



### Ordering data

6SL3210-1KE23-8UB1

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  |
| <b>Number of phases</b>  | 3 AC                      | <b>Offset factor <math>\cos \varphi</math></b> | 0.95   |
| <b>Line voltage</b>  | 380 ... 480 V +10 % -20 % | <b>Efficiency <math>\eta</math></b>            | 0.97   |
| <b>Line frequency</b>  | 47 ... 63 Hz              | <b>Sound pressure level (1m)</b>               | 66 dB  |
| <b>Rated current (LO)</b>  | 48.20 A                   | <b>Power loss</b>                              | 0.50 kW  |
| <b>Rated current (HO)</b>  | 45.20 A                   | <b>Ambient conditions</b>                      |  |
| <b>Output</b>  |                           | <b>Cooling</b>                                 | Air cooling using an integrated fan                            |
| <b>Number of phases</b>  | 3 AC                      | <b>Cooling air requirement</b>                 | 0.018 m <sup>3</sup> /s  |
| <b>Rated voltage</b>   | 400 V                     | <b>Installation altitude</b>                   | 1000 m   |
| <b>Rated power (LO)</b>  | 18.50 kW                  | <b>Ambient temperature</b>                     |  |
| <b>Rated power (HO)</b>  | 15.00 kW                  | <b>Operation</b>                               | -10 ... 40 °C (14 ... 104 °F)                                  |
| <b>Rated current (IN)</b>  | 45.20 A                   | <b>Transport</b>                               | -40 ... 70 °C (-40 ... 158 °F)                                 |
| <b>Rated current (LO)</b>  | 37.00 A                   | <b>Storage</b>                                 | -40 ... 70 °C (-40 ... 158 °F)                                 |
| <b>Rated current (HO)</b>  | 31.00 A                   | <b>Relative humidity</b>                       |  |
| <b>Max. output current</b>   | 62.00 A                   | <b>Max. operation</b>                          | 95 % At 40 °C (104 °F), condensation and icing not permissible |
| <b>Pulse frequency</b>   | 4 kHz                     |  |  |
| <b>Output frequency for vector control</b>   | 0 ... 240 Hz              |  |  |
| <b>Output frequency for V/f control</b>  | 0 ... 650 Hz              |  |  |
| <p>In firmware V4.7 and higher, due to legal requirements, the maximum output frequency is restricted to 550 Hz.</p> |                           |  |  |

### 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



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### Mechanical data

|                      |                     |
|----------------------|---------------------|
| Degree of protection | IP20 / UL open type |
| Size                 | FSC                 |
| Net weight           | 4.40 kg             |
| Width                | 140.0 mm            |
| Height               | 295.0 mm            |
| Depth                | 203.0 mm            |

### 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, 1 A |
| Number as transistor               | 1            |
| Output (resistive load)            | DC 30 V, 1 A |

#### Analog/ digital inputs

|        |                        |
|--------|------------------------|
| Number | 1 (Differential input) |
|--------|------------------------|

#### Analog outputs

|        |                         |
|--------|-------------------------|
| Number | 1 (Non-isolated output) |
|--------|-------------------------|

#### PTC/ KTY interface

1 motor temperature sensor input, connectable PTC, KTY, and Thermo-Click sensors, accuracy ±5°C

### Connections

#### Signal cable

|                         |   |
|-------------------------|---|
| Conductor cross-section | 0.15 ... 1.50 mm <sup>2</sup> (28 ... 16 AWG) |
|-------------------------|---|

#### Line side

|                         |   |
|-------------------------|---|
| Version                 | Plug-in screw-type terminals                  |
| Conductor cross-section | 6.00 ... 16.00 mm <sup>2</sup> (10 ... 5 AWG) |

#### Motor end

|                         |   |
|-------------------------|---|
| Version                 | Plug-in screw terminals                       |
| Conductor cross-section | 6.00 ... 16.00 mm <sup>2</sup> (10 ... 5 AWG) |

#### DC link (for braking resistor)

|                         |   |
|-------------------------|---|
| Version                 | Plug-in screw terminals                       |
| Conductor cross-section | 6.00 ... 16.00 mm <sup>2</sup> (10 ... 5 AWG) |
| PE connection           | On housing with M4 screw                      |

#### Max. motor cable length

|            |       |
|------------|-------|
| Shielded   | 50 m  |
| Unshielded | 100 m |

### Communication

|               |       |
|---------------|-------|
| Communication | RS485 |
|---------------|-------|

### 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  |

### Standards

|                           |                   |
|---------------------------|-------------------|
| Compliance with standards | CE, cULus, c-tick |
|---------------------------|-------------------|

|            |   |
|------------|---|
| CE marking | EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC |
|------------|---|