SIEMENS

SINAMICS G120C

The perfect balance of performance, simplicity and cost-efficiency

usa.siemens.com/sinamics-g120c

Answers for industry.

The compact drive for countless applications

SINAMICS G120C — a new standard in its class

Compact in size and easy-to-operate, SINAMICS G120C provides world-class functionality in a highly-serviceable package for applications ranging from pumps and compressors to extruders and basic handling machines.

SINAMICS offers a variety of advantages:

- Common hardware and software
- Standard operator control and functionality
- Part of the Siemens Totally Integrated Automation (TIA) concept
- Common engineering approach with STARTER and SIZER tools
- Wide range of communcation options including PROFINET and EtherNet/IP™.

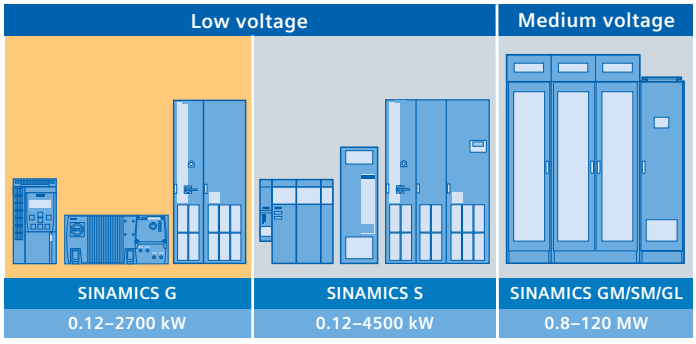
Decisive advantages for machine building

SINAMICS G120C was specifically designed for OEMs requiring a cost-effective, space-saving drive that is easy-to-operate and has a wide range of functionality. 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. Safety functions (STO via terminal / with PROFIsafe) are already integrated — drive networking via standard fieldbus systems, as well as a card slot for cloning parameter sets, are also included.

With three sizes, the SINAMICS G120C covers a power range from 0.55–18.5kW. To increase its energy efficiency, the drive is equipped with vector control and comes with automatic flux reduction (ECO mode). Operator control and commissioning are quickly and easily achieved with a PC via USB or via BOP-2 (Basic Operator Panel) or IOP (Intelligent Operator Panel). The G120C is an integral component of Totally Integrated Automation and has PROFINET, EtherNet/IP, PROFIBUS DP, USS / Modbus RTU, as well as CANopen communication interfaces. Comissioning and operation are quickly and easily achieved with a PC via USB, by the BOP-2 (Basic Operator Panel) or IOP (Intelligent Operator Panel).

SINAMICS — one family, one source, all applications.

The G120C is a part of the SINAMICS family of integrated drives, which offers the optimal drive for every application. As a result, these drives can be configured, parameterized, commissioned and operated in a standard fashion.



Highlights at a glance

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

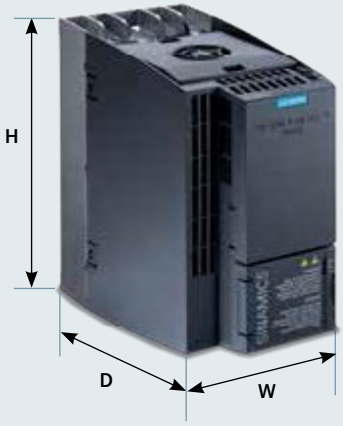
Electronics
- Integrated braking chopper
- STO safety function
- IOP , BOP-2 and USB interface
- Optional interchangeable memory card (SD)
- Electrically isolated inputs

Communication
- PROFINET, EtherNet/IP, PROFIBUS DP, CANopen, USS / Modbus RTU
- Integral component of Totally Integrated Automation
- Supported profiles: PROFIenergy und PROFIsafe

