SIEMENS

SINAMICS G120C

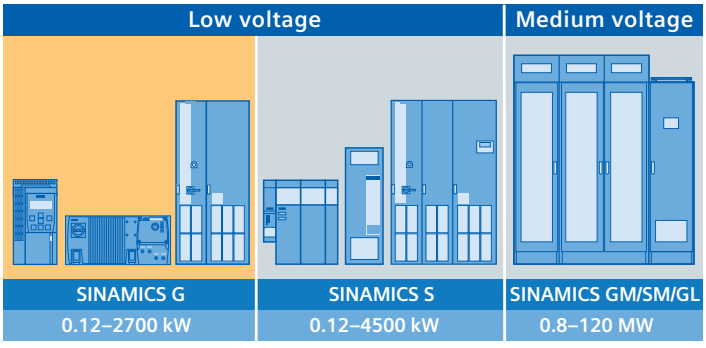
Small but packed with functions

siemens.com/sinamics-g120c

The compact inverter for an uncountable number of 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.



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 sizes, SINAMICS G120C covers a power range from 0.55 kW up to 18.5 kW. To increase the energy efficiency, the inverter is equipped with vector control to optimize energy usage and comes with automatic flux reduction. The drive unit is an integral part of Totally Integrated Automation and has the PROFIBUS, Modbus RTU, CAN as well as USS communication interfaces.
Operator control/commissioning is realized quickly and simply with the PC via USB or via the BOP-2 (Basic Operator Panel) or IOP (Intelligent Operator Panel).

Part of SINAMICS

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.

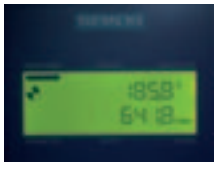
SINAMICS offers a whole raft of advantages:

- 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

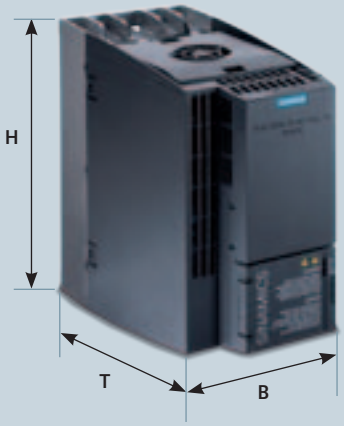
Highlights at a glance

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:
• DP, CAN, USS, Modbus RTU
• Integral component of Totally Integrated Automation

SINAMICS G120C – advantages

	G120C features	Your benefits
Small format		
	• Side-by-side mounting without derating • High power density, low envelope dimensions • Simple installation in the smallest space	• Low space requirement • Can be used in small control cabinets, close to the machine
Operator friendliness		
	• 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 know-how • High degree of service friendliness
Installation and maintenance		
	• 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"	• Fast mechanical installation • Intuitive series commissioning • Integration in the automation environment • Simple maintenance
Leading technological functions		
	• Energy-efficient, encoderless vector control • Automatic flux reduction with V/f ECO • Integrated energy calculator • Safety Integrated (STO) • Integrated communication interfaces (DP, CAN, USS, Modbus RTU)	• High control quality • Energy-efficient motor control • Energy-saving can be measured • Integrated safety functions without supplementary costs • Can be connected to all of the usual bus systems
Ruggedness		
	• Materials that can handle high loads are used • Coated modules • Operation up to an ambient temperature of 60 °C	• Can be used without any problems in harsh, industrial environments • High durability

Selection and ordering data



Rated data				Order Number				Frame size	Dimensions		
P_n kW	P_n 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			0	FS A	73	195	200
0.75	1.0	2.2	1.7	6SL3210-1KE12-3			0				
1.1	1.5	3.1	2.2	6SL3210-1KE13-2			0				
1.5	2.0	4.1	3.1	6SL3210-1KE14-3			0				
2.2	3.0	5.6	4.1	6SL3210-1KE15-8			0				
3	4.0	7.3	5.6	6SL3210-1KE17-5			0				
4	5.0	8.8	7.3	6SL3210-1KE18-8			0				
5.5	7.5	12.5	8.8	6SL3210-1KE21-3			0	FS B	100		
7.5	10.0	16.5	12.5	6SL3210-1KE21-7			0				
11	15.0	25.0	16.5	6SL3210-1KE22-6			0	FS C	140	295	
15	20.0	31.0	25.0	6SL3210-1KE23-2			0				
18.5	24.0	37.0	31.0	6SL3210-1KE23-8			0				

EMC filter	
Integrated EMC Class A/C2 filter	A
Unfiltered version	U
Integrated communication interface	
RS485 with USS, Modbus RTU	B
SUB-D with PROFIBUS-DP	P
SUB-D with CANopen	C

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_{HO_out}: 2.0 x I_{HO_out} for 3 s and then 1.5 x I_{HO_out} for 57 s in a 300 s cycle For I_{LO_out}: 1.5 x I_{LO_out} for 3 s and then 1.1 x I_{LO_out} for 57 s in a 300 s cycle
Degree of protection	IP20/UL open type
Ambient temperature	0° to 40 °C without derating/up to 60 °C with derating
EMV	Acc. IEC 61800-3, class 2 (FS A, B) resp. class 3 (FS C) 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
BOP-2	Basic Operator Panel	6SL3255-0AA00-4CA1
IOP	Intelligent Operator Panel	6SL3255-0AA00-4JA0

Contact person:

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