IXR-MG2404XS

L3 3x Modular Slots + 4x 1G/10G SFP+

- Static Routing, RIP v1, RIP v2, BGP v4, OSPF v2, PIM-SM, PIM-DM, PIM-SSM, DVMRP, VRRP v2
- Supports IEEE802.1AE MACsec network security (IRM-4GS-SEC, IRM-4GT-SEC)
- Supports ERPS, MRP, MSTP, RSTP, STP for redundant cabling
- EN62368-1, CE and FCC certified
- Modular design for flexible application

The industrial L3 10G Ethernet Switch adopt an enhanced and hardened design to meet critical and centralized strict requirements. It provides up to 24 Gigabit Ethernet ports, which can be implemented by 3 types of Ethernet module of Gigabit copper, PoE port and SFP slot, and come with 4 ports of 10 Gigabit SFP+ slot for uplink. Its redundant power input can improve system reliability and uninterrupted availability of the network backbone. The switch is ideal for smart city, surveillance, intelligent traffic control systems and production automation applications.

Features

- Redundant 48VDC, or 110/220VAC power inputs
- Rugged metal, IP30 protection & Fanless design
- Supports IEEE 1588 PTP V2 for precise time synchronization to operate in BC, End-End mode for each port

Specifications

Standard	IEEE 802.3	10Base-T 10Mbit/s Ethernet
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3ab	1000Base-T Gbit/s Ethernet over twisted pair
	IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic
	IEEE 802.3ae	10Gbit/s Ethernet over fiber
	IEEE802.3af	PoE (Power over Ethernet)
	IEEE802.3at	PoE+ (Power over Ethernet enhancement)
	IEEE 802.1d	STP (Spanning Tree Protocol)
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
	IEC62439-2	Media Redundancy Protocol (MRP)
	ITU-T G.8032 / Y.1344	ERPS (Ethernet Ring Protection Switching)
	IEEE 802.1Q	Virtual LANs (VLAN)
	IEEE 802.1X	Port based and MAC based Network Access Control, Authentication
	IEEE 802.1AE	MACsec, Local and metropolitan area networks-Media Access Control (MAC) Security
	IEEE 802.3ac	Max frame size extended to 1522Bytes
	IEEE 802.3ad	Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)
	IEEE 802.3X	Flow control for full duplex
	IEEE 802.1ad	Stacked VLANs, Q-in-Q
	IEEE 802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization
	IEEE 802.1ab	Link Layer Discovery Protocol (LLDP)
VLAN ID	4094 IEEE 802.1Q VLAN VID	
Switch Architecture	Back-plane (Switching Fabric): 128Gbps (Full wire-speed)	
Throughput	95.24Mpps maximum	

