

SIEMENS

Data sheet for SINAMICS G120X



Figure similar

MLFB-Ordering data

6SL3220-1YH42-0UP0

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	500 ... 690 V +10 % -20 %		Efficiency η	0.98
Line frequency	47 ... 63 Hz		Sound pressure level (1m)	72 dB
Rated voltage	690V IEC	600V NEC	Power loss	1.380 kW
Rated current (LO)	78.00 A	78.00 A	Filter class (integrated)	Unfiltered
Rated current (HO)	66.40 A	66.40 A	EMC category (with accessories)	without
Output			Ambient conditions	
Number of phases	3 AC		Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Rated voltage	690V IEC	600V NEC	Cooling	Air cooling using an integrated fan
Rated power (LO)	75.00 kW	75.00 hp	Cooling air requirement	0.153 m³/s (5.403 ft³/s)
Rated power (HO)	55.00 kW	60.00 hp	Installation altitude	1000 m (3280.84 ft)
Rated current (LO)	80.00 A	80.00 A	Ambient temperature	
Rated current (HO)	62.00 A	62.00 A	Operation	-20 ... 45 °C (-4 ... 113 °F)
Rated current (IN)	82.00 A		Transport	-40 ... 70 °C (-40 ... 158 °F)
Max. output current	108.00 A		Storage	-25 ... 55 °C (-13 ... 131 °F)
Pulse frequency	2 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



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Mechanical data

Degree of protection	IP20 / UL open type
Size	FSF
Net weight	61 kg (134.48 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	300 m (984.25 ft)
Unshielded	450 m (1476.38 ft)

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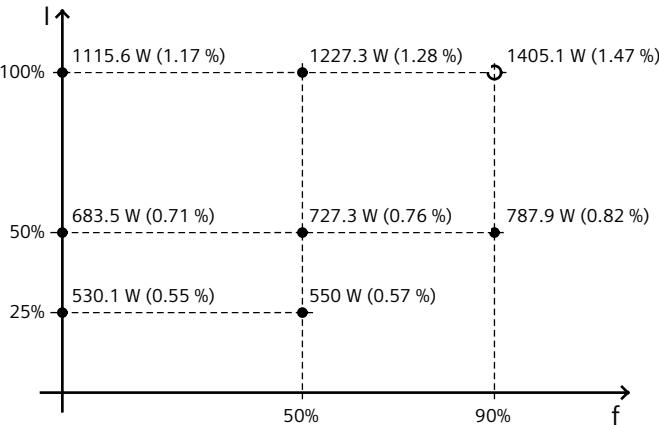
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Converter losses to EN 50598-2*		Standards	
Efficiency class	IE2	Compliance with standards	UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH
Comparison with the reference converter (90% / 100%)	-31.50 %		



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

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