

Article No. : 6SL3220-3YE44-1AF0



Figure similar

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)	172.00 A	151.00 A
Rated current (HO)	154.00 A	132.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC¹⁾
Rated power (LO)	90.00 kW	125.00 hp
Rated power (HO)	75.00 kW	100.00 hp
Rated current (LO)	178.00 A	156.00 A
Rated current (HO)	145.00 A	124.00 A
Rated current (IN)	183.00 A	
Max. output current	241.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 ... 200 Hz	
Output frequency for V/f control	0 ... 550 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		
General tech. specifications		
Power factor λ	0.90 ... 0.95	
Offset factor $\cos \phi$	0.99	
Efficiency η	0.97	
Sound pressure level (1m)	72 dB	
Power loss ³⁾	2.610 kW	
Filter class (integrated)	RFI suppression filter for Category C2	
EMC category (with accessories)	Category C2	
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7-1500F)	
Communication		
Communication	PROFINET, EtherNet/IP	

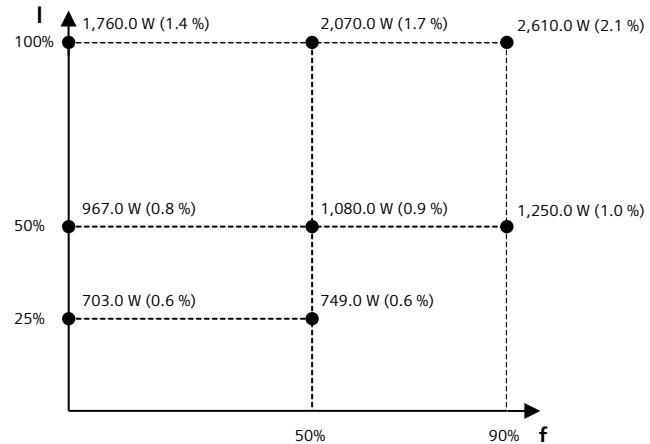
Inputs / outputs		
Standard digital inputs		
Number	6	
Switching level: 0 → 1	11 V	
Switching level: 1 → 0	5 V	
Max. inrush current	15 mA	
Fail-safe digital inputs		
Number	1	
Digital outputs		
Number as relay changeover contact	2	
Output (resistive load)	DC 30 V, 5.0 A	
Number as transistor	0	
Analog / 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)	
PTC/ KTY interface		
1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy $\pm 5^\circ\text{C}$		

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	No
Torque control, with encoder	No

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Ambient conditions		Mechanical data	
Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002	Degree of protection	IP20 / UL open type
Cooling	Air cooling using an integrated fan	Frame size	FSF
Cooling air requirement	0.153 m ³ /s (5.403 ft ³ /s)	Net weight	68 kg (149.91 lb)
Installation altitude	1,000 m (3,280.84 ft)	Dimensions	
Ambient temperature		Width	305 mm (12.01 in)
Operation	-20 ... 45 °C (-4 ... 113 °F)	Height	709 mm (27.91 in)
Transport	-40 ... 70 °C (-40 ... 158 °F)	Depth	369 mm (14.53 in)
Storage	-25 ... 55 °C (-13 ... 131 °F)	Standards	
Relative humidity		Compliance with standards	UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH
Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible	CE marking	EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC
Connections			
Signal cable			
Conductor cross-section	0.15 ... 1.50 mm ² (AWG 24 ... AWG 16)	Converter losses to IEC61800-9-2*	
Line side			
Version	M10 screw	Efficiency class	IE2
Conductor cross-section	35.00 ... 2 x 120.00 mm ² (AWG 1 ... AWG 2 x 4/0)	Comparison with the reference converter (90% / 100%)	51.4 %
Motor end			
Version	M10 screw		
Conductor cross-section	35.00 ... 2 x 120.00 mm ² (AWG 1 ... AWG 2 x 4/0)		
DC link (for braking resistor)			
PE connection	M10 screw		
Max. motor cable length			
Shielded	150 m (492.13 ft)		



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

¹⁾The output current and HP ratings are valid for the voltage range 440V-480V

²⁾Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.

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Operator panel: Intelligent Operator Panel (IOP-2)

Screen		Ambient conditions	
Display design	LCD color	Ambient temperature	
Screen resolution	320 x 240 Pixel	Operation	0 ... 50 °C (32 ... 122 °F) 55 °C only with door installation kit
Mechanical data		Relative humidity at 25°C during	
Degree of protection	IP55 / UL type 12	Storage	-40 ... 70 °C (-40 ... 158 °F)
Net weight	0.134 kg (0.30 lb)	Transport	-40 ... 70 °C (-40 ... 158 °F)
Dimensions			
Width	70.00 mm (2.76 in)	Max. operation	95 %
Height	106.85 mm (4.21 in)		
Depth	19.65 mm (0.77 in)		
Approvals			
		Certificate of suitability	CE, cULus, EAC, KCC, RCM

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I/O Extension Module	
Inputs / outputs	Mechanical data
Digital inputs	Dimensions
Number of digital inputs ¹⁾ 2	Width 71 mm (2.80 in)
Conductor cross-section 0.5 ... 1.5 mm ² (AWG 21 ... AWG 16) Alternatively 2 x 0.5 mm ²	Height 117 mm (4.61 in)
Input voltage (0→1) 11 V	Depth 27 mm (1.06 in)
Input voltage (1→0) 5 V	
Input voltage, max. 30 V	
Digital outputs	
Number of digital outputs 4	
Conductor cross-section 1.5 mm ² (AWG 16)	
Output current ²⁾ 2 A	
Analog inputs	
Number of analog inputs ³⁾ 2	
Conductor cross-section 0.5 ... 1.5 mm ² (AWG 21 ... AWG 16) alternatively 2*0.5 mm ²	
Current 0 ... 20 mA	
Analog outputs	
Number of analog outputs 2	
Type of analog outputs ⁴⁾ Non-isolated output	
Conductor cross-section 0.5 ... 1.5 mm ² (AWG 21 ... AWG 16) Alternatively 2 x 0.5 mm ²	
Output voltage 0 ... 10 V	
Output current 0 ... 20 mA	

¹⁾DI 6: digital input; DI 7: P or M switch; DI COM: Input for Control Unit interface (24 V out, max. 250 mA)

²⁾The max. current depends on the temperature and the size of the connected converted. It varies between 2 A and 3 A at 30 V DC.

³⁾2 analog inputs for the connection of Pt1000/Ni1000 temperature sensors. One of which can be optionally used as analog input.

⁴⁾Switchable between voltage (0 ... 10 V) and current (0 ... 20 mA) using a parameter