



Expect more from your linear movement with I/O™ actuators

- a smart actuator setting new industry standards

[LINAK.COM/TECHLINE](https://www.linak.com/techline)

LINAK® 
WE IMPROVE YOUR LIFE



A flexible interface for agile minds

- ideal for a wide range of industrial applications

The LINAK® I/O actuator™ is the definition of flexibility. With its range of movement and choice of input control and data output, the I/O actuator offers endless modification to give you full control of the exact functionalities you need. Moving swiftly from innovation to operation, input options let you adjust and control the electric actuator to perfection, while output data gives invaluable insights into application performance.

Tailor your movement solution

The LINAK I/O actuator ups your game, taking you to new levels of innovation and performance while creating better quality products. With an I/O actuator, you are fully in charge of its linear movement. By adjusting and controlling the actuator, you can tailor movement to precisely match your project demands.

And when you go into production, you get a custom actuator built to match the exact specifications you defined in your development process

Move faster from great idea to effective operation

With the game changing flexibility of a universal LINAK I/O interface, bringing innovative actuator ideas to life is simpler and more agile. It all starts with efficient prototyping - a process of trial and error. The comprehensive features of I/O give you the flexibility to configure and test your software settings again and again - without having to request a new prototype each time. I/O allows you to create smart actuator solutions with tailor-made precision, enhanced diagnostics, and uptime reliability.



Read more about A flexible I/O™ interface for agile minds and Expect more from your linear movement with I/O™ actuators






















Your choice of actuator: Same quality, different levels

Not every project demands the full range of I/O options. That is why you can choose between three levels of functionality: Basic, Full and Customised.

With I/O Basic, you have all the benefits from IC with the integrated H-bridge. When choosing I/O Full, you

can test and learn while exploring all the features of I/O. With I/O Customised, you make your decisions based on your learnings. Here the functionality and design are preconfigured to meet your needs.

		Basic Basic functionality with all the benefits of IC	Full Explore all the features with a full version	Customised Pre-configured to your needs - both functionality and design
Actuator Connect™ - Configurator - Cabled or wireless BLE® connection		✓	✓	✓
Upgrade to Full version - Directly in Actuator Connect™		✓		✓
	Adjust movement	—		
	Diagnostics	—		
	Monitor	—		
	Parallel	—		
	Position feedback	—		
	Protection	—		

I/O options

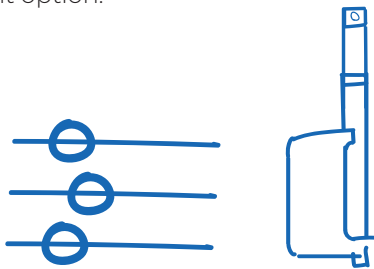


Adjust movement

With the Adjust movement features in Actuator Connect™ you can get more flexibility out of LINAK I/O actuators with various control options, virtual limits, and adjustable speed - allowing you to be completely in control of your linear movement behaviour.

The I/O actuator offers various input and output wiring options, which give many opportunities when controlling and adjusting the actuator. The functionality of these inputs and outputs can be customised directly in Actuator Connect and the wiring diagram will continuously be updated.

Some of the wires are reserved for a specific functionality and therefore cannot be changed - but a total of 6 wires can be customised and are relevant to the Adjust movement option.



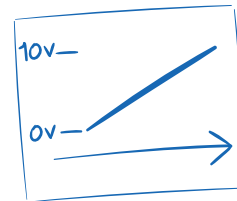
Read more about
Adjust movement
and Position
feedback



Position feedback

Accurate position feedback is essential for achieving optimal performance in most applications and is one of the main reasons for choosing an electric linear actuator over competing technologies. This feedback can tell you the exact position of the piston or send a signal when it has reached either the physical or virtual end stops.

Our I/O actuators feature advanced hardware, which allows various forms of position feedback based on pulses from magnetic hall sensors and the ability to store a position in the microcontroller when powered off. The same microcontroller can convert these hall pulses to, for example, an analogue 4-20 mA output signal. In the past, this has typically been achieved by using a mechanical potentiometer - a component which wears down over time and has limitations when it comes to accuracy and stroke length options.



I/O options

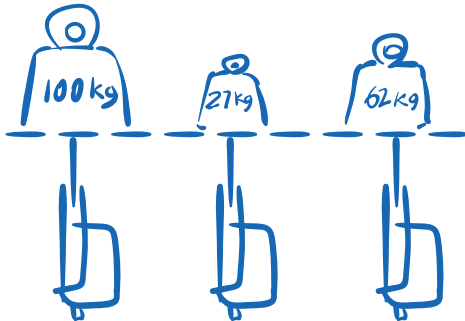


Parallel

With an I/O actuator, it is possible to run multiple actuators in parallel - even if originally set up as a single actuator. Regardless of any variations in load, the actuators stay precisely aligned when moving - and the master will always ensure that the followers are present in the system.

