

# IKS-6324 Series

## 22+2G-port Gigabit unmanaged Ethernet switches



- > Meets NEMA TS2, EN 50121-4, and DNV/GL/ABS/LR/NK certifications
- > Universal power supply range, 12/24/48 VDC or 110/220 VDC/VAC
- > -40 to 75°C operating temperature range



### Introduction

The IKS-6324 industrial rackmount Ethernet switches are designed to meet the demands of industrial application networks such as traffic control systems (NEMA TS2), and maritime applications (DNV/GL/LR/ABS/NK). The IKS-6324 is a 24-port industrial 19" rackmount Ethernet switch series that provides a rugged and economical solution for your industrial Ethernet connections. Up to two fast Ethernet fiber optic ports and combo Gigabit Ethernet TP or fiber optic ports can be

chosen to make the construction of a reliable Ethernet network easy. A universal power supply range of 12/24/48 VDC or 110/220 VDC/VAC give users greater flexibility in choosing power inputs. The Ethernet switches comply with UL standards and support a wide operating temperature range of -40 to 75°C. All models undergo a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control applications.

### Specifications

#### Technology

##### Standards:

- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseT(X) and 100BaseFX
- IEEE 802.3ab for 1000BaseT(X)
- IEEE 802.3z for 1000BaseX
- IEEE 802.3x for Flow Control

**Flow Control:** IEEE 802.3x flow control, back pressure flow control

#### Switch Properties

**MAC Table Size:** 8 K

**Packet Buffer Size:** 2.5 Mbit

#### Interface

- Fiber Ports:** 100BaseFX (SC/ST connector) or 1000BaseSFP slots
- RJ45 Ports:** 10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
- LED Indicators:** STAT, PWR1, PWR2, FAULT, LNK/ACT, FDX/HDX, SPEED

*Note: Slot 1 is for a 2-port PM-7200 Gigabit Ethernet combo module, or 1 or 2-port PM-7200 Fast Ethernet module. See below for details.*

#### Power Requirements

**Input Voltage:** 12/24/48 VDC (9 to 60 V), or 110/220 VDC/VAC (88 to 300 VDC and 85 to 264 VAC)

**Input Current:** (with max. number of fiber ports installed)

- Max. 1.36 A @ 12 VDC
- Max. 0.68 A @ 24 VDC
- Max. 0.35 A @ 48 VDC
- Max. 0.17/0.11 A @ 110/220 VDC
- Max. 0.33/0.23 A @ 110/220 VAC

**Overload Current Protection:** Present

**Connection:** 10-contact terminal block

**Reverse Polarity Protection:** Present

### Unmanaged Rackmount Ethernet Switch System, IKS-6324



#### Physical Characteristics

- Housing:** IP30 protection
- Dimensions:** 440 x 44 x 278.3 mm (17.32 x 1.73 x 10.96 in)
- Weight:** 4300 g
- Installation:** 19" rack mounting

#### Environmental Limits

- Operating Temperature:** -40 to 75°C (-40 to 167°F)
- Storage Temperature:** -40 to 85°C (-40 to 185°F)
- Ambient Relative Humidity:** 5 to 95% (non-condensing)

#### Standards and Certifications

- Safety:** EN 60950-1
  - EMI:** FCC Part 15 Subpart B Class A, EN 55022 Class A
  - Marine:** DNV, GL, LR, ABS, NK
  - Traffic Control:** NEMA TS2
  - Rail Traffic:** EN 50155, EN 50121-4
- Note: Please check Moxa's website for the most up-to-date certification status.*

