

# SIEMENS

## Data sheet for SINAMICS G120X



Figure similar

### MLFB-Ordering data

6SL3220-3YE22-0AF0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data			General tech. specifications	
Input			Power factor λ0.70 ... 0.85	
Number of phases	3 AC		Offset factor cos φ0.96	
Line voltage	380 ... 480 V +10 % -20 %		Efficiency η0.98	
Line frequency	47 ... 63 Hz		Sound pressure level (1m)63 dB	
Rated voltage	400V IEC	480V NEC	Power loss0.181 kW	
Rated current (LO)	12.00 A	12.00 A	Filter class (integrated)RFI suppression filter for Category C2	
Rated current (HO)	9.27 A	9.75 A		
Output			Ambient conditions	
Number of phases	3 AC		CoolingAir cooling using an integrated fan	
Rated voltage	400V IEC	480V NEC	Cooling air requirement0.009 m³/s (0.325 ft³/s)	
Rated power (LO)	5.50 kW	7.50 hp	Installation altitude1000 m (3280.84 ft)	
Rated power (HO)	4.00 kW	5.00 hp	Ambient temperature	
Rated current (LO)	13.20 A	11.00 A	Operation-20 ... 45 °C (-4 ... 113 °F)	
Rated current (HO)	10.20 A	7.60 A	Transport-40 ... 70 °C (-40 ... 158 °F)	
Rated current (IN)	13.60 A		Storage-25 ... 55 °C (-13 ... 131 °F)	
Max. output current	18.00 A		Relative humidity	
Pulse frequency	4 kHz		Max. operation95 % At 40 °C (104 °F), condensation and icing not permissible	
Output frequency for vector control	0 ... 200 Hz			
Output frequency for V/f control	0 ... 550 Hz		Closed-loop control techniques	
Overload capability			V/f linear / square-law / parameterizableYes	
Low Overload (LO)	110% base load current IL for 60 s in a 300 s cycle time		V/f with flux current control (FCC)Yes	
High Overload (HO)	150% x base load current IH for 60 s within a 600 s cycle time		V/f ECO linear / square-lawYes	
			Sensorless vector controlYes	
			Vector control, with sensorNo	
			Encoderless torque controlYes	
			Torque control, with encoderNo	



Figure similar

### Mechanical data

Degree of protection	IP20 / UL open type
Size	FSB
Net weight	6 kg (13.58 lb)
Width	100 mm (3.94 in)
Height	275 mm (10.83 in)
Depth	209 mm (8.23 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
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### Communication

Communication	PROFINET / EtherNet/IP
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### Connections

#### Signal cable

Conductor cross-section	0.15 ... 1.50 mm² (AWG 24 ... AWG 16)
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#### Line side

Version	screw-type terminal
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)

#### Motor end

Version	Screw-type terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)

#### DC link (for braking resistor)

PE connection	On housing with M4 screw
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#### Max. motor cable length

Shielded	200 m (656.17 ft)
Unshielded	300 m (984.25 ft)

### 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
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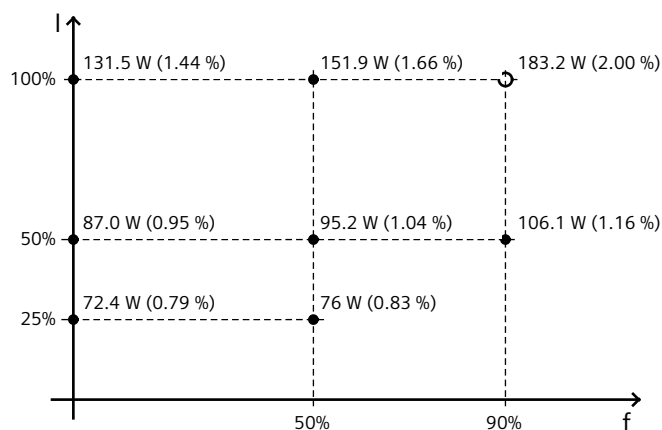


Figure similar

### Converter losses to EN 50598-2\*

Efficiency class IE2

Comparison with the reference converter (90% / 100%) -34.30 %



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

### 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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