

Article No. : 6SL3220-3YH64-0CF0

Client order no. :  
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Project :

Figure similar



Rated data

|                    |                           |          |
|--------------------|---------------------------|----------|
| Input              |                           |          |
| Number of phases   | 3 AC                      |          |
| Line voltage       | 500 ... 690 V +10 % -10 % |          |
| Line frequency     | 47 ... 63 Hz              |          |
| Rated voltage      | 690V IEC                  | 600V NEC |
| Rated current (LO) | 540.00 A                  | 591.00 A |
| Rated current (HO) | 461.00 A                  | 501.00 A |

|                                     |              |                        |
|-------------------------------------|--------------|------------------------|
| Output                              |              |                        |
| Number of phases                    | 3 AC         |                        |
| Rated voltage                       | 690V IEC     | 600V NEC <sup>1)</sup> |
| Rated power (LO)                    | 500.00 kW    | 500.00 hp              |
| Rated power (HO)                    | 450.00 kW    | 450.00 hp              |
| Rated current (LO)                  | 520.00 A     | 546.00 A               |
| Rated current (HO)                  | 444.00 A     | 482.00 A               |
| Rated current (IN)                  | 581.00 A     |                        |
| Max. output current                 | 768.00 A     |                        |
| Pulse frequency                     | 2 kHz        |                        |
| Output frequency for vector control | 0 ... 100 Hz |                        |
| Output frequency for V/f control    | 0 ... 100 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 300 s cycle time |

|                                   |                                           |
|-----------------------------------|-------------------------------------------|
| General tech. specifications      |                                           |
| Power factor λ                    | 0.75 ... 0.93                             |
| Offset factor cos φ               | 0.96                                      |
| Efficiency η                      | 0.98                                      |
| Sound pressure level (1m)         | 74 dB                                     |
| Power loss <sup>3)</sup>          | 9.180 kW                                  |
| Filter class (integrated)         | RFI suppression filter for Category C3    |
| EMC category (with accessories)   | Category C3                               |
| Safety function "Safe Torque Off" | without SIRIUS device (e.g. via S7-1500F) |

|               |                       |
|---------------|-----------------------|
| 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 | 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                | No  |
| Torque control, with encoder              | No  |

Data sheet for SINAMICS G120X

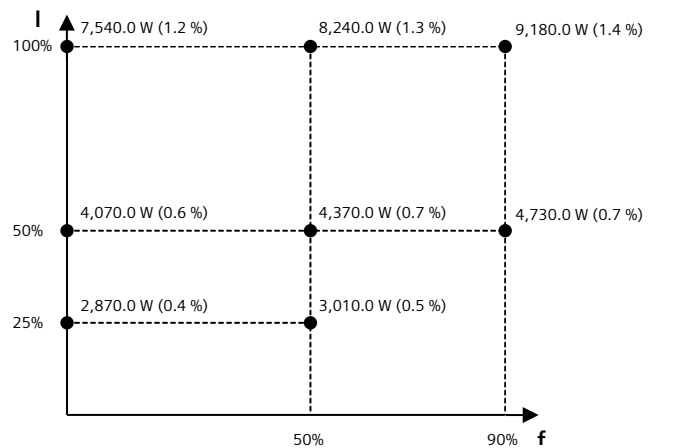
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| Ambient conditions          |                                                                |
|-----------------------------|----------------------------------------------------------------|
| Standard board coating type | Class 3C2, according to IEC 60721-3-3: 2002                    |
| Cooling                     | Air cooling using an integrated fan                            |
| Cooling air requirement     | 0.450 m³/s (15.892 ft³/s)                                      |
| Installation altitude       | 1,000 m (3,280.84 ft)                                          |
| Ambient temperature         |                                                                |
| Operation                   | 0 ... 45 °C (32 ... 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 |

| Connections                    |                                              |
|--------------------------------|----------------------------------------------|
| Signal cable                   |                                              |
| Conductor cross-section        | 0.15 ... 1.50 mm² (AWG 24 ... AWG 16)        |
| Line side                      |                                              |
| Version                        | M12 screw                                    |
| Conductor cross-section        | 6 x 240.00 mm² (MCM 4 x 500 ... MCM 6 x 500) |
| Motor end                      |                                              |
| Version                        | M12 screw                                    |
| Conductor cross-section        | 6 x 240.00 mm² (MCM 4 x 500 ... MCM 8 x 500) |
| DC link (for braking resistor) |                                              |
| PE connection                  | M12 screw                                    |
| Max. motor cable length        |                                              |
| Shielded                       | 150 m (492.13 ft)                            |

| Mechanical data           |                                                             |
|---------------------------|-------------------------------------------------------------|
| Degree of protection      | IP20 / UL open type                                         |
| Frame size                | FSJ                                                         |
| Net weight                | 236 kg (520.29 lb)                                          |
| Dimensions                |                                                             |
| Width                     | 801 mm (31.54 in)                                           |
| Height                    | 1,621 mm (63.82 in)                                         |
| Depth                     | 393 mm (15.47 in)                                           |
| 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 |

| Converter losses to IEC61800-9-2*                    |        |
|------------------------------------------------------|--------|
| Efficiency class                                     | IE2    |
| Comparison with the reference converter (90% / 100%) | 35.2 % |



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

<sup>1)</sup>The output current and HP ratings are valid for the voltage range 550V-600V  
<sup>3)</sup>Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.



Data sheet for SINAMICS G120X

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Operator panel: Intelligent Operator Panel (IOP-2)

Screen

|                   |                 |
|-------------------|-----------------|
| Display design    | LCD color       |
| Screen resolution | 320 x 240 Pixel |

Mechanical data

|                      |                    |
|----------------------|--------------------|
| Degree of protection | IP55 / UL type 12  |
| Net weight           | 0.134 kg (0.30 lb) |

Dimensions

|        |                     |
|--------|---------------------|
| Width  | 70.00 mm (2.76 in)  |
| Height | 106.85 mm (4.21 in) |
| Depth  | 19.65 mm (0.77 in)  |

Ambient conditions

Ambient temperature

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| Operation | 0 ... 50 °C (32 ... 122 °F)<br>55 °C only with door installation 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 |
|----------------------------|--------------------------|

MLFB-Ordering data                      6SL3000-0CH36-0AA0

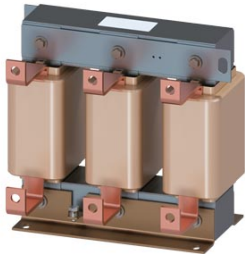


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Connections

|                  |               |
|------------------|---------------|
| Input            |               |
| Number of phases | 3 AC          |
| Line voltage     | 500 ... 690 V |

|               |         |
|---------------|---------|
| Output        |         |
| Rated current | 597.0 A |

|           |                  |
|-----------|------------------|
| Load side |                  |
| Version   | 1 x hole for M12 |

Mechanical data

|                      |                    |
|----------------------|--------------------|
| Dimensions           |                    |
| Width                | 350.0 mm (13.8 in) |
| Height               | 321.0 mm (12.6 in) |
| Depth                | 232.5 mm (9.2 in)  |
| Degree of protection | IP00               |
| Net weight           | 63.8 kg (141.0 lb) |

|               |          |
|---------------|----------|
| PE connection |          |
| Version       | M6 screw |