



Variable frequency drive SVX 3-/3-phase 250 kW 480 V; degree of protection IP00; integrated EMC filter

Part no. SPX400A0-4A2N1
Article no. 125428
Catalog No. SPX400A0-4A2N1

Delivery program

Product range			Variable frequency drives
Part group reference (e.g. DIL)			SPX
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	520
At 110% overload	I_e	A	590
Note			Overload cycle for 60 s every 600 s
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	250
110 % Overload	P	kW	315
150 % Overload	I_M	A	437
110 % Overload	I_M	A	544
Note			at 440 - 480 V, 60 Hz
150 % Overload	P	HP	400
110 % Overload	P	HP	500
150 % Overload	I_M	A	477
110 % Overload	I_M	A	590
Degree of Protection			IP00
Fieldbus connection (optional)			PROFIBUS-DP LonWorks CANopen® DeviceNet Modbus-TCP BACnet/IP
Fitted with			OLED display
Frame size			FR11
Connection to SmartWire-DT			No

Technical data

General

Standards			Specification for general requirements: IEC/EN 61800-2 EMC requirements: IEC/EN 61800-3 Safety requirements: IEC/EN 61800-5-1
Certifications			CE, UL, cUL, c-Track
Production quality			RoHS, ISO 9001
Climatic proofing	ρ_w	%	< 95% relative humidity, no condensation, no corrosion, no dripping water
Ambient temperature			
operation (150 % 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
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			IP00
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
Power section			
Function			Frequency inverter 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 - 6
Operation Mode			U/f control sensorless vector control (SLV) optional: Vector control with feedback (CLV)
Frequency resolution (setpoint value)	Δf	Hz	0.01
Rated operational current			
At 150% overload	I_e	A	520
At 110% overload	I_e	A	590
Fitted with			OLED display
Frame size			FR11
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	250
110 % Overload	P	kW	315
Note			at 440 - 480 V, 60 Hz
150 % Overload	P	HP	400
110 % Overload	P	HP	500

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

Motor feeder			
150 % overload (CT/ I_H , at 50 °C)			DUT-0590-6-0-S
110 % overload (VT/ I_L , at 40 °C)			DUT-0590-6-0-S
150 % overload (CT/ I_H , at 50 °C)			SIN-0600-5-0-P
110 % overload (VT/ I_L , at 40 °C)			SIN-0600-5-0-P

