SINAMICS G110:

The versatile single-motor drive for low power ratings

SINAMICS G110 is perfectly suited for a wide range of variable-speed industrial applications. The especially compact drive inverter operates with voltage – frequency control (V/f) and is the ideal solution from the SINAMICS product family in the lower power and performance ranges. SINAMICS G110 is available in three frame sizes. It covers a range of power ratings from 0.12 kW up to 3.0 kW (0.16 up to 4 HP) for connection to single-phase line supplies (200 V to 240 V).

Applications

SINAMICS G110 is especially suitable for the following applications:

- As drive in industry and the trades
- In different sectors, e.g. food & beverage, textiles, packaging
- In conveyor system applications
- For applications with pumps and fans
- For factory gate/garage door operating mechanisms and barriers
- As drive for scrolling advertising billboards

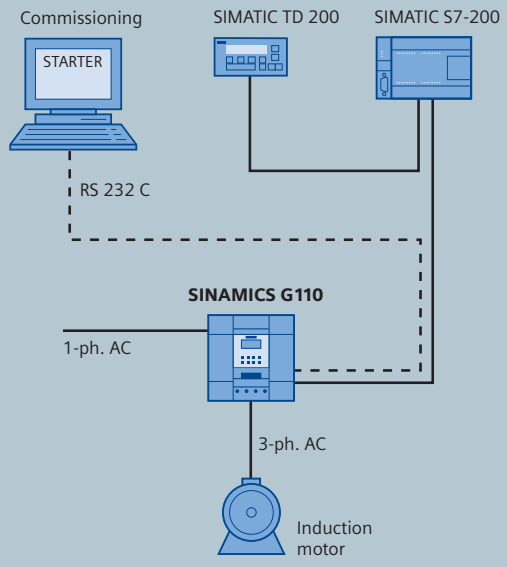
Benefits for you

- Can be flexibly used thanks to the extensive parameterizing functions and various interfaces (analog and USS versions)
- Simple installation, parameterization and commissioning
- Powerful diagnostic functions with optional operator panel
- Fast series commissioning by copying parameters using the optional operator panel
- Low-noise motor operation as a result of the high pulse frequency
- Low mechanical wear through
  - frequency bands that can be skipped if resonance occurs
  - parameterizable ramp-up/ramp-down times
  - ramp smoothing
  - being able to connect the drive inverter to a rotating motor (flying restart)
- Increased plant availability thanks to the automatic restart after a power failure or operational fault
- Fast current limiting for disturbance-free operation in the event of sudden load surges
- Versions with integrated EMC filter for industrial and public line supplies
- DIP switch to quickly adjust to 50-Hz or 60-Hz applications
- DIP switch for simple bus termination for the USS version (RS 485)

Structure

SINAMICS G110 drive units are especially compact and supplied so that they can be immediately connected up. They all have state-of-the-art IGBT technology in the power unit as well as digital microprocessor-based technology. Further, they can be quickly installed and simply connected up.
There is a version with a non-ribbed heat sink for mounting in low-profile cabinets. Versions with analog input or with an RS 485 communication interface (USS) are also available. The digital inputs can be freely parameterized and flexibly adapted to the widest range of applications.
SINAMICS G110 is either parameterized using the PC-based STARTER tool or an optional operator panel (Basic Operator Panel). The settings entered at the operator panel can be saved and then simply transferred to every additional drive inverter if several drive inverters are to be commissioned with the same parameters – i.e. for series machines.

SINAMICS G110 configuration example:
USS version together with SIMATIC S7-200,
PC-drive inverter connection using the optional PC connecting kit



Technical data

Electrical data	
Line voltages; power ranges	1-ph. 200 ... 240 V AC, ± 10%; 0.12 ... 3.0 kW (0.16 ... 4 HP)
Line types	IT, TN, TT
Line frequency	50 Hz/60 Hz
Output frequency	0 ... 650 Hz
Control techniques	*V/f* control, linear (M~n) *V/f* control, square-law (M~n^2) *V/f* control, can be parameterized
Fixed frequencies	3, can be parameterized
Frequency bands that can be skipped	1, can be parameterized
Digital inputs	3 parameterizable 24 V DC digital inputs
Analog version: Analog input	1 analog input for a set point from 0 ...10 V scalable or can be used as 4th digital input
Digital output	1 24 V DC digital output
Communication interface	USS version: Serial RS 485 interface for operation with the USS protocol
Functions	
Software functions	Automatic restart following interruption due to line supply failure, drive inverter can be bumplessly connected to a rotating motor, parameterizable ramp-up/ramp-down times, ramp smoothing
Protective functions	Undervoltage, overvoltage, ground fault, short circuit, stall protection, thermal motor protection I^2t, drive inverter overtemperature, motor overtemperature
Motors that can be connected	Induction motors
Mechanical data	
Degree of protection	IP20
Cooling type	≤ 0.75 kW (≤ 1 HP): Convection cooling, version with low-profile heat sink > 0.75 kW (> 1 HP): Internal air cooling (integral fan)
Standards	
In conformance with the following standards	CE, UL, cUL, c-tick