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Data sheet for SINAMICS G120X

Figure similar

Article No. : 6SL3220-2YE44-0UF0

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

Item no. :

Consignment no. :
Project :

Rated data

Input

Number of phases	3 AC	
Line voltage	380 ... 480 V +10 % -20 %	
Line frequency	47 ... 63 Hz	
Rated voltage	**400V IEC**	**480V NEC**
Rated current (LO)	172.00 A	151.00 A
Rated current (HO)	154.00 A	132.00 A

Output

Number of phases	3 AC	
Rated voltage	**400V IEC**	**480V NEC[1)]**
Rated power (LO)	90.00 kW	125.00 hp
Rated power (HO)	75.00 kW	100.00 hp
Rated current (LO)	178.00 A	156.00 A
Rated current (HO)	145.00 A	124.00 A
Rated current (IN)	183.00 A	
Max. output current	241.00 A	
Pulse frequency	4 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	0.97
Sound pressure level (1m)	72 dB
Power loss[3)]	2.610 kW
Filter class (integrated)	Unfiltered
EMC category (with accessories)	without

Ambient conditions

Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.153 m³/s (5.403 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	FSF
Net weight	61 kg (134.48 lb)
Dimensions	
Width	305 mm (12.01 in)
Height	709 mm (27.91 in)
Depth	369 mm (14.53 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

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)

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

Connections

Signal cable

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

Line side

Version	M10 screw
Conductor cross-section	35.00 ... 2 x 120.00 mm² (AWG 1 ... AWG 2 x 4/0)

Motor end

Version	M10 screw
Conductor cross-section	35.00 ... 2 x 120.00 mm² (AWG 1 ... AWG 2 x 4/0)

DC link (for braking resistor)

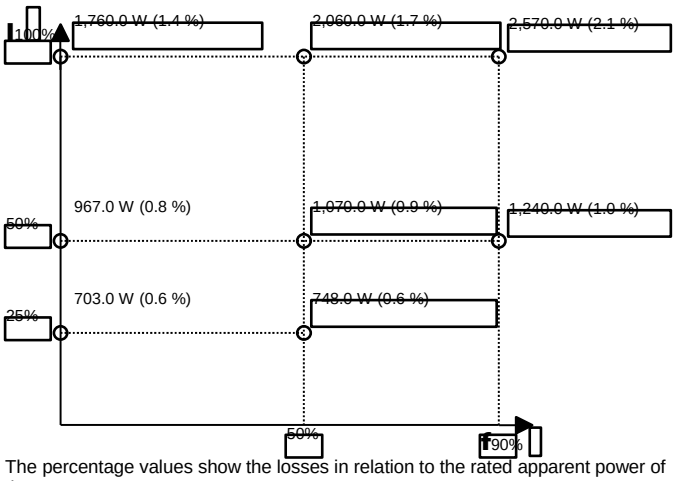
PE connection	M10 screw

Max. motor cable length

Shielded	300 m (984.25 ft)
Unshielded	450 m (1,476.38 ft)

Converter losses to IEC61800-9-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	50.6 %



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.

*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

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

3) Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.

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Article No. : **6SL3220-2YE44-0UF0**

Operator panel: Basic Operator Panel (BOP-2)

Screen

Display design	LCD, monochrome

Mechanical data

Degree of protection	IP55 / UL type 12
Net weight	0.140 kg (0.31 lb)
Dimensions	
Width	70.00 mm (2.76 in)
Height	106.85 mm (4.21 in)
Depth	19.60 mm (0.77 in)

Ambient conditions

Ambient temperature	
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 %

Approvals

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