Focus on Marine

LINAK-US.COM/TECHLINE

LINAK®
WE IMPROVE YOUR LIFE
Understanding your needs

From small motor boats over sailboats to luxury yachts, regardless of the type of your boat, LINAK® can help you with all kinds of movements by offering high-quality electric actuator solutions.

When your customers step onto their floating palace they expect luxury living and custom comfort. If you want to offer a level of customization that will set your boat apart from all others, LINAK can help you in your quest for the perfect shipbuilding.

For maritime applications it is often critical that products work under extreme conditions. LINAK actuators are very suitable to use in harsh conditions with corrosive environments and variable weather as well as temperatures where they provide high control and simple operation of the application. Even in these environments the actuators do not need maintenance.

So what can LINAK do for boat builders?
• Supply reliable products specially designed for harsh conditions
• Be a one supplier of complete actuator solutions for almost any requirements
• Provide maintenance-free products with a long lifetime
• Offer a broad product range – for all demands, also stainless steel solutions
• Offer ignition protection certified actuators
• Offer a high degree of flexibility
• Offer plug and play solutions for easy installation
• Offer a close cooperation with our sales and application engineers represented in more than 30 countries
• Offer a worldwide network of after sales service

Robust and powerful
LINAK products are reliable products, made to last! High quality is the trademark of LINAK, and an element of the highest importance to us.
Electric actuators - tough enough for marine applications

TECHLINE® actuator systems provide high flexibility and smooth motion control solutions for marine applications. Set your boat apart from others with electric actuators that improve ergonomics, comfort and convenience. From small motor boats and fishing boats to sailboats and luxury yachts, LINAK® delivers high-quality, efficient electric actuators suitable for harsh marine environments.
What LINAK actuators do for marine applications

For marine boats and yachts LINAK® actuators offer a wide range of possibilities, both for indoor and outdoor use. Easily operate exterior applications such as ladders, ventilation systems, valves, engine hatches, storage access doors or interior applications such as beds, the captain’s chair, TVs; anything that requires an extension or a retraction adjustment. Actuators even make it easy to perform regular maintenance of your watercraft. Check out some application ideas here.

Radar arches
Easily collapsing or raising arches by use of a built-in actuator

Boat hatches
Opening and closing of hatches for easy access to the engine compartments or storage spaces

Swim platform
Easily lowering or raising the swim platform on a sailboat for direct and safe access to the water

Boat tops & towers
Simple electrical adjustment of hard tops for luxury boats and fishing boats, canvas bimini tops for pleasure boats and pontoons and towers for watersport boats
TWINDRIVE® -
electric adjustable beds

Take comfort to the next level with a relaxing adjustable bed. Smooth and quiet adjustment. With RF control and vibrating massage option

TD3 features:

• RF based handsets as standard, with memory function
• Unique motor system ensuring high force on the bed
• Emergency lowering
• Exchangeable mains cables, even with mains cut-off
• Wide range of accessories

Box spring beds
Diversify by offering posh on-board comforts

Lifting columns LC2 and BL1 — guidance and lift in one package

Elevate a table to the ideal dining height or extend a counter top to increase workspace

**LC2 features:**
- Max thrust up to 5,000 N (1,122 lbs)
- Max speed up to 18 mm/s (.71 in/s)
- Stroke up to 100 – 500 mm (3.94–19.67 in)
- Built-in limit switches
- Low noise level
- Indoor use

**BL1 features:**
- Max thrust up to 2,000 N (449 lbs)
- Max speed up to 18 mm/s (.71 in/s)
- Stroke up to 200 – 300 mm (7.87 – 11.81 in)
- Short install
- Built-in limit switches
- Low noise level
- Indoor use
Lifting column DL2 – strong stability

For a perfect view at the helm: raise, lower, recline and even move the captain’s chair closer to or further away from the controls.

DL2 features:

- Max thrust up to 2,500 N (561 lbs)
- Max speed up to 43 mm/s (1.77 in/s)
- Stroke up to 300 – 500 mm (11.81 – 19.67 in)
- Built-in limit switches
- Indoor use
- Voltage: 12 or 24 V DC
Move for the future

Step into the future world of movement and enhance your competitive edge.

