IMO JAGUAR

Jaguar NXG Series Inverter Drive

0.2 ~ 22kW (1/4~30HP)

The History of the Jaguar Inverter Drive

For over four decades, the Jaguar name has been synonymous with performance, reliability and control. From factory floors to energy-intensive applications around the world, IMO's Jaguar range became a benchmark for excellence, trusted by installers, panel builders and OEMs alike.

First launched in the 1980's, the Jaguar inverter drive series quickly earned a reputation for compactness, toughness and adaptability. It powered everything from conveyor systems and HVAC units to cranes, pumps and complex production lines. Every generation raised the bar for quality and ease of use, setting standards that competitors tried to follow.

When production of the original series ended, customers didn't stop asking for it but they asked when it would return. That loyalty spoke volumes. The market wanted the same dependability, but re-imagined for today's smarter, safer and more connected world.

Now, the wait is over. The new Jaguar NXG Series brings back everything that made the original iconic with added intelligence, compactness and connectivity, demanded by modern industry.

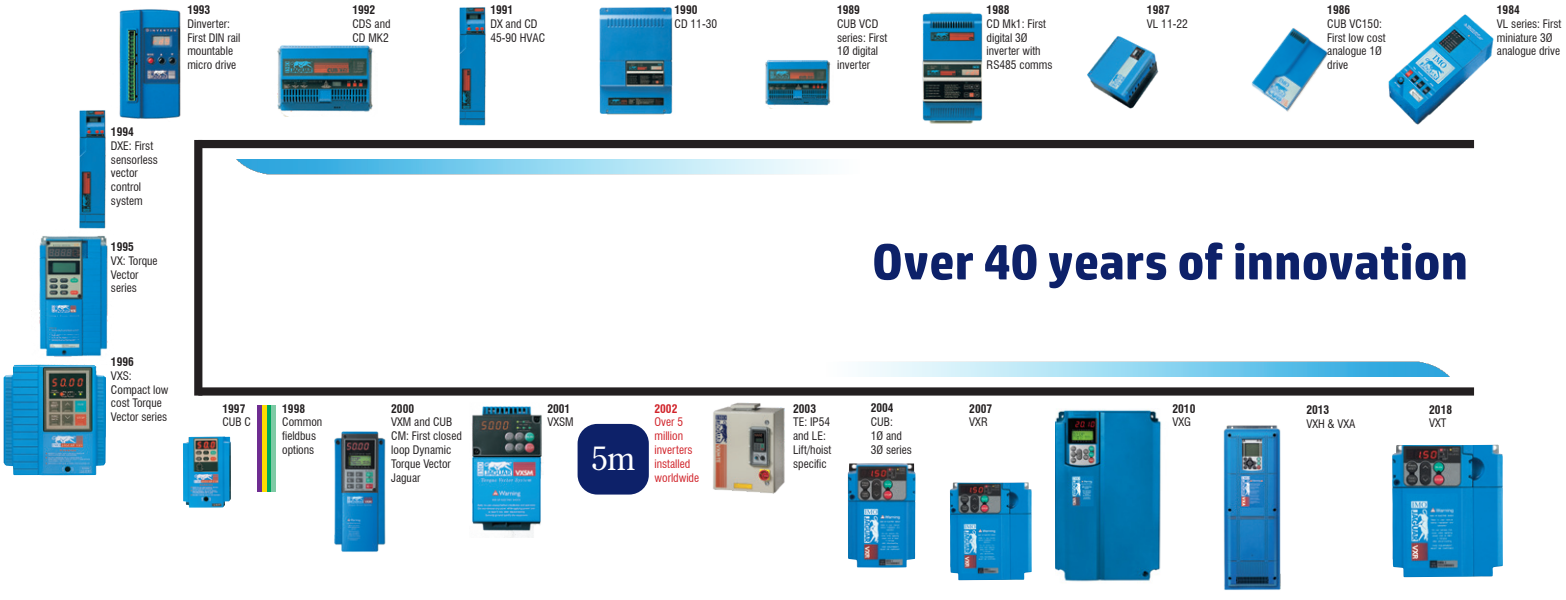
The Jaguar NXG Series is more than an inverter drive, it's the evolution of excellence.

Over 5 million Jaguar inverter drives installed globally

Trusted by OEMs in 60+ countries

5-year warranty as standard

Designed, tested and supported by IMO Precision Controls



The Return of the Jaguar Drive

The Jaguar name is woven into IMO's DNA. It's a promise of performance, reliability and trust, one that powers thousands of applications around the world.

Today, that promise continues with NXG: Smaller, Smarter and Stronger, ready to lead the next generation of industrial control.

We put more in, so you get more out...

Built for Today's Demands;

The Jaguar NXG is everything a modern engineer needs.

- **Compact by design** Slimline bookshelf form saves panel space.
- **Performance at its core** Dual torque ratings, 200% starting torque.
- **Safety built in** SIL3 / PL e / CAT 3 STO stops motors safely under any condition; With fire mode included.
- **Connected control** PROFINET, EtherNet/IP, Modbus TCP and EtherCAT - all on one communication card.
- **Seamless setup** via built-in USB-C with no AC power required.
- **Confidence guaranteed** Every inverter drive backed by IMO's 5-year warranty.

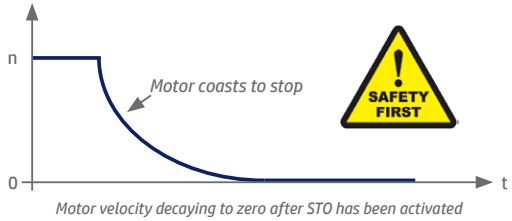
Fire Mode

Safety As Standard

All Jaguar NXG inverter drives are equipped with integrated SIL3 / PL e / CAT 3 Safe Torque Off (STO) functionality as standard.

STO is a critical safety feature designed to eliminate torque-generating energy within the motor, ensuring the drive comes to a complete standstill and preventing any unintended or unexpected restarts. This allows safe maintenance and inspection when, for example, protective guards or panels are removed.

Compared to traditional safety methods using electromechanical switchgear, the integrated STO design removes the need for multiple components, reduces potential points of failure and shortens response times significantly, delivering a faster, more reliable and maintenance-free safety solution.



Motor velocity decaying to zero after STO has been activated

The future of the Jaguar is here. Be a part of it.

Reliable High Performance

High Starting Torque The NXG inverter drive has sensorless vector control (SVC) which delivers high 200% starting torque at 0.5Hz, suitable for demanding applications.

Dual Rating. The dual rating of the NXG series inverter drives makes them suitable for both Constant Torque - Heavy Duty (HD) and Variable Torque - Normal Duty (ND) applications.

Constant Torque Load: 150% for 1 minute; 180% for 10 seconds
Variable Torque Load: 110% for 1 minute; 150% for 10 seconds

Transient Power Loss Ride-Through In the event of transient power drop, the NXG inverter drive can continue to operate using the regenerated energy within the effective time frame, ensuring no downtime which is ideal for applications requiring continuous operation.

Motor Temperature Detection. The NXG series supports motor temperature monitoring via digital or analog inputs and is compatible with various sensor types, including PTC, PT100, PT1000, and KTY84. This enables real-time temperature monitoring to ensure safe and reliable motor operation.

Dual Rating

Motor Temperature Detection

Built-in C2 / C3 Filter. Compliant with IEC61800-3 C2 or C3 standards. Effectively reduces electromagnetic interference, ensuring stable equipment running without the need for an external filter, delivering better cost efficiency. Built-in C2 filter (up to15m) is standard on single phase 200V–240V, 0.2~4kW (1/4~5.5HP) and Built-in C3 filter is standard on all 3 phase versions.

Built-in Braking Unit. A built-in braking unit is included across the entire NXG series, eliminating the need for external braking devices. This reduces costs, simplifies wiring, and minimizes system complexity.

Screwless Terminals - Spring loaded control terminals allow screwless connection and release thereby increasing productivity.

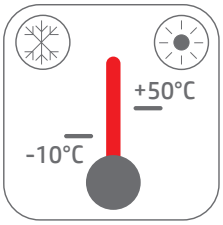
Built-in Braking Unit

Wide Operating Temperature Range -10°C to +50°C (No derating required between -10°C to +50°C).

Seamless Side by Side Installation - The NXG inverter drive allows seamless side by side installation in environments with ambient temperatures below 40°C saving valuable panel space.

Conformal Coating - Reinforced conformal coating, meeting the 3C2 and 3S2 environmental standards, allow robust environmental adaptability.

Wide Operating Temperature



Slimline Compact Design

The slimline design of the NXG series inverter drives makes them up to 40% smaller than the previous generation of IMO inverter drives. This size reduction helps customers save both space and cost during installation.

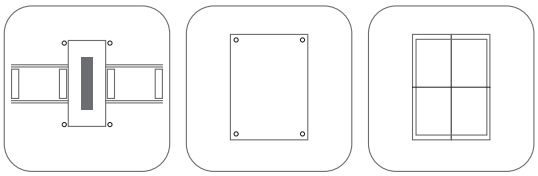
New Air-Duct Design. The new Air Duct design and the aluminium cold plate technology, in frame sizes A, B, C, ensures efficient heat dissipation and improves over-all performance.

Easy Installation. The compact design of frame sizes A and B allow for easy wall or DIN rail mounting, while frame sizes C, D, and E support wall and flange mounting, enhancing heat dissipation and overall performance.

Slimline

Air Duct Design

DIN, Flange and Wall Mount



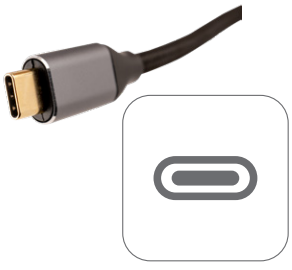
User Friendly

USB Type-C Port. The built-in USB Type-C port on the inverter drive enables the user to program or troubleshoot the unit without requiring any additional power supply. The Type-C port can be used to connect the NXG inverter drive to IMO Workshop Studio (PC software) via a standard USB-C cable.

Remote Keypad Options. The NXG inverter drive supports remote LED and LCD keypads as optional accessories. These keypads can be used for parameter copy/paste functions and troubleshooting. The LCD keypad can store up to three different parameter sets and supports real-time clock functions.

All-in-One Communication Card. The optional all-in-one Ethernet communication card supports four different protocols: PROFINET, EtherNet/IP, EtherCAT, and Modbus TCP. The dual Ethernet ports on the card enable daisy chain cabling and thus reducing the need for additional cables or Ethernet switches.

