TECHLINE®
IMPROVING FLEXIBILITY

Actuator LA23
Data sheet

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LA23

The LA23 actuator is a small and strong push or pull actuator (up to 2500 N). The LA23 can be used in various applications where size is important.

Some of the benefits the LA23 offers you are:

- Compact design
- High lifting force
- Exchangeable cables
- Available with integrated controller (IC)

IC INTEGRATED CONTROLLER

This **TECHLINE®** actuator comes with IC - Integrated controller.
For more information on our IC options, please see: www.linak.com/techline

Features and Options:

- Load in push: 2500N, 1800N, 1500N, 1200N or 900N
- Load in pull: 2500N, 1800N, 1500N, 1200N or 900N
- Housing colour: Grey or black
- Protection class: IPX4 or IPX6
- Motor: 12 V DC, 24 V DC
- Stroke length: 20 - 300 mm
- Built-in dimensions: 110 mm + stroke length
- Positioning options:
  - Potential free end stop signals
  - Hall potentiometer or Hall PWM positioning
  - Hall
  - Single Hall/Dual Hall
- Back fixture material: Plastic or steel
- Nut: Guided
- Safety nut: In push or pull (2500N and 1800N version only safety nut in push)
- Mechanical spline Yes
- Built-in electrical end-stop: Yes
- Exchangeable cable: Yes
- Static safety factor: 2.5
- Noise level: Max. 58.5 dB(A) (At nominal voltage and with no load, according to EN ISO 3743-1)
- Mechanical end stop Yes
- Integrated Control Yes

Usage:

- Duty cycle: 10%, 2 minutes continuous use followed by 18 minutes not in use
- Usage temperature: -30°C to +55°C (according to ISO 7176-9)
- Storage temperature: -45°C to +70°C (according to ISO 7176-9)
- Fire catagory: Enclosure UL94-V0
- Cycles: The LA23 Life cycle test has been performed with a stabilised power supply (10% duty cycle) on a 200 mm stroke actuator at max. load for the following number of cycles (at 20°C ambient temperature):
  3 mm pitch = 5.000 cycles
  5, 6, 9 and 12 mm pitch = 10.000 cycles
- Compatibility: The LA23 IC is compatible with SMPS-T160 (For combination possibilities, please see the User Manual for SMPS-T160)
- Approvals: IEC60601-1, ANSI/AAMI ES60601-1, CAN/CSA 22.2 No 60601-01

LA23 TECHLINE

Ordering example:

23 6 1 A 0 1 0 00 250 A 4

IP degree:
4 = IPX4
6 = IPX6

Motortype:
A = 12V (Always for DESKLINE applications)
B = 24V (Running mainly with battery (CBJ1, CBJ2, CBJH, CBJC, wheelchairs))
G = 24V (For OpenBus (CB20, CB16, CB6s)) not available with LA23IC

Stroke:
XXX = mm Min. 020 mm, Max. 300 mm in steps of 5 mm
Recommended versions:
020 mm; 050 mm; 100 mm; 150 mm; 200 mm; 250 mm; 300 mm

Positioning:
00 = No positioning
01 = Potential free end stop signals
02 = Dual Hall digital positioning (Always for DESKLINE applications)
03 = Dual Hall PNP positioning
1x = Hall potentiometer feedback
2x = Hall potentiometer feedback and potential free endstop
3x = Hall PWM position feedback
4x = Hall PWM position and potential free endstop
50 = IC with standard electrical endstop - no positioning
52 = IC with Standard Single Hall Positioning
6x = IC with Hall potentiometer feedback.
7x = IC with Hall PWM position feedback
Xx = For more positioning options see later pages

Safety option:
0 = No safety options (pitch 3, 5, 6, 9 or 12)
1 = Safety nut for push (pitch 3, 5, 6, 9 or 12)
2 = Safety nut for pull (pitch 6, 9 or 12)
3 = Mechanical spline without safety nut (pitch 3, 5, 6, 9 or 12)
4 = Mechanical spline with safety nut (pitch 3, 5, 6, 9 or 12)
Standard BID see later pages
Overview see later pages

Housing colour:
1 = Black (RAL 9005)
2 = Light grey (RAL 7035)

Piston rod eye:
0 =Standard (steel) with slot (6.1 mm), eye Ø10.2 mm, incl. plastic bushings
1 =Standard (steel) with slot (6.1 mm), eye Ø10.2 mm
2 =Standard (steel) with slot (6.1 mm), eye Ø12.3 mm

Back fixture rotation:

