SIEMENS

Data sheet for SINAMICS G120C

Article No. :

6SL3210-1KE31-4UF1



Figure similar

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

Rate	ed data	
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 9	% -20 %
Line frequency	47 63 Hz	
Rated current (LO)	134.00 A	
Rated current (HO)	112.00 A	
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC ¹⁾
Rated power (LO)	75.00 kW	75.00 hp
Rated power (HO)	55.00 kW	60.00 hp
Rated current (LO)	136.00 A	
Rated current (HO)	103.00 A	
Rated current (IN)	136.00 A	
Max. output current	206.00 A	
Pulse frequency	2 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 λ	0.90 0.95
Offset factor $\cos \phi$	0.99
Efficiency η	0.99
Sound pressure level (1m)	68 dB
Power loss	1,520.0 W
Filter class (integrated)	Unfiltered
Commu	unication

Communication

PROFINET, EtherNet/IP

ltem no. : Consignment no. : Project :

Inputs /	outputs
Standard digital inputs	
Number	6
Switching level: $0 \rightarrow 1$	11 V
Switching level: $1 \rightarrow 0$	5 V
Max. inrush current	15 mA
Fail-safe digital inputs	
Number	1
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)
PTC/ KTY interface	
1 motor temperature sensor input, ser Thermo-Click, accuracy $\pm 5~^\circ\text{C}$	isors that can be connected PTC, KTY and
Closed-loop cor	ntrol techniques
V/f linear / square-law / parameterizable	Yes
V/f with flux current control (FCC)	Yes
V/f ECO linear / square-law	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

SIEMENS

Data sheet for SINAMICS G120C

Article No. :

