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Error:
No CAD-Data available for this configuration.

Data sheet for SINAMICS G120XA

Article No. : 6SL3220-3YD44-0UB0

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

Item no. :
Consignment no. :
Project :

Figure similar

Rated data

Input

Number of phases	3 AC
Line voltage	380 ... 440 V +10 % -20 %
Line frequency	47 ... 63 Hz
Rated current (LO)	164.00 A

Output

Number of phases	3 AC
Rated voltage	400 V
Rated power IEC 400V (LO)	90.00 kW
Rated current 400V (IN)	164.00 A
Rated current 380V (IN)	174.00 A
Rated current (LO)	164.00 A
Max. output current	181.00 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)
110% base load current IL for 60 s in a 600 s cycle time
Max. output current
Max. output current for 60 s in a 600 s cycle time

General tech. specifications

Power factor λ	0.75 ... 0.93
Power factor cos φ 1	0.99
Efficiency η	0.98
Sound pressure level (1m)	73.1 dB
Power loss [3]	2.160 kW
Filter class (integrated)	Unfiltered
EMC category (with accessories)	without
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7-1500F)

Communication

Communication	USS, Modbus RTU, BACnet MS/TP

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	0

Digital outputs

Number as relay changeover contact	4
Output (resistive load)	DC 30 V, 1.0 A
Number as transistor	0

Analog / digital inputs

Number	2 (Differential input)
Resolution	12 bit

Switching threshold as digital input

0 → 1	4 V
1 → 0	1.6 V

Analog outputs

Number	2 (Non-isolated output)

PTC/ KTY interface

1 motor temperature sensor input, sensors that can be connected: PTC, KTY, PT1000 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	Yes
Torque control, with encoder	No

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Ambient conditions

Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.153 m³/s (5.403 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
Operation	-20 ... 60 °C (-4 ... 140 °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	M10 screw
Conductor cross-section	35.00 ... 2 x 120.00 mm² (AWG 1 ... AWG 2 x 4/0)
Motor end	
Version	M10 screw
Conductor cross-section	35.00 ... 2 x 120.00 mm² (AWG 1 ... AWG 2 x 4/0)
DC link (for braking resistor)	
PE connection	M10 screw
Max. motor cable length	
Shielded	300 m (984.25 ft)
Unshielded	450 m (1,476.38 ft)

Mechanical data

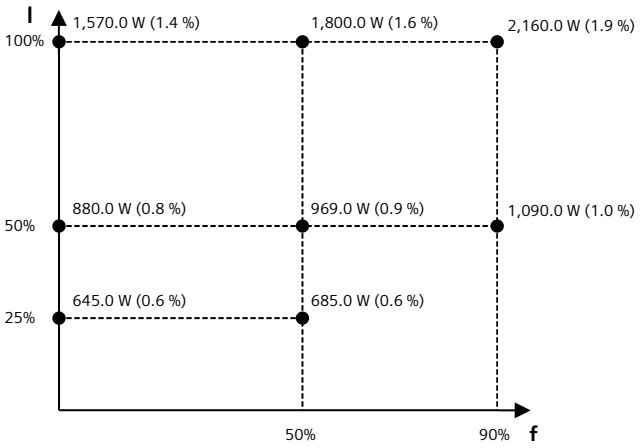
Degree of protection	IP20 / UL open type
Frame size	FSF
Net weight	60.3 kg (132.94 lb)
Dimensions	
Width	305 mm (12.01 in)
Height	709 mm (27.91 in)
Depth	360 mm (14.17 in)

Standards

Compliance with standards	CE, EAC, RCM, RoHS II
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%)	46.2 %



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

[3] Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.

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Operator panel: Intelligent Operator Panel (IOP-2)

Screen

Display design	LCD color
Screen resolution	320 x 240 Pixel

Mechanical data

Degree of protection	IP55 / UL type 12
Net weight	0.134 kg (0.30 lb)
Dimensions	
Width	70.00 mm (2.76 in)
Height	106.85 mm (4.21 in)
Depth	19.65 mm (0.77 in)

Ambient conditions

Ambient temperature	
Operation	0 ... 50 °C (32 ... 122 °F) 55 °C only with door installation kit
Storage	-40 ... 70 °C (-40 ... 158 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Relative humidity at 25°C during	
Max. operation	95 %

Approvals

Certificate of suitability	CE, cULus, EAC, KCC, RCM