TECHLINE®
IMPROVING FLEXIBILITY

Linear Actuator LA37

User Manual

LINAK.COM/TECHLINE

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Contents

Preface

Dear User,

We are delighted that you have chosen a LINAK® product.

LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, lifting columns, desk frames, electric control boxes, controls, batteries, accessories and chargers.

This User Manual does not address the end user. It is intended as a source of information for the equipment or system manufacturer only, and it will tell you how to install, use and maintain your LINAK electronics. The manufacturer of the end product has the responsibility to provide a User Manual, where relevant safety information from this manual is passed on to the end user.

We are convinced that your LINAK product/system will give you many years of problem-free operation.

Before our products leave the factory, they undergo both function and quality testing. Should you, nevertheless, experience problems with your product/system, you are always welcome to contact your supplier.

LINAK subsidiaries and some distributors situated all over the world have authorised service centres, which are always ready to help you. Locate your local contact information on the back page.

LINAK provides a warranty on all products. (See warranty section).

This warranty, however, is subject to correct use in accordance with the specifications, maintenance being done correctly, and any repairs being carried out at a service centre, which is authorised to repair LINAK products.

Changes in installation and use of LINAK systems can affect their operation and durability. The products may only be opened by authorised personnel.

This User Manual has been written based on the present technical knowledge. LINAK reserves the right to carry out technical modifications and keeps the associated information updated.

LINAK A/S

Terms of use

LINAK® takes great care in providing accurate and up-to-date information on its products. However, the user is responsible for determining the suitability of LINAK products for a specific application.

Due to continual development, LINAK products are subject to frequent modifications and changes. LINAK reserves the rights to conduct modifications, updates, and changes without any prior notice. For the same reason, LINAK cannot guarantee the correctness and actual status of imprinted information on its products.

LINAK uses its best efforts to fulfil orders. However, for the reasons mentioned above, LINAK cannot guarantee availability of any particular product at any given time. LINAK reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or in other written material created and produced by LINAK, LINAK subsidiaries, or LINAK affiliates.

All sales are subject to the 'Standard Terms of Sale and Delivery for LINAK A/S' available on LINAK websites.

Introduction

Powerful electric linear actuator designed to handle high loads and demanding environments. It delivers long-lasting reliability as well as a wide choice of industrial control interfaces.

Safety instructions

Please read this safety information carefully.

Be aware of the following three symbols throughout the document:

Warning!
Failing to follow these instructions can cause accidents resulting in serious personal injury.

Recommendations
Failing to follow these instructions can result in the actuator suffering damage or being ruined.

Additional information
Usage tips or additional information that is important in connection with the use of the actuator.

Furthermore, ensure that all staff who are to connect, mount, or use the actuator are in possession of the necessary information and that they have access to this document.

Persons who do not have the necessary experience or knowledge of the product/products must not use the product/products. Besides, persons with reduced physical or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.

Moreover, children must be under surveillance to ensure that they do not play with the product.

Before you start mounting/dismounting, ensure that the following points are observed:

- The actuator is not in operation.
- The actuator is free from loads that could be released during this work.

Before you put the actuator into operation, check the following:

- The actuator is correctly mounted as indicated in the relevant user instructions.
- The equipment can be freely moved over the actuator's whole working area.
- The actuator is connected to a mains electricity supply/transformer with the correct voltage which is dimensioned and adapted to the actuator in question.
- Ensure that the voltage applied matches to the voltage specified on the actuator label.
- Ensure that the connection bolts can withstand the wear.
- Ensure that the connection bolts are secured safely.

During operation, please be aware of the following:

- Listen for unusual sounds and watch out for uneven running. Stop the actuator immediately if anything unusual is observed.
- Do not sideload the actuator.
- Only use the actuator within the specified working limits.
- Do not step on or kick the actuator.

When the equipment is not in use:

- Switch off the mains supply in order to prevent unintentional operation.
- Check regularly for extraordinary wear.

Classification

The equipment is not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.

Warnings

- Do not sideload the actuator.
- When mounting the actuator in the application ensure that the bolts can withstand the wear and that they are secured safely.
- If irregularities are observed, the actuator must be replaced.
- The standard actuator (without Integrated Controller) without clutch, is not allowed to run into a mechanical block -before reaching the end of stroke.

Recommendations

- Do not place load on the actuator housing.
- Prevent impact or blows, or any other form of stress to the housing.
- Ensure that the cable cover is mounted correctly. Use 3.5 Nm torque.
- Ensure that the duty cycle and the usage temperatures for LA37 actuators are respected.
- Ensure that the cable cannot be squeezed, pulled or subjected to any other stress.
- Furthermore, it will be good practice to ensure that the actuator is fully retracted in the “normal” position. The reason is that there will be a vacuum inside the actuator if it is extended which over time can lead to water entering the actuator.

Features

- 12 / 24 / 48 V DC permanent magnetic motor
- Load from 10,000 N - 15,000 N
- Max. speed 11 mm/sec. depending on load, spindle pitch and platform
- Stroke length from 100 mm to 600 mm (605 -1,000 mm at reduced load)
- Built-in endstops reached function
- Highly efficient acme thread spindle
- Safety factor 2: The actuator has been certified to withstand static loads that are twice the magnitude of its dynamic load capacity without sustaining damage.
- Heavy duty aluminium housing for harsh conditions
- Protection class: IP66 for outdoor use (dynamic). Furthermore, the actuator can be washed down by a high pressure cleaner (IP69K - static)
- Highly efficient acme thread spindle
- Static holding load up to 45 kN in push and pull
- Dynamic wind stress loads 15 kN push/pull 100,000 times
- Hand crank for manual operation
- Integrated brake, high self-lock ability
- Endplay - See Technical Specifications
- Non-rotating piston rod eye
- Noise level: 76 dB (A). Measuring method: DS/EN ISO 8746 (actuator not loaded)
- Current monitoring
- Weight: 4.29 kg for 100 mm stroke; additional 0.24 kg for each additional 50mm stroke.
  (Cable not included; weight varies by selected options)
- Off-highway Features:
  - 12 or 24 V DC brushed permanent magnetic motor
  - Load up to 15,000 N (depending on the spindle pitch)
  - Max. speed 11 mm/sec.
  - Reinforced aluminium housing for harsh conditions
  - IPC-A-610 Class 3 (High-performance electronic products)
  - IP54 without cable mounted
    IP69K with cable mounted with shell or moulded cable
  - Connector plug type: DT16-18SA-K004, AT16-18SA-K004 or TE 2600047-1

An Off-highway vehicle is intended for use on steep or uneven ground and includes those used for construction or agriculture. They are specifically designed for off-road use.

Quad bikes, dirt bikes, dune buggies and other types of all-terrain vehicles are also types of Off-highway vehicles, although their function is very different from motor vehicles designed for industrial and farming use.

