

FOCUS ON

SOLAR TRACKING



LINAK designs products that improve the efficiency of solar panels

www.solar-tracking.com

We catch the sun

Improve efficiency of solar panels

There is a growing demand to find greener ways to power the world and minimise greenhouse gas emissions. The sun is a natural power source and will keep on shining for an estimated 4 billion years.

The “World energy outlook” estimates that the energy conversion efficiency from photovoltaic will be increased by 60 times come the year 2030.

Solar power (photovoltaic) systems are a sustainable way to convert the energy of the sun into electricity. On average, solar power systems amortise themselves within 4 years, meaning after four years they have produced as much energy as it took to manufacture them. The expected lifetime of a system is 25-30 years.

“Creating value for our customers”

By cooperating with LINAK you get:

- Additional sales
By using quality components in your system you will create a quality image among your customers
- Savings
You and the end-user can reduce service and repair costs by using well tested and high-end solutions
- Branding
A strong quality brand is worth more than a thousand words - our quality solution helps you strengthen your position

Choose LINAK for...

A Knowledgeable Partnership

Multi-level co-operation with our customers is extremely important, for the benefit of both LINAK and the customer. Partnership is the driving force behind R&D, after sales, logistics, manufacturing and marketing.



- **Achieving your goal**
We help you reach your goal by providing you the best solution on the market, so that you can supply a world class solution to your customer
- **Problem solving**
We take pride in being a strong partner. Our application engineers are always ready to help you develop and implement perfect movement into applications such as tracking solutions for solar power systems
- **Creating possibilities**
By working with LINAK you can achieve several possibilities in terms of customised controls, flexibility in providing a special solution for your customers, etc.
- **Reduce your risk**
We can reduce the risk of failure. Our actuator solutions undergo a 100% function test and are proven in the market



Quality in everything we do

Solar tracking applications are placed in harsh environments with moisture, dust and temperature changes. It is critical that the linear actuators can work problem free under these extreme conditions. Linear actuator systems from LINAK are built to withstand these conditions without the need for regular maintenance.

LINAK know how important a reliable tracking system is to the customer. To build a strong image as a reliable partner in the solar tracking market, it is important that the tracking application works at all times.

It is a fact that every time a tracker does not work, the efficiency of the solar tracking application will drop by 20-40%. This equals loss of income for the customer.

RELIABILITY

The number of industrial applications using LINAK's actuator solutions has increased tremendously over the last 25 years. LINAK actuators are now used in industries ranging from agriculture machinery, transport, food and beverage equipment, building automation, marine industry etc.

To maintain our image as a quality supplier we continuously work to refine our products, improve our solutions and understand our customer's needs. We make flexibility and reliability our top priority when designing modern tracking systems for solar panels.

Choose LINAK for...

Knowledge

At LINAK we focus on our core competence – production of actuator systems. But we do more than this. We want to understand our customer's business by focusing on the individual customer's needs, market intelligence and application know-how.



Imagine...

...if LINAК could reduce your maintenance costs by 50%?

- By supplying maintenance free solutions that work day-after-day!
- By reducing the risk of failure on the moving parts and dramatically cut down costs for maintenance and spare parts!
- By supplying quality products that are tested to work under extreme conditions!



ACTUATORS FOR SOLAR TRACKING

LA36 ACTUATOR - RELIABLE AND TOUGH

- Max thrust up to 10,000 N
- Max speed up to 160 mm/sec
- Standard stroke 100-999 mm
- Heavy-duty aluminum housing for harsh conditions
- Protection class IP66 / IP69K
- Integrated brake, high self-locking ability
- Voltage 12, 24 or 36 V DC
- Hall sensors or potentiometer for relative or absolute feedback
- 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

The LA36 actuator is our most solid and powerful actuator designed to operate under extreme conditions. A very strong alternative to hydraulic solutions and ideal for a wide range of agriculture applications. The obvious choice for large panels. This actuator has a very high self-locking ability.



Choose LINAK for... Global Presence

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



LA35 ACTUATOR - FLEXIBLE AND POWERFUL

- Max thrust up to 6,000 N in push and up to 4,000 N in pull
- Max speed up to 19 mm/sec
- Heavy-duty aluminum housing for harsh conditions
- Protection class IP66 dynamic, IP69K static
- Stroke up to 600 mm
- Voltage 12 or 24 V DC
- 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

The LA35 actuator is a new member of the TECHLINE™ family. It is characterised by its robust design allowing the actuators to be used in harsh and extreme conditions. The LA35 actuator is designed to meet the challenges in industrial applications including solar tracking.



