

Presentation

The eSM safety card allows Lexium 32 servo drives to access additional safety functions as well as the Safety Torque Off (STO) function. This offers a complex safety device that helps to provide installation monitoring.

The eSM card optimizes the overall cost of the installation by avoiding the need for additional external devices, while conforming to international safety standards. As a result, wiring is cheaper and quicker.

It also improves performance during maintenance by reducing machine or installation downtime and increases the safety of any work carried out.

The eSM card complies with the machinery standard ISO 13849-1, performance level "e" (PL e), functional safety standard IEC/EN 61508, SIL 3 capability, and functional safety standard IEC/EN 62061, SIL 3 capability.

It includes safety functions compliant with standard IEC/EN 61800-5-2. These functions, required in the majority of applications, are as follows:

- Safe Torque Off (STO)
- Safe Stop 1 (SS1)
- Safe Stop 2 (SS2)
- Safe Limited Speed (SLS)
- Safe Operating Stop (SOS)

Safety functions

Safe Stop 1 (SS1) function

The SS1 function is used to achieve a category 1 safe stop. After activation of the function, the servo motor is braked in a controlled manner, maintaining the power on the actuators. The power is then removed when the actuators stop after the machine has come to a halt.

Safe Stop 2 (SS2) function

The SS2 function is used to achieve a category 2 safe stop. After activation of the function, the servo motor is braked in a controlled manner, maintaining the power on the actuators. Once the motor has come to a halt, it is kept at a standstill with the Safe Operating Stop (SOS) function.

Safe Limited Speed (SLS) function

The SLS function is used to monitor the configured maximum speed. If this speed is exceeded, the servo motor will be stopped in accordance with SS2.

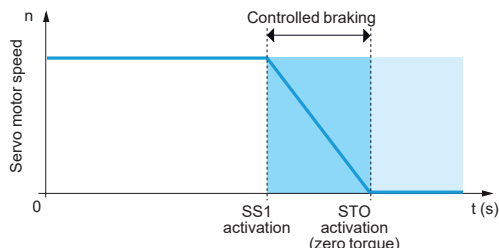
Safe Operating Stop (SOS) function

The SOS function is used to monitor any deviation from the standstill position once the servo motor has come to a halt.

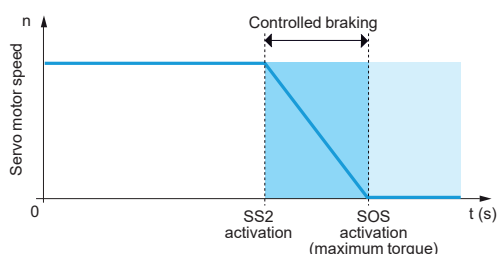
References

Description	Power supply	Cable length	Unit reference	Weight
	V	m/ft		kg/lb
eSM safety card for Lexium 32M servo drives	24 V (min. 19, max. 30)	—	VW3M3501	—
Cordset preassembled with a 24-way female connector (safety card end) and a free end	—	3/ 9.84	VW3M8801R30	—
Cordsets preassembled with 2 x 24-way female connectors	—	1.5/ 4.92	VW3M8802R15	—
		3/ 9.84	VW3M8802R30	—
eSM distribution unit equipped with 5 connectors	—	—	VW3M8810	—
Removable connector for connecting an additional eSM distribution unit	—	—	VW3M8820	—

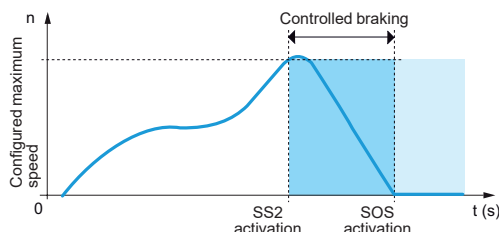
Sold in lots of 4



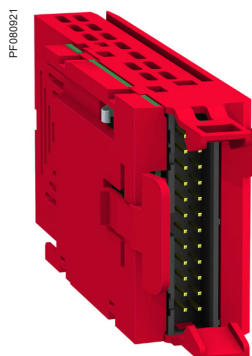
Activation of the Safe Stop 1 (SS1) function



Activation of the Safe Stop 2 (SS2) function



Activation of the Safe Limited Speed (SLS) function



VW3M3501 safety card