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Data sheet for SINAMICS G120C

MLFB-Ordering data

6SL3210-1KE31-1UF1

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)	96.00 A
Rated current (HO)	85.00 A

Output

Number of phases	3 AC
Rated voltage	400 V
Rated power IEC 400V (LO)	55.00 kW
Rated power NEC 480V (LO)	60.00 hp
Rated power IEC 400V (HO)	45.00 kW
Rated power NEC 480V (HO)	50.00 hp
Rated current (LO)	103.00 A
Rated current (HO)	83.00 A
Rated current (IN)	103.00 A
Max. output current	165.00 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)	71 dB
Power loss	1.54 kW
Filter class (integrated)	Unfiltered

Ambient conditions

Cooling	Air cooling using an integrated fan
Cooling air requirement	0.083 m³/s (2.931 ft³/s)
Installation altitude	1000 m (3280.84 ft)

Ambient temperature

Operation	-20 ... 40 °C (-4 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-40 ... 70 °C (-40 ... 158 °F)

Relative humidity

Max. operation	95 % RH, condensation not permitted

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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Mechanical data

Degree of protection	IP20 / UL open type
Size	FSE
Net weight	26.50 kg (58.42 lb)
Width	275 mm (10.83 in)
Height	551 mm (21.69 in)
Depth	237 mm (9.33 in)

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

Communication

Communication	PROFINET, EtherNet/IP

Connections

Signal cable

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

Line side

Version	screw-type terminal
Conductor cross-section	25.00 ... 70.00 mm² (AWG 4 ... AWG -1)

Motor end

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm² (AWG 4 ... AWG -1)

DC link (for braking resistor)

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm² (AWG 4 ... AWG -1)
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)

Standards

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

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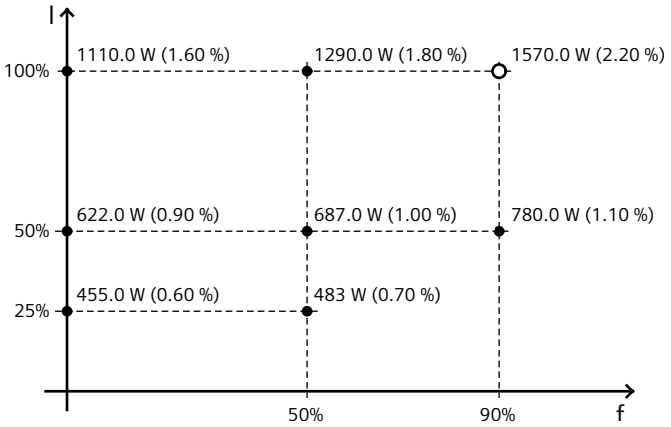
Converter losses to IEC61800-9-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	47.00 %



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.

*converted values