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Powering Business Worldwide

SPX060A1-5A4N1 - Variable frequency drive, 600 V AC, 3-phase, 55 kW, IP21, Radio interference suppression filter, OLED display, FR8



125344 SPX060A1-5A4N1

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# 125344 SPX060A1-5A4N1

Variable frequency drive, 600 V AC, 3-phase, 55 kW, IP21, Radio interference suppression filter, OLED display, FR8

Alternate Catalog Nb.

SPX060A1-5A4N1

EL-Nummer (Norway)

4100140

Variable frequency drive, Part group reference (e.g. DIL): SPX, Rated operational voltage:  $U_e = 600$  V AC, 3-phase, 690 V AC, 3-phase, Output voltage with  $V_e$ :  $U_2 = 600$  V AC, 3-phase, 690 V AC, 3-phase, Mains voltage (50/60Hz):  $U_{LN} = 525$  (-15%) - 690 ( $\pm 10\%$ ) V, Rated operational current At 150% overload:  $I_e = 62$  A, Rated operational current At 110% overload:  $I_e = 80$  A, 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, Overload cycle for 60 s every 600 s, at 690 V, 50 Hz, Assigned motor rating 150 % Overload:  $P = 55$  kW, 110 % Overload:  $P = 75$  kW, 150 % Overload:  $I_M = 58$  A, 110 % Overload:  $I_M = 78$  A, Assigned motor rating Note: at 690 V, 60 Hz, Assigned motor rating 150 % Overload:  $P = 60$  HP, 110 % Overload:  $P = 75$  HP, Assigned motor rating 150 % Overload:  $I_M = 54$  A, 110 % Overload:  $I_M = 67$  A, Degree of Protection: IP21, Fieldbus connection (optional): PROFIBUS-DP, LonWorks, CANopen®, DeviceNet, Modbus-TCP, BACnet/IP, Fitted with: Radio interference suppression filter, OLED display, DC link choke, Frame size: FR8, Standards: Specification for general requirements: IEC/EN 61800-2, EMC requirements: IEC/EN 61800-3, Safety requirements: IEC/EN 61800-5-1

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## Delivery program

Product range

Variable frequency drives

Part group reference (e.g. DIL)

SPX

Rated operational voltage [ $U_e$ ]

600 V AC, 3-phase

690 V AC, 3-phase

Output voltage with  $V_e$  [ $U_2$ ]

600 V AC, 3-phase

690 V AC, 3-phase

Mains voltage (50/60Hz) [ $U_{LN}$ ]

525 (-15%) - 690 ( $\pm 10\%$ ) V

Rated operational current [ $I_e$ ]

At 150% overload [ $I_e$ ]

62 A

At 110% overload [ $I_e$ ]

80 A

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 690 V, 50 Hz

150 % Overload [P]

55 kW

110 % Overload [P]

75 kW

150 % Overload [ $I_M$ ]

58 A

110 % Overload [ $I_M$ ]

78 A

Note

at 690 V, 60 Hz

150 % Overload [P]

60 HP

110 % Overload [P]

75 HP

150 % Overload [ $I_M$ ]

54 A

110 % Overload [ $I_M$ ]

67 A

Degree of Protection

IP21

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

Frame size

FR8

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, RCM

Approvals

DNV

Production quality

RoHS, ISO 9001

Climatic proofing [ $\rho_w$ ]

< 95% relative humidity, no condensation, no corrosion, no dripping water %

Ambient temperatureOperating ambient temperature min.

-10 °C

Ambient temperatureOperating ambient temperature max.

+50 °C

Ambient temperatureoperation (110 % overload) [9]

-10 - +40 °C

Ambient temperatureStorage [9]

