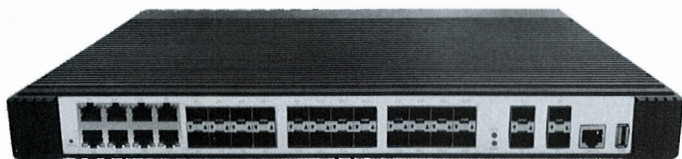


24 Gigabit SFP and 10G Uplink L3 Managed Ethernet Switch

User's Manual V3



Industrial 24 Ports SFP Fiber Switch



Commercial 24 Ports SFP Fiber Switch

Important Safeguards & Warnings

Attention:

Please read the following safety instructions carefully before using the product to avoid damages and losses.

Note:

Do not expose the device to soot, high humidity or dust. Doing so may cause fire or electric shock.

Do not install the device directly exposed to sunlight as it may cause overheating and failure.

Installation of the units should be done in a compatible rack unit or securely on a flat surface.

Do not place the device on carpet or any soft surfaces around the unit as it may cause overheating, fire and total failure.

Do not stack or place any object on the unit.

This unit contains NO user serviceable parts, Servicing should only be performed at The Authorised Service Center.

Warning:

Do not use a power supply other than the recommended or supplied one with the switch. Failure to do so may result in device failure and warranty will be void.

Disclosure:

This is a reference manual only.

Commercial Series switches shares same switch features; however support operating temperature of -10 to +55 degree Celsius only. Due to continuous research and development, hardware designs and software features are subject to change without prior notice.

Product Overview

Introduction

The Layer 3 Managed Switch features 16 100/1000Mbps SFP ports, 8 shared 1000M Combo ports, 4 10G SFP+ ports and Layer 3 IP routing in a 1U case. With 10Gbps uplink, It can handle extremely large amounts of data in a secure topology linking to an industrial backbone or high capacity servers.

It greatly simplifies the tasks of upgrading the industrial LAN for catering to increasing bandwidth demands. This fiber switch enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, and the IPv4 OSPFv2 (Open Shortest Path First) settings automatically. With the built-in web-based management interface.

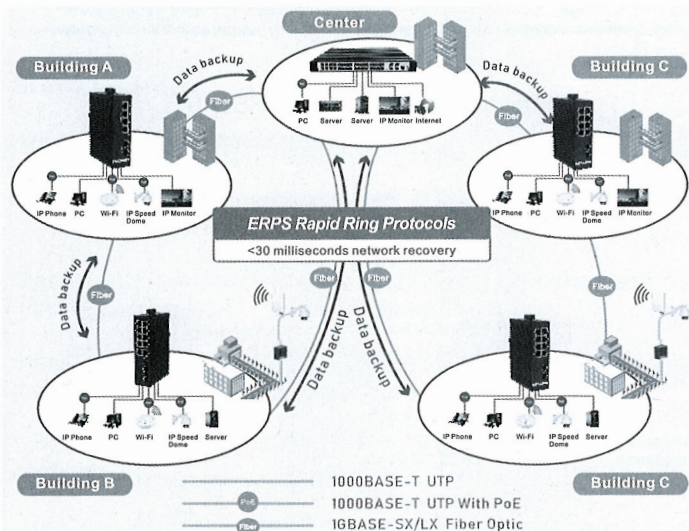
It also offers an easy-to-use, platform independent management and configuration facility. The Switch supports SNMP and it can be managed via any management software based on the standard SNMP protocol. It also offers command via Telnet or console port and customer doesn't need to learn new command from these switches.

Key features:

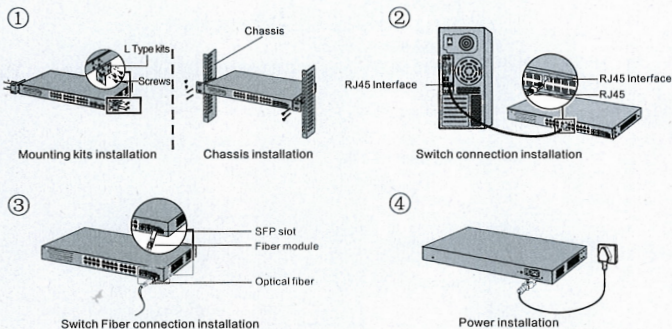
- ※ 16 100/1000BASE-X SFP slots with 8G Combo.
- ※ 4 10GBASE-SR/LR SFP+ slots, backward compatible with 1000BASE-SX/LX/BX and 2500BASE-X SFP
- ※ IP30 metal case protection
- ※ Supports EFT protection for 6000V DC power and 6000V DC Ethernet ESD protection
- ※ -40 to 75 degrees C operating temperature
- ※ supports maximum 128 static routes and route summarization
- ※ IP dynamic routing protocol supports OSPFv2
- ※ Routing interface provides per VLAN routing mode
- ※ VLAN/STP/QoS/Multicast L2 features are available