6SL3210-1KE31-4UF1

CoolingAir cooling using an integrated fanCooling air requirement0.153 m³/s (5.403 ft³/s)Installation altitude1,000 m (3,280.84 ft)Ambient temperatureOperation-20 40 °C (4 104 °F)Transport-40 70 °C (-40 158 °F)Storage-25 55 °C (13 131 °F)Relative humidityMax. operation95 % RH, condensation not permittedConductor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Line sideVersionscrew-type terminalConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Motor endVersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)VersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)VersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)Uine length, max.10 m (32.81 ft)Pic connectionShielded300 m (984.25 ft)UnshieldedHeightNet weight57.50 kg (126.77 lb)DimensionsVidth305 mm (12.01 in)HeightConductor (28.77 lb)
Installation altitude1,000 m (3,280.84 ft)Ambient temperatureOperation-20 40 °C (-4 104 °F)Transport-40 70 °C (-40 158 °F)Storage-25 55 °C (-13 131 °F)Relative humidityMax. operationMax. operation95 % RH, condensation not permittedConductor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Line side
Ambient temperatureOperation-20 40 °C (-4 104 °F)Transport-40 70 °C (-40 158 °F)Storage-25 55 °C (-13 131 °F)Relative humidityMax. operationMax. operation95 % RH, condensation not permittedConductor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Line sideVersionVersionscrew-type terminalConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Motor endVersionVersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)VersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)VersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Uine length, max.10 m (32.81 ft)PE connectionScrew-type terminalsMax. motor cable length300 m (984.25 ft)Unshielded300 m (1,476.38 ft)Pegree of protectionIP20 / UL open typeFrame sizeFSFNet weight57.50 kg (126.77 lb)PiremesionsVultWidth305 mm (12.01 in)Height708 mm (27.87 in)
Operation-20 40 °C (-4 104 °F)Transport-40 70 °C (-40 158 °F)Storage-25 55 °C (-13 131 °F)Relative humidityMax. operation95 % RH, condensation not permittedConductor cross-section0.15 1.50 mm²Conductor cross-section0.15 1.50 mm²Conductor cross-section0.15 1.50 mm²Conductor cross-section0.15 1.50 mm²Conductor cross-section0.15 1.20 0mm²Conductor cross-section35.00 120.00 mm²Conductor cross-sectionSiston 120.00 mm²Conductor cross-sectionSist
Transport -40 70 °C (-40 158 °F) Storage -25 55 °C (-13 131 °F) Relative humidity Max. operation 95 % RH, condensation not permitted Convertions Sorage (-13 1.30 mm² (AWG 24 AWG 16) Conductor cross-section 0,15 1.50 mm² (AWG 24 AWG 16) Version screw-type terminal Version screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE PE connection Screw-type terminals Screw-type terminals Shielded 300 m (984.25 ft) Unshielded Unshielded 10 m (1,476.38 ft) PE Verege of protectio
Storage-25 55 °C (-13 131 °F)R-Lative humidityMax. operation95 % RH, condensation not permittedGardactor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Signal cableConductor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Lire sideVersionscrew-type terminalVersionscrew-type terminalConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Detre endScrew-type terminalsVersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)VersionVersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Line length, max.10 m (32.81 ft)PE connectionScrew-type terminalsMax. motor cable length300 m (984.25 ft)Unshielded300 m (14.76.38 ft)Degree of protectionP20 / UL open typeFirm sizeFSFNet weight57.50 kg (126.77 lb)Wieth305 mm (12.01 in)Height305 mm (27.87 in)
Relative humidity Max. operation 95 % RH, condensation not permitted Image: Conductor cross-section 0.15 1.50 mm² (AWG 24 AWG 16) Conductor cross-section 0.15 1.50 mm² (AWG 24 AWG 16) Line side (AWG 24 AWG 16) Version screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Motor end Version Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Ine length, max. 10 m (32.81 ft) PE connection Screw-type terminals Mitelded 300 m (984.25 ft) Unshielded 300 m (984.25 ft) Unshielded 10 m (1,476.38 ft) Pereo f protection FSF Itemesize FSF Itemesize
Max. operation 95 % RH, condensation not permitted Image: Connections Signal cable Conductor cross-section 0.15 1.50 mm² (AWG 24 AWG 16) Line side screw-type terminal Version screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Motor end Version Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Intel length, max. 10 m (32.81 ft) PE connection Screw-type terminals Mielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Versions Image: Screw-type terminals Frame size FSF Net weight 57.50 kg (126.77 lb) Dimensions Image: Screweige mensions
Connections Conductor cross-section 0.15 1.50 mm² Conductor cross-section 0.15 1.50 mm² Version Conductor cross-section Screw-type terminal Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² Conductor cross-section 35.00 120.00 mm² Conductor cross-section Screw-type terminals Conductor cross-section Screw-type terminals Conductor cross-section Screw-type terminals Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Method 300 m (984.25 ft) Unshielded 300 m (984.25 ft) Use of protection P20 / UL open type FSF Weight 57.50 kg (126.77 lb) E
Signal cable Signal cable Conductor cross-section 0.15 1.50 mm² (AWG 24 AWG 16) Live side Version screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Superior cable length Unopen type Perce of protection IP20 / UL open type Perce of protection FSF Net weight <