Data Processing	Store and Forward
Network Connector	3x modular slot + 4x 1000/10GBase-X SFP+ Provide various type of module for modular slot: 8x 10/100/1000Base-T RJ45 module 8x 10/100/1000Base-T RJ45 with IEEE802.3af/at PoE module 8x 100/1000Base-X SFP module 4x 10/100/1000Base-T RJ45 MACsec module 4x 100/1000Base-X SFP MACsec module PoE: Supports 3x PoE module/24x PoE ports maximum Maximum 30W/port, maximum total 720W/per device All SFP support DDMI All RJ45 support Auto negotiation speed, auto MDI/MDI-X function
Console Port	RS232 (RJ45)
Network Cable	UTP/STP Cat.5e cable or above
	EIA/TIA-568 100-ohm (100meter)
Protocols	CSMA/CD
Power Supply (For Device)	Redundant 2x AC input power (-AA model) Redundant 1x AC + 1x DC input power (-AD model) Redundant 2x DC input power (-DD model) AC input power (A) : 110/220VAC (85VAC~264VAC) IEC320 C-16 type connector DC input power (D) : 48VDC (48~57VDC) Removable Terminal Block
Power Supply (For PoE)	Dual 48VDC for PoE (45~57VDC, For IEEE802.3af) (51~57VDC, For IEEE802.3at) Terminal Block
Power Consumption	Maximum 64W@110-220VAC (Not include PoE) Maximum 32.7W@48VDC (Not include PoE) Maximum 370W for PoE
PoE Power Budget	360W (In full PoE Module)
LED (System)	Power 1 (Green), Power 2 (Green) for Device Power 1 (Green), Power 2(Green) for PoE
	Sys (Green) Blinking: Normally operate OFF: Not ready
	Ring (Green) ON: Rings in normal / OFF: Ring is disabled / Blinking: port link down in Ring
	Master (Green) ON: The device is a Master of the Ring / OFF: Slave of the ERPS Ring
	Alarm (Red) ON: Alarm is triggered by user defined / OFF: Alarm is not triggered
LED (Module)	Per RJ-45 port Amber: ON: 1000M Link / Blink: 100M Link / OFF: 10M Green: ON: Link / Blink: Link & Active / OFF: No Link
	Per SFP Fiber port Amber : ON: 1000M Link / Blink: 100M Link Green: ON: Link / Blink: Link & Active / OFF: No Link
	PoE (Amber) ON: PoE Active / OFF: PoE Inactive
Jumbo Frame	9216 Byte
MAC Address Table	16K
Memory Buffer	1.5M Bytes for packet buffer
Warning Message	System Syslog, SMTP/ e-mail event message, alarm relay
Alarm Relay Contact	Relay outputs with current carrying capacity of 1A @24VDC, 2-Pin removable terminal block
Operating Temperature	-40 ~ 60°C
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection, Fanless
Dimensions	340 x 440 x 44mm (Dx W x H)
Weight	5kg (Not include module)
Installation Mounting	19" rack mount
MTBF	106,872 Hours (MIL-HDBK-217)
Warranty	5 years

Certification	
EMC	CE (EN55032, EN55024)
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 (ESD) Level 3, Criteria B
	EN61000-4-3 (RS) Level 3, Criteria A
	EN61000-4-4 (Burst) Level 3, Criteria A
	EN61000-4-5 (Surge) Level 3, Criteria B
	EN61000-4-6 (CS) Level 3, Criteria A
	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
Safety	EN62368-1
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Vibration	IEC 60068-2-6

Software Specifications

Topology	
Layer 3 Routing	Static routing, RIP v1/v2, OSPFv2, DVMRP, PIM-DM, PIM-SM, PIM-SSM
Layer 3 Redundancy	VRRP v2
VLAN	IEEE 802.1q VLAN,up to 4094 802.1Q VLAN VID
	MAC-based VLAN
	GARP
	GVRP (GARP VLAN Registration Protocol)
	GMRP
Link Aggregation (Port Trunk)	Static, Dynamic (IEEE 802.3ad LACP)
Spanning Tree	IEEE 802.1d STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP, IEC62439-2 MRP(Client)
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)	Recovery time <50ms
	Single Ring

QoS	
QoS	Supported

IP Multicasting Feature	
IGMP	IGMP v1, v2, v3 / IGMP Snooping

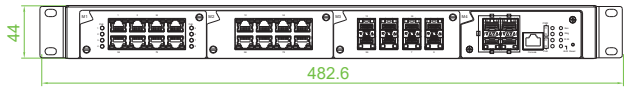
Security Features	
IEEE802.1AE	Support IEEE802.1AE MACsec network security Provide by IRM-4GS-SEC, IRM-4GT-SEC optional module
IEEE 802.1X	Port-Based
ACL	Supp orted
RADIUS	Authentication & Accounting
TACACS+	Authentication, Authorization, Accounting
HTTPS, HTTP	Supported
SSH	Supported
Management Interface Access Filtering	Web, Telnet / SSH, CLI RS-232 console

Management Features	
CLI	Supported
Web UI	Supported
Telnet	Server
SNMP	V1, V2c, V3
sFlow	Supported
SMTP	SMTP, SMTP (Gmail)

