

### MLFB-Ordering data

6SL3220-1YH60-0CB0



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>	0.75 ... 0.93
Number of phases	3 AC		<b>Offset factor <math>\cos \varphi</math></b>	0.96
Line voltage	500 ... 690 V +10 % -10 %		<b>Efficiency <math>\eta</math></b>	0.98
Line frequency	47 ... 63 Hz		<b>Sound pressure level (1m)</b>	74 dB
Rated voltage	690V IEC	600V NEC	<b>Power loss</b>	6.884 kW
Rated current (LO)	471.00 A	461.00 A	<b>Filter class (integrated)</b>	RFI suppression filter for Category C3
Rated current (HO)	362.00 A	381.00 A	<b>Ambient conditions</b>	
<b>Output</b>			<b>Standard board coating type</b>	Class 3C2, according to IEC 60721-3-3: 2002
Number of phases	3 AC		<b>Cooling</b>	Air cooling using an integrated fan
Rated voltage	690V IEC	600V NEC	<b>Cooling air requirement</b>	0.362 m³/s (12.784 ft³/s)
Rated power (LO)	400.00 kW	450.00 hp	<b>Installation altitude</b>	1000 m (3280.84 ft)
Rated power (HO)	355.00 kW	400.00 hp	<b>Ambient temperature</b>	
Rated current (LO)	420.00 A	432.00 A	<b>Operation</b>	0 ... 45 °C (32 ... 113 °F)
Rated current (HO)	385.00 A	367.00 A	<b>Transport</b>	-40 ... 70 °C (-40 ... 158 °F)
Rated current (IN)	453.00 A		<b>Storage</b>	-25 ... 55 °C (-13 ... 131 °F)
Max. output current	598.00 A		<b>Relative humidity</b>	
Pulse frequency	2 kHz		<b>Max. operation</b>	95 % At 40 °C (104 °F), condensation and icing not permissible
Output frequency for vector control	0 ... 100 Hz			
Output frequency for V/f control	0 ... 100 Hz			

### Overload capability

#### Low Overload (LO)

110% base load current IL for 60 s in a 300 s cycle time

#### High Overload (HO)

150% x base load current IH for 60 s within a 600 s cycle time



Figure similar

Mechanical data	
Degree of protection	IP20 / UL open type
Size	FSH
Net weight	162 kg (357.15 lb)
Width	548 mm (21.57 in)
Height	1695 mm (66.73 in)
Depth	393 mm (15.47 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	2
Output (resistive load)	DC 30 V, 5.0 A
Number as transistor	0

### Analog / digital inputs

Number	2 (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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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	Yes
Torque control, with encoder	No

Communication	
Communication	USS, Modbus RTU, BACnet MS/TP

Connections	
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### Signal cable

Conductor cross-section	0.15 ... 1.50 mm <sup>2</sup> (AWG 24 ... AWG 16)
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### Line side

Version	M12 screw
Conductor cross-section	35.00 ... 240.00 mm <sup>2</sup> (AWG 2 ... AWG -3)

### Motor end

Version	M12 screw
Conductor cross-section	35.00 ... 240.00 mm <sup>2</sup> (AWG 2 ... AWG -3)

### DC link (for braking resistor)

PE connection	M12 screw
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### Max. motor cable length

Shielded	150 m (492.13 ft)
Unshielded	200 m (656.17 ft)

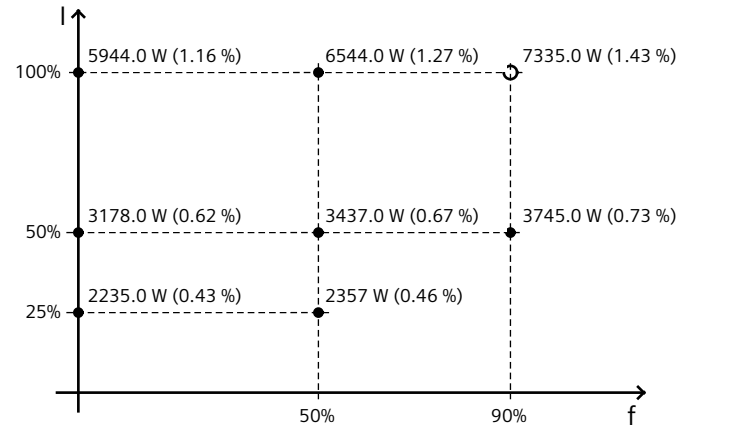
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Figure similar

Converter losses to EN 50598-2*	Standards
Efficiency classIE2	Compliance with standardsUL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH
Comparison with the reference converter (90% / 100%) -35.20 %	



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

CE marking	EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC
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