For more information about I/O, please see the I/O interface user manual

Options in general

- Back fixture can be ordered in steps of 90 degrees
- Exchangeable cables in different lengths
- Hall effect sensor
- Analogue or digital feedback for precise positioning
- Different back fixtures and piston rod eyes
- Short Built in Dimension available for loads up to 10,000 N
- Endstop reached signals
- Built-in Zero Point or endstop switch initialisation principle
- IC options including:
    - I/O
    - Ethernet/IP
    - Modbus TCP/IP
    - Modbus RTU
    - IO-Link
    - LIN bus
    - CAN SAE J1939
    - CANopen
    - Off-highway LIN bus (contact LINAK sales)
    - Off-highway CAN SAE J1939
    - Off-highway CANopen

(see specific interface user manuals at the TECHLINE webpage for Connection Diagrams and I/O Specifications)

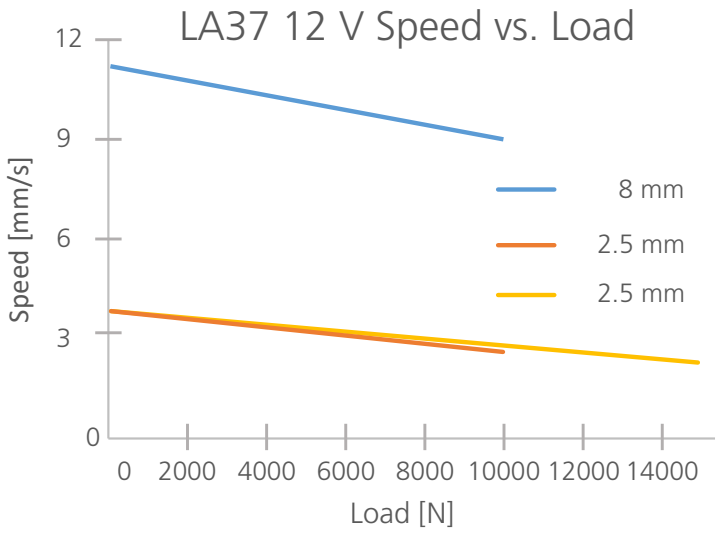
- PC configuration tools (Actuator Connect™ and BusLink)

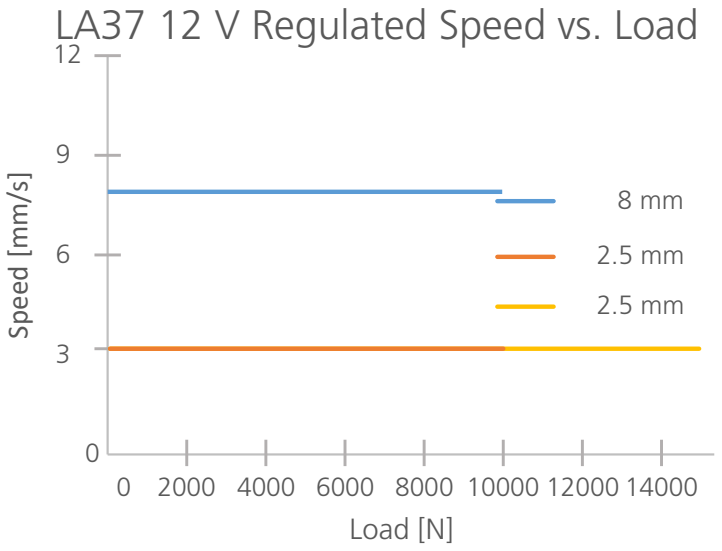
Usage

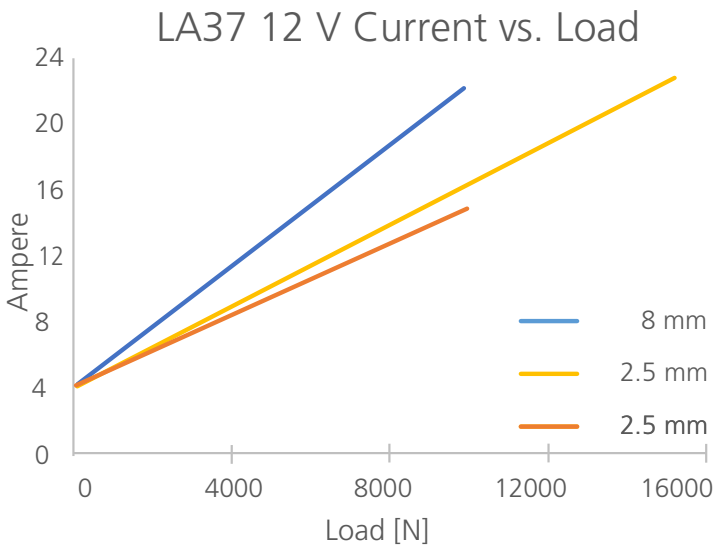
- Duty cycle up to 600 mm stroke: 10% (120 s drive and 1080 s rest)
- Duty cycle at 601-1,000 mm stroke: 5% (60 s drive and 1140 s rest)
- Ambient operating temperature: Full performance from +5 °C to +40 °C
  -30 °C (reduced load 50%) to + 85 °C (reduced duty cycle 10%)
- Storage temperature: -40 °C to +70 °C
- Actuator not activated/connected: -40 °C to +85 °C for 72 hours
  -55 °C to +95 °C for 24 hours for Standard platform
  -55 °C to +105 °C for 24 hours for Integrated Control platform
- Acclimatization before usage
- Relative humidity: Full performance from 20% to 80% - non-condensing
  (Actuator is neither activated nor connected)
- Cyclic state: 93% to 98% - non-condensing +25 °C to +55 °C for 12 hours
- Steady state: 93% to 95% - non-condensing +40 °C for 56 days
- Atmospheric pressure: 700 to 1060 hPa
- Meters above sea level: Max. 3,000 meters
- Off-highway:
  - For applications operated at constantly low temperatures it is recommended to use a stronger version of the actuator to reduce the current consumption that in some combinations can be up to 3 times higher (at -40° Celsius)
  - Tested according to: ISO14982-1 / Agricultural and forestry machinery - Electromagnetic compatibility - Part 1: General EMC requirements (clamped capacitor circuit)
  - Compliant with: ROHS2 : 2011/65/EU: Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment EMC Directive - 2014/30/EU

Speed and current curves 12 V

The typical values below are made with a nominal power supply of 12 V DC and an ambient temperature of 20˚C.







Speed and current curves 24 V

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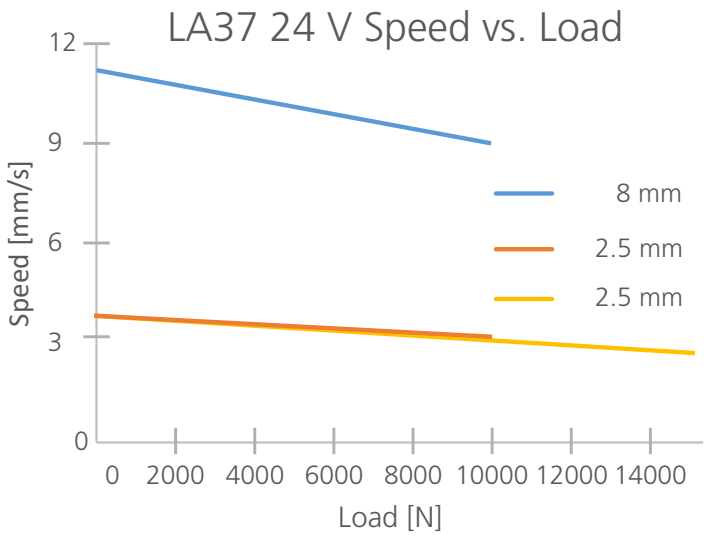

