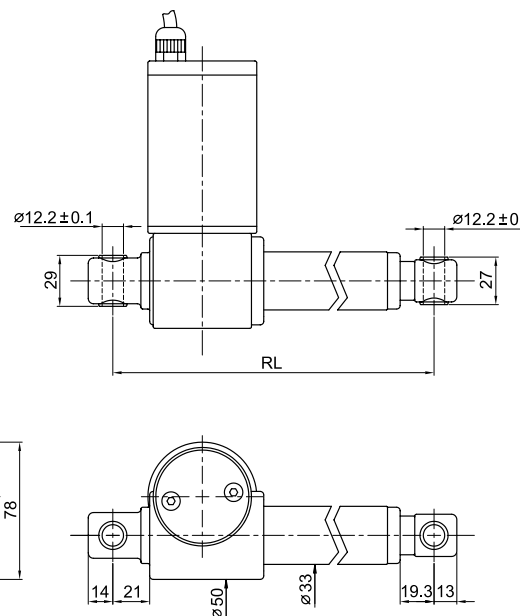
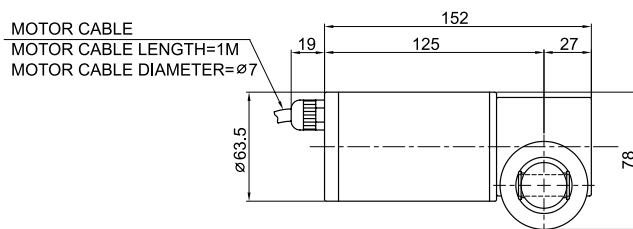
* Stroke length 100 mm

* Option: (1) IP65

(2) Gear box material : S45C (Standard: AL)

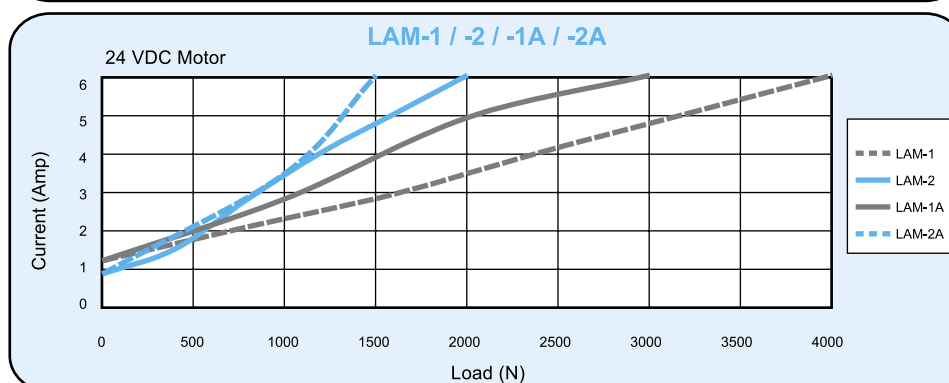
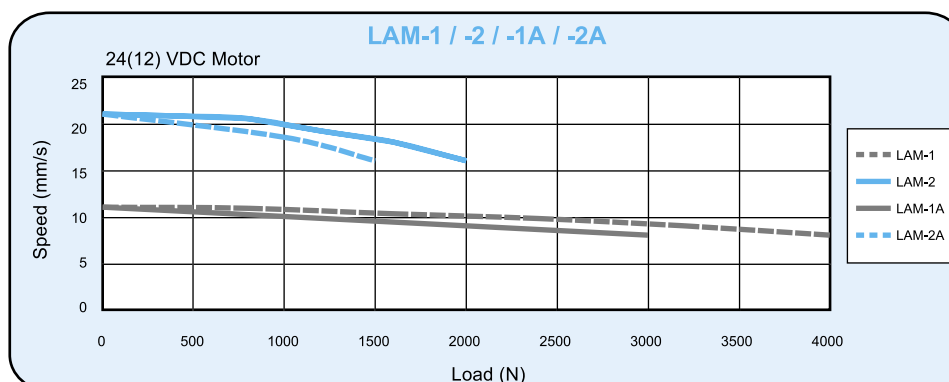
(3) Gear box housing turned 90°

- RL=S+153 (LAM-1/-2)
 RL=S+162 (LAM-1A/-2A)
 RL: Retracted length
 S: Stroke length

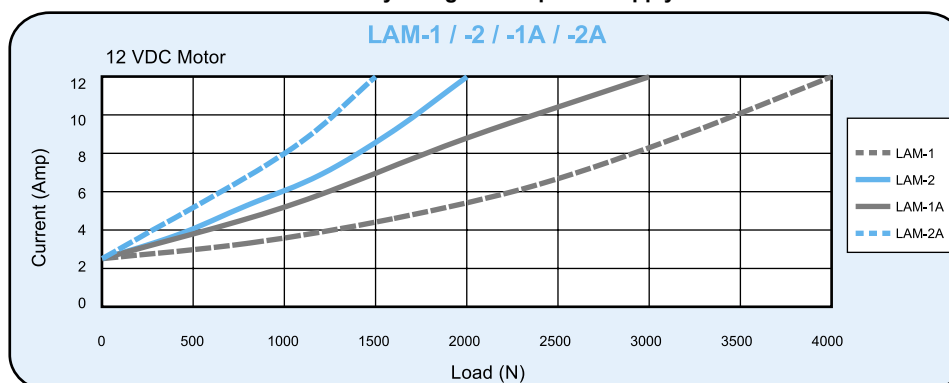


● LAM Specifications

Model	Screw type	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A)	
								12VDC	24VDC
LAM-1	Ball screw	4000	3000	4000	8 / 11	100 150 200 250 300 350 400	10	12	6
LAM-2	Ball screw	2000	2000	1200	16 / 21	100 150 200 250 300 350 400	10	12	6
LAM-1A	ACME	3000	3000	3000	8 / 11	100 150 200 250 300 350 400	10	12	6
LAM-2A	ACME	1500	1500	1500	16 / 21	100 150 200 250 300 350 400	10	12	6

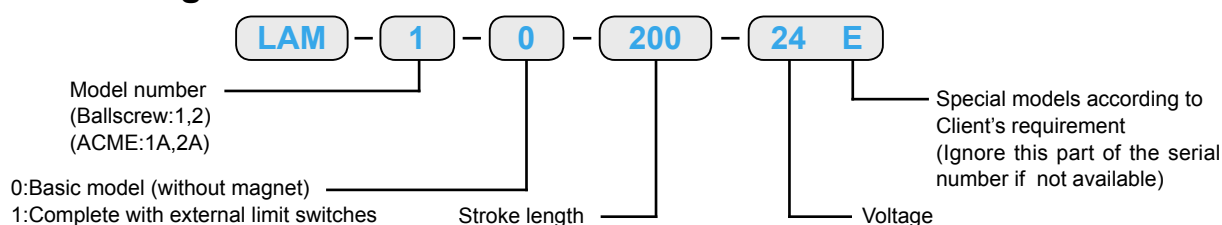


Note: The test results are obtained by using 24VDC power supply.



Note: The test results are obtained by using 12VDC power supply.

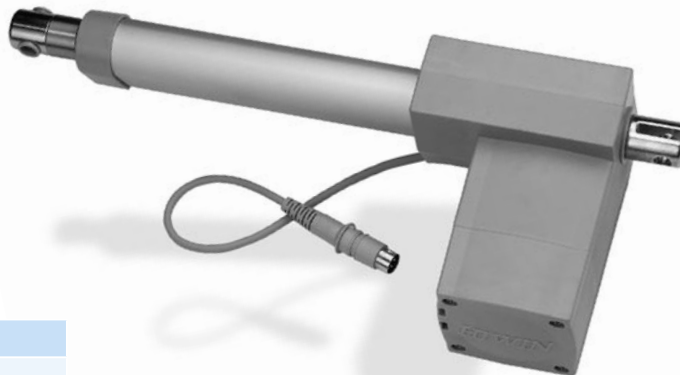
● Ordering Information



5.

HIWIN LAM Series (2)

LAM3



Screw type	ACME
Weight*	2.8 kg
Protection	IP 54
Compatible controller	LAK2D/LAK2B LAK4/LAK6B
Working temp	+5°C ~40°C

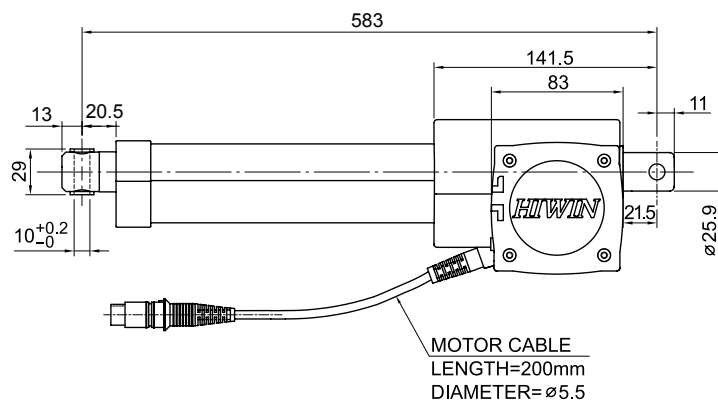
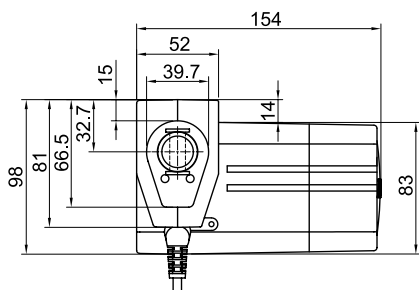
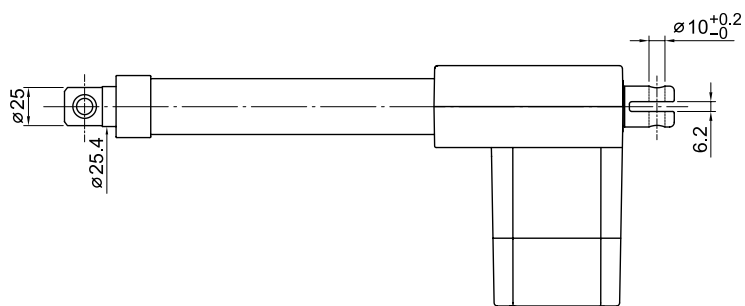
* Stroke length 200 mm

* Option: (1)IP 66

(2)Safety Nut (RL=S+183)

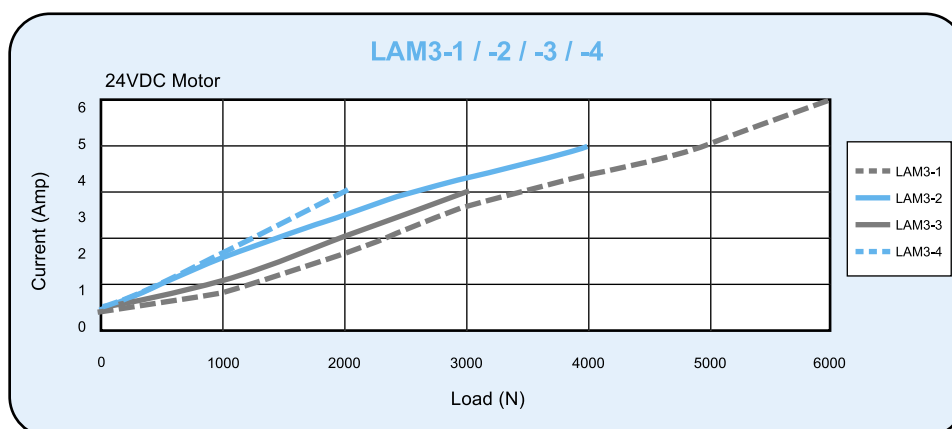
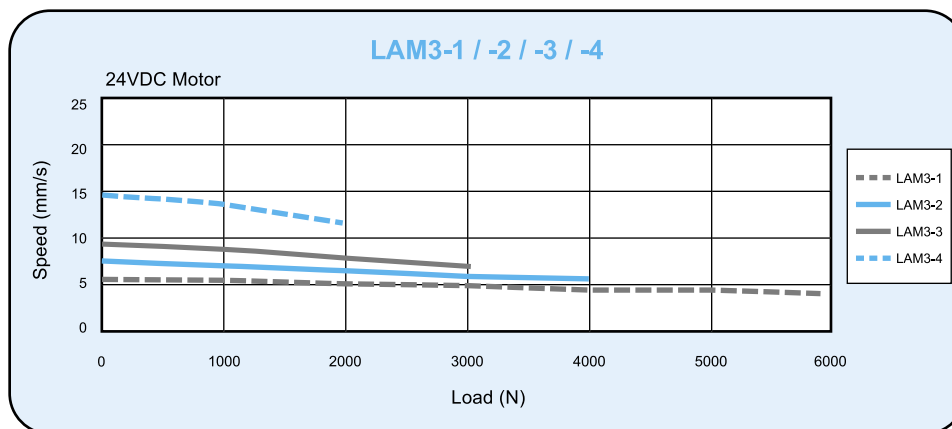
(3)Back fixture turned 90°

- RL=S+171
RL: Retracted length
S: Stroke length



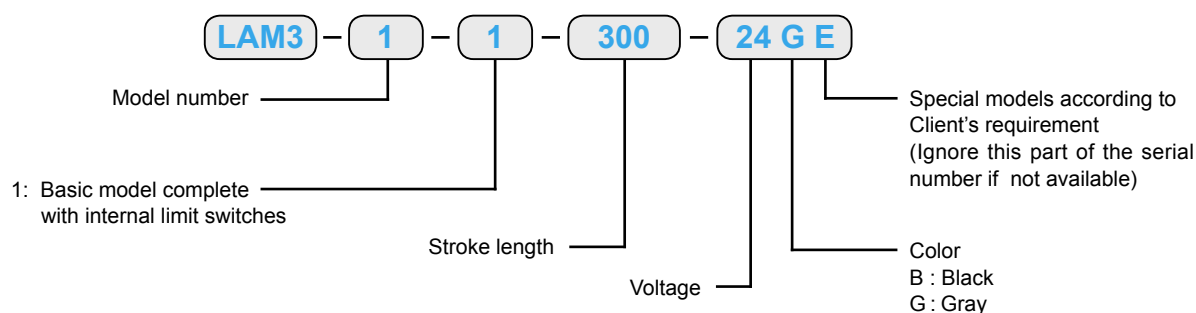
● LAM3 Specifications

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S								Duty cycle %	Max.current (A)
														24VDC
LAM3-1	6000	5000	5000	4 / 5.5	100	150	200	250	300	350	400	10	6	
LAM3-2	4000	4000	4000	5.5 / 7.5	100	150	200	250	300	350	400	10	5	
LAM3-3	3000	3000	3000	7 / 9	100	150	200	250	300	350	400	10	4	
LAM3-4	2000	2000	1500	11.5 / 14.5	100	150	200	250	300	350	400	10	4	



Note: The test results are obtained by using 24VDC power supply.

● Ordering Information



5.

