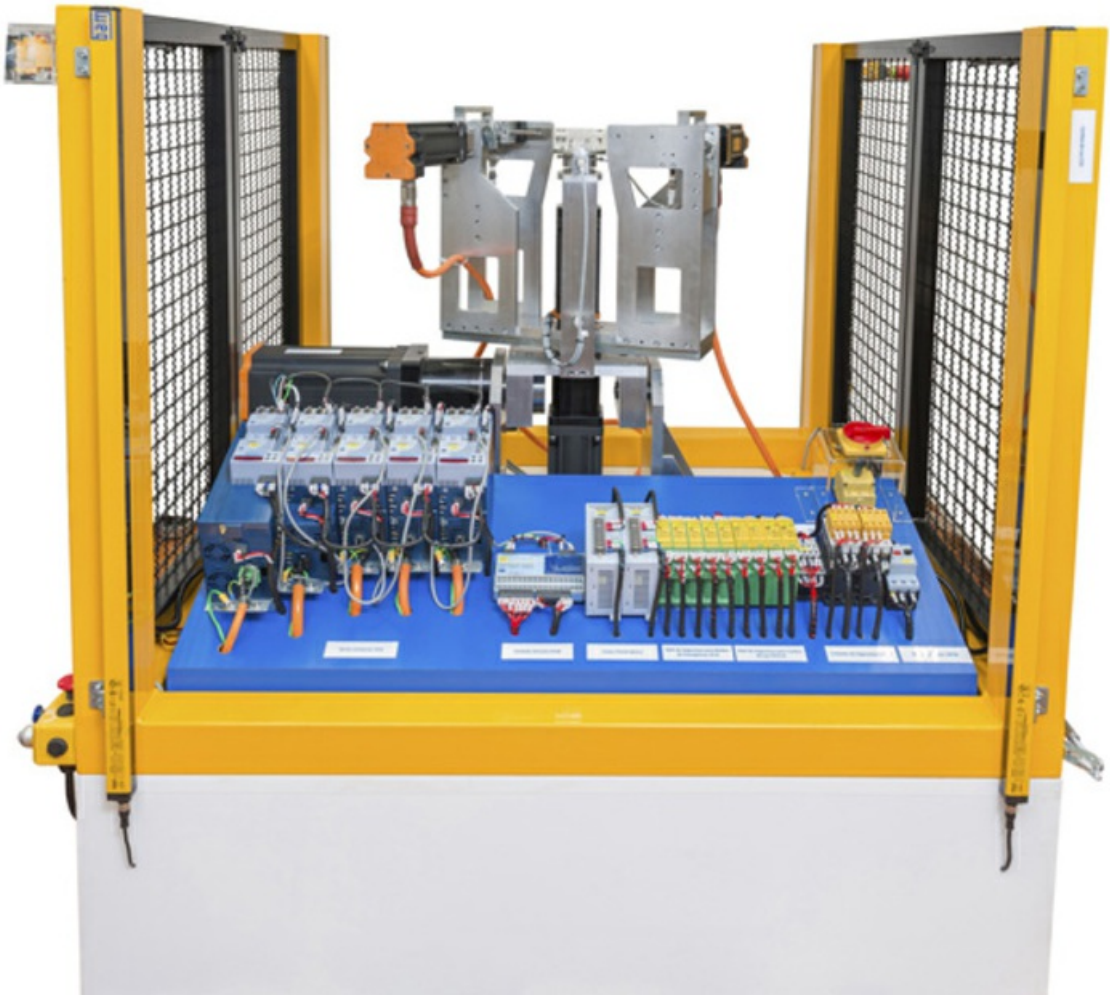
CANopen communication on five axes

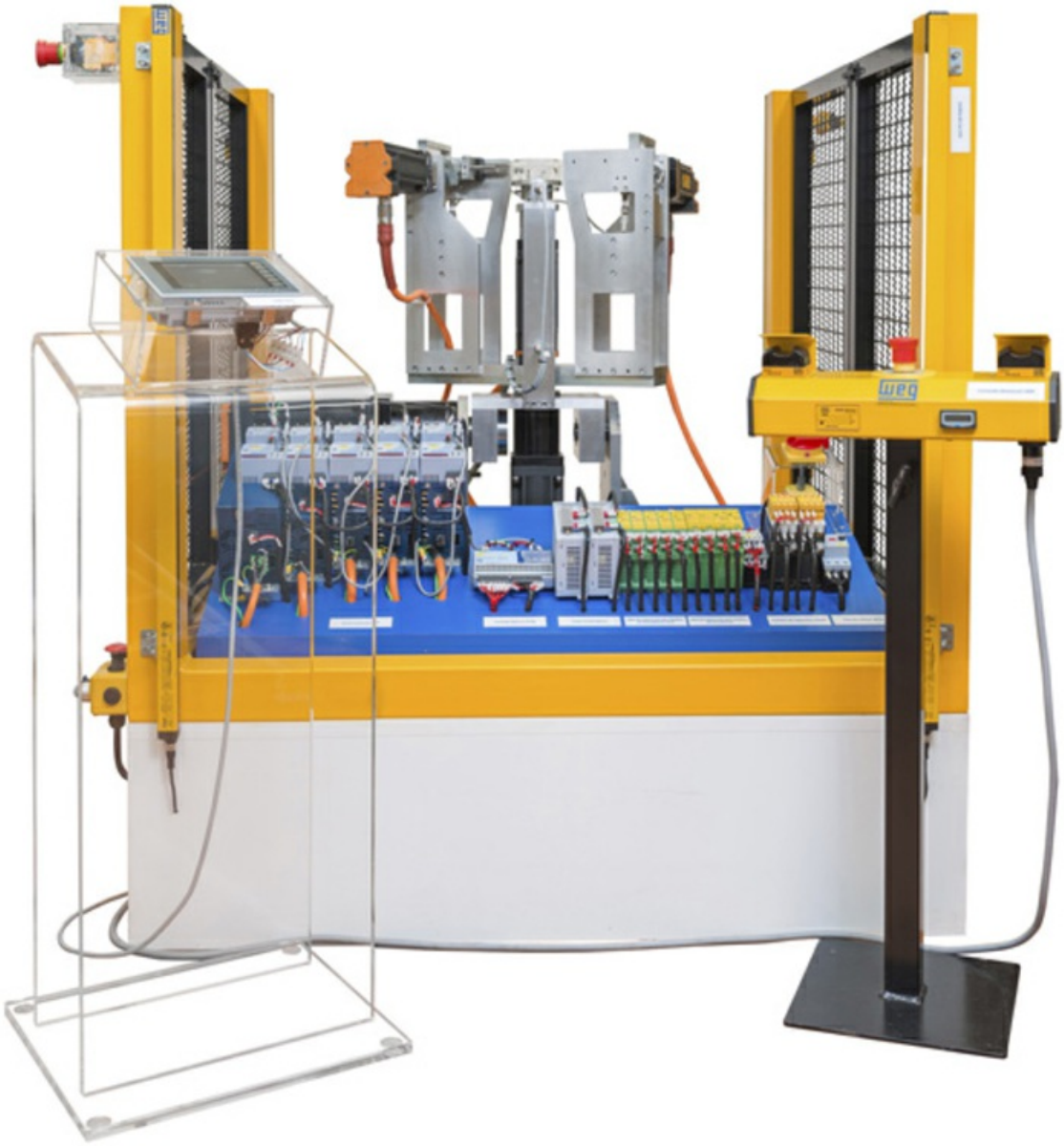
WEG has presented a dynamic servo drive simulator, which operates in five axes. The simulator includes SCA06 servo drives with CANopen communication.



The trade show simulator demonstrates a servo drive for demanding positioning tasks and packaged automation solutions (Photo: WEG)

THE SIMULATOR INCORPORATES FIVE SYNCHRONIZED servo drives consisting of the CANopen capable SCA06 servo drives and SWA servo motors. The drives perform their positioning tasks with utmost precision, says the company. Additional automation components, including contactors, circuit breakers, an HMI, a touchscreen, motor protection switches, and pushbuttons, are also integrated into the simulator.

The five-axis servo simulator demonstrates five servo drives performing synchronized positioning tasks based on electronic motion control with a CAM controller. The drive units communicate with each other via CANopen. One of the five servo drives acts as a master and another as a slave, which performs the same positioning sequences as the master. Two of the other drives are synchronized with the master via the CAM controller. The final drive is not synchronized, but instead moves to defined positions at defined times according to the specified simulator sequence. All of the programming, including relay logic programming with pre-programmed function blocks and CAM control, was done using WEG's WLP software and implemented using the SPS functionality of the servo drives. The programming software is available free of charge on the company’s website.



The trade show simulator demonstrates a servo drive for demanding positioning tasks and packaged automation solutions (Photo: WEG)