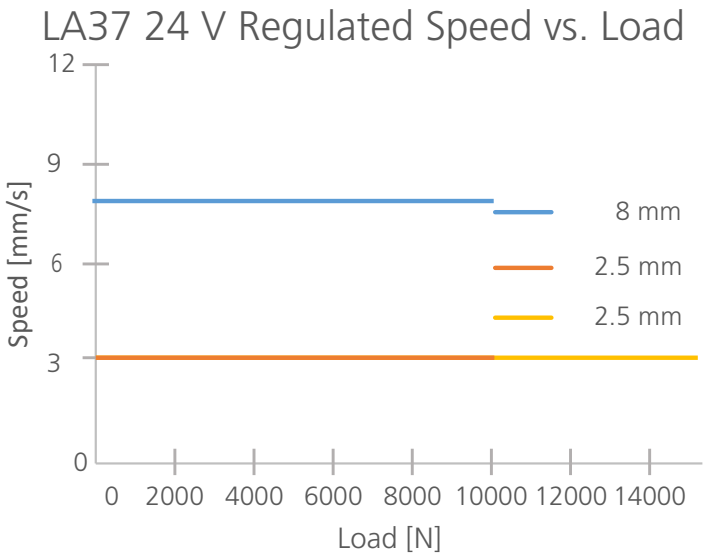

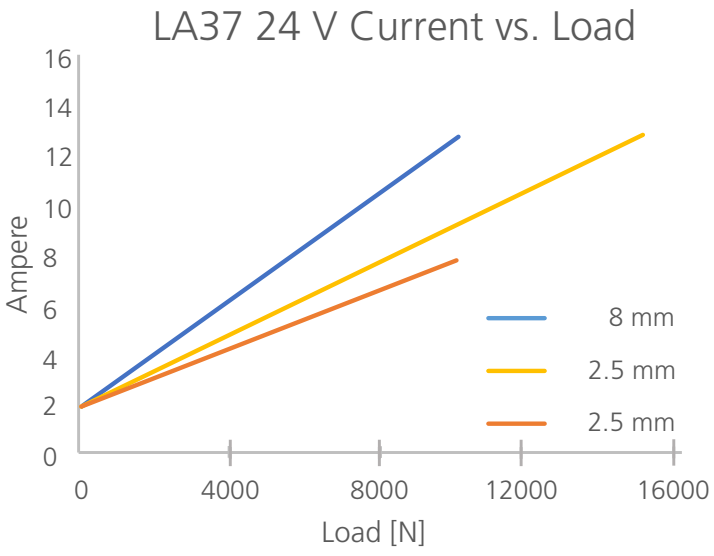

Speed and current curves 48 V

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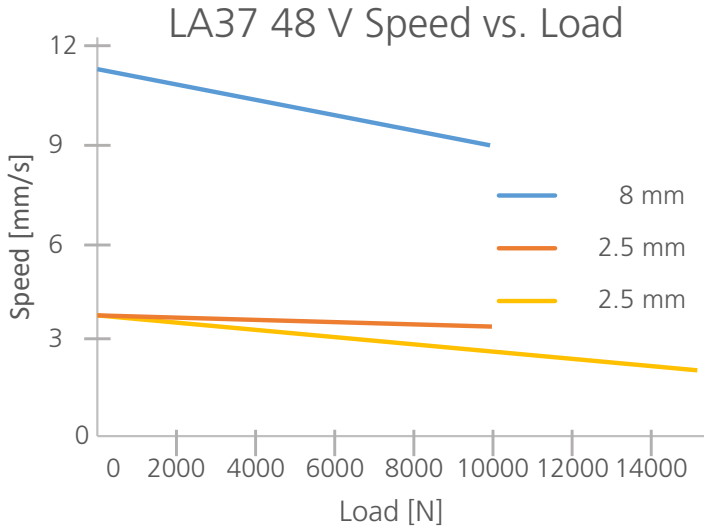
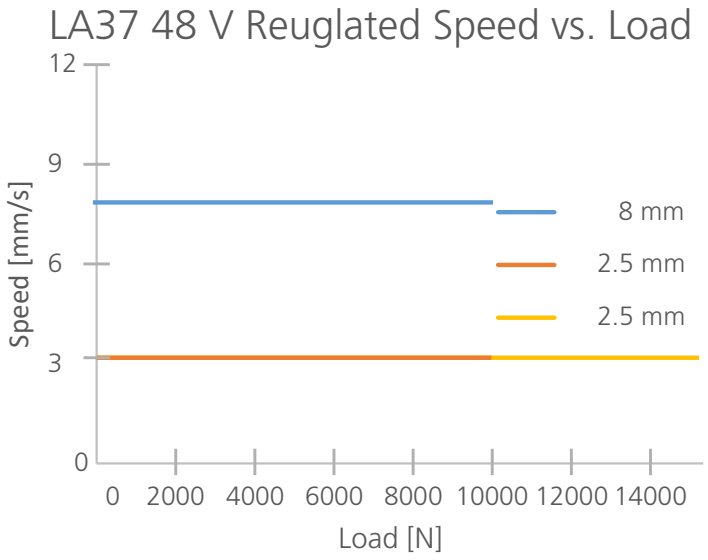
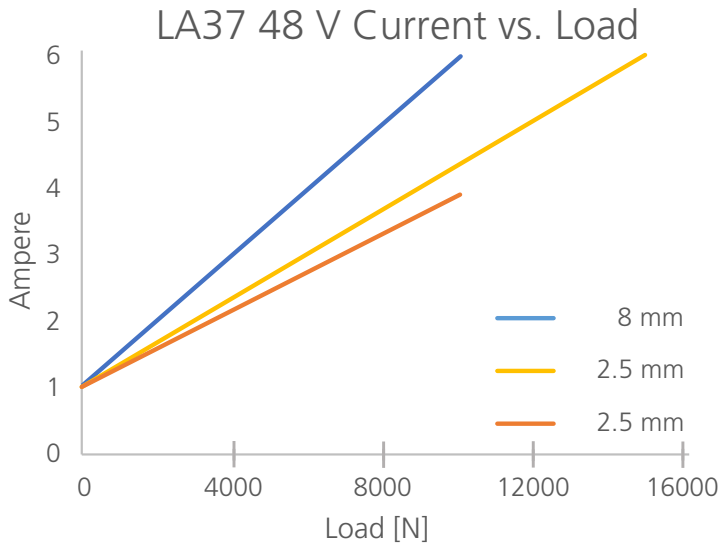


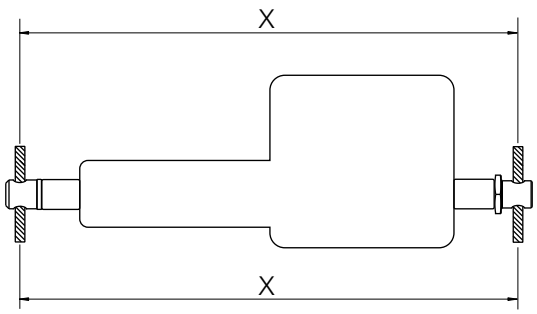




Mounting guidelines

LINAK® linear actuators are quickly and easily mounted by slipping pins through the holes on each end of the units and into brackets on the machine frame and the load.

The mounting pins must be parallel to each other as shown below. Pins, which are not parallel to each other, may cause the actuator to bend and be damaged.

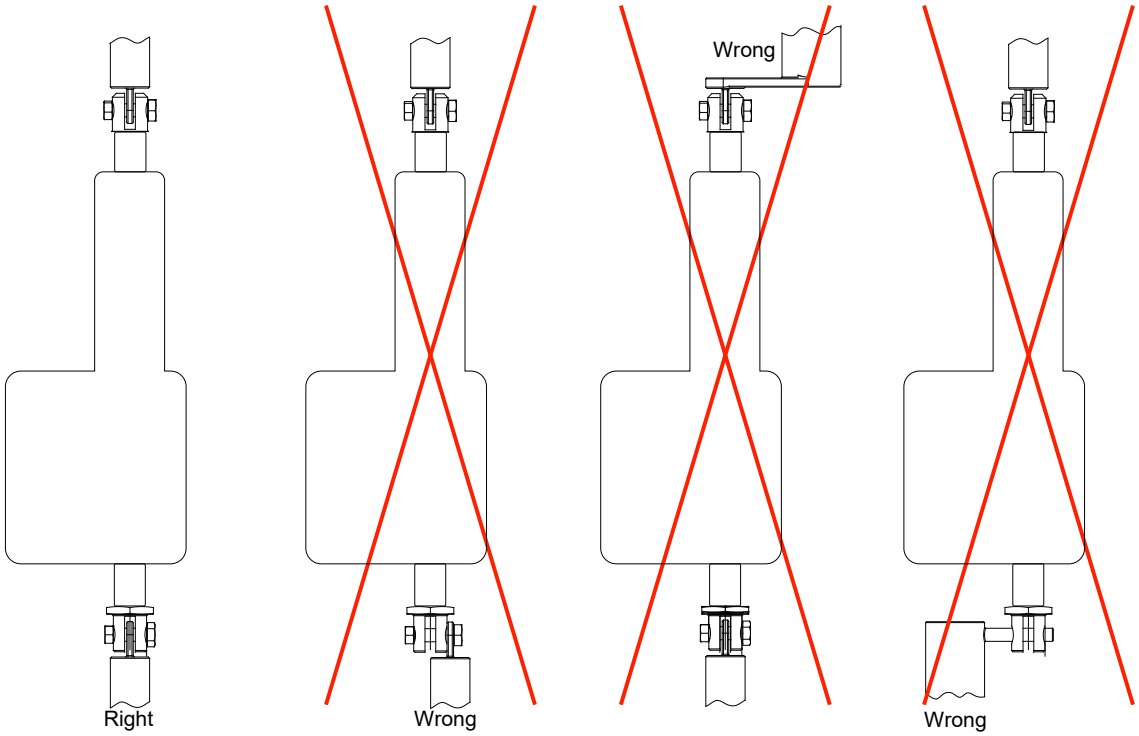


The load should act along the stroke axis of the actuator since off centre loads may cause bending and lead to premature failure. See Figure below.

