

Variable frequency drive SVX 3-/3-phase 132 kW 480 V; protection type IP54; integrated EMC filter; coated printed circuit boards



Part no. **SVX200A2-4A1N2**
 Catalog No. **138479**
 Alternate Catalog No. **SVX200A2-4A1N2**

Delivery program

Product range			Variable frequency drives
Part group reference (e.g. DIL)			SVX
Rated operational voltage	U _e		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Output voltage with V _e	U ₂		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Mains voltage (50/60Hz)	U _{LN}	V	380 (-15%) - 500 (+10%)
Rated operational current			
At 150% overload	I _e	A	245
At 110% overload	I _e	A	300
Assigned motor rating			
Note			For AC motors with internal and external ventilation with 50 Hz / 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	P	kW	132
110 % Overload	P	kW	160
150 % Overload	I _M	A	231
110 % Overload	I _M	A	279
Note			at 440 - 480 V, 60 Hz
150 % Overload	P	HP	200
110 % Overload	P	HP	250
150 % Overload	I _M	A	240
110 % Overload	I _M	A	302
Degree of Protection			IP54
Fieldbus connection (optional)			PROFIBUS-DP PROFINET EtherCAT EtherNet/IP LonWorks CANopen® DeviceNet Modbus-TCP Modbus-RTU BACnet MS/TP
Fitted with			Radio interference suppression filter OLED display Additional PCB protection
Frame size			FR9
Connection to SmartWire-DT			no

Technical data

General			
Standards			General requirements: IEC/EN 61800-2 EMV requirements: IEC/EN 61800-3 Safety requirements: IEC/EN 61800-5-1
Certifications			CE, UL, cUL, RCM
Approvals			DNV

Production quality			RoHS, ISO 9001
Climatic proofing	ρ_w	%	< 95% relative humidity, no condensation, no corrosion, no dripping water
Air quality			3C2, 3S2
Ambient temperature			
Operating ambient temperature min.		°C	-10
Operating ambient temperature max.		°C	+50
operation (110 % overload)	θ	°C	-10 - +40
Storage	θ	°C	-40 - +70
Radio interference level			
Radio interference class (EMC)			C2, C3, depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
Environment (EMC)			1st and 2nd environments as per EN 61800-3
Mounting position			Vertical
Altitude		m	0 - 1000 m above sea level above 1000 m with 1 % performance reduction per 100 m max. 3000 m
Degree of Protection			IP54
Protection against direct contact			BGV A3 (VBG4, finger- and back-of-hand proof)

Main circuit

Supply			
Rated operational voltage	U_e		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Mains voltage (50/60Hz)	U_{LN}	V	380 (-15%) - 500 (+10%)
System configuration			AC supply systems with earthed center point
Supply frequency	f_{LN}	Hz	50/60
Frequency range	f_{LN}	Hz	45–66 ($\pm 0\%$)
Power section			
Function			Variable frequency drive with internal DC link and IGBT inverter
Output voltage with V_e	U_2		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Output Frequency	f_2	Hz	0 - 50/60 (max. 320)
Switching frequency	f_{PWM}	kHz	3.6 adjustable 1 - 10
Operation Mode			U/f control sensorless vector control (SLV)
Frequency resolution (setpoint value)	Δf	Hz	0.01
Rated operational current			
At 150% overload	I_e	A	245
At 110% overload	I_e	A	300
Fitted with			Radio interference suppression filter OLED display Additional PCB protection
Frame size			FR9
Motor feeder			
Note			For AC motors with internal and external ventilation with 50 Hz / 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	P	kW	132
110 % Overload	P	kW	160
Note			at 440 - 480 V, 60 Hz
150 % Overload	P	HP	200
110 % Overload	P	HP	250

Control section

External control voltage	U_c	V	24 V DC (max. 250 mA)
Reference voltage	U_s	V	10 V DC (max. 10 mA)
Analog inputs			2, parameterizable, 0 - 10 V DC, 0/4 - 20 mA
Analog outputs			1, parameterizable, 0/4 - 20 mA

Digital inputs		6, parameterizable, max. 30 V DC
Digital outputs		1, parameterizable, 48 V DC/50 mA
Relay outputs		2, parameterizable, N/O, 8 A (24 V DC) / 8 A (250 V AC) / 0,4 A (125 V DC)

Assigned switching and protective elements

Power Wiring		
Main choke		
150 % overload (CT/I _H , at 50 °C)		DX-LN3-300
Motor feeder		
motor choke		
150 % overload (CT/I _H , at 50 °C)		DX-LM3-260
110 % overload (VT/I _L , at 40 °C)		DX-LM3-303
Sine filter		
150 % overload (CT/I _H , at 50 °C)		DX-SIN3-250
110 % overload (VT/I _L , at 40 °C)		DX-SIN3-440