0 = 0° clockwise	H = 60° clockwise	Q = 120° clockwise
A = 7.5° clockwise	J = 67.5° clockwise	R = 127.5° clockwise
B = 15° clockwise	K = 75° clockwise	S = 135° clockwise
C = 22.5° clockwise	L = 82.5° clockwise	T = 142.5° clockwise
D = 30° clockwise	1 = 90° clockwise	U = 150° clockwise
E = 37.5° clockwise	M = 97.5° clockwise	V = 157.5° clockwise
F = 45° clockwise	N = 105° clockwise	W = 165° clockwise
G = 52.5° clockwise	P = 112.5° clockwise	Z = 172.5° clockwise

Back fixture:
1 = Plastic with slot (6.1 mm), eye Ø10.2mm (only for Standard push load)
(only for pitch 6, 9 or 12 and safety option 0 or 1 (push))
2 = Steel with slot (6.1mm), eye Ø10.2 mm, incl. plastic bushings
3 = Steel with slot (6.1mm), eye Ø10.2 mm
4 = Steel with slot (6.1mm), eye Ø12.3 mm

Spindle type:
3 = 3 mm pitch (2500 N)
5 = 5 mm pitch (1800 N)
6 = 6 mm pitch (1500 N)
9 = 9 mm pitch (1200 N)
0 = 12 mm pitch (900N)

Actuator type:
23 = LA23

Note:
- Cables must be ordered separately.
- Cable locks must be ordered separately for LA23.

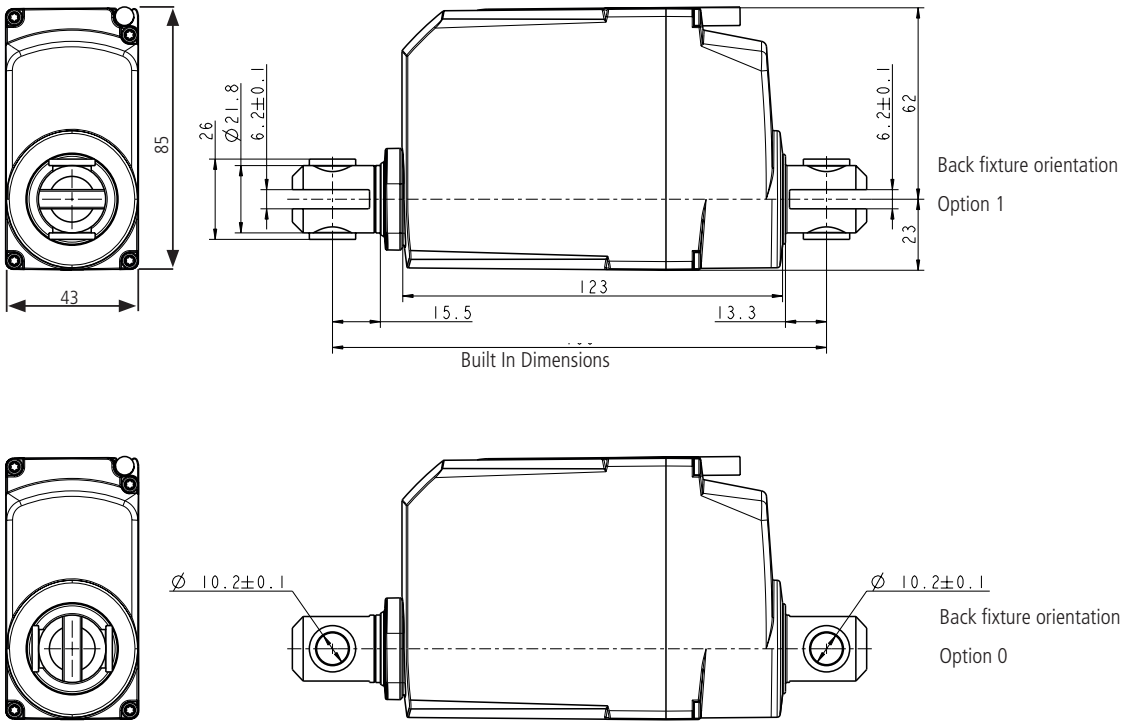
Positioning options.

Different positioning options can be chosen for LA23.

