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Data sheet for SINAMICS G120C

Article No. : **6SL3210-1KE21-3UB1**



Figure similar

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

Item no. :
Consignment no. :
Project :

Rated data

Input		
Number of phases	3 AC	
Line voltage	380 ... 480 V +10 % -20 %	
Line frequency	47 ... 63 Hz	
Rated current (LO)	16.50 A	
Rated current (HO)	12.80 A	
Output		
Number of phases	3 AC	
Rated voltage	**400V IEC**	**480V NEC** [1]
Rated power (LO)	5.50 kW	7.50 hp
Rated power (HO)	4.00 kW	5.00 hp
Rated current (LO)	12.50 A	
Rated current (HO)	8.80 A	
Rated current (IN)	13.00 A	
Max. output current	17.60 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)		
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 φ	0.95
Efficiency η	0.97
Sound pressure level (1m)	63 dB
Power loss	169.0 W
Filter class (integrated)	Unfiltered

Communication

Communication	USS/MODBUS RTU

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 ±5 °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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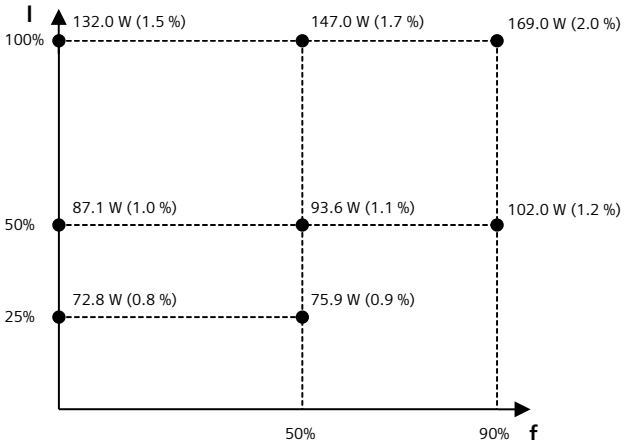
Ambient conditions	
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.009 m³/s (0.318 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
Operation	-10 ... 40 °C (14 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-25 ... 55 °C (-13 ... 131 °F)
Relative 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	4.00 ... 6.00 mm² (AWG 12 ... AWG 10)
Motor end	
Version	Plug-in screw terminals
Conductor cross-section	4.00 ... 6.00 mm² (AWG 12 ... AWG 10)
DC link (for braking resistor)	
Version	Plug-in screw terminals
Conductor cross-section	4.00 ... 6.00 mm² (AWG 12 ... AWG 10)
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	FSB
Net weight	2.30 kg (5.07 lb)
Dimensions	
Width	100 mm (3.94 in)
Height	196 mm (7.72 in)
Depth	203 mm (7.99 in)

Standards	
Compliance with standards	CE, cUL, UL, KC, EAC, 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%)	33.4 %



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.

*calculated values

[1)]The output current and HP ratings are valid for the voltage range 440V-480V