



Figure similar

### MLFB-Ordering data

6SL3210-1KE21-3UF1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Rated data                                                                                                |                           | General tech. specifications                                                 |  |
|-----------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------|--|
| Input                                                                                                     |                           | Power factor $\lambda$ 0.70 ... 0.85                                         |  |
| Number of phases                                                                                          | 3 AC                      | Offset factor $\cos \varphi$ 0.95                                            |  |
| Line voltage                                                                                              | 380 ... 480 V +10 % -20 % | Efficiency $\eta$ 0.97                                                       |  |
| Line frequency                                                                                            | 47 ... 63 Hz              | Sound pressure level (1m)63 dB                                               |  |
| Rated current (LO)                                                                                        | 16.50 A                   | Power loss0.18 kW                                                            |  |
| Rated current (HO)                                                                                        | 12.80 A                   |                                                                              |  |
| Output                                                                                                    |                           | Ambient conditions                                                           |  |
| Number of phases                                                                                          | 3 AC                      | CoolingAir cooling using an integrated fan                                   |  |
| Rated voltage                                                                                             | 400 V                     | Cooling air requirement0.009 m³/s (0.318 ft³/s)                              |  |
| Rated power IEC 400V (LO)                                                                                 | 5.50 kW                   | Installation altitude1000 m (3280.84 ft)                                     |  |
| Rated power NEC 480V (LO)                                                                                 | 7.50 hp                   | Ambient temperature                                                          |  |
| Rated power IEC 400V (HO)                                                                                 | 4.00 kW                   | Operation-10 ... 40 °C (14 ... 104 °F)                                       |  |
| Rated power NEC 480V (HO)                                                                                 | 5.00 hp                   | Transport-40 ... 70 °C (-40 ... 158 °F)                                      |  |
| Rated current (IN)                                                                                        | 13.00 A                   | Storage-40 ... 70 °C (-40 ... 158 °F)                                        |  |
| Rated current (LO)                                                                                        | 12.50 A                   | Relative humidity                                                            |  |
| Rated current (HO)                                                                                        | 8.80 A                    | Max. operation95 % At 40 °C (104 °F), condensation and icing not permissible |  |
| Max. output current                                                                                       | 17.60 A                   |                                                                              |  |
| Pulse frequency                                                                                           | 4.000 kHz                 |                                                                              |  |
| Output frequency for vector control                                                                       | 0 ... 240 Hz              | Closed-loop control techniques                                               |  |
| Output frequency for V/f control                                                                          | 0 ... 550 Hz              | V/f linear / square-law / parameterizableYes                                 |  |
|                                                                                                           |                           | V/f with flux current control (FCC)Yes                                       |  |
|                                                                                                           |                           | V/f ECO linear / square-lawYes                                               |  |
|                                                                                                           |                           | Sensorless vector controlYes                                                 |  |
|                                                                                                           |                           | Vector control, with sensorNo                                                |  |
|                                                                                                           |                           | Encoderless torque controlNo                                                 |  |
|                                                                                                           |                           | Torque control, with encoderNo                                               |  |
| Overload capability                                                                                       |                           | Communication                                                                |  |
| Low Overload (LO)                                                                                         |                           | CommunicationPROFINET / EtherNet/IP                                          |  |
| 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 |                           |                                                                              |  |



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| 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                                                                                                      | 225 mm (8.86 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)  |                                                             |                                                   |
| 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 |                         |                                                             |                                                   |

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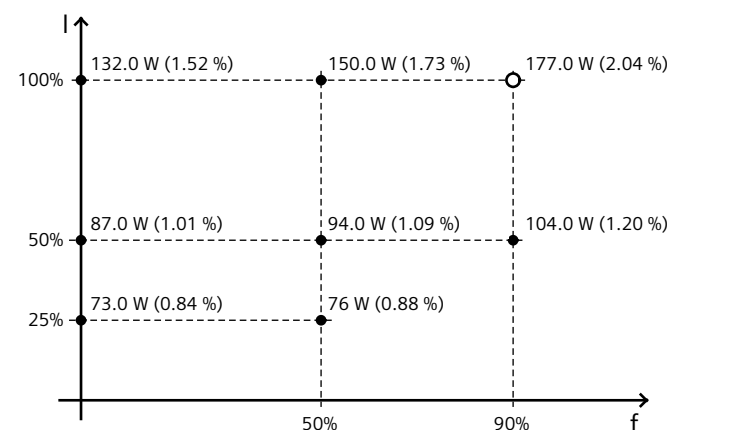
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Figure similar

Converter losses to EN 50598-2\*

|                                                      |          |
|------------------------------------------------------|----------|
| Efficiency class                                     | IE2      |
| Comparison with the reference converter (90% / 100%) | -66.06 % |



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