PRODUCT DATA SHEET

ACTUATOR LA12

Features:

- *12/24 V DC permanent magnetic motor*
- *Max. thrust 750 N*
- *Reinforced glass fibre piston rod*
- *Compact design*
- *Protection class: IPX1*
- *Colour: black*
- *Straight cables without plug*
- *Back fixture available in 2 different variants: 01 or 02 (factory mounted)*
- *Built-in limit switches (not adjustable)*
- *High-strength plastic housing protects motor and gear*

Options:

- *Reed-switch*
- *Potentiometer (max. 100 mm stroke length)*
- *Hall-sensor for IC-option*
- *Long life absolute feedback (HALL - Potentiometer)*
- *Stainless steel inner tube and piston rod eye*
- *Back fixtures in aluminum or stainless steel*
- *Protection class: IP66 for the types 12xx00-xxxxxxxx*
- *Protection class: IP66 for outdoor use (dynamic), furthermore the actuator can be washed down by a high pressure cleaner (IP69K – static) for the types 12xx/02/03-xxxxxxxx*

Usage:

- *Duty cycle up to 20 % or max. 12 min./hour at 0 - 20°C ambient temperature*
- *Ambient temperatures: -20° to + 60°C, full performance from 5°C to 35°C*
- *Typical noise level dB (A) 55-57, measuring method DS/EN ISO 3746, actuator not loaded*
- *To ensure the self-locking ability of the actuator the motor must be short-circuited*

Thanks to the small size and outstanding performance, the LA12 actuator provides a practical and cost-effective alternative to traditional pneumatic systems and gear motors.

The LA12 is a member of the TECHLINE® Family it is characterised by its robust design allowing the actuator to be used in harsh conditions. The LA12 is designed to meet the challenge, based on the philosophy that it must be able to operate under extreme conditions.

The actuator is ideal for mobile "off-highway" equipment such as agricultural, forestry and construction machines.

iFLEX Intelligent Flexibility

iFLEX is a descriptive term under which every **TECHLINE®** actuator with built-in intelligence is unified.

For more information on iFLEX, please see: www.linak.com/techline

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Technical specifications:

New Type	Old Type	Spindle Pitch (mm)	Thrust max. Push/Pull (N)	Self-lock max. (Push) (N)	Self-lock max. (Pull) (N)	Typical speed 0/full load (mm/s)		Stroke length (in steps of 30 mm)			Typical Amp. at full load (A) 24V - 12V	
12XX00-1XXX12XX	12.1	2	750	750	375	14	5	40	-	130	-	4.6
12XX00-1XXX24XX	12.1	2	750	750	375	14	6	40	-	130	2.2	-
12XX00-2XXX12XX	12.2	4	300	300	150	27	16	40	-	130	-	2.5
12XX00-2XXX24XX	12.2	4	300	300	150	27	16	40	-	130	1.5	-
12XX00-3XXX12XX	12.3	6	200	200	100	40	28	40	-	130	-	2.2
12XX00-3XXX24XX	12.3	6	200	200	100	40	28	40	-	130	1.0	-

LA12

Ordering example:

12 x x xx - x xxx xx x x

Cable

No positioning
0 = 2 core straight 0.75m
1 = 2 core mono Jack straight 2.3m
With reed
2 = 3 core stereo Jack straight 2.3m
3 = 3 core straight 0.75m
4 = 4 core straight 0.75m
With analogue feedback (Potentiometer)
0 = 5 core straight 0.93m
With IC
8 = 8 core straight 2300mm
X = Special cable

IP version:
0 = IP51
2 = IP66

Motor:
12 = 12VDC Motor
24 = 24VDC Motor

Stroke
040 = Standard length
070 = Standard length
100 = Standard length
130 = Max. standard length

Spindle type
1 = 2 mm
2 = 4 mm
3 = 6 mm

Material
00 = Plastic inner tube
02 = Stainless steel inner tube and stainless steel eye (AISI 303) w. bushes
03 = Stainless steel inner tube and stainless steel eye (AISI 304) w. bushes
0X = Special

Memory positioning:

	Necessary cable type	
0 = None	0 or 1	
A = Potentiometer 0-10 V/max. 100 stroke -Phased out	8 for IC	(8 core)
B = Analogue feedback 0 - 10V	0	(5 Core)
C = Analogue feedback 0.5 - 4.5V	0	(5 Core)
E = Reed switch 10 pulses/spindle revolution	4	(4 Core)
G = Hall sensor 2 pulses/spindle revolution 4 pulses -Phased out	8 for IC	(8 core)
H = Hall sensor 4 pulses/spindle revolution 8 pulses -Phased out	8 for IC	(8 core)
M = Reed switch 4 pulses/spindle revolution	4	(4 Core)
P = Potentiometer max. 100 mm stroke	0	(5 Core)
R = Reed switch 4 pulses/spindle revolution	2 or 3	(3 Core)

iFLEX options for LA12:

