IA240 Series

Arm-based 192 MHz industrial computer with 2 LAN ports, 4 serial ports, 4 DIs, 4 DOs

Features and Benefits

- MOXA ART 32-bit Arm9 industrial processor

- 64 MB RAM, 16 MB flash onboard

- 4 RS-232/422/485 serial ports

- 4 digital input and 4 digital output channels (TTL signal)

- Dual 10/100 Mbps Ethernet ports

- SD slot for storage expansion

- Ready-to-run Linux kernel 2.6 platform

- Unique patented software encryption lock

- Installation options: DIN-rail, wall-mount (with accessory)

- Robust, fanless design, IP30 protection mechanism

- -40 to 75°C wide-temperature models available

Certifications

Introduction

The IA240 embedded computers are designed for industrial automation applications. The computers feature 4 RS-232/422/485 serial ports, dual Ethernet ports, 4 digital input channels, 4 digital output channels, and an SD slot in a compact, IP30-protected, industrial-strength rugged housing.

The IA240's vertical DIN-rail form factor makes it easy to install the computers in a small cabinet. This space-saving solution also facilitates easy wiring, making the IA240 a great choice as a front-end embedded controller for industrial applications.
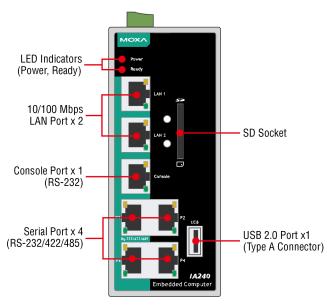
Wide-temperature models of the IA240 are also available. The IA240-T model can operate reliably in a temperature range from -40 to 75°C, making it appropriate for harsh industrial automation environments.
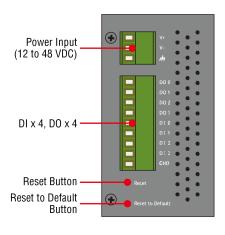
The industrial design of the IA240 provides a robust, reliable computing platform. Due to their Arm-based architecture, the IA240 computers will not generate a lot of heat, making them ideal for industrial automation environments.

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Appearance

Front View

LED Indicators (Power, Ready)

10/100 Mbps LAN Port x 2

Console Port x 1 (RS-232)

Serial Port x 4 (RS-232/422/485)

SD Socket

USB 2.0 Port x1 (Type A Connector)

Top View

Power Input (12 to 48 VDC)

DI x 4, DO x 4

Reset Button

Reset to Default Button

Specifications

Computer

CPU	MOXA ART Arm9, 192 MHz
Storage Slot	SD slots x 1
Supported OS	Linux kernel version 2.6

Memory

Flash	16 MB
SDRAM	64 MB

Computer Interface

Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45 connector) x 2
Serial Ports	RS-232/422/485 ports x 4, software selectable (RJ45)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Digital Input	DIs x 4
Digital Output	DOs x 4

Digital Inputs

Connector	Screw-fastened Euroblock terminal
Voltage	Logic 0: 0-0.8 V Logic 1: 2.0-5.5 V

Digital Outputs

Connector	Screw-fastened Euroblock terminal
Current Rating	24 mA per channel
Voltage	Logic 0: 0-0.55 V Logic 1: 2.5-3.3 V

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Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2
Magnetic Isolation Protection	1.5 kV (built-in)

USB Interface

Storage Port	USB Type A
USB Standards	USB 1.1/2.0 compliant

LED Indicators

System	Power x 1 System Ready x 1
LAN	2 per port (10/100/1000 Mbps)
Serial	2 per port (Tx, Rx)

Serial Interface

Baudrate	50 bps to 921.6 kbps (supports non-standard baudrates)
Connector	8-pin RJ45
Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
Data Bits	5, 6, 7, 8
Flow Control	RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only)
ESD Protection	4 kV, for all signals
No. of Ports	4
Parity	None, Even, Odd, Space, Mark
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Serial Standards	RS-232/422/485
Stop Bits	1, 1.5, 2

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Power Parameters

Input Current	300 mA @ 24 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	1
Power Connector	3-pin terminal block
Power Consumption	7 W (max.)

Physical Characteristics

Housing	Metal
Dimensions	60 x 137 x 100 mm (2.36 x 5.39 x 3.94 in)
Weight	430 g (0.96 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	IA240-LX: -10 to 60°C (14 to 140°F) IA240-T-LX: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	IA240-LX: -20 to 80°C (-4 to 176°F) IA240-T-LX: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24, EN 61000-3-2 Class A, EN 61000-3-3, EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-11 DIPs IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF
Safety	EN 60950-1, IEC 60950-1, UL 60950-1
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	425,321 hrs
Standards	Telcordia (Bellcore), GB

Warranty

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

Package Contents

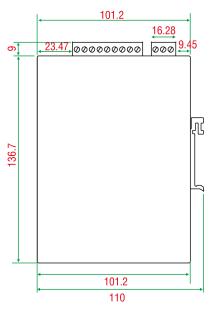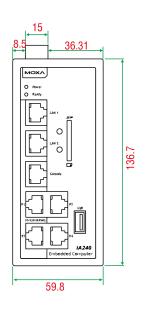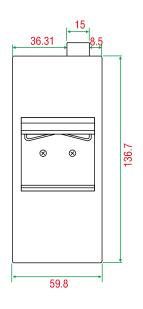|	
Device	1 x IA240 Series computer
Installation Kit	1 x DIN-rail kit 1 x wall-mounting kit
Cable	1 x DB9 male to RJ45 8-pin 1 x Ethernet, crossover 1 x RJ45-to-DB9 console cable 1 x terminal block to power jack converter

Power Supply	1 x power adapter, universal
Documentation	1 x document and software CD 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm

Side View

Front View

Rear View

Ordering Information

Model Name	Serial Ports	LAN Ports	DI/DO	USB 2.0	Storage Slots	Operating Temp.
IA240-LX	4	2	4/4	1	SD Card	-10 to 60°C
IA240-T-LX	4	2	4/4	1	SD Card	-40 to 75°C

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