Positioning/ Ordering code number X	X	Description of positioning option		No. of pins in LA23
0	0	Standard electrical endstop - no positioning		6
0	1	Standard electrical endstop and potential free endstop - no positioning		6
0	2	Dual Hall digital positioning		6
0	3	Dual Hall PNP positioning		6
1	1	Hall Potentiometer feedback	0 - 10 V	10
1	2	Hall Potentiometer feedback	1 - 9 V	10
1	3	Hall Potentiometer feedback	2 - 8 V	10
1	4	Hall Potentiometer feedback	0 - 5 V	10
1	5	Hall Potentiometer feedback	0.5 - 4.5 V	10
1	6	Hall Potentiometer feedback	0 - 3.3 V	10
1	7	Hall Potentiometer feedback	0.3 - 3 V	10
2	1	Hall Potentiometer feedback and potential free endstop	0 - 10 V	10
2	2	Hall Potentiometer feedback and potential free endstop	1 - 9 V	10
2	3	Hall Potentiometer feedback and potential free endstop	2 - 8 V	10
2	4	Hall Potentiometer feedback and potential free endstop	0 - 5 V	10
2	5	Hall Potentiometer feedback and potential free endstop	0.5 - 4.5 V	10
2	6	Hall Potentiometer feedback and potential free endstop	0 - 3.3 V	10
2	7	Hall Potentiometer feedback and potential free endstop	0.3 - 3 V	10
3	1	Hall PWM position feedback	0 - 100 %	10
3	2	Hall PWM position feedback	10 - 90 %	10
3	3	Hall PWM position feedback	20 - 80 %	10
4	1	Hall PWM position feedback and with potential free endstop	0 - 100 %	10
4	2	Hall PWM position feedback and with potential free endstop	10 - 90 %	10
4	3	Hall PWM position feedback and with potential free endstop	20 - 80 %	10

Positioning/ Ordering code number X	X	Description of positioning option IC (Integrated Control)		No. of pins in LA23
5	0	Standard electrical endstop - no positioning		10
5	2	Standard single Hall positioning		10
6	1	Hall potentiometer feedback	0 - 10 V	10
6	2	Hall potentiometer feedback	1 - 9 V	10
6	3	Hall potentiometer feedback	2 - 8 V	10
6	4	Hall potentiometer feedback	0 - 5 V	10
6	5	Hall potentiometer feedback	0.5 - 4.5 V	10
6	6	Hall potentiometer feedback	0 - 3.3 V	10
6	7	Hall potentiometer feedback	0.3 - 3 V	10
7	1	Hall PWM postion feedback	0 - 100 %	10
7	2	Hall PWM postion feedback	10 - 90 %	10
7	3	Hall PWM postion feedback	20 - 80 %	10

Dimensions:



Tolerances:
For built-in dimensions and stroke ± 2 mm.

The built-in dimension depends upon the chosen safety option and stroke length.
Please see the table below to decide upon the built-in dimension.

Safety option	Stroke length	Spindle pitch	Min. Built-in Dimensions
0 = No safety option	20 - 49	6, 9 or 12	160
0 = No safety option	20 - 49	3, 5	168
1 = Safety nut for push	20 - 49	6, 9 or 12	160
1 = Safety nut for push	20 - 49	3, 5	168
2 = safety nut for pull	20 - 49	6, 9 or 12	172
3 = Mechanical Spline for push	20 - 49	6, 9 or 12	180
3 = Mechanical Spline for push	20 - 49	3, 5	196
4 = Mechanical Spline & safety nut for push	20 - 49	6, 9 or 12	180
4 = Mechanical Spline & safety nut for push	20 - 49	3, 5	196
0 = No safety option	50 - 200	6, 9 or 12	110 + stroke
0 = No safety option	50 - 200	3, 5	118 + stroke
1 = Safety nut for push	50 - 200	6, 9 or 12	110 + stroke
1 = Safety nut for push	50 - 200	3, 5	118 + stroke
2 = Safety nut for pull	50 - 200	6, 9 or 12	122 + stroke
3 = Mechanical Spline for push	50 - 200	6, 9 or 12	130 + stroke
3 = Mechanical Spline for push	50 - 200	3, 5	146 + stroke
4 = Mechanical Spline & safety nut for push	50 - 200	6, 9 or 12	130 + stroke
4 = Mechanical Spline & safety nut for push	50 - 200	3, 5	146 + stroke
0 = No safety option	201 - 300	6, 9 or 12	130 + stroke
0 = No safety option	201 - 300	3, 5	138 + stroke
1 = Safety nut for push	201 - 300	6, 9 or 12	130 + stroke
1 = Safety nut for push	201 - 300	3, 5	138 + stroke
2 = Safety nut for pull	201 - 300	6, 9 or 12	142 + stroke
3 = Mechanical Spline for push	201 - 300	6, 9 or 12	150 + stroke
3 = Mechanical Spline for push	201 - 300	3, 5	166 + stroke
4 = Mechanical Spline & safety nut for push	201 - 300	6, 9 or 12	150 + stroke
4 = Mechanical Spline & safety nut for push	201 - 300	3, 5	166 + stroke

