

### MLFB-Ordering data

6SL3210-1KE23-8UP1



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Rated data		General tech. specifications	
<b>Input</b>		<b>Power factor <math>\lambda</math></b>	0.70 ... 0.85
<b>Number of phases</b>	3 AC	<b>Offset factor <math>\cos \varphi</math></b>	0.95
<b>Line voltage</b>	380 ... 480 V +10 % -20 %	<b>Efficiency <math>\eta</math></b>	0.97
<b>Line frequency</b>	47 ... 63 Hz	<b>Sound pressure level (1m)</b>	66 dB
<b>Rated current (LO)</b>	48.20 A	<b>Power loss</b>	0.50 kW
<b>Rated current (HO)</b>	45.20 A	<b>Ambient conditions</b>	
<b>Output</b>		<b>Cooling</b>	Air cooling using an integrated fan
<b>Number of phases</b>	3 AC	<b>Cooling air requirement</b>	0.018 m <sup>3</sup> /s (0.636 ft <sup>3</sup> /s)
<b>Rated voltage</b>	400 V	<b>Installation altitude</b>	1000 m (3280.84 ft)
<b>Rated power IEC 400V (LO)</b>	18.50 kW	<b>Ambient temperature</b>	
<b>Rated power NEC 480V (LO)</b>	25.00 hp	<b>Operation</b>	-10 ... 40 °C (14 ... 104 °F)
<b>Rated power IEC 400V (HO)</b>	15.00 kW	<b>Transport</b>	-40 ... 70 °C (-40 ... 158 °F)
<b>Rated power NEC 480V (HO)</b>	20.00 hp	<b>Storage</b>	-40 ... 70 °C (-40 ... 158 °F)
<b>Rated current (IN)</b>	38.00 A	<b>Relative humidity</b>	
<b>Rated current (LO)</b>	37.00 A	<b>Max. operation</b>	95 % At 40 °C (104 °F), condensation and icing not permissible
<b>Rated current (HO)</b>	31.00 A	<b>Closed-loop control techniques</b>	
<b>Max. output current</b>	62.00 A	<b>V/f linear / square-law / parameterizable</b>	Yes
<b>Pulse frequency</b>	4.000 kHz	<b>V/f with flux current control (FCC)</b>	Yes
<b>Output frequency for vector control</b>	0 ... 240 Hz	<b>V/f ECO linear / square-law</b>	Yes
<b>Output frequency for V/f control</b>	0 ... 550 Hz	<b>Sensorless vector control</b>	Yes
<b>Overload capability</b>		<b>Vector control, with sensor</b>	No
<b>Low Overload (LO)</b>	150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time		
<b>High Overload (HO)</b>	200 % base load current IH for 3 s, followed by 150 % base load current IH for 57 s in a 300 s cycle time		
		<b>Encoderless torque control</b>	No
		<b>Torque control, with encoder</b>	No
		<b>Communication</b>	
		<b>Communication</b>	PROFIBUS DP



Figure similar

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
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Connections	
Signal cable	
Conductor cross-section	0.15 ... 1.50 mm² (AWG 24 ... AWG 16)
Line side	
Version	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)
Motor end	
Version	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)
DC link (for braking resistor)	
Version	Plug-in screw terminals
Conductor cross-section	6.00 ... 16.00 mm² (AWG 10 ... AWG 6)
Line length, max.	15 m (49.21 ft)
PE connection	On housing with M4 screw
Max. motor cable length	
Shielded	150 m (492.13 ft)
Unshielded	150 m (492.13 ft)

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

MLFB-Ordering data

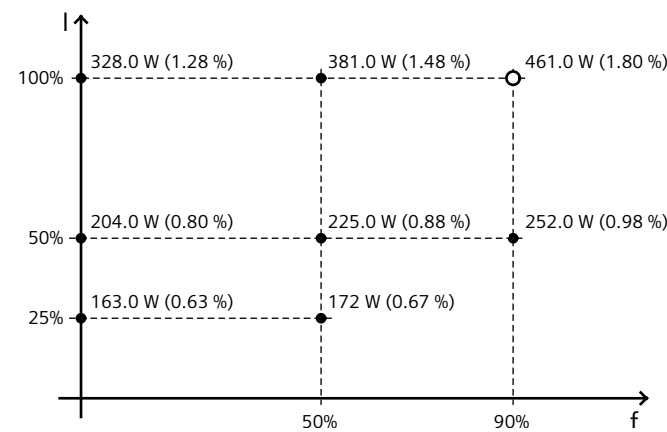
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Figure similar

Converter losses to EN 50598-2\*

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-64.36 %



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