



New motor select switch allows selective drive control

Less complex drives, more efficient use of space and more economical drive solutions – these were the development goals behind WITTENSTEIN cyber motor's new cyber® motor select switch, which is set to be unveiled at SPS 2019. The module allows selective control of several different motors using a single servo drive.

The motor select switch functions as a kind of turnout via which several motors can be selectively controlled with one single servo drive. Both the motor phases and the encoders are connected to the active motor – without compromising functionality or performance. The switching time is very short at no more than a few tenths of a second. Servo drive systems in stationary material flow systems, driverless industrial trucks with integrated load handling, packaging and bottling plants, labeling systems and machine tools – these are just some of the target applications.

Machine drives are often not all active at once

How many of a machine's electric drives are actually in use at once? With robots or machine tools the answer is easy: usually all of them. However, there are plenty of other applications involving motion where this is not the case. Machines with an automatic format adjuster are a good example here. The machine is adjusted at the start of the batch to specific product geometries, machining depths or filling quantities. The format adjustment drives are deactivated during the production process. Their influence on the machine's cycle time is therefore only minor and they do not have to be highly dynamic – especially as they simply take the place of actuators that have traditionally been operated manually. Material flow lines which convey workpieces or loading devices frequently consist of multiple segments and include switches as well as lifting units. By activating only the drives that are genuinely required, it is possible to manage with fewer servo drives and at the same time cut energy consumption. The situation is very similar with automatic guided vehicle (AGV) systems: during loading and unloading the wheel drives are at standstill while a feed axis transfers the load. Dosing systems and rotary tables for bottling or labeling are other potential

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WITTENSTEIN develops customized products, systems and solutions for highly dynamic motion, maximum-precise positioning and smart networking for mechatronic drive technology.



The cyber® motor select switch allows selective control of several different motors using a single servo drive.

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applications. Even in machine tools, a closer look may well reveal auxiliary drives that do not all need to be controlled simultaneously, for instance the feed and spindle axes, which are idle as long as the machine's door is being opened electrically or tools changed.

More efficiency thanks to selective drive control

The motor select switch forms part of WITTENSTEIN cyber motor's new, modular small servo drive system and can be precisely adapted in terms of control and connectivity to any combination of a servo drive, motor and gearbox. Selective activation of four motors with one motor select switch is a typical configuration, in which the drives can be freely cascaded. The motor is selected via a digital input, which can be switched either by the servo drive itself or by a PLC. All motors not selected at a given time have no torque. Various measures, or combinations of these measures, prevent accidental torsion in the application:

- Motors with a holding brake that closes when deenergized
- Multiturn absolute encoder
- High-ratio gearbox with high backdriving torque or self-locking

The motor select switch opens up considerable potential for rationalization. However, since the technology is new, a detailed analysis is essential for every application. WITTENSTEIN cyber motor's team of highly qualified application engineers are ready and willing to assist here.

Texts and photographs in printable quality can be downloaded from presse.wittenstein.de

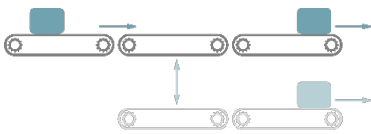
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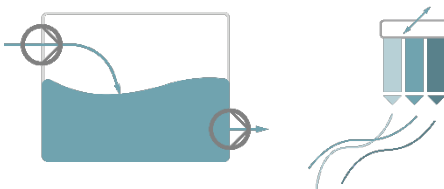
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Photos (all © WITTENSTEIN):**01-wittenstein-motor-select-switch**

With the cyber® motor select switch, up to four motors of the WITTENSTEIN cyber motor's modular small servo drive system can currently be selectively controlled with one single servo drive.

**02-wittenstein-materialfluss-transport**

The cyber® motor select switch can also be used in material flow systems where drives for belts, switches and lifting systems are not required at the same time.

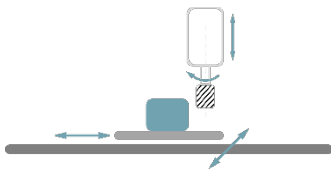
**03-wittenstein-pumpen (left)****04-wittenstein-dosieren (right)**

The cyber® motor select switch is also ideal for pumping and dosing. A tank could be filled by one drive, for instance, and pumped dry by another (left) or several beads applied one at a time using a single dosing head (right).

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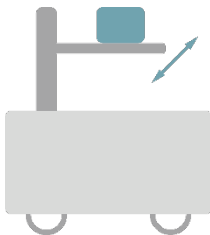
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05-wittenstein-bearbeitung-sequentieller-vorgaenge

The cyber® motor select switch can additionally be used for sequential processes such as positioning workpieces or feeding and changing tools.



06-wittenstein-fts

The cyber® motor select switch enables lift tables, for example, to be driven while loading and unloading from an automatic guided vehicle system.

WITTENSTEIN SE – one with the future

With around 2900 employees worldwide and sales of €436.4 million in 2018/19, WITTENSTEIN SE enjoys an impeccable reputation for innovation, precision and excellence in the field of mechatronic drive technology – not just in Germany but internationally. The group comprises six pacesetting Business Units with separate subsidiaries for servo gearboxes, servo actuator systems, medical technology, miniature servo units, innovative gearing technology, rotary and linear actuator systems, nanotechnology and electronic and software components for drive technologies. Through its 60 or so subsidiaries and agents in approximately 40 countries, WITTENSTEIN SE (www.wittenstein.de) is additionally represented in all the world's major technology and sales markets.

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