

Article No. : 6SL3220-3YD20-0CB0

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)	8.50 A

Output	
Number of phases	3 AC
Rated voltage	400 V
Rated power IEC 400V (LO)	4.00 kW
Rated current 400V (IN)	8.80 A
Rated current 380V (IN)	9.30 A
Rated current (LO)	8.80 A
Max. output current	9.70 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	0.97
Sound pressure level (1m)	63 dB
Power loss ³⁾	0.122 kW
Filter class (integrated)	RFI suppression filter for Category C3
EMC category (with accessories)	Category C3
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7-1500F)

Communication

Communication	USS, Modbus RTU, BACnet MS/TP
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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

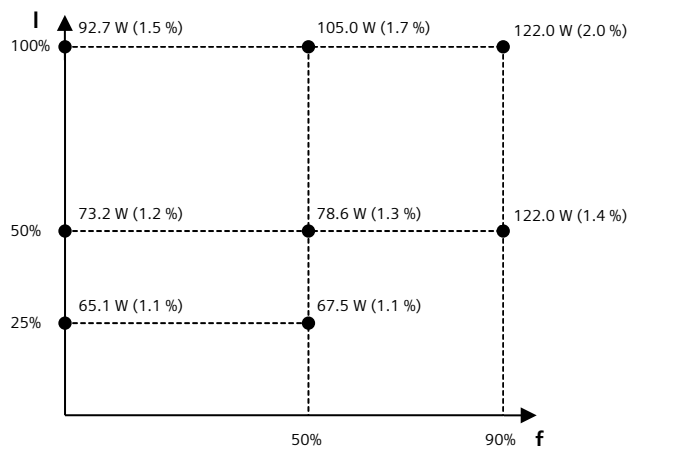
Data sheet for SINAMICS G120XA

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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	0.005 m³/s (0.177 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	screw-type terminal
Conductor cross-section	1.50 ... 6.00 mm² (AWG 16 ... AWG 10)
Motor end	
Version	Screw-type terminals
Conductor cross-section	1.50 ... 6.00 mm² (AWG 16 ... AWG 10)
DC link (for braking resistor)	
PE connection	On housing with M4 screw
Max. motor cable length	
Shielded	50 m (164.04 ft)

Mechanical data	
Degree of protection	IP20 / UL open type
Frame size	FSB
Net weight	6 kg (13.23 lb)
Dimensions	
Width	100 mm (3.94 in)
Height	275 mm (10.83 in)
Depth	209 mm (8.23 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%)	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

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