



Figure similar

MLFB-Ordering data

6SL3210-1KE28-4AF1

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) | 76.00 A |
| Rated current (HO) | 69.00 A |

Output

| | |
|-------------------------------------|--------------|
| Number of phases | 3 AC |
| Rated voltage | 400 V |
| Rated power IEC 400V (LO) | 45.00 kW |
| Rated power NEC 480V (LO) | 50.00 hp |
| Rated power IEC 400V (HO) | 37.00 kW |
| Rated power NEC 480V (HO) | 40.00 hp |
| Rated current (LO) | 82.50 A |
| Rated current (HO) | 68.00 A |
| Rated current (IN) | 82.50 A |
| Max. output current | 136.00 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 $\cos \phi$ | 0.99 |
| Efficiency η | 0.98 |
| Sound pressure level (1m) | 72 dB |
| Power loss | 1.02 kW |
| Filter class (integrated) | Class A |

Ambient conditions

| | |
|-------------------------|--|
| Cooling | Air cooling using an integrated fan |
| Cooling air requirement | 0.055 m ³ /s (1.942 ft ³ /s) |
| Installation altitude | 1000 m (3280.84 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 |
|----------------|-------------------------------------|

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 |



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Mechanical data

| | |
|----------------------|---------------------|
| Degree of protection | IP20 / UL open type |
| Size | FSD |
| Net weight | 19.50 kg (42.99 lb) |
| Width | 200 mm (7.87 in) |
| Height | 472 mm (18.58 in) |
| Depth | 237 mm (9.33 in) |

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

Communication

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

Connections

Signal cable

| | |
|-------------------------|---|
| Conductor cross-section | 0.15 ... 1.50 mm ² (AWG 24 ... AWG 16) |
|-------------------------|---|

Line side

| | |
|-------------------------|---|
| Version | screw-type terminal |
| Conductor cross-section | 10.00 ... 35.00 mm ² (AWG 8 ... AWG 2) |

Motor end

| | |
|-------------------------|---|
| Version | Screw-type terminals |
| Conductor cross-section | 10.00 ... 35.00 mm ² (AWG 8 ... AWG 2) |

DC link (for braking resistor)

| | |
|-------------------------|---|
| Version | Screw-type terminals |
| Conductor cross-section | 10.00 ... 35.00 mm ² (AWG 8 ... AWG 2) |
| 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) |

Standards

| | |
|---------------------------|---|
| Compliance with standards | UL, cUL, CE, C-Tick (RCM) |
| CE marking | EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC |

MLFB-Ordering data

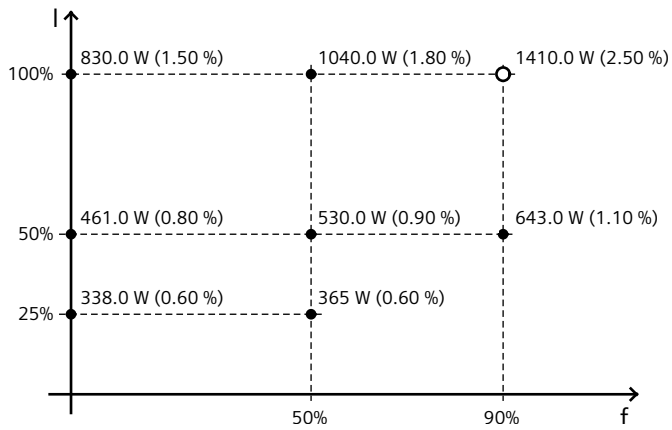
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Figure similar

Converter losses to IEC61800-9-2*

| | |
|--|---------|
| Efficiency class | IE2 |
| Comparison with the reference converter (90% / 100%) | 52.20 % |



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