



125697
SVX050A2-4A1N1

Overview

Specifications

Resources



Delivery program

Technical data

Design verification as per IEC/EN 61439

Approvals

Dimensions

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}]
380 (-15%) - 500 (+10%) V

Rated operational current [I_e]

At 150% overload [I_e]
72 A

At 110% overload [I_e]
87 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 400 V, 50 Hz

150 % Overload [P]
37 kW

110 % Overload [P]
45 kW

150 % Overload [I_M]
68 A

110 % Overload [I_M]
81 A

Note
at 440 - 480 V, 60 Hz

150 % Overload [P]
50 HP

110 % Overload [P]
60 HP

150 % Overload [I_M]
65 A

110 % Overload [I_M]

77 A

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

Frame size
FR7

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 [ρ_w]
< 95% relative humidity, no condensation, no corrosion, no dripping water %

Ambient temperature
Operating ambient temperature min.
-10 °C

Ambient temperature
Operating ambient temperature max.
+50 °C

Ambient temperature
operation (110 % overload) [9]
-10 - +40 °C

Ambient temperature
Storage [9]
-40 - +70 °C

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.

Radio interference level
Environment (EMC)
1st and 2nd environments as per EN61800-3

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
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

Supply
Mains voltage (50/60Hz) [U_{LN}]
380 (-15%) - 500 (+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]
400 V AC, 3-phase
480 V AC, 3-phase
500 V AC, 3-phase

Power section
Output Frequency [f_2]
0 - 50/60 (max. 320) Hz

Power section
Switching frequency [f_{PWM}]
3.6
adjustable 1 - 10 kHz

Power section
Operation Mode
U/f control
sensorless vector control (SLV)

Power section

Frequency resolution (setpoint value) [Δf]
0.01 Hz

Power section
Rated operational current
At 150% overload [I_e]
72 A

Power section
Rated operational current
At 110% overload [I_e]
87 A

Power section
Fitted with
Radio interference suppression filter
OLED display

Power section
Frame size
FR7

Mbtor feeder
Note
For AC motors with internal and external
ventilation with 50 Hz / 60 Hz

Mbtor feeder
Note
Overload cycle for 60 s every 600 s

Mbtor feeder
Note
at 400 V, 50 Hz

Mbtor feeder
150 % Overload [P]
37 kW

Mbtor feeder
110 % Overload [P]
45 kW

Mbtor feeder
Note
at 440 - 480 V, 60 Hz

Mbtor feeder
150 % Overload [P]

50 HP

Motor feeder
110 % Overload [P]
60 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, 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-LNB-100

Motor feeder
motor choke
150 % overload (CT/I_H , at 50 °C)
DX-LMB-080

Motor feeder
motor choke
110 % overload (VT/I_L , at 40 °C)

DX-LMB-100

Motor feeder
Sine filter
150 % overload (CT/I_n , at 50 °C)
DX-SIN3-072

Motor feeder
Sine filter
110 % overload (VT/I_n , at 40 °C)
DX-SIN3-090

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat
dissipation [I_n]
72 A

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

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

Static heat dissipation, non-current-dependent [P_{is}]
0 W

Heat dissipation capacity [P_{diss}]
0 W

Operating ambient temperature min.
-10 °C

Operating ambient temperature max.
+50 °C

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~ 480 V AC IEC: TN-S UL/CSA: "Y" (Solidly
Grounded Wey)

Degree of Protection
IEC: IP54

DIMENSIONS