Design verification as per IEC/EN 61439

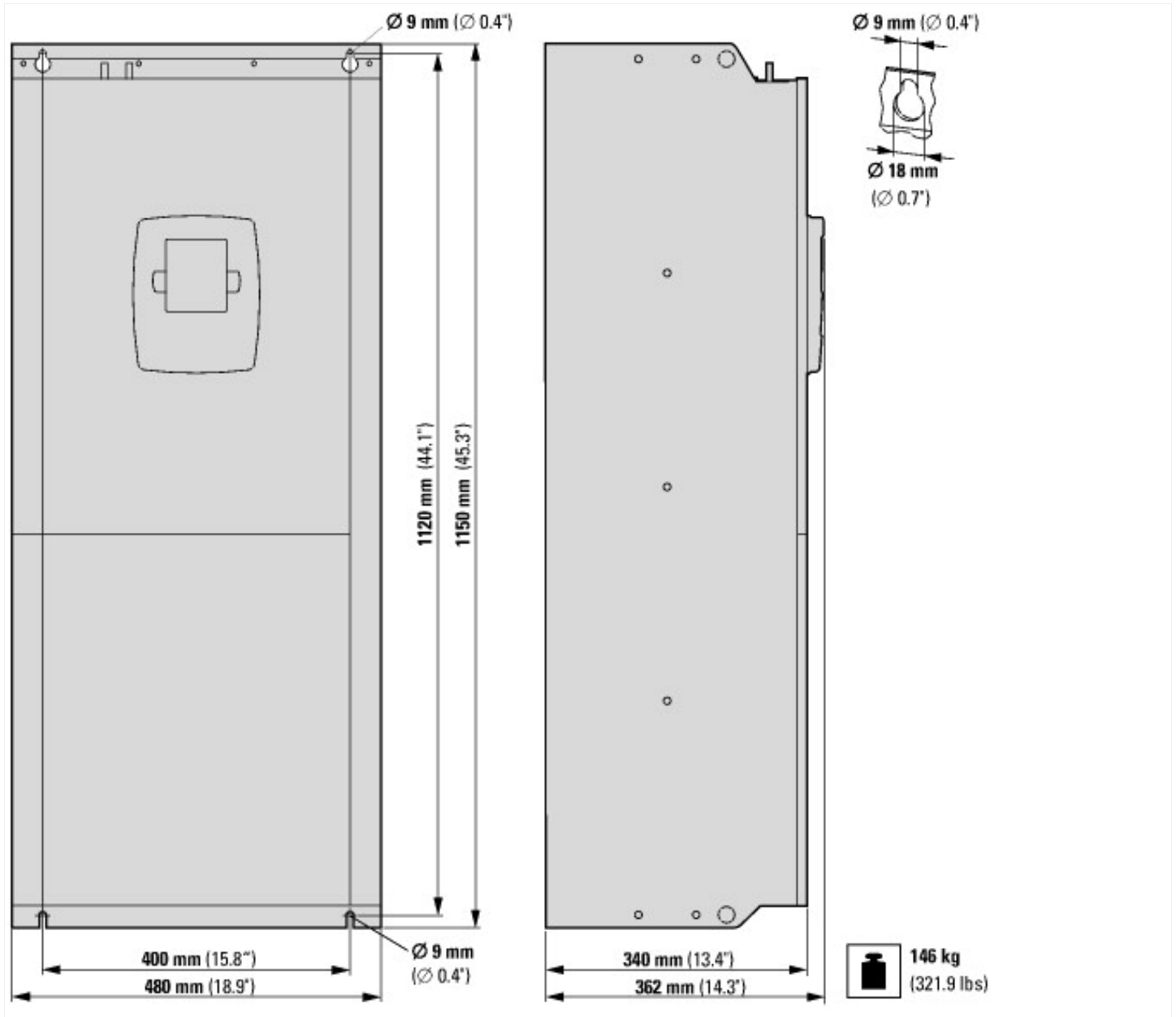
Technical data for design verification				
Rated operational current for specified heat dissipation	I _n	A		245
Heat dissipation per pole, current-dependent	P _{vid}	W		0
Equipment heat dissipation, current-dependent	P _{vid}	W		3300
Static heat dissipation, non-current-dependent	P _{vs}	W		0
Heat dissipation capacity	P _{diss}	W		0
Operating ambient temperature min.		°C		-10
Operating ambient temperature max.		°C		50
IEC/EN 61439 design verification				
10.2 Strength of materials and parts				
10.2.2 Corrosion resistance				
				Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures				
				Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat				
				Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects				
				Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation				
				Meets the product standard's requirements.
10.2.5 Lifting				
				Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact				
				Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions				
				Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES				
				Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances				
				Meets the product standard's requirements.
10.5 Protection against electric shock				
				Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components				
				Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections				
				Is the panel builder's responsibility.
10.8 Connections for external conductors				
				Is the panel builder's responsibility.
10.9 Insulation properties				
10.9.2 Power-frequency electric strength				
				Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage				
				Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material				
				Is the panel builder's responsibility.
10.10 Temperature rise				
				The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating				
				Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility				
				Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function				
				The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Approvals

Product Standards		UL 508C; CSA-C22.2 No. 14; IEC/EN61800-3; IEC/EN61800-5; CE marking
UL File No.		E134360

UL Category Control No.		NMMS, NMMS2, NMMS7, NMMS8
CSA File No.		UL report applies to both US and Canada
CSA Class No.		3211-06
North America Certification		UL listed, certified by UL for use in Canada
Specially designed for North America		No
Suitable for		Branch circuits
Max. Voltage Rating		3- 480 V AC IEC: TN-S UL/CSA: "Y" (Solidly Grounded Wey)
Degree of Protection		IEC: IP54

Dimensions



Assets (links)

Declaration of CE Conformity

00002807

Additional product information (links)

IL04020008Z Frequency inverter 9000X

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ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04020008Z2018_05.pdf

Documentation

<http://www.eaton.eu/Europe/Electrical/ProductsServices/AutomationControl/SwitchingProtectingDrivingMotors/9000X/SVX9000/index.htm#tabs-4>