Support both ends of the mounting pins. Failure to do so could shorten the life of the actuator. Do not use mounts that support the actuator on one side only.

The actuator can rotate around the pivot point in the front and rear end. If this is the case it is of high importance that the actuator is able to move freely over the full stroke length, both during the development and during daily operation. Please pay special attention to the area around the housing where parts can be trapped and cause damages to the application and actuator.

In applications with high dynamic forces LINAK recommends not to use the fully extended or retracted position over longer time, as this can damage the endstop system permanently.



Please note that if the actuator is used in applications where there is moisture, it is recommended to mount the actuator with the motor housing facing upwards and the wires pointing downwards.

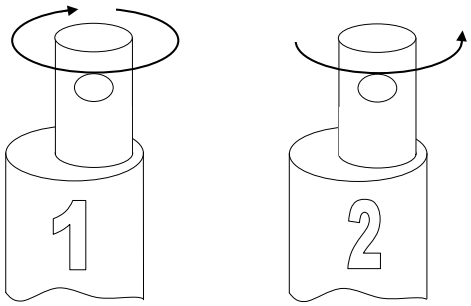
Mounting guidelines

- The mounting pins must have the correct dimension.
- The bolts and nuts must be made of a high quality steel grade (e.g. 10.8). No thread on the bolt inside the back fixture or the piston rod eye.
- Bolts and nuts must be protected so there is no risk for them to fall out.
- Do not use a torque that is too high when mounting the bolts for the back fixture or the piston rod eye. This will stress the fixtures.
- If the actuator for some reason does not fit the application, drive the actuator in or out using electric power. DO NOT use excessive force, e.g. a hammer or similar tools, to make the actuator fit the application

Please note:
The piston rod eye is only allowed to turn 0-180 degrees.

Instruction concerning the turning of the piston rod eye and inner tube:

- When mounting and taking into use, it is not permitted to make excessive turns of the piston rod eye. In cases where the eye is not positioned correctly, it is permitted to first screw the eye down to its bottom position, at a maximum torque of 2 Nm (1), and thereafter a maximum 180 degrees turn out again (2)
- As the piston rod eye can turn freely, it is important to ensure that the eye cannot rotate if the actuator is used in a pull application. If this happens, the actuator will be pulled apart and destroyed



Warning!

If the actuator is used for pull in an application where personal injury can occur, the following is valid:

It is the application manufacturer's responsibility to incorporate a suitable safety arrangement, which will prevent personal injury from occurring, if the actuator should fail.

Warning!

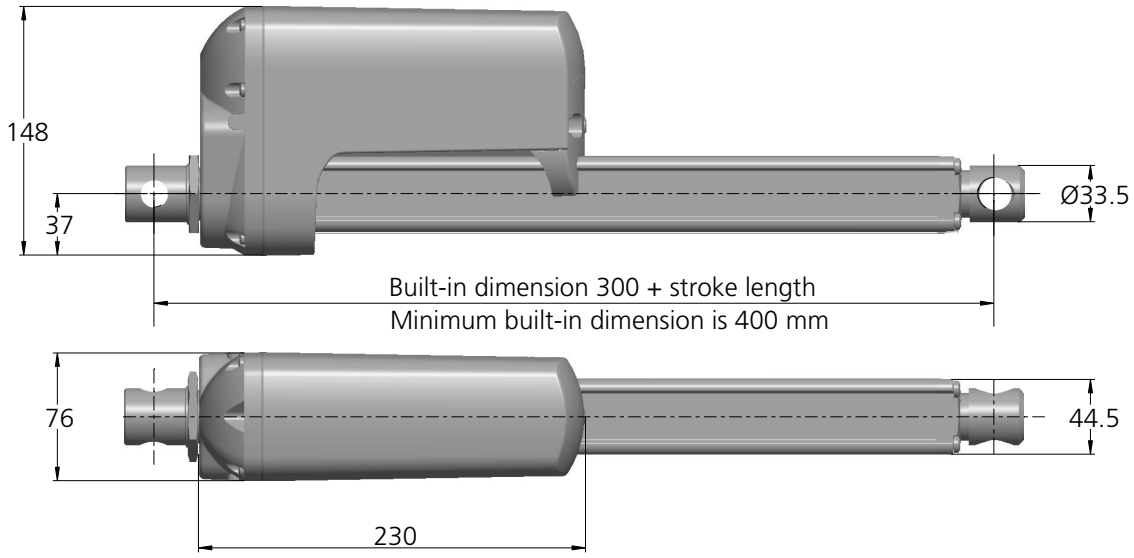
LINAK® actuators are not designed for use within the following fields:

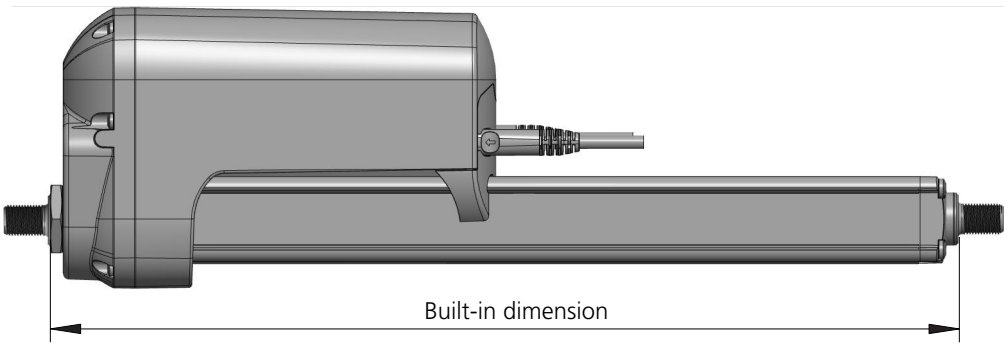
- **Nuclear power generation**
- **Aeroplanes and other aircraft**
- **Explosive environments**

Scope for offshore applications: Only if the LINAK® product is not used in the operation of the offshore platform or similar offshore property.

