

SIEMENS



SINAMICS G120C

The compact single drive with a low power rating and appropriate functionality

[siemens.com/sinamics-g120c](https://www.siemens.com/sinamics-g120c)

Answers for industry.

The compact inverter for countless applications

The SINAMICS G120C defines new standards in its class regarding size, fast commissioning, extremely simple operator control, high level of service-friendliness and highly integrated functionality.

It is predestined for machinery construction and sales through distribution channels and covers the requirements of many applications, e.g. for conveyor belts, mixers, extruders, pumps, fans, compressors and basic handling machines.



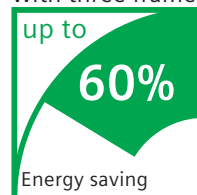
SINAMICS offers a whole raft of advantages:

- Standard operator control and functionality as a result of the common hardware and software platform
- Both low voltage as well as medium voltage
- A common engineering approach for all drives
 - SIZER for engineering
 - STARTER for parameterization and commissioning
- High degree of flexibility and combinability
- Identical options
- Minimized training costs

Decisive advantages for machinery construction

SINAMICS G120C was specifically designed for OEMs who require a cost-effective, space-saving inverter that is simple to operate and has a broad range of functions. This drive unit is especially compact with a high power density and sets itself apart as a result of its fast installation and commissioning, user-friendly connections and simple commissioning tools. Already integrated: Safety functions (STO via terminal/with PROFIsafe), drive networking via standard fieldbus systems as well as a card slot for cloning parameter sets.

With three frame sizes, SINAMICS G120C covers a range of

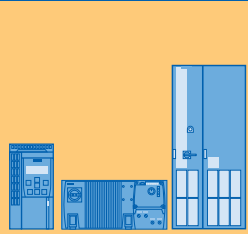
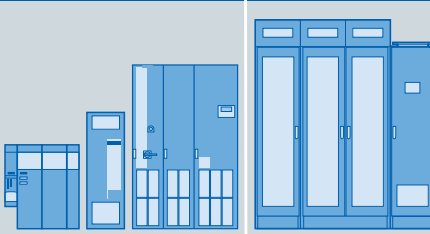


power ratings from 0.55 kW up to 18.5 kW. To increase the energy efficiency, the inverter is equipped with vector control to achieve optimum energy efficiency and/or has automatic flux reduction. The device is an integral component of Totally Integrated Automation and

has PROFINET, PROFIBUS DP, USS/Modbus RTU as well as CANopen communication interfaces. Operation/commissioning is quickly and simply realized with a PC via USB or using the BOP-2 (Basic Operator Panel) or IOP (Intelligent Operator Panel).

SINAMICS G120C is part of the SINAMICS family

SINAMICS G120C is a member of the seamless and integrated family of SINAMICS drives – the first choice for innovative drive solutions that are fit for the future. SINAMICS offers the optimum drive for each and every application. As a consequence, all of the drives can be configured, parameterized, commissioned and operated in a standard fashion.

| Low voltage | Medium voltage | |
|--|---|--|
|  |  | |
| SINAMICS G 0.12–2700 kW | SINAMICS S 0.12–4500 kW | SINAMICS GM/SM/GL 0.8–120 MW |



Highlights at a glance

Mechanical design

- Compact
- Simple commissioning and maintenance
- Side-by-side mounting without derating
- Pluggable terminals

Electronics

- Integrated braking chopper
- STO safety function
- IOP, BOP-2 and USB interface
- Interchangeable memory card (SD)
- Electrically isolated inputs

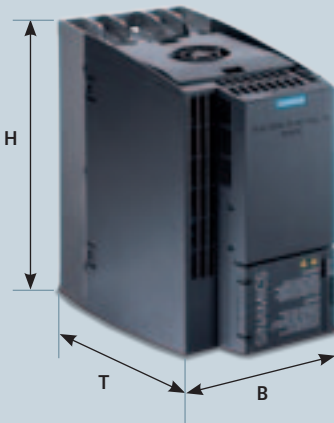
Communication

- PROFINET, PROFIBUS DP, CANopen, USS/Modbus RTU
- Integral component of Totally Integrated Automation

SINAMICS G120C – advantages

| | G120C features | Your benefits |
|---|--|---|
| Small and rugged | | |
|  | <ul style="list-style-type: none"> • High power density, low envelope dimensions • Several devices can be mounted directly next to one another • Coated modules • Operation up to an ambient temperature of 60 °C • Simple installation in the smallest space | <ul style="list-style-type: none"> • Low space requirement • Long service life, high reliability • Can be used in small control cabinets, close to the machine |
| Operator friendliness | | |
|  | <ul style="list-style-type: none"> • Optimized parameter set • Optimized commissioning • Getting-Started document • BOP-2 and IOP operator panels can be used • Integrated USB port | <ul style="list-style-type: none"> • Simple and fast software parameterization • Simple operability during commissioning and in operation • Minimized training costs, utilization of already existing SINAMICS know-how • High degree of service friendliness |
| Installation and maintenance | | |
|  | <ul style="list-style-type: none"> • Pluggable terminals • Cloning function using BOP-2, IOP or SD card • G120C integrated in TIA teleservice • Operating hours counter for "Drive on" and "Motor on" | <ul style="list-style-type: none"> • Fast mechanical installation • Intuitive series commissioning • Integration in the automation environment • Simple maintenance |
| Leading technological functions | | |
|  | <ul style="list-style-type: none"> • Energy-efficient, encoderless vector control • Automatic flux reduction with V/f ECO • Integrated energy calculator • Safety Integrated (STO) | <ul style="list-style-type: none"> • High control quality • Energy-efficient motor control • Energy-saving can be measured • Integrated safety functions without supplementary costs |
| State-of-the-art communication | | |
|  | <p>The following communication versions are available:</p> <ul style="list-style-type: none"> • PROFINET • PROFIBUS DP • CANopen • USS/Modbus RTU | <ul style="list-style-type: none"> • Uses all of the common bus systems • Can be flexibly used • Reliable communication • Can be simply plugged in • Uninterruptible thanks to the optional 24V power supply |