Do you want cost-effective performance, innovative technology and a competitive edge?

Go for IC™ and Move for the Future™
IC is the range of integrated control options for TECHLINE® actuators that present you with almost unlimited possibilities for superior control and monitoring, to enhance the value and performance of your application.

For boats and yachts, actuators with IC provide cost-effective performance and innovative technology:

- Simple installation with built-in electronics.
- Easy overview and precise control of the actuator movement.
- The actuator can be customized on site to fit multiple solutions in a single application.
- Easy monitoring of the actuator’s condition which ensures a minimum of downtime.
- All IC options are based on the same well tested interface, which is covered by the actuator’s IP degree.

If you are looking for a movement solution that will help you stay competitive in the future, then go for LINAK actuators with integrated controller, and Move for the Future.

Integrated Controller:

- Customizable feedbacks
- Parallel movement
- BUS communication

For more information on IC, please go to LINAK.COM/SEGMENTS/TECHLINE/TECH-TRENDS/INTEGRATED-CONTROL/
Actuators for marine

LA37 actuator - solid and powerful

Tough applications require equally tough actuator solutions. Thus the LA37 is specifically developed for heavy-duty applications where there is a need for more lifting capacity and holding force. This solid and powerful actuator also lives up to the well-known LINAK quality, so you can expect a minimum of maintenance and a long lifetime.

LA37 features:

• Max. thrust up to 15,000 N (3,372 lbs)
• Max. speed up to 3.5 mm/s (.13 in/s)
• Standard stroke 100-600 mm (3.93–23.62 in)
• Protection class IP 66 / IP 69K
• Voltage 12 or 24 V DC
• Heavy-duty aluminum housing for harsh conditions
• Integrated brake, high self-locking ability
• Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
• Built-in endstop
• Solid metal construction
• Hand crank for manual operation
• Salt spray and chemical tested
• High-pressure cleaning resistant

Available with IC™
LA36 actuator - reliable and tough

The LA36 actuator is a solid and powerful actuator designed to operate under extreme conditions. A very strong alternative to hydraulic solutions.

**LA36 features:**

- Max thrust up to 10,000 N (2,245 lbs)
- Max speed up to 160 mm/s (6.30 in/s)
- Standard stroke 100-999 mm (3.94–39.33 in)
- Protection class IP66 dynamic / IP69K static
- Voltage 12, 24 or 36 V DC
- Heavy-duty aluminum housing for harsh conditions
- Integrated brake, high self-locking ability
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- End stops: slip clutch or built-in limit switches
- Solid metal construction
- Hand crank for manual operation
- Salt and chemical tested
- High pressure cleaning resistant
- **Available with ICTM**
Actuators for marine

**LA35 actuator - flexible and powerful**

The LA35 actuator is characterized by its robust design allowing the actuator to be used in harsh and extreme conditions for a wide range of applications. The LA35 is a powerful actuator with high flexibility.

**LA35 features:**

- Max thrust up to 6,000 N (1,347 lbs) in push and up to 4,000 N (898 lbs) in pull
- Max speed up to 19 mm/s (.75 in/s)
- Stroke up to 50-600 mm (1.97–23.62 in)
- Protection class IP66 dynamic / IP69K static
- Voltage 12 or 24 V DC
- Heavy-duty aluminum housing for harsh conditions
- Easy to use interface – with integrated power electronics for direct connection to control system
- Potential free limit switches as an option
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Built-in limit switches and brake
- **Available with IC™**
LA33 actuator - compact and powerful

The actuator LA33 is a true mid-size actuator that combines compact design and high power in one solution, fit for use in the most extreme environments. A thorough and demanding testing program forms the basis for the maintenance-free and long lasting performance of this solid and high-quality actuator.

LA33 Features:

- Max thrust up to 5,000 N (1,124 lbs)
- Max. speed up to 30 mm/s (1.18 in/s)
- Stroke up to 600 mm (3.93-23.62 in)
- Protection class IP66 dynamic / IP69K static
- Voltage 12 or 24 V DC
- Heavy-duty aluminum housing for harsh conditions
- Integrated brake, high self-locking ability
- Solid metal construction
- Hand crank for manual operation
- Built-in limit switches
- Available with IC™

Options:

- Hall effect sensor
- Endstop signals
- Possible IC options for LA33: IC Basic, IC Advanced, Proportional control and LINbus
Actuators for marine

LA31 actuator - versatile and reliable

The LA31 actuator is a very quiet and powerful actuator designed for a variety of applications. Due to its high capacity, design and protection class up to IPX6 the actuator is ideal for industrial applications. The various combinations of motor, spindle pitch, back fixture and piston rod eye make it a good candidate for a number of solutions.