T = Potentiometer 0-10 volt / max. 100mm stroke	8 for IC	(8 Core)
D = None	8 for IC	(8 Core)
F = Analogue feedback 0 - 10V	8 for IC	(8 Core)
S = Single hall feedback (with 10 pole magnet)	8 for IC	(8 Core)
K = Analogue feedback 0.5 - 4.5V	8 for IC	(8 Core)

Back fixture type and position:
1 = 01
2 = 02
3 = Like 01, but in aluminium
4 = Like 02, but in aluminium
5 = Like 01, but in stainless steel (AISI 304)
6 = Like 02, but in stainless steel (AISI 304)
X = Special

Actuator type LA12

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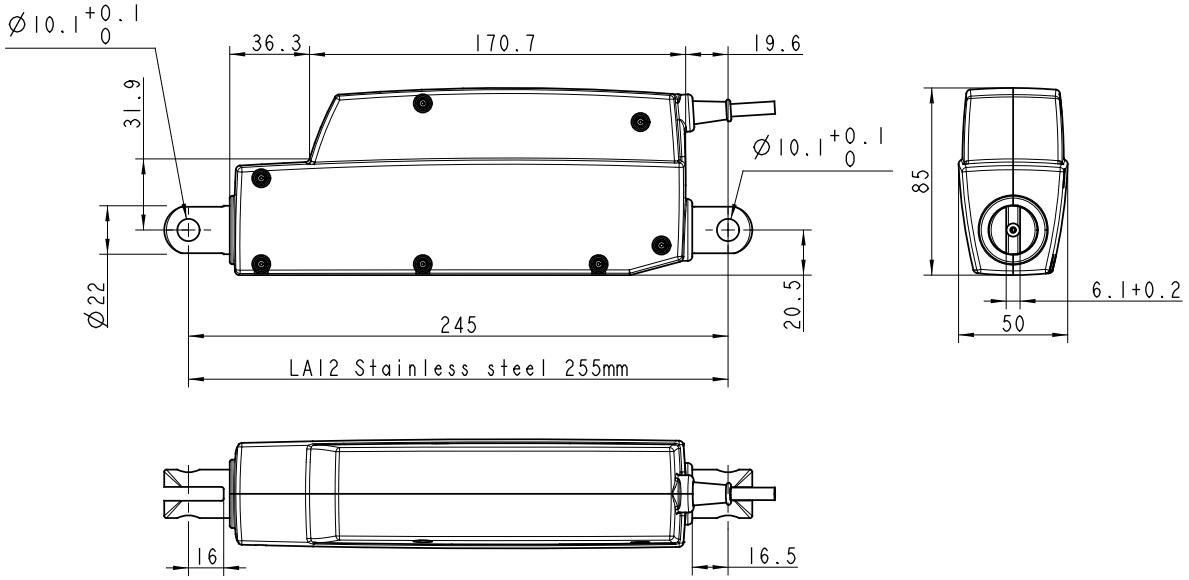
Dimensions:



Environmental test - Climatic

Test	Specification	Comment	TRD number
Degrees of protection	EN60529 – IP6x	IP6X - Dust: Dust-tight, No ingress of dust. Actuator is not activated.	TRD2351
	EN60529 – IPx6	IPX6 - Water: Ingress of water in quantities causing harmful effects is not allowed. Duration: 100 litres pr. minute in 3 minutes. Actuator is not activated.	TRD2249
	EN60529 – IPx6 - dynamic	IPX6 - Connected actuator: Actuator is driving out and in for 3 min. 100 (l/min) jet of water is placed at the wiper ring for 3 (min).	TRD2349
	DIN40050 – IP69K	High pressure cleaner: Water temperature: +80°C Water pressure: 80 bar Spray angle: 45° Spray distance: 100 mm Duration: From any direction 10 seconds of spraying followed by 10 seconds rest. Actuator is not activated. Ingress of water in quantities causing harmful effects is not allowed.	TRD2350
Salt mist.	EN60068-2-52 (Kb)	Dynamic salt spray test Salt solution: 5% sodium chloride (NaCl) 4 spraying periods, each of 2 hours. Humidity storage 20 days after each. Actuator is power up connected during the test. Exposure time: 10.000 cycles	TRD2570

