

Sinamics G110M

# Conveying expert

The new Sinamics G110M distributed inverter with a loop-through power bus performs typical conveying tasks without a higher-level PLC, including placing items onto a cross belt. Considerable savings can be achieved in conveyor technology applications in this way. The G110M series supports USS / Modbus RTU, Profibus, and Profinet / Ethernet IP without piggyback modules.

The distributed Sinamics G110M inverter is a modular and flexible drive that simplifies logistics applications. The inverter is easy to use throughout its entire lifecycle, from installation and commissioning to servicing and maintenance, thanks to the mechanical design that eliminates the usual piggyback modules for fieldbus versions. The modular inverter consists of a control module with the desired communications interface and a power module that matches the motor. Users can choose from two housing sizes for devices with power ranges from 0.37 to 4 kW. The Sinamics G110M is the only device of its class that also has a loop-through power bus, which makes all T-connectors of the 380–480 V three-phase power supply redundant. This saves time and reduces costs during configuration and installation, especially in logistics and distribution applications, which have numerous individual drives. The frequency inverters are available with cable entries with an IP66 degree of protection as standard.

The inverters are also available with HAN-Q4/2 plug-in connectors for applications that need quick device replacement when serviced. An integrated 24-V power module ensures that the electronic components are supplied with 24-V power within the inverter itself. For drives that are positioned far apart,

this option is usually more economical than planning for and installing an additional low-voltage line.

## Transport without a PLC

The Sinamics G110M can independently perform many typical conveying and transport tasks. This can reduce the complexity of the programs in the higher-level control system or even make them unnecessary. The Quick Stop inverter function is an



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## At a glance

- Voltage/frequency: 3 phases, 380–480 V ± 10%, 50/60 Hz ± 5%
- Safety technology: STO as per IEC 61508 SIL2, ISO 13849 PLd, EN954-1 Cat. 3
- Power range: 0.37–4 kW
- Communication: USS / Modbus RTU, Profibus, Profinet / Ethernet IP
- Control mode: U/f, sensorless vector control (SLVC)
- Functions: Quick Stop, limit switch function, free function modules (PLC function)
- EMC: as per IEC 61800-3, Cat. 2
- Brakes: Motor holding brake, software-based braking technique

Conveyor, logistics, and transport applications need easy-to-use distributed drives such as the Sinamics G110M

example of this. If items need to be transferred from one conveyor belt to another, this function stops the belt containing the incoming goods if the space on the target conveyor belt is occupied. As soon as there is enough space, the inverter sets the conveyor belt back into motion. To do so, it needs only two input signals: “Goods received at the transfer location” and “Target belt free/occupied.”

The inverter reacts independently of the PLC cycle or cyclical communication. This means that the goods can be transferred quickly and with precise repeatability. These and similar functions can be immediately used without modification, or they can be fine-tuned or enhanced with the help of function blocks and logic modules. The STO (Safe Torque Off) safety function is also included in the basic version of the drive. It can be activated with a Profisafe protocol or with two digital inputs from the frequency inverter that can be combined to create a fail-safe digital input (F-DI). This makes it possible to connect safety systems easily and directly, and the drive can be integrated into the safety reaction of a fail-safe PLC.

### Easy commissioning

For many applications, a DIP switch is all that is needed for commissioning. This is especially true if the inverter is delivered with a Simogear geared motor, as it already comes with all the relevant motor data. This makes classic commissioning with

Starter parameterizing software or with Startdrive in the TIA Portal engineering framework easy. The software can be updated and the parameters of the inverter can also be set with the help of an SD or MMC memory card. This simplifies serial commissioning and also makes it easier to exchange the device if the system needs to be serviced, as the inverter adopts the modified settings from the memory card when it is booted. The handheld version of the Intelligent Operator Panel (IOP) can be connected via an optical interface and is another option for commissioning and diagnostics. In addition to the new functions and features that have been tailored to conveyor and logistics applications, the Sinamics G110M also offers functions that are typical for all Sinamics inverters, such as flying restart, DC braking and holding brake control, automatic restart, and the use of the inverter’s I/O – including as a distributed I/O of the higher-level control system. The Sinamics G110M is easy to use and thus offers potential for great savings in all phases of a plant’s lifecycle. ■

#### INFO AND CONTACT

[siemens.com/sinamicg110](https://www.siemens.com/sinamicg110)  
[michael.schmidbauer@siemens.com](mailto:michael.schmidbauer@siemens.com)  
[johanna.gebhardt@siemens.com](mailto:johanna.gebhardt@siemens.com)