

## Data sheet for SINAMICS G120X

Article No. : 6SL3230-3YH24-0AP0



Figure similar

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

Item no. :  
Consignment no. :  
Project :

Rated data		
Input		
Number of phases	3 AC	
Line voltage	500 ... 690 V +10 % -20 %	
Line frequency	47 ... 63 Hz	
Rated voltage	690V IEC	600V NEC
Rated current (LO)	11.00 A	11.00 A
Rated current (HO)	9.90 A	9.90 A
Output		
Number of phases	3 AC	
Rated voltage	690V IEC	600V NEC
Rated power (LO)	7.50 kW	10.00 hp
Rated power (HO)	5.50 kW	7.50 hp
Rated current (LO)	11.00 A	11.00 A
Rated current (HO)	9.00 A	9.00 A
Rated current (IN)	12.00 A	
Max. output current	15.00 A	
Pulse frequency	2 kHz	
Output frequency for vector control	0 ... 200 Hz	
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	

General tech. specifications	
Power factor λ	0.90 ... 0.95
Offset factor cos φ	0.99
Efficiency η	0.98
Sound pressure level (1m)	70 dB
Power loss	0.350 kW
Filter class (integrated)	RFI suppression filter for Category C2
EMC category (with accessories)	Category C2

Ambient conditions	
Standard board coating type	Class 3C3, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.055 m³/s (1.942 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
Operation	-20 ... 45 °C (-4 ... 113 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-25 ... 55 °C (-13 ... 131 °F)
Relative humidity	
Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible
Mechanical data	
Degree of protection	IP20 / UL open type
Size	FSD
Net weight	18.3 kg (40.34 lb)
Width	200 mm (7.87 in)
Height	472 mm (18.58 in)
Depth	248 mm (9.76 in)

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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	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 $\pm 5$ °C
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### 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 <sup>2</sup> (AWG 24 ... AWG 16)
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#### Line side

Version	screw-type terminal
Conductor cross-section	10.00 ... 35.00 mm <sup>2</sup> (AWG 8 ... AWG 2)

#### Motor end

Version	Screw-type terminals
Conductor cross-section	10.00 ... 35.00 mm <sup>2</sup> (AWG 8 ... AWG 2)

#### DC link (for braking resistor)

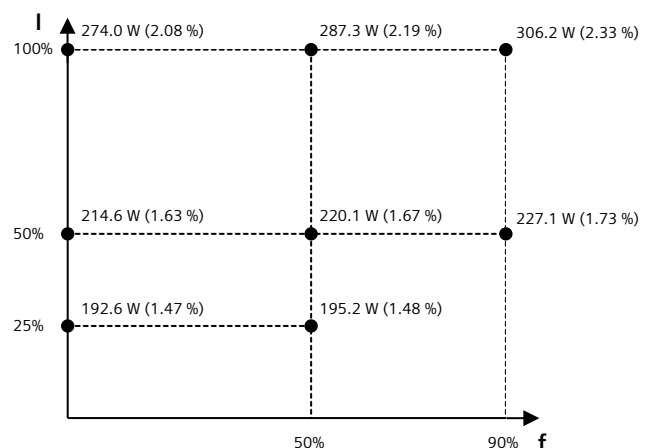
PE connection	Screw-type terminals
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#### Max. motor cable length

Shielded	100 m (328.08 ft)
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### Converter losses to EN 50598-2\*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-42.9 %



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

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Operator panel: Intelligent Operator Panel (IOP-2)	
Screen	Ambient conditions
Display design	LCD colors
Screen resolution	320 x 240 Pixel
Mechanical data	
Degree of protection	IP55 / UL type 12
Net weight	0.13 kg (0.30 lb)
Width	70.00 mm (2.76 in)
Height	106.85 mm (4.21 in)
Depth	19.65 mm (0.77 in)
Ambient temperature	
Operation	0 ... 50 °C (32 ... 122 °F) 55 °C only with door mounting kit
Storage	-40 ... 70 °C (-40 ... 158 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Relative humidity at 25°C during	
Max. operation	95 %
Approvals	
Certificate of suitability	CE, cULus, EAC, KCC, RCM