HIWIN LAS Series (1)

LAS
CE

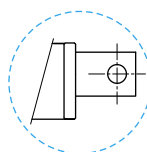

Screw type	ACME
Weight*	0.86 kg
Protection	IP 54
Compatible controller	LAK2
Working temp	+5°C ~40°C

* Stroke length 200 mm

* Option: (1) IP65

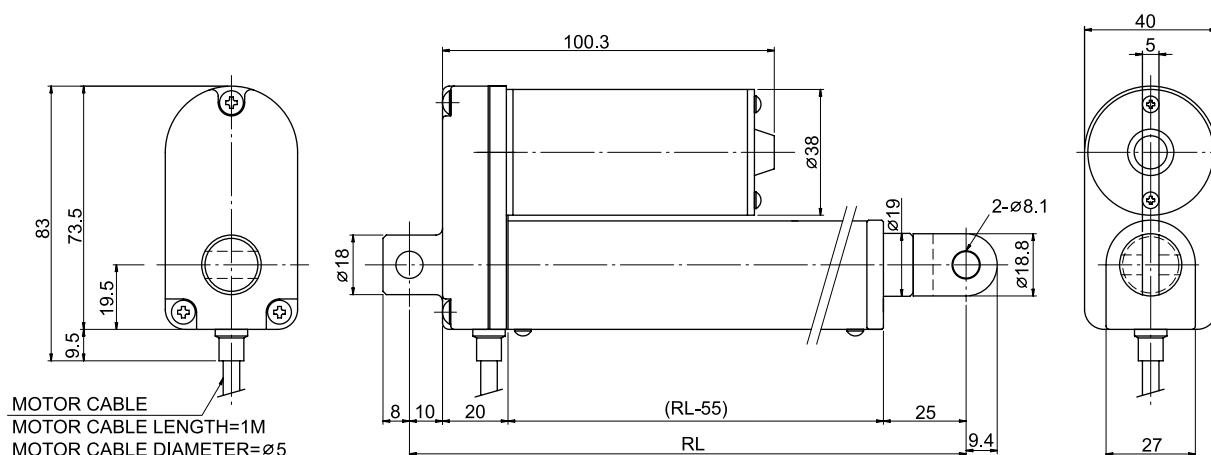
(2) Gear box housing turned 90°

(3) Rod end with flat connector (RL=S+110) →



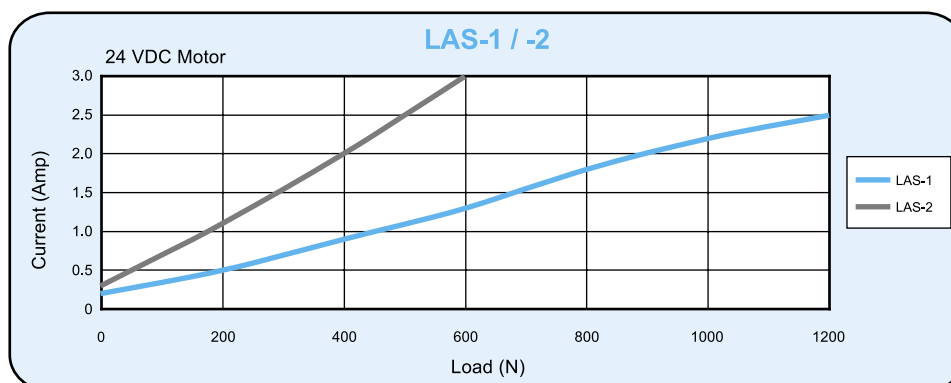
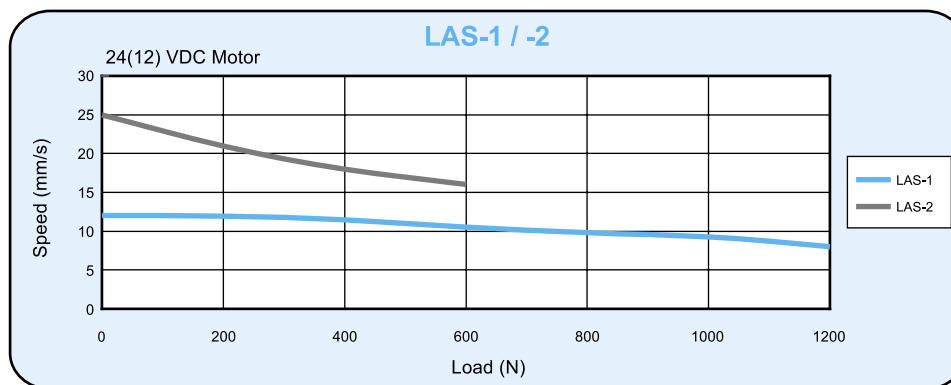
Flat connector

- RL=S+119
- RL: Retracted length
- S: Stroke length

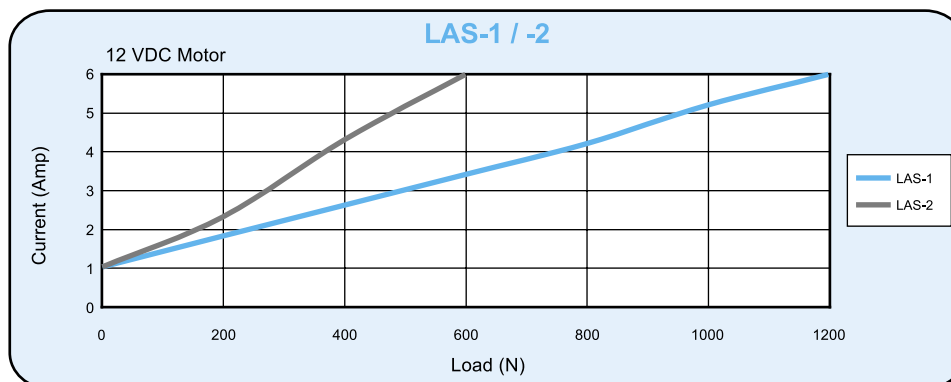


● LAS Specifications

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A)	
							12VDC	24VDC
LAS-1	1200	1200	800	8 / 12	50 100 150 200 250	10	6	2.5
LAS-2	600	600	300	16 / 25	50 100 150 200 250	10	6	3

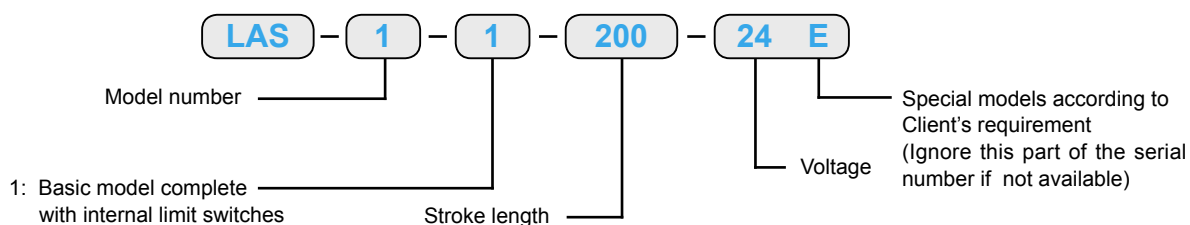


Note: The test results are obtained by using 24VDC power supply.



Note: The test results are obtained by using 12VDC power supply.

● Ordering Information



6.

HIWIN LAS Series (2)

LAS3

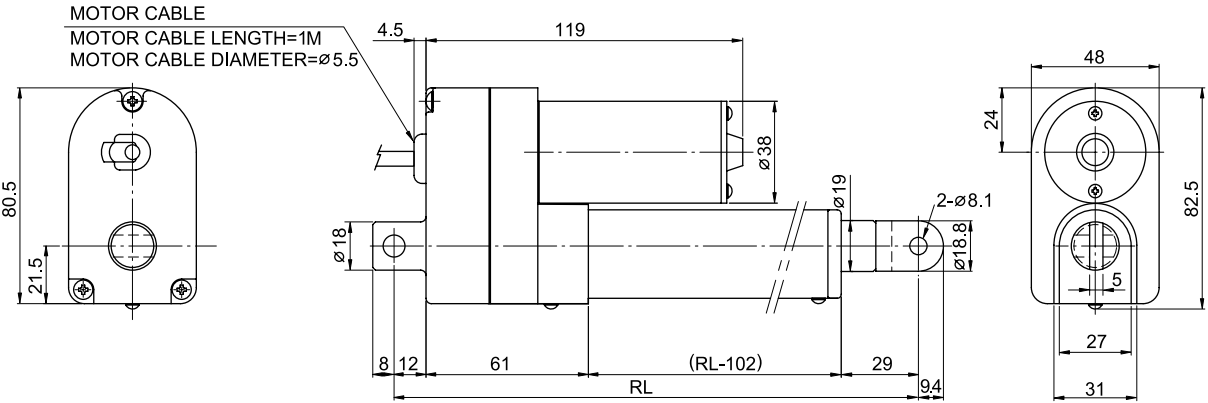


Screw type	ACME
Weight*	1.1 kg
Protection	IP 54
Compatible controller	LAK2
Working temp	+5°C ~40°C

Position feedback specifications (Optical Sensor)		
Supply voltage	24VDC	12VDC
Output	High level 24VDC Low level 0.2v/40mA PNP* PS. Open collector	High level 12VDC Low level 0.2v/40mA PNP* PS. Open collector

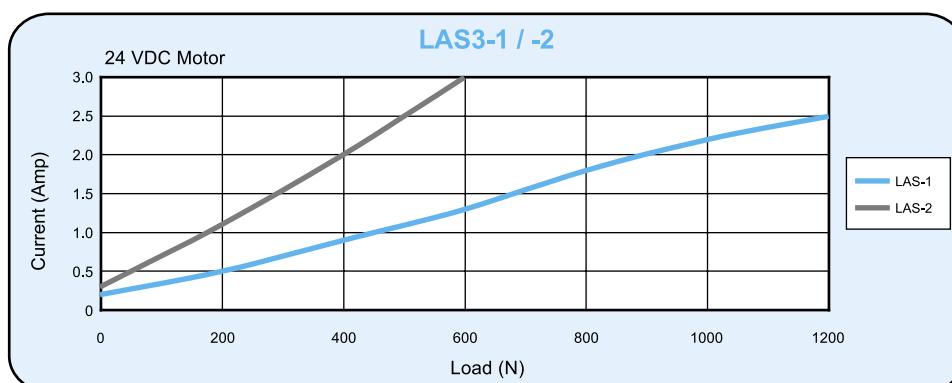
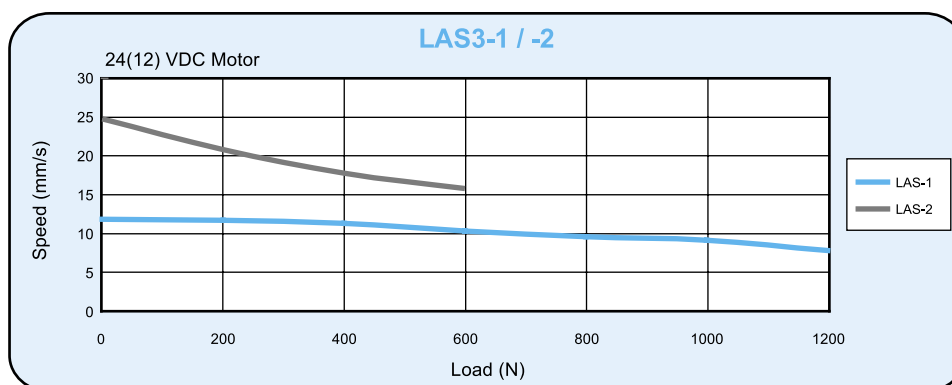
- * Stroke length 200 mm
- * Option: (1) IP65
- (2) position feedback
- (3) Potentiometer 10k ohm (RL=S+154)
- (4) NPN

- RL=S+146
- RL: Retracted length
- S: Stroke length

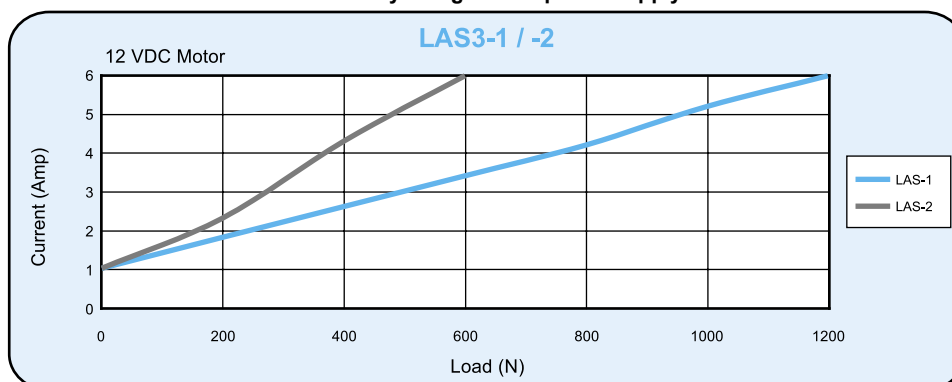


● LAS3 Specifications

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A)		Optical Sensor Resolution (mm/pulse)	Potentiometer Resolution (Ohm/mm)
							12VDC	24VDC		
LAS3-1	1200	1200	800	8 / 12	50 100 150 200 250	10	6	2.5	0.3175	21
LAS3-2	600	600	300	16 / 25	50 100 150 200 250	10	6	3	0.365	10.5

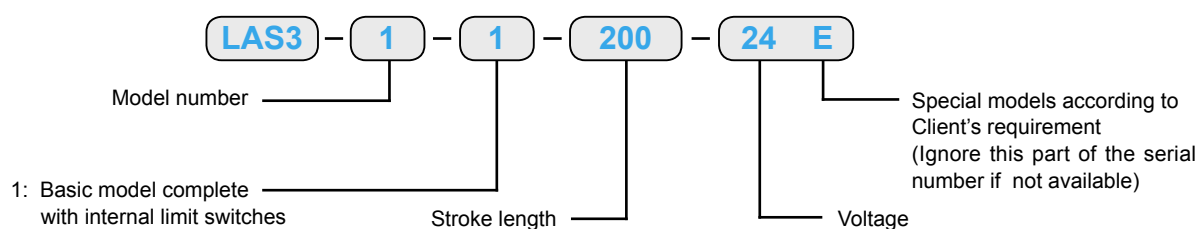


Note: The test results are obtained by using 24VDC power supply.



Note: The test results are obtained by using 12VDC power supply.

● Ordering Information



7.

