

What is your **drive?** More **precision?**
SINAMICS S150 drive converter: The highest control precision.

Marschmeyer-Kühn

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sinamics S150



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SIEMENS



SINAMICS S150 drive converter: The new drive quality.



SINAMICS S150:

- Vector control for the highest precision
- Active Infeed minimizes harmonics fed back into the line supply
- Simple to engineer, simple to handle
- Quiet
- Compact
- Can be easily integrated into higher-level automation solutions

Highest precision and dynamic response

SINAMICS S150 is a high-performance single-motor drive with closed-loop Vector control for the power range from 75 to 1200 kW. This drive converter is equipped, as standard, with Active Infeed. Active Infeed is based on the Active Front End technology known from MASTERDRIVES. This has been further improved for SINAMICS. This makes these drive converters especially line-friendly so that they can fulfill the stringent specifications of the power utility companies regarding the quality of the line supply.

Reliable solution for many applications

Variable-speed drives for high-performance process operations are especially applicable for machinery and plant construction in the process and production industries: Food and beverage, automobile and steel industries, underground/open-cast mining, marine engineering and cranes/conveyor technology profit from the precision of this drive. For high requirements regarding the line supply quality, then a drive with Active Infeed is the solution. SINAMICS S150 makes sense for weak line supplies and those that fluctuate significantly. This is because it de-couples the load from the line supply and intelligently compensates the voltage fluctuations.

Competitive advantages for plant and machinery construction

What makes plants and systems with SINAMICS S150 better than others? For instance, Active Infeed: This technology that Siemens has established in the market secures the high availability of a plant. This means that our Active Infeed makes the complete drive system insensitive to voltage fluctuations, it maintains operation during brief line supply interruptions in the millisecond range and not only this, but in regenerative operation there are no inverter commutation faults with fuses blowing when connected to weak line supplies. This is complemented by an extensive, long-term service concept rounded-off by the fact that the individual modules and power components have been designed so that they can be quickly replaced.

Significantly more compact – far quieter

The SINAMICS S150 drive converter in a standard cabinet is especially quiet and compact because of its state-of-the-art IGBT power semiconductors together with an innovative cooling concept.



What is your **drive**? More **harmony**?

To efficiently use energy

For applications where the associated drives operate regeneratively as a result of frequent braking cycles and with high energy levels when braking, then it makes a lot of economic sense to regenerate this energy into the line supply. This is significantly more cost-effective than to convert the energy into heat, for example, using a braking chopper. SINAMICS S150 offers the best prerequisites because not only is it capable of regenerative feedback without any restrictions, but it does this with the highest precision and dynamic response.

Consequentially line-friendly

By impressing almost sinusoidal line currents, the harmonic losses known from conventional drive converters in the line transformer, low-voltage distribution and line feeder cables are avoided. Further, SINAMICS S150 does not cause any basic fundamental reactive power. This is because the line power supply factor $\cos \varphi$ is 1 independent of the load. However, SINAMICS S150 has an especially interesting positive feature as it can feed inductive or capacitive reactive current into the line supply over wide limits. This allows loads causing reactive power that are operating in parallel to be compensated, thus reducing expensive reactive power drawn from the public utility company.

As standard, SINAMICS S150 is supplied with an integrated EMC filter for the second environment according to EN 61800-3. This means that the drive converter doesn't result in any inadmissible noise even in the high-frequency range.



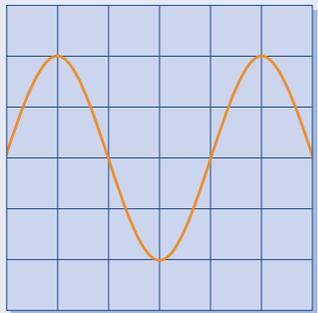
Precision and force for every production

The optimized inverter functionality of the SINAMICS S150 allows high-precision closed-loop speed and torque control with and without an encoder.

Further, the DC link voltage of the SINAMICS S150 is regulated to keep it constant. This de-couples the motor from the characteristics of the line supply voltage. This means that highest machine precision is guaranteed even when the drive system is connected to weak line supplies. This makes this drive the ideal solution, for example, for test stands, centrifuges, elevators, crosscutters, shears, conveyor belts, presses and cable winches.

