

SIEMENS

Ingenuity for life



Versatile and simple to handle

Distributed inverters for SIMOGEAR geared motors

SINAMICS G110M – the distributed inverter mounted on a motor for conveyor applications in the field:

The distributed SINAMICS G110M inverter belongs to the SINAMICS G series. This device has a high degree of protection (up to IP66), a modular design and can be mounted on SIMOGEAR geared motors.










With its high versatility, SINAMICS G110M sets itself apart as a result of the simple commissioning and highest degree of operator friendliness.

Combined with SIMOGEAR gear units, the devices are pre-mounted and pre-commissioned.

G110M at a glance:

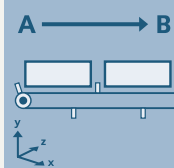
- Mounted on the motor or close to the motor with wall mounting kit
- Power, 0.37 – 4 kW
- Degree of protection up to IP66
- Safety function (STO), without requiring additional external components
- Integrated communication

Advantages at a glance:

	Characteristic	Benefits
Installation		
	Installation is significantly simplified as the 400 V and 24 V power supply voltages – along with the communication – are looped through internally (terminals or plug connector). A maintenance switch or 24 V power supply and an internal braking resistor can be optionally mounted. For applications where space is restricted, the inverter can be mounted separately using the wall mounting kit. The I/Os can be used internally – or as distributed I/O of the control system.	<ul style="list-style-type: none">• Fast and simple installation• External components can be eliminated
Commissioning		
	The SIMOGEAR geared motor and SINAMICS G110M inverter are already preparameterized in the factory. The application-related settings can be simply made using DIP switches, the IOP operator panel, the Starter software tool or in the TIA Portal using Startdrive.	<ul style="list-style-type: none">• Fast commissioning, scaled according to the application and customer requirements
Functions		
Communication		
	Integrated communication with USS, Modbus, PROFIBUS, PROFINET, Ethernet IP and AS-i; PROFIenergy, PROFIsafe	<ul style="list-style-type: none">• Can be simply integrated into automation systems; an external gateway is not required
Safety Integrated		
	Integrated STO (Safe Torque Off) function. Controlled via local fail-safe inputs or via PROFIsafe	<ul style="list-style-type: none">• Safety-related shutdown can be simply implemented and fail-safe I/O eliminated
Quick Stop		
	The inverter directly responds to an input signal, reproducibly and independent of any signal propagation delays in the PLC or on the fieldbus Example, stop light barrier for a conveyer section	<ul style="list-style-type: none">• Fast response and high reproducibility of the stop position
Limit switch logic		
	Reproducibly limits the traversing range independent of any signal propagation delay in the PLC e.g. shutdown at end stops for rotary indexing tables, transverse trolleys	<ul style="list-style-type: none">• Fast response and high reproducibility of the stop position
Integrated brake control		
	Motor holding brake control is integrated, e.g. for hoist functions	<ul style="list-style-type: none">• Motor holding brake is precisely controlled. Load does not drop and lower brake wear
Service		
Diagnostics		
	Automatic diagnostics in combination with SIMATIC controllers Comprehensive diagnostic functions – including trace – with Starter and Startdrive software tools	<ul style="list-style-type: none">• Fast diagnostics to minimize downtimes
Fast replacement with memory card		
	Inverter parameterization is backed up to an optional memory card In addition to the parameterization, the inverter firmware can also be backed up	<ul style="list-style-type: none">• Simple series commissioning (cloning)• Devices can be quickly exchanged and firmware can be automatically uploaded / downloaded• Downtimes are minimized

Typical applications:

Motion



- Roller conveyors
- Chain conveyors
- Belt conveyors
- Corner transfer conveyor
- Rotary table
- Trolleys for transverse motion
- ...
- Integrated communication (AS-Interface, PROFIBUS, PROFINET, Ethernet IP, USS, Modbus)
- Integrated STO (Safe Torque Off), control via F-DI or PROFIsafe – no external components required
- With Quick Stop (stop position) and limit switch logic (stop at the final position) precise stopping – independent of the fieldbus and control cycle
- Soft and smooth acceleration reduces the load on gear units, bearings, drums and rollers
- Supplementary torque for starting conveyor belts with a high breakaway torque
- High dynamic response by using a braking resistor or DC braking
- A mechanical holding brake is directly controlled, e.g. for hoist functions
- The load torque is monitored to detect belt breakages



Technical data of the SINAMICS G110M:

Voltage Frequency Power range	3-phase 380 – 480 V $\pm 10\%$ 50 / 60 Hz ± 3 Hz 0.37 – 4 kW	Control mode	U/f, SLVC
Safety technology	STO acc. to IEC 61508 SIL2, ISO 13849 PLd, EN954-1 Cat. 3	Communication	USS, Modbus, PROFIBUS, PROFINET, Ethernet IP and AS-i; PROFInergy, PROFIsafe
Degree of protection	Up to IP66	Ambient temperature	$-10\text{ }^{\circ}\text{C}$ to $40\text{ }^{\circ}\text{C}$ without derating / up to $55\text{ }^{\circ}\text{C}$ with derating
Functions	<ul style="list-style-type: none"> • Quick Stop • Limit switch function • Free function blocks (PLC function) 	Braking	<ul style="list-style-type: none"> • Internal brake resistor • Motor holding brake • Software braking technique
EMC	Acc. to IEC 61800-3, Category 2	Standards	CE, UL, cUL, c-Tick
Ordering options	<ul style="list-style-type: none"> • 24 V power supply • Maintenance switch • Wall mounting kit • Internal braking resistors 	Ordering versions	<ul style="list-style-type: none"> • Mounted on the motor as complete drive unit with SIMOGEAR • Mounted close to the motor when space is restricted

There's more to it:
[siemens.com/ids](https://www.siemens.com/ids)

Discover in detail how Integrated Drive Systems boost your competitive edge and improve your time to profit.

The advantages
of Integrated
Drive Systems
at a glance



Follow us on:
twitter.com/siemensindustry
youtube.com/siemens

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept. For more information about industrial security, please visit [siemens.com/industrialsecurity](https://www.siemens.com/industrialsecurity)

Published by
Siemens AG
Digital Factory
P.O. Box 31 80
91050 Erlangen, Germany

Article No.: E20001-A350-P670-V1-7600 |
Printed in Germany |
Dispo 21500 |
LMB/1000059260 SB 10162.0 |
© Siemens AG 2016