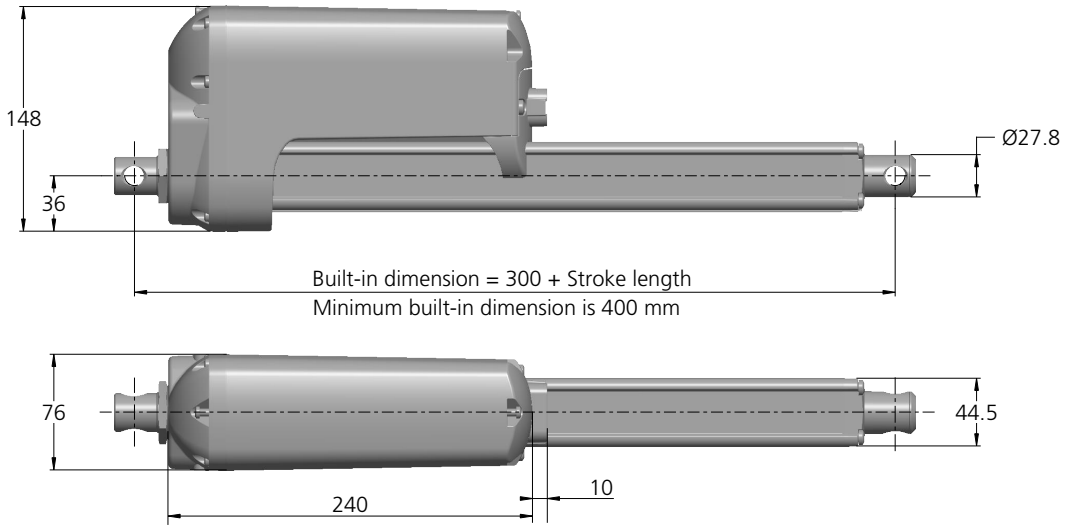
Built-in dimensions (standard length)

All dimensions are in mm





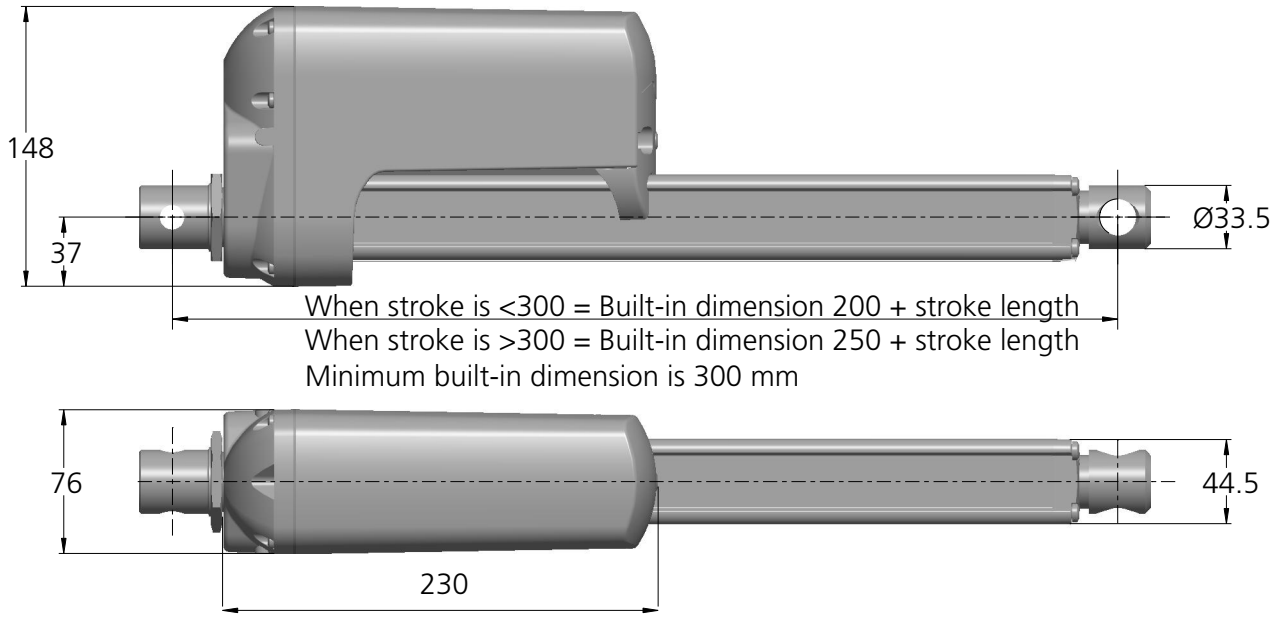
LA37 Off-highway



	Piston rod eye	Ball eye Ø20 H7 / to the centre of the hole	Ball eye Ø19.2 / to the centre of the hole	Solid Ø16.2 mm / to the centre of the hole	Solid Ø19.2 mm / to the centre of the hole	Male adapter M16 X 1.5 / from the surface*	Male adapter M20 X 1.5/ from the surface*
Back fixture		Stroke from 100 to 600	Stroke from 100 to 600	Stroke from 100 to 600	Stroke from 100 to 600	Stroke from 100 to 600	Stroke from 100 to 600
Solid Ø16.2 mm (0° and 90°) / to the centre of the hole		315 + stroke	315 + stroke	300 + stroke	300 + stroke	287 + stroke	287 + stroke
Solid Ø19.2 mm (0° and 90°) / to the centre of the hole		315 + stroke	315 + stroke	300 + stroke	300 + stroke	287 + stroke	287 + stroke
Male adapter M20 / from the surface*		296 + stroke	296 + stroke	281 + stroke	281 + stroke	268 + stroke*	268 + stroke*
* These built-in dimensions are measured according to the illustrations.							

Built-in dimensions (Short BID option)

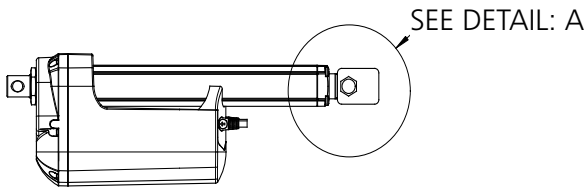
All dimensions are in mm.

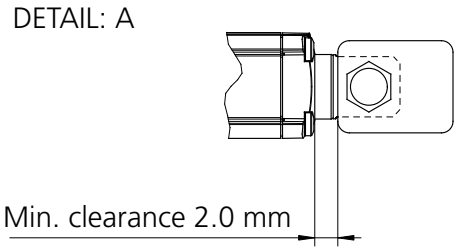


	Back Fixture	Solid (0° and 90°)		Male adapter Outer thread	
Stroke length		**<=300**	**>300**	**<=300**	**>300**
Piston Rod Eye		To the centre of the hole		To the centre of the hole	
Ball Eye	**To the centre of the hole**	215 + stroke	265 + stroke	200 + stroke	250 + stroke
Solid	**To the centre of the hole**	200+ stroke	250 + stroke	185 + stroke	235 + stroke
Male adapter Outer thread	**From the surface**	187+ stroke	237+ stroke	173+ stroke	223 + stroke

Keep a clearance when mounting a bracket

When mounting a custom bracket on the moving part of the actuator, please observe the minimum clearance between bracket and cylinder top when fully retracted. This will prevent jamming and destruction of the actuator drive train.





With Zero Point the minimum stroke is 100 mm.
The Zero Point initialisation zone is located between 35-75 mm going from the most inward position.

The movement passing the zone has to be stable for the initialisation to succeed - also, no virtual limits can be set in the initialisation zone.

Recommended fuse for power supplies and actuators without integrated controller:

Platform		Spindle pitch (mm)	Load max. (N)	Typical amp. at full load (A)			Recommended fuse		
				48 V	24 V	12 V	48 V	24 V	12 V
01	Standard with power switch	2.5	15,000	5.0	10.0	20.0	10.0	20.0	40.0
		8.0	10,000	4.0	8.0	-	8.0	16.0	-