Selection and ordering data



| Rated data | | | | Order Number | Frame size | Dimensions | | |
|---|------------------------|---------------------------|----------------------------|-----------------|------------|------------|-----|------|
| P _{LO*} kW | P _{LO*} Hp | I _{LO*_out} A | I _{HO**_out} A | | | B | H | T*** |
| 3-phase supply voltage 380–480 V | | | | | | mm | mm | mm |
| 0.55 | 0.75 | 1.7 | 1.3 | 6SL3210-1KE11-8 | FS A | 73 | 196 | 203 |
| 0.75 | 1.0 | 2.2 | 1.7 | 6SL3210-1KE12-3 | | | | |
| 1.1 | 1.5 | 3.1 | 2.2 | 6SL3210-1KE13-2 | | | | |
| 1.5 | 2.0 | 4.1 | 3.1 | 6SL3210-1KE14-3 | | | | |
| 2.2 | 3.0 | 5.6 | 4.1 | 6SL3210-1KE15-8 | | | | |
| 3 | 4.0 | 7.3 | 5.6 | 6SL3210-1KE17-5 | | | | |
| 4 | 5.0 | 8.8 | 7.3 | 6SL3210-1KE18-8 | FS B | 100 | | |
| 5.5 | 7.5 | 12.5 | 8.8 | 6SL3210-1KE21-3 | | | | |
| 7.5 | 10.0 | 16.5 | 12.5 | 6SL3210-1KE21-7 | FS C | 140 | 295 | |
| 11 | 15.0 | 25.0 | 16.5 | 6SL3210-1KE22-6 | | | | |
| 15 | 20.0 | 31.0 | 25.0 | 6SL3210-1KE23-2 | | | | |
| 18.5 | 24.0 | 37.0 | 31.0 | 6SL3210-1KE23-8 | | | | |

EMC filter

Integrated EMC Class A/C2 filter****

Unfiltered version

Integrated communication interface

RS485 with USS/Modbus RTU

SUB-D with PROFIBUS DP

SUB-D with CANopen

PROFINET

A
U
B 1
P 1
C 1
F 1

*LO = Low Overload
**HO = High Overload
***Frame size FSA- FSC with PROFINET depth: additional, 22.4mm
****For detailed information on maintaining interference classes, refer to the product documentation

| Technical data | |
|-----------------------|---|
| Voltage/frequency | 3-phase 380–480 V –20 % +10 % with 50/60 Hz +/-5 % |
| Power range | 0.55–18.5 kW/0.7–24 Hp |
| Overload power | For I _{LO_out} (LO*): 150% for 3s Plus 110% for 57s within a duty cycle of 300s For I _{HO_out} (HO**): 200% for 3s Plus 150% for 57s within a duty cycle of 300s When used for overload, no reduction of the continuous output current. |
| Degree of protection | IP20/UL open type |
| Ambient temperature | 0° to 40 °C without derating/up to 60 °C with derating |
| EMV | Acc. to IEC 61800-3, Category 2 (FS A,B) or Category 3 (FSC) with internal EMC filter |
| Motor cable lengths | 50 m shielded/100 m unshielded |
| Standards | CE, UL |
| Signal inputs/outputs | 6 digital inputs; 2 digital outputs; 1 analog input; 1 analog output |
| Safety technology | SIL 2 acc. EN 61508, PL d acc. EN ISO 13849, class 3 acc. EN 60204 |
| Control modes | Vector, V/f, V/f ECO |
| Energy functions | Energy-saving calculator, energy consumption calculator, automatic flux reduction |
| Function | Fixed velocity/speed setpoint, 2/3 wire control, PID controller, motor holding brake control |
| Braking | Integrated braking chopper |

Options

Braking resistor

| | | |
|------|-------------|--------------------|
| FS A | 0.55–1.5 kW | 6SL3201-0BE14-3AA0 |
| FS A | 2.2–4 kW | 6SL3201-0BE21-0AA0 |
| FS B | 5.5–7.5 kW | 6SL3201-0BE21-8AA0 |
| FS C | 11–18.5 kW | 6SL3201-0BE23-8AA0 |

Input reactor

| | | |
|------|-------------|--------------------|
| FS A | 0.55–1.1 kW | 6SL3203-0CE13-2AA0 |
| FS A | 1.5–4 kW | 6SL3203-0CE21-0AA0 |
| FS B | 5.5–7.5 kW | 6SL3203-0CE21-8AA0 |
| FS C | 11–18.5 kW | 6SL3203-0CE23-8AA0 |

Operator panels

| | | |
|-------|----------------------------|--------------------|
| BOP-2 | Basic Operator Panel | 6SL3255-0AA00-4CA1 |
| IOP | Intelligent Operator Panel | 6SL3255-0AA00-4JA0 |

Contact person: