



Figure similar

### MLFB-Ordering data

6SL3220-2YH60-1CP0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

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

### 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



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### 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

### 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	PROFIBUS DP
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### Connections

#### 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

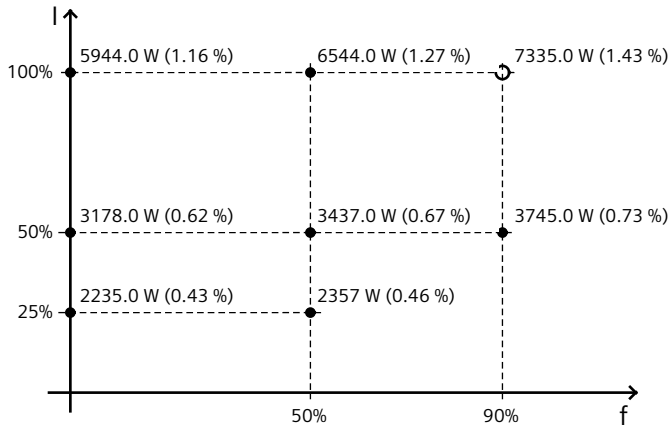
Shielded	150 m (492.13 ft)
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Figure similar

### Converter losses to EN 50598-2\*

Efficiency class	IE2
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

### Standards

**Compliance with standards** UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH

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

### Operator panel: Basic Operator Panel (BOP-2)

#### Screen

**Display design** LCD, monochrome

#### Ambient conditions

##### Ambient temperature during

**Operation** 0 ... 50 °C (32 ... 122 °F)

**Storage** -40 ... 70 °C (-40 ... 158 °F)

**Transport** -40 ... 70 °C (-40 ... 158 °F)

#### Mechanical data

**Degree of protection** IP55 / UL type 12

**Net weight** 0.14 kg (0.31 lb)

**Width** 70.0 mm (2.76 in)

**Height** 106.85 mm (4.21 in)

**Depth** 19.60 mm (0.77 in)

##### Relative humidity at 25°C during

**Max. operation** 95 %

### Approvals

**Certificate of suitability** CE, cULus, EAC, KCC, RCM

### I/O Extension Module

Technical specifications for the I/O Extension Modul are available via direct input (MLFB 6SL3255-0BE00-0AA0).