#### MTBF (mean time between failures)

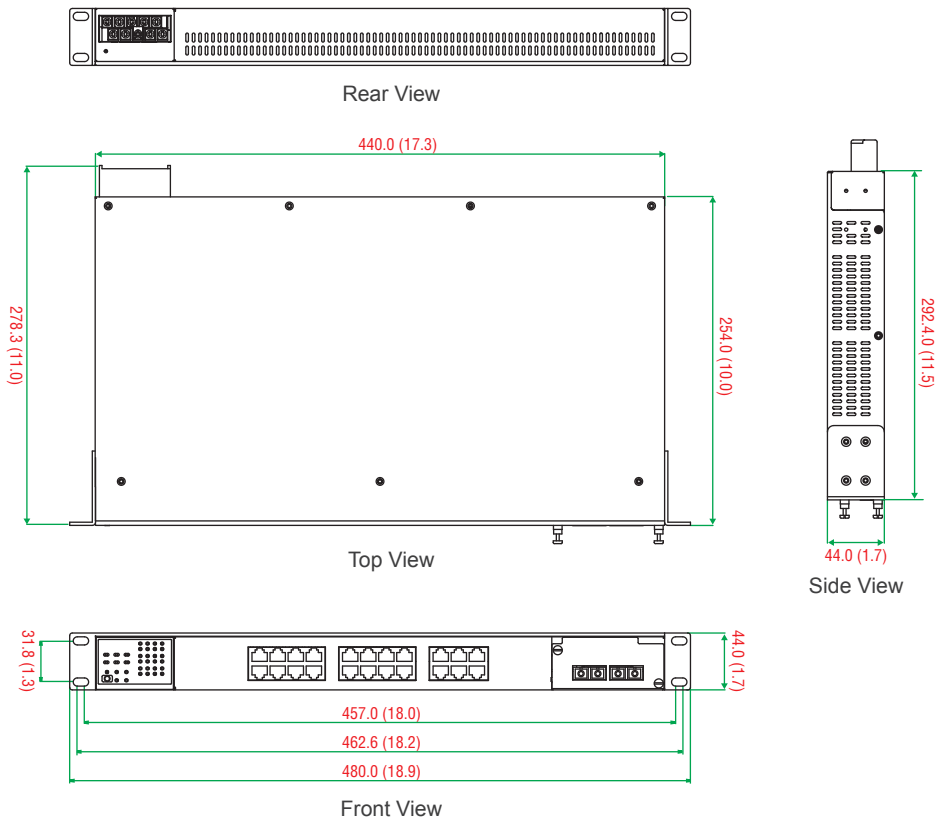
- Time:** 197,700 hrs
- Database:** Telcordia (Bellcore), GB

#### Warranty

- Warranty Period:** 5 years
- Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions

Unit: mm (inch)



## Ordering Information

Step 1: Select Ethernet switch system

Step 2: Select interface modules

IKS-6324 with power supply



PM-7200 modules  
(Gigabit or Fast Ethernet)

Note: The IKS-6324 Ethernet switch system is delivered without interface modules. See below to determine which PM-7200 interface modules are suitable for your application.

### IKS-6324 Unmanaged Rackmount Ethernet Switch System

The IKS-6324 switch system consists of 2 unmanaged rackmount Ethernet switch systems with 22 10/100BaseT(X) ports, and 1 slot for Fast Ethernet or Gigabit Ethernet modules. A total of up to 24 or 22+2G ports can be installed, and the switch can be used in a temperature range from -40 to 75°C.

Product Model	Power Supply	
	Front Cabling, Front Display	
IKS-6324-F-LV-T	LV: 12/24/48 VDC (9 to 60 V)	HV: 88 to 300 VDC and 85 to 264 VAC, isolated
IKS-6324-F-HV-T	1	-
	-	1

### Gigabit/Fast Ethernet Module Compatibility Chart for the IKS-6324 Series

Slot	Interface Module						
	PM-7200-2GTXSFP	PM-7200-1MSC	PM-7200-1MST	PM-7200-1SSC	PM-7200-2MSC	PM-7200-2MST	PM-7200-2SSC
Slot 1	✓	✓	✓	✓	✓	✓	✓

### Package Checklist

- IKS-6324 switch
- Protective caps for unused ports
- 2 rackmount ears
- Hardware installation guide (printed)
- Warranty card

# PM-7200 Series

**Gigabit and Fast Ethernet modules for PT and IKS series rackmount Ethernet switches**

## Specifications

### Gigabit Ethernet Interface Modules, PM-7200-2G/4G Series



#### Interface

**RJ45 Ports:** 10/100/1000BaseT(X) auto negotiation speed, and auto MDI/MDI-X connection

**Fiber Ports:** 1000BaseSFP slots

**Note:** The PM-7200-2G/4G series Gigabit Ethernet combo modules support 2 or 4 SFP slots. See the SFP-1G series Gigabit Ethernet information below to select the modules for your application.

### Fast Ethernet Interface Modules, PM-7200 Series



\* See the SFP-1G/1FE series Gigabit Ethernet and Fast Ethernet information below to select modules for your system.