Typical Application

The typical network deployment is shown as below:



Switch installation:



Appendix 1

Technical Specification

Model	Industrial 24 Ports SFP Fiber Switch
Hardware Specifications	
Connector	24 x 1.25G Base-X SFP, 8 x 10/100/1000Base-T RJ45 Combo 4*1.25G/2.5G/10G Base-X SFP+ Uplink 1 x RS232-to-RJ45 serial port, 1 x USB port 1 x Alarm and DC/AC Dual Power Input
LED indicators	Power Indicator: PWR(green), System Indicator: SYS(green) Network Indicator: (green), ACT Indicator: (yellow) SFP Indicator: (green)
Switch Architecture	Store and Forward
Network standard	IEEE802.3i 10 BASE-T IEEE802.3u 100 BASE-TX IEEE802.3ab/z 1000 BASE-TX IEEE802.3ae 10GBASE-TX IEEE 802.3x flow control IEEE802.3az EEE
Backplane bandwidth	256Gbps
Packet forwarding rate	95.232Mpps
Jumbo Frame Size	10K
Buffer Memory	12M
Ram	DDR3 1G
MAC address	32K
Power requirement	DC 9-72V AC 100~260V
Protection	Contact Discharge 8kV, Air Discharge 15kV, SP CM 6kV
Dimension(W×D×H)	440mm x 290mm x 44.5mm
Weight	5Kg
Environment	
Environment specification	Operating temperature: -40℃~75℃, humidity: 5%~95% Storage temperature: -40℃~85℃, humidity: 5%~95%
Safety	FCC Part15 Class A, CE, RoHS

Appendix 2

Technical Specification

Model	Commercial 24 Ports SFP Fiber Switch
Hardware Specifications	
Connector	24 x 1.25G Base-X SFP, 8 x 10/100/1000Base-T RJ45 Combo 4*1.25G/2.5G/10G Base-X SFP+ Uplink 1 x RS232-to-RJ45 serial port, 1 x USB port 1 x Alarm and DC/AC Dual Power Input
LED indicators	Power Indicator: PWR(green), System Indicator: SYS(green) Network Indicator: (green), ACT Indicator: (yellow) SFP Indicator: (green)
Switch Architecture	Store and Forward
Network standard	IEEE802.3i 10 BASE-T IEEE802.3u 100 BASE-TX IEEE802.3ab/z 1000 BASE-TX IEEE802.3ae 10GBASE-TX IEEE 802.3x flow control IEEE802.3az EEE
Backplane bandwidth	256Gbps
Packet forwarding rate	95.232Mpps
Jumbo Frame Size	10K
Buffer Memory	12M
Ram	DDR3 1G
MAC address	32K
Power requirement	AC 100~240V
Protection	Contact Discharge 8kV, Air Discharge 15kV, SP CM 6kV
Dimension(W×D×H)	440mm x 290mm x 44.5mm
Weight	4Kg
Environment	
Environment specification	Operating temperature: -10℃~55℃, humidity: 5%~95% Storage temperature: -30℃~75℃, humidity:5%~95%
Safety	FCC Part15 Class A, CE, RoHs

