

# SIEMENS

## Data sheet for SINAMICS G120X



Figure similar

### MLFB-Ordering data

6SL3220-2YH64-1CF0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data			General tech. specifications	
<b>Input</b>			<b>Power factor <math>\lambda</math></b>	0.75 ... 0.93
Number of phases	3 AC		<b>Offset factor <math>\cos \varphi</math></b>	0.96
Line voltage	500 ... 690 V +10 % -10 %		<b>Efficiency <math>\eta</math></b>	0.98
Line frequency	47 ... 63 Hz		<b>Sound pressure level (1m)</b>	74 dB
Rated voltage	690V IEC	600V NEC	<b>Power loss</b>	8.134 kW
Rated current (LO)	596.00 A	591.00 A	<b>Filter class (integrated)</b>	RFI suppression filter for Category C3
Rated current (HO)	461.00 A	501.00 A		
<b>Output</b>			<b>EMC category (with accessories)</b>	Category C3
Number of phases	3 AC		<b>Ambient conditions</b>	
Rated voltage	690V IEC	600V NEC	<b>Standard board coating type</b>	Class 3C2, according to IEC 60721-3-3: 2002
Rated power (LO)	500.00 kW	500.00 hp	<b>Cooling</b>	Air cooling using an integrated fan
Rated power (HO)	450.00 kW	500.00 hp	<b>Cooling air requirement</b>	0.450 m <sup>3</sup> /s (15.892 ft <sup>3</sup> /s)
Rated current (LO)	520.00 A	546.00 A	<b>Installation altitude</b>	1000 m (3280.84 ft)
Rated current (HO)	470.00 A	482.00 A	<b>Ambient temperature</b>	
Rated current (IN)	581.00 A		<b>Operation</b>	0 ... 45 °C (32 ... 113 °F)
Max. output current	768.00 A		<b>Transport</b>	-40 ... 70 °C (-40 ... 158 °F)
Pulse frequency	2 kHz		<b>Storage</b>	-25 ... 55 °C (-13 ... 131 °F)
Output frequency for vector control	0 ... 100 Hz		<b>Relative humidity</b>	
Output frequency for V/f control	0 ... 100 Hz		<b>Max. operation</b>	95 % At 40 °C (104 °F), condensation and icing not permissible

### 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

### Mechanical data

Degree of protection	IP20 / UL open type
Size	FSJ
Net weight	236 kg (520.29 lb)
Width	801 mm (31.54 in)
Height	1621 mm (63.82 in)
Depth	393 mm (15.47 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 <sup>2</sup> (AWG 24 ... AWG 16)
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#### Line side

Version	M12 screw
Conductor cross-section	240.00 mm <sup>2</sup> (MCM 4 x 500 ... MCM 6 x 500)

#### Motor end

Version	M12 screw
Conductor cross-section	240.00 mm <sup>2</sup> (MCM 4 x 500 ... MCM 8 x 500)

#### DC link (for braking resistor)

PE connection	M12 screw
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#### Max. motor cable length

Shielded	150 m (492.13 ft)
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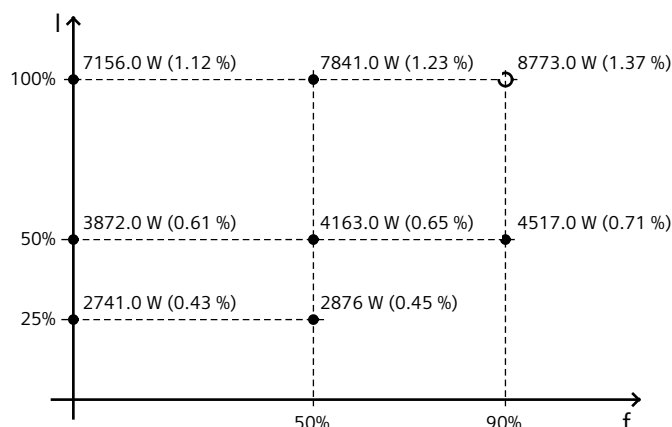
Figure similar

### MLFB-Ordering data

6SL3220-2YH64-1CF0

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

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-33.90 %



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

#### 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

#### 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)

##### Relative humidity at 25°C during

**Max. operation** 95 %

#### 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)

#### Approvals

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

### I/O Extension Module

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