

ASK THE ENGINEER

CompAct Technology



CompAct 37mm Series

With several decades of experience on hydraulic applications, LISK continues to adapt to market needs. LISK has engineered a unique solution that helps continue advancements in the mobile and industrial hydraulics equipment industry.

CompAct Technology is a bidirectional embedded magnet actuator that offers reduced system footprint, faster response times, and optimized energy efficiency. It's an adaptive invention that is innovating bidirectional actuation.

Below, Erik Karlsen, Senior Project Engineer shares his insights on CompAct Technology and the impact the innovation has on the industry.

Q: How does CompAct Technology differ from traditional push-pull solenoid technology?

A: CompAct differs from traditional push-pull technology in both size and performance. Package size is up to 50% smaller since only a single coil is required for functionality. Longer working strokes and reduced energy consumption are both possible when utilizing this new technology. Performance output between the push and pull side is extremely balanced, making proportional repeatability within less than 1% of full stroke the new standard.

Q: How does CompAct perform in challenging applications when compared to traditional push-pull solenoids?

A: Due to its reduced footprint and single coil design, CompAct Technology allows end users to deliver a smaller and easier to install complete package than ever before without sacrificing performance.

Q: How does CompAct Operate?

A: CompAct Technology has the ability to deliver both proportional and on/off style performance. The force vs. stroke is completely customizable allowing the force output to be fine-tuned to exactly meet the system requirements. Residual latching force can also be adjusted for both styles of performance to deliver increased levels of system efficiency.

Q: Is 37mm the only size available for CompAct?

A: For now LISK is only launching the 37mm sized platform, however there are larger sizes in development that will be releasing early in 2022. We will also be rolling out additional technologies like null position centering and positional feedback that can be coupled with any of the standard CompAct offerings.

Q: Can CompAct technology help make my system smarter?

A: CompAct pairs excellent with “Smart” control schemes. When coupled with a positional feedback offering, it can deliver real-time system performance that can be translated into prognostic feedback for the end user and enable closed-loop operation. This can help reduce the occurrence of unexpected repairs and downtime which directly impact the bottom line while closed loop operation increases system independence without user input.

Q: How does this compare to servo technology?

A: CompAct’s level of performance rivals that of servo technology. Extremely high precision movement and repeatability are possible even when changing the commanded direction. Coupled with enabling features like positional feedback or null position centering, this new technology will enable performance that has traditionally been out of reach when using standard solenoid technology.

Q: What are the control schemes that this can be driven by and what are the performance benefits?

A: To change the direction of the force output, this technology requires the inclusion of an H-bridge or other polarity switching element within the electronic control system. The benefit of this is when combined with a custom input signal, the top level valve assembly can be fine-tuned to drastically shorten response times. In a closed loop metering application, PWM signal allows for ultra-fine self-adjustments over the entire working stroke. For pulse and hold applications, overall energy consumption can be reduced when combining the optional latching capabilities of the tube with an appropriately matched input signal.



To learn more about CompAct visit: www.gwlisk.com

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