

Safety Integrated in drive technology

Innovative, new expanded safety-relevant functions
from V3.2 for SINAMICS G120 and G120D

November 2008

Expanded functions at a glance

- SLS from standstill
- Reversing operation with SLS
- Improved usage of PROFIsafe feedback signals
- Simplified safety acknowledgement

With the following safety functions

- STO = Safe Torque Off
- SS1 = Safe Stop 1
- SLS = Safely Limited Speed
- SBC* = Safe Brake Control

* only with G120

The following applications can be optimally realized

With SLS for example:

- working on a machine during operation
- executing maintenance tasks on conveyor belts and grinding machines
- commissioning during setup

With SS1 for example:

- Stopping high inertia loads usually experienced with machines such as saws, grinding machines, centrifuges, hoisting gear, extruders, high-bay racking units and shuttle vehicles



Safety functions integrated in safety-relevant inverters generally permit:

Increased productivity

- The maximum operational speed is safely limited
- Entry/exit into hazardous areas during operation may be permitted without the need to stop production
- Faster stopping reduces filling and retrofitting times
- Faster response to EMERGENCY STOP reduces the safety clearances required
- Safety jog and function

Reduce production downtimes

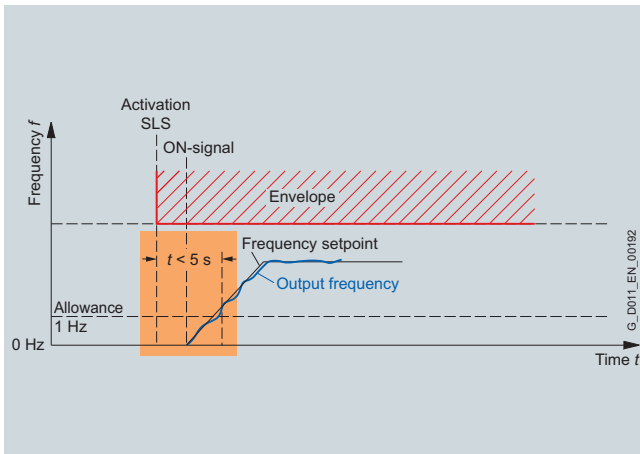
- The maximum speed is safely limited
- Electronic shutdown – no wearing parts
- Automatic system test
- Risk minimization – using a password-secured system

Shorter downtimes

- Permanent diagnostics and monitoring of the axes
- Fast replacement without parameterization
- Pre-fabricated wiring, pluggable terminal strips
- Clear labeling

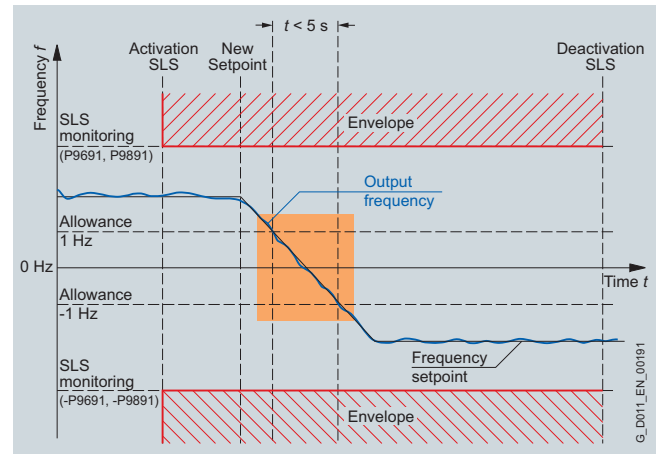
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Expanded SLS functionality



SLS from standstill

The SLS safety function has been expanded by mode 3. Using this mode, it is possible to start with SLS from standstill.



Reversing operation with SLS



In SLS mode 3 – with SLS active – it is possible to briefly decrease down to 0 Hz without generating a fault message. Reversing operation is also possible when SLS is active.

With the new functions available from Version V3.2, feedback signals to PROFIsafe can be better used

Now, signals from safely-reached states can be used in the complete safety system.

- Safe Stop 1:
When SS1 is activated, the **SS1 active** signal is set. **Power removed** is set at the end of the down ramp.
- Safely Limited Speed:
The **SLS active** signal is only set if the actual frequency lies below the SLS limit frequency.

Safety functions are generally available in:

SINAMICS G120	SINAMICS G120D	SINAMICS S120	SIMATIC ET 200S FC	SIMATIC ET 200pro FC
				

For more information, go to: www.siemens.com/safety

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