“Synchronizing the servo drives with electronic motion control means that the speed of the synchronous servo motors is regulated by the servo controllers and controlled by a CPU. Based on the cam profile model mapped in the processor, the motors follow linear or nonlinear paths and move to predefined positions. Compared to mechanical motion control, users benefit from a smaller component count, less wear (e.g. wear of cams and cam follower mechanisms), and integration of new motion sequences by programming the central processor. That eliminates setup times and cuts the time needed for control logic adjustments”, said Johannes Schwenger, Head of Product Management Europe for low-voltage and medium voltage drive systems at WEG.

By coupling gear motor and automation expertise at their Unna site, the company can mesh the gear technology of Watt Drive – particularly in the low-power range – even more closely with frequency inverters and other automation components. They can also design full automation solutions and individually adapt them to specific customer needs. At WEG's European Automation Centre in Unna experts from the automation and gear motor business areas collaborate closely to implement integrated automation solutions for the European market. In addition, the Service department can assemble and modify frequency inverters, soft starters, and servo controllers, for example by developing custom software and repair these devices.

The company offers its European customers all-in solutions comprising servo drives, servo motors and gear units for servo applications based on the modular line of MAS gear motors from their subsidiary Watt Drive. The servo motors in the SWA series are available with torques from 0,8 Nm to 25 Nm and speeds of 2000, 3000 or 6000 revolutions per minute in versions with or without a motor brake. The CANopen capable SCA06 servo controllers with integrated PLC and positioning functions cover the current range of 4 A to 24 A in three different packages: 4,0 A rated current with single-phase 230 VAC mains input, 5,0 A to 24 A rated current with three-phase 230 VAC mains input, and 5,3 A to 14 A rated current with three-phase 400 VAC mains input.