



Figure similar

### MLFB-Ordering data

6SL3210-1KE31-7AF1

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>	0.90 ... 0.95
Number of phases	3 AC	<b>Offset factor <math>\cos \phi</math></b>	0.99
Line voltage	380 ... 480 V +10 % -20 %	<b>Efficiency <math>\eta</math></b>	0.99
Line frequency	47 ... 63 Hz	<b>Sound pressure level (1m)</b>	68 dB
Rated current (LO)	156.00 A	<b>Power loss</b>	1.57 kW
Rated current (HO)	144.00 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>	0.153 m <sup>3</sup> /s (5.403 ft <sup>3</sup> /s)
Rated power IEC 400V (LO)	90.00 kW	<b>Installation altitude</b>	1000 m (3280.84 ft)
Rated power NEC 480V (LO)	100.00 hp	<b>Ambient temperature</b>	
Rated power IEC 400V (HO)	75.00 kW	<b>Operation</b>	-20 ... 40 °C (-4 ... 104 °F)
Rated power NEC 480V (HO)	75.00 hp	<b>Transport</b>	-40 ... 70 °C (-40 ... 158 °F)
Rated current (LO)	164.00 A	<b>Storage</b>	-40 ... 70 °C (-40 ... 158 °F)
Rated current (HO)	136.00 A	<b>Relative humidity</b>	
Rated current (IN)	164.00 A	<b>Max. operation</b>	95 % RH, condensation not permitted
Max. output current	272.00 A	<b>Closed-loop control techniques</b>	
Pulse frequency	2 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	FSF
Net weight	63.50 kg (139.99 lb)
Width	305 mm (12.01 in)
Height	708 mm (27.87 in)
Depth	357 mm (14.06 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 ±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	screw-type terminal
Conductor cross-section	35.00 ... 120.00 mm <sup>2</sup> (AWG 2 ... AWG -3)

#### Motor end

Version	Screw-type terminals
Conductor cross-section	35.00 ... 120.00 mm <sup>2</sup> (AWG 2 ... AWG -3)

#### DC link (for braking resistor)

Version	Screw-type terminals
Conductor cross-section	35.00 ... 120.00 mm <sup>2</sup> (AWG 2 ... AWG -3)
Line length, max.	10 m (32.81 ft)
PE connection	Screw-type terminals

#### Max. motor cable length

Shielded	300 m (984.25 ft)
Unshielded	450 m (1476.38 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

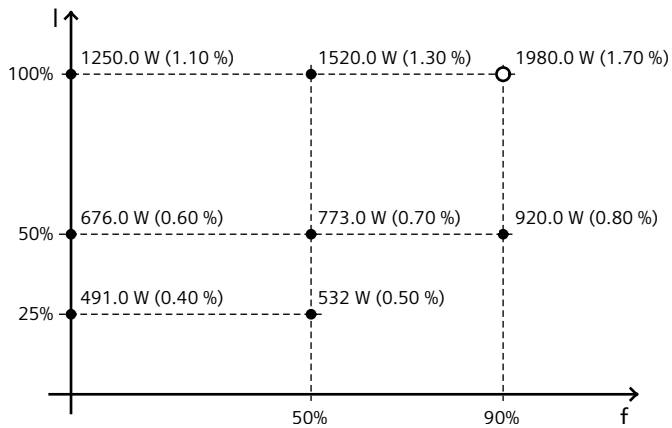
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### Converter losses to IEC61800-9-2\*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	42.40 %



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