Industrial Switch Management Specification 1

Managed Layer 3 Fiber Switch

Layer 3 Functions

Layer 3 Features	<p>IPV4/IPV6 VRRP, the maximum group is 255</p> <p>IPV4/IPV6 static route/default route supports up to 128 entries</p> <p>IPV4 dynamic routing, RIPv1/v2, OSPFv2, 4000 routing entries, IPV6 management, 1000 routing entries</p> <p>L3 network management function, IPV4/IPV6 dual-stack management</p> <p>Layer 3 routing and forwarding, support communication between different network segments and different VLANs</p>
VLAN	<p>802.1Q tagged-based VLAN,</p> <p>Up to 256 VLAN groups, 4094 VLAN IDs</p> <p>Voice VLAN, Protocol VLAN, Private VLAN (Protected Port)</p>
Link Aggregation	<p>IEEE 802.3ad LACP and static trunk</p> <p>Supports 8 groups of 8-port trunk</p>
Spanning Tree Protocol	<p>STP, IEEE 802.1D Spanning Tree Protocol</p> <p>RSTP, IEEE 802.1w Rapid Spanning Tree Protocol</p> <p>MSTP, IEEE 802.1s Multiple Spanning Tree Protocol</p>
IGMP Snooping	<p>IGMP (v2/v3) snooping</p> <p>IGMP querier</p> <p>Up to 256 multicast groups</p>
MLD Snooping	<p>MLD (v1/v2) snooping, up to 256 multicast groups</p>
Qos	<p>8 mapping ID to 8 level priority queues</p> <ul style="list-style-type: none"> - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP field in IP packet <p>Traffic classification based, strict priority and WRR</p>
Port Mirroring	<p>TX / RX / both, Many-to-1 monitor</p>

Industrial Switch Management Specification 2

Managed Layer 3 Fiber Switch

Access Control List	IPv4/IPv6 IP-based ACL / MAC-based ACL
Security	IEEE 802.1X port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS / TACACS+ user access authentication IP-MAC port binding, MAC filtering, Static MAC address DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention, ARP inspection, IP source guard
Management Functions	
Basic Management Interfaces	Web browser / Telnet / SNMP v1, v2c, V3 Firmware upgrade by HTTP / TFTP protocol through Ethernet Remote / Local Syslog, System log, LLDP protocol, SNTF
Secure Management Interfaces	SSH, SSL, SNMP
SNMP MIBs	RFC 1213 MIB-I, IRFC 1215 Generic Traps, RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions, RFC 2737 Entity MIB (Version 2) RFC 2819 RMON (1, 2, 3, 9), RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB

Industrial Switch Management Specification 3

Managed Layer 3 Fiber Switch

Standards Conformance

Regulation Compliance	FCC Part 15 Class A, CE, RoHs
Standards Compliance	<p>IEEE 802.3 10BASE-T</p> <p>IEEE 802.3u 100BASE-TX/100BASE-FX</p> <p>IEEE 802.3z Gigabit SX/LX</p> <p>IEEE 802.3ab Gigabit 1000T</p> <p>IEEE 802.3x flow control and back pressure</p> <p>IEEE 802.3ad port trunk with LACP</p> <p>IEEE 802.1D Spanning Tree protocol</p> <p>IEEE 802.1w Rapid Spanning Tree protocol</p> <p>IEEE 802.1s Multiple Spanning Tree protocol</p> <p>IEEE 802.1p Class of Service</p> <p>IEEE 802.1Q VLAN tagging</p> <p>IEEE 802.1x Port Authentication Network Control</p> <p>IEEE 802.1ab LLDP</p> <p>IEEE 802.3af Power over Ethernet</p> <p>IEEE 802.3at Power over Ethernet Plus</p> <p>ITU-T G.8032</p> <p>RFC 768 UDP, RFC 793 TFTP, RFC 791 IP, RFC 792 ICMP</p> <p>RFC 2068 HTTP,</p> <p>RFC 1112 IGMP version 1, RFC 2236 IGMP version 2,</p> <p>RFC 3376 IGMP version 3</p> <p>RFC 2710 MLD version 1, RFC 3810 MLD version 2</p>

Industrial Switch

WEB Login

Steps to follow:

Step1: In normal operation, connect a PC to Electralsys switch RJ45 Port by a Network Cable.

Step2: Manually change the computer IP address to 192.169.1.X (X is 2-254.except 200).Subnet mask is 255.255.255.0

Step3: Open web browser with http://192.168.1.200 and press enter key.

Step4: Enter default user name and password as admin and admin then click login. Change the password and keep it safe

Step5: Switch web GUI is successfully opens up to start configurations

WARRANTY CARD

TO BE FILLED BY THE CUSTOMER

MODEL	SERIAL NUMBER		
CUSTOMER NAME			
ADDRESS			
ZIP CODE	PURCHASE DATE		
TEL	E-MAIL		

Quality Certificate

Checked By: _____

Date: _____

Duly furnished card to be submitted within 30 days of the purchase for any warranty claims and services.