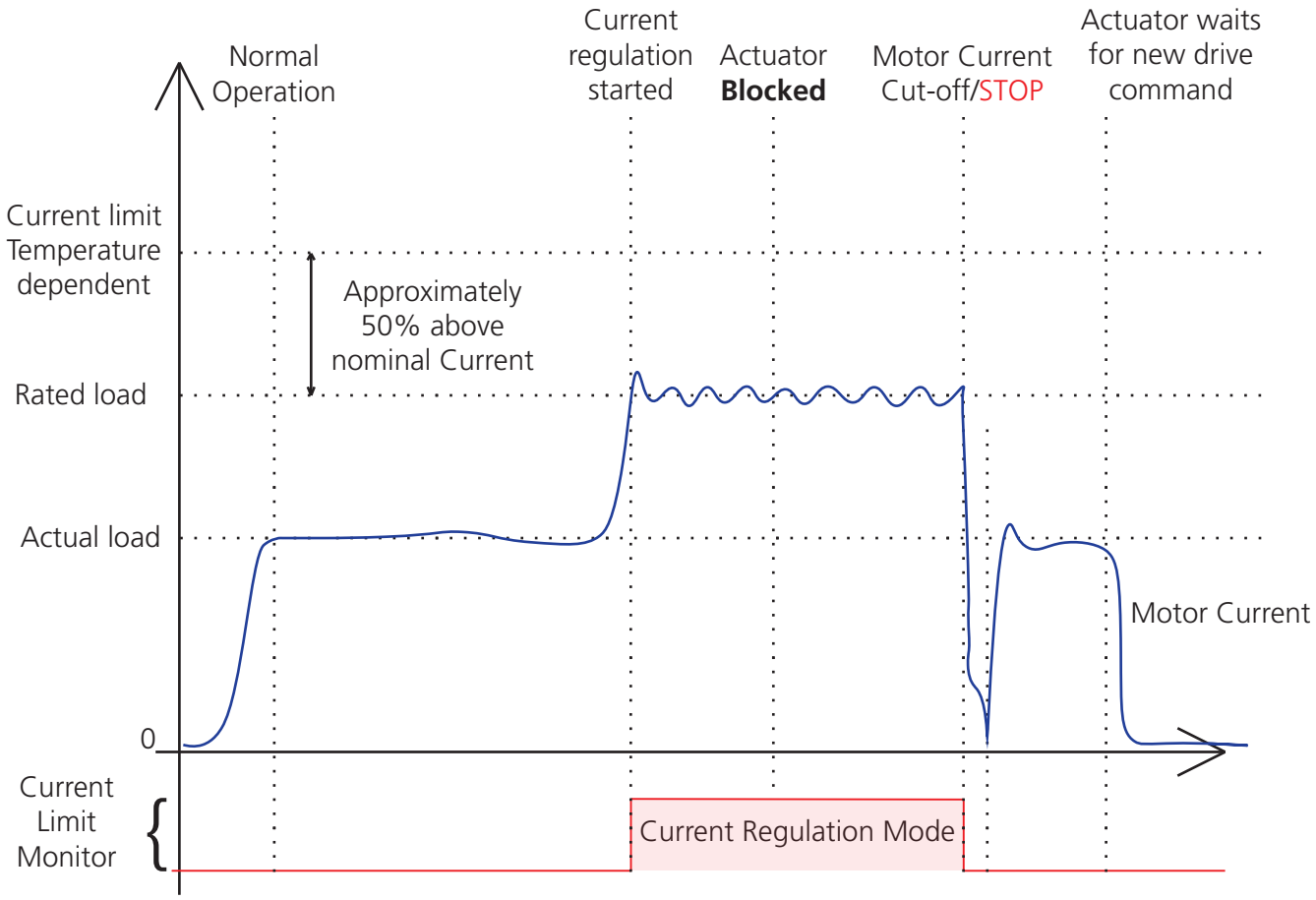
The current limiting algorithm

The I/O™ actuator features the latest current limiting algorithm, which has been significantly improved compared to previous versions.

If the actuator's current consumption rises above the set limit, the actuator reduces speed to stay below the current limit. The actuator does this continuously, until the actuator stops moving (mechanically blocked) - something that is determined by monitoring the Hall feedback signal. If there are no changes to the Hall feedback signal during the set time frame, the integrated controller will cut power to the H-bridge motor circuit.

If the actuator is stopped due to the above-mentioned criteria, it automatically drives slightly in the opposite direction to reduce the torque in a blocking situation.

This is visualised in the figure below:



This control feature makes it possible to avoid loading the internal mechanical system of the actuator above its specification, which ultimately means a longer life for the actuator, especially in an abuse scenario.

The I/O™ actuator comes with factory default current limits. These values can be customised with the 'Protection' option in Actuator Connect™ or when ordering the actuator.

Current limits

As described in the algorithm on previous page.

Platform		12 V	24 V	48 V	Reference temperature: 0°C
B3 C3 F3	I/O Basic I/O Customised I/O Full	30 A	16 A	8 A	Above
		30 A	26 A	15 A	Below
A6	LIN bus	-	16 A	8 A	Above
		-	26 A	15 A	Below
0B	IO-Link	-	16 A	-	Above
		-	26 A	-	Below
14	Modbus RTU	-	16 A	8 A	Above
		-	26 A	15 A	Below
C6 D6 E6	LIN bus Off-highway CAN SAE J1939 Off-highway CANopen Off-highwayv	26 A	13 A	-	Above
		26 A	26 A	-	Below

Platform		12 V	24 V	48 V	Reference temperature: 0°C
A7 A8	CANbus J1939 CANopen	-	13 A	8 A	Above
		-	26 A	15 A	Below
0E 2E 4E	Modbus TCP/IP Ethernet/IP Profinet	-	16 A	8 A	Above
		-	26 A	15 A	Below

Max. current

The current is not limited by the actuator. Below is the anticipated consumption at max. load.
See: Recommended fuse for actuators without Integrated Controller.

Platform		12 V	24 V	48 V	Reference temperature: 0°C
01	Standard with power switch	26 A	13 A	8 A	Above
		26 A	13 A	8 A	Below

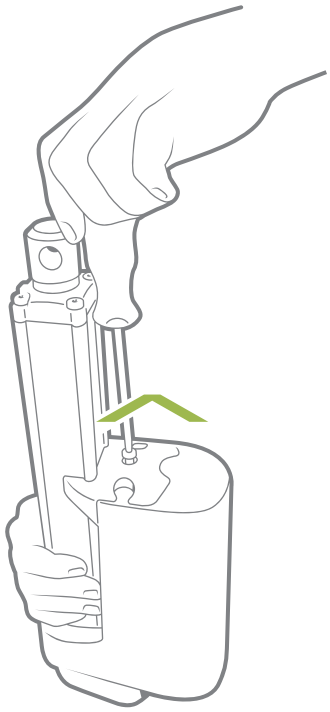
Current cut-offs

The principle behind the current cut-off measurement is an ‘above limit’ and a ‘below limit’ accumulating counter. When the time-out counter reaches a specific value the current cut-off goes into effect.
The system stops after 200 milliseconds if the current is too high.

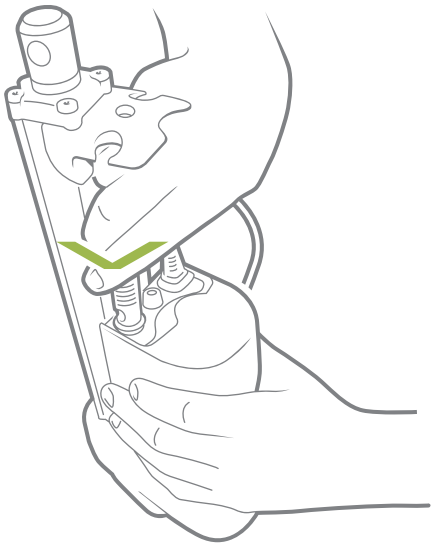
Platform		**12 V**	**24 V**	**48 V**	**Reference temperature: 0°C**
04	Modbus	-	13 A	-	Above
		-	13 A	-	Below
06	LIN bus	30 A	-	-	Above
		30 A	-	-	Below
07 08	CAN SAE J1939 CANopen	30 A	20 A	-	Above
		30 A	25 A	-	Below

Platform		**12 V**	**24 V**	**48 V**	**Reference temperature: 0°C**
16	LIN bus	30 A	-	-	Above
		30 A	-	-	Below
17 18	CAN SAE J1939 CANopen	30 A	20 A	13 A	Above
		30 A	25 A	15 A	Below

