

NXL Series Inverters

Honeywell



HVAC Inverters made simple

Honeywell's 'Voice Of the Customer' process unveils a range of requirements expressed by specifiers and installers, that are ideally covered by the NXL inverter series:

Simple . . .

. . . to select!

- Suits all pumps and fans
- Power range from 0.25 kW to 30 kW
- Highest EMC class RFI filters integrated

. . . to install!

- Space-saving bookshelf design
- Panel or surface mount
- High protection classes (up to IP54)

. . . to set up!

- Commissioned within 30 seconds
- Pre-configured applications
- Start-Up Wizard
- Quick Guides attached to each product

. . . to talk to!

- Modbus built-in
- Plug-In cards for Profibus, LONWORKS, CAN, BACnet, proprietary buses

Typical applications



HVAC systems

- Heating
- Ventilation
- Air conditioning
- Cooling
- Etc.

Benefits:

- Easy to control and monitor
- Optimized energy management
- Increased comfort
- Reduction of mechanical resonances



Fans

- Air conditioning
- Cooling Towers
- Condensers
- Boilers
- Car parks
- Tunnels
- Etc.

Benefits:

- Efficiency
- Comfort
- Energy savings
- Easy to integrate to HVAC systems
- Fire Mode



Pumps

- Heating
- Cooling
- Water supply / treatment
- Irrigation
- Etc.

Benefits:

- Secured Water flow control
- Monitored flow control
- Flow limit control
- Energy savings
- Easy to integrate to HVAC systems



Other applications

- Lifts & Escalators
- Greenhouse controls
- Compressors
- Etc.

Benefits:

- Efficiency
- Energy savings
- Easy to apply

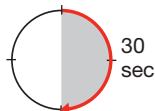


NXL series inverters optimise HVAC control solutions in buildings, thereby yielding energy savings of up to 50 %.

NXL HVAC: The 30 sec solution!

The NXL HVAC series is specifically configured for use with fans & pumps. Through pre-configured applications 95 % of the usual requirements in the building controls industry are covered.

Its 'straight out of the box' concept and the Start-Up Wizard allow 30-seconds basic commissioning.



A free option board slot offers communication to a huge variety of standard and proprietary protocols.



Type overview: Mains voltage 380-500 V, 50/60 Hz, 3~, enclosure class IP54, EMC level C

Inverter type	Motor shaft power P [kW] 400 V 45°C	Loadability			Dimensions WxHxD [mm]	Weight [kg]
		Rated continuous current I _L [A]	10 % overload current (1min/10min) [A]	Starting current I _s (2s/20s) [A]		
HVAC03C5	1.1	3.3	3.6	4.4	128x292x190	5
HVAC04C5	1.5	4.3	4.7	6.2	128x292x190	5
HVAC05C5	2.2	5.6	6.2	8.6	128x292x190	5
HVAC07C5	3	7.6	8.4	10.8	128x292x190	5
HVAC09C5	4	9.0	9.9	14	128x292x190	5
HVAC12C5	5.5	12.0	13.2	18	128x292x190	5
HVAC16C5	7.5	16.0	17.6	24	144x391x214	8,1
HVAC23C5	11	23.0	25.3	32	144x391x214	8,1
HVAC31C5	15	31.0	34.0	46	144x391x214	8,1
HVAC38C5	18.5	38.0	42.0	62	195x519x237	18,5
HVAC46C5	22	46.0	51.0	76	195x519x237	18,5
HVAC61C5	30	61.0	67.0	92	195x519x237	18,5



NXL HVAC: The user-friendly choice!

NXL HVAC is a perfect match for HVAC with the optimized design in software and hardware.

Everything you need is already integrated.

Selecting the right product has never been easier. Just choose your enclosure class and power.

All information needed for basic installation and commissioning is in multilanguage quick guides attached to each NXL HVAC inverter.

Finding the needed information has never been simpler.

Type overview: Mains voltage 380-500 V, 50/60 Hz, 3~, enclosure class IP21, EMC level H

Inverter type	Motor shaft power P [kW] 400 V 45°C	Loadability			Dimensions WxHxD [mm]	Weight [kg]
		Rated continuous current I _L [A]	10 % overload current (1min/10min) [A]	Starting current I _s (2s/20s) [A]		
HVAC03C2	1.1	3.3	3.6	4.4	128x292x190	5
HVAC04C2	1.5	4.3	4.7	6.2	128x292x190	5
HVAC05C2	2.2	5.6	6.2	8.6	128x292x190	5
HVAC07C2	3	7.6	8.4	10.8	128x292x190	5
HVAC09C2	4	9.0	9.9	14	128x292x190	5
HVAC12C2	5.5	12.0	13.2	18	128x292x190	5
HVAC16C2	7.5	16.0	17.6	24	144x391x214	8,1
HVAC23C2	11	23.0	25.3	32	144x391x214	8,1
HVAC31C2	15	31.0	34.0	46	144x391x214	8,1
HVAC38C2	18.5	38.0	42.0	62	195x519x237	18,5
HVAC46C2	22	46.0	51.0	76	195x519x237	18,5
HVAC61C2	30	61.0	67.0	92	195x519x237	18,5



NXL Compact

The NXL Compact drives are cabinet-mounted units for lower motor powers up to 2.2 kW, suitable for both 208 – 230 V and 380 – 500V supply voltages.

The compact size and flexible installation options make them suitable for installations where space is at a premium.

The standard I/O can be extended with one I/O expander board or one fieldbus board.

Type overview: Mains voltage 380-500 V, 50/60 Hz, 3~, enclosure class IP20, EMC level N

Inverter type	Motor shaft power P [kW] 400 V 40°C	Loadability			Dimensions WxHxD [mm]	Weight [kg]
		Rated continuous current I _L [A]	10 % overload current (1min/10min) [A]	Starting current I _s (2s/20s) [A]		
NXL0001V35C1N0	0.55	1.9	2.1	2.6	60x130x150	1
NXL0002V35C1N0	0.75	2.4	2.6	3.8	60x130x150	1
NXL0003V35C1N1	1.1	3.3	3.6	4.8	84x220x172	2
NXL0004V35C1N1	1.5	4.3	4.7	6.6	84x220x172	2
NXL0005V35C1N1	2.2	5.4	5.9	8.6	84x220x172	2

Type overview: Mains voltage 208-240 V, 50/60 Hz, 1/3~ input (3~ motor), enclosure class IP20, EMC level N

Inverter type	Motor shaft power P [kW] 400 V 40°C	Loadability			Dimensions WxHxD [mm]	Weight [kg]
		Rated continuous current I _L [A]	10 % overload current (1min/10min) [A]	Starting current I _s (2s/20s) [A]		
NXL0002V32C1N0 *	0.37	2.4	2.6	3.4	60x130x150	1
NXL0003V32C1N1	0.75	3.7	4.1	5.6	84x220x172	2
NXL0004V32C1N1	1.1	4.8	5.3	7.4	84x220x172	2
NXL0006V32C1N1	1.5	6.6	7.2	9.6	84x220x172	2

* Only 1 phase-input possible



Option Boards

Card type/code	I/O Signal								Note
	DI	DO	AI mA isol.	AO mA isol.	EO NO NC	RO NO	Therm	+24 EXT +24 V	
Basic I/O cards [OPT-A] NXLOPTAA NXLOPTAI	3 3	1			1	1	1		included in NXL HVAC series
I/O expander cards [OPT-B], typical NXOPTB2 NXOPTB4 NXOPTB5			1	2	1	1 3	1	1	analog signals galvanically isol. separat.
Fieldbus card [OPT-C] NXOPTC2 NXOPTC3 NXOPTC4 NXOPTC5 NXOPTC6 NXOPTC7 NXOPTC8 NXOPTCI NXOPTCJ	RS-485 (Multiprotocol) Profibus DP LonWorks Profibus DP (D9 type connector) CANopen (slave) DeviceNet RS-485 (Multiprotocol, D9 type connector) Modbus/TCP (Ethernet) BACnet								N2 (Modbus as standard) N2 (Modbus as standard)

Control Inputs/Outputs

Standard I/O		
Terminal	Signal, default settings	
1	+10 V	Reference voltage
2	AI1+	Analog input, 0-10 V (0/4-20mA) AI common
3	AI1-	
4	AI2+	Analog input, 0/4-20 mA (0-10 V) AI common
5	AI1-	
6	+24 V	24 V auxiliary voltage I/O ground
7	GND	
8	DIN1	Start forward Start reverse Preset speed 1
9	DIN2	
10	DIN3	
11	GND	I/O ground
18	A01+	Analog output, output frequency AO common
19	A01-	
A	RS485	Serial bus (modbus RTU)
B	RS485	Serial bus
30	+24 V	External control voltage supply
21	R01	Relay output 1, FAULT
22	R01	
23	R01	

All inputs and outputs of the standard I/O and option boards are freely programmable.
All analog inputs and outputs isolated as standard.

Standard I/O [in NXL Compact only with option NXLOPTAI]		
Terminal	Signal, default settings	
12	+24 V	24 V auxiliary voltage
13	GND	I/O ground
14	DIE1	Preset speed 2 Fault reset Disable PID
15	DIE2	
16	DIE3	
25	ROE1	Expander Relay output 1, RUN
26	ROE1	
28	TI1+	Thermistor input (galvanically isolated)
29	TI1-	

NXLOPTAA [typical option for NXL Compact]		
Terminal	Signal, default settings	
1	+24 V	24 V auxiliary voltage
2	GND	I/O ground
3	DIE1	Preset speed 2 Fault reset Disable PID
4	DIE2	
5	DIE3	
6	D01	Digital output, Ready
24	ROE1	Expander Relay output 1, RUN
25	ROE1	
26	ROE1	

Other typical options:

Option	Oder Typecode	Note
Panel door installation sets	DRA02-L DRA04-L	NXL Door installation set for display panel, 2m cable NXL Door installation set for display panel, 4m cable
PC-adapter	NXLPANRS	This adapter and RS232 cable are required for PC connection
RS232 Cables	RS232C2M RS232C-4M RS232C15.0M	2m RS232 serial link cable for PC connection 4m RS232 serial link cable for PC connection 15m RS232 serial link cable for PC connection
NXL Compact only options		
RFI filters	NXLRFIV35 NXLRFIV12	RFI filter for 400 V units, H-level, footprint installation RFI filter for 230 V units, H-level, 1~ input, footprint installation

Technical distinctions for selecting an inverter.

Low Overload

Low overload applications are normally machine related to Variable Torque (pls see below) i.e.. centrifugal fans and pumps. The NXL HVAC products can operate with full load in 45°C max ambient temperature, but the 24H average ambient temperature must be at max 40°C. In NXL Compact the max ambient temperature in full load is 40°C.

Variable Torque rating

This typically describes the torque curve of a centrifugal pump or centrifugal/axial flow fan. The torque required at zero speed is very close to zero. As the machine increases in speed, the torque increases by the square of the change in speed and the power increases by the cube of the speed change.

EMC class H

H-level units fulfill all the EMC emission requirements in buildings. Fulfills all EMC immunity requirements. No additional RFI filters required. EN 61800-3 [2004], category C2

EMC class C

C level is the extremely low emission solution. This is sometimes required in sensitive locations such as hospitals or airports.

Fulfills all EMC immunity requirements. No additional RFI filters required. EN 61800-3 [2004], category C1

EMC class N

No RFI filters integrated. Fulfills all EMC immunity requirements. H-level (EN 61800-3 [2004], category C2) can be achieved with external filter

EMC class for IT networks.

EMC level C and H units can be easily modified to create low earth-current solution suitable for IT networks and ship installations. EMC level N can be installed to these networks as standard.

Find out more

For more information on Honeywell
inverters and other Honeywell
products visit us online at
<http://ecc.emea.honeywell.com>

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