



Figure similar

### MLFB-Ordering data

6SL3210-1KE13-2AF2

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)	4.10 A	<b>Power loss</b>	0.05 kW
Rated current (HO)	3.20 A	<b>Filter class (integrated)</b>	Class A
<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)	1.10 kW	<b>Installation altitude</b>	1000 m (3280.84 ft)
Rated power NEC 480V (LO)	1.50 hp	<b>Ambient temperature</b>	
Rated power IEC 400V (HO)	0.75 kW	<b>Operation</b>	-10 ... 40 °C (14 ... 104 °F)
Rated power NEC 480V (HO)	1.00 hp	<b>Transport</b>	-40 ... 70 °C (-40 ... 158 °F)
Rated current (IN)	3.20 A	<b>Storage</b>	-40 ... 70 °C (-40 ... 158 °F)
Rated current (LO)	3.10 A	<b>Relative humidity</b>	
Rated current (HO)	2.20 A	<b>Max. operation</b>	95 % At 40 °C (104 °F), condensation and icing not permissible
Max. output current	4.40 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	160 mm (6.30 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
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##### 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)
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##### PTC/ KTY interface

1 motor temperature sensor input, sensors that can be connected: PTC, KTY and Thermo-Click, accuracy  $\pm 5$  °C

#### Communication

Communication	PROFINET, EtherNet/IP
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#### Connections

##### Signal cable

Conductor cross-section	0.15 ... 1.50 mm <sup>2</sup> (AWG 24 ... AWG 16)
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##### Line side

Version	Plug-in screw terminals
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Conductor cross-section	1.00 ... 2.50 mm <sup>2</sup> (AWG 18 ... AWG 14)
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##### Motor end

Version	Plug-in screw terminals
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Conductor cross-section	1.00 ... 2.50 mm <sup>2</sup> (AWG 18 ... AWG 14)
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##### DC link (for braking resistor)

Version	Plug-in screw terminals
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Conductor cross-section	1.00 ... 2.50 mm <sup>2</sup> (AWG 18 ... AWG 14)
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Line length, max.	15 m (49.21 ft)
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PE connection	On housing with M4 screw
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##### Max. motor cable length

Shielded	50 m (164.04 ft)
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Unshielded	100 m (328.08 ft)
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#### Standards

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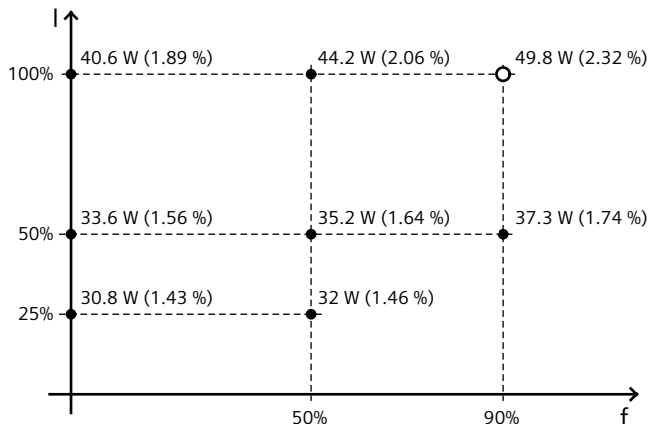
Figure similar

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### Converter losses to EN 50598-2\*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-77.90 %



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