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Data sheet for SINAMICS G120C

MLFB-Ordering data

6SL3210-1KE23-8AF1

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)	48.20 A
Rated current (HO)	45.20 A

Output

Number of phases	3 AC
Rated voltage	400 V
Rated power IEC 400V (LO)	18.50 kW
Rated power NEC 480V (LO)	25.00 hp
Rated power IEC 400V (HO)	15.00 kW
Rated power NEC 480V (HO)	20.00 hp
Rated current (IN)	38.00 A
Rated current (LO)	37.00 A
Rated current (HO)	31.00 A
Max. output current	62.00 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	0.70 ... 0.85
Offset factor cos φ	0.95
Efficiency η	0.97
Sound pressure level (1m)	66 dB
Power loss	0.50 kW
Filter class (integrated)	Class A

Ambient conditions

Cooling	Air cooling using an integrated fan
Cooling air requirement	0.018 m³/s (0.636 ft³/s)
Installation altitude	1000 m (3280.84 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

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	FSC
Net weight	4.40 kg (9.70 lb)
Width	140 mm (5.51 in)
Height	295 mm (11.61 in)
Depth	208 mm (8.19 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	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)

Motor end

Version	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)

DC link (for braking resistor)

Version	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (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	150 m (492.13 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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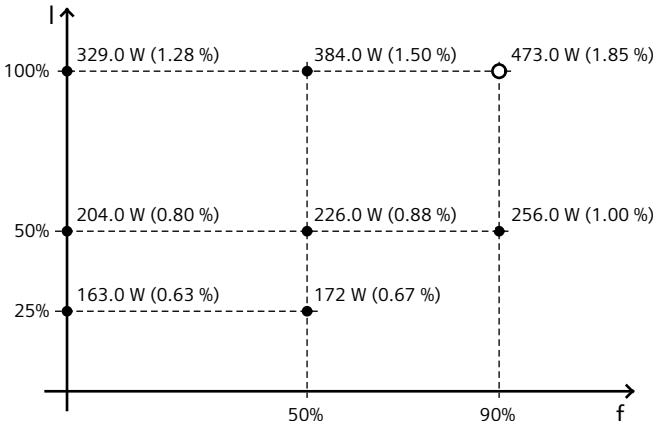
Converter losses to EN 50598-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-63.37 %



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 EN 50598) 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