

# **Data sheet for SINAMICS G120C**

Article No.: 6SL3210-1KE22-6AF1

Client order no. : Order no.: Offer no. : Remarks:





Rated data		
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 %	o -20 %
Line frequency	47 63 Hz	
Rated current (LO)	33.00 A	
Rated current (HO)	24.10 A	
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC 1)
Rated power (LO)	11.00 kW	15.00 hp
Rated power (HO)	7.50 kW	10.00 hp
Rated current (LO)	25.00 A	
Rated current (HO)	16.50 A	
Rated current (IN)	26.00 A	
Max. output current	33.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 240 Hz	
Output frequency for V/f control	0 550 Hz	

## Overload capability

Low Overload (LO)

150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time

High Overload (HO)

Communication

200% base load current IH for 3 s, followed by 150% base load current IH for 57 s in a 300 s cycle time

General tech. specifications		
Power factor λ	0.70 0.85	
Offset factor $\cos\phi$	0.95	
Efficiency η	0.97	
Sound pressure level (1m)	66 dB	
Power loss	298.0 W	
Filter class (integrated)	Class A	
Communication		

PROFINET	EtherNet/IP

Inputs / outputs		
Standard digital inputs		
Number	6	
Switching level: 0→1	11 V	
Switching level: 1→0	5 V	
Max. inrush current	15 mA	
Fail-safe digital inputs		
Number	1	
Digital outputs		
Number as relay changeover contact	1	
Output (resistive load)	DC 30 V, 0.5 A	
Number as transistor	1	
Output (resistive load)	DC 30 V, 0.5 A	
Analog / digital inputs		
Number	1 (Differential input)	
Resolution	10 bit	
Switching threshold as digital input		
0→1	4 V	
1→0	1.6 V	
Analog outputs		
Number	1 (Non-isolated output)	

PTC/ KTY interface

1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy  $\pm 5\,^{\circ}\text{C}$ 

Closed-loop control techniques	
V/f linear / square-law / parameterizable	Yes
V/f with flux current control (FCC)	Yes
V/f ECO linear / square-law	Yes
Sensorless vector control	Yes
Vector control, with sensor	No
Encoderless torque control	No
Torque control, with encoder	No



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Am	bient conditions	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.018 m³/s (0.636 ft³/s)	
Installation altitude	1,000 m (3,280.84 ft)	
Ambient temperature		
Operation	-10 40 °C (14 104 °F)	
Transport	-40 70 °C (-40 158 °F)	
Storage	-40 70 °C (-40 158 °F)	
Relative humidity		
Max. operation	$95\%$ At $40^{\circ}\text{C}$ (104 $^{\circ}\text{F}), condensation and icing not permissible$	
Connections		
Signal cable		

3	Signal Cable		
	Conductor cross-section	0.15 1.50 mm <sup>2</sup> (AWG 24 AWG 16)	

Line	side

Version	Plug-in screw terminals
Conductor cross-section	6.00 16.00 mm <sup>2</sup> (AWG 10 AWG 6)

#### Motor end

Version	Plug-in screw terminals
Conductor cross-section	6.00 16.00 mm <sup>2</sup> (AWG 10 AWG 6)

# DC link (for braking resistor)

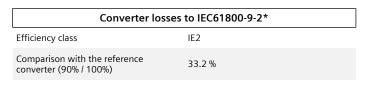
Version	Plug-in screw terminals
Conductor cross-section	6.00 16.00 mm <sup>2</sup> (AWG 10 AWG 6)
Line length, max.	15 m (49.21 ft)
PE connection	On housing with M4 screw

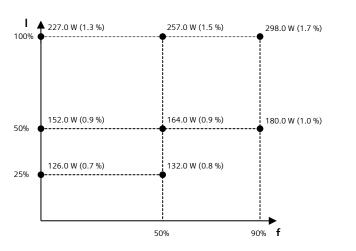
### Max. motor cable length

Shielded	50 m (164.04 ft)
Unshielded	100 m (328.08 ft)

Mechanical data		
Degree of protection	IP20 / UL open type	
Frame size	FSC	
Net weight	4.40 kg (9.70 lb)	
Dimensions		
Width	140 mm (5.51 in)	
Height	295 mm (11.61 in)	
Depth	208 mm (8.19 in)	

Standards	
Compliance with standards	UL, cUL, CE, C-Tick (RCM)
CE marking	EMC Directive 2004/108/EC, Low- Voltage Directive 2006/95/EC





The percentage values show the losses in relation to the rated apparent power of the converter.

The diagram shows the losses for the points (as per standard IEC61800-9-2) of the relative torque generating current (I) over the relative motor stator frequency (f). The values are valid for the basic version of the converter without options/components.

<sup>\*</sup>calculated values

 $<sup>^{1)}</sup>$ The output current and HP ratings are valid for the voltage range 440V-480V