DATASHEET - SPXH12A0-4A2N1

Variable frequency drive, 400 V AC, 3-phase, 900 kW, IP00, OLED display, FR14

Powering Business Worldwide

Part no. SPXH12A0-4A2N1
125486

General specifications

Product name	Eaton SPX variable frequency drive
Part no.	SPXH12A0-4A2N1
EAN	4015081230921
Product Length/Depth	105.5 millimetre
Product height	56.6 millimetre
Product width	141.6 millimetre
Product weight	872 kilogram
Certifications	IEC/EN61800-5 UL File No.: E134360 UL Category Control No.: NMMS, NMMS2, NMMS7. NMMS8 CSA-C22.2 No. 14 RCM IEC/EN61800-3 Safety: EN 61800-5-1: 2003 UL report applies to both US and Canada RoHS, ISO 9001 UL 508C Certified by UL for use in Canada CE CSA Class No.: 3211-06 CUL UL Specification for general requirements: IEC/EN 61800-2 IEC/EN 61800-3 DNV
Product Tradename	SPX
Product Type	Variable frequency drive
Product Sub Type	None
Catalog Notes	Assigned motor rating: For AC motors with internal and external ventilation with 50 Hz / 60 Hz Assigned motor rating: Overload cycle for 60 s every 600 s

General information

Degree of protection	IP00 NEMA Other
Electromagnetic compatibility	1st and 2nd environments (according to EN 61800-3)
Fitted with:	IGBT inverter Internal DC link PC connection OLED display Control unit
Frame size	FR14
Functions	4-quadrant operation possible
Mounting position	Vertical
Product Category	Variable frequency drives
Protection	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
Radio interference class	C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
Suitable for	Branch circuits, (UL/CSA)

Climatic environmental conditions

Altitude	Above 1000 m with 1 % performance reduction per 100 m Max. 1000 m Max. 3000 m
Ambient operating temperature - min	-10 °C
Ambient operating temperature - max	40 °C
Ambient operating temperature at 150% overload - min	-10 °C
Ambient operating temperature at 150% overload - max	40 °C
Ambient storage temperature - min	-40 °C

Ambient storage temperature - max	70 °C
Climatic proofing	< 95 % relative humidity, no condensation, no corrosion, no dripping water
Main circuit	
Mains voltage - min	380 V
Mains voltage - max	500 V
Operating mode	Sensorless vector control (SLV) U/f control Optional: Vector control with feedback (CLV)
Output frequency - min	0 Hz
Output frequency - max	320 Hz
Output voltage (U2)	400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Rated control supply voltage	10 V DC (Us, max. 10 mA)
Rated frequency - min	45 Hz
Rated frequency - max	66 Hz
Rated operational current (Ie) at 110% overload	1770 A
Rated operational current (Ie) at 150% overload	1600 A
Rated operational power at 380/400 V, 50 Hz, 3-phase	900 kW
Rated operational power at 380/400 V, 50 Hz, 3-phase, 110% overload	1000 kW
Rated operational voltage	500 V AC, 3-phase 480 V AC, 3-phase 400 V AC, 3-phase
Resolution	0.01 Hz (Frequency resolution, setpoint value)
Supply frequency	50/60 Hz
Switching frequency	3.6 kHz, 1 - 6 kHz adjustable, fPWM, Power section, Main circuit
System configuration type	AC supply systems with earthed center point
Voltage rating - max	480 V AC
Motor rating	
Assigned motor power at 460/480 V, 60 Hz, 3-phase	1200 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase, 110 % overload	1600 HP
Control circuit	
Number of inputs (analog)	2
Number of inputs (digital)	6
Number of outputs (analog)	1
Number of outputs (digital)	1
Number of relay outputs	2 (parameterizable, N/O, 8 A (24 V DC) / 8 A (250 V AC) / 0,4 A (125 V DC))
Rated control voltage (Uc)	24 V DC (external, max. 250 mA)
Communication	
Communication interface	CANopen®, optional Modbus-TCP, optional PROFIBUS-DP LonWorks, optional BACnet/IP, optional DeviceNet, optional BACnet MS/TP, optional EtherCAT, optional Ethernet IP, optional Modbus-RTU, optional PROFINET, optional
Connection to SmartWire-DT	No
Protocol	CAN DeviceNet PROFIBUS TCP/IP Data-Highway LON Other bus systems
Design verification	
Equipment heat dissipation, current-dependent Pvid	22500 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In)	1600 A

Static heat dissipation, non-current-dependent Pvs		0 W
Heat dissipation details		Operation (with 150 % overload)
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.6 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.
10.9.2 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.