

# The Evolution of Excellence:

## *IMO Unveils the Jaguar NXG Series Inverter Drive*

Industrial automation stands at a transformative crossroads, where the relentless demand for efficiency, connectivity, and safety meets the need for proven reliability. Into this landscape, IMO Precision Controls introduces the Jaguar NXG Series Inverter Drive, a product that does more than simply control motor speed; it marks the rebirth of a legend. With over four decades of heritage and five million installations globally, the Jaguar name returns to lead the next generation of inverter control.

### A Legacy of Innovation: The History of the Jaguar Inverter Drive

The story of the Jaguar inverter drive is a story of consistent evolution. First launched in 1984, the Jaguar quickly carved a niche as a benchmark for excellence. In an era where inverter equipment was often bulky and required high maintenance, the Jaguar soon earned a reputation for its compactness and reliability.



Throughout the 1990s and early 2000s, IMO continued to evolve the Jaguar and lead the industry:

- 1984:** The launch of the VL series, one of the first miniature analogue 3-phase drives.
- 1988:** The launch of the first digital inverter drive with the CD Mk1.
- 1993:** The introduction of the first DIN-rail mountable micro drive, a revolutionary step for panel builders.
- 1995-2000:** The arrival of advanced torque vector technology, providing the precision control needed for complex production lines.

The IMO Jaguar led the transformation to reliable, compact inverter technology and the market's response was immediate and loyal. Engineers increasingly asked for "Jaguar dependability", updated for a world defined by Industry 4.0. The NXG Series is IMO's definitive answer to that call.

### Performance at its Core: Power and Precision

The Jaguar NXG is engineered for high-performance motor control across a wide range of power requirements, from 0.2kW up to 22kW (1/4HP to 30HP). This range covers the vast majority of standard industrial applications, from small standalone machines to integrated factory systems.

### High Starting Torque and Sensorless Vector Control

At the heart of the NXG's performance is its Sensorless Vector Control (SVC). Traditional V/f control is often insufficient for demanding applications that require high torque at low speeds. The NXG's SVC technology delivers a massive 200% starting torque at just 0.5Hz for asynchronous motors.

- Torque Response:** The drive responds to torque changes in less than 10ms.
- Speed Regulation:** It offers a 1:100 speed



regulation ratio for asynchronous motors and 1:50 for synchronous motors.

**Precision:** Speed control accuracy is maintained at  $\pm 0.2\%$ .

### Dual Rating for Maximum Versatility

Understanding that different applications place different stresses on a drive, the NXG features **Dual Rating** as standard:

**1. Heavy Duty (HD - Constant Torque):** Designed for loads like conveyors or cranes that require high torque throughout the speed range. Overload capacity is 150% for 1 minute or 180% for 10 seconds.

**2. Normal Duty (ND - Variable Torque):** Ideal for centrifugal pumps and fans where torque requirements decrease with speed. Overload capacity is 110% for 1 minute or 150% for 10 seconds.

### Safety Without Compromise: Integrated STO and Fire Mode

In modern manufacturing, safety is paramount. The Jaguar NXG eliminates the need for expensive, space-consuming external safety components by integrating Safe Torque Off (STO) into every unit.

## SIL3 / PLe / CAT 3 Safe Torque Off

The STO function is a dual-channel, redundant safety input that meets the highest industrial standards (**SIL3 / PLe / CAT 3**). When activated, STO immediately prevents the drive from generating torque in the motor, ensuring a safe state for maintenance or emergency stops.

**Reduced Costs:** Removes the need for multiple electromechanical switches.

**Reliability:** Fewer components mean fewer potential points of failure and faster response times.

## Critical Protection: Fire Mode

Every NXG drive includes a specialised Fire Mode as standard. In the event of fire in a building or facility, the drive can be programmed to ignore standard fault protection and continue running to power smoke extraction fans or pressurised pumps for as long as possible.

## Connectivity and Smart Integration

The "NXG" in the name stands for "Next Generation," a nod to its advanced connectivity options that align with Industry 4.0 requirements.

## All-in-One Communication

While **Modbus RTU via RS485** is included as standard, the NXG offers a revolutionary optional communication card. This single card supports four of the most popular industrial protocols: **PROFINET, EtherNet/IP, EtherCAT, Modbus TCP** and fits discreetly under the front cover.

The card features dual Ethernet ports, allowing for **daisy-chain cabling**. This significantly reduces the need for external Ethernet switches simplifying the overall network architecture within a control panel.

## USB Type-C Programming

Maintenance and commissioning are simplified through a built-in **USB Type-C** port. This port allows engineers to connect the drive directly to a PC using IMO's **Workshop Studio software**. Crucially, the drive can be programmed, and parameters can be uploaded or downloaded, even when the drive is not connected to a main AC power supply.

## Designed for the Real World: Durability and Installation

The physical design of the NXG reflects four decades of feedback from installers and OEMs.

## Compact "Bookshelf" Design

The slimline design makes the NXG up to **40% smaller** than previous generations. For panel builders, this translates to smaller enclosures and lower shipping costs. Furthermore, for environments below 40°C, the drives support **seamless side-by-side installation with zero clearance**, maximizing every inch of rail space.

## Robust Environmental Protection

The NXG is built to survive harsh industrial environments:

**Temperature:** Operates from -10°C to +50°C without any derating required.

**Protection:** Features reinforced **conformal coating** (meeting 3C2 and 3S2 standards) to protect internal electronics against dust and corrosive gases.

**Filtering:** Built-in **C2 or C3 EMC filters** are standard, reducing electromagnetic interference and ensuring compliance with IEC61800-3 without external filters.

## Technical Specifications and Support

Category	Feature	Specification
Power Input	Voltage	1PH/3PH 200-240V; 3PH 380-480V
Motor Compatibility	Types	Asynchronous & Permanent-magnet synchronous
I/O	Digital/Analog	4 DI, 1 High-Speed Input, 1 High-Speed Output, 2 AI, 1 AO, 1 Relay
Braking	Internal	Built-in braking unit as standard across the range
Cooling	Method	Natural (<1.1kW 3PH); Forced Air (>1.1kW)

## 5-Year Warranty

To back their claims of "Evolution of Excellence," IMO provides a **5-year warranty** as standard on the entire Jaguar NXG range. This is one of the most comprehensive warranties in the industry, reflecting the drive's design for long-term reliability.

## Conclusion: The Future of Industrial Control

The IMO Jaguar NXG Series Inverter Drive is the culmination of 40 years of engineering expertise. By combining the legendary toughness of the original Jaguar with modern STO safety, multi-protocol connectivity, and high-performance vector control, IMO has created a drive that is ready for the challenges of tomorrow. Whether you are an OEM looking for a compact and reliable control solution or a factory manager seeking to modernise your



operations, the Jaguar NXG is designed to run efficiently, quietly, and confidently, day after day.

Users can scan the QR code located on the drive to access manuals and troubleshooting guides instantly.

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