



Figure similar

MLFB-Ordering data

6SL3210-1KE13-2UB2

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) | 4.10 A |
| Rated current (HO) | 3.20 A |

Output

| | |
|-------------------------------------|--------------|
| Number of phases | 3 AC |
| Rated voltage | 400 V |
| Rated power IEC 400V (LO) | 1.10 kW |
| Rated power NEC 480V (LO) | 1.50 hp |
| Rated power IEC 400V (HO) | 0.75 kW |
| Rated power NEC 480V (HO) | 1.00 hp |
| Rated current (LO) | 3.10 A |
| Rated current (HO) | 2.20 A |
| Rated current (IN) | 3.20 A |
| Max. output current | 4.40 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 | 0.70 ... 0.85 |
| Offset factor $\cos \phi$ | 0.95 |
| Efficiency η | 0.97 |
| Sound pressure level (1m) | 49 dB |
| Power loss | 0.05 kW |
| Filter class (integrated) | Unfiltered |

Ambient conditions

| | |
|-------------------------|--|
| Cooling | Air cooling using an integrated fan |
| Cooling air requirement | 0.005 m ³ /s (0.177 ft ³ /s) |
| Installation altitude | 1000 m (3280.84 ft) |

Ambient temperature

| | |
|-----------|--------------------------------|
| Operation | -10 ... 40 °C (14 ... 104 °F) |
| Transport | -40 ... 70 °C (-40 ... 158 °F) |
| Storage | -40 ... 70 °C (-40 ... 158 °F) |

Relative humidity

| | |
|----------------|--|
| Max. operation | 95 % At 40 °C (104 °F), condensation and icing not permissible |
|----------------|--|

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 | F5AA |
| Net weight | 1.40 kg (3.09 lb) |
| Width | 73 mm (2.87 in) |
| Height | 173 mm (6.81 in) |
| Depth | 155 mm (6.10 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 | USS/MODBUS RTU |
|---------------|----------------|

Connections

Signal cable

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

Line side

| | |
|---------|-------------------------|
| Version | Plug-in screw terminals |
|---------|-------------------------|

| | |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm ² (AWG 18 ... AWG 14) |
|-------------------------|---|

Motor end

| | |
|---------|-------------------------|
| Version | Plug-in screw terminals |
|---------|-------------------------|

| | |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm ² (AWG 18 ... AWG 14) |
|-------------------------|---|

DC link (for braking resistor)

| | |
|---------|-------------------------|
| Version | Plug-in screw terminals |
|---------|-------------------------|

| | |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm ² (AWG 18 ... AWG 14) |
|-------------------------|---|

| | |
|-------------------|-----------------|
| Line length, max. | 15 m (49.21 ft) |
|-------------------|-----------------|

| | |
|---------------|--------------------------|
| PE connection | On housing with M4 screw |
|---------------|--------------------------|

Max. motor cable length

| | |
|----------|------------------|
| Shielded | 50 m (164.04 ft) |
|----------|------------------|

| | |
|------------|-------------------|
| Unshielded | 100 m (328.08 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

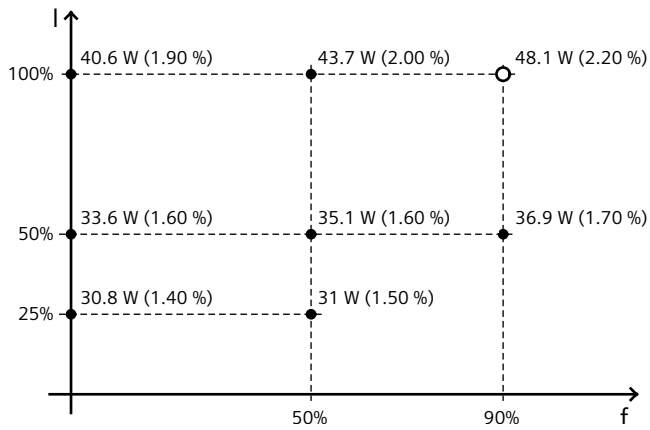
6SL3210-1KE13-2UB2



Figure similar

Converter losses to IEC61800-9-2*

| | |
|--|---------|
| Efficiency class | IE2 |
| Comparison with the reference converter (90% / 100%) | 27.30 % |



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