HIWIN LAS4 Series

LAS4

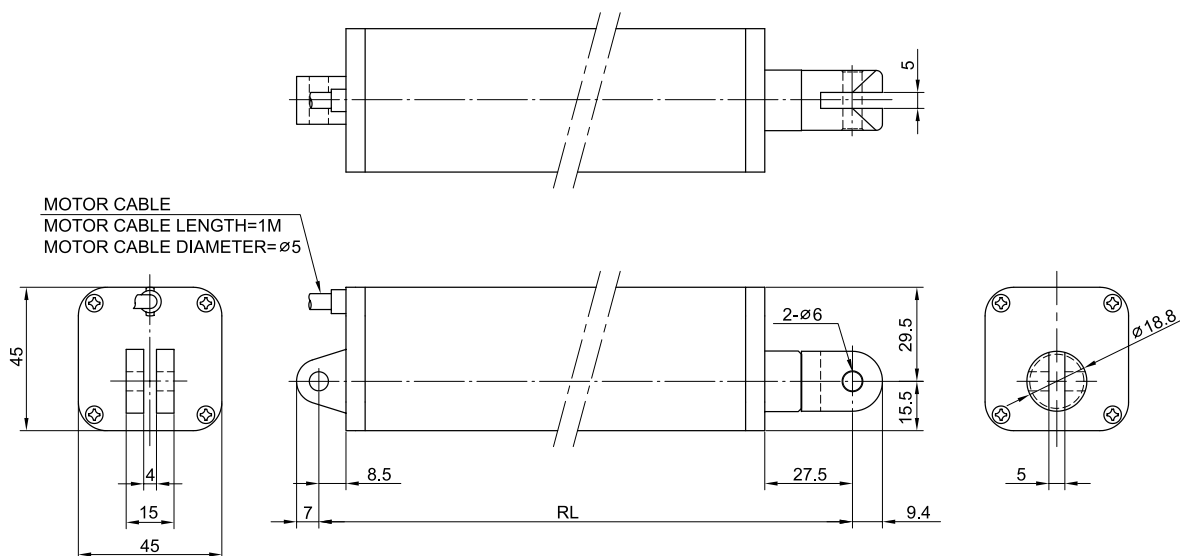


Screw type	ACME
Weight*	1.36 kg
Protection	IP 54
Compatible controller	LAK2
Working temp	+5°C ~40°C

* Stroke length 200 mm

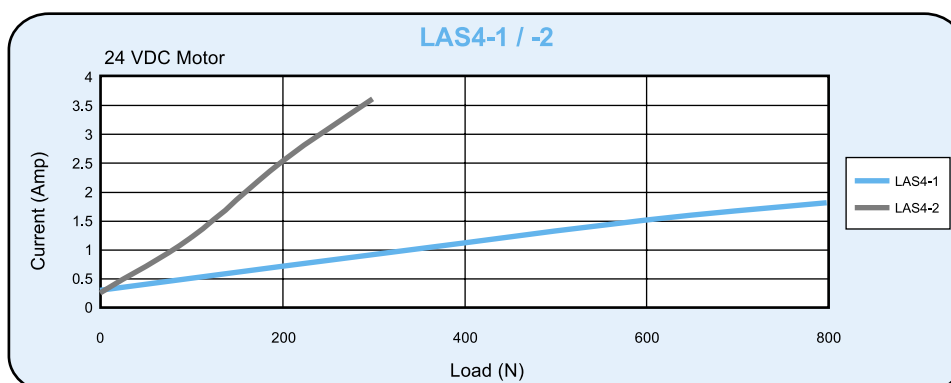
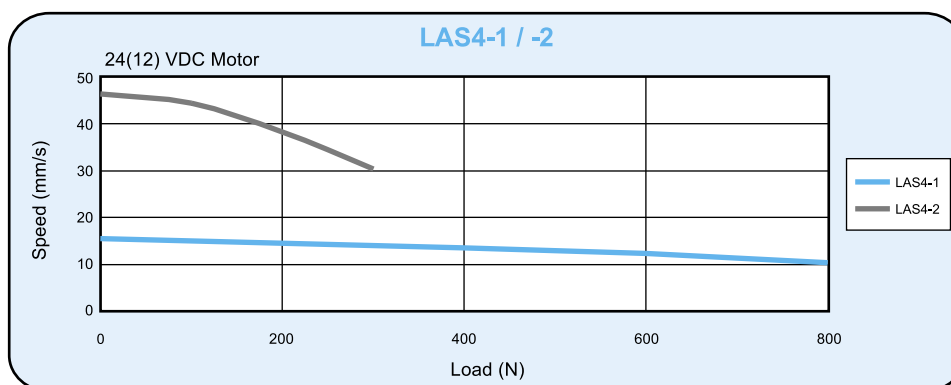
* Option: (1) IP65

- $RL = S + 222.5$
RL: Retracted length
S: Stroke length

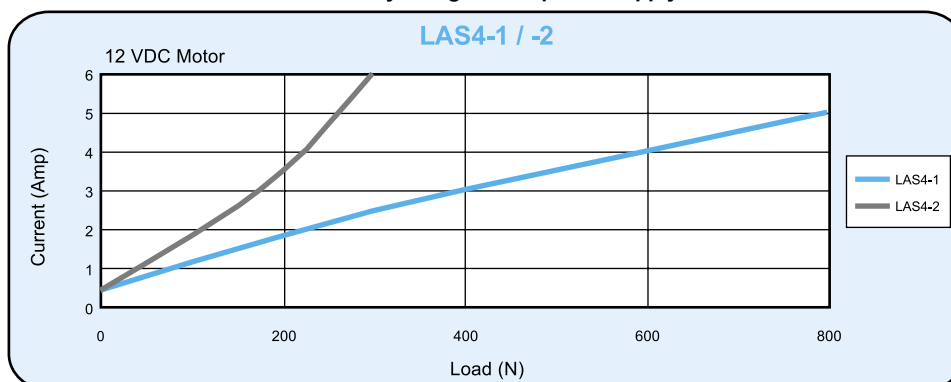


● LAS4 Specifications

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A)	
							12VDC	24VDC
LAS4-1	800	800	800	10 / 15	100 150 200 250 300	10	5	1.8
LAS4-2	300	300	200	30 / 46	100 150 200 250 300	10	6	3.6

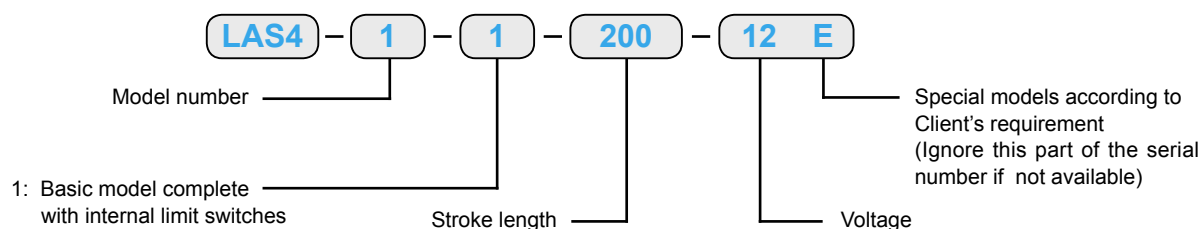


Note: The test results are obtained by using 24VDC power supply.



Note: The test results are obtained by using 12VDC power supply.

● Ordering Information



8.

HIWIN LAN Series (1)

LAN1



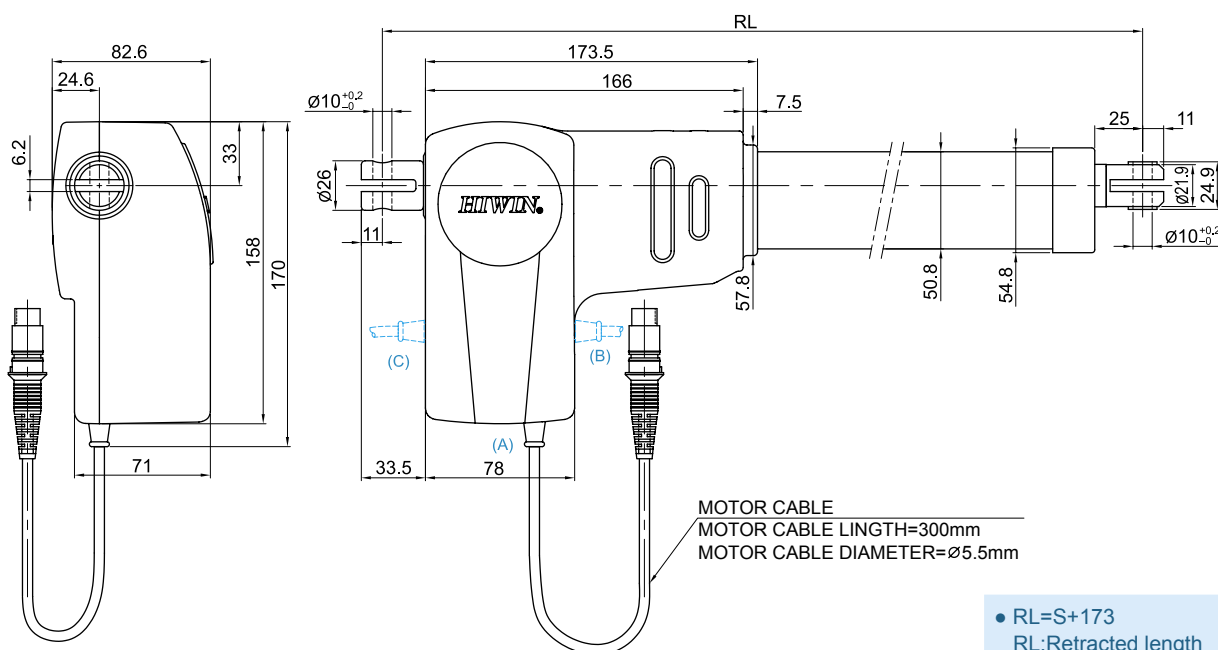
Screw type	ACME
Weight*	2.5 kg
Protection	IP 54
Compatible controller	LAK2B/LAK2D LAK4/LAK6B
Working temp	+5°C ~40°C

Position feedback specifications (Hall Sensor)

Supply voltage	24VDC	12VDC
Output	High level 24VDC Low level 0.2v/10mA sink (NPN)	High level 12VDC Low level 0.2v/10mA sink (NPN)

* Stroke length 200 mm

* Option: (1)IP65 (2)position feedback (3)Safety nut (RL=S+185)
(4)Spline(push only)(RL=S+223) (5)Back fixture turned 90°
(6)Mechanical quick release(RL=S+230),with motor cable outlet from back(C)
(7)Motor cable outlet : (A)Standard (B)Front (C)Back.

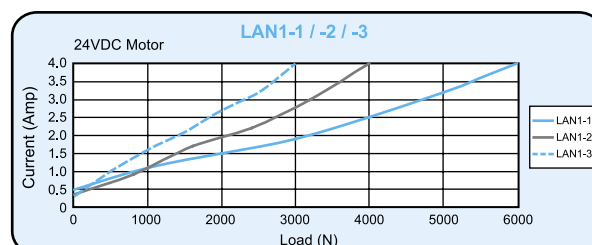
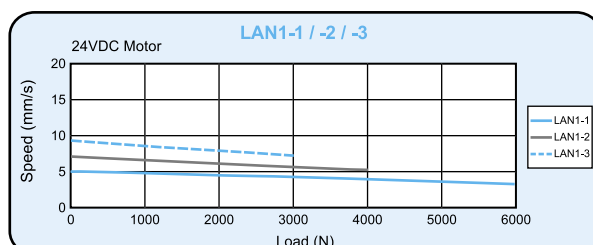


● LAN1 Specifications

Standard Motor

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A) 24VDC	Hall Sensor Resolution (mm/pulse)
LAN1-1	6000	5000	5000	2.7 / 5	100 150 200 250 300	10	4	0.3
LAN1-2	4000	4000	4000	5 / 7	100 150 200 250 300	10	4	0.4
LAN1-3	3000	3000	3000	7 / 9	100 150 200 250 300	10	4	0.5

Note: The test results are obtained by using LAK4 controller.

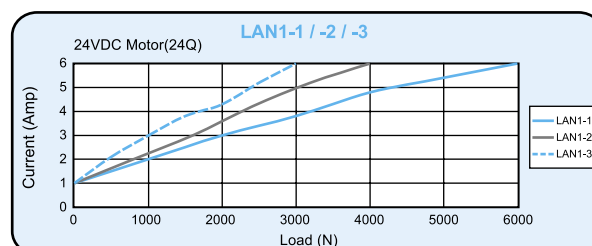
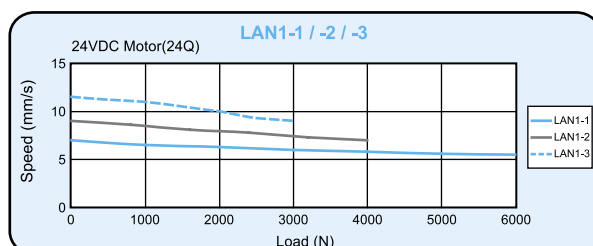


● Option

24VDC Motor (24Q)

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A) 24VDC	Hall Sensor Resolution (mm/pulse)
LAN1-1	6000	5000	5000	5 / 7	100 150 200 250 300	10	6	0.3
LAN1-2	4000	4000	4000	7 / 9	100 150 200 250 300	10	6	0.4
LAN1-3	3000	3000	3000	9 / 11.5	100 150 200 250 300	10	6	0.5

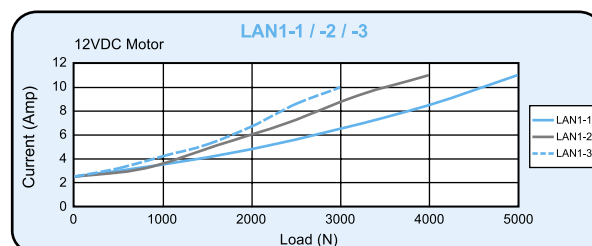
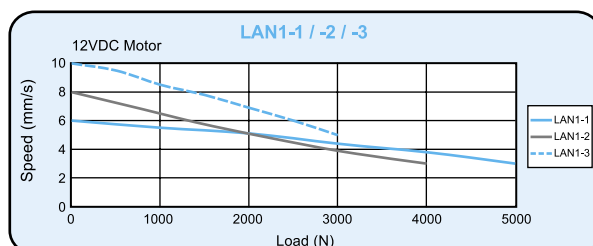
Note: The test results are obtained by using 24VDC power supply.



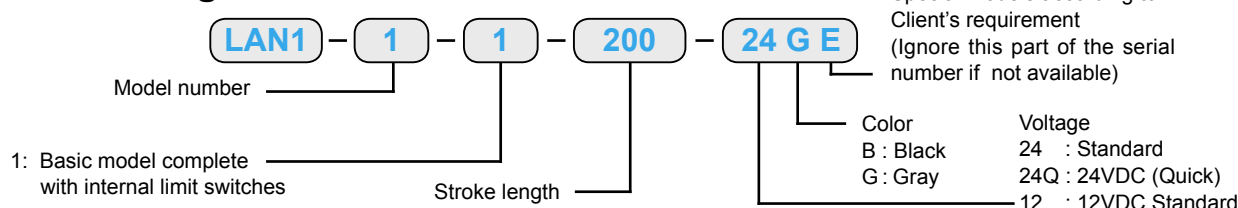
12VDC Motor

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A) 24VDC	Hall Sensor Resolution (mm/pulse)
LAN1-1	5000	5000	5000	3 / 6	100 150 200 250 300	10	11	0.3
LAN1-2	4000	4000	4000	3 / 8	100 150 200 250 300	10	11	0.4
LAN1-3	3000	3000	3000	5 / 10	100 150 200 250 300	10	10	0.5

Note: The test results are obtained by using 12VDC power supply.



● Ordering Information



8.