LA35

ACTUATORS FOR SOLAR TRACKING

LA12 ACTUATOR- SMALL AND ROBUST

- Max thrust 750 N
- Max speed 50 mm/sec
- Standard stroke length 40-130 mm
- High quality reinforced plastic housing protects motor and gear
- Voltage 12 or 24 V DC
- Hall sensors or potentiometer for relative or absolute positioning.
- Protection class IP51 or IP66
- Built-in limit switches
- Option with integrated power electronics for direct connection to control systems

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 industrial and agricultural machines, feeders, solar tracking systems and many other applications requiring short linear movements. After many years on the market, the LA12 actuator has shown that is a very reliable and robust actuator that can handle almost any situation and condition.



LA12

Choose LINAK for... Innovation

Innovation is the keyword to the success of LINAK. Today LINAK is the company within manufacturing of linear actuator systems, to bring the most new products to the market and to hold the most technology-based patents. Therefore, we can always offer the newest technology, giving our customers a competitive edge.



LA30 ACTUATOR - RUGGED AND COMPACT

- Max thrust up to 6,000 N
- Max speed up to 65 mm/sec
- Standard stroke 50–600 mm
- Stainless steel piston rod
- Protection class IP66
- Potentiometer for positioning
- Elegant and compact construction with small installation dimensions
- Self-locking ability

The LA30 actuator has been in the industrial market for more than 25 years. It is a very reliable and versatile actuator for all kinds of industrial applications.

LA30



PROTECTION BELLOW

LA31 ACTUATOR - VERSATILE AND POWERFUL

- Max thrust up to 6,000 N in push and 4,000 N in pull
- Max speed up to 33 mm/sec
- Standard stroke 100-300 mm
- Built-in limit switches
- Protection class IP51, IP54 or IP66
- High quality reinforced plastic housing protects motor and gear
- Voltage 12 or 24 V DC
- High self-locking ability

The LA31 actuator is a very quiet and powerful actuator designed for a variety of applications including light mobile applications and factory automation.

LA31



UNDERSTANDING YOUR NEEDS

Typical needs in the solar tracking industry

LINAK offers:

The conditions are very tough with UV, heat, rain and dust



High IP protected, reinforced plastic housing or aluminum housing, stainless steel piston rod and fixtures

The tracking system is critical to maximising the output of the solar panels



LINAK actuators are very durable and reliable. Integrated alarm options are available

The tracking system needs to be operated even if power is unavailable



All LINAK actuators can run with battery, manual override is also available in some of our solutions

The tracking system needs to be controlled stepless



We offer excellent positioning and feedback, both digital and analogue, directly to your control system

Need for a good partner when developing the tracking system



LINAK offers complete solutions and has a worldwide sales team

Need to be able to offer special solutions



LINAK offers a high degree of flexibility:
- small quantities
- customised solutions

Choose LINAK for...

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.



PRODUCT TESTING

Our products undergo thorough climatic, electrical and mechanical testing.

Testing for resistance to both dust and water



CLIMATIC TESTING:

- Extreme temperatures
- Rapid temperature changes
- Salt spray
- Chemicals



ELECTRICAL TESTING:

- Power supply
- Power & signal cables
- Control signals
- Electrical immunity



MECHANICAL TESTING:

- Vibration
- Shock
- Bump



100% function test

The LINAK Group has extensive test facilities. All products go through a 100% function test before leaving the factory.

LINEAR ACTUATOR TECHNOLOGY

LINAK - many years of experience from the industry

LINAK has over 25 years' experience as a supplier of linear movement for a broad selection of mobile and stationary applications in the industrial sector.

Application examples are automation of machine plants, adjustment of agricultural equipment, regulation of roof-lights, ventilation systems, combine harvesters, assembly lines, kettles, valves, and throttles. In brief, any purpose in the industry where a linear movement is required and where LINAK TECHLINE™ can be used to facilitate working operations and maintenance.

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 fulfil 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.

All sales are subject to the Standard Terms of Sale and Delivery for LINAK. For a copy hereof, please contact LINAK.

For further information, please visit our websites:

www.solar-tracking.com

www.techline.linak.com



WE IMPROVE YOUR LIFE