MOVE ON – GO ELECTRIC!

A Comparison of motion control systems:
- Hydraulic
- Pneumatic
- Electric
Go electric - Why?

Hydraulic system
- Complex system of oil tanks, pumps, filters and hoses
- Per default no integrated positioning
- Requires routine maintenance
- High energy consumption
- Risk of fluid leaks

Electric actuator system
- Simple system of actuator, control and power connection
- Integrated positioning
- Maintenance-free
- Low energy consumption
- No fluids

Pneumatic system
Complex system of compressor, pumps, valves, filters, lubricators, flow controls etc.
- Elaborate installation due to many components
- Per default no integrated positioning
- Requires routine maintenance
- High energy consumption

What is an actuator - LA36?

Go electric and get...

✔ Reliable, safe and accurate movement
✔ Cost effective solution with easy installation, simple set-up and no maintenance
✔ Easy control and built-in intelligent features
✔ Environmentally friendly solutions – no fluids, no leakage and low power consumption
✔ Battery operated options available

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What is in it for me?

**Mobile agriculture**
Durability, reliability and easy control is important in mobile agriculture. Electric solutions are capable of providing that with thoroughly tested maintenance free solutions. Integration into sophisticated control systems make easy control from the cabin possible. Compared to hydraulic solutions, electric actuators are easy to install, maintenance free, take up less space, environmentally friendly and provide position feedback and accurate variable control over acceleration and velocity. Typical application in, for example, a combine harvester could be concave, grain sieve and spout adjustment as well as ladder control, comfort in the cabin or movement and speed regulation of the header.

**Construction**
Productivity, feedback and convenience are key words for electric actuator solutions in construction applications. The actuators can be integrated into sophisticated control systems using data bus communication and provide you with precise position feedback and accurate variable control over acceleration and velocity. The actuators are low on weight, easy to install, environmentally friendly and take up less space than the equivalent hydraulic solution. Typical applications in, for example, a wheel loader, could be cabin tilt, steering wheel adjustment, ladder control or hood lift.

**Marine**
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.

Electric actuators have the potential to replace hydraulic solutions in a virtually endless variety of applications and provide:
- More reliable, safe and accurate movement
- More cost-effective solutions with easy installation, simple set-up and no maintenance
- Easier control, and built-in intelligent features
- More environmentally friendly solutions – no fluids, no leakage and low power consumption
- Battery operated options available
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.

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.

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.

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:
EN/IEC 61000-6-4 - Generic standard emission industry
EN/IEC 60204 - Electrical equipment of machinery
EN 50121-3-2 94/25/EC - Railway applications - Rolling stock apparatus
EN/ISO 13766 - Recreational crafts directive
EN/IEC 61000-6-2 2004/104/EC - Earth moving machinery
EN/ISO 14982 - Generic standard immunity industry
EN/ISO 13309 - Automotive Directive
EN/ISO 14982 - Agricultural and forestry machines
EN/ISO 13309 - Construction machinery

Climatic tests:
EN0068-2-1 (Ab) - Cold test
EN0068-2-2 (Bb) - Dry heat:
EN0068-2-14 - Change of temperature
EN0068-2-30 - Damp heat
EN0068-2-52 - Salt spray
EN0529-IP66 - Degrees of protection
BS7691/96 hours - Chemicals

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(*) These tests do not apply to third party products!
Cost-effective performance
When we claim that we can make your application more cost-effective, we base it on our ability to help you ensure less downtime, less time spent on maintenance, easier and faster set-up, more intelligent control and more accuracy in your application. All in all this can ensure a more cost-effective use of your application.

Ready for the future
To be ready for the future can mean different things. In our terminology it means being able to ensure that your application has the most up-to-date and intelligent features for performing at its best in regards to control, accuracy and speed.

Competitive edge
Cost-effective performance and innovative technology is exactly what you need in your application to make sure that you always keep your competitive edge and your ability to survive as a company in a highly competitive world.

Do you want cost-effective performance, innovative technology and a competitive edge? Go for LINAK actuators with integrated controller, and Move for the Future.

IC - Integrated Controller
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.

Choose between four IC variants:

**IC BASIC**
The plug and play option that comes pre-configured to meet your exact requirements.

**IC ADVANCED**
The customizable option with enhanced monitoring and read-out of actuator information.

**PARALLEL**
The smart and self-configurable option that allows for parallel drive of up to 8 actuators.

**BUS**
The BUS communication option for intelligent controls.

For more information about the possibilities with an integrated controller (IC), please contact LINAK TECHLINE, or go to linak-us.com/techline/moveforthefuture

Enhance your competitive edge and step into the future world of movement.
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 minimization of installation failures
- 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.

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

TECHLINE® Bluetooth solutions run via a LINAK® Bluetooth control app. Download it on:

![App Store](image)

![Google Play](image)
LINAK has a well-developed sales and service organization in Europe, 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 websites:
www.linak-us.com/techline

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