Safety nut and back fixture overview

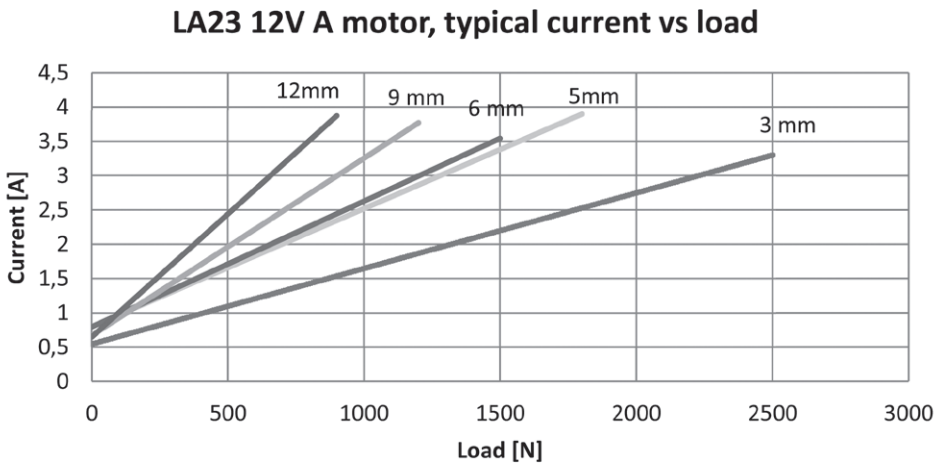
	Safety nut	Steel back fixture	Plastic back fixture
900 N	Optional in push or pull	Required in pull	Only in push
1200 N	Optional in push or pull	Required in pull	Only in push
1500 N	Optional in push or pull	Required in pull	Only in push
1800 N	Optional in push (Safety nut 2500 N not available in pull)	Always required	Not available
2500 N	Optional in push (Safety nut 2500 N not available in pull)	Always required	Not available

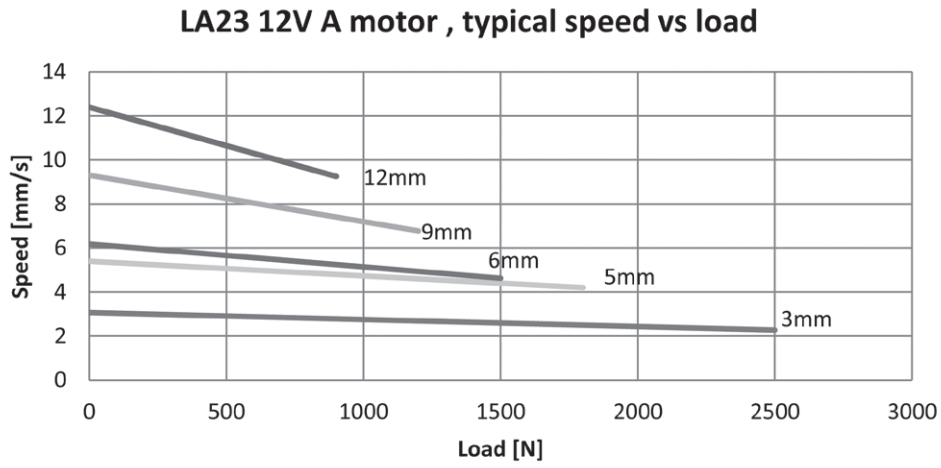
Self-locking specifications

Maximum self-lock (N)	Without short circuit	With short circuit
12 mm pitch	750	900
9 mm pitch	750	1200
6 mm pitch	1200	1500
5 mm pitch	1600	1800
3 mm pitch	2500	2500

Speed, load and current curves:

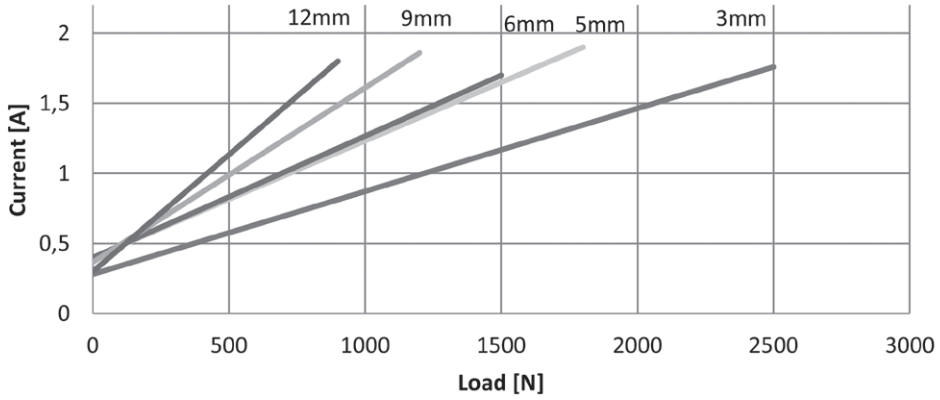
12V motor - type A





24V motor type B

LA23 24V B motor, typical current vs load



LA23 24V B motor, typical speed vs load