Focus on
building louvres

LINAK®
WE IMPROVE YOUR LIFE

LINAK.COM/TECHLINE

Improve energy efficiency and indoor climate with building louvres

There is an increasing focus on energy conservation in domestic and commercial buildings. In some countries, governments provide tax concessions for buildings with high energy ratings. Therefore, there is an increased demand for use of natural light, which means more use of glass. And to utilise this, it becomes necessary to control the level of light and heat entering the building.

Building louvre systems provide better indoor climate and better control of temperature with less use of expensive heating or cooling systems. Fully automated louvres driven by LINAK® actuator solutions function as natural ventilation systems, natural cooling systems as well as complete solar shading systems. LINAK actuators can be incorporated into the design of the building and they have the ability to interface with building management control systems.

Aluminium louvres can control and regulate the heat load and minimise exposure from the sun by providing solar shading. Glass louvres can improve building ventilation by letting in fresh air on warm days.

Quick and easy operation of aluminium louvres for optimal solar shading

The frontpage image is kindly lent to us by AGP PTY. Limited

Aluminium shading systems in rooftop windows open and close automatically depending on weather conditions

Closes automatically for natural warming and opens for natural cooling

What LINAK actuators do for building louvres

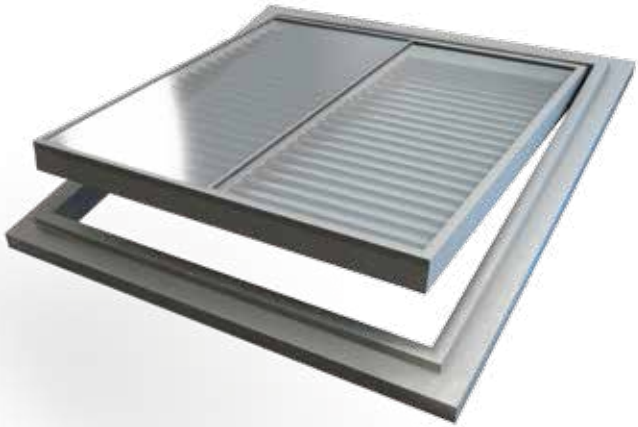
LINAK® actuators can be used to operate aluminium louvres mounted externally on the building. These louvres serve the purpose of determining how much light should enter the building. Likewise, LINAK actuators can be used to operate glass louvres for better ventilation and natural cooling as well as for view purposes, allowing for a clear uninterrupted view of the scenery.

The louvres can be controlled by an electrically operated switch mounted on the inside wall of the building.

This allows staff to adjust the louvre, and accordingly the level of light or air entering the building, depending on the time and/or temperature of the day.

The use of LINAK actuator solutions to adjust louvres as well as entire building automation systems, results in an overall energy reduction with use of fewer resources for both heating and cooling. With a fully automated system, the adjustment of louvres is easy and quick ensuring a better indoor climate.

Solar shading and heat control with automatic opening and closing of aluminium louvres in rooftop windows



Actuator solutions ensure easy and quick opening and closing of aluminium louvres for solar shading

Natural ventilation with smooth and quick controlling of glass louvres, driven by LINAK actuator solutions

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™

MOVE FOR THE FUTURE

IC movement for building louvres

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 building louvres, 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 customised 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:

- Customisable feedbacks
- Parallel movement
- BUS communication

IC INTEGRATED CONTROLLER™

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

Actuators for building louvres

Actuator LA37 - solid and powerful

Tough applications require equally tough actuator solutions. The actuator LA37 is specifically developed for heavy-duty applications in harsh environments, where there is a need for high lifting capacity and holding force. The LA37 offers the well-known LINAK quality, guaranteeing you a maintenance-free product with a long lifetime.

LA37 features:

- Max thrust up to 15,000 N
- Max speed up to 3.5 mm/sec
- Standard stroke 100-600 mm
- Protection class IP66 / IP69K
- Voltage 12 or 24V 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™**

IC INTEGRATED CONTROLLER

Actuator LA36 - reliable and tough

The actuator LA36 is one of the most solid and powerful LINAK actuators, designed to operate under extreme conditions. The LA36 is a maintenance-free product with a long lifetime and a high IP degree. This high-quality actuator offers a very strong alternative to hydraulic solutions.