Completely seamless: Totally Integrated Automation

High precision and fast processes profit because the intelligence has been shifted into the drive – even for large drives! This is because as the degree of automation increases, then it is essential that the drive system is integrated into the higher-level automation environment. It goes without saying that SINAMICS S150 is part of Totally Integrated Automation (TIA), the unique, common automation platform from Siemens. Totally Integrated Automation sets standards regarding integrated engineering, data management and communications.



What is your **drive?** Simply **easier?** Planning, commissioning and operator control the easy way!

The SIZER tool that minimizes engineering costs

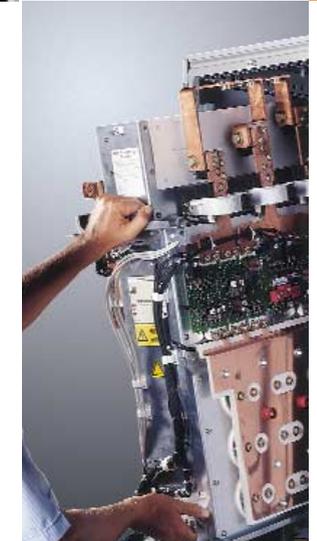
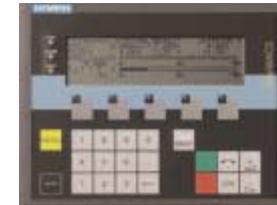
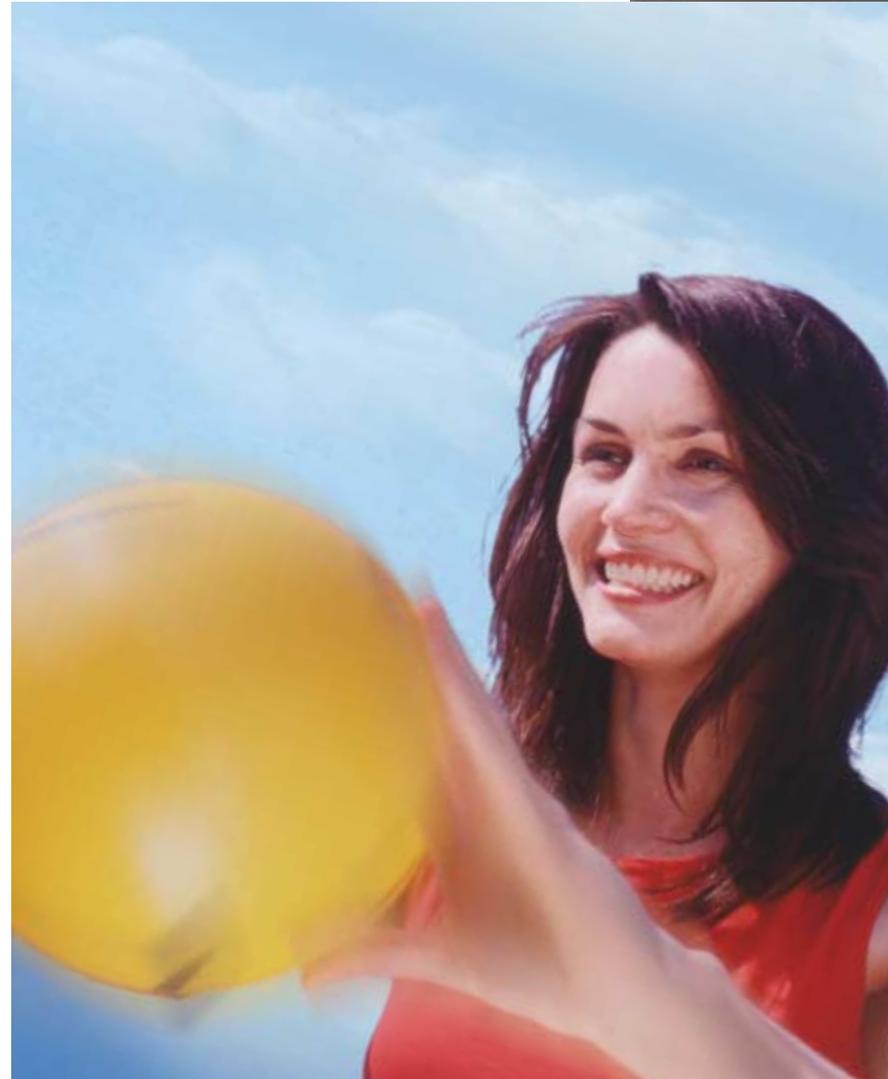
The Siemens SIZER engineering tool contains all of the SINAMICS components that can be used. This means that a drive system can be quickly and reliably engineered. SIZER allows users to engineer a wide range of drive systems. It is extremely easy to get to know SIZER because the graphic interface means that the tool can be intuitively used. Once learned, SIZER can be used to quickly and reliably engineer any SINAMICS drive system. Result: The manufacturing costs are significantly reduced as a result of the lower engineering time.