When selected, you can choose the number of actuators in the parallel system. It is important that all actuators in the parallel system have the same configuration across all features to ensure that the system works as intended.

To make this process easier you can copy the configuration from one actuator to the others by using the 'save configuration' feature in Actuator Connec™.



Read more about
Parallel and
Monitor

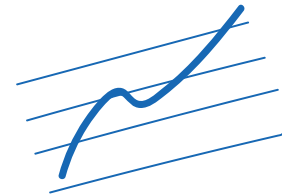


Monitor

Monitor allows you to see real-time and historic usage data for the connected actuator. These data can then be used to gain useful insights into how the actuator performs in your application.

Run the actuator and monitor real-time data on position, voltage, current and temperature. By conducting actuator test runs, you are able to get an indication of how well the actuator can handle the real-world conditions it has been designed for.

From the first time your actuator powers on, usage data is collected and stored throughout the actuator lifetime. This historical data can be read out and provides in-depth knowledge about performance over time.



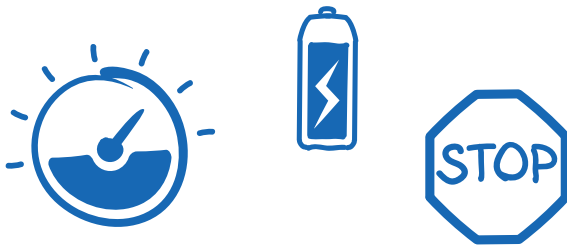
I/O options

Protection

The Protection options help you prevent damage and breakdowns by protecting your application from improper use. Several features can help you achieve the optimal performance of your application.

The I/O actuator has a predefined current limit, which cuts off power to the motor if this limit is reached. Here, you can set specific current limits in both directions. If you want customised current limits throughout the stroke length, you can set 10 variable limits in each direction - each at a 10% interval.

The setting for start and stop allow you to gradually increase or decrease the speed of the actuator when starting and stopping movement. This will extend the service life of the actuator and reduce stress on the mechanics in your application.



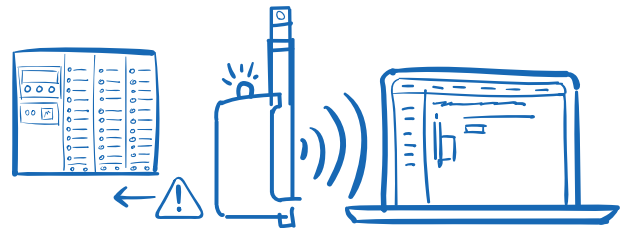
Read more about
Protection and
Diagnostics



Diagnostics

Occasionally things stop working and leave you with the task of identifying the root cause. Diagnostics can help you to avoid unnecessary downtime in your application and guide you through the troubleshooting.

LINAK® understands the importance of uptime - and hence, an inoperative actuator must be fixed or replaced as fast as possible. Therefore, LINAK has developed a 3-step guide that explains the most common root cause of problems, and what you can do to fix them. It considers LED status, error codes, and our supporting PC configuration tool, Actuator Connect™.



Enhance your actuator experience with Actuator Connect™

The task of a traditional actuator is to run inwards and outwards at a default speed, but there is an increasing demand for advanced features and more control options. LINAK® actuators are smarter than you think, and with the new LINAK Actuator Connect™ configurator you are fully in charge of your linear movement.

Flexible product development process

With Actuator Connect, it is possible to configure and test the prototype without having to specify any software features beforehand. This supports agile development and speeds up the process from idea to final solution.

With the Actuator Connect configurator it has never been easier to customise your movement solution. When using the intuitive configurator, you can easily adjust parameters, such as feedback types and scaling, speed/position, start/stop settings, virtual limits, and current limits.

Improve quality and performance

LINAK knows that data is the key to improving quality and performance in general – simply by becoming wiser about the components that interact with each other.

In the Actuator Connect™ configurator, it is possible to find real-time graphs showing power consumption, temperature, position etc. that can be especially valuable in the prototype phase.

By conducting actuator test runs, you get an indication of whether the initial calculations have resulted in the correct actuator specifications.

You can analyse these data to determine if the actuator fits your application or if it needs further adjustment to run smoother in order to extend the service life.

Avoid unnecessary downtime

LINAK understands the importance of uptime – and therefore an inoperative actuator must be fixed or replaced as fast as possible.

When connecting the actuator, you immediately get a status that describes the actuator condition. For applications where downtime is not an option, LINAK offers error codes as a digital output for easy troubleshooting. If the actuator encounters an error, it is possible to identify the exact cause that has triggered a stop. The available status and diagnostics are the key to reduce downtime.

Easy troubleshooting of the system saves time and offers methods for problem solving which might otherwise end up in unnecessary replacement.

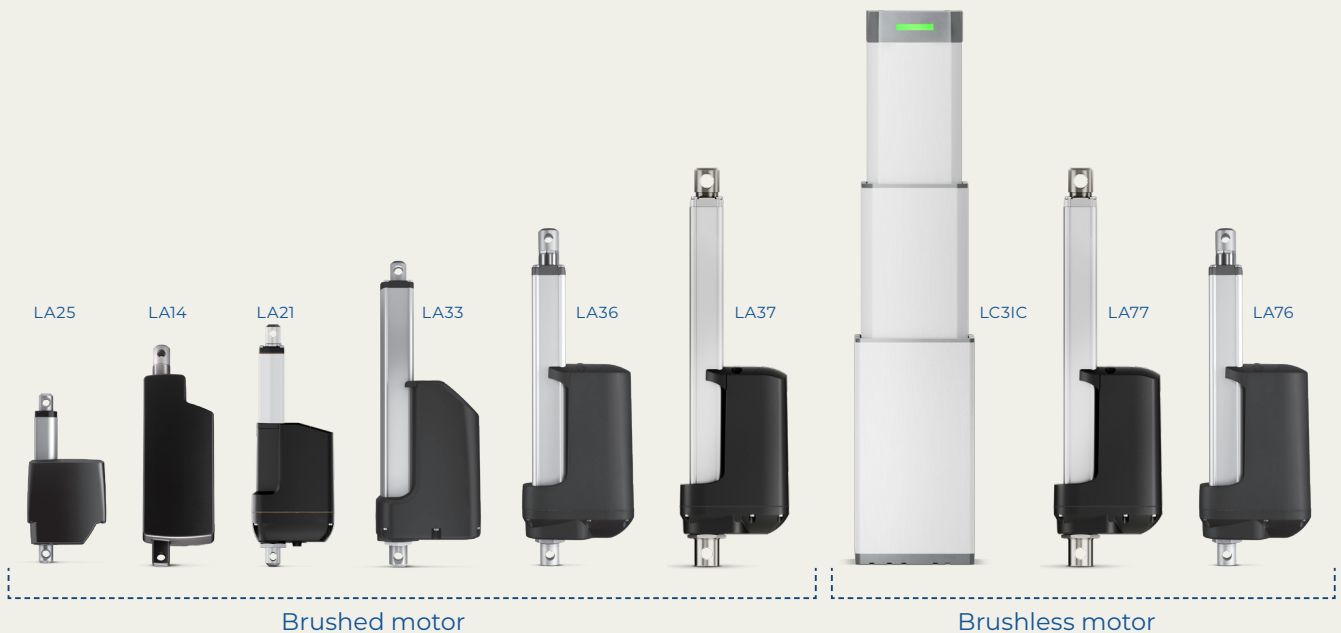
**Watch this video
to learn more
about Actuator
Connect™**



Actuators you can get with I/O™

Customers have the freedom to choose between our **entire range of actuators** and **lifting columns**.

These are **easy to integrate** and deliver on **reliability** and **longevity** - which is essential for industrial applications.



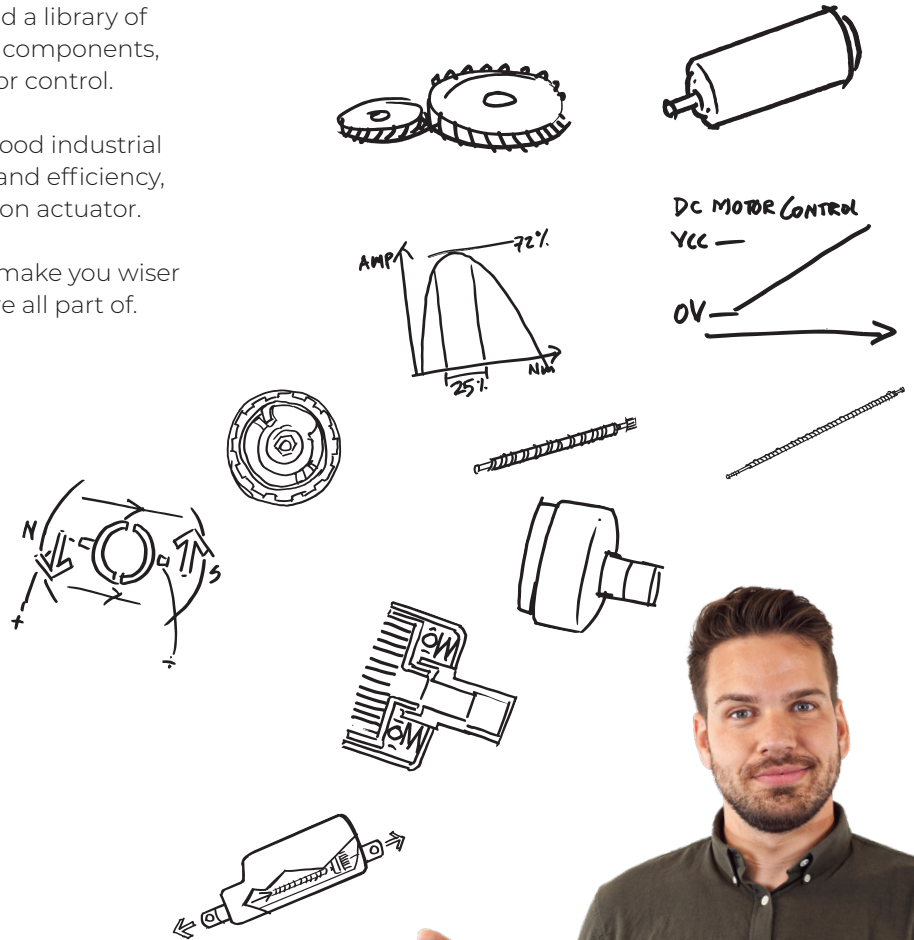
Explore the rich technology behind actuators

