

Article No. : 6SL3220-1YE28-1AP0



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)	29.50 A	26.00 A
Rated current (HO)	24.50 A	21.30 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC¹⁾
Rated power (LO)	15.00 kW	20.00 hp
Rated power (HO)	11.00 kW	15.00 hp
Rated current (LO)	32.00 A	27.00 A
Rated current (HO)	26.00 A	21.00 A
Rated current (IN)	33.00 A	
Max. output current	43.00 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	0.70 ... 0.85	
Offset factor $\cos \phi$	0.96	
Efficiency η	0.98	
Sound pressure level (1m)	67 dB	
Power loss ³⁾	0.438 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	PROFIBUS DP	

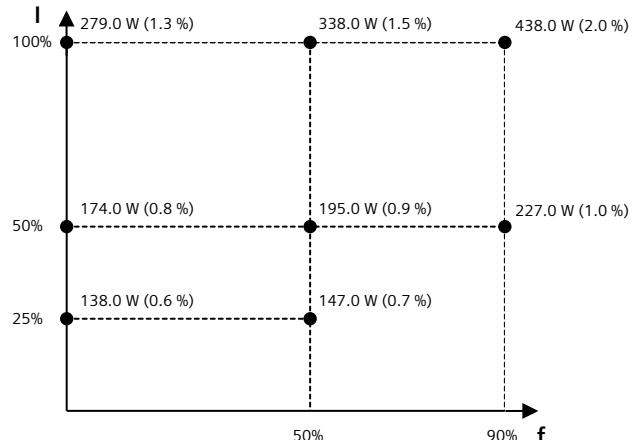
Inputs / outputs		
Standard digital inputs		
Number	6	
Switching level: 0 → 1	11 V	
Switching level: 1 → 0	5 V	
Max. inrush current	15 mA	
Fail-safe digital inputs		
Number	1	
Digital outputs		
Number as relay changeover contact	2	
Output (resistive load)	DC 30 V, 5.0 A	
Number as transistor	0	
Analog / 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

Article No. : 6SL3220-1YE28-1AP0

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	FSC
Cooling air requirement	0.018 m ³ /s (0.653 ft ³ /s)	Net weight	7.66 kg (16.89 lb)
Installation altitude	1,000 m (3,280.84 ft)	Dimensions	
Ambient temperature		Width	140 mm (5.51 in)
Operation	-20 ... 45 °C (-4 ... 113 °F)	Height	295 mm (11.61 in)
Transport	-40 ... 70 °C (-40 ... 158 °F)	Depth	218 mm (8.58 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		Converter losses to IEC61800-9-2*	
Conductor cross-section	0.15 ... 1.50 mm ² (AWG 24 ... AWG 16)	Efficiency class	IE2
Line side		Comparison with the reference converter (90% / 100%)	39.1 %
Version	screw-type terminal		
Conductor cross-section	1.50 ... 16.00 mm ² (AWG 16 ... AWG 6)		
Motor end			
Version	Screw-type terminals		
Conductor cross-section	1.50 ... 16.00 mm ² (AWG 16 ... AWG 6)		
DC link (for braking resistor)			
PE connection	On housing with M4 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.

Article No. : 6SL3220-1YE28-1AP0

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