-40 - +70 °C

Radio interference levelRadio 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.  
 Radio interference level Environment (EMC)  
 1st and 2nd environments as per EN 61800-3  
 Mounting position  
 Vertical  
 Altitude  
 0 - 1000 m above sea level  
 above 1000 m with 1 % performance reduction per 100 m  
 max. 3000 mm  
 Degree of Protection  
 IP21  
 Protection against direct contact  
 BGV A3 (VBG4, finger- and back-of-hand proof)  
 Main circuit  
 Supply Rated operational voltage [ $U_N$ ]  
 600 V AC, 3-phase  
 690 V AC, 3-phase  
 Supply Mains voltage (50/60 Hz) [ $U_N$ ]  
 525 (-15%) - 690 ( $\pm 10\%$ ) V  
 Supply System configuration  
 AC supply systems with earthed center point  
 Supply Supply frequency [ $f_{LN}$ ]  
 50/60 Hz  
 Supply Frequency range [ $f_{LN}$ ]  
 45–66 ( $\pm 0\%$ ) Hz  
 Power section Function  
 Variable frequency drive with internal DC link and IGBT inverter  
 Power section Output voltage with  $V_e$  [ $U_2$ ]  
 600 V AC, 3-phase  
 690 V AC, 3-phase  
 Power section Output Frequency [ $f_2$ ]  
 0 - 50/60 (max. 320) Hz  
 Power section Switching frequency [ $f_{PWM}$ ]  
 1.5  
 adjustable 1 - 6 kHz  
 Power section Operation Mode  
 U/f control  
 sensorless vector control (SLV)  
 optional: Vector control with feedback (CLV)  
 Power section Frequency resolution (setpoint value) [ $\Delta f$ ]  
 0.01 Hz  
 Power section Rated operational current At 150% overload [ $I_e$ ]  
 62 A  
 Power section Rated operational current At 110% overload [ $I_e$ ]  
 80 A  
 Power section Fitted with  
 Radio interference suppression filter  
 OLED display  
 Power section Frame size  
 FR8  
 Motor feeder Note  
 For AC motors with internal and external ventilation with 50 Hz / 60 Hz  
 Motor feeder Note  
 Overload cycle for 60 s every 600 s  
 Motor feeder Note  
 at 690 V, 50 Hz  
 Motor feeder 150 % Overload [ $P$ ]  
 55 kW  
 Motor feeder 110 % Overload [ $P$ ]  
 75 kW  
 Motor feeder Note  
 at 690 V, 60 Hz  
 Motor feeder 150 % Overload [ $P$ ]  
 60 HP  
 Motor feeder 110 % Overload [ $P$ ]  
 75 HP  
 Control section  
 External control voltage [ $U_c$ ]  
 24 V DC (max. 250 mA) V

Reference voltage [ $U_s$ ]  
 10 V DC (max. 10 mA) V  
 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, NO, 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-LN3-080  
 Motor feeder motor choke 150 % overload ( $CT/I_H$ , at 50 °C)  
 DX-LMB-063  
 Motor feeder motor choke 110 % overload ( $VT/I_L$ , at 40 °C)  
 DX-LMB-080  
 Motor feeder Sine filter 150 % overload ( $CT/I_H$ , at 50 °C)  
 SIN-0085-6-0-P  
 Motor feeder Sine filter 110 % overload ( $VT/I_L$ , at 40 °C)  
 SIN-0085-6-0-P

## Design verification as per IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [ $I_r$ ]

62 A

Heat dissipation per pole, current-dependent [ $P_{id}$ ]

0 W

Equipment heat dissipation, current-dependent [ $P_{id}$ ]

1375 W

Static heat dissipation, non-current-dependent [ $P_{vs}$ ]

0 W

Heat dissipation capacity [ $P_{diss}$ ]

0 W

Operating ambient temperature min.

-10 °C

Operating ambient temperature max.

+50 °C

Operation (with 150 % overload)

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 Strength of materials and parts 10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

10.2 Strength of materials and parts 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 Strength of materials and parts 10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts 10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts 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 Insulation properties 10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

10.9 Insulation properties 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

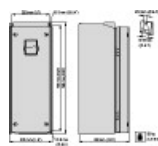
Max. Voltage Rating

3~ 690 V AC IEC: TN-S UL/CSA: "Y" (Solidly Grounded Wey)

Degree of Protection

IEC: IP21

## Dimensions



## Additional product information

- [Documentation](#)  
(Web)

## Product photo

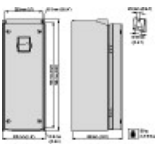


8230PIC-191

Photo

SVX, SPX variable frequency drive: size 8

## Dimensions single product

- 
  
[8230DIM-115](#)
  
 Line drawing

# Manual

- [9000X Variable Frequency Drives, Applications \(MN04004001Z\\_DE\)](#)
  
 Asset
   
 (PDF, 08/2010, de)

# Instruction Leaflet

- [9000X Variable Frequency Drives \(IL04020008Z\)](#)
  
 Asset
   
 (PDF, 05/2018, multilingual)

# Declaration of Conformity

## EU

- [Variable frequency drive SVX, SPX \(DA-DC-00003693\)](#)
  
 Asset
   
 (PDF)

## UK

- [Variable frequency drive SVX, SPX \(DA-DC-00003956\)](#)
  
 Asset
   
 (PDF)

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