

Article No. : 6SL3210-1KE31-7AF1

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Figure similar



Rated data

Input	
Number of phases	3 AC
Line voltage	380 ... 480 V +10 % -20 %
Line frequency	47 ... 63 Hz
Rated current (LO)	156.00 A
Rated current (HO)	144.00 A

Output	
Number of phases	3 AC
Rated voltage	400V IEC 480V NEC ¹⁾
Rated power (LO)	90.00 kW 100.00 hp
Rated power (HO)	75.00 kW 75.00 hp
Rated current (LO)	164.00 A
Rated current (HO)	136.00 A
Rated current (IN)	164.00 A
Max. output current	272.00 A
Pulse frequency	2 kHz
Output frequency for vector control	0 ... 240 Hz
Output frequency for V/f control	0 ... 550 Hz

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	

General tech. specifications

Power factor λ	0.90 ... 0.95
Offset factor cos φ	0.99
Efficiency η	0.99
Sound pressure level (1m)	68 dB
Power loss	1,980.0 W
Filter class (integrated)	Class A

Communication

Communication	PROFINET, EtherNet/IP
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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, 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)

PTC/ KTY interface	
1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy ±5 °C	

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

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Ambient conditions	
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.153 m³/s (5.403 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)

Ambient temperature

Operation	-20 ... 40 °C (-4 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-25 ... 55 °C (-13 ... 131 °F)

Relative humidity

Max. operation	95 % RH, condensation not permitted
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Connections	
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Signal cable

Conductor cross-section	0.15 ... 1.50 mm² (AWG 24 ... AWG 16)
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Line side

Version	screw-type terminal
Conductor cross-section	35.00 ... 120.00 mm² (AWG 2 ... AWG -3)

Motor end

Version	Screw-type terminals
Conductor cross-section	35.00 ... 120.00 mm² (AWG 2 ... AWG -3)

DC link (for braking resistor)

Version	Screw-type terminals
Conductor cross-section	35.00 ... 120.00 mm² (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 (1,476.38 ft)

Mechanical data	
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Degree of protection	IP20 / UL open type
Frame size	FSF
Net weight	63.50 kg (139.99 lb)

Dimensions

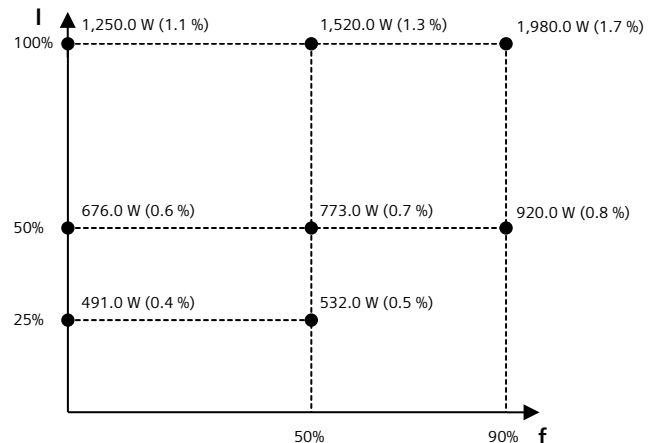
Width	305 mm (12.01 in)
Height	708 mm (27.87 in)
Depth	357 mm (14.06 in)

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

Converter losses to IEC61800-9-2*	
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Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	42.4 %



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.

*calculated values

¹⁾The output current and HP ratings are valid for the voltage range 440V-480V