ioPAC 6500 Series (65M) CPU Modules

CPU modules for modular programmable IIN controllers

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
- 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

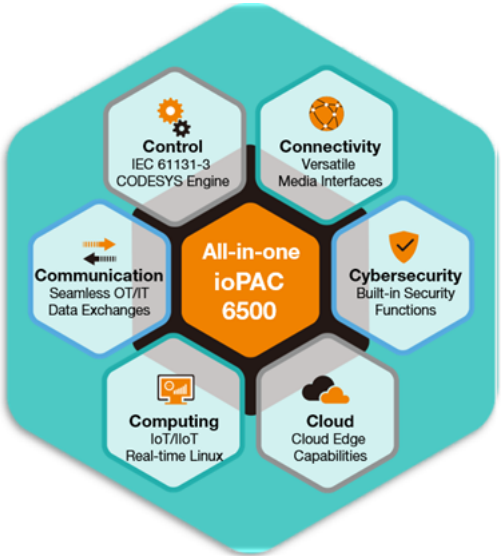
Introduction

The ioPAC 6500 Series (also referred to as Intelligent Integrated Node or IIN) is an advanced Linux-based RTU featuring a built-in Layer-2 managed switch. Equipped with an Arm Cortex-A53 quad-core CPU, the ioPAC 6500 Series delivers robust performance.

6C Competencies

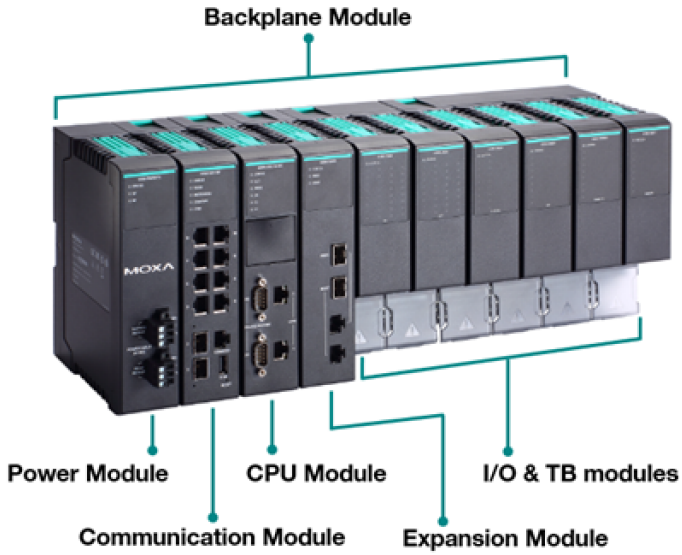
The ioPAC 6500 Series delivers the following competencies to your projects:

- 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 interfaces
- Cloud: Cloud connectivity and cloud edge computing
- Cybersecurity: Security features to protect the devices and data



Fully Modular Design

The ioPAC 6500 Series features a unique Lego-like mechanical design that allows 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.



IEC 61131-3 Automation Programming

The ioPAC 6500 Series features IEC 61131-3 automation programming for flexibility in automation design and consistency in syntax and semantics, promoting interoperability between systems, thereby reducing development complexity in automation projects. Five languages are available: LD, FBD, SFC, IL, and ST, allowing automation professionals to choose the programming language that best suits their needs.

Specifications

Controller	
CPU	Arm Cortex-A53 quad-core 1.6 GHz
OS	Moxa Industrial Linux 3 (Debian 11, kernel 5.10) See www.moxa.com/MIL
SDRAM	4 GB DDR4
MRAM	512 KB (for logger)
Storage Preinstalled	8 GB eMMC (4 GB reserved for users)
Buttons	Reset
Control Logic	
Language	IEC 61131-3 programming languages
Ethernet Interface	
10/100/1000BaseT(X) Ports (RJ45 connector)	2 MACs (IPs)
Magnetic Isolation Protection	1.5 kV (built-in)
Serial Interface	
No. of Ports	2
Connector	DB9 male
Serial Standards	RS-232/422/485
Baudrate	300, 1200, 1800, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200 bps
Parity	None, Even, Odd
Data Bits	7,8

Stop Bits	1, 2
Flow Control	RTS/CTS, XON/XOFF

Serial Signals

RS-232	TxD, RxD, RTS, CTS, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

System Power Parameters

Input Current	0.8 A @ 12 VDC

Physical Characteristics

Housing	Plastic
Dimensions	42 x 177 x 134.8 mm (1.65 x 6.97 x 5.31 in)
Weight	625 g (1.38 lb)
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 Vrms; Signal: 10 Vrms IEC 61000-4-8 PFMF: 30 A/m
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	1,830,589 hrs
Standards	Telcordia Standard SR-332

Warranty

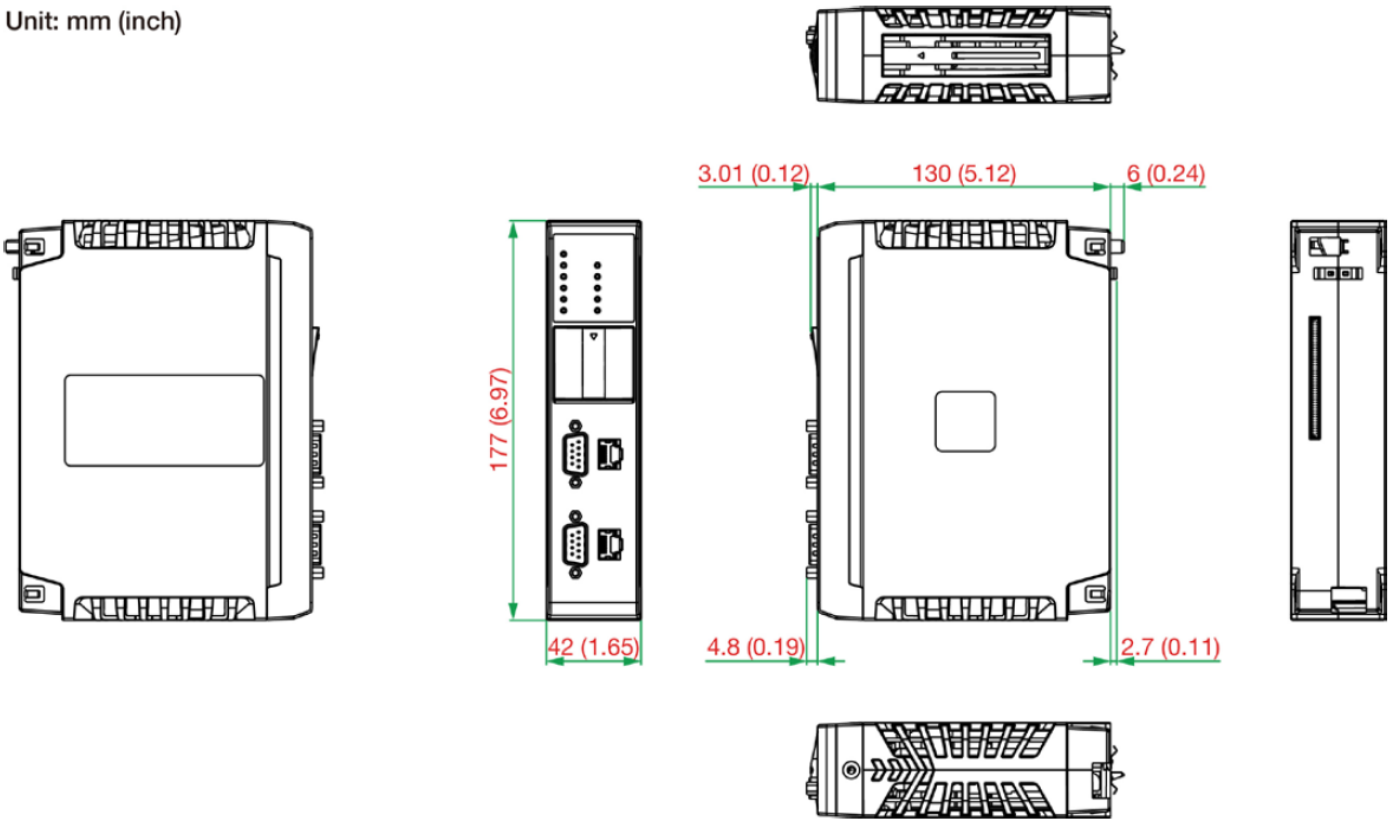
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x ioPAC 6500 Series (65M) CPU module
Documentation	1 x warranty card 1 x quick installation guide

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Programming Support	Ethernet Ports	Serial Ports	Conformal Coating	Operating Temperature
65M-CPU14-IEC-CT-T	IEC 61131-3 programming languages	2 (RJ45)	2 (RS-232/422/485)	Yes	-40 to 75°C