LA36 features:

- Max thrust up to 10,000 N
- Max speed up to 160 mm/sec
- Standard stroke 100-999 mm
- Protection class IP66 / IP69K
- 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
- Endstops: 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 IC™**

IC INTEGRATED CONTROLLER

Actuators for building louvres

Actuator LA33 - tough 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 programme 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
- Max speed up to 30 mm/sec
- Standard stroke 100-600 mm
- Heavy-duty aluminium housing for harsh conditions
- Solid metal construction
- Protection class IP66 / IP69K
- Integrated brake, high self-locking ability
- Voltage 12 or 24 V DC
- Hall sensors for relative or absolute feedback, regardless of the stroke length
- Built-in enstop switches
- Hand crank for manual operation
- Salt spray and chemical tested
- **Available with IC™**

IC INTEGRATED CONTROLLER

Actuator LA25 - tough and compact

With its robust design, high IP degree and aluminium housing, the actuator 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
- Max speed 13 mm/sec
- Standard stroke 20-300 mm
- Protection class IP66 and IP69K
- Voltage 12 or 24 V DC
- Built-in electrical endstop
- **Available with IC™**

IC INTEGRATED CONTROLLER™

Actuators for building louvres

Actuator LA23 - small and strong

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

LA23 features:

- Max thrust up to 2,500 N
- Max speed 9.4 mm/sec
- Standard stroke length 20-300 mm
- Protection class IPX6
- Voltage 12 or 24 V DC
- Electrical and mechanical endstop
- **Available with Basic IC™**

IC INTEGRATED CONTROLLER™

Actuator LA14 - robust and reliable

The actuator LA14 is a very tough actuator with a high IP degree and aluminium housing, making it ideal for use in harsh and demanding environments.

The LA14 offers top quality in every detail and ensures reliable performance in temperatures ranging from -40° to +85 °C. With its small size the LA14 is well suited for applications that require short linear movements.

LA14 features:

- Max thrust up to 750 N
- Max speed up to 45 mm/sec
- Standard stroke 40-130 mm
- Protection class IP66 dynamic / IP69K static
- Stainless steel inner tube and piston rod
- Voltage 12 or 24 V DC
- Heavy-duty aluminium housing for harsh conditions
- Built-in limit switches
- Wide range of customised feedback options
- Operation temperature from -40°C to 85°C
- **Available with IC™**

IC INTEGRATED CONTROLLER

Actuators for building louvres

Actuator LA12 - reliable and compact

Thanks to its small size and outstanding performance, the actuator LA12 provides a practical and cost-effective alternative to small-scale traditional hydraulic and pneumatic systems. The LA12 is ideal for applications requiring short linear movements.

After many years on the market, the actuator LA12 demonstrated that it is a very reliable and robust actuator that can handle almost any situation and challenge.

LA12 features:

- Max thrust up to 750 N
- Max speed up to 40 mm/sec
- Standard stroke 40-130 mm
- 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 Basic IC™**

IC INTEGRATED CONTROLLER

SMPS-T160

The SMPS-T160 is a powerful Switch Mode Power Supply typically used for outdoor applications within the TECHLINE® segments. SMPS-T160 is an eco-friendly solution due to a low standby power consumption compared to traditional transformer solutions.

The universal input voltage makes the SMPS adaptable to the worldwide market irrespective of the input voltage.

SMPS-T160 features:

- Input: 100VAC to 240VAC
- Output: 29V DC, 5.5Amp, 20% duty cycle at 25°C
- Standby: 0.1W
- Protection Class: IP66
- Housing: Anodised aluminium
- Cables: Exchangeable
- Compatible with LA12 IC™, LA14 IC, LA23 IC, LA25 IC and LA35 IC

Actuators for building louvres

TECHLINE system solutions improve functionality and add value to your application.
Our systems offer:

- Simple Plug & Play functionality
- Easy integration into your application
- Time saving installation
- Significant minimisation of installation failures
- Possibility of running up to two applications at a time with simultanious run.
- Easy connection of the SMPS-T160 and actuator to your own controller/switch.
- Signal cable with open leads enables you to connect your own control along with an RF or Bluetooth solution. These can be run at the same time.

Bluetooth® receiver

The small and compact TECHLINE® Bluetooth receiver enables easy control of the actuator with an iPhone 4s and up or Android device. Its small form factor makes this device easy to implement into your application.

Features:

- Power supply: 24V DC
- Operation current: 20 mA
- Range in open space: up to 12 metres
- Protection class: IP66
- Housing: ABS
- Cables: integrated
- Cable length: 150mm
- Compatible via SMPS-T160 with LA12 IC, LA14 IC, LA23 IC, LA25 IC, LA35 IC
- Compatible with LA33 IC, LA36 IC, LA37 IC

RF receiver

The small and compact RF receiver enables easy control of the actuator with the two below remote controls. Its small form factor makes this device easy to implement into your application.

