



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 (IN)	103.00 A	Storage	-40 ... 70 °C (-40 ... 158 °F)
Rated current (LO)	103.00 A	Relative humidity	
Rated current (HO)	83.00 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



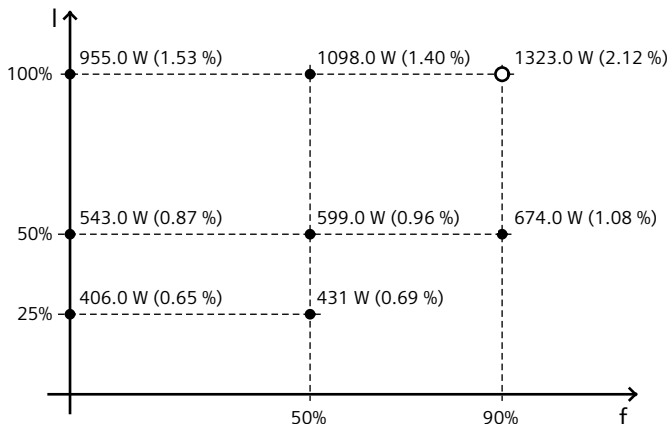
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Converter losses to EN 50598-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-55.37 %



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