

SIEMENS

Data sheet for SINAMICS G120X



Figure similar

MLFB-Ordering data

6SL3220-3YE42-0AP0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data			General tech. specifications	
Input			Power factor λ	0.90 ... 0.95
Number of phases	3 AC		Offset factor $\cos \varphi$	0.99
Line voltage	380 ... 480 V +10 % -20 %		Efficiency η	0.98
Line frequency	47 ... 63 Hz		Sound pressure level (1m)	72 dB
Rated voltage	400V IEC	480V NEC	Power loss	1.230 kW
Rated current (LO)	140.00 A	120.00 A	Filter class (integrated)	RFI suppression filter for Category C2
Rated current (HO)	117.00 A	102.00 A	EMC category (with accessories)	Category C2
Output			Ambient conditions	
Number of phases	3 AC		Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Rated voltage	400V IEC	480V NEC	Cooling	Air cooling using an integrated fan
Rated power (LO)	75.00 kW	100.00 hp	Cooling air requirement	0.153 m³/s (5.403 ft³/s)
Rated power (HO)	55.00 kW	75.00 hp	Installation altitude	1000 m (3280.84 ft)
Rated current (LO)	145.00 A	124.00 A	Ambient temperature	
Rated current (HO)	110.00 A	96.00 A	Operation	-20 ... 45 °C (-4 ... 113 °F)
Rated current (IN)	149.00 A		Transport	-40 ... 70 °C (-40 ... 158 °F)
Max. output current	196.00 A		Storage	-25 ... 55 °C (-13 ... 131 °F)
Pulse frequency	4 kHz		Relative humidity	
Output frequency for vector control	0 ... 200 Hz		Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible
Output frequency for V/f control	0 ... 550 Hz			

Overload capability

Low Overload (LO)

110% base load current IL for 60 s in a 300 s cycle time

High Overload (HO)

150% x base load current IH for 60 s within a 600 s cycle time



Figure similar

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Mechanical data

Degree of protection	IP20 / UL open type
Size	FSF
Net weight	68 kg (149.91 lb)
Width	305 mm (12.01 in)
Height	709 mm (27.91 in)
Depth	369 mm (14.53 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
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Digital outputs

Number as relay changeover contact	2
Output (resistive load)	DC 30 V, 5.0 A
Number as transistor	0

Analog / digital inputs

Number	2 (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)
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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	Yes
Torque control, with encoder	No

Communication

Communication	PROFIBUS DP
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Connections

Signal cable

Conductor cross-section	0.15 ... 1.50 mm ² (AWG 24 ... AWG 16)
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Line side

Version	M10 screw
Conductor cross-section	35.00 ... 120.00 mm ² (AWG 1 ... AWG 4/0)

Motor end

Version	M10 screw
Conductor cross-section	35.00 ... 120.00 mm ² (AWG 1 ... AWG 4/0)

DC link (for braking resistor)

PE connection	M10 screw
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Max. motor cable length

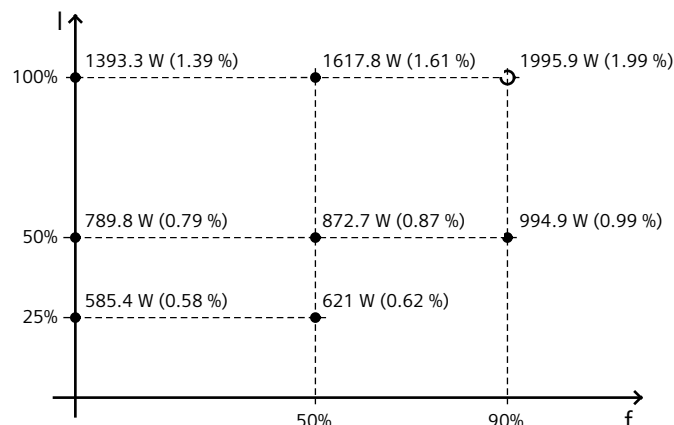
Shielded	150 m (492.13 ft)
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Figure similar

Converter losses to EN 50598-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-42.60 %



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

Standards

Compliance with standards	UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH
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CE marking

EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC

Operator panel: Intelligent Operator Panel (IOP-2)

Screen

Display design	LCD colors
Screen resolution	320 x 240 Pixel

Ambient conditions

Ambient temperature during

Operation	0 ... 50 °C (32 ... 122 °F)
	55 °C only with door mounting kit

Storage	-40 ... 70 °C (-40 ... 158 °F)
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Transport	-40 ... 70 °C (-40 ... 158 °F)
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Mechanical data

Degree of protection	IP55 / UL type 12
Net weight	0.13 kg (0.30 lb)
Width	70.0 mm (2.76 in)
Height	106.85 mm (4.21 in)
Depth	19.65 mm (0.77 in)

Relative humidity at 25°C during

Max. operation	95 %
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Approvals

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