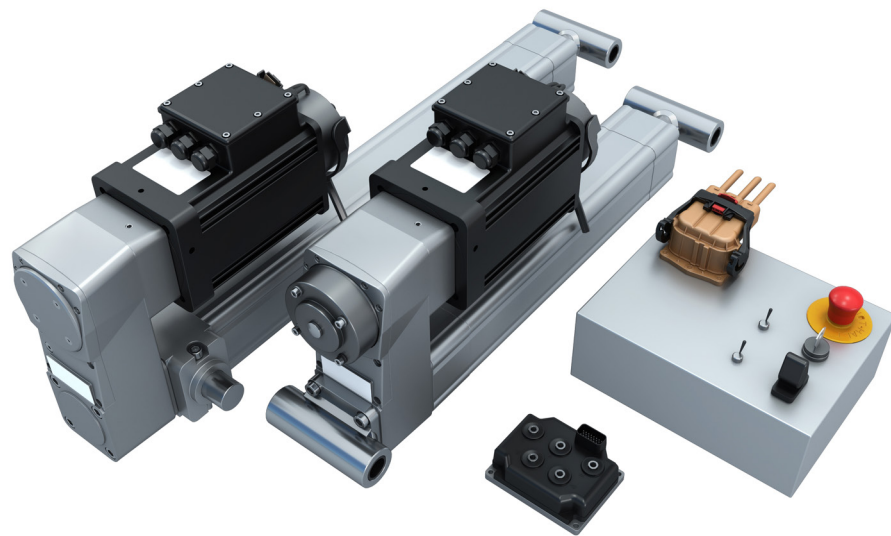


e-MOVEKIT

Plug-and-play electrification kit for linear movements in mobile machinery



The e-MOVEKIT allows users to unlock the benefits of fully electric actuation for their equipment, without the hassle of sizing and designing the complete control system.

Electrification is a macro-trend across all mobile machinery. There are several critical drivers in this industry such as legislation to reduce CO2 emissions, limits on noise emissions in urban centres, and growing sustainability targets pushing for improved energy efficiency. Ewellix has a clear strategy to support our customers in developing better mobile machines for tomorrow.

Our electromechanical actuators have already replaced hydraulic cylinders in many auxiliary control or steering functions. With improved lifting capacity, increased productivity with more energy efficiency, safety and reliability, linear actuators provide high precision, smooth motion and exceptional stability, together with a lower total cost of ownership which make these solutions increasingly competitive.

A recent survey in mobile machinery showed that over 86% of the industry agrees that electrification is an essential topic in their organisations.

Machine manufacturers recognise that even partial electrification of equipment can potentially deliver high benefits in cost, reliability and operations.

Electromechanical actuators are increasingly becoming alternatives to hydraulic systems that have dominated the mobile machinery sector for decade.

Key benefits

- Plug-and-play system
- Easy hydraulic system replacement
- Short design and commissioning time
- Quickly build prototypes

System description

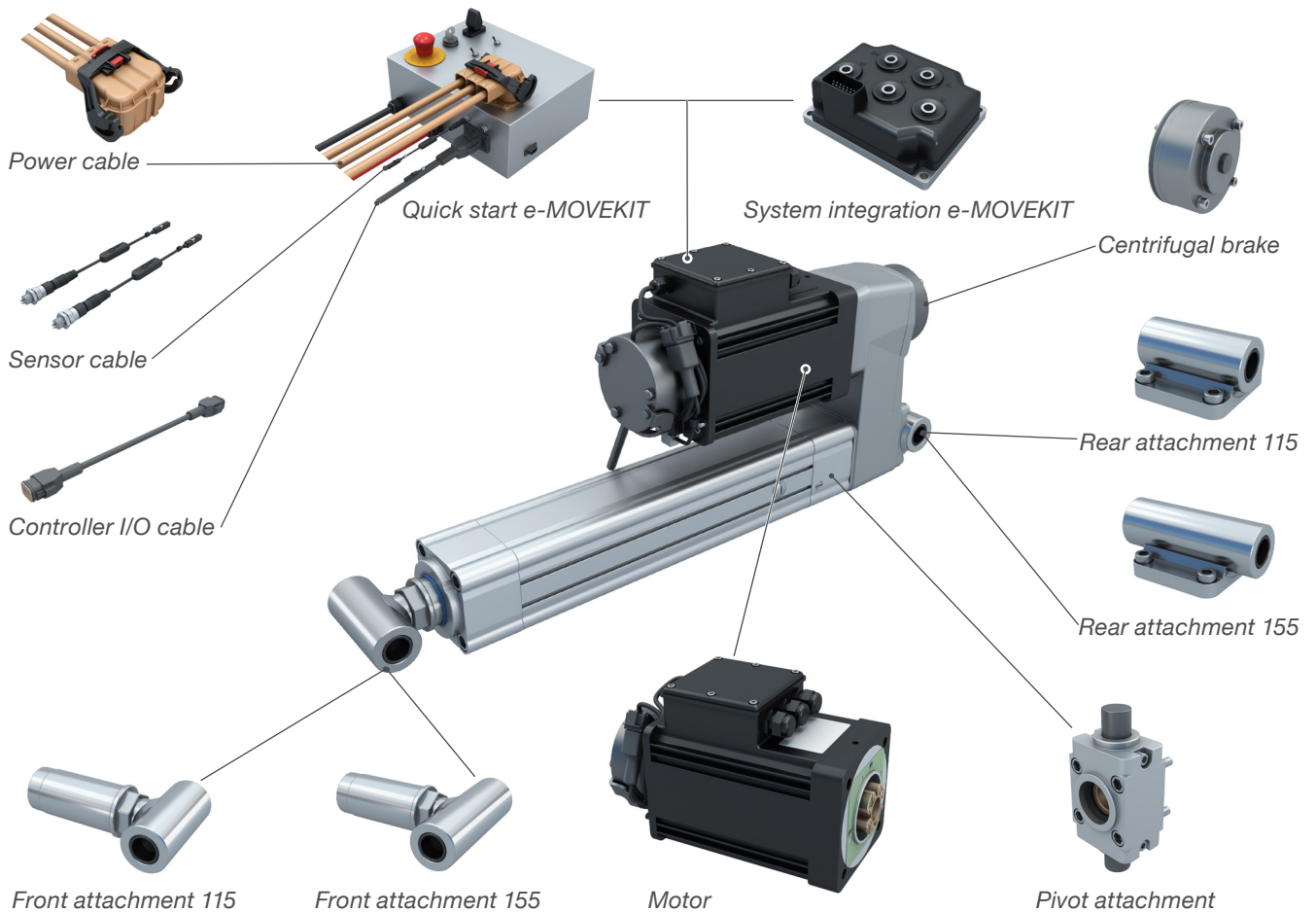
The e-MOVEKIT is a complete system offer that consists of all components required to drive a linear actuator in mobile machines that use 24V batteries. It was tested according to industry standards.