USB Type-C Port



Remote Keypad

All-in-one Comms

EtherCAT®

EtherNet/IP™

PROFINET® INDUSTRIAL ETHERNET

Modbus

Technical Specifications and Features

Function Description		Specification
Power Input	Input Voltage (V)	AC 1PH 200V(-15%)–240V(+10%) AC 3PH 200V(-15%)–240V(+10%) AC 3PH 380V(-15%)–480V(+10%)
	Input Frequency (Hz)	50Hz/60Hz, allowable range: 47-63Hz
Power Output	Output Voltage (V)	0-Input voltage
	Output Frequency (Hz)	0-599Hz
Technical Control Performance	Control Mode	V/F control, Sensorless Vector Control (SVC)
	Motor Type	Asynchronous motor, Permanent-magnet synchronous motor
	Dual Rating	Yes, Constant Torque (Heavy Duty - HD) / Variable Torque (Normal Duty - ND)
	Speed Regulation Ratio	Asynchronous motor 1:100 (SVC); Synchronous motor 1:50 (SVC)
	Speed Control Accuracy	±0.2% (SVC)
	Speed Fluctuation	±0.3% (SVC)
	Torque Response	<10ms (SVC)
	Torque Control Accuracy	5% (SVC)
	Starting Torque	Asynchronous motor: 0.5Hz / 200% (SVC) Synchronous motor: 2.5Hz / 150% (SVC)
	Overload Capacity	Constant Torque Load: 150%: 1 min; 180%: 10s Variable Torque Load: 110%: 1 min; 150%: 10s
Running Control Performance	Frequency Setup Mode	Digital, Analog, Pulse Frequency, Multi-step speed running, Simple PLC, PID, Modbus communication, Ethernet-based communication.
	Automatic Voltage Regulation Function	Keeps the output voltage constant when grid voltage changes
	Fault Protection Function	Provides over 30 kinds of fault protection functions: overcurrent, overvoltage, undervoltage, over-temperature, phase loss and overload, etc.
	Speed Tracking Restart	Realise impact-free starting of the motor in rotating
	PID Control	Yes
Peripheral Interface	Analog Input	2 (AI1: 0-10V/0-20mA; AI2: 0-10V/0-20mA) + 1 Built-in Potentiometer
	Analog Output	1 (AO1: 0-10V/0-20mA)
	Digital Input	4x DI, 1x High Speed Inputs
	Digital Output	1x DO
	Relay Output	1x Programmable relay output, NO/NC contact
	Communication Interface	1x RS485 (non-isolated) - supports Modbus RTU, 1x USB Type C
	STO Input	2x Redundant Input
	Keypads	Built in LED Keypad; Optional Remote LED Keypad or Optional Advanced LCD Keypad with copy function
Other	Installation Mode	Wall mounting, Flange mounting, Optional DIN Rail mounting
	Operating Temperature	-10°C to +50°C (No derating required between -10°C to +50°C)
	Protection Level	IP20
	Cooling Mode	220V Voltage class: Natural cooling for 0.75kW and lower 380V Voltage class: Natural cooling for 1.1kW and lower Others: Forced Air Cooling
	Braking Unit	Standard built-in braking unit
	DC Injection Braking	Yes
	Motor Auto-Tune	Yes, supports static and dynamic modes
	STO Level	SIL3 / PL e / CAT 3
	EMC Filter	Removable built-in C2 filter is standard on single phase 200V–240V, 0.2~4kW (1/4~5.5HP) and removable built-in C3 filter is standard on all 3 phase versions. Optional C2 Filters are available for all 3 phase versions.

Options & Ordering Information

NXG - 7.5A - 21

Series Name

Inverter Output Current in Amps (HD)

Input Voltage & Phase

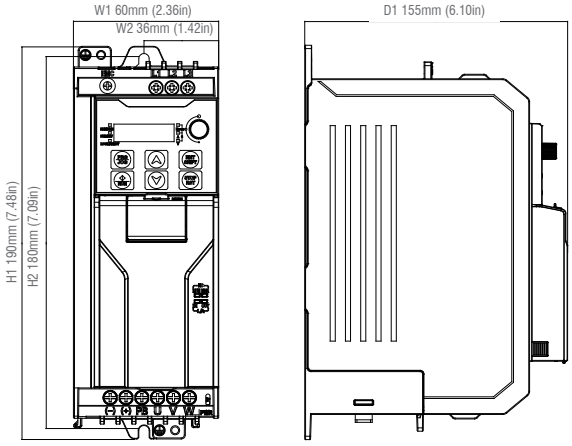
21	230v Single Phase
23	230v Three Phase
43	480v Three Phase

Technical Specifications - Electrical Ratings

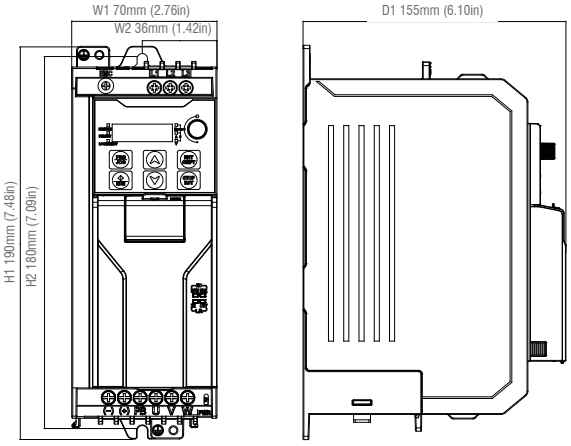
Model	Constant Torque Heavy Duty (HD)				Variable Torque Normal Duty (ND)				Frame Size
	Output Power		Rated Input Current	Rated Output Current	Output Power		Rated Input Current	Rated Output Current	
	kW	HP	A	A	kW	HP	A	A	
AC 1PH 200V–240V									
NXG-1.5A-21	0.2	¼	3.9	1.5	0.4	½	5.2	2	A
NXG-2.5A-21	0.4	½	5.3	2.5	0.75	1	7.4	3.3	A
NXG-4.2A-21	0.75	1	8.8	4.2	1.1	1½	11	5.1	A
NXG-6.5A-21	1.1	1½	13.2	6.5	1.5	2	13.4	7.5	B
NXG-7.5A-21	1.5	2	14.2	7.5	2.2	3	18.8	9.8	B
NXG-10A-21	2.2	3	20.6	10	3	4	23.8	12.5	B
NXG-16A-21	4	5½	32	16	-	-	-	-	C
AC 3PH 200V–240V									
NXG-1.5A-23	0.2	¼	2.2	1.5	0.4	½	3.3	2	A
NXG-2.5A-23	0.4	½	4.1	2.5	0.75	1	5.6	3.3	A
NXG-4.2A-23	0.75	1	6.8	4.2	1.1	1½	8.1	5.1	A
NXG-6.5A-23	1.1	1½	10.3	6.5	1.5	2	11.5	7.5	B
NXG-7.5A-23	1.5	2	9.3	7.5	2.2	3	11.8	9.8	B
NXG-10A-23	2.2	3	12	10	3	4	13.7	12.5	B
NXG-16A-23	4	5½	20	16	5.5	7½	26	21	C
NXG-20A-23	5.5	7½	21.7	20	7.5	10	28	26	C
NXG-30A-23	7.5	10	33	30	11	15	43	39	B
NXG-42A-23	11	15	44	42	-	-	-	-	B
NXG-55A-23	15	20	60	55	18.5	25	72	64	E
AC 3PH 380V–480V									
NXG-1.5A-43	0.4	½	2.7	1.5	0.75	1	3.9	2	A
NXG-2.5A-43	0.75	1	4.5	2.5	1.1	1½	6	3.3	A
NXG-3A-43	1.1	1½	5.8	3	1.5	2	6.9	3.7	A
NXG-4.2A-43	1.5	2	7.6	4.2	2.2	3	8.6	5.5	B
NXG-5.5A-43	2.2	3	9.62	5.5	3	4	10.4	7	B
NXG-7.5A-43	3	4	11.4	7.5	4	5½	12.8	9.5	B
NXG-9.5A-43	4	5½	15.3	9.5	5.5	7½	17.2	11.5	B
NXG-14A-43	5.5	7½	22.1	14	7.5	10	28.1	18	C
NXG-18.5A-43	7.5	10	25	18.5	11	15	26.8	21	C
NXG-25A-43	11	15	36	25	15	20	46	32	D
NXG-32A-43	15	20	46	32	18.5	25	55	38	D
NXG-38A-43	18.5	25	57	38	22	30	68	45	E
NXG-45A-43	22	30	62	45	30	40	72	58	E

Dimensions and Frame Sizes

Frame Size	Outline Dimensions mm (Inches)			Mounting Hole Pitch mm (Inches)		Net Weight	Gross Weight	Mounting hole Diameter
	W1	H1	D1	W2	H2	kg	kg	mm
A	60 (2.36)	190 (7.48)	155 (6.10)	36 (1.42)	180 (7.09)	1.23	1.34	Ø5
B	70 (2.76)	190 (7.48)	155 (6.10)	36 (1.42)	180 (7.09)	1.27	1.47	Ø5
C	90 (3.54)	235 (9.25)	155 (6.10)	70 (2.76)	220 (8.66)	2.05	2.26	Ø6
D	130 (5.12)	250 (9.84)	185 (7.28)	100 (3.94)	237 (9.33)	3.55	4.05	Ø6
E	160 (6.30)	300 (11.81)	190 (7.48)	130 (5.12)	287 (11.30)	4.9	5.4	Ø6



Frame Size A



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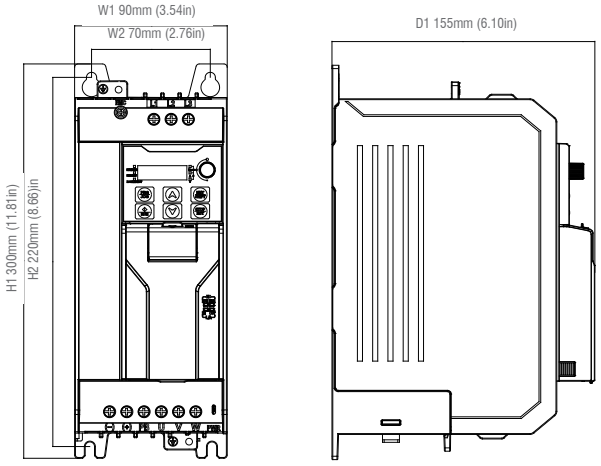

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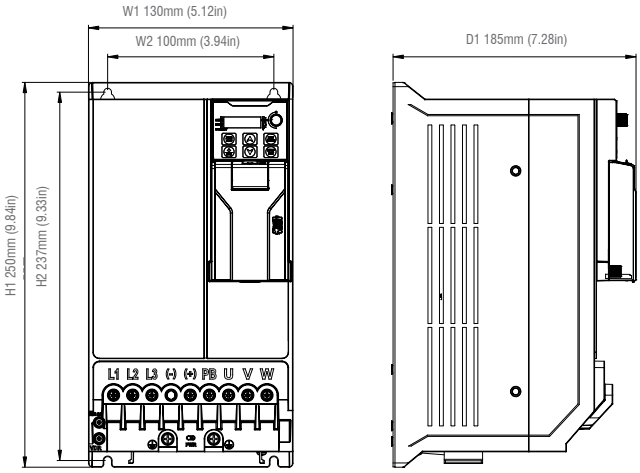
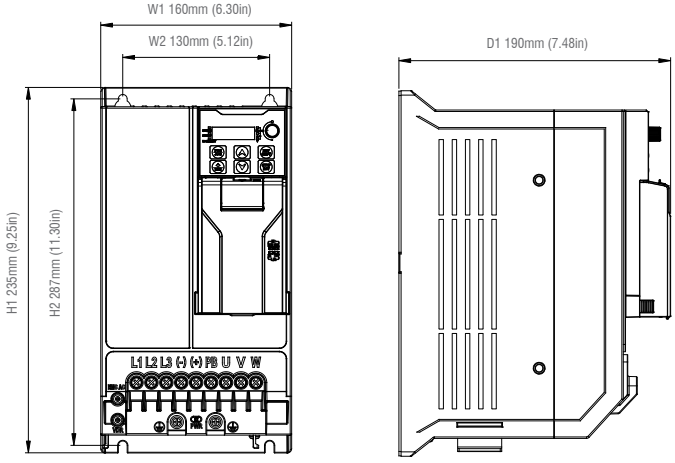
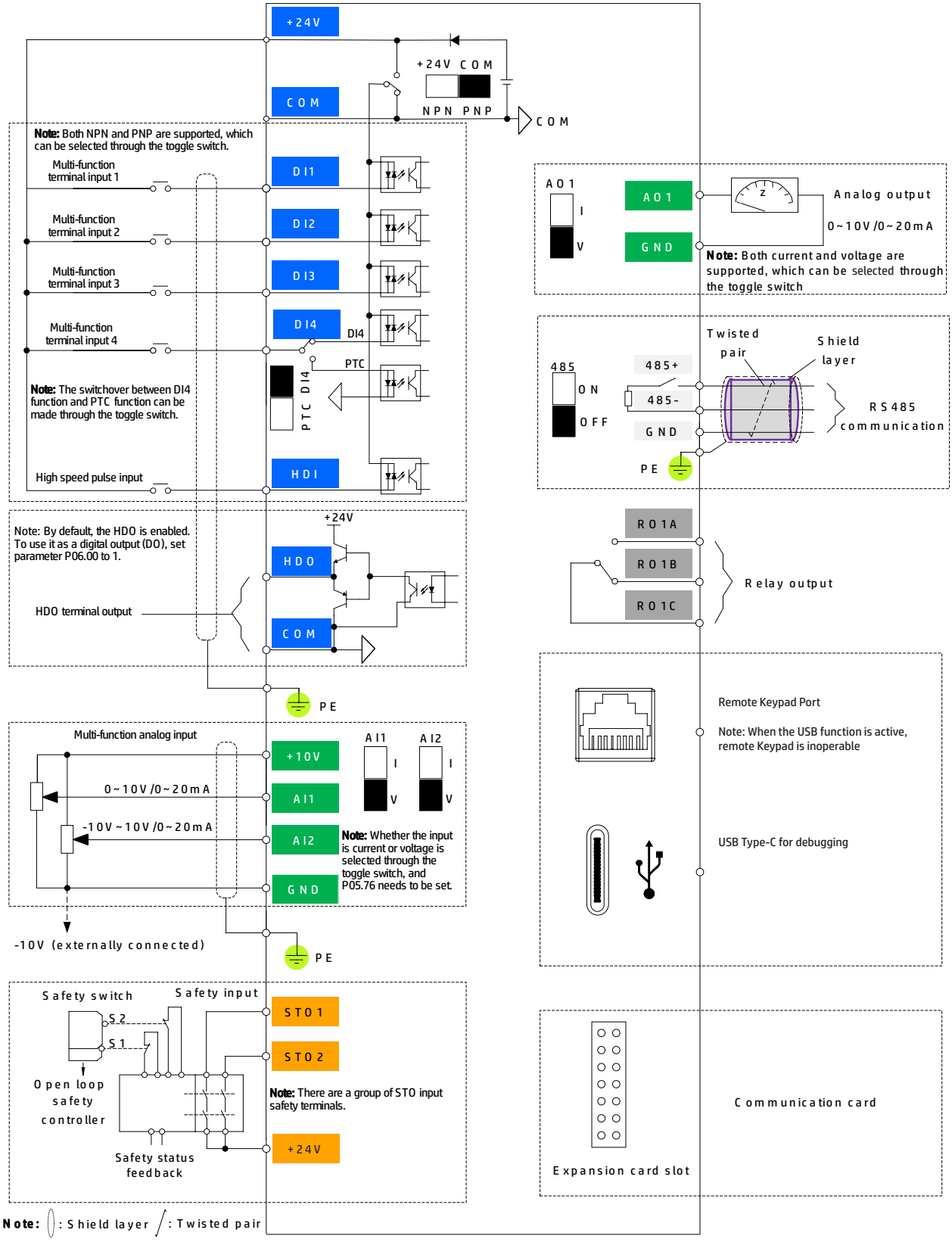


Frame Size D



Frame Size E

Control Connections



Accessories

Model	Input Reactor	Output Reactor	Breaker	Fuse	Contactor
			(A)	(A)	(A)
AC 1PH 200V–240V					
NXG-1.5A-21	-	OCLC-6A-4	6	8	9
NXG-2.5A-21	-	OCLC-6A-4	10	16	9
NXG-4.2A-21	-	OCLC-6A-4	16	25	12
NXG-6.5A-21	-	OCLC-10A-4	20	25	18
NXG-7.5A-21	-	OCLC-10A-4	25	32	25
NXG-10A-21	-	OCLC-14A-4	32	40	32
NXG-16A-21	-	OCLC-20A-4	40	50	38
AC 3PH 200V–240V					
NXG-1.5A-23	ACLC-6A-4	OCLC-6A-4	6	6	9
NXG-2.5A-23	ACLC-6A-4	OCLC-6A-4	6	8	9
NXG-4.2A-23	ACLC-14A-4	OCLC-6A-4	10	16	9
NXG-6.5A-23	ACLC-14A-4	OCLC-10A-4	16	20	12
NXG-7.5A-23	ACLC-14A-4	OCLC-10A-4	20	25	18
NXG-10A-23	ACLC-14A-4	OCLC-20A-4	25	32	25
NXG-16A-23	ACLC-25A-4	OCLC-20A-4	40	40	32
NXG-20A-23	ACLC-32A-4	OCLC-32A-4	50	50	40
NXG-30A-23	ACLC-40A-4	OCLC-40A-4	63	80	65
NXG-42A-23	ACLC-51A-4	OCLC-50A-4	80	100	65
NXG-55A-23	ACLC-90A-4	OCLC-75A-4	100	125	95
AC 3PH 380V–480V					
NXG-1.5A-43	ACLC-6A-4	OCLC-6A-4	6	6	9
NXG-2.5A-43	ACLC-6A-4	OCLC-6A-4	10	8	9
NXG-3A-43	ACLC-6A-4	OCLC-6A-4	10	10	9
NXG-4.2A-43	ACLC-14A-4	OCLC-6A-4	16	16	12
NXG-5.5A-43	ACLC-14A-4	OCLC-10A-4	16	16	12
NXG-7.5A-43	ACLC-14A-4	OCLC-10A-4	20	25	18
NXG-9.5A-43	ACLC-20A-4	OCLC-14A-4	20	25	18
NXG-14A-43	ACLC-32A-4	OCLC-20A-4	32	40	32
NXG-18.5A-43	ACLC-32A-4	OCLC-20A-4	40	50	32
NXG-25A-43	ACLC-51A-4	OCLC-35A-4	50	63	50
NXG-32A-43	ACLC-51A-4	OCLC-40A-4	63	80	65
NXG-38A-43	ACLC-70A-4	OCLC-50A-4	80	100	65
NXG-45A-43	ACLC-70A-4	OCLC-60A-4	100	125	95

Notes:
It is recommended to use B type breakers for all the IMO inverter drives.
The input reactors and output reactors are CE approved only.

Accessories

Part Number	Part Description
NXG-KP-LED	LED keypad
NXG-KP-LCD	LCD keypad
NXG-KP-MB	Keypad mounting bracket
NXG-E-ETH	Communication card Supported protocols are 1. PROFINET 2. EtherCAT 3. Ethernet IP 4. Modbus TCP
NXG-DRB-1	DIN rail bracket
NXG-MF-3	Flange mount kit – Frame C
NXG-MF-4	Flange mount kit – Frame D
NXG-MF-5	Flange mount kit – Frame E

Part Number	Part Description
NXG-EGP-1	Earthing Gland Plate- Frame A,B
NXG-EGP-3	Earthing Gland Plate- Frame C
NXG-EGP-4	Earthing Gland Plate- Frame D
NXG-EGP-5	Earthing Gland Plate- Frame E
NXG-NK1-1	NEMA 1 Kit – Frame A
NXG-NK1-2	NEMA 1 Kit – Frame B
NXG-NK1-3	NEMA 1 Kit – Frame C
NXG-NK1-4	NEMA 1 Kit – Frame D
NXG-NK1-5	NEMA 1 Kit – Frame E

Application Examples

The Jaguar NXG inverter drive offers exceptional flexibility across various industries. It is designed to reliably move air, water, products, or people with advanced control, a compact size, and integrated safety features. This makes it an ideal solution for OEMs and engineers who require uncompromised reliability.

NXG inverter drives functionality, including the integrated fire mode, is specifically tailored to meet the unique demands of the industry.

Food and Beverage

- Bottling
- Labeling
- Mixers

Hoist Applications

- Elevators & Lifts
- Escalators
- RTG Cranes
- Material Handling

Conveyor Applications

- Mining and Metals
- Logistics
- Food Machinery

Fan , Pump and Compressor

- HVAC
- Agricultural
- Irrigation
- Water supply
- Process cooling
- Wastewater

From precision pumping systems and food production lines to conveyors, compressors and hoists.

The NXG delivers total control with smooth acceleration, energy savings and built-in safety as standard. Whatever the challenge, Jaguar NXG keeps your operations running efficiently, quietly and confidently, day after day.

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