

# CS-0828X

## 8+28 Port Industrial Managed L3 Switch with 10G Uplink



- 8x Gigabit Ethernet ports
- 4x 1/10 Gigabit Ethernet SFP+ Slot
- 24x 1000F(x) SFP Slot
- Built for harsh environments and wide temperature range application
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 4096 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Supports Storm Protection
- USB storage for configuration-free replacement
- Supports industrial automation protocols Ethernet/IP and Modbus TCP

### Specifications

#### Technology

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3z 1000BaseX
- IEEE 802.3ae 10GBase over Fiber
- IEEE 802.3x Flow Control
- IEEE 802.3az Energy-Efficient Ethernet
- IEEE 802.3ad/802.1AX LACP
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1w Rapid STP
- IEEE 802.1s Multiple STP
- ITU-T G.8032 / Y.1344 ERPS
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1ad Stacked VLANs
- IEEE 802.1p Class of Service
- IEEE 802.1X Network Authentication
- IEEE 802.1AB LLDP
- IEEE 1588 PTP

#### Standards

**Processing Type** Store and Forward

#### Switch Properties

**Switch Fabric** 160Gbps

**Priority Queues** 8 Queues

**Jumbo Frame** 12288byte

**MAC Table Size** 32K

**Packet Buffer** 32Mbits

**VLAN Table Size** 4094

**IGMP Group** 4096

**ACL Group** 4096

**VLAN IP Entries** 256

**Routing Entries (IPv4/IPv6)** 16K/8K host, 16K/16K LPM

#### Software Feature

**Network Redundancy** RSTP, MSTP, G.8032 ERPSv2, Port Trunking with LACP

**Security** 802.1X, RADIUS, TACACS+, SSL, SSH, ACL

**Management** IPv4, IPv6, Web, Telnet, Serial Console, CLI, SFTP, SNMP v1/v2c/v3, uPnP

**Diagnostics** RMON, SNMP Inform/Trap, Syslog, SMTP, Port Mirroring, LLDP, Cable Diagnostic

**Configuration** DHCP Server/Client, Relay Option 82, TFTP, USB

**Filter** 802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, IGMP Querier, Independent Vlan Learning

**Time Sync.** NTP, IEEE1588v2 OC (Software Timestamp), BC (Software Timestamp), TC (Hardware Timestamp)

**QoS** CoS, DSCP, WRR/SPQ Queuing, Storm Protection, Bandwidth Control

**Industrial Profiles** Ethernet/IP, Modbus TCP, Profinet

**L3 Switching** Static Routing, RIP v1/v2, RIPng, OSPF v2,

## Interface

<b>RJ45 Port</b>	8x 10/100/1000T(x), auto negotiation speed duplex mode, auto MDI/MDI-X
<b>Fiber Port</b>	4x 1/10 Gigabit Ethernet SFP+ Slot 24x 1000F(x) SFP Slot
<b>LED Indicators</b>	<b>Per unit:</b> PWR1, PWR2(AC2/DC2), Fault, Ring Master, Ring State <b>Ports:</b> Link/Active with highest speed(Green), low speed(Amber)
<b>Alