

Safety creates confidence.

Machine safety with ServoOne FS.



The safety system for drive solutions.

With the introduction of the latest standards in the field of safety technology, the requirements for the safety of machines have fundamentally changed. For many machine builders, this results in the challenge to implement these requirements as efficiently as possible. It is therefore particularly important to have a strong and experienced partner at your side.

With its innovative features, the **ServoOne FS (Functional Safety)**, which has an integrated safety PLC, provides the basis for efficient machine safety solutions. In conjunction with the highly experienced KEBA team, this means that straightforward economic solutions that are optimally tailored to the application can be implemented.

ServoOne FS

- + Motors
- + Safe encoder mounting
- + Application consulting
- + Validation support

Confidence

Shared successes.

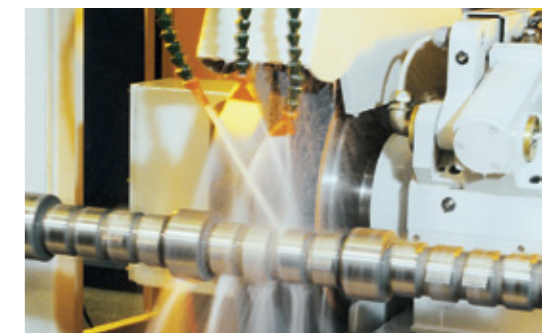
Competent support for your safety.

Turn a challenge into an opportunity. We show you how to use innovative safety solutions to not only make your machine safe, but also to reduce downtimes, increase productivity and availability, and avoid production downtimes of your customers.

To do this, you will be supported by a team of our safety specialists, who have many years of experience in the implementation of safe machine solutions. Together with you, we will develop innovative and sustainable concepts and find the best solution.

We will make your machine safe and offer an ideal service package tailored to your requirements. Trust in us:

- Discussing your risk assessment
- Jointly creating safety concepts
- Working out safe drive and automation solutions
- Supporting your programming and parameterisation
- Validation support using an automatically generated validation report



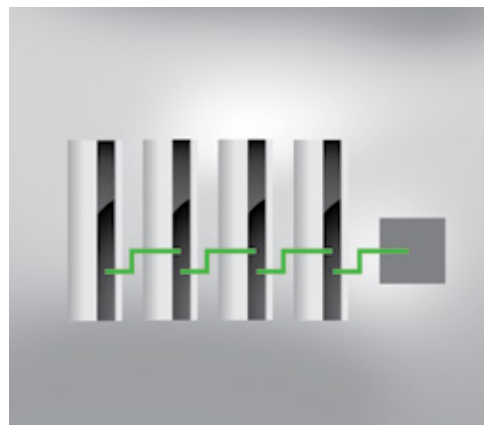
Certified safety.

KEBA Germany (formerly LTI Motion) provides certified safety solutions, from the safety controller to the motor shaft, according to ISO 13849-1 and IEC 62061. The certified product range cover the entire safety path, including not only the safe ServoOne FS drive controller with a powerful integrated safety control, but also safe I/Os, motors with safely mounted encoders, and a customer-oriented tool chain. Depending on the realization of the safety solution, a very high level of safety (SIL3 and PL_e) can be achieved. Thus, applications with high safety demands, such as presses or with people in the danger zone of lifted loads, can be easily implemented.



Integrated safety controller

The ServoOne FS has a complete built-in safety control. Certified function modules are available to implement the safety application. These can be configured to the desired safety application with just a few mouse clicks, using a graphical interface. Even complex safety tasks can be solved easily and displayed clearly.

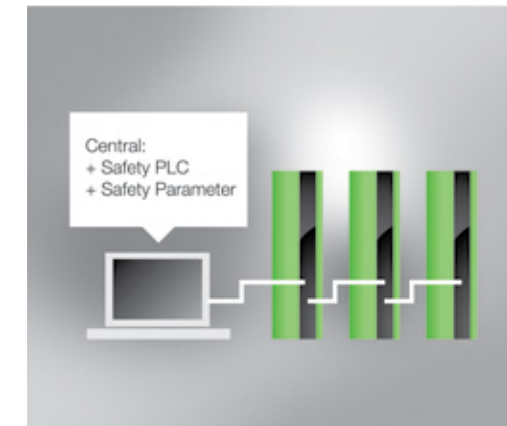


Safe cross communication

Safe cross communication (SCC) offers the possibility of networking up to 6 ServoOne FS systems. This leads to a safety network in which the devices communicate without complex parallel wiring. The safe I/Os of the devices can be allocated and used as desired in the safety application.

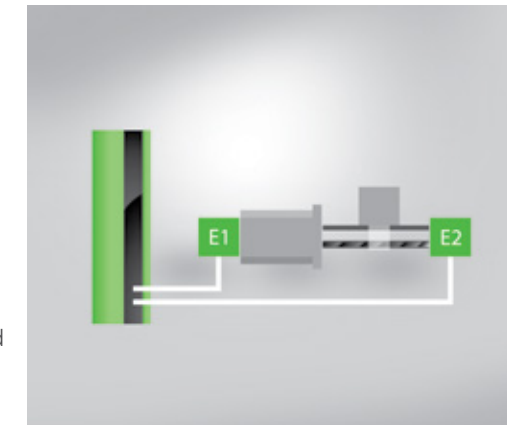
Centralised data handling

When the safety program is loaded into a ServoOne FS, it automatically becomes the safety PLC and the safety master of the safety network. All other ServoOne FS systems automatically become slaves. The safety program also includes the safe device parameters of the entire safety network. The user thus never needs to worry about consistent parameterisation, as this is in principle always ensured.



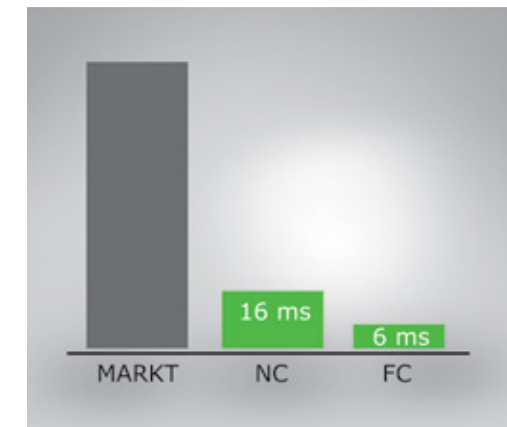
High encoder variance

According to the requirement in the customer application, diverse encoder systems are often needed. ServoOne FS therefore supports the safe evaluation of a variety of encoders, such as Resolver, Sin-Cos, SSI and TTL. To exclude errors in the mechanical system, even a second encoder (E2) directly mounted on the load can be evaluated in addition to the motor encoder (E1). A listening option even permits safe monitoring of the movement of a second motor, thus providing very cost-effective safety solutions.



Short reaction time

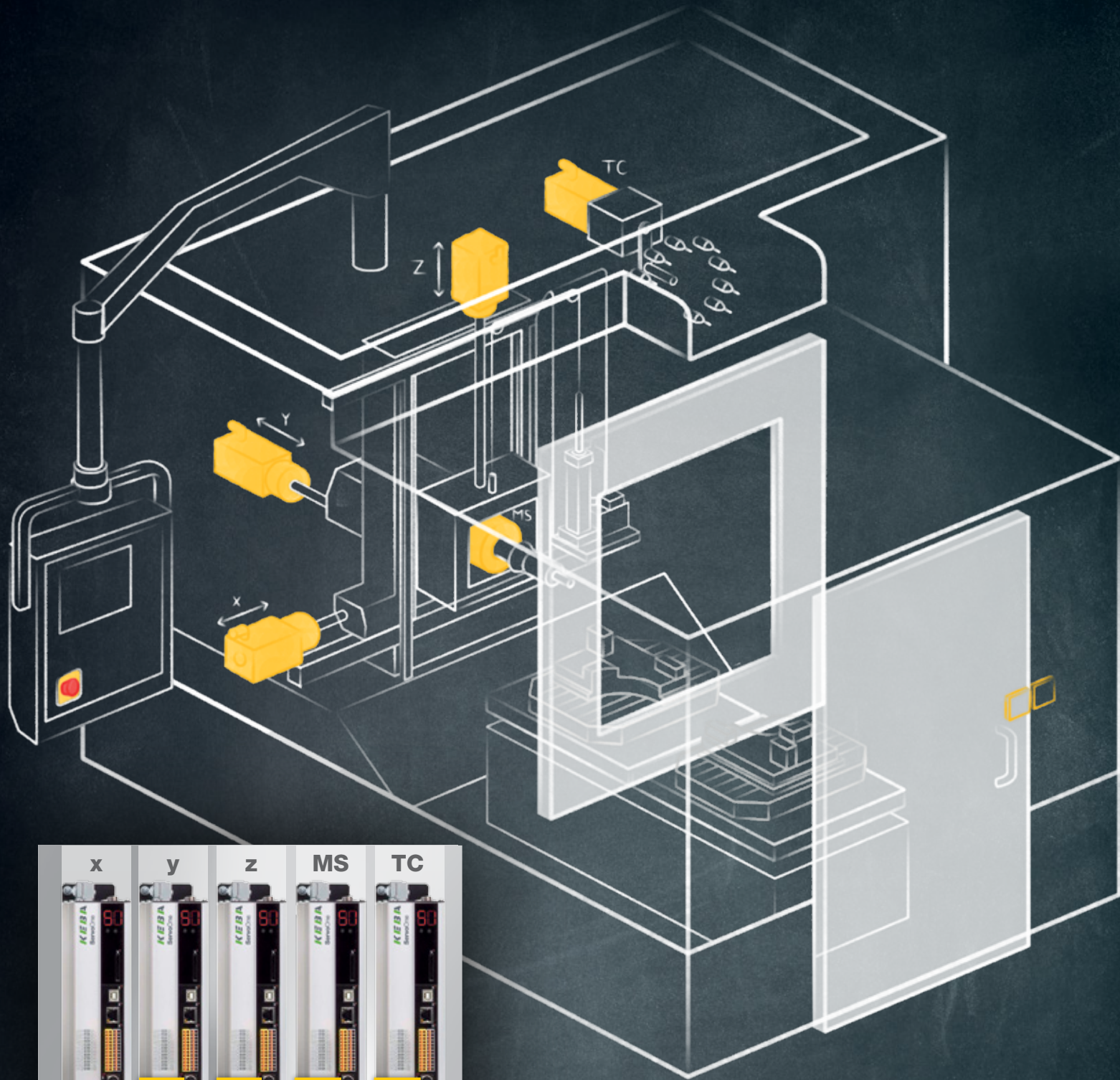
The shorter the reaction time to an event, the shorter the resulting reaction pathways. A fast channel shutdown has therefore been implemented in ServoOne FS in addition to the normal program cycle of the safety PLC. This ensures reaction times of less than 6 ms, even in multi-axis operation, making it about 12 times faster than traditional solutions with a shut-off relay. This offers the possibility of working with higher speed thresholds or reducing safety distances and building more compact machines.



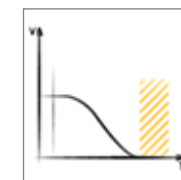
Wide range of safety functions

The ServoOne FS offers not only the standard safety functions according to EN61800-5-2, but also a variety of certified special-purpose functions that allow the user to innovatively solve even the most complex requirements for their machine. In combination with pre-defined sensors, the machine functions can be simply displayed in the program.

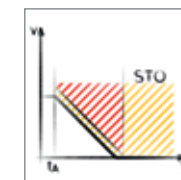




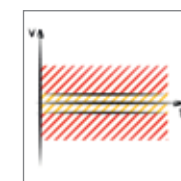
Safety functions.



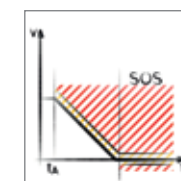
STO (Safe Torque Off)
Safe shut down of the power stage. Active motion of the motor is prevented.



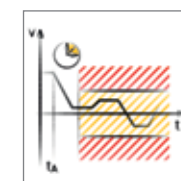
SS1 (Safe Stop 1)
Safe monitoring of the braking ramp. After a standstill is reached, the STO function is activated.



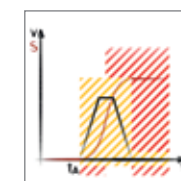
SOS (Safe Operating Stop)
Safe monitoring of the standstill; the drive is in the state of speed or position control.



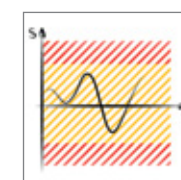
SS2 (Safe Stop 2)
Safe monitoring of the braking ramp. After a standstill is reached, the drive is safely monitored for standstill (SOS).



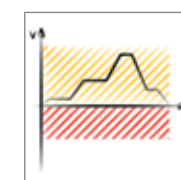
SLS (Safe Limited Speed)
Safe monitoring of the speed when a threshold value is exceeded.



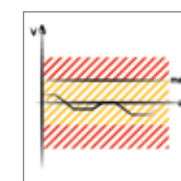
SLI (Safe Limited Increment)
Safe monitoring of a defined incremental movement.



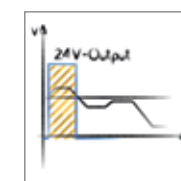
SLP (Safe Limited Position)
Safe monitoring of the position when an absolute or relative value is exceeded.



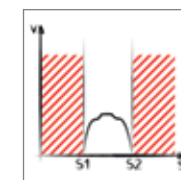
SDI (Safe Direction)
Safe monitoring of the direction of rotation.



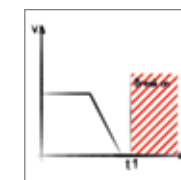
SLSmax
Safe monitoring of the maximum speed when a threshold is exceeded (permanently active).



SSM (Safe Speed Monitoring)
Safe activation of the output when a speed threshold is exceeded.



SCA (Safe Cam)
Safe activation of an output when a predefined position range is reached.



SBC (Safe Brake Control)
Safe activation of the two-channel brake output.

Fit for the future with KEBA.

KEBA AG is an internationally successful electronics company with headquarters in Linz/Austria and locations worldwide. For 50 years, KEBA has been developing and producing according to the claim „Automation by innovation“ innovative automation solutions of the highest quality for a wide variety of industries.

LTI Motion GmbH, a technologically leading German supplier of drive solutions, has been part of the KEBA Group since the end of 2018. Both companies have years of experience in the areas of control and safety technology as well as servo drive technology.

The bundled competencies result in complete solutions from a single source – appropriate for the respective industries.

Since the beginning of 2020, the joint appearance under the KEBA brand underlines once again the perfect complement to the portfolios, the bundling of know-how and innovative strength.

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