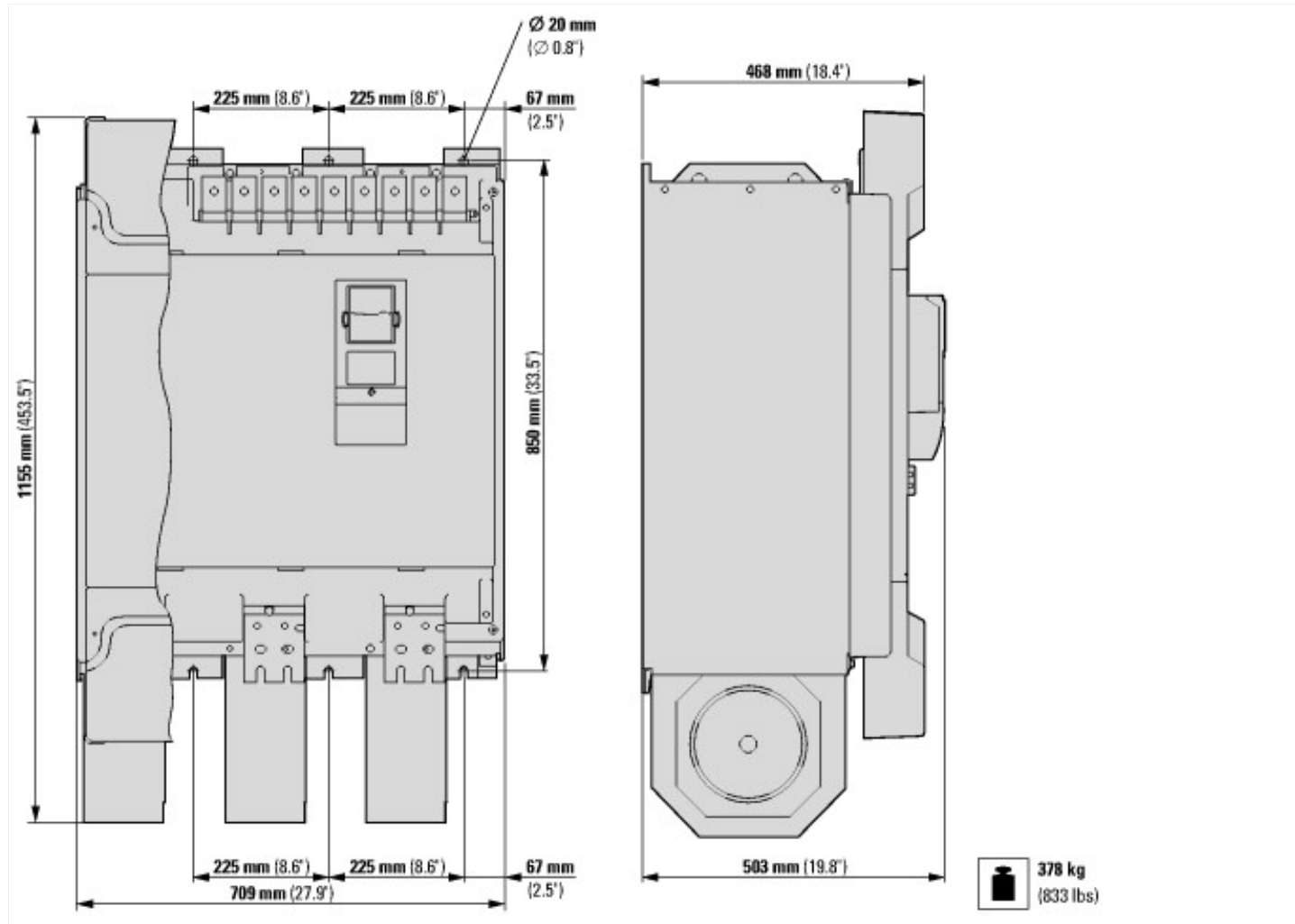
Design verification as per IEC/EN 61439

Technical data for design verification			
Equipment heat dissipation, current-dependent	P _{vid}	W	6250
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			
10.2.2.1 Verification of thermal stability of enclosures			
10.2.2.2 Verification of resistance of insulating materials to normal heat			
10.2.2.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			
10.2.4 Resistance to ultra-violet (UV) radiation			
10.2.5 Lifting			
10.2.6 Mechanical impact			
10.2.7 Inscriptions			
10.3 Degree of protection of ASSEMBLIES			
10.4 Clearances and creepage distances			
10.5 Protection against electric shock			
10.6 Incorporation of switching devices and components			
10.7 Internal electrical circuits and connections			
10.8 Connections for external conductors			
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			
10.9.3 Impulse withstand voltage			
10.9.4 Testing of enclosures made of insulating material			
10.10 Temperature rise			
10.11 Short-circuit rating			
10.12 Electromagnetic compatibility			
10.13 Mechanical function			

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: IP00

Dimensions



Additional product information (links)

IL04020008Z Instructions for 9000X frequency inverter: SVX, SPX

IL04020008Z Instructions for 9000X frequency inverter: SVX, SPX ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04020008Z2012_08.pdf

MN04001004 Operating Manual for 9000X Variable Frequency Drives

MN04001004 Bedienhandbuch
Frequenzumrichter 9000X - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04001004Z_DE.pdf

MN04004001 Application manual 9000X variable frequency drives

MN04004001 Applikationshandbuch
Frequenzumrichter 9000X - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04004001Z_DE.pdf

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Antriebstechnik effizient gestalten, Motoren
starten und steuern http://www.eaton.eu/DE/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_1095238_de.pdf