LA31 features:

- Max. thrust up to 6,000 N (1,347 lbs) in push and up to 4,000 N (898 lbs) in pull
- Max. speed up to 26.6 mm/s (1.05 in/s)
- Stroke up to 50–600 mm (1.97–23.62 in)
- Protection class IPX6
- Voltage 12 or 24 V DC
- Ignition protection certified
- Indoor and outdoor use
- Built-in limit switches
- Optional mounting brackets
LA30 actuator - rugged and compact

LA30 is a powerful actuator yet small enough to fit most applications. The actuator can be supplied with options such as built-in potentiometer for servo operation or an extra powerful motor for increased speed and strength (S-motor).

LA30 features:

- Max thrust up to 6,000 N (1,347 lbs)
- Max speed up to 65 mm/s (2.56 in/s)
- Standard stroke 50-500 mm (1.97–19.69 in)
- Protection class IP66
- Voltage 12, 24 or 36 V DC
- Stainless steel piston rod
- Potentiometer for positioning
- Elegant and compact construction with small installation dimensions
- Self-locking ability
Actuators for marine

LA25 actuator - compact and robust

With its robust design, high IP degree and aluminium housing, the LA25 is ideal for harsh environments where operation under extreme conditions is required. Furthermore, the compact dimensions of the LA25 make it applicable for confined spaces.

LA25 features:

• Max thrust up to 2,500 N (561 lbs)
• Max speed 13 mm/s (.39 in/s)
• Standard stroke 20-300 mm (.79-11.81 in)
• Protection class IP66 and IP69K

LA23 - small and strong

The LA23 actuator is a small and strong push or pull actuator. The LA23 actuator can be used in various applications where size is important.

LA23 features:

• Max thrust up to 2,500 N (561 lbs)
• Max speed 9.4 mm/s (.37 in/s)
• Standard stroke 20-300 mm (.79-11.81 in)
• Protection class IPX6

• Voltage 12 or 24 V DC
• Heavy duty aluminium housing for harsh conditions
• Available with ICT™
LA14 actuator - robust and reliable

The LA14 is a very tough and reliable actuator ideal for use in harsh and demanding environments. With its small size the LA14 actuator is well-suited for applications that require short linear movements.

LA14 features:

- Max thrust up to 750 N (169 lbs)
- Max speed up to 45 mm/s (1.77 in/s)
- Standard stroke 40-130 mm (1.57–5.11 in)
- Protection class IP66 dynamic / IP69K static
- Stainless steel inner tube and piston rod
- Voltage 12 or 24 V DC
- Heavy-duty aluminum housing for harsh conditions
- Built-in limit switches
- Wide range of customized feedback options
- Operation temperature from -40°C to 85°C
- Available with IC™

LA12 actuator - light and compact

Thanks to its small size and outstanding performance, the LA12 actuator provides a practical and cost-effective alternative to traditional hydraulic systems. The LA12 actuator is ideal for applications requiring short linear movements. After many years on the market, the LA12 actuator has shown that it is a very reliable and robust actuator that can handle almost any situation and condition.

LA12 features:

- Max thrust up to 750 N (169 lbs)
- Max speed up to 50 mm/s (1.96 in/s)
- Standard stroke 40-130 mm (1.57–5.11 in)
- Protection class IP66
- Voltage 12 or 24 V DC
- High quality reinforced plastic housing protects motor and gear
- Built-in limit switches and EOP
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Available with IC™
Stainless steel options

It has never been easier to give your customers the customization they require. Enhance your marine applications by making them electric. Use a LINAK actuator for current manual operations or even to replace gas springs and hydraulics. Whatever your need, LINAK can help you differentiate through customization.

