



Figure similar

### MLFB-Ordering data

6SL3220-1YE46-1AP0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Rated data

#### Input

Number of phases	3 AC	
Line voltage	380 ... 480 V +10 % -20 %	
Line frequency	47 ... 63 Hz	
Rated voltage	400V IEC	480V NEC
Rated current (LO)	203.00 A	174.00 A
Rated current (HO)	189.00 A	166.00 A

#### Output

Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC
Rated power (LO)	110.00 kW	150.00 hp
Rated power (HO)	90.00 kW	100.00 hp
Rated current (LO)	205.00 A	180.00 A
Rated current (HO)	178.00 A	156.00 A
Rated current (IN)	210.00 A	
Max. output current	277.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 ... 200 Hz	
Output frequency for V/f control	0 ... 550 Hz	

### General tech. specifications

Power factor $\lambda$	0.90 ... 0.95
Offset factor $\cos \phi$	0.99
Efficiency $\eta$	0.98
Sound pressure level (1m)	72 dB
Power loss	1.830 kW
Filter class (integrated)	RFI suppression filter for Category C2

### Ambient conditions

Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.153 m <sup>3</sup> /s (5.403 ft <sup>3</sup> /s)
Installation altitude	1000 m (3280.84 ft)
Ambient temperature	
Operation	-20 ... 45 °C (-4 ... 113 °F)
Transport	-40 ... 70 °C (-40 ... 158 °F)
Storage	-25 ... 55 °C (-13 ... 131 °F)

### Relative humidity

Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible
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### 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	FSF
Net weight	71 kg (156.53 lb)
Width	305 mm (12.01 in)
Height	709 mm (27.91 in)
Depth	360 mm (14.17 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	M10 screw
Conductor cross-section	35.00 ... 120.00 mm <sup>2</sup> (AWG 1 ... AWG 4/0)

#### Motor end

Version	M10 screw
Conductor cross-section	35.00 ... 120.00 mm <sup>2</sup> (AWG 1 ... AWG 4/0)

#### DC link (for braking resistor)

PE connection	M10 screw
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#### Max. motor cable length

Shielded	300 m (984.25 ft)
Unshielded	450 m (1476.38 ft)



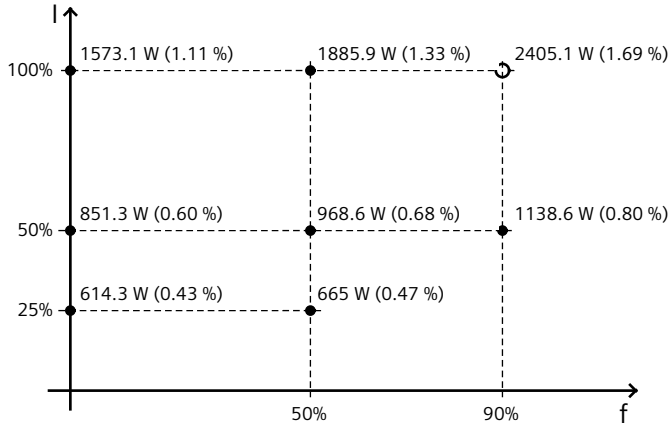
Figure similar

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

Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	-41.30 %



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 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

### I/O Extension Module

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