

SIEMENS

Data sheet for SINAMICS G120X



Figure similar

MLFB-Ordering data

6SL3220-2YH38-1UF0

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)	70 dB
Rated voltage	690V IEC	600V NEC	Power loss	1.080 kW
Rated current (LO)	50.00 A	50.00 A	Filter class (integrated)	Unfiltered
Rated current (HO)	44.40 A	44.40 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)	45.00 kW	50.00 hp	Cooling air requirement	0.083 m³/s (2.931 ft³/s)
Rated power (HO)	37.00 kW	40.00 hp	Installation altitude	1000 m (3280.84 ft)
Rated current (LO)	52.00 A	52.00 A	Ambient temperature	
Rated current (HO)	42.00 A	42.00 A	Operation	-20 ... 45 °C (-4 ... 113 °F)
Rated current (IN)	54.00 A		Transport	-40 ... 70 °C (-40 ... 158 °F)
Max. output current	71.00 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



Figure similar

MLFB-Ordering data

6SL3220-2YH38-1UF0

Mechanical data

Degree of protection	IP20 / UL open type
Size	FSE
Net weight	27 kg (58.86 lb)
Width	275 mm (10.83 in)
Height	551 mm (21.69 in)
Depth	248 mm (9.76 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	PROFINET, EtherNet/IP
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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	screw-type terminal
Conductor cross-section	25.00 ... 70.00 mm ² (AWG 6 ... AWG 3/0)

Motor end

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm ² (AWG 6 ... AWG 3/0)

DC link (for braking resistor)

PE connection	Screw-type terminals
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Max. motor cable length

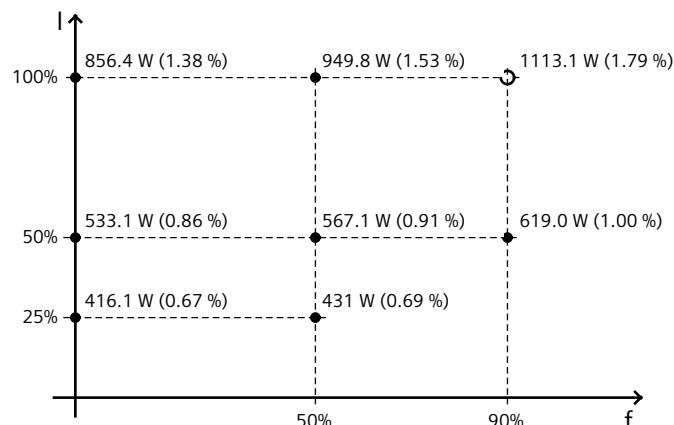
Shielded	300 m (984.25 ft)
Unshielded	450 m (1476.38 ft)



Figure similar

Converter losses to EN 50598-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-37.80 %



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: Basic Operator Panel (BOP-2)

Screen

Display design	LCD, monochrome
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Ambient conditions

Ambient temperature during

Operation	0 ... 50 °C (32 ... 122 °F)
Storage	-40 ... 70 °C (-40 ... 158 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)

Mechanical data

Degree of protection	IP55 / UL type 12
Net weight	0.14 kg (0.31 lb)
Width	70.0 mm (2.76 in)
Height	106.85 mm (4.21 in)
Depth	19.60 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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I/O Extension Module

Technical specifications for the I/O Extension Modul are available via direct input (MLFB 6SL3255-0BE00-0AA0).