

# SIEMENS

## Data sheet for SINAMICS G120C



Figure similar

### MLFB-Ordering data

6SL3210-1KE21-7AP1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Rated data                          |   | General tech. specifications                     |  |
|-------------------------------------|---|--|--|
| <b>Input</b>                        |   | <b>Power factor <math>\lambda</math></b>         | 0.70 ... 0.85  |
| Number of phases                    | 3 AC  | <b>Offset factor <math>\cos \varphi</math></b>   | 0.95   |
| Line voltage                        | 380 ... 480 V +10 % -20 %   | <b>Efficiency <math>\eta</math></b>              | 0.97   |
| Line frequency                      | 47 ... 63 Hz  | <b>Sound pressure level (1m)</b>                 | 63 dB  |
| Rated current (LO)                  | 21.50 A   | <b>Power loss</b>                                | 0.24 kW  |
| Rated current (HO)                  | 18.20 A   | <b>Ambient conditions</b>                        |  |
| <b>Output</b>                       |   | <b>Cooling</b>                                   | Air cooling using an integrated fan                            |
| Number of phases                    | 3 AC  | <b>Cooling air requirement</b>                   | 0.009 m <sup>3</sup> /s (0.318 ft <sup>3</sup> /s)             |
| Rated voltage                       | 400 V   | <b>Installation altitude</b>                     | 1000 m (3280.84 ft)  |
| Rated power IEC 400V (LO)           | 7.50 kW   | <b>Ambient temperature</b>                       |  |
| Rated power NEC 480V (LO)           | 10.00 hp  | <b>Operation</b>                                 | -10 ... 40 °C (14 ... 104 °F)                                  |
| Rated power IEC 400V (HO)           | 5.50 kW   | <b>Transport</b>                                 | -40 ... 70 °C (-40 ... 158 °F)                                 |
| Rated power NEC 480V (HO)           | 7.50 hp   | <b>Storage</b>                                   | -40 ... 70 °C (-40 ... 158 °F)                                 |
| Rated current (IN)                  | 17.00 A   | <b>Relative humidity</b>                         |  |
| Rated current (LO)                  | 16.50 A   | <b>Max. operation</b>                            | 95 % At 40 °C (104 °F), condensation and icing not permissible |
| Rated current (HO)                  | 12.50 A   | <b>Closed-loop control techniques</b>            |  |
| Max. output current                 | 25.00 A   | <b>V/f linear / square-law / parameterizable</b> | Yes  |
| Pulse frequency                     | 4.000 kHz   | <b>V/f with flux current control (FCC)</b>       | Yes  |
| Output frequency for vector control | 0 ... 240 Hz  | <b>V/f ECO linear / square-law</b>               | Yes  |
| Output frequency for V/f control    | 0 ... 550 Hz  | <b>Sensorless vector control</b>                 | Yes  |
| <b>Overload capability</b>          |   | <b>Vector control, with sensor</b>               | No   |
| <b>Low Overload (LO)</b>            | 150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time |  |  |
| <b>High Overload (HO)</b>           | 200 % base load current IH for 3 s, followed by 150 % base load current IH for 57 s in a 300 s cycle time |  |  |
|                                     |   | <b>Encoderless torque control</b>                | No   |
|                                     |   | <b>Torque control, with encoder</b>              | No   |
| <b>Communication</b>                |   |  |  |
| <b>Communication</b>                |   | PROFIBUS DP                                      |  |



Figure similar

| Mechanical data  |                         | Connections   |   |
|--|-------------------------|---|---|
| Degree of protection   | IP20 / UL open type     | Signal cable  |   |
| Size   | FSB                     | Conductor cross-section                                     | 0.15 ... 1.50 mm <sup>2</sup> (AWG 24 ... AWG 16) |
| Net weight   | 2.30 kg (5.07 lb)       | Line side   |   |
| Width  | 100 mm (3.94 in)        | Version   | Plug-in screw terminals                           |
| Height   | 196 mm (7.72 in)        | Conductor cross-section                                     | 4.00 ... 6.00 mm <sup>2</sup> (AWG 12 ... AWG 10) |
| Depth  | 203 mm (7.99 in)        | Motor end   |   |
| Inputs / outputs   |                         | Version   | Plug-in screw terminals                           |
| Standard digital inputs  |                         | Conductor cross-section                                     | 4.00 ... 6.00 mm <sup>2</sup> (AWG 12 ... AWG 10) |
| Number   | 6                       | DC link (for braking resistor)                              |   |
| Switching level: 0→1   | 11 V                    | Version   | Plug-in screw terminals                           |
| Switching level: 1→0   | 5 V                     | Conductor cross-section                                     | 4.00 ... 6.00 mm <sup>2</sup> (AWG 12 ... AWG 10) |
| Max. inrush current  | 15 mA                   | Line length, max.   | 15 m (49.21 ft)                                   |
| Fail-safe digital inputs   |                         | PE connection   | On housing with M4 screw                          |
| Number   | 1                       | Max. motor cable length                                     |   |
| Digital outputs  |                         | Shielded  | 150 m (492.13 ft)                                 |
| Number as relay changeover contact   | 1                       | Unshielded  | 150 m (492.13 ft)                                 |
| Output (resistive load)  | DC 30 V, 0.5 A          | Standards   |   |
| Number as transistor   | 1                       | Compliance with standards                                   | UL, cUL, CE, C-Tick (RCM)                         |
| Output (resistive load)  | DC 30 V, 0.5 A          | CE marking  |   |
| Analog / digital inputs  |                         | EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC |   |
| 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 |                         |   |   |

MLFB-Ordering data

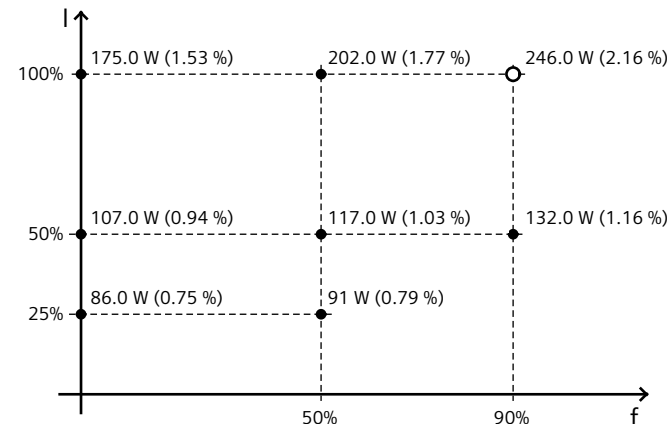
6SL3210-1KE21-7AP1



Figure similar

Converter losses to EN 50598-2\*

|  |          |
|--|----------|
| Efficiency class                                     | IE2      |
| Comparison with the reference converter (90% / 100%) | -63.01 % |



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