ioPAC 6500 Series

Fully modular programmable IIN controllers

reddot winner 2025
industrial design



Features and Benefits

- Supports multiple IT/OT protocols for seamless communication between SCADA, Plant Information System, and cloud applications
- Tool-free hardware installation and hot-swap design for maximizing operation efficiency
- Fully modular design for maximum deployment flexibility
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy
- IINxpress IDE utility combines IEC 61131-3 programming, configuration, and protocol services to streamline workflow and reduce programming efforts
- Enhanced security with built-in functions including Secure Boot, password-cracking defense, intrusion detection, and DoS defense

Certifications

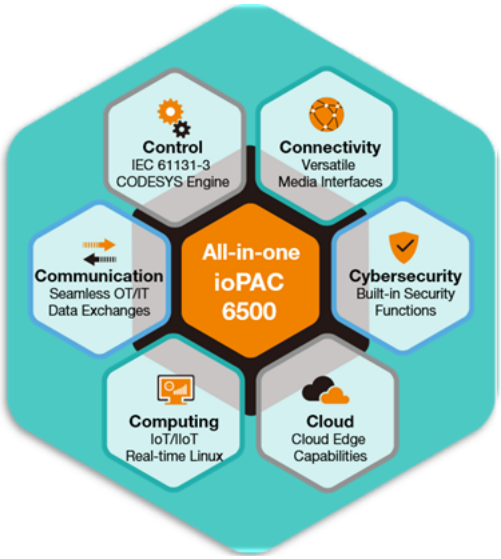
Introduction

The ioPAC 6500 Series (also referred to as Intelligent Integrated Node or IIN) is an advanced Linux-based RTU. The ioPAC 6500 integrates multiple modules such as backplane modules, power modules, communication modules, expansion modules, CPU modules, I/O modules, and terminal-block modules. The ingenious mechanical design and versatile I/O portfolio of the IIN provide users the flexibility to assemble different combinations of modules based on their application needs. For detailed information on the modules, visit the respective product pages.

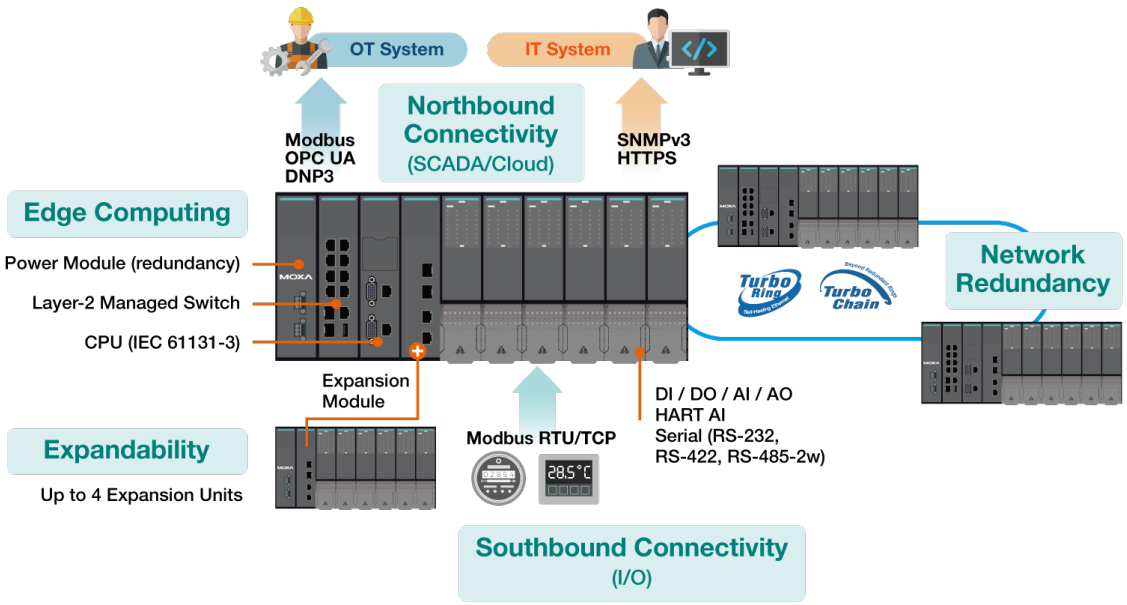
6C Competencies

The ioPAC 6500 Series delivers the following competencies to your projects:

- Control: Precision control of your equipment
- Communication: Protocol support to connect to other devices and systems
- Computing: Applications for computing and data processing
- Connectivity: Versatile set of media interface
- Cloud: Cloud connectivity and cloud edge computing
- Cybersecurity: Security features to protect the devices and data



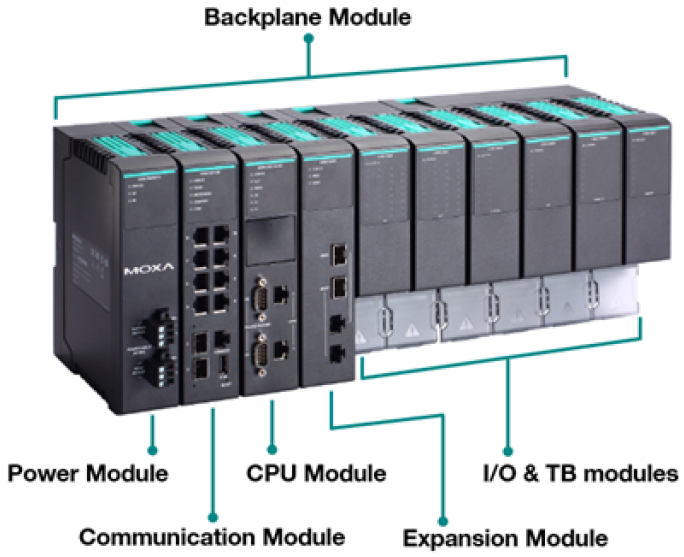
Application Architecture



Fully Modular Design

The ioPAC 6500 Series features a unique design that is mistake-proof and supports tool-free assembly for flexible deployment while minimizing installation efforts. The series can be divided into the components: Backplane modules, power modules, communication modules, expansion modules, CPU modules, I/O modules, and terminal-block modules.

- ioPAC 6500 Series (65M) CPU Modules: https://www.moxa.com/iopac-6500-cpu-modules
- ioPAC 6500 Series (65M) Backplane Modules: https://www.moxa.com/iopac-6500-backplane-modules
- ioPAC 6500 Series (65M) Power Module: https://www.moxa.com/iopac-6500-power-modules
- ioPAC 6500 Series (65M) Switch Modules: https://www.moxa.com/iopac-6500-communication-modules
- ioPAC 6500 Series (65M) I/O Modules: https://www.moxa.com/iopac-6500-io-modules
- ioPAC 6500 Series (65M) Expansion Modules: https://www.moxa.com/iopac-6500-expansion-modules





Specifications

System Performance

Max. No. of Control Units	1
Max. No. of Expansion Units	4
Max. No. of Power Backplanes Per Unit	Control and expansion units: 1 (1/ 2 slots)
Max. No. of CPU Backplanes Per Unit	Control unit: 1 (1/2 slots)
Max. No. of Communication Backplanes Per Unit	Control unit: 1 (1/2 slots)
Max. No. of I/O Backplanes Per Unit	Control and expansion units: 2 (2/4 slots)
Max. No. of Expansion Backplanes Per Unit	Control and expansion units: 1 (1/2 slots)

Physical Characteristics

Housing	Plastic
Installation	DIN-rail mounting Rack mounting (with optional kit)

Environmental Limits

Operating Temperature	-40 to 75°C (-40 to 167°F) Note: Proper airflow is required in an environment with temperature > 65°C
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m

Standards and Certifications

EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: (DC) 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: (DC) 0.5 kV L-N, 1 kV L/N-PE; Signal: 1 kV; IO: 0.5 kV IEC 61000-4-6 CS: Power: 10 V; Signal: 10 Vrms IEC 61000-4-8 PFMF: 30 A/m
Hazardous Locations	ATEX Zone 2 Class I Division 2 IECEx
Safety	UL 61010-1 UL 61010-2-201
Shock	IEC 60068-2-27 Half sine wave; acceleration: 15 g; time: 11 ms
Vibration	IEC 60068-2-6 DIN-rail mounted: 7 mm peak-peak (p-p) (2 to 8.42 Hz), 1 g (8.42 to 150 Hz) Rack mounted (with optional kit): 7 mm peak-peak (p-p) (2 to 8.42 Hz), 0.5 g (8.42 to 150 Hz)

Package Vibration Test	ISTA 1A
Package Drop Test	ISTA 1A

MTBF

Time	See the datasheets for the modules for details.
Standards	Telcordia Standard SR-332

Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty

Ordering Information

Model Name	Description	Max No. of Control Units	Max No. of Expansion Units	Operating Temperature
LIC-IINxpress-NEW	IINxpress IDE standard function license	1	4	-40 to 75°C

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