**Interface**

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection  
**Fiber Ports:** 100BaseFX ports (SC/ST/MTRJ or SFP LC connector)  
**PoE Ports:** IEEE 802.3af Power-over-Ethernet Technology, provide up to 15.4 watts per port  
**M12 Ports:** 10/100BaseT(X) auto negotiation speed, and auto MDI/MDI-X connection  
**BNC Ports:** Time clock signal PPS (pulses per second) output for IEEE 1588 time synchronization

**Optical Fiber**

	100BaseFX			10BaseFX
	Multi-mode	Single-mode	Single-mode, 80 km	Multi-mode
Wavelength	1300 nm	1310 nm	1550 nm	1300 nm
Max. TX	-10 dBm	0 dBm	0 dBm	-10 dBm
Min. TX	-20 dBm	-5 dBm	-5 dBm	-20 dBm
RX Sensitivity	-32 dBm	-34 dBm	-34 dBm	-32 dBm
Link Budget	12 dB	29 dB	29 dB	12 dB
Typical Distance	5 km <sup>a</sup> 4 km <sup>b</sup>	40 km <sup>c</sup>	80 km <sup>d</sup>	5 km <sup>a</sup> 4 km <sup>b</sup>
Saturation	-6 dBm	-3 dBm	-3 dBm	-6 dBm

- a. 50/125 μm, 800 MHz\*km fiber optic cable
- b. 62.5/125 μm, 500 MHz\*km fiber optic cable
- c. 9/125 μm single-mode fiber optic cable
- d. 9/125 μm single-mode fiber optic cable (80 km)

**Ordering Information**

**Rackmount Ethernet Switch System and Interface Module Compatibility Chart**

**Modular Rackmount Ethernet Switch System:**



		IEEE 1588 Interface Modules	Interface Modules																													
		PM-7200-4TX-PTP	PM-7200-4MSC-PTP	PM-7200-4MST-PTP	PM-7200-1BNC2MST-PTP	PM-7200-4GTXSFP	PM-7200-2GTXSFP	PM-7200-1MSC/2MSC	PM-7200-1MST/2MST	PM-7200-1SSC/2SSC	PM-7200-8TX	PM-7200-2MSC4TX	PM-7200-2MST4TX	PM-7200-2SSC4TX	PM-7200-4MSC2TX	PM-7200-4MST2TX	PM-7200-4SSC2TX	PM-7200-6MSC	PM-7200-6MST	PM-7200-6SSC	PM-7200-1MSC6TX	PM-7200-1MST6TX	PM-7200-1SSC6TX	PM-7200-1LS6TX	PM-7200-8PoE	PM-7200-8SFP*	PM-7200-4M12	PM-7200-2MTRJ	PM-7200-8MTRJ	PM-7200-4MST-FL		
PT-7828 PT-7728	Slots 1-3	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Slot 4	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT-7728-PTP	Slots 1-3	✓	✓	✓	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Slot 4	-	-	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT-7710	Slot 1	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Slot 2	-	-	-	-	-	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IKS-6726-8PoE	Slot 1	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Slot 2	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IKS-6324	Slot 1	-	-	-	-	-	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Gigabit Ethernet Modules, PM-7200-2G/4G Series**

Available Models	Port Interface
	Combo Port, 10/100/1000BaseT(X) or 1000BaseSFP*
PM-7200-2GTXSFP	2
PM-7200-4GTXSFP	4

\*The PM-7200-2G/4G series Gigabit Ethernet combo modules support 2 or 4 SFP slots.

## Fast Ethernet Modules, PM-7200/7500 Series

Available Models	Port Interface									
	10/100BaseT(X)			100BaseFX					100BaseSFP	PPS output, BNC connector
	TP	PoE	M12	Multi-mode, SC Connector	Multi-mode, ST Connector	Multi-mode, MTRJ Connector	Single-mode, SC Connector	Single-mode, SC Connector, 80 km		
PM-7200-8TX	8	-	-	-	-	-	-	-	-	-
PM-7200-6MSC	-	-	-	6	-	-	-	-	-	-
PM-7200-6MST	-	-	-	-	6	-	-	-	-	-
PM-7200-6SSC	-	-	-	-	-	-	6	-	-	-
PM-7200-4MSC2TX	2	-	-	4	-	-	-	-	-	-
PM-7200-4MST2TX	2	-	-	-	4	-	-	-	-	-
PM-7200-4SSC2TX	2	-	-	-	-	-	4	-	-	-
PM-7200-2MSC4TX	4	-	-	2	-	-	-	-	-	-
PM-7200-2MST4TX	4	-	-	-	2	-	-	-	-	-
PM-7200-2SSC4TX	4	-	-	-	-	-	2	-	-	-
PM-7200-1LSC6TX	6	-	-	-	-	-	-	1	-	-
PM-7200-2MSC	-	-	-	2	-	-	-	-	-	-
PM-7200-2MST	-	-	-	-	2	-	-	-	-	-
PM-7200-2SSC	-	-	-	-	-	-	2	-	-	-
PM-7200-1MSC	-	-	-	1	-	-	-	-	-	-
PM-7200-1MST	-	-	-	-	1	-	-	-	-	-
PM-7200-1SSC	-	-	-	-	-	-	1	-	-	-
PM-7200-1MSC6TX	6	-	-	1	-	-	-	-	-	-
PM-7200-1MST6TX	6	-	-	-	1	-	-	-	-	-
PM-7200-1SSC6TX	6	-	-	-	-	-	1	-	-	-
PM-7200-8SFP	-	-	-	-	-	-	-	-	8	-
PM-7200-4M12	-	-	4	-	-	-	-	-	-	-
PM-7200-2MTRJ	-	-	-	-	-	2	-	-	-	-
PM-7200-8MTRJ	-	-	-	-	-	8	-	-	-	-
PM-7200-4MST-FL	-	-	-	-	4	-	-	-	-	-
PM-7200-4TX-PTP	4	-	-	-	-	-	-	-	-	-
PM-7200-4MSC-PTP	-	-	-	4	-	-	-	-	-	-
PM-7200-4MST-PTP	-	-	-	-	4	-	-	-	-	-
PM-7200-1BNC2MST-PTP	-	-	-	-	2	-	-	-	-	1
PM-7200-8PoE	-	8	-	-	-	-	-	-	-	-

### Package Checklist

- PM-7200 interface modules
- Warranty card

# SFP-1FE Series

## 1-port fast Ethernet SFP modules



- > IEEE 802.3u compliant
- > Differential PECL inputs and outputs
- > TTL signal detect indicator
- > Hot pluggable LC duplex connector
- > Class 1 laser product; complies with EN 60825-1



### Specifications

#### Interface

Ethernet Ports: 1  
Connectors: Duplex LC Connector

#### Optical Fiber

	Fast Ethernet		
	SFP-M	SFP-S	SFP-L
Wavelength	1300 nm	1310 nm	1550 nm
Max. TX	-18 dBm	0 dBm	0 dBm
Min. TX	-8 dBm	-5 dBm	-5 dBm
RX Sensitivity	-34 dBm	-34 dBm	-34 dBm
Link Budget	26 dB	29 dB	29 dB
Typical Distance	4 km <sup>a</sup>	40 km <sup>b</sup>	80 km <sup>b</sup>
Saturation	0 dBm	-3 dBm	-3 dBm

a. 50/125 μm or 62.5/125 μm, 800 MHz \* km @ 1300 nm multi-mode fiber optic cable  
b. 9/125 μm single-mode fiber optic cable

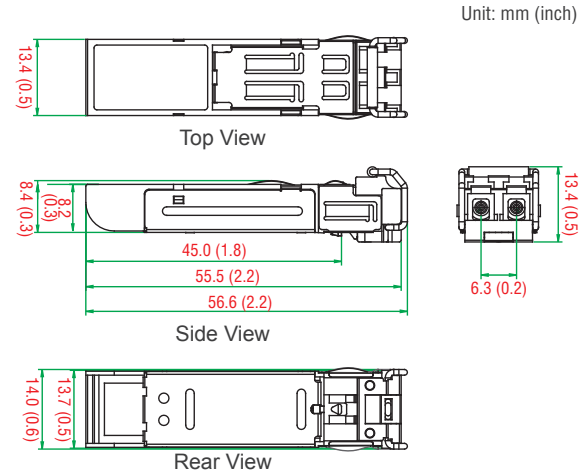
#### Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)  
Storage Temperature: -40 to 85°C (-40 to 185°F)  
Ambient Relative Humidity: 5 to 95% (non-condensing)

#### Standards and Certifications

Safety: UL 60950-1, TÜV  
Warranty  
Warranty Period: 5 years  
Details: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

#### Dimensions



### Ordering Information

Available Models	Port Interface			
	Wide Temperature (-40 to 85°C)	100BaseFX, Multi-mode, LC Connector, 4 km	100BaseFX, Single-mode, LC Connector, 40 km	100BaseFX, Single-mode, LC Connector, 80 km
SFP-1FEMLC-T		1	-	-
SFP-1FESLC-T		-	1	-
SFP-1FELLC-T		-	-	1

#### Available Models

The SFP-1FE series modules can be used with the following products:  
ICS-G7826/G7828 series, ICS-G7526/G7528 series, IKS-G6524/G6824 series,  
IKS-6726/6728 series, EDS-611/619 series, EDS-G509 series, EDS-G308-2SFP, EDS-P510 series,  
IM-G7000-4GSFP, PM-7200-8SFP, EDR-G903/G902 series, IM-6700-8SFP

#### Package Checklist

- SFP-1FE module
- Warranty card