



Figure similar

### MLFB-Ordering data

6SL3210-1KE12-3UB2

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 \phi</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>                 | 49 dB  |
| Rated current (LO)                  | 2.90 A  | <b>Power loss</b>                                | 0.04 kW  |
| Rated current (HO)                  | 2.50 A  | <b>Filter class (integrated)</b>                 | Unfiltered   |
| <b>Output</b>                       |   | <b>Ambient conditions</b>                        |  |
| Number of phases                    | 3 AC  | <b>Cooling</b>                                   | Air cooling using an integrated fan                            |
| Rated voltage                       | 400 V   | <b>Cooling air requirement</b>                   | 0.005 m <sup>3</sup> /s (0.177 ft <sup>3</sup> /s)             |
| Rated power IEC 400V (LO)           | 0.75 kW   | <b>Installation altitude</b>                     | 1000 m (3280.84 ft)  |
| Rated power NEC 480V (LO)           | 1.00 hp   | <b>Ambient temperature</b>                       |  |
| Rated power IEC 400V (HO)           | 0.55 kW   | <b>Operation</b>                                 | -10 ... 40 °C (14 ... 104 °F)                                  |
| Rated power NEC 480V (HO)           | 0.75 hp   | <b>Transport</b>                                 | -40 ... 70 °C (-40 ... 158 °F)                                 |
| Rated current (LO)                  | 2.20 A  | <b>Storage</b>                                   | -40 ... 70 °C (-40 ... 158 °F)                                 |
| Rated current (HO)                  | 1.70 A  | <b>Relative humidity</b>                         |  |
| Rated current (IN)                  | 2.30 A  | <b>Max. operation</b>                            | 95 % At 40 °C (104 °F), condensation and icing not permissible |
| Max. output current                 | 3.40 A  | <b>Closed-loop control techniques</b>            |  |
| Pulse frequency                     | 4 kHz   | <b>V/f linear / square-law / parameterizable</b> | Yes  |
| Output frequency for vector control | 0 ... 240 Hz  | <b>V/f with flux current control (FCC)</b>       | Yes  |
| Output frequency for V/f control    | 0 ... 550 Hz  | <b>V/f ECO linear / square-law</b>               | Yes  |
| <b>Overload capability</b>          |   | <b>Sensorless vector control</b>                 | Yes  |
| <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>Vector control, with sensor</b>               | No   |
| <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   |



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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 <sup>2</sup> (AWG 24 ... AWG 16) |
|-------------------------|---|

##### Line side

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

|                         |   |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm <sup>2</sup> (AWG 18 ... AWG 14) |
|-------------------------|---|

##### Motor end

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

|                         |   |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm <sup>2</sup> (AWG 18 ... AWG 14) |
|-------------------------|---|

##### DC link (for braking resistor)

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

|                         |   |
|-------------------------|---|
| Conductor cross-section | 1.00 ... 2.50 mm <sup>2</sup> (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

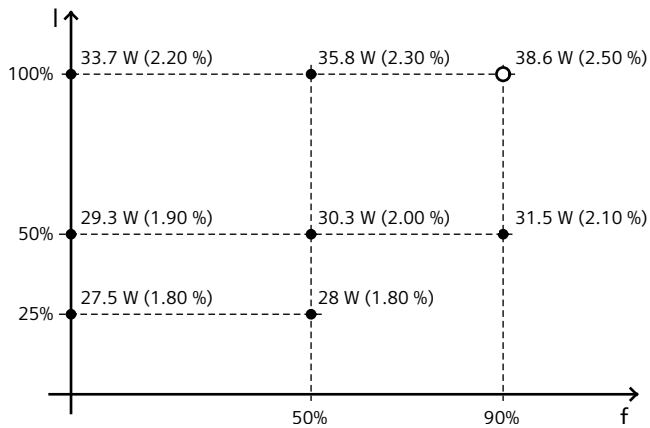
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Figure similar

### Converter losses to IEC61800-9-2\*

|  |         |
|--|---------|
| Efficiency class                                     | IE2     |
| Comparison with the reference converter (90% / 100%) | 26.60 % |



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