



Figure similar

MLFB-Ordering data

6SL3210-1KE23-2UB1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data		General tech. specifications	
Input		Power factor λ	0.70 ... 0.85
Number of phases	3 AC	Offset factor $\cos \phi$	0.95
Line voltage	380 ... 480 V +10 % -20 %	Efficiency η	0.97
Line frequency	47 ... 63 Hz	Sound pressure level (1m)	66 dB
Rated current (LO)	40.60 A	Power loss	0.43 kW
Rated current (HO)	36.40 A	Filter class (integrated)	Unfiltered
Output		Ambient conditions	
Number of phases	3 AC	Cooling	Air cooling using an integrated fan
Rated voltage	400 V	Cooling air requirement	0.018 m ³ /s (0.636 ft ³ /s)
Rated power IEC 400V (LO)	15.00 kW	Installation altitude	1000 m (3280.84 ft)
Rated power NEC 480V (LO)	20.00 hp	Ambient temperature	
Rated power IEC 400V (HO)	11.00 kW	Operation	-10 ... 40 °C (14 ... 104 °F)
Rated power NEC 480V (HO)	15.00 hp	Transport	-40 ... 70 °C (-40 ... 158 °F)
Rated current (LO)	31.00 A	Storage	-40 ... 70 °C (-40 ... 158 °F)
Rated current (HO)	25.00 A	Relative humidity	
Rated current (IN)	32.00 A	Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible
Max. output current	50.00 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	FSC
Net weight	4.40 kg (9.70 lb)
Width	140 mm (5.51 in)
Height	295 mm (11.61 in)
Depth	203 mm (7.99 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	USS/MODBUS RTU
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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	6.00 ... 16.00 mm ² (AWG 10 ... AWG 6)
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Motor end

Version	Plug-in screw terminals
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Conductor cross-section	6.00 ... 16.00 mm ² (AWG 10 ... AWG 6)
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DC link (for braking resistor)

Version	Plug-in screw terminals
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Conductor cross-section	6.00 ... 16.00 mm ² (AWG 10 ... AWG 6)
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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	150 m (492.13 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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MLFB-Ordering data

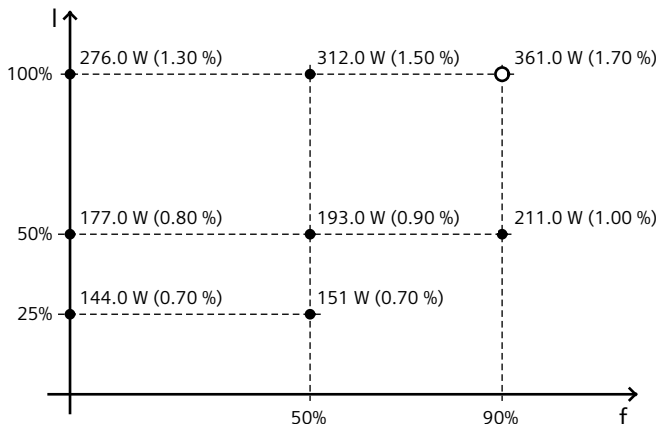
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Figure similar

Converter losses to IEC61800-9-2*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	33.30 %



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