SINAMICS G120C — advantages

	G120C features	Your benefits
	Small and rugged	
	▪ High power density, low envelope dimensions ▪ Several devices can be mounted side-by-side ▪ Coated modules ▪ Operation up to an ambient temperature of 60° C ▪ Simple installation in the smallest space	▪ Low space requirement ▪ Long service life, high reliability ▪ Can be used in small control cabinets, close to the machine
	User-friendly	
	▪ Optimized parameter set ▪ Optimized commissioning ▪ Getting Started document ▪ BOP-2 and IOP operator panels can be used ▪ Integrated USB port	▪ Simple and fast software parameterization ▪ Simple operability during commissioning and in operation ▪ Minimized training costs, utilization of already existing SINAMICS expertise ▪ Service-friendly
	Installation and maintenance	
	▪ Pluggable terminals ▪ Cloning function using BOP-2, IOP or SD card ▪ G120C integrated into Siemens TIA ▪ Operating hours counter for “Drive on” and “Motor on”	▪ Fast mechanical installation ▪ Intuitive series commissioning ▪ Integration in the automation environment ▪ Simple maintenance
	Leading technology functions	
	▪ Energy-efficient, encoderless vector control ▪ Automatic flux reduction with V/f ECO ▪ Integrated energy calculator ▪ Safety Integrated (STO) ▪ Supported profiles: PROFIsafe, PROFIenergy	▪ High control quality ▪ Energy-efficient motor control ▪ Energy-saving can be measured ▪ Integrated safety functions without additional costs
	State-of-the-art communication	
	The following communication versions are available: ▪ PROFINET, EtherNet/IP ▪ PROFIBUS DP ▪ CANopen ▪ USS / Modbus RTU	▪ Uses all of the common bus systems ▪ Flexible use ▪ Reliable communication ▪ Can be simply plugged in ▪ Uninterruptible, due to the optional 24V power supply

Selection and ordering information



Rated data				Order Number				Frame size	Dimensions		
P_{LO} [1] kW	P_{LO} [1] Hp	$I_{LO\ out}$ [1] A	$I_{HO\ out}$ [2] A						B	H	T [3]
3-phase supply voltage 380–480V											
0.55	0.75	1.7	1.3	6SL3210-1KE11-8				FSA	73 mm 2.87 in.	196 mm 7.72 in.	203 mm (PROFINET, EtherNet/IP: + 8.87 in.)
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							
5.5	7.5	12.5	8.8	6SL3210-1KE21-3				FSB	100 mm 3.94 in.		
7.5	10.0	16.5	12.5	6SL3210-1KE21-7							
11	15.0	25.0	16.5	6SL3210-1KE22-6				FSC	140 mm 5.51 in.	295 mm 11.61 in.	
15	20.0	31.0	25.0	6SL3210-1KE23-2							
18.5	25.0	37.0	31.0	6SL3210-1KE23-8							
EMC filter											
Integrated EMC Class A/C2 filter [4]					A						
Unfiltered version					U						
Integrated communication interface											
RS485 with USS / Modbus RTU						B	1				
SUB-D with PROFIBUS DP						P	1				
SUB-D with CANopen						C	1				
PROFINET, EtherNet/IP						F	1				

[1] LO = Low Overload
[2] HO = High Overload
[3] Frame size FSA- FSC with PROFINET, EtherNet/IP depth: additional, 22.4mm
[4] For detailed information on maintaining interference classes, refer to the product documentation
[5] The continuous output current is not reduced when using the overload capability

Technical data	
Voltage / frequency	3-phase 380–480V –20% +10% with 50 / 60 Hz +/–5%
Power range	0.55–18.5kW / 0.75–25hp
Overload power	For I_{HO_out}: 2.0 x I_{HO_out} for 3s and then 1.5 x I_{HO_out} for 57s in a 300s cycle For I_{LO_out}: 1.5 x I_{LO_out} for 3s and then 1.1 x I_{LO_out} for 57s in a 300s cycle
Degree of protection	IP20 / UL open type
Ambient temperature	-10 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	50m shielded / 100m unshielded
Signal inputs / outputs	6 DI / 2 DO / 1 AI / 1 AO
Safety technology	SIL 2 acc. EN 61508, PL d acc. EN ISO 13849, class 3 acc. EN 60204, Safe Torque Off (STO)
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		
FSA	0.55–1.5kW	6SL3201-0BE14-3AA0
FSA	2.2–4kW	6SL3201-0BE21-0AA0
FSB	5.5–7.5kW	6SL3201-0BE21-8AA0
FSC	11–18.5kW	6SL3201-0BE23-8AA0
Input reactor		
FSA	0.55–1.1kW	6SL3203-0CE13-2AA0
FSA	1.5–4kW	6SL3203-0CE21-0AA0
FSB	5.5–7.5kW	6SL3203-0CE21-8AA0
FSC	11–18.5kW	6SL3203-0CE23-8AA0
Operator panels		
BOP-2	Basic Operator Panel	6SL3255-0AA00-4CA1
IOP	Intelligent Operator Panel	6SL3255-0AA00-4JA1
Output reactor		
FSA	0.55–2.2kW	6SL3202-0AE16-1CA0
FSA	3–4kW	6SL3202-0AE18-8CA0
FSB	5.5–7.5kW	6SL3202-0AE21-8CA0
FSC	11–18.5kW	6SL3202-0AE23-8CA0
SINAMICS G120C demo case		
G120C PN FSA with motor and panels		6AG1067-2AA00-0AA0

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