Honeywell

NXS
Variable Frequency Drives

SPECIFICATION DATA

Variable Frequency Drives (VFD) accept a control input and then output tailored control signal(s) to operate as many as six devices (fans, pumps, etc.) with maximum efficiency. The VFD can be field-programmed without any extra devices or computer connections.

FEATURES

- **Seven configurable applications built in.**
- **Easy commissioning through software or control panel.**
- **Devices can be wall-mounted or panel-mounted.**
- **Eleven protective functions (see Form 63-2600, Users Manual, Technical Data section).**
- **Compact Size.**
- **Insulated gate bi-polar transistor (IGBT) technology.**

SPECIFICATIONS

Wiring:
- ❑ Wire Type and Size is Model and Application Dependant.
- ❑ For NXS details, see form 63-2600.

Power Supply:
- ❑ 208-240 Vac, 45-66 Hz, +10%, -15%.
- ❑ 380-500 Vac, 45-66 Hz, +10%, -15%.
- ❑ 525-690 Vac, 45-66 Hz, +10%, -15%.

Ambient Ratings:
- ❑ Temperature Ranges:
  - ❑ Operating: 14°F to 104°F (-10°C to 40°C).
  - ❑ Storage: -40°F to 140°F (-40°C to 60°C).
- ❑ Humidity Range: 5 to 95% RH (non-condensing).

Control Inputs:
- ❑ Voltage (Analog): 0-10 Vdc, 200k ohm differential.
  - ❑ Resolution: 0.1%, ±1% accuracy.
- ❑ Current (Analog): 4-20 mA, 250 ohm differential.
- ❑ Digital: up to six, 24 Vdc, positive or negative logic.

Control Output:
- ❑ Reference Voltage: 10V, +3%; maximum load 10 mA.
- ❑ Auxiliary Voltage: 24V, ±15%; maximum 250 mA.
- ❑ Current (Analog): 0-20 mA, 500 ohm maximum.
  - ❑ Resolution: 10 bit.
  - ❑ Accuracy: ±2%.
- ❑ Relay: Two programmable changeover relay outputs
- ❑ Switching Capacity: 24 Vdc, 8A; 250 Vac, 8A; 125 Vdc, 0.4A.
- ❑ Digital: Open collector output, 50 mA, 48V.

Motor Connection:
- ❑ Continuous Output Overload Current:
  - ❑ Low: Maximum ambient temperature: 104°F (40°C); 1.1 x I_L (low overload current).
  - ❑ High: Maximum ambient temperature: 122°F (50°C); 1.5 x I_H (high overload current).
- ❑ Starting Torque:
  - ❑ Low Overload: 150%.
  - ❑ High Overload: 200%.
- ❑ Starting Current: 2.0 x I_H 2 seconds every 20 seconds if output frequency is less than 30 Hz and temperature of heatsink is less than 140°F (up to 400k W).
- ❑ Frequency:
  - ❑ Range: 0-320 Hz.
  - ❑ Resolution: 0.01 Hz.

Switching Frequency Range:
- ❑ Up to and including 40 HP: 1 to 16 KHz (default: 10 kHz).
- ❑ 50 HP and higher: 1 to 10 KHz (default: 3.6 kHz).

Mounting:
- ❑ Mount vertically on a wall or other flat surface using four screws or bolts sized for the particular unit.

Approvals (Model Dependant):
- ❑ NEMA1.
- ❑ NEMA12.
- ❑ Underwriters Laboratories, Inc. (UL)
- ❑ Canadian Underwriters Laboratories, Inc. (CUL).
- ❑ CE.

Accessories:
- ❑ 32006627-001 RFI Filter for NXL units up to 3HP, 460V.
- ❑ 32006628-001 Panel Mount Kit, NEMA12, 6 ft.
- ❑ 32006629-001 Blank Display.
- ❑ 32006629-002 Alphanumeric Display.

c UL US LISTED CE

63-1300-02

- ❑ 32006629-003 Seven-Segment Display for NXL.
- ❑ 32006630-001 Lonbus Card.
- ❑ 32006630-002 Modbus Card.
- ❑ 32006630-003 I/O Expander Card, 2RO (NO/NC).
- ❑ 32006630-004 I/O Expander Card, 6DI/DO Programmable.
- ❑ 32006630-005 I/O Expander Card, 6DI, 1DO, 2AI, 1AO.
- ❑ 32006630-006 I/O Expander Card, 1RO (NO/NC), 1RO (NO).
- ❑ 32006630-007 I/O Expander Card, 3RO (NO/NC), 1RO (NO).
- ❑ 32006630-008 I/O Expander Card, 1AI (mA), 2AO (mA).
- ❑ 32006662-001 NXL Demo Case.
- ❑ 32006662-002 NXS Demo Case.
- ❑ 32006803-001 Control Module, NXS.
- ❑ 32006803-002 Fan Assembly for Frame Size 4
- ❑ 32006803-003 Fan Assembly for Frame Size 5
- ❑ 32006803-004 Fan Assembly for Frame Size 6
- ❑ 32006803-005 Fan Assembly for Frame Size 7
- ❑ 32006803-050 Fan Assembly Frame Size 8 or bigger

Dimensions [in. (mm)]:

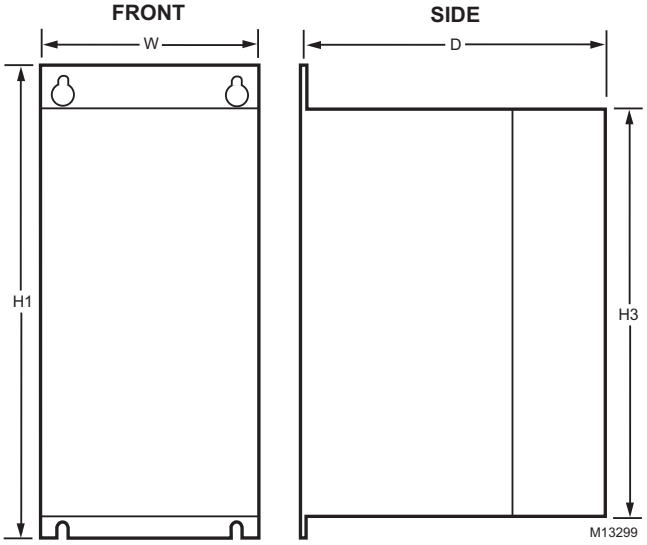

Fig. 1. Dimensions of the NXS Variable Frequency Drives (See Table 1).

Table 1. NXS VFD Dimension Details.

Frame Size	Model Number	HP	Weight (lbs)	Dimensions WxHxD (inches)	Volts AC
Frame 4	NXS0015A	1.5	11	5.0x11.5x7.5	480
	NXS0020A	2			
	NXS0030A	3			
	NXS0040A	4			
	NXS0050A	5			
	NXS0075A	7.5			
Frame 5	NXS0100A	10	18	5.7x15.4x8.4	
	NXS0150A	15			
	NXS0200A	20			
Frame 6	NXS0250A	25	41	7.7x20.4x9.3	
	NXS0300A	30			
	NXS0400A	40			
Frame 7	NXS0500A	50	77	9.3x23.3x10.1	
	NXS0600A	60			
	NXS0750A	75			
Frame 8	NXS1000A	100	128	11.2x28.4x11.3	
	NXS1250A	125			
	NXS1500A	150			
Frame 9	NXS2000A	200	322	18.9x45.3x14.3	
	NXS2500A	250			
Frame 4	NXS0010B	1	4.2	3.3x7.3x6.9	208/230
	NXS0015B	1.5	11	5.0x11x7.5	
	NXS0020B	2			
	NXS0030B	3			
	NXS0040B	4			
Frame 5	NXS0050B	5	18	5.7x15.4x8.4	
	NXS0075B	7.5			
	NXS0100B	10			
Frame 6	NXS0150B	15	41	7.8x20.4x9.3	
	NXS0200B	20			
Frame 7	NXS0250B	25	77	9.3x23.3x10.1	
	NXS0300B	30			
	NXS0400B	40			
Frame 8	NXS0500B	50	128	11.4x29.9x13.5	
	NXS0600B	60			
	NXS0750B	75			
Frame 9	NXS1000B	100	322	18.9x45.3x14.3	
	NXS1250B	125			

Dimensions [in in. (mm)]:

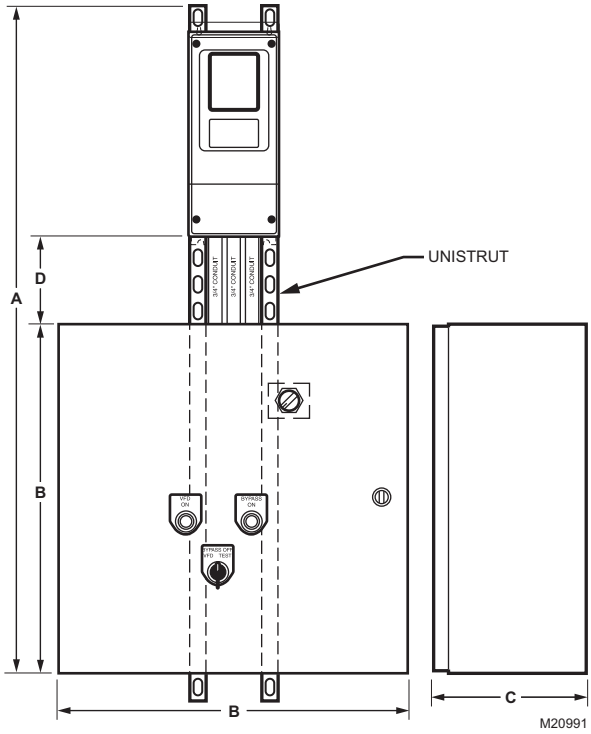

Fig. 2. Dimensions of the NXS NEMA1 Assemblies (See Table 1).

Models:

NXS	Variable Frequency Drive; includes standard RFI filter			
	0010	Motor Power	1.0 HP	Includes AC line choke
	0015		1.5 HP	
	0020		2.0 HP	
	0030		3.0 HP	
	0040		4.0 HP	
	0050		5.0 HP	
	0075		7.5 HP	
	0100		10 HP	
	0150		15 HP	
	0200		20 HP	
	0250		25 HP	
	0300		30 HP	
	0400		40 HP	
	0500		50 HP	
	0600		60 HP	
	0750		75 HP	
	1000		100 HP	
	1250		125 HP	
	1500		150 HP	
	1750		175 HP	
	2000		200 HP	
	2500		250 HP	
	3000		300 HP	
		A	460V, three-phase circuitry	
		B	208/230V, three-phase circuitry	
		C	575V, three-phase circuitry	
			10	NEMA 1 Enclosure
			12	NEMA 12 Enclosure
				XX Varies by model

NXS	**0100**	**A**	**10**	**XX**

NOTE: Refer also to the Quick Selection Guide (form 63-9251)

TYPICAL SPECIFICATION

Alternating current (AC) motors with squirrel-cage rotors require a variable frequency control. The variable frequency drive (VFD) shall generate the required variable frequency through three main input voltage lines connected to an LC filter and diode bridge. This shall produce a DC voltage for an insulated gate bi-polar transistor (IGBT) bridge. The IGBT bridge shall produce a pulse-width modulated (PWM) AC voltage for the motor. A microprocessor shall control the motor according to measured signals and control commands set from the VFD control panel.

The VFD shall have seven programmable applications which can be modified using a personal computer-based commissioning tool with an optional software package, or a control panel with either an alpha-numeric or graphic LCD.

The VFD shall be UL and CE approved. The VFD shall be include built-in RFI filters and all models with 3 HP or more shall include an AC choke.

Automation and Control Solutions
Honeywell International Inc.
1985 Douglas Drive North
Golden Valley, MN 55422
customer.honeywell.com

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