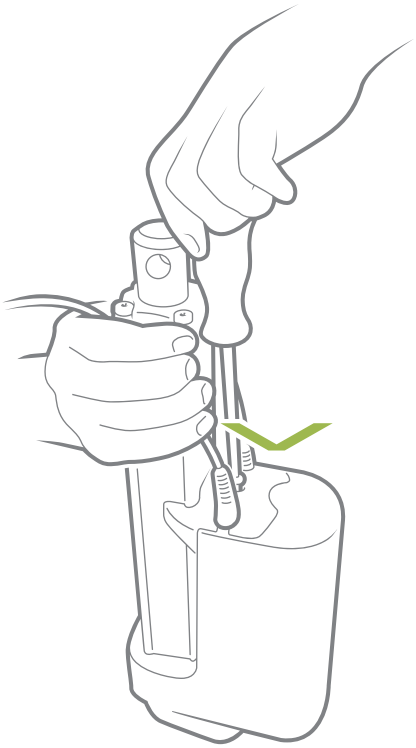
Cable mounting



1. Unscrew the screw and separate the cover from the housing. Remove the blind plug(s).



2. Plug in the power cable and/or the signal cable.



3. Slide the cover onto the actuator.

   The torque of the cover screw is approx. 3.5 ± 0.3 Nm

   TORX 25IP

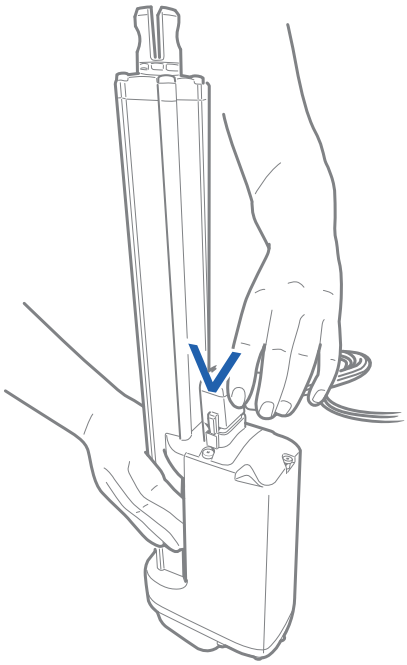
When changing the cables on a LINAK® actuator, it is important that this is done carefully, in order to protect the plugs and pins. Before the new cable is mounted, we recommend that the socket is greased with Vaseline®, to keep the high IP protection and ensure an easy mounting. Please be sure that the plug is in the right location and fully pressed in before the cable lid is mounted.

Cut off the tinned end if you connect the cable with screws. The tinned end is only to be used when a soldered connection is made.

Please note that if the cables are mounted and dismounted more than 3 times, the plugs can be damaged. Therefore, we recommend that such cables are discarded and replaced.
Do not lift the actuator by the cables.

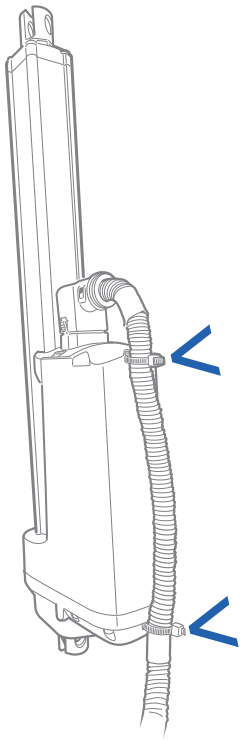
We recommend taking some precaution and designing the wire connection in such a way that the cable end is kept inside a closed, protected area to guarantee the high IP protection.

Mounting of cable Off-highway



1) Plug in the cable.

An audible “Click” confirms a correct mounting



2) Secure the cable with cable-ties to the two anchors

We recommend to take some precaution and design the wire connection in a way, where the cable end is kept inside a closed, protected area to guarantee the high IP protection.

Manual hand crank

The manual hand crank can be used in the case of a power failure and is only intended for emergency use.

6* mm Allen key

The cover over the Allen key socket must be unscrewed before the Allen key can be inserted and the hand crank operated.

Hand crank torque: 6-8 Nm
Hand crank RPM: Max. 65

Piston rod movement per turn: Gear H = 4.0 mm

* 5 mm Allen key -if stainless steel piston rod eye and back fixture are chosen

- The power supply has to be disconnected during manual operation.
- If the actuator is operated as a hand crank, it must only be operated by hand - otherwise there is a potential risk of overloading and thereby damaging the actuator. Use your hand to turn the crank. Do not use power tools!
- After using the hand crank, the ingress protection IP66 cannot be maintained.
- Move the actuator to its starting position after using the crank. Failing to do so can damage the actuator or the application it is used for.
- Actuators with absolute positioning must be initialised after use of the manual hand crank, because their positioning will be displaced when the power is disconnected.

Label for LA37

1. Type: 3702520000F346-614H30350ACS000

Describes the basic functionality of the product

2. Item no.: 37XXXX-XX

Sales and ordering code

3. Prod. Date: YYYY.MM.DD

Production date describes when the product has been produced. This date is the reference for warranty claims

4. Max. Load: Push 15000 N / Pull 15000 N IP66

Describes the maximum load that the product can be exposed to in compression and tension. This line also contains a reference to the product's IP protection degree

5. Power Rate: 48 V DC / Max. 8 Amp.

Input voltage for the product and maximum current consumption

6. Duty Cycle: 10%, Max. 2 min. / 18 min.

The duty cycle defines the maximum period during operation without interruption. After operation a pause must be observed. It is important that the operator follows the instructions of the duty cycle; otherwise, a possible overload may result in reduced product life/errors

7. W/O #12345678-0001

The LINAK work order followed by a unique sequential identification number

Maintenance

- The actuator must be cleaned at regular intervals to remove dust and dirt and inspected for mechanical damages or wear.
- Inspect attachment points, wires, piston rod, cabinet, and plug, as well as check that the actuator functions correctly.
- To ensure that the pre-greased inner tube remains lubricated, the actuator must only be washed down when the piston rod is fully retracted.
- The actuator is a closed unit and therefore requires no internal maintenance.
- In order to maintain a proper performance of the spherical eyes and to increase the resistance against environmental wear, we strongly recommend that the spherical eyes (ball bearings) mounted on actuators from LINAK® are greased with anticorrosive grease or similar.

Repair

See warranty disclaimer.

Main groups of disposal

LINAK's products may be disposed of, possibly by dividing them into different waste groups for recycling or combustion.

We recommend that our product is disassembled as much as possible at the disposal and that you try to recycle it.

Product	Metal scrap	Cable scrap	Electronic scrap	Plastic recycling or combustion
LA37	X	X	X	X

Warranty

There is an 18 months' warranty on TECHLINE® products against manufacturing faults calculated from the production date of the individual products (see label). LINAK's warranty is only valid in so far as the equipment has been used and maintained correctly and has not been tampered with. Furthermore, the actuator must not be exposed to violent treatment. In the event of this, the warranty will be ineffective/ invalid. For further details, please see standard terms of sale and delivery for LINAK A/S.

Note

Only an authorised LINAK service centre should repair LINAK actuator systems. Systems to be repaired under warranty must be sent to an authorised LINAK service centre.

In order to avoid the risk of malfunction, all actuator repairs must only be carried out by an authorised LINAK Service shop or repairer, as special tools and parts must be used.

If a system is opened by unauthorised personel there is a risk that it may malfunction at a later date.

The actuator is not to be opened by unauthorised personnel. In case the actuator is opened, the warranty will be invalid.

