



Figure similar

MLFB-Ordering data

6SL3210-1KE31-1AF1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data		General tech. specifications	
Input		Power factor λ	0.90 ... 0.95
Number of phases	3 AC	Offset factor $\cos \phi$	0.99
Line voltage	380 ... 480 V +10 % -20 %	Efficiency η	0.98
Line frequency	47 ... 63 Hz	Sound pressure level (1m)	71 dB
Rated current (LO)	96.00 A	Power loss	1.55 kW
Rated current (HO)	85.00 A	Filter class (integrated)	Class A
Output		Ambient conditions	
Number of phases	3 AC	Cooling	Air cooling using an integrated fan
Rated voltage	400 V	Cooling air requirement	0.083 m ³ /s (2.931 ft ³ /s)
Rated power IEC 400V (LO)	55.00 kW	Installation altitude	1000 m (3280.84 ft)
Rated power NEC 480V (LO)	60.00 hp	Ambient temperature	
Rated power IEC 400V (HO)	45.00 kW	Operation	-20 ... 40 °C (-4 ... 104 °F)
Rated power NEC 480V (HO)	50.00 hp	Transport	-40 ... 70 °C (-40 ... 158 °F)
Rated current (LO)	103.00 A	Storage	-40 ... 70 °C (-40 ... 158 °F)
Rated current (HO)	83.00 A	Relative humidity	
Rated current (IN)	103.00 A	Max. operation	95 % RH, condensation not permitted
Max. output current	165.00 A	Closed-loop control techniques	
Pulse frequency	4 kHz	V/f linear / square-law / parameterizable	Yes
Output frequency for vector control	0 ... 240 Hz	V/f with flux current control (FCC)	Yes
Output frequency for V/f control	0 ... 550 Hz	V/f ECO linear / square-law	Yes
Overload capability		Sensorless vector control	Yes
Low Overload (LO)		Vector control, with sensor	No
150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time		Encoderless torque control	No
High Overload (HO)		Torque control, with encoder	No
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	FSE
Net weight	28.50 kg (62.83 lb)
Width	275 mm (10.83 in)
Height	551 mm (21.69 in)
Depth	237 mm (9.33 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 ² (AWG 24 ... AWG 16)
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Line side

Version	screw-type terminal
Conductor cross-section	25.00 ... 70.00 mm ² (AWG 4 ... AWG -1)

Motor end

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm ² (AWG 4 ... AWG -1)

DC link (for braking resistor)

Version	Screw-type terminals
Conductor cross-section	25.00 ... 70.00 mm ² (AWG 4 ... AWG -1)
Line length, max.	10 m (32.81 ft)
PE connection	Screw-type terminals

Max. motor cable length

Shielded	200 m (656.17 ft)
Unshielded	300 m (984.25 ft)

Standards

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



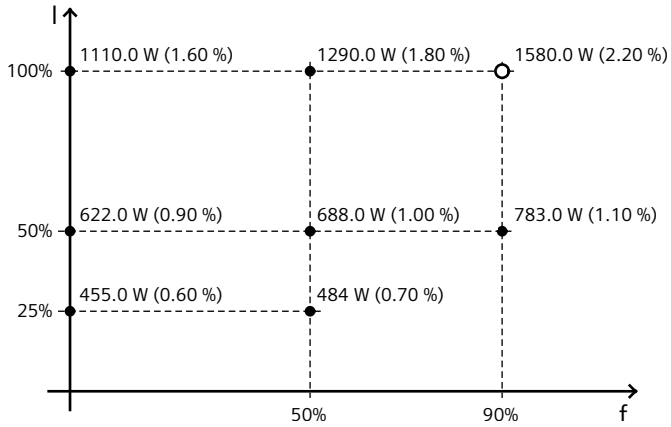
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Converter losses to IEC61800-9-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	47.30 %



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