

Sinamics G120

Standardized yet Individual

Variable-speed operation of motors – for example, in pumps, fans, and compressors – has more benefits than just saving energy. In the performance range between 0.37 kW and 250 kW, the Sinamics G120 modular inverter series offers many possibilities for optimizing processes, perfecting automation, and performing safety-related tasks.



The modular Sinamics G120 inverter system consists of different functional units – a control unit, a power module, and an intelligent operator panel or, optionally, a basic operator panel

The Sinamics G120 consists of a power module, a control unit, and either an intelligent operator panel or a basic operator panel. The high overload capability of this drive is especially suited for applications in the process industry, as it helps prevent faults due to jamming caused by particles or when moving parts become stuck after extended downtimes.


Energy efficiency due to recovery

The Sinamics drives support energy efficient equipment operation in several ways. The inverter can be kept in a standby position with the hibernation function. When it is implemented in a communication environment using Profinet and the Profienergy protocol, users can configure comprehensive system solutions that can be completely switched off during breaks in production, thus decreasing power consumption. The Sinamics G120 features the Efficient Infeed Technology for regenerative feedback into the line supply for energy savings – and users can convert potential energy into power and thus eliminate braking resistors. Even a power choke is no longer required.

Modular and flexible

The trademark of the Sinamics G120 is its modularity. The power module, control unit, and software functions can be adapted to a wide range of tasks. Electrical planners can select precisely the components suitable for their application and assemble the optimum frequency inverter.

Due to the completely customizable configuration of the power module, controller assembly, and software, the Sinamics G120 can be adapted to the most diverse requirements. There is, for example, a CU230P-2 control unit especially for pumps, fans, and compres-



A large number of applications in or relating to the process industry benefit from variable-speed drives. The modular Sinamics G120 can be customized to fit the individual application

sors. Up to four proportional-integral-derivative (PID) controllers – depending on the type of control unit – can be used to control process parameters, which relieves some of the burden on the plant control system. In addition, the G120 also supports integrated safety functions and fail-safe communication via Profisafe. Altogether, the result is a system suitable for many tasks.

Integrated functions for safety and rapid commissioning

Of course, the inverter series also offers integrated functions for plant safety. Five different objectives can be set here – from safe torque shut-off to completely stopping a drive. Due to the shared-device functionality, the safety technology is particularly easy to use. Standard automation and safety technology can be planned separately. The system engineers, for example, can use a dedicated fail-safe programmable logic controller (PLC) for safety technology, or they can run standard process automation and safety technology on the same platform. Users also benefit from the functionality of the Sinamics devices during commissioning of the drive system. Tools support the adapta-

tion and configuration of the motors. Using the simulation mode, the motor function can be tested even without a higher-level control and feedback to the controller.

System solution for variable-speed operation

With the Sinamics G120 model series, users benefit from a fully customizable drive series according to the specific requirements for hardware, software, and functional modules. This approach facilitates creating an optimized drive solution that is safe, energy-efficient, reliable, powerful, and cost-effective. The Sinamics G120 variable-speed drives are not only an ideal solution for the process industry but also for typical mechanical engineering applications – for example, in conveyor technology; in mixing and stirring plants; in centrifuges, compactors, extruders, and fans; or in packaging technology. ■

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