Automation Profile	Profinet v2 conformance Modbus/TCP status registers
SW & Configuration Upgrade	TFTP
RMON	RMON I (1, 2, 3, 9 group)
MIB	RFC1213 MIB II, Private MIB
DHCP	Server, Client, Relay, DHCP option 66/67/82
BootP	Supported
RARP	Supported
Mirroring	Supported
Event Syslog	Client
Warning Message	System syslog, SMTP e-mail, alarm relay
IEEE 1588 PTP V2	BC, End-End mode for each port
NTP V4.0, SNTP	NTP (server/ Client), SNTP (Client)
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol

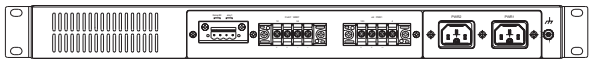
Dimensions

Front View

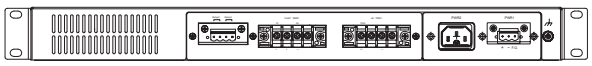


Rear View

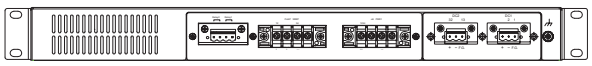
-AA Power



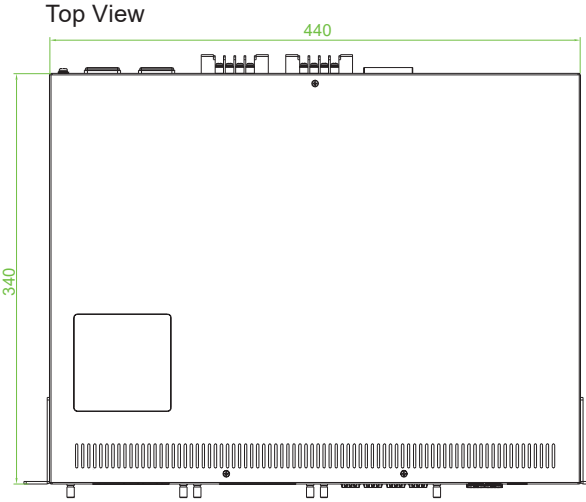
-AD Power



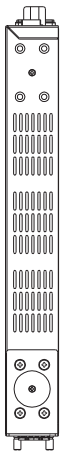
-DD Power



Top View



Side View



Ordering Information

Model Name	Managed	Total Ports (Max)	Extension Port	Modular Slot	Input Power	Certification		Operating Temerature
			1G/10G SFP+	See Module selection table for Optional	Device and PoE	Safety EN62368-1	CE, FCC	
IXR-MG2404XS-AA	V	28	4	3	Dual 110/220VAC Dual 48VDC for PoE	V	V	-40 ~ 60°C
IXR-MG2404XS-AD	V	28	4	3	110/220VAC and 48VDC Dual 48VDC for PoE	V	V	-40 ~ 60°C
IXR-MG2404XS-DD	V	28	4	3	Dual 48VDC Dual 48VDC for PoE	V	V	-40 ~ 60°C

Module Selection

Model Name	100/1000 Base-X SFP	10/100/1000 Base-TX RJ45	IEEE802.3 af/at PoE	MACsec
IRM-8GS	8			
IRM-8GT		8		
IRM-8GP		8	8	
IRM-4GS-SEC	4			V
IRM-4GT-SEC		4		V


IRM-8GS


IRM-8GT


IRM-8GP


IRM-4GS-SEC


IRM-4GT-SEC

Optional Accessories

Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

ISFP-M9000-85-D(E)	Industrial SFP 10GbE 10GBase-SR, M/M, 300 meter (OM3 fiber) ,wave length 850nm, DDMI , -10~70°C (-40~85°C)
ISFP-S9010-31-D(E)	Industrial SFP 10GbE 10GBase-LR, S/M, 10km, wave length 1310nm, DDMI, -10~70°C (-40~85°C)
ISFP-M7000-85-D(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter,wave length 850nm, 7.5dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDMI, -10~70°C(-40~85°C)
ISFP-T7T00-00-(E)	Industrial SFP 10/100/1000Base-T UTP 100meter, -10~70°C (-40~85°C)

Industrial Power Supply

NDR-120-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 120W, -20 ~ +70°C (For DC input type, Non PoE)
NDR-480-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 480W, -20 ~ +70°C (For PoE application)