The system allows for simple linear movements controlled by analog inputs or through CAN commands. It also offers features that make it easy to replace hydraulic systems like:

- Holding brake
- Manual release with speed limiting device (centrifugal-brake)
- Backup nut for push loads

Ewellix actuators provide

- High energy efficiency
- Smooth movement
- Oil-free solution for less overhaul and maintenance
- Lower total cost of ownership
- Increased productivity



Key specifications

Designation	Unit	
Force (push/pull)	kN	60
Stroke	m	up to 2
Max speed	mm/s	100
Voltage	V	24 VDC
Max current	A	200

Control system

To make integration into any system as simple and smooth as possible, Ewellix provides several motor control options. With these controllers we can offer the optimal performance in any application.

Quick start e-MOVEKIT



The quick start kit is designed for customers unfamiliar with electromechanical actuators. It comes with all the components needed to start testing straight out of the box, including the motor controller with all the input controls and cables needed to drive the actuator within the application. The quick start kit is ideal for prototyping and concept studies.

System integration e-MOVEKIT



The system integration kit requires a basic knowledge of motor control techniques. The system is already configured with the motor parameters, while the integration into the application is defined by the customer.

With the system integration kit, Ewellix offers a solution for complete one-handed actuator control.

Both kits can be combined with any of the listed actuator configurations. Ewellix configures all motor parameters according to the selected actuator. Both kits are equipped with Curtis instruments' AC F2-A motor controller.

Speed mode

By giving a drive command, the controller will drive the motor at the required speed and adjust the power consumption and torque generation accordingly.

For smooth starts and stops an acceleration ramp can be defined to reduce strain on mechanical components and allow for longer life and a high end feel.

Software features:

- CANopen drive commands
- Analog drive commands (FWD/REV or WIG/WAG)
- Limit switch integration possible, standard for the quick start E-MOVEKIT
- Validated safety detection and error prevention:
 - Un-commanded powered motion
 - Motor braking torque loss

Application examples

Aerial work platform - Scissor lift

Electromechanical actuators are used for lifting and steering functions to increase runtime and productivity of the aerial work platform without leakage risk.



Commercial vehicle - Refuse truck

Electromechanical actuators can power all functions of the truck to completely remove the hydraulic systems onboard.



Material handling - Forklift

It has become increasingly common to use electrical solutions for lifting, tilting and adjusting the fork and for steering functions on forklift trucks.



Agriculture - Agricultural robot

The steering and the tools of the autonomous electric machines can be controlled by electromechanical actuators, that can be easily integrated inside the vehicle.



Construction - Articulated compact dumper

Electromechanical actuators can be used in compact dumpers to steer the vehicle and to dump the bucket.



Fluid power replacement benefits



Simpler system

Electromechanical systems allows for a much smaller system footprint and simplified mechanical layout, reducing the equipment's installation complexity and the commissioning time needed.



Safety

The force chain through mechanical components offers safety. In case of power loss, actuators can maintain their position and not collapse.



Control, smooth movement and stability

The position, stability and motion are easy to adjust with an electromechanical actuator.



Energy efficiency

Electromechanical actuators enable efficient operation with their ability to recover energy when the system is backdriving.

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