



Figure similar

MLFB-Ordering data

6SL3210-1KE13-2AP2

Client order no. :

Item no. :

Order no. :

Consignment no. :

Offer no. :

Project :

Remarks :

Rated data

Input

Number of phases	3 AC
Line voltage	380 ... 480 V +10 % -20 %
Line frequency	47 ... 63 Hz
Rated current (LO)	4.10 A
Rated current (HO)	3.20 A

Output

Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC ¹⁾
Rated power (LO)	1.10 kW	1.50 hp
Rated power (HO)	0.75 kW	1.00 hp
Rated current (LO)	3.10 A	
Rated current (HO)	2.20 A	
Rated current (IN)	3.20 A	
Max. output current	4.40 A	
Pulse frequency	4 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	0.70 ... 0.85
Offset factor $\cos \phi$	0.95
Efficiency η	0.97
Sound pressure level (1m)	49 dB
Power loss	49.0 W
Filter class (integrated)	Class A

Ambient conditions

Cooling	Air cooling using an integrated fan
Cooling air requirement	0.005 m ³ /s (0.177 ft ³ /s)
Installation altitude	1000 m (3280.84 ft)

Ambient temperature

Operation	-10 ... 40 °C (14 ... 104 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-40 ... 70 °C (-40 ... 158 °F)

Relative humidity

Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible
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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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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	155 mm (6.10 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	PROFIBUS DP
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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	Plug-in screw terminals
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Conductor cross-section	1.00 ... 2.50 mm ² (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 ² (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 ² (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

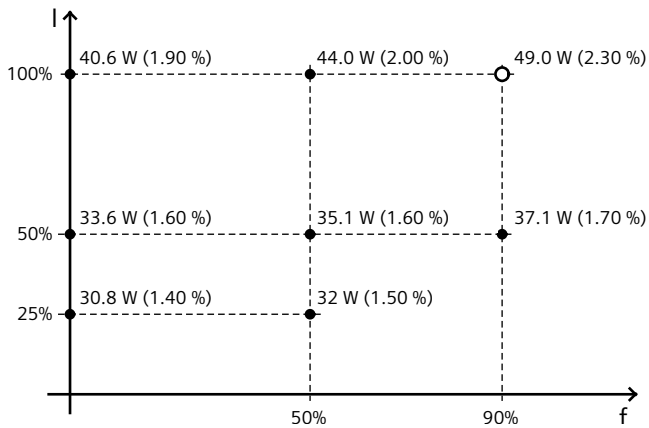
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Converter losses to IEC61800-9-2*

Efficiency class IE2

Comparison with the reference converter (90% / 100%) 27.80 %



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

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