

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



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       | 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         |                        |
| Rated voltage                       | 400V IEC     | 480V NEC <sup>1)</sup> |
| 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 λ               | 0.90 ... 0.95 |
| Offset factor cos φ          | 0.99          |
| Efficiency η                 | 0.98          |
| Sound pressure level (1m)    | 71 dB         |
| Power loss                   | 1,570.0 W     |
| Filter class (integrated)    | Unfiltered    |

|               |                       |
|---------------|-----------------------|
| Communication |                       |
| Communication | PROFINET, EtherNet/IP |

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 | 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, 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                | 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 m³/s (2.931 ft³/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

### Connections

#### Signal cable

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

#### Line side

Version screw-type terminal

Conductor cross-section 25.00 ... 70.00 mm²  
(AWG 4 ... AWG -1)

#### Motor end

Version Screw-type terminals

Conductor cross-section 25.00 ... 70.00 mm²  
(AWG 4 ... AWG -1)

#### DC link (for braking resistor)

Version Screw-type terminals

Conductor cross-section 25.00 ... 70.00 mm²  
(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

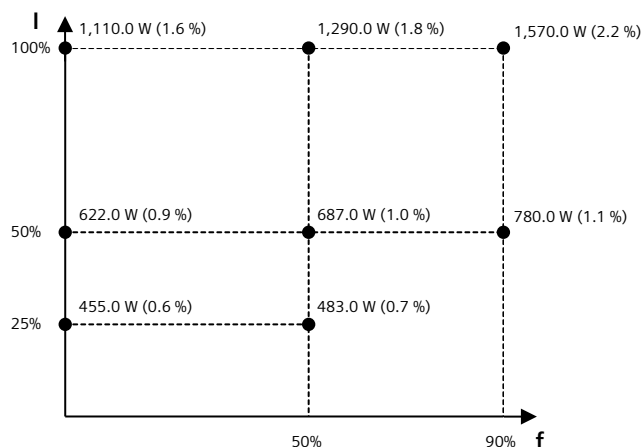
Compliance with standards UL, cUL, CE, C-Tick (RCM)

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.

\*converted values

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