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator (LA36 std.) 36*****0*******, 36*****1*******, 36*****2*******
(LA36 std.) 36*******000**-**********, 36*******001**-**********
36*******A00**-**********, 36*******A01**-**********
36*******B00**-**********, 36*******B01**-**********
36*******C00**-**********, 36*******C01**-**********
36*******F00**-**********, 36*******F01**-**********
36*******H00**-**********, 36*******H01**-**********
36*******K00**-**********, 36*******K01**-**********
36*******P00**-**********, 36*******P01**-**********
36*******Z00**-**********, 36*******Z01**-**********

(LA37 std.) 37*****0*******, 37*****1*******, 37*****2*******
(LA37 std.) 37*******000**-**********, 37*******001**-**********
37*******A00**-**********, 37*******A01**-**********
37*******B00**-**********, 37*******B01**-**********
37*******C00**-**********, 37*******C01**-**********
37*******F00**-**********, 37*******F01**-**********
37*******H00**-**********, 37*******H01**-**********
37*******K00**-**********, 37*******K01**-**********
37*******P00**-**********, 37*******P01**-**********
37*******Z00**-**********, 37*******Z01**-**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following standards:
EN 61000-6-2:2019, 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with the RoHS2 Directive 2011/65/EU according to the standard:
EN IEC 63000:2018

Nordborg, 2024-06-24

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator
(LA36IC) 36*****7*******, 36*****8*******, 36*****9*******, 36*****B*******
(LA36IC) 36********03**-**********, (LA36IC) 36********13**-**********
(LA36IC) 36********23**-**********, (LA36IC) 36********33**-**********
(LA36IC) 36********43**-**********, (LA36IC) 36********53**-**********
(LA36IC) 36********63**-**********

(LA37IC) 37*****7*******, 37*****8*******, 37*****9*******, 37*****B*******
(LA37IC) 37********03**-**********, (LA37IC) 37********13**-**********
(LA37IC) 37********23**-**********, (LA37IC) 37********33**-**********
(LA37IC) 37********43**-**********, (LA37IC) 37********53**-**********
(LA37IC) 37********63**-**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive: 2014/30/EU according to following standards:
EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Nordborg, 2024-06-24

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer

Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator 36********B32*-**********, 36********B34*-**********, 36********F32*-**********,
36********F34*-**********, 36********C32*-**********, 36********C34*-**********

37********B32*-**********, 37********B34*-**********, 37********F32*-**********,
37********F34*-**********, 37********C32*-**********, 37********C34*-**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the Radio Equipment Directive (RED) 2014/53/EU according to following standards:
EN 300 328 V2.2.2. (2019-07)
EN 301 489-1 V2.2.3 (2019-11), EN 301 489-17 V3.2.4 (2020-09)
EN IEC 62368-1:2020
EN 62479:2010
EN 50663:2017

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with the RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Additional information:
The system does comply with the selected parts of the standards:
EN IEC 61000-6-2:2019, Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN IEC 61000-6-4:2019: Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments

Nordborg, 2024-06-24

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.
Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator
(LA36 BUS) 36*****AD***B**
(LA36 BUS) 36********04**********

(LA37 BUS) 37*****AD***B**
(LA37 BUS) 37********04**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive: 2014/30/EU according to following standards:
EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Nordborg, 2024-06-24

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer

Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator 36********A72B=**********, 36********A74B=**********, 36********A82B=**********, 36********A84B=**********

37********A72B=**********, 37********A74B=**********, 37********A82B=**********, 37********A84B=**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following standards:
EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with the RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Nordborg, 2024-06-24

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator 36********142*-**********, 36********144*-**********, 36********0B2*-**********,
36********0B4*-**********, 36********E2*-**********, 36********E4*-**********,
36********A72*-**********, 36********A74*-**********, 36********A82*-**********,
36********A84*-**********

76********142*=**********, 76********144*=**********, 76********0B2*=**********,
76********0B4*=**********, 76********E2*=**********, 76********E4*=**********,
76********A72*=**********, 76********A74*=**********, 76********A82*=**********,
76********A84*=**********

37********142*-**********, 37********144*-**********, 37********0B2*-**********,
37********0B4*-**********, 37********E2*-**********, 37********E4*-**********,
37********A72*-**********, 37********A74*-**********, 37********A82*-**********,
37********A84*-**********

77********142*=**********, 77********144*=**********, 77********0B2*=**********,
77********0B4*=**********, 77********E2*=**********, 77********E4*=**********,
77********A72*=**********, 77********A74*=**********, 77********A82*=**********,
77********A84*=**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following standards:
EN 61000-6-2:2019, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143747 X

complies with the RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Nordborg, 2024-08-29

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Original Declaration

DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8

DK - 6430 Nordborg

hereby declares that

Actuator
(LA36 Mobile) 36********C6**********, 36********D6**********,
36********E6**********

(LA37 Mobile) 37********C6**********, 37********D6**********,
37********E6**********

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive: 2014/30/EU according to following standards:
EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 61000-6-4:2019

complies with RoHS2 Directive 2011/65/EU according to the standard:
EN 63000:2018

Nordborg, 2024-02-16

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.
Original Declaration

DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

LINAK A/S hereby declares that LINAK DESKLINE® products, characterised by the following models and types:

Control Boxes	CBD6S
Linear Actuators	DB5, DB6, DB14, LA23, LA31
Lifting Columns	DL1A, DL2, DL4S, DL5, DL6, DL8, DL9, DL10, DL11, DL12, DL14, DL15, DL16, DL17, DL18, DL19, DL20, DL21, BASE1, LC1
Desk Panels	DPA, DPB, DPH, DPF, DPG, DPT, DP, DP1CS, DPI
Wireless Controls	BP10
Frames and Feet	Kick & Click, DF2, DF3, DLF
Accessories	BA001, BLE2LIN, CHUSB, DESK Sensor, SLS, SMPS, USB2LIN, WiFi2LIN, DC Connector, RFRL

LINAK A/S hereby declares that LINAK HOMELINE® products, characterised by the following models and types:

Control Boxes	CBD6DC
Linear Actuators	LA10, LA18, LA40 HOMELINE
Dual Actuators	TD4, TD5
Controls	BP10, HC10, HC20, HC40
Accessories	BA002, CP, BLE2DC, BLE2LIN, LED Light Rail, MD1, SMPS, WiFi2LIN

LINAK A/S hereby declares that LINAK MEDLINE® & CARELINE® products, characterised by the following models and types:

Control Boxes	CA10, CA20, CA30, CA40, CA63, CAL40, CB6, CB6S, CB6P2, CB8, CB9, CBJ2, CBJ Care, CBJ Home, CO41, CO53, CO61, CO65, CO71, COL50, OPS, PJ2
Linear Actuators	KA19, KA30, KA30 ICA, LA20, LA23, LA24, LA24 ICA, LA27, LA28, LA29, LA30, LA31, LA34, LA40, LA42, LA44
Lifting Columns	BL1, LC1, LC3
Controls	ABL, ACC, ACK, ACO, ACOD, ACOM, ACL, DP, DPH, FS, FS3, FPP, HB30, HB70, HB80, HB100, HB190, HB200, HB400, HD80, HL70, HL400, SC01
Accessories	BA15, BA16, BA18, BA19, BA22, BAJ, BAJL, BAL40, BAL50, CH01, CHJ2, CHL40, CHL50, DJB, LIN2OB, MJB2, MJB5 Plus, Massage Motor, PJB4, QLCI2, SLS, SMPS10, UBL, UBL2, UBL4 Motion, USB-A Power Adapter

LINAK A/S hereby declares that LINAK TECHLINE® products, characterised by the following models and types:

Linear Actuators	LA12, LA14, LA21, LA23, LA25, LA30, LA33, LA35, LA36, LA37, LA73, LA76, LA77
Lifting Columns	LC3 IC
Accessories	FMB

comply with the following parts of the Machinery Directive 2006/42/EC, ANNEX I, Essential health and safety requirements relating to the design and construction of machinery: 1.5.1 Electricity supply

The relevant technical documentation is compiled in accordance with part B of Annex VII and this documentation or part hereof will be transmitted by post or electronically to a reasoned request by the national authorities.

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC where appropriate.

Nordborg, 2025-07-04

LINAK A/S

John Kling, B.Sc.E.E., Certification and Regulatory Affairs

Authorised to compile the relevant technical documentation

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