HIWIN LAN Series (2)

LAN2



Screw type	ACME
Weight*	3.1 kg
Protection	IP 54
Compatible controller	LAK2/LAK2L
Working temp	+5°C ~40°C

Position feedback specifications (Hall Sensor)

Supply voltage	24VDC
Output	High level 22VDC Low level 0.2v/10mA sink (NPN)

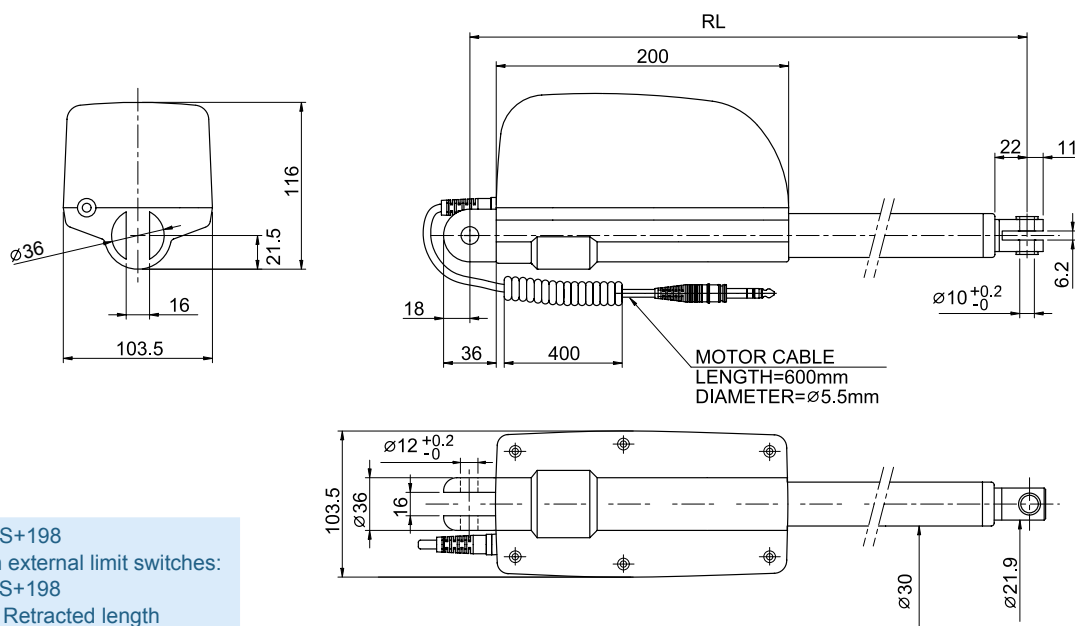
* Stroke length 300 mm

* Option: (1)IP66

(2)position feedback

(3)Safety nut: RL=S+211

(4)Spline(push only): RL=S+237

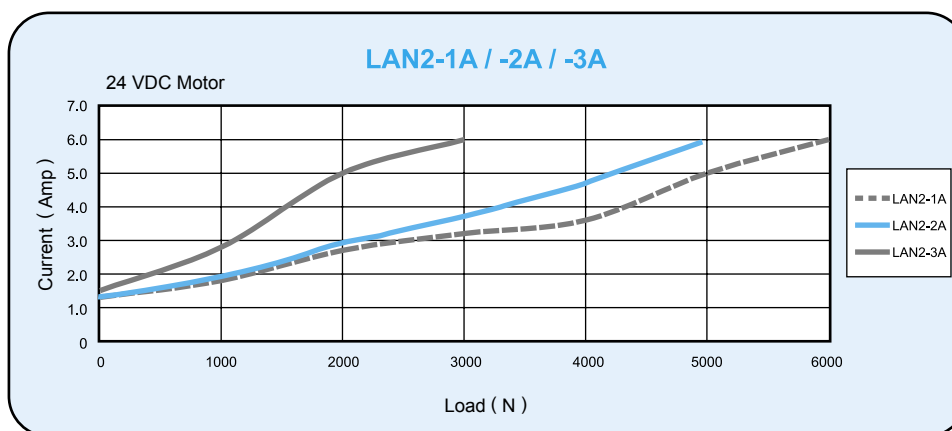
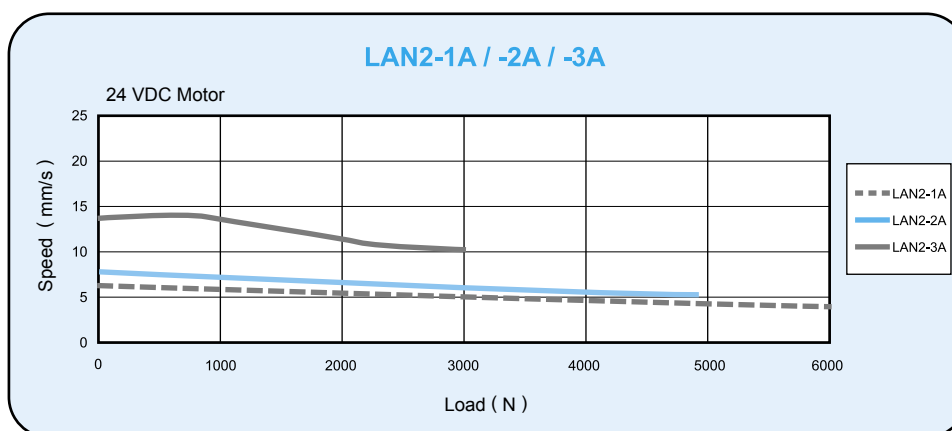


- RL=S+198
- With external limit switches:
RL=S+198
RL : Retracted length
S : Stroke length

● LAN2 Specifications

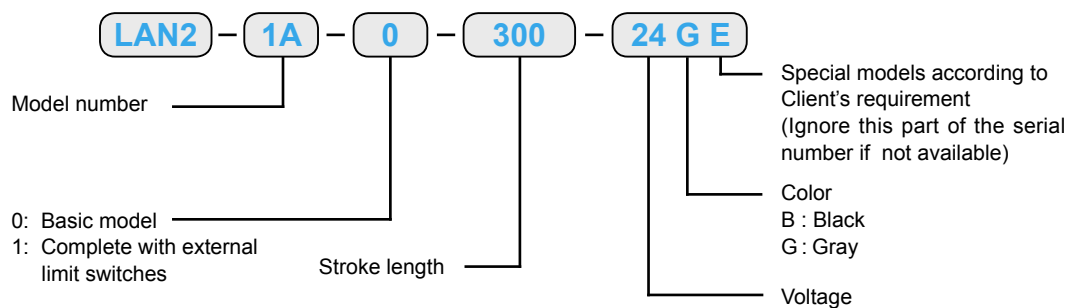
Model	Screw type	Thrust max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S	Duty cycle %	Max.current (A) 24VDC	Hall Sensor Resolution (mm/pulse)
LAN2-1A	ACME	6000	5000	4 / 6	100 150 200 250 300 350 400	10	6	0.3
LAN2-2A	ACME	5000	5000	5 / 7.5	100 150 200 250 300 350 400	10	6	0.4
*LAN2-3A	ACME	3000	3000	9 / 14	100 150 200 250 300 350 400	10	6	0.8

* LAN2/-3A Holding Force (Push direction only).



Note: The test results are obtained by using 24VDC power supply.

● Ordering Information



8.

HIWIN LAN Series (3)

LAN3



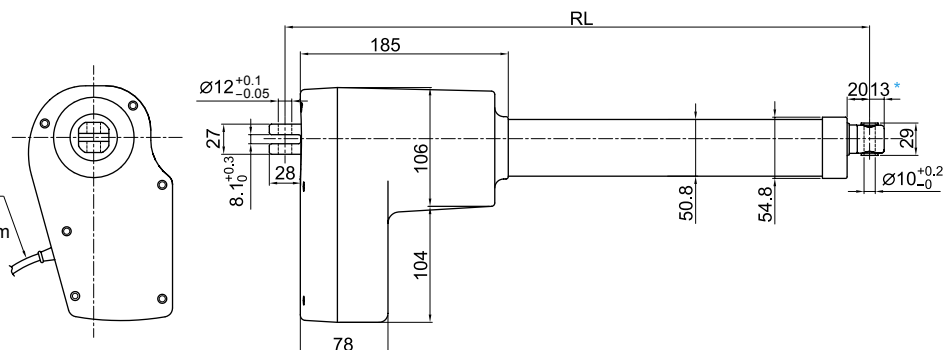
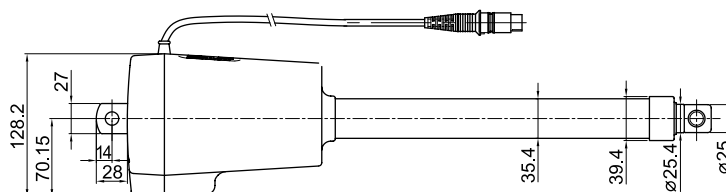
Screw type	ACME
Weight*	5.8 kg
Protection	IP 54
Compatible controller	LAK6B
Working temp	+5°C ~40°C

* Stroke length 200 mm

* Option: (1)IP66

- (2)potentiometer 10K ohm
- (3)Mechanical spline
- (4)Safety Nut
- (5)Mechanical quick release
- (6)Back fixture turned 90°

- RL=S+210
- RL=S+260
(Stroke:200~500mm)
- RL:Retracted length
- S:Stroke length

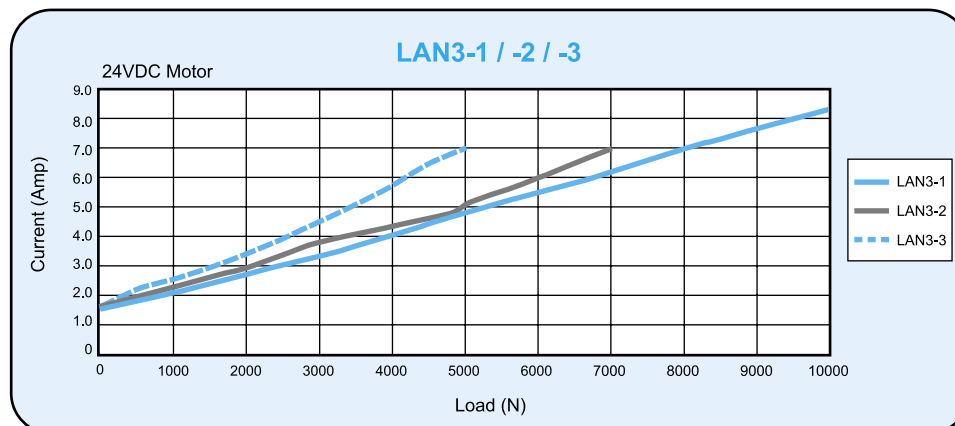
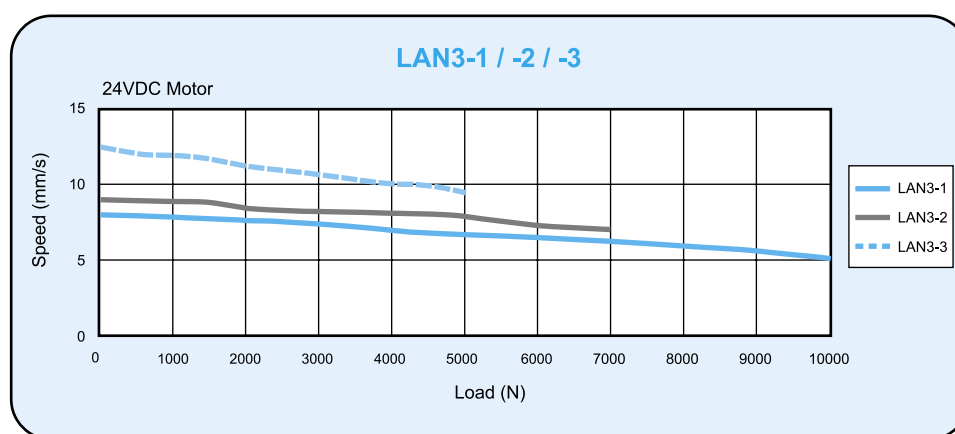


MOTOR CABLE
MOTOR CABLE LENGTH=1M
MOTOR CABLE DIAMETER=Ø5.5mm

● LAN3 Specifications

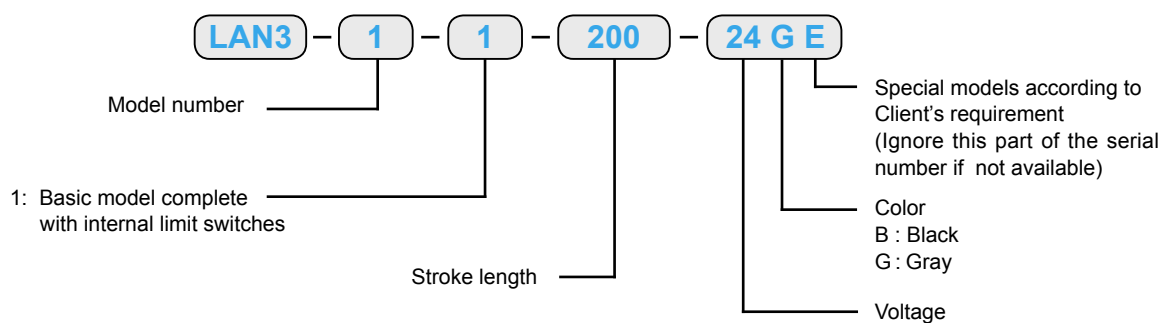
Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S								Duty cycle %	Max.current (A) 24VDC	Potentiometer Resolution (Ohm/mm)	
LAN3-1	10000	6000	10000	5 / 8	110	150	200	250	300	350	400	-	-	10	8.3	37.5
LAN3-2	7000	6000	7000	7 / 9	110	150	200	250	300	350	400	450	500	10	7	28
LAN3-3	5000	5000	5000	9.5 / 12.5	110	150	200	250	300	350	400	450	500	10	7	22.5

* Stroke over 200mm(included), RL=S+260



Note: The test results are obtained by using 24VDC power supply.

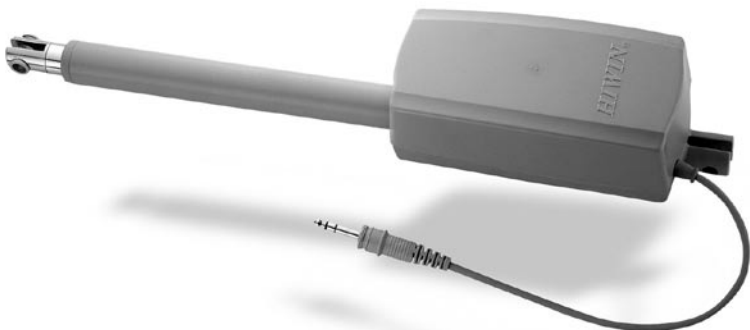
● Ordering Information



8.