Features:

- Operating temperature: -20° C +45° C
- Working frequency: 868.3 Mhz
- Range in open space: up to 80 metres
- Protection Class: IP66
- Housing material: polycarbonate
- Cables: integrated
- Cable length: 1500mm
- Compatible via SMPS-T160 with LA12 IC™, LA14 IC, LA23 IC, LA25 IC, LA35 IC
- Compatible with LA33 IC, LA36 IC, LA37 IC

RF controls

EVO

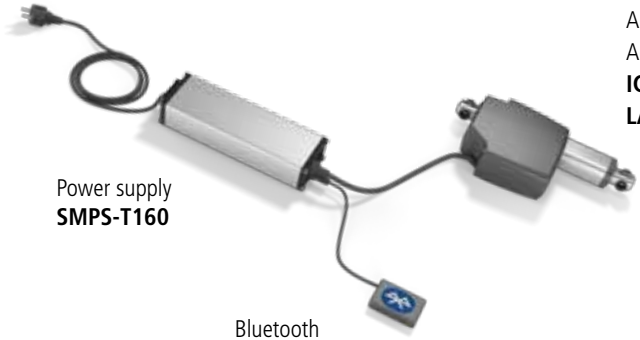
- Dimensions: 125 x 40 x 10 mm
- Compatible with RF receiver

TXP

- Dimensions: 60 x 30 x 10 mm
- Compatible with RF receiver

TECHLINE® system solution

Bluetooth® Solution



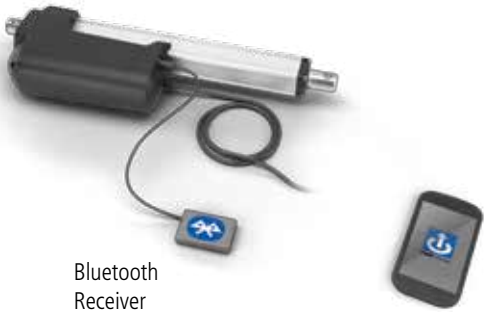
Actuator
Actuator **LA12 IC™**, **LA14 IC, LA23 IC**, **LA25 IC** or **LA35 IC**

Power supply
SMPS-T160

Bluetooth
Receiver

App compatible with
iPhone 4s and up
plus Android
LINAK Control

Actuator
LA33 IC, LA36 IC or
LA37 IC



Bluetooth
Receiver

App compatible with
iPhone 4s and up
plus Android
LINAK Control

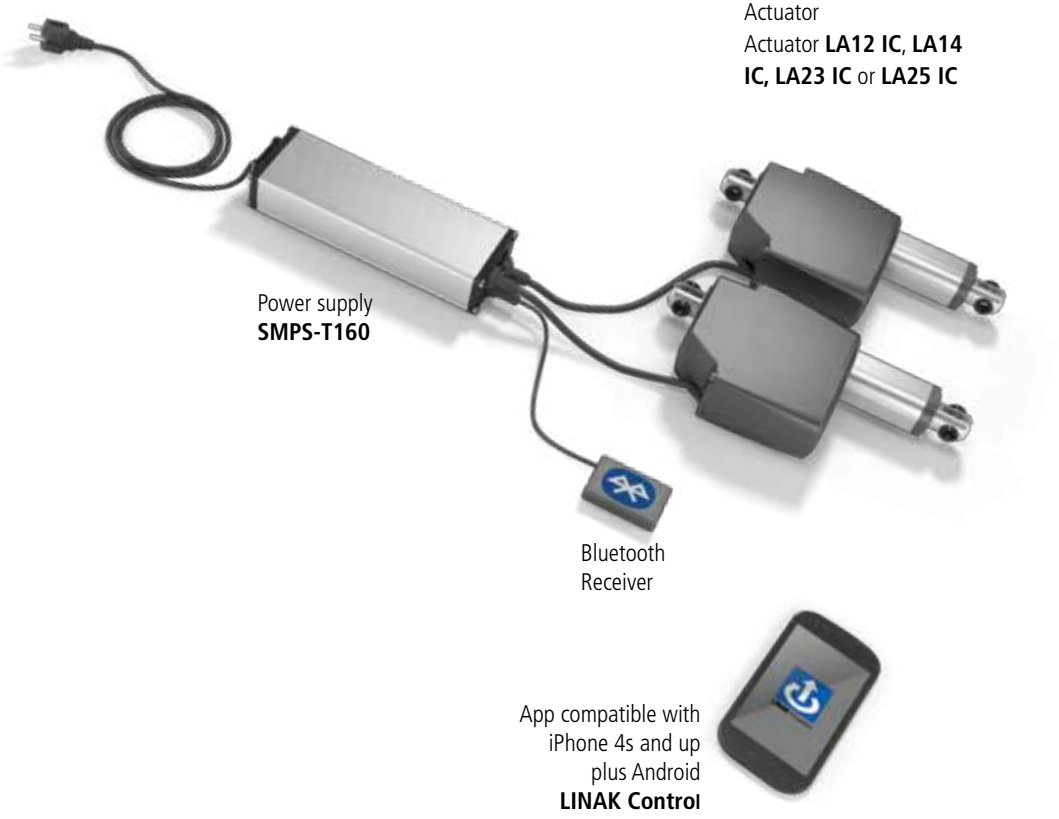
The TECHLINE Bluetooth solutions run via a **LINAK® Bluetooth control app.** Dowload it on:

