

## **Data sheet for SINAMICS G120C**

Article No.: 6SL3210-1KE15-8UF2

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





Figure similar

Rated data		
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 %	% -20 <b>%</b>
Line frequency	47 63 Hz	
Rated current (LO)	7.40 A	
Rated current (HO)	6.00 A	
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC 1)
Rated power (LO)	2.20 kW	3.00 hp
Rated power (HO)	1.50 kW	2.00 hp
Rated current (LO)	5.60 A	
Rated current (HO)	4.10 A	
Rated current (IN)	5.80 A	
Max. output current	8.20 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 240 Hz	
Output frequency for V/f control	0 550 Hz	

Overload	capability
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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 $\lambda$	0.70 0.85	
Offset factor $\cos\phi$	0.95	
Efficiency η	0.97	
Sound pressure level (1m)	49 dB	
Power loss	73.4 W	
Filter class (integrated)	Unfiltered	
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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Ambient conditions		
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.005 m <sup>3</sup> /s (0.177 ft <sup>3</sup> /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 °C (104 °F), condensation and icing not permissible	
Connections		
Signal cable		

Conductor cross-section 0.15 ... 1.50 mm² (AWG 24 ... AWG 16)

#### Line side

Version	Plug-in screw terminals
Conductor cross-section	1.00 2.50 mm² (AWG 18 AWG 14)

#### Motor end

Version	Plug-in screw terminals
Conductor cross-section	1.00 2.50 mm <sup>2</sup> (AWG 18 AWG 14)

## DC link (for braking resistor)

Version	Plug-in screw terminals
Conductor cross-section	1.00 2.50 mm <sup>2</sup> (AWG 18 AWG 14)
Line length, max.	15 m (49.21 ft)
PE connection	On housing with M4 screw

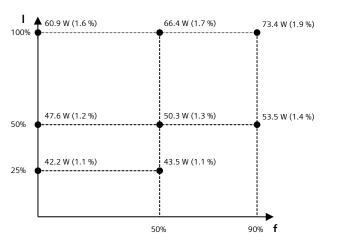
### Max. motor cable length

Shielded	150 m (492.13 ft)
Unshielded	150 m (492.13 ft)

Mechanical data		
Degree of protection	IP20 / UL open type	
Frame size	FSAA	
Net weight	1.40 kg (3.09 lb)	
Dimensions		
Width	73 mm (2.87 in)	
Height	173 mm (6.81 in)	
Depth	178 mm (7.01 in)	
5. 1.1		

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

Converter losses to IEC61800-9-2*	
Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	28.2 %



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