ioPAC 6500 Series (65M) Expansion Modules

Expansion modules for modular programmable IIN controllers



Features and Benefits

- Supports a control unit and up to 4 expansion units, enabling addition of I/O points
- Tool-free hardware installation and hot-swap design for maximizing operation efficiency
- Fully modular design for maximum deployment flexibility
- 2 SFP + 2 RJ45 combo port design with priority for SFP ports
- Supports expansion redundancy

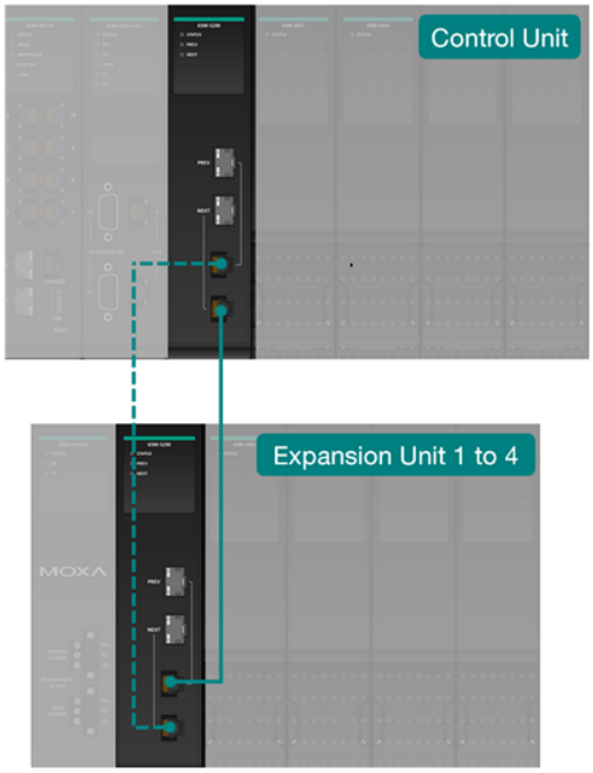
Certifications

Introduction

The expansion module is an optional module. It comes into play when your application requires additional I/O points. The expansion module enables data collection from additional field devices and its combo port, with copper wire or optical fiber options, allows the expansion unit to be deployed at remote locations away from the control unit. Optical fiber (SFP) is given priority over copper wire connections.

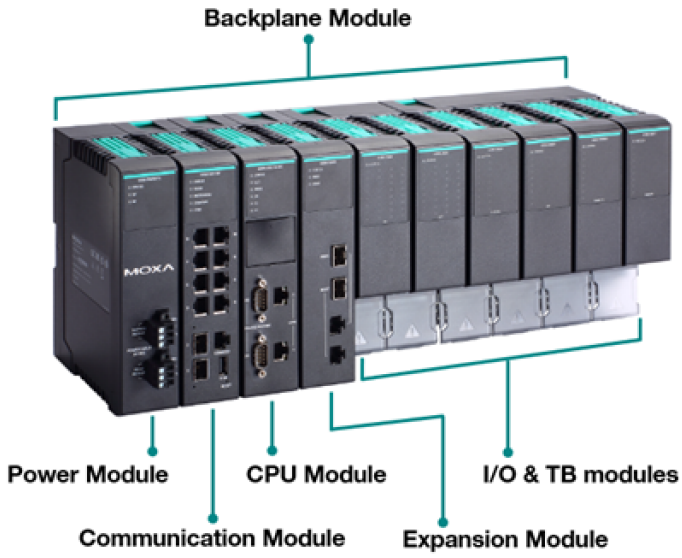
Built-in Expandability

The ioPAC 6500 Series supports up to 4 expansion units, enabling addition of I/O points.



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.





Specifications

Expansion Interface	
Ports	Combo Port RJ45 x 2 and SFP x 2
Protocols	Proprietary
Isolation	1500 VDC/min Between external connection port and system
Power Consumption	
System Power	0.38 A @ 12 VDC
Physical Characteristics	
Housing	Plastic
Dimensions	42 x 177 x 131.5 mm (1.65 x 6.97 x 5.18 in)
Weight	501 g (1.1 lb)
Installation	DIN-rail mounting Rack mounting (with optional kit)
Environmental Limits	
Operating Temperature	-40 to 75°C (-40 to 167°F) (with SFP module installed) 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[1]

1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

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: Power: (DC) 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 61010-2-201 UL 61010-1
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	2,800,019 hrs
Standards	Telcordia Standard SR-332

Warranty

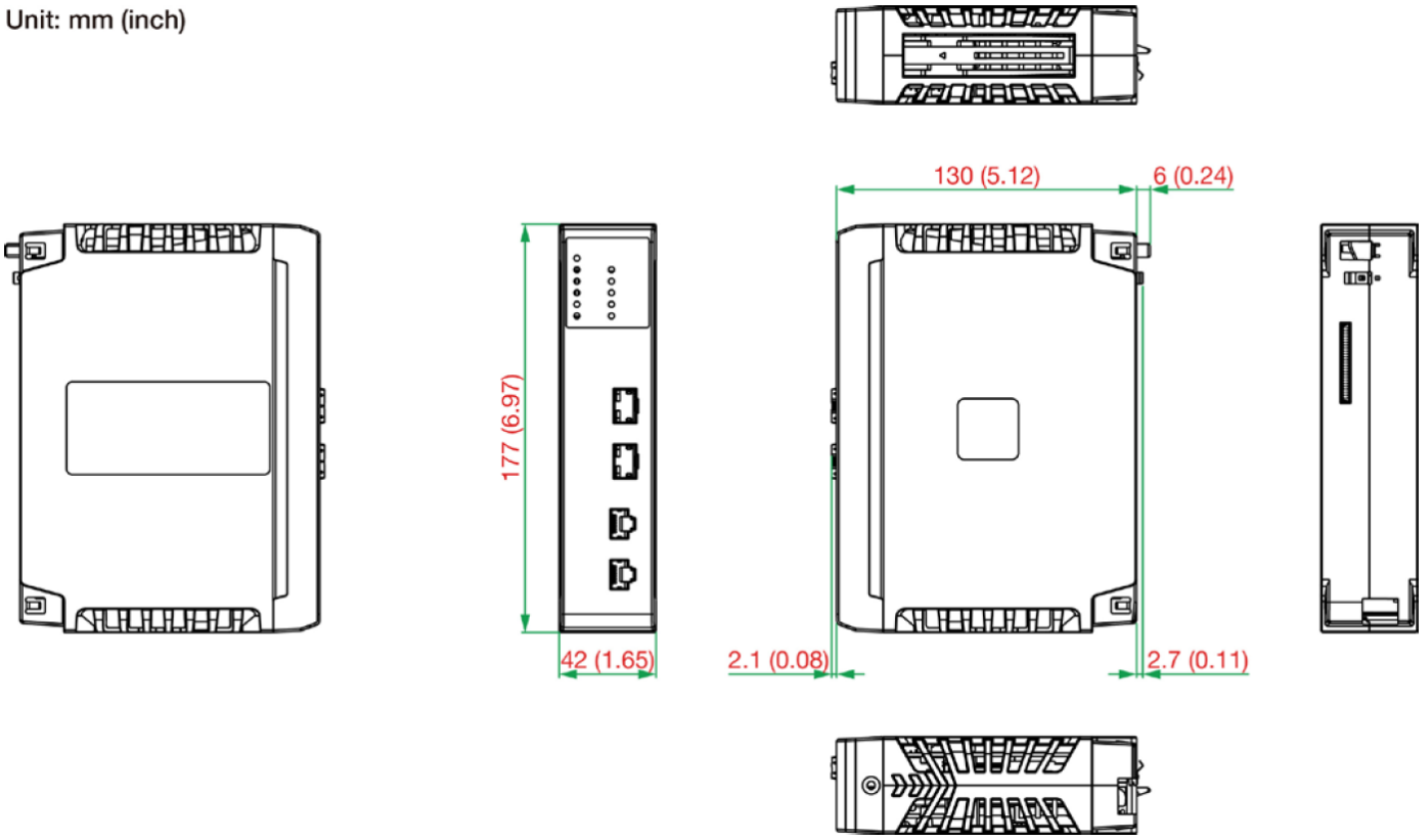
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

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

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	RJ45 Ports	SFP Ports	Conformal Coating	Operating Temperature
65M-5290-CT-T	2	2	Yes	-40 to 75°C (with SFP module installed)

Accessories (sold separately)

SFP Modules

SFP-1GEZXLC	SFP module with 1 1000BaseEZX port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXLC-120	SFP module with 1 1000BaseEZX port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLSXLC-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature

SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1FELLC-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature
SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-2.5GLSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 20 km transmission, -40 to 85 °C operating temperature
SFP-2.5GSLHLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 45 km transmission, -40 to 85 °C operating temperature
SFP-2.5GMLC-T	SFP module with 1 2.5GBaseFX port with LC connector, multi-mode, for 170, 200, 550, 600 m transmission, -40 to 85 °C operating temperature
SFP-2.5GSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 5 km transmission, -40 to 85 °C operating temperature
SFP-1GTXRJ45-T	SFP module with 1 1000BaseT port with RJ45 connector for 100 m transmission, -40 to 75°C operating temperature

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