Download on the App Store

GET IT ON Google play

Bluetooth is a registered trademark of Bluetooth SIG, Inc. and any use of such marks by LINAK is under license.

Simultanious run Solution



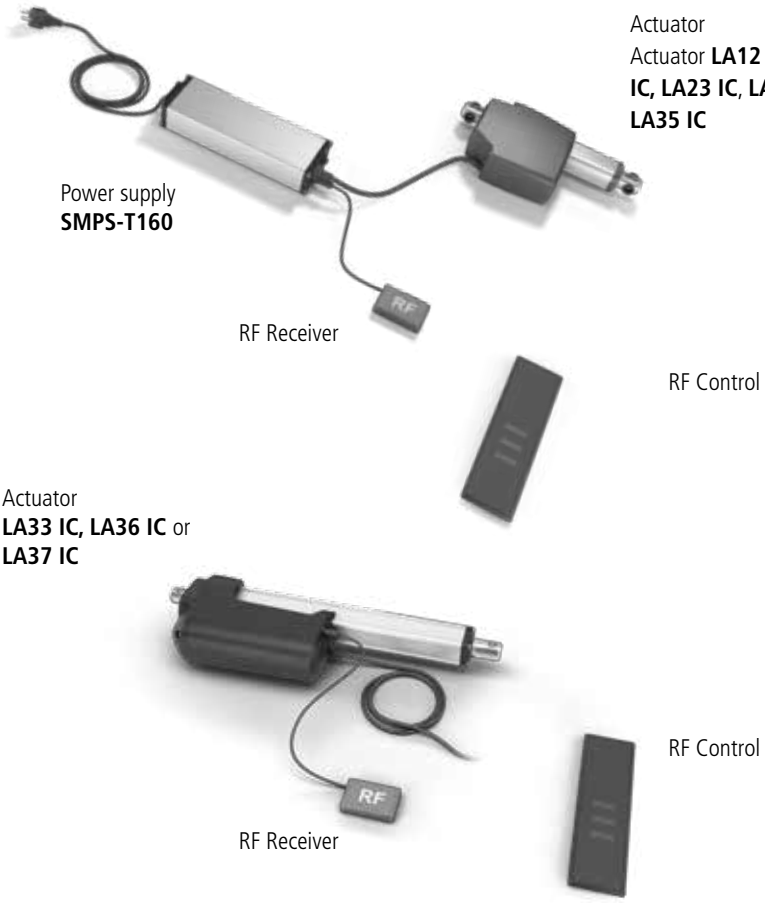
Compatible with Bluetooth, RF or other alternative controls.

The cable(s) between the SMPS-T160 and the actuators LA14 and LA25 can be either 300mm or 1500mm.

The cable(s) between the SMPS-T160 and the actuators LA12, LA23 and LA35 are 1500mm.

TECHLINE® system examples

RF Solution



Flying wire solution

* Please note that with an LA35 flying wire solution, the signal cable is connected to the actuator itself, and not the SMPS.

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

EN600068-2-1 (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 organisation 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/SOLAR-SHADING/LOUVRES/

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.

LINAK has a world-class sales and service organisation.
Today we are present in 35 countries all over the world.
For further information, please visit our website: **LINAK.COM**

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