HIWIN LAN Series (4)

LAN4

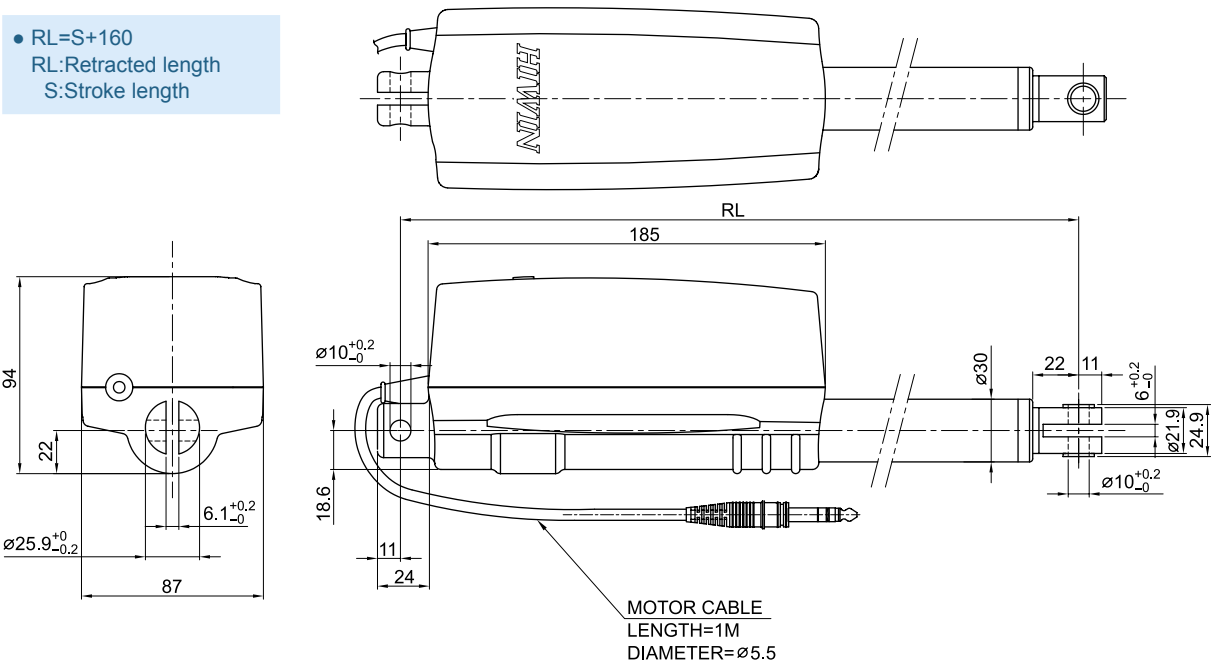


Screw type	ACME
Weight*	2.1 kg
Protection	IP 54
Working temp	+5°C ~40°C

* Stroke length 200 mm

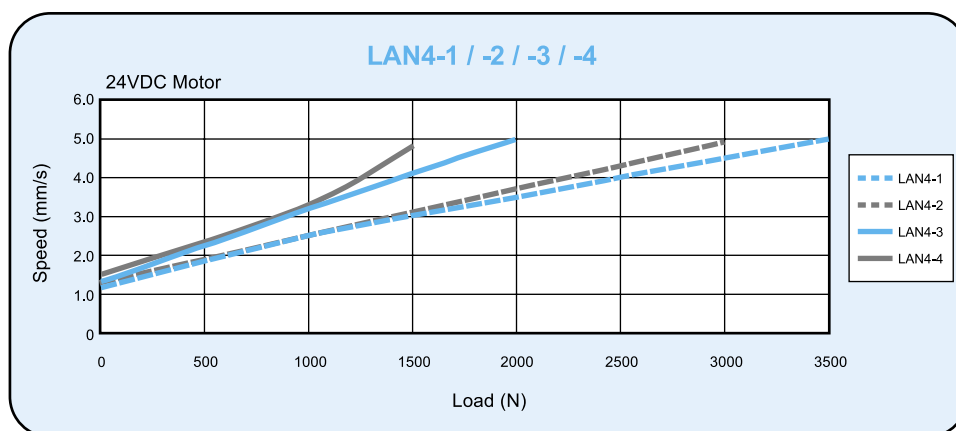
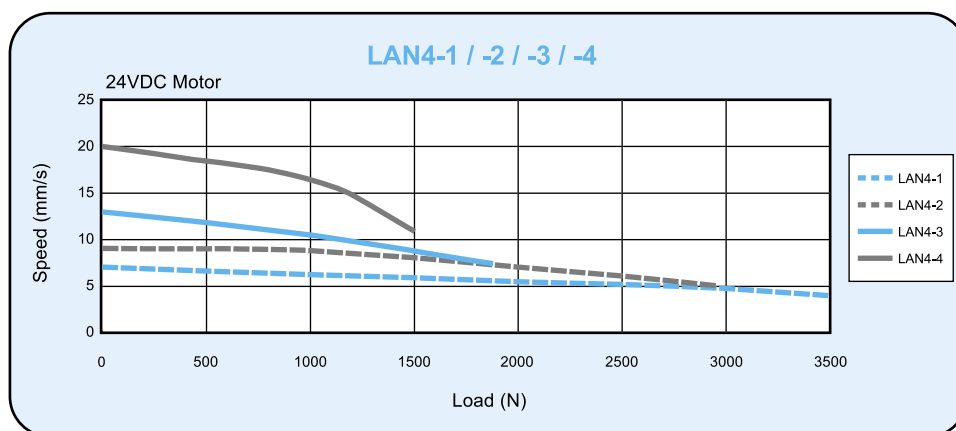
* Option: (1)IP66

- RL=S+160
RL: Retracted length
S: Stroke length



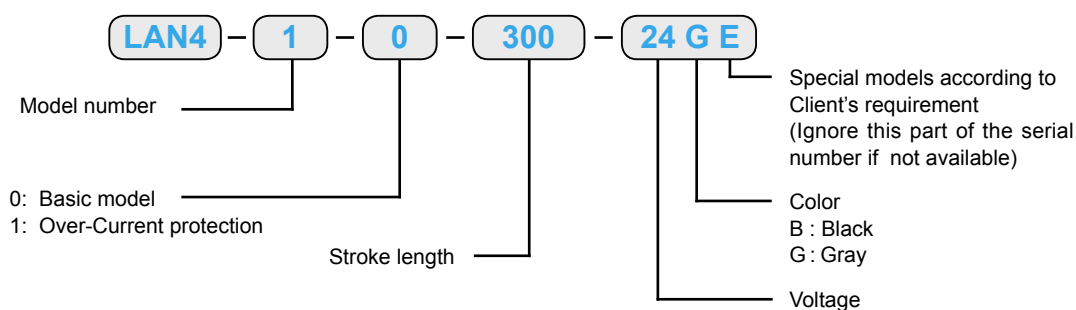
● LAN4 Specifications

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	force (mm/s) Load=Max./Load=0	Standard stroke (mm) : S							Duty cycle %	Max.current (A) 24VDC
LAN4-1	3500	3500	3500	4 / 7	100	150	200	250	300	350	400	10	5
LAN4-2	3000	3000	3000	5 / 9	100	150	200	250	300	350	400	10	5
LAN4-3	2000	2000	2000	7 / 13	100	150	200	250	300	350	400	10	5
LAN4-4	1500	1500	1500	11 / 20	100	150	200	250	300	350	400	10	5



Note: The test results are obtained by using 24VDC power supply.

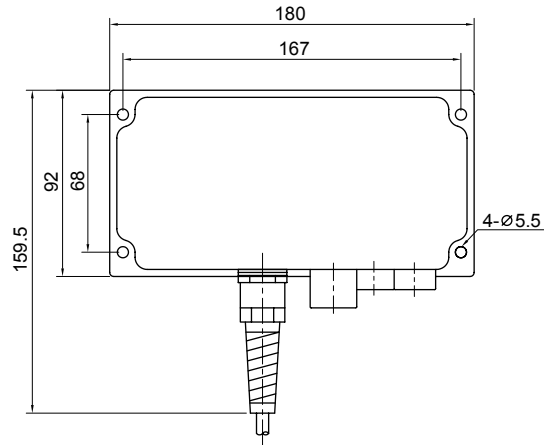
● Ordering Information



9.

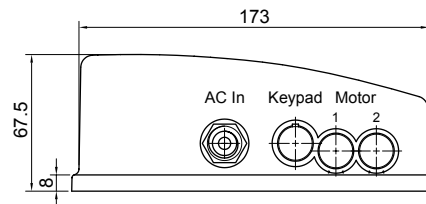
HIWIN 2-Axis Controller (1)

LAK2 / LAK2L



Input voltage	AC 100/110/220/230V
Output power	108VA(24VDC)max
Duty cycle	10%
Working temp	+5°C ~40°C
Protection*	IP 54

* Option: IP66



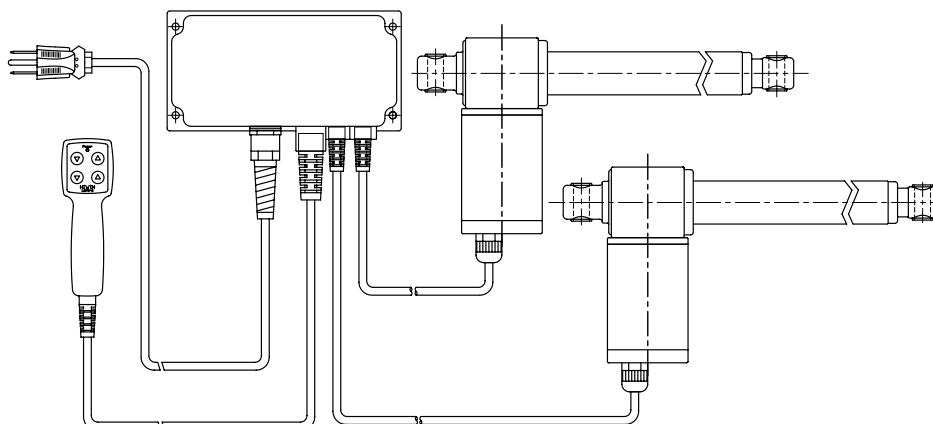
● Features of LAK2

- Control 1 or 2 Linear Actuators
- Over current protection
- Standard cable length: 4M

● Features of LAK2L

- Control 1 Actuator with external limit switches.
- Over current protection
- Standard cable length: 4M

● For Series LAS, LAS3,LAS4, LAM, LAN2



● Ordering Information

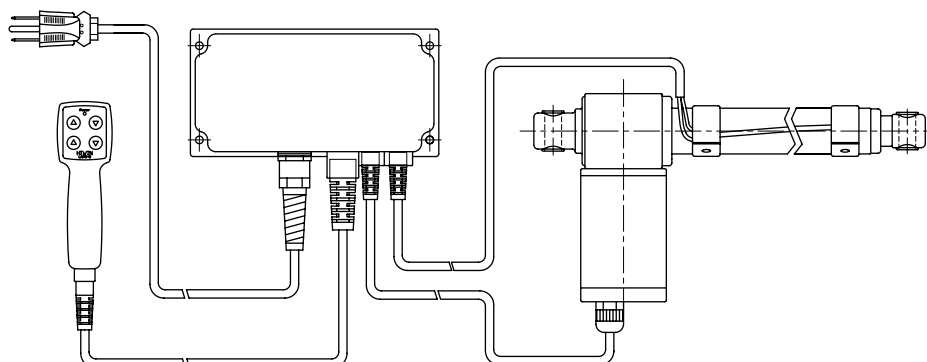
LAK2 - B 0 - 110 - B E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 2	0 : NO A : LAS4-1 B : LAS-1 ; LAS3-1 C : LAS-2 ; LAS3-2 ; LAS4-2 G : LAM-1/-2/-1A/-2A ; LAN2
Actuator No. 1	A : LAS4-1 B : LAS-1 ; LAS3-1 C : LAS-2 ; LAS3-2 ; LAS4-2 G : LAM-1/-2/-1A/-2A ; LAN2

LAK2 - E 0 - 12 - B E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	12 : 12VDC
Actuator No. 2	0 : NO E : LAS-1(12V) ; LAS3-1(12V) ; LAS4-1(12V) F : LAS-2(12V) ; LAS3-2(12V) L : LAN1-1/-2/-3(12V) ; LAM-1/-2/-1A/-2A(12V)
Actuator No. 1	E : LAS-1(12V) ; LAS3-1(12V) ; LAS4-1(12V) F : LAS-2(12V) ; LAS3-2(12V) L : LAN1-1/-2/-3(12V) ; LAM-1/-2/-1A/-2A(12V)

● For Series LAM, LAN2 completed with external limit switches



● Ordering Information

LAK2L - B - 110 - B E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 1	G : LAM-1/-2/-1A/-2A ; LAN2

* Check table attached for over current setting...see page 33.

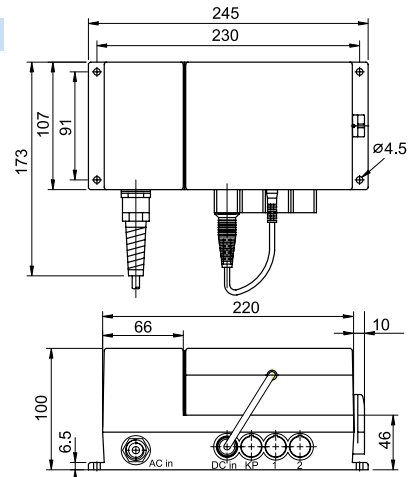
9.