Conductor cross-section0.15 1.50 mm² (AWG 24 AWG 16)Lire sideVersionscrew-type terminalConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)VersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)VersionVersionScrew-type terminalsConductor cross-section35.00 120.00 mm² (AWG 2 AWG -3)Det link (for braking resistor)VersionScrew-type terminals35.00 120.00 mm² (AWG 2 AWG -3)Ine length, max.10 m (32.81 ft)PE connectionScrew-type terminalsShielded300 m (984.25 ft)Unshielded450 m (1,476.38 ft)Degree of protectionIP20 / UL open typeFrame sizeFSFNet weight57.50 kg (126.77 lb)DetremensionsYeightWidth305 mm (12.01 in)Height708 mm (27.87 in)
Conductor cross-section (AWG 24 AWG 16) Lire side screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Motor end Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Shielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Unshielded 450 m (1,476.38 ft) Pegree of protection IP20 / UL open type Firme size FSF versions 57.50 kg (126.77 lb) Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Version screw-type terminal Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Doubter cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Doubter cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (1,476.38 ft) Degree of protection IP20 / UL open type Frame size FSF veright 57.50 kg (126.77 lb) Dimensions Width Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Motor end Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) DU link (for braking resistor) Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (1,476.38 ft) Unshielded PE or (1,476.38 ft) Frame size FSF Net weight 57.50 kg (126.77 lb) Net weight 57.50 kg (126.77 lb) Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Conductor cross-section (AWG 2 AWG -3) Wersion Screw-type terminals Conductor cross-section $35.00 120.00 mm^2$ (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section $35.00 120.00 mm^2$ (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section $35.00 120.00 mm^2$ (AWG 2 AWG -3) Conductor cross-section $35.00 120.00 mm^2$ (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (984.25 ft) Unshielded 1920 / UL open type Frame size FSF versions FSF Weight 57.50 kg (126.77 lb) Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. Not rable length Versiol Screw-type terminals Version Soft m(1,476.38 ft) Version PSF Versions Screw-type terminals Versions Soft m(12.01 in) Versions Soft m(27.87 in)
Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (1,476.38 ft) Unshielded PE connection Peree of protection IP20 / UL open type Frame size FSF Iversions Strew-type terminals Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Conductor cross-section (AWG 2 AWG -3) Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Wax. motor cable length Screw-type terminals Main 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Verse of protection IP20 / UL open type Frame size FSF Verse versions State (126.77 lb) Weight 305 mm (12.01 in) Height 305 mm (27.87 in)
Version Screw-type terminals Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (1,476.38 ft) Unshielded IP20 / UL open type Frame size FSF Iversions 57.50 kg (126.77 lb) Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Conductor cross-section 35.00 120.00 mm² (AWG 2 AWG - 3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Max. motor cable length 300 m (984.25 ft) Unshielded 300 m (1,476.38 ft) Version of protection IP20 / UL open type Frame size FSF Version size 57.50 kg (126.77 lb) Version size 305 mm (12.01 in) Height 708 mm (27.87 in)
Conductor cross-section (AWG 2 AWG -3) Line length, max. 10 m (32.81 ft) PE connection Screw-type terminals Wax. motor cable length 300 m (984.25 ft) Unshielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Veree of protection IP20 / UL open type Frame size FSF Veree weight 57.50 kg (126.77 lb) Vertee weight 305 mm (12.01 in) Height 708 mm (27.87 in)
PE connection Screw-type terminals wax. motor cable length 300 m (984.25 ft) Shielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) begree of protection IP20 / UL open type Frame size FSF veight 57.50 kg (126.77 lb) begree of protection 305 mm (12.01 in) Height 708 mm (27.87 in)
Max. motor cable length Shielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Degree of protection IP20 / UL open type Frame size FSF Veriage to weight 57.50 kg (126.77 lb) Degree of protection 920 / UL open type Image to weight 57.50 kg (126.77 lb) Image to weight 305 mm (12.01 in) Height 708 mm (27.87 in)
Shielded 300 m (984.25 ft) Unshielded 450 m (1,476.38 ft) Unshielded 450 m (1,476.38 ft) Mechanical data Image: I
Unshielded 450 m (1,476.38 ft)
Mechanical data Degree of protection IP20 / UL open type Frame size FSF Net weight 57.50 kg (126.77 lb) Dimensions 305 mm (12.01 in) Height 708 mm (27.87 in)
Degree of protection IP20 / UL open type Frame size FSF Net weight 57.50 kg (126.77 lb) Dimensions 305 mm (12.01 in) Height 708 mm (27.87 in)
Frame size FSF Net weight 57.50 kg (126.77 lb) Dimensions 305 mm (12.01 in) Height 708 mm (27.87 in)
Net weight 57.50 kg (126.77 lb) Dimensions 305 mm (12.01 in) Height 708 mm (27.87 in)
Dimensions Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Width 305 mm (12.01 in) Height 708 mm (27.87 in)
Height 708 mm (27.87 in)
5
Depth 357 mm (14.06 in)
Standards
Compliance with standards CE, cUL, UL, KC, EAC, C-Tick (RCM)
CE marking EMC Directive 2004/108/EC, Low- Voltage Directive 2006/95/EC



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

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