Environmental test - Mechanical

Test	Specification	Comment	TRD number
Low Temperature Soak		Unit powered and operating for 96Hrs @ -40°C	TRD2232
High Temperature Soak		Unit powered and operating for 96Hrs @ 105°C	TRD2233
Mechanical Shock (Handling) - Drop Test	BS2011 Part 2.1 Eb.	400mm drop onto Hardwood bench minimum 40 mm thick. Onto all practical edges and faces	TRD2243
Mechanical Shock (Operational)		100 off 400m/sec2 6 ms shock pulses - in 3 axes	TRD2229 PART 1
Vibration (Random)		24 hours in each ax. Breakpoint Freq. 10Hz @ 0.005 g2/Hz, 150Hz @ 0.060 g2/Hz, 220Hz @ 0.080 g2/Hz 350Hz @ 0.040 g2/Hz	TRD2229 PART 2 TRD 3802
Vibration (Resonant Search)		10 Hz - 2 KHz @ 4G, Rate = 1octave/min	TRD2229 PART 3 TRD 3802
Bump		40G in 6 mS x 100 in each direction pr. axis	TRD 3802

Environmental test - Electrical

EMC Test		See TRD	TRD 4661
Electrical Tests		See TRD	TRD 3209 TRD 4356

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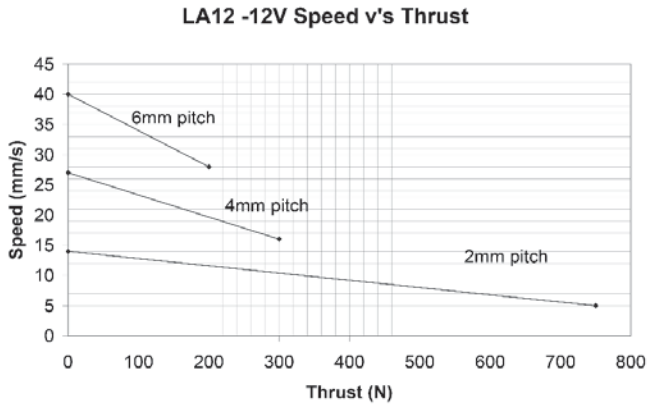
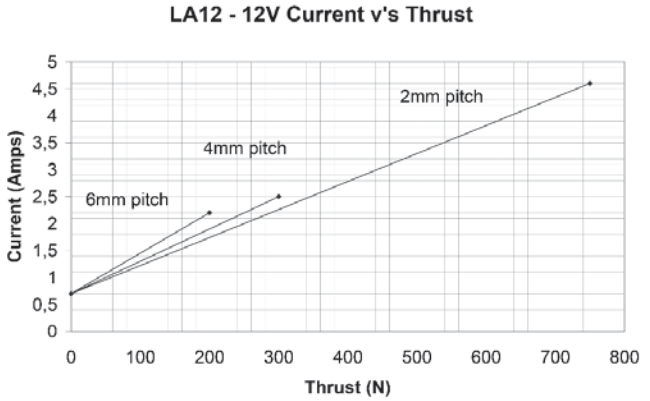
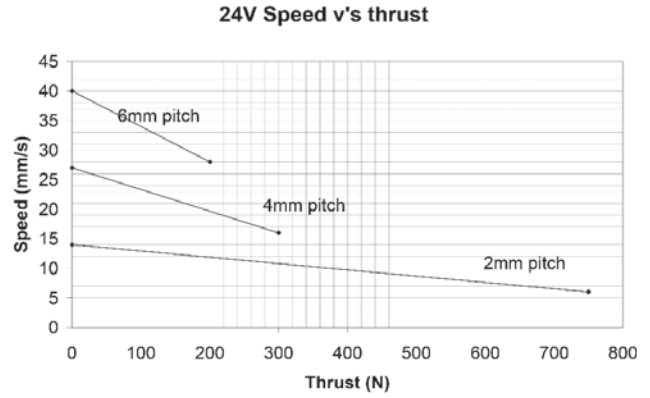
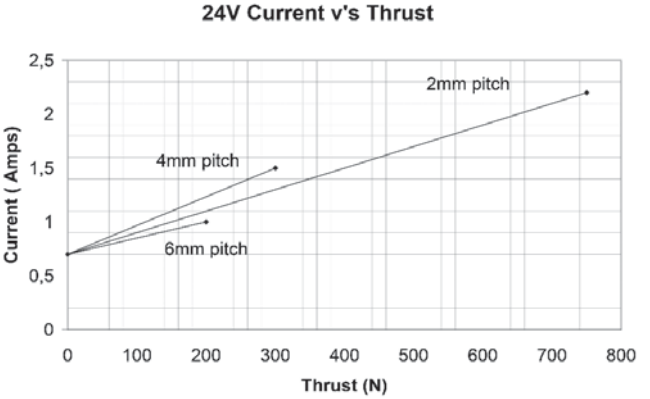
LA12 Curves speed and current:







LA12 Current v's Thrust:



The above values are average values made with a stable power supply and an ambient temperature of 20˚ C.

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