HIWIN 2-Axis Controller (2)

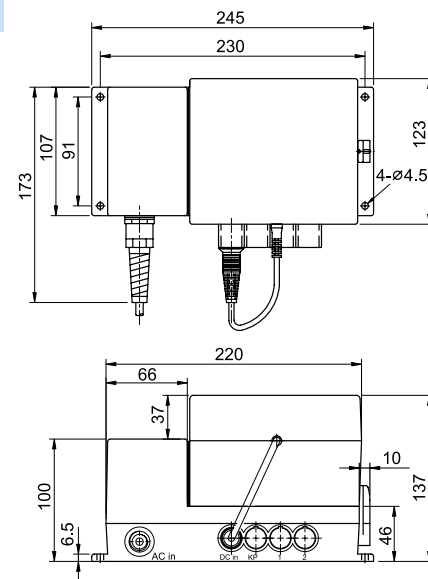
LAK2B



(1) For 1.3Ah Battery



(2) For 2.9Ah Battery



Input voltage	AC 100/110/220/230V
Output power	144VA(24VDC)max
Duty cycle	10%
Working temp	+5°C ~40°C
Protection*	IP 54

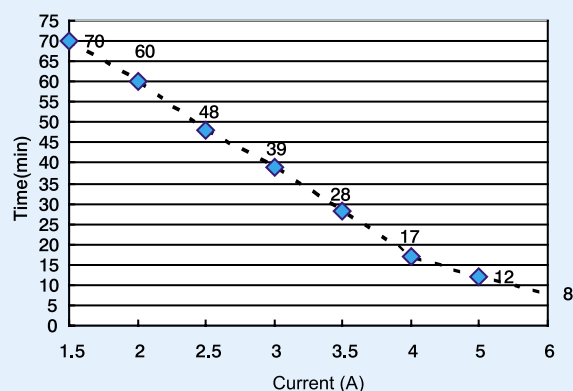
* Option: IP66

● Features of LAK2B

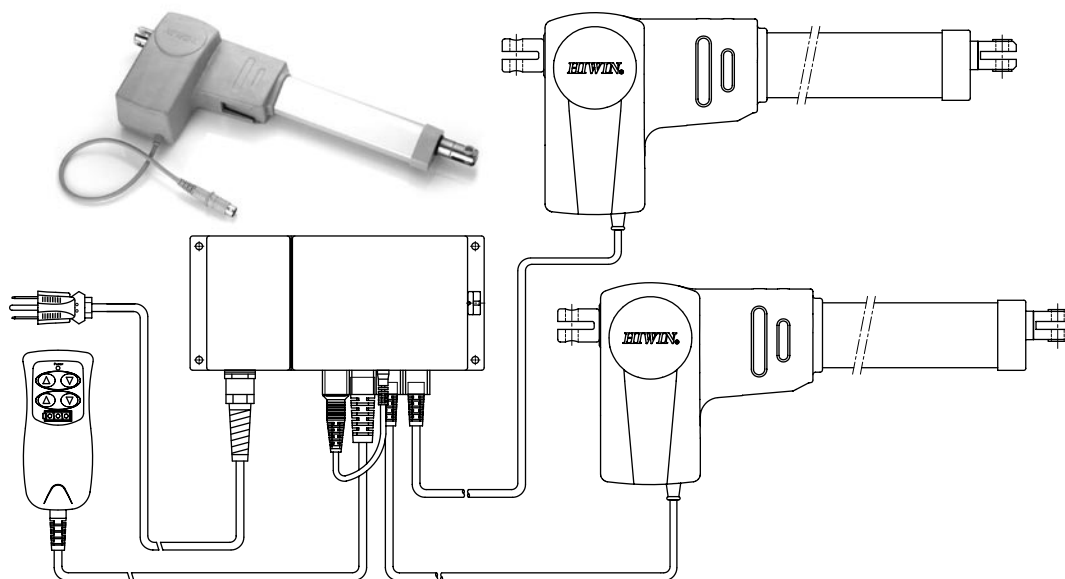
- Control 1 or 2 Linear Actuators
- Compact size
- Over load protection
- Soft - start
- Standard cable length : 4 M
- Rechargeable Battery
- Low battery indicator (alarm)
- Battery capacity 1.3 Ah (12VDCx2)
(Option:2.9Ah, 12VDCx2)

***Note: Please charge battery for at least 8 hours before initial use.**

Current vs. Durable Period under Load(1.3Ah)



● For Series LAS4, LAN1 and LAM3



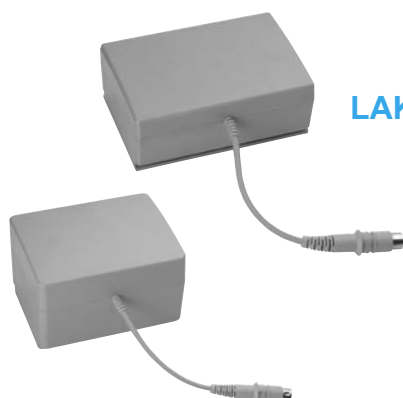
● Ordering Information (LAK2B)

LAK2B - 1 - D 0 - 110 - B E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 2	0 : NO A : LAS4-1 C : LAN1-1/-2/-3 D : LAM3-3/-4 E : LAM3-2 F : LAN1-1/-2/-3(24Q) ; LAM3-1
Actuator No. 1	A : LAS4-1 C : LAN1-1/-2/-3 D : LAM3-3/-4 E : LAM3-2 F : LAN1-1/-2/-3(24Q) ; LAM3-1
Battery	0 : No 1 : 1.3Ah 2 : 2.9Ah

* Check table attached for over current setting...see page 33.

● Ordering Information (Battery)



LAKB - 1 - G E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Battery	1 : 1.3Ah 2 : 2.9Ah

9.

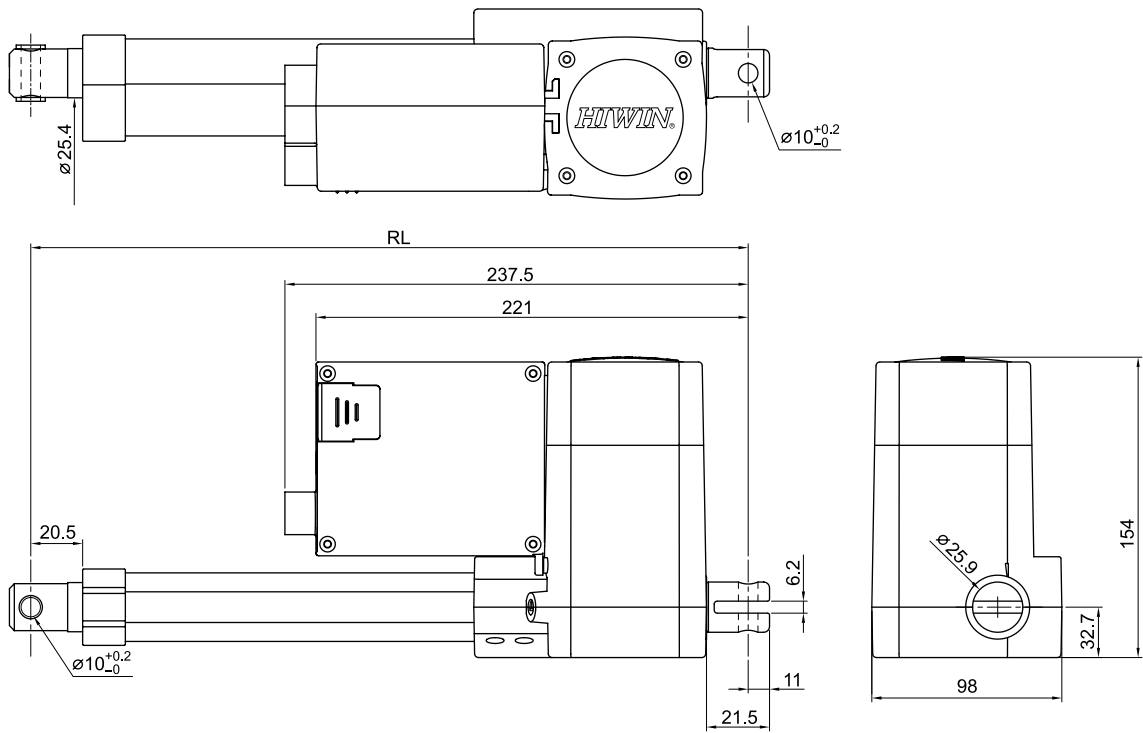
HIWIN 2-Axis Controller (3)

LAK2D



Input voltage	AC 100/110/220/ 230V(50/60Hz)
Output power	108VA(24VDC)max
Duty cycle	10%
Working temp	+5°C ~40°C
Protection*	IP 54

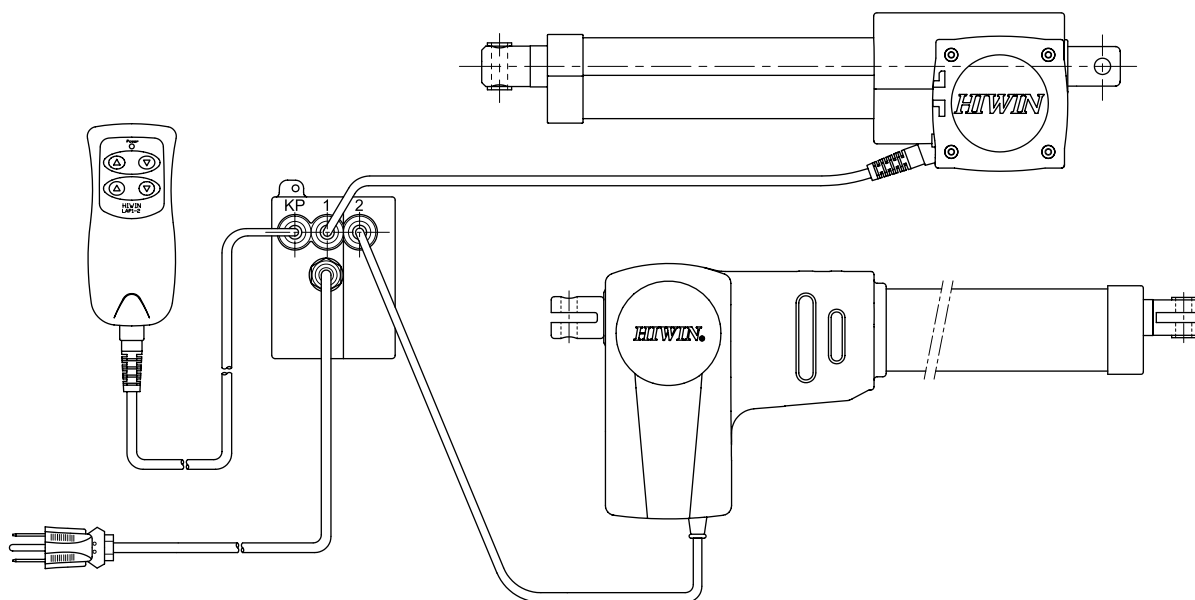
* Option: IP66



● Features of LAK2D

- Control 1 or 2 Linear Actuators
- Standard cable length: 4 M
- Over current protection
- During an emergency situation (power loss) please insert 2- 9V alkaline batteries to lower the actuators.(with batteries LAK2D IP54)

● For Series LAM3 and LAN1:



● Ordering Information

LAK2D - 1 - D 0 - 110 - G E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 2	0 : NO C : LAN1-1/-2/-3 D : LAM3-3/-4 E : LAM3-2 F : LAN1-1/-2/-3(24Q) ; LAM3-1
Actuator No. 1	C : LAN1-1/-2/-3 D : LAM3-3/-4 E : LAM3-2 F : LAN1-1/-2/-3(24Q) ; LAM3-1
Battery	0 : No 1 : 9-volt alkaline battery

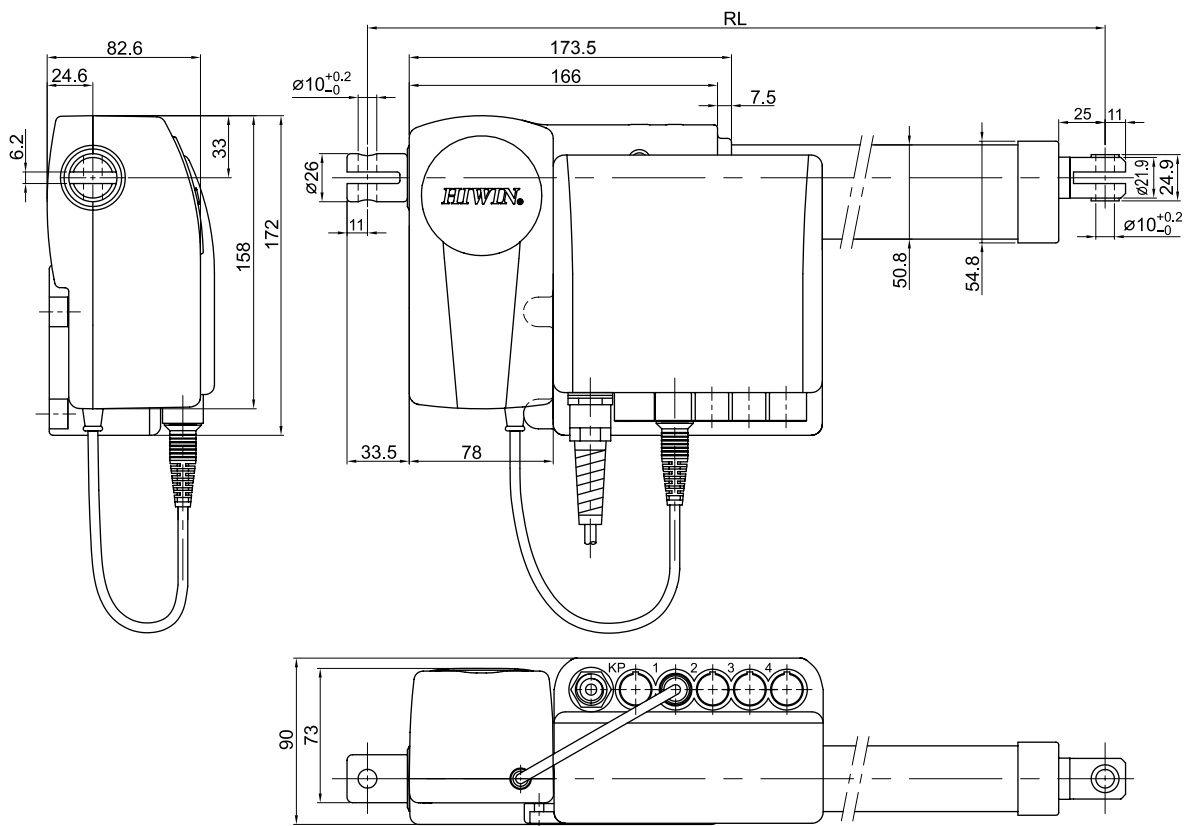
* Check table attached for over current setting...see page 33.

HIWIN 4-Axis Controller

CE



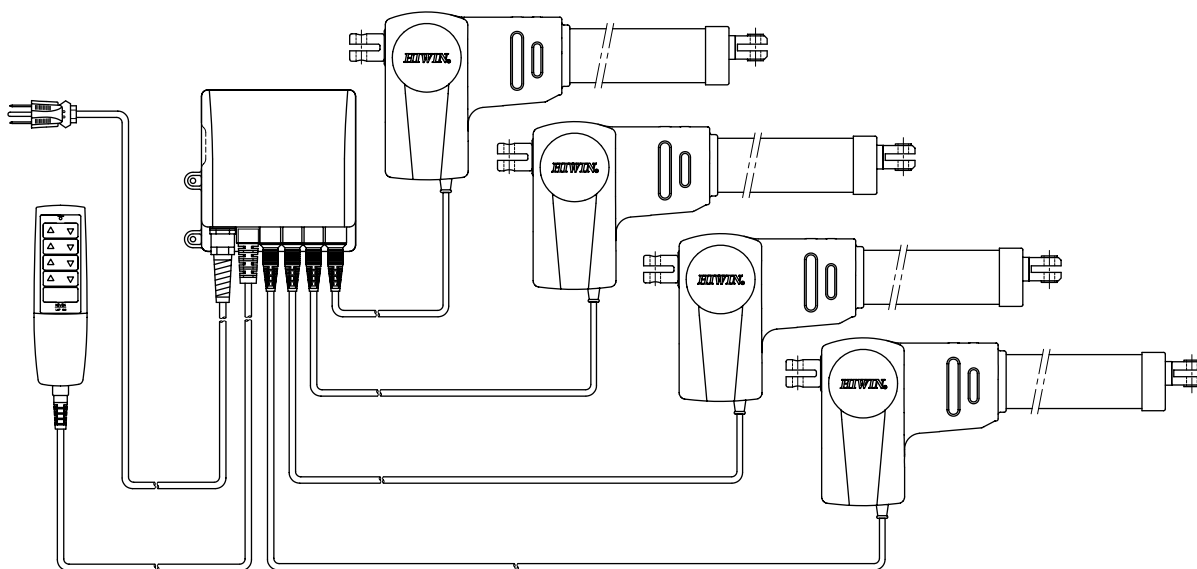
* Option: IP66



● Features of LAK4

- Control 1 to 4 Actuators
- Compatible with HIWIN's LAN1 Series
- Can be mounted directly on LAN1
- Standard cable length: 4M

● For Series LAM3 and LAN1:



● Ordering Information

LAK4 - D 000 - 110 - B E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 2 ~ No. 4	0 : NO C : LAN1-1/-2/-3 D : LAM3-3/-4 F : LAN1-1/-2/-3(24Q)
Actuator No. 1	C : LAN1-1/-2/-3 D : LAM3-3/-4 F : LAN1-1/-2/-3(24Q)

11.

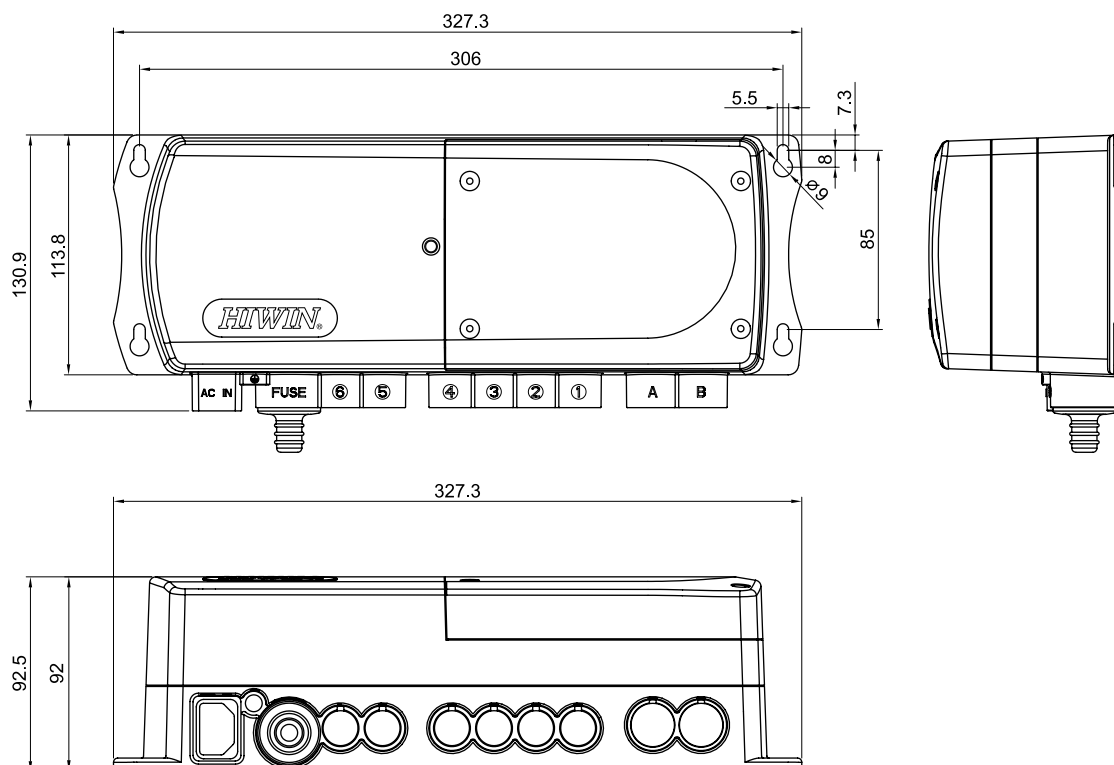
HIWIN 6-Axis Controller

LAK6B



Input voltage	AC 100/110/220/230V
Output power	216VA(24VDC)max
Duty cycle	10%
Working temp	+5°C ~40°C
Protection*	IP 54

* Option: IP66



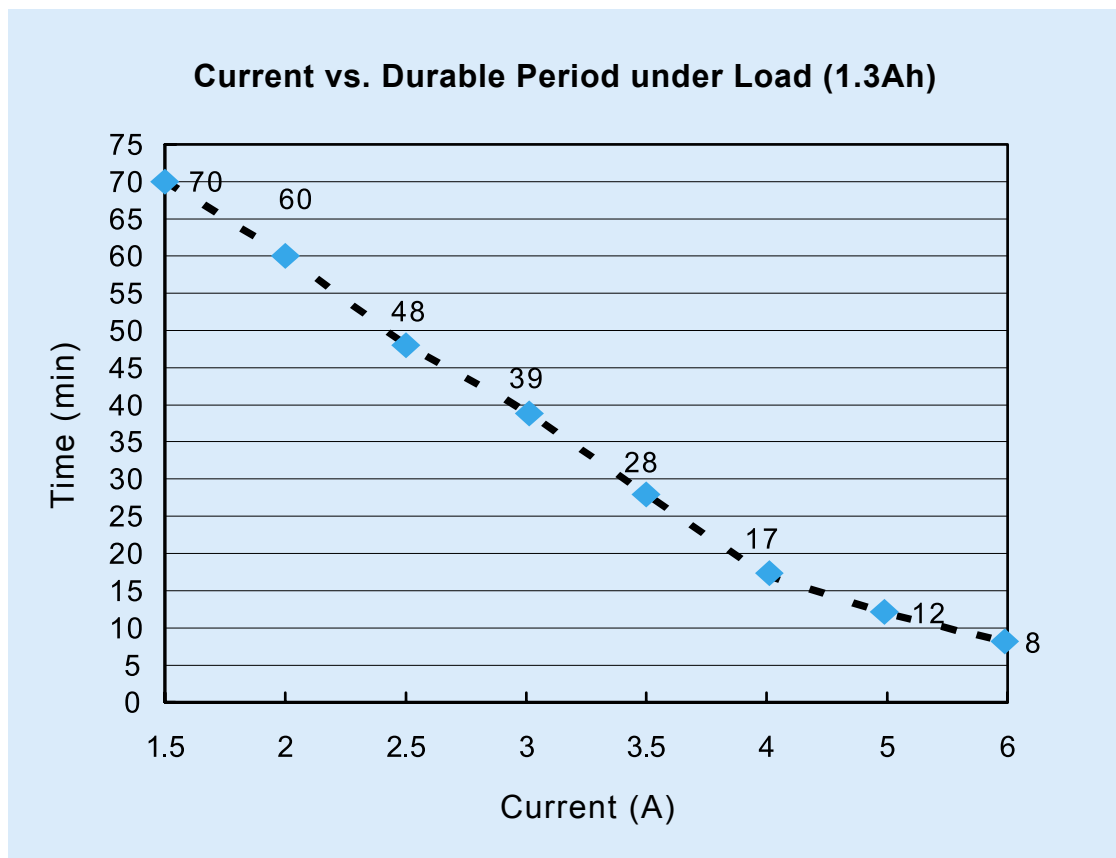
● Features of LAK6B

- Control 1 to 6 Linear Actuators
- Compact size
- Over current protection
- Soft- start
- Standard cable length: 4 M
- Rechargeable battery
- Low battery indicator (alarm)
- Automatic energy saving
- Battery capacity 1.3 Ah (12VDCx2)
- Main fuse replaceable by plugging out and in
- Spare fuse inside the lid
- Ground Connection
- LED for power indication

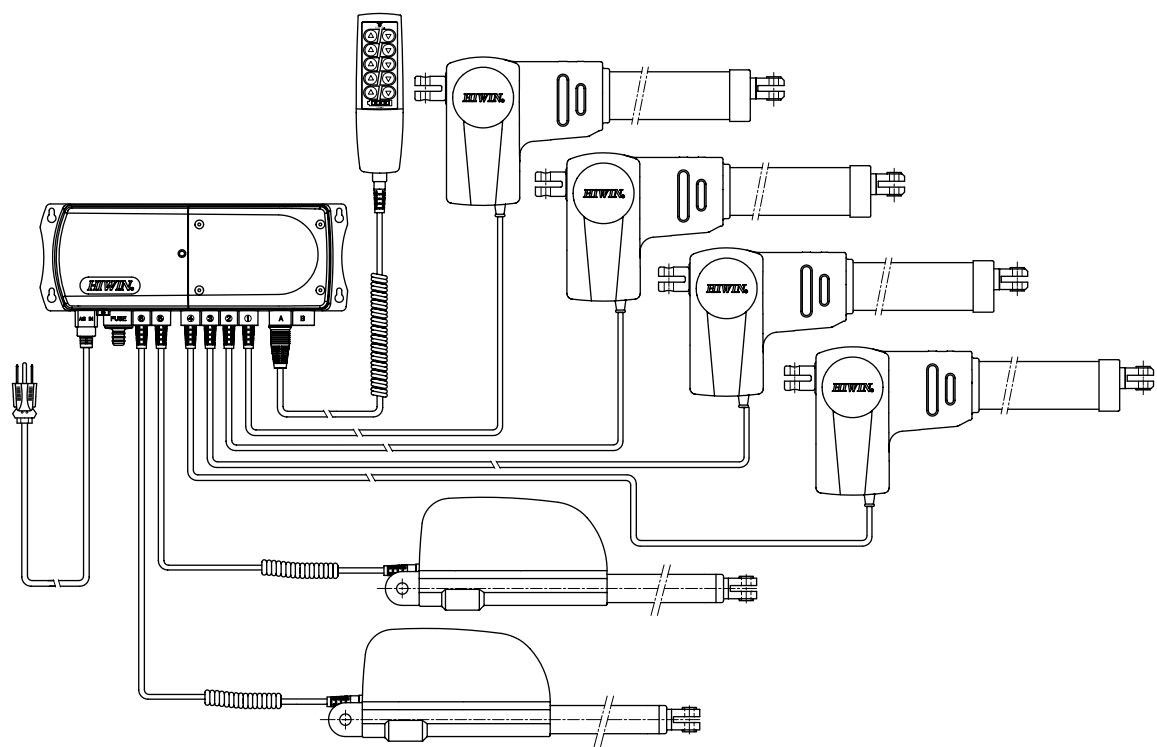
Note: Please charge battery for at least 8 hours before initial use.

● Options

- Customised software can be ordered

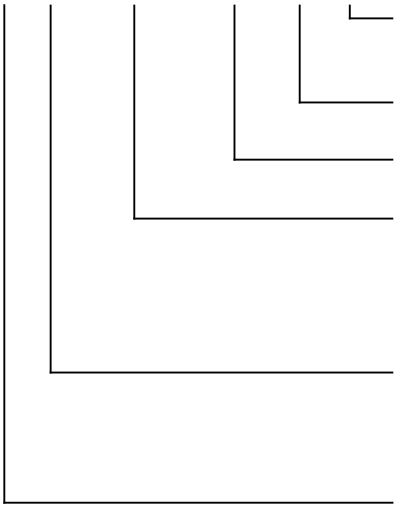


● For Series LAS4,LAM3,LAN1 and LAN3:



● Ordering Information

LAK6B - 1 - D 00000 - 110 - G E



Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Input Voltage	100 : AC100V ; 110 : AC110V 220 : AC220V ; 230 : AC230V
Actuator No. 2~No. 6	0 : NO A : LAS4-1 C : LAN1-1/-2/-3 D : LAM3-3/-4 F : LAN1-1/-2/-3(24Q) ; LAM3-1 H : LAN3
Actuator No. 1	A : LAS4-1 C : LAN1-1/-2/-3 D : LAM3-3/-4 F : LAN1-1/-2/-3(24Q) ; LAM3-1 H : LAN3
Battery	0 : No 1 : 1.3Ah

* Check table attached for over current setting...see page 33.

● Over Current Setting Table

Code No.	Current setting	Actuator Model	Controller Model
A	2.5A	LAS4-1	LAK2; LAK2B; LAK6B
B	3.0A	LAS-1; LAS3-1	LAK2; LAK2L
C	4.0A	LAS-2; LAS3-2; LAS4-2; LAN1-1/-2/-3	LAK2; LAK2L; LAK2D
D	5.0A	LAM3-3,-4	LAK2D; LAK4; LAK2B; LAK6B
E(24V)	6.0A	LAM3-2	LAK2D; LAK2B
E(12V)	6.0A	LAS-1(12V); LAS3-1(12V); LAS4-1(12V)	LAK2(DC)
F(24V)	7.0A	LAN1-1,-2,-3(24Q); LAM3-1	LAK2D; LAK2B; LAK6B; LAK4
F(12V)	7.0A	LAS-2(12V), LAS3-2(12V)	LAK2(DC)
G	8.0A	LAM-1,-2,-1A,-2A; LAN2	LAK2; LAK2L
H	9.0A	LAN3	LAK6B
I	10A	For reservation	
J	12A	For reservation	
K	14A	For reservation	
L	15A	LAN1-1,-2,-3(12V); LAM-1,-2,-1A,-2A(12V)	LAK2(DC)
Z	**A	Special current value (special requirement)	

12.

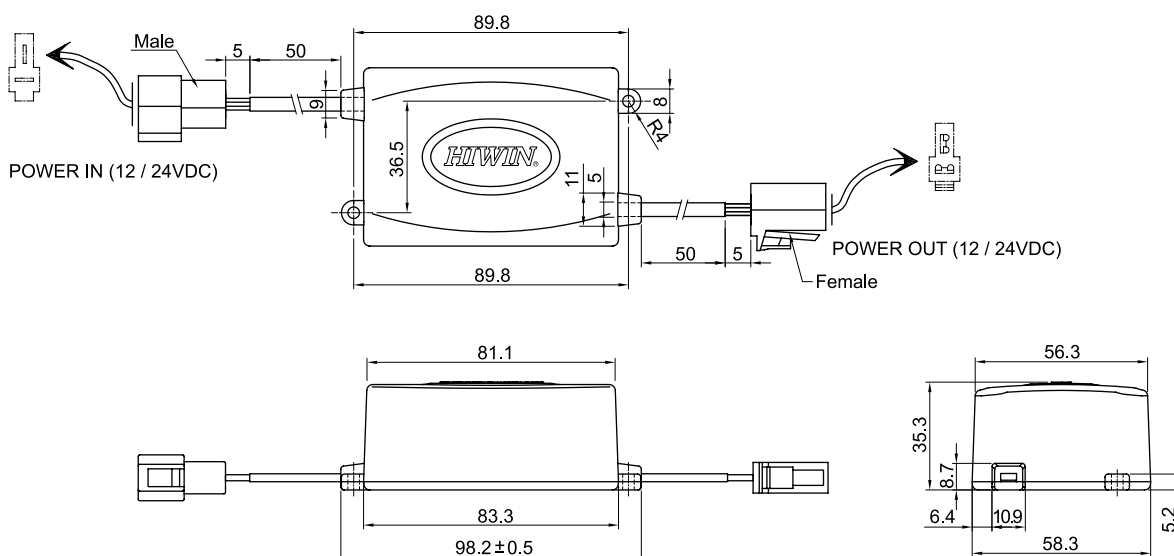
HIWIN Over Current Protection Box

LAKC-1



Input voltage	12 / 24 VDC
Output power	12 / 24 VDC
Duty cycle	10%
Working temp	+5°C ~40°C
Protection*	IP 54

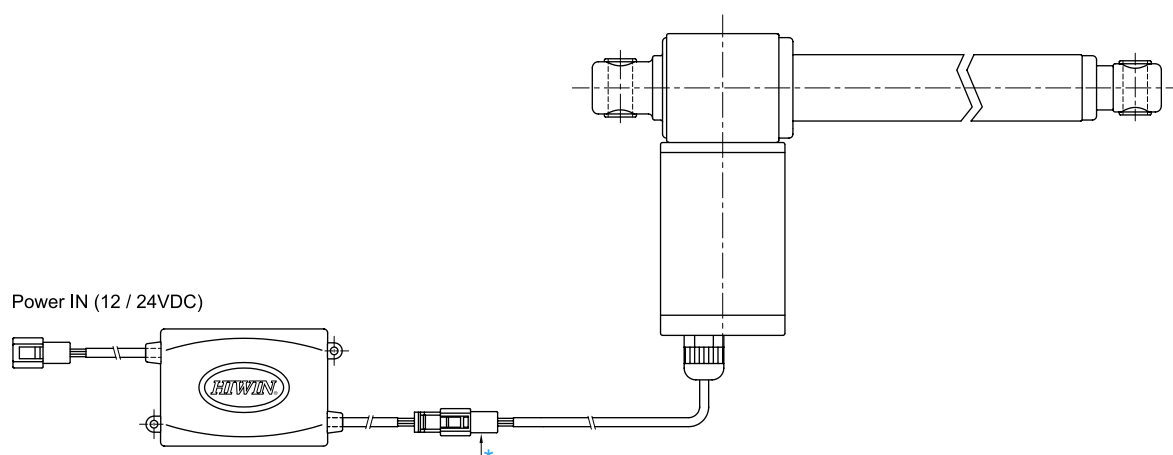
* Option: IP66



● Features of LAKC-1

- Compact size
- Low cost
- Easy to use
- Multiple over- current settings available
- Fast response time

● For Series LAS, LAS4, LAM, LAN1 and LAN4



* Please mention the connector to LAKC is necessary when you place an actuator order.

● Ordering Information

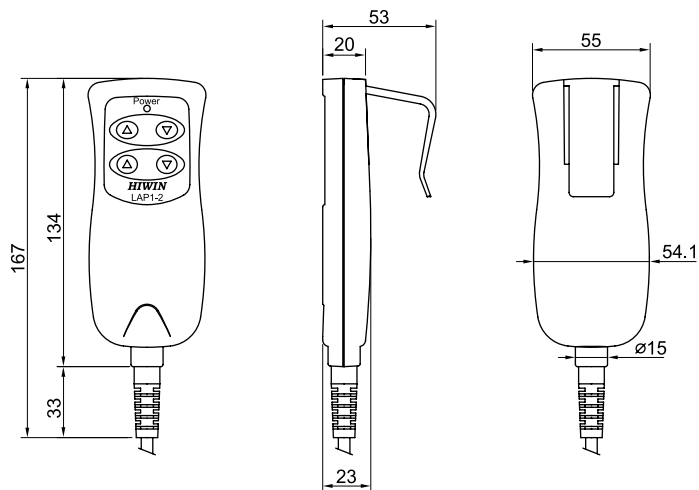
LAKC - 1 - 12 - 6 G E

Special models according to Client's requirement	None E=Ignore this part of the serial number if not available
Color	B : Black G : Gray
Over Current Setting	2 : 2A 8 : 8A 3 : 3A 10 : 10A 4 : 4A 12 : 12A 5 : 5A 18 : 18A 6 : 6A
Input(Output)Voltage	12 : 12VDC 24 : 24VDC
Model number	

13.

HIWIN Keypad Series (1)

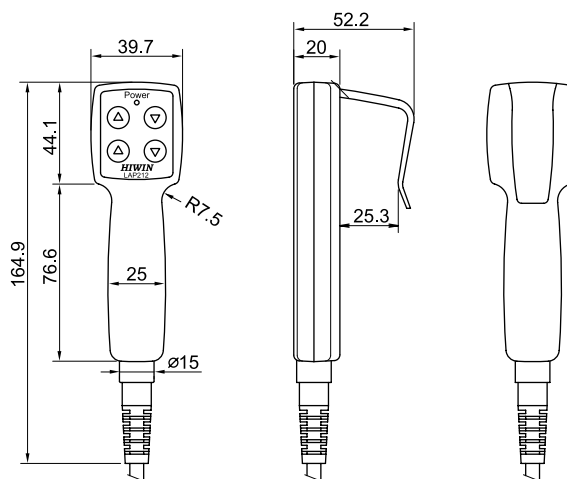
LAP1



● Features of LAP1

- Control of max. 2 Actuators
- Compatible with LAK2, LAK4, LAK2L, LAK2D
- Ergonomic design
- Standard cable length: coil 600mm; total 1100mm
- Protection: IP66

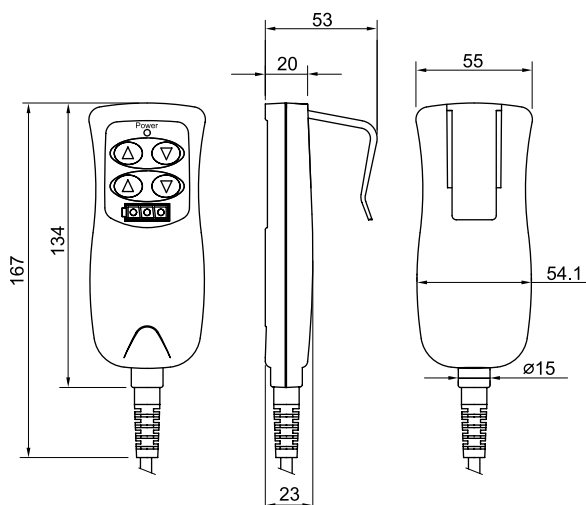
LAP2



● Features of LAP2

- Control of max. 2 Actuators
- Compatible with LAK2, LAK4, LAK2D
- Ergonomic design and small size
- Standard cable length: coil 600mm; total 1100mm
- Protection: IP66

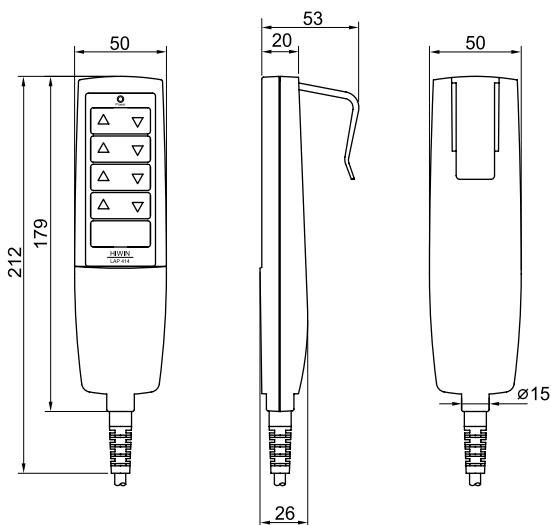
LAP3



● Features of LAP3

- Control of max. 2 Actuators
- Compatible with LAK2B
- Ergonomic design
- Standard cable length: coil 600mm; total 1100mm
- LED for battery capacity
- Protection: IP66

LAP4



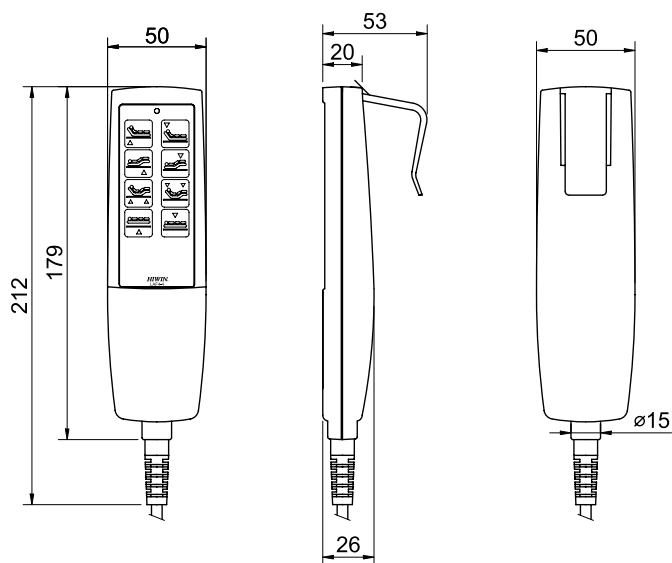
● Features of LAP4

- Control of max. 4 Actuators
- Compatible with LAK4
- Ergonomic design
- Standard cable length: coil 600mm; total 2250mm
- Protection: IP66

13.

HIWIN Keypad Series (2)

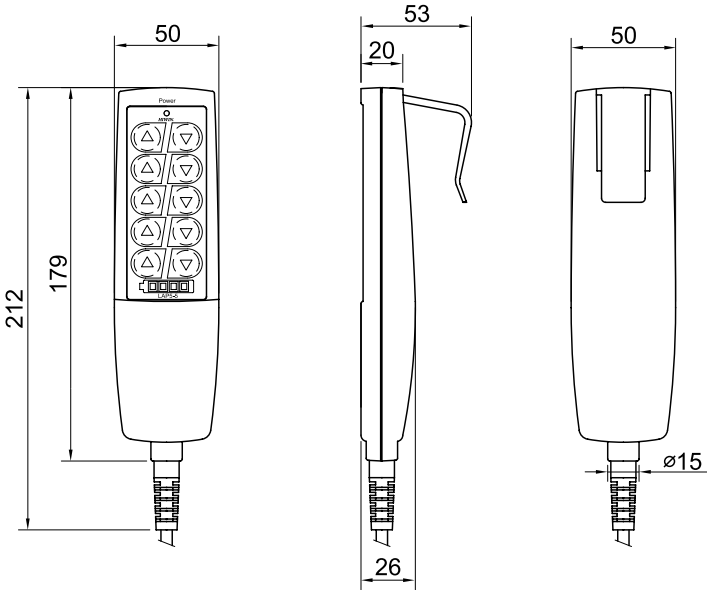
LAP4M



● **Features of LAP4M**

- Control of max. 4 Actuators
- Compatible with LAK4
- Ergonomic design
- Standard cable length: coil 600mm; total 2250mm
- Protection: IP66

LAP5



● Features of LAP5

- Control of max. 5 Actuators
- Compatible with LAK6B
- Ergonomic design
- Standard cable length: coil 600mm; total 1100mm
- Protection: IP66

● Ordering Information

LAP1 - 2 - B E

	Special models according to Client's requirement	None E=Ignore this part of the serial number if not available	
	Color	B : Black G : Gray	
	Used Actuator No.		
	Model number	LAP1 LAP2 LAP3	LAP4 LAP4M LAP5

14.

Standard Options for Each Actuator Type

Function Series		IP54	IP65	IP66	Back fixture turn 90°	Gear box material S45C	Rod end with flat connector	Safety nut	Spline (push only)	Quick release	Internal limit switches	External limit switches	Hall Sensor (NPN)	Potentiometer	Optical Sensor	
															NPN	PNP
LAM	LAM-1	●	▲		▲	▲						▲				
	LAM-2	●	▲		▲	▲						▲				
	LAM-1A	●	▲		▲	▲						▲				
	LAM-2A	●	▲		▲	▲						▲				
LAM3	LAM3-1	●		▲	▲			▲	▲		●					
	LAM3-2	●		▲	▲			▲	▲		●					
	LAM3-3	●		▲	▲			▲	▲		●					
	LAM3-4	●		▲	▲			▲	▲		●					
LAS	LAS1-1	●	▲		▲		▲				●					
	LAS1-2	●	▲		▲		▲				●					
LAS3	LAS3-1	●	▲								●		■	■	■	■
	LAS3-2	●	▲								●		■	■	■	■
LAS4	LAS4-1	●		▲							●					
	LAS4-2	●		▲							●					
LAN1	LAN1-1	●		▲	▲			▲	▲		●		▲			
	LAN1-2	●		▲	▲			▲	▲		●		▲			
	LAN1-3	●		▲	▲			▲	▲		●		▲			
	LAN1-4	●		▲	▲			▲	▲	▲	●					
	LAN1-5	●		▲	▲			▲	▲	▲	●					
	LAN1-6	●		▲	▲			▲	▲	▲	●					
LAN2	LAN2-1A	●		▲				▲	◆			◆	▲			
	LAN2-2A	●		▲				▲	◆			◆	▲			
	LAN2-3A	●		▲				▲	◆			◆	▲			
	LAN2-1B	●		▲				▲	◆			◆	▲			
LAN3	LAN3-1	●		▲	▲			▲	▲	▲	●			▲		
	LAN3-2	●		▲	▲			▲	▲	▲	●			▲		
	LAN3-3	●		▲	▲			▲	▲	▲	●			▲		
LAN4	LAN4-1	●		▲												
	LAN4-2	●		▲												
	LAN4-3	●		▲												
	LAN4-4	●		▲												

● Standard.

▲ Multi-option is available.

◆ " " Multi-option is not available.

15.

HIWIN® Customer Requirements(LA)

Customer:		Contact person:
		Tel:
		Fax:
Voltage VDC		Notes:
No-Load current		
Max. current		
Max. thrust force		
Max. pulling force		
Max. holding force		
Stroke		
Install length		
Speed (mm/s)		
Load (N)		
Duty cycle 10%		
Operation temp		
IP Codes		
Outdoor use	☐ YES ☐ NO	
Direction	☐ H ☐ V	
Axial load	☐ YES ☐ NO	
With L/S	☐ YES ☐ NO	
With control	☐ YES ☐ NO	
Over current	☐ YES ☐ NO	
With customer's L/S		
Position capability		
Special design		
Expected price		
Quantity		
Recommended specification:		
Engineer:		

MEMO

[illegible]

HIWIN®

Linear Actuator

1.	Sizing of HIWIN Linear Actuator	1
2.	Installation of HIWIN Linear Actuator	1
3.	Safe Operation of Linear Actuator	2
4.	Features and Applications of Linear Actuator	3
5.	HIWIN LAM Series	
	• LAM Model	4
	• LAM Specifications	5
	• LAM3 Model	6
	• LAM3 Specifications	7
6.	HIWIN LAS Series	
	• LAS Model	8
	• LAS Specifications	9
	• LAS3 Model	10
	• LAS3 Specifications	11
7.	HIWIN LAS4 Series	
	• LAS4 Model	12
	• LAS4 Specifications	13
8.	HIWIN LAN Series	
	• LAN1 Model	14
	• LAN1 Specifications	15
	• LAN2 Model	16
	• LAN2 Specifications	17
	• LAN3 Model	18
	• LAN3 Specifications	19
	• LAN4 Model	20
	• LAN4 Specifications	21
9.	HIWIN 2-Axis Controller	
	• LAK2 Model	22
	• LAK2B Model	24
	• LAK2D Model	26
	HIWIN 4-Axis Controller	
	• LAK4 Model	28
11.	HIWIN 6-Axis Controller	
	• LAK6B Model	30
	HIWIN Over Current Protection Box	34
	HIWIN Keypad Series (LAP1 / LAP2 / LAP3 / LAP4 / LAP4M / LAP5 Model)	36
	Standard Optional parts for Linear Actuator	40
	HIWIN Customer's Requirements (LA)	41

** The specifications in this catalog are subject to change without notification.