- Stainless steel back fixture
  - AISI 304
  - AISI 316*

- Stainless steel piston rod eye
  – AISI 304

- The actuator can be mounted with inner and outer tubes of stainless steel – AISI 304

*Only with LA36

Make sure your applications are LINAK powered.
Accessories for marine

Motor controller TR-EM-208 - Complete control

- Variable power supply 12-36 V DC
- Overload protection - adjustable current limit 1-20 A
- Adjustable soft start and stop
- Several versions for different applications
- Integrated brake (*)

Rocker switch - easy operation

- For all actuators with limit switches
- Easy operation of actuators without use of further electronics
- IP 66 for outdoor use
- Easy to install
- Tested with an LA36 12 V DC for 50,000 operations

Parallel controller - Complete control

- Synchronized parallel control for 2 actuators
- Operates with pulse feedback (Hall or Reed)
- Current and temperature limited
- Soft start/stop
- Adjustable drive speed
- Accurate repeatability
- Easy setting via serial interface

(*) “The specified product is a third party product that is produced by third party and distributed by LINAK as a supplement to LINAK’s existing product range. It is the responsibility of the product user to determine the suitability of the product for a specific application. LINAK will at point of delivery replace/repair defective products covered by the warranty if promptly returned to LINAK.”

If you use iFLEX there is no need for these accessories.
100% function tests

In each application, the actuator is just one component of many, but at TECHLINE® we fully appreciate that it is of utmost importance to you and your customers. Not a single actuator leaves LINAK until it has undergone a 100% function test.

Depending on the actuator type, various tests have been carried through. Please consult your local LINAK office or take a look at the actuator data sheet in question to get a thorough test overview.

This is your guarantee that a solution based on LINAK TECHLINE electric actuator systems is a solution that will work reliably for years and years.

Electrical tests:

All electrical parts are tested i.e. power supply, power and signals cables, control signals etc. Electrical immunity is tested according to industrial standards i.e. for radio noise, electrical discharge and burst.

(*) These tests do not apply to third party products!

Climatic tests:

In the climatic test the actuators are tested to operate in extreme temperatures as well as to endure rapid changes in temperature. In some tests, the actuator has to withstand going from a +100°C environment to -30°C repeatedly and still maintain full functionality.

Mechanical tests:

**Vibration:** The actuator must withstand continuous vibration in three directions.

**Shock:** The shock test puts the actuator through 3 shocks of up to 100 G in each of 6 directions.

**Bump:** The actuator receives bumps of up to 40 G in each of six directions several hundred times.
EN/IEC 61000-6-4 - Generic standard emission industry
EN/IEC 60204 - Electrical equipment of machinery
EN 50121-3-2 - Railway applications - Rolling stock apparatus
94/25/EC - Recreational crafts directive
EN/ISO 13766 - Earth moving machinery
EN/IEC 61000-6-2 - Generic standard immunity industry
2004/104/EC - Automotive Directive
EN/ISO 14982 - Agricultural and forestry machines
EN/ISO 13309 - Construction machinery

EN60068-2-1 (Ab) - Cold test
EN60068-2-2 (Bb) - Dry heat
EN60068-2-14 - Change of temperature
EN60068-2-30 - Damp heat
EN60068-2-52 - Salt spray
EN60529-IP66 - Degrees of protection
BS7691/96 hours - Chemicals

EN60068-2-36 (Fdb) - Vibration
EN60068-2-29 (Eb) - Bump
EN60068-2-27 (Ea) - Shock
Global presence

LINAK has a well-developed sales and service organization in Europe, the Americas, Asia and Australia. Therefore, we can assist you and your customers locally, under the global sales concept idea: Be global, act local

For further information, please visit our website: LINAK.COM/BUSINESS-AREAS/MARINE/

TERMS OF USE

The user is responsible for determining the suitability of LINAK products for a specific application. LINAK takes great care in providing accurate and up-to-date information on its products. However, due to continuous development in order to improve its products, LINAK products are subject to frequent modifications and changes without prior notice. Therefore, LINAK cannot guarantee the correct and actual status of said information on its products. While LINAK uses its best efforts to fulfill orders, LINAK cannot, for the same reasons as mentioned above, guarantee the availability of any particular product. Therefore, LINAK reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or other written material drawn up by LINAK.

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