SIEMENS

Data sheet for SINAMICS G120C

Article No. : 6SL3210-1KE24-4AF1

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)	41.00 A	
Rated current (HO)	39.00 A	

Output

Number of phases	3 AC	
Rated voltage	**400V IEC**	**480V NEC [1)]**
Rated power (LO)	22.00 kW	25.00 hp
Rated power (HO)	18.50 kW	20.00 hp
Rated current (LO)	43.00 A	
Rated current (HO)	37.00 A	
Rated current (IN)	43.00 A	
Max. output current	74.00 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)

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	0.90 ... 0.95
Offset factor cos φ	0.99
Efficiency η	0.98
Sound pressure level (1m)	72 dB
Power loss	699.0 W
Filter class (integrated)	Class A

Communication

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 ±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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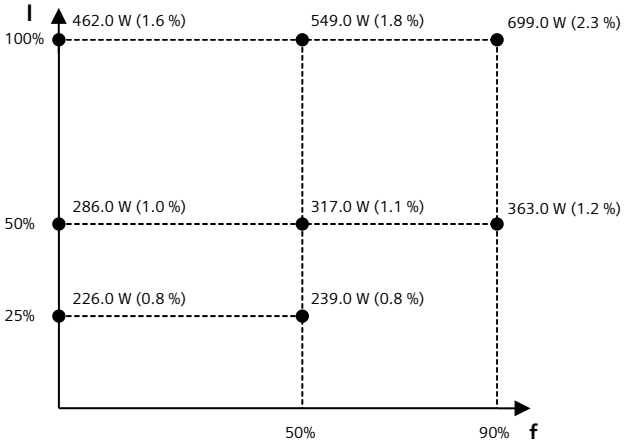
Ambient conditions	
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.055 m³/s (1.942 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
Operation	-20 ... 40 °C (-4 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-25 ... 55 °C (-13 ... 131 °F)
Relative humidity	
Max. operation	95 % RH, condensation not permitted

Connections	
Signal cable	
Conductor cross-section	0.15 ... 1.50 mm² (AWG 24 ... AWG 16)
Line side	
Version	screw-type terminal
Conductor cross-section	10.00 ... 35.00 mm² (AWG 8 ... AWG 2)
Motor end	
Version	Screw-type terminals
Conductor cross-section	10.00 ... 35.00 mm² (AWG 8 ... AWG 2)
DC link (for braking resistor)	
Version	Screw-type terminals
Conductor cross-section	10.00 ... 35.00 mm² (AWG 8 ... AWG 2)
Line length, max.	10 m (32.81 ft)
PE connection	Screw-type terminals
Max. motor cable length	
Shielded	200 m (656.17 ft)
Unshielded	300 m (984.25 ft)

Mechanical data	
Degree of protection	IP20 / UL open type
Frame size	FSD
Net weight	18.80 kg (41.45 lb)
Dimensions	
Width	200 mm (7.87 in)
Height	472 mm (18.58 in)
Depth	237 mm (9.33 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%)	48.2 %



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.

*calculated values

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