The STARTER tool that speeds-up commissioning

STARTER is the standard commissioning tool that is used for all of the SINAMICS drives. The commissioning engineer can even quickly start-up complex systems without any special system know-how thanks to the straightforward, menu-prompted operator interface. The functions can be checked using integrated tests and the various parameters can be optimized. Trace functions graphically display signal characteristics which makes it easier to optimize drive systems and troubleshoot them. Further, it allows data to be imported from electronic rating plates – which significantly simplifies the parameterizing procedure. This is because the technician no longer has to transfer individual parameter numbers – which was a tedious time-consuming procedure.

Digital interface DRIVE CLiQ: Simply connect-up!

Seamless communications between the various components is a prerequisite for a modular drive system. The standard digital interface is known as DRIVE CLiQ and connects, as serial interface, the components in the cabinet and the motors.



Can be intuitively handled – thanks to the menu prompting

The user-friendly operator panel of the SINAMICS S150 drive converter provides a menu-prompted interface with plain text display. This reduces the number of operator errors and allows the drive to also be commissioned without the Manual. Using the graphics-capable displays, analog setpoints and actual values can be displayed as bar diagram - allowing important drive operating quantities to be sensed at a glance.

Modular and compact

The SINAMICS S150 drive cabinet was consequentially designed with function blocks and modules to ensure good accessibility so that parts and components can be quickly replaced. This means the highest degree of service-friendliness but at the same time an extremely small footprint.

SINAMICS S150

Voltage	Power ¹⁾	Rated output current I _N [A]	Dimensions B x D x H [mm]
	P [kW]		
380 - 480 V	110	210	1400 x 600 x 2000
	132	260	1400 x 600 x 2000
	160	310	1600 x 600 x 2000
	200	380	1800 x 600 x 2000
	250	490	1800 x 600 x 2000
	315	605	2200 x 600 x 2000
	400	745	2200 x 600 x 2000
	450	840	2200 x 600 x 2000
	560	985	2800 x 600 x 2000
	710	1260	2800 x 600 x 2000
660 - 690 V	800	1405	2800 x 600 x 2000
	75	85	2800 x 600 x 2000
	90	100	2800 x 600 x 2000
	110	120	800 x 600 x 2000
	132	145	800 x 600 x 2000
	160	175	800 x 600 x 2000
	200	215	800 x 600 x 2000
	250	260	800 x 600 x 2000
	315	330	800 x 600 x 2000
	400	410	1200 x 600 x 2000
	450	465	1200 x 600 x 2000
	560	575	1200 x 600 x 2000
710	735	1600 x 600 x 2000	
800	810	1600 x 600 x 2000	
900	910	2800 x 600 x 2000	
1000	1025	2800 x 600 x 2000	
1200	1270	2800 x 600 x 2000	

1) For 400 V or 690 V supply voltage
 2) The cabinet height is increased by 250 mm for degree of protection IP21, by 400 mm for degrees of protection IP23, IP54 and by 405 mm for line supply options or motor connections from the top.

SINAMICS S150 options

- Main breaker including fuses or circuit-breaker
- Motor temperature evaluation functions for PTC thermistors and PT 100
- EMERGENCY STOP, Category 0 or 1
- Extended customer terminal strip
- Power supply for external auxiliaries (e.g. a separately-driven fan for the motor)
- Various mechanical options such as increased degree of protection up to IP54, line supply and motor connection from the top, etc.