

Article No. : 6SL3210-1KE31-1UF1



Figure similar

Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
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### Rated data

#### Input

Number of phases	3 AC
Line voltage	380 ... 480 V +10 % -20 %
Line frequency	47 ... 63 Hz
Rated current (LO)	96.00 A
Rated current (HO)	85.00 A

#### Output

Number of phases	3 AC
<b>Rated voltage</b>	<b>400V IEC</b> <b>480V NEC<sup>1)</sup></b>
Rated power (LO)	55.00 kW      60.00 hp
Rated power (HO)	45.00 kW      50.00 hp
Rated current (LO)	103.00 A
Rated current (HO)	83.00 A
Rated current (IN)	103.00 A
Max. output current	165.00 A
Pulse frequency	4 kHz
Output frequency for vector control	0 ... 240 Hz
Output frequency for V/f control	0 ... 550 Hz

#### Overload capability

Low Overload (LO)
150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time
High Overload (HO)
200% base load current IH for 3 s, followed by 150% base load current IH for 57 s in a 300 s cycle time

### General tech. specifications

Power factor $\lambda$	0.90 ... 0.95
Offset factor $\cos \varphi$	0.99
Efficiency $\eta$	0.98
Sound pressure level (1m)	71 dB
Power loss	1,570.0 W
Filter class (integrated)	Unfiltered

### Communication

Communication	PROFINET, EtherNet/IP
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### 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	1
Output (resistive load)	DC 30 V, 0.5 A
Number as transistor	1
Output (resistive load)	DC 30 V, 0.5 A

#### Analog / digital inputs

Number	1 (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  $\pm 5$  °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	No
Torque control, with encoder	No

## Data sheet for SINAMICS G120C

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### Ambient conditions

Cooling	Air cooling using an integrated fan
Cooling air requirement	0.083 m <sup>3</sup> /s (2.931 ft <sup>3</sup> /s)
Installation altitude	1,000 m (3,280.84 ft)

### Ambient temperature

Operation	-20 ... 40 °C (-4 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-40 ... 70 °C (-40 ... 158 °F)

### Relative humidity

Max. operation	95 % RH, condensation not permitted
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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	screw-type terminal
Conductor cross-section	25.00 ... 70.00 mm <sup>2</sup> (AWG 4 ... AWG -1)

#### Motor end

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm <sup>2</sup> (AWG 4 ... AWG -1)

#### DC link (for braking resistor)

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm <sup>2</sup> (AWG 4 ... AWG -1)
Line length, max.	10 m (32.81 ft)
PE connection	Screw-type terminals

#### Max. motor cable length

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

### Mechanical data

Degree of protection	IP20 / UL open type
Frame size	FSE
Net weight	26.50 kg (58.42 lb)

### Dimensions

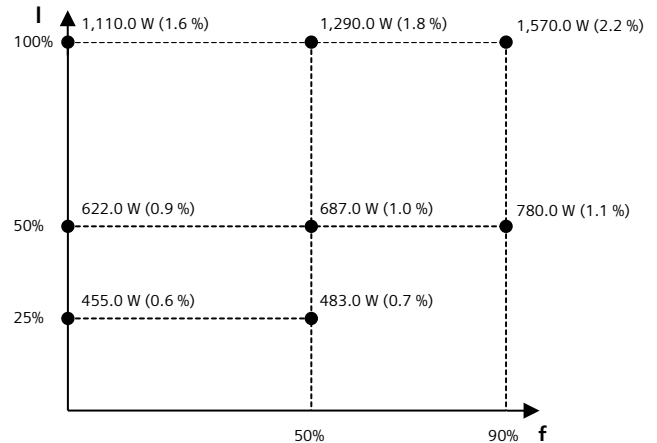
Width	275 mm (10.83 in)
Height	551 mm (21.69 in)
Depth	237 mm (9.33 in)

### Standards

Compliance with standards	UL, cUL, CE, C-Tick (RCM)
CE marking	EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC

### Converter losses to IEC61800-9-2\*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	47.0 %



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 IEC61800-9-2) 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.

\*calculated values

<sup>1)</sup>The output current and HP ratings are valid for the voltage range 440V-480V