At the Actuator Academy™, you will find a library of videos and information about actuator components, actuator testing, and intelligent actuator control.

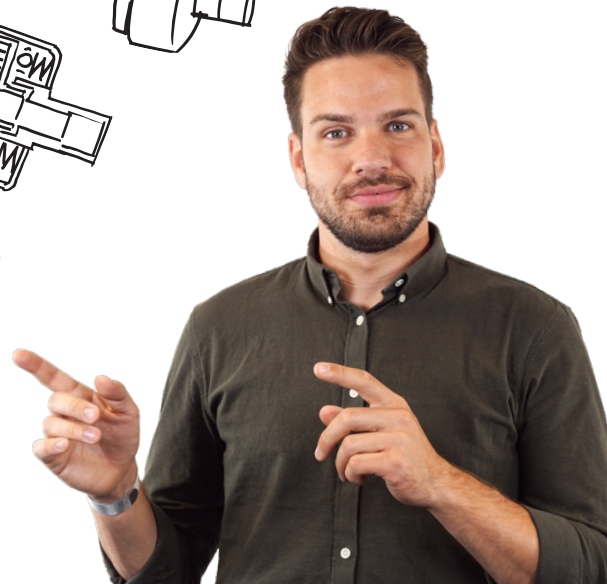
Find out what you should expect of a good industrial actuator, what affects its performance and efficiency, and how to best utilise your linear motion actuator.

We hope to inspire you and ultimately make you wiser on the moving electric revolution we are all part of.

Happy exploring!



Check out the Actuator Academy



Move smarter with IC™ actuators

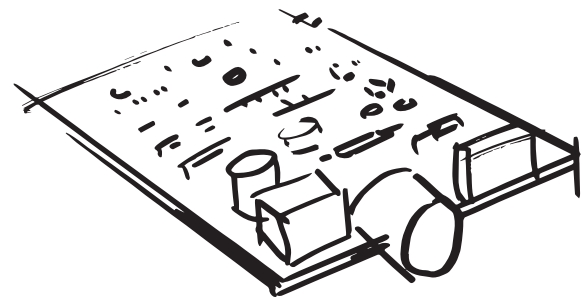
A LINAK® IC actuator with built-in controller reduces the number of external components and the need for a third-party supplier for power electronics.

It also offers a comprehensive range of interfaces and gives you access to productivity enhancing data - all delivered by a single supplier you can trust.

By helping you move smarter at every stage of your application process, from development, installation and integration to tailored movement and improved productivity, our IC actuators add value across the board.

Choosing an IC actuator for your application is a smart move in many ways:

- **Reduced complexity for faster development and production**
- **Flexible integration with a variety of industrial interfaces**
- **Data monitoring that minimise downtime and boost productivity**
- **Benefit from one single supplier**



**Learn more about
the benefits of our
Integrated Controller**





For further information, please visit our website:
LINAK.COM/IO

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QUALITY

Built by market leading experts, using state-of-the-art technologies and perfected production methods, you can expect the same quality worldwide.



INNOVATION

Innovation is in our core. We take the lead and have the courage to make it real.



RESPONSIBILITY

We are responsible in what we do – towards customers, employees, and the environment. Creating trust is a natural part of who we are.



**LOCAL
& GLOBAL**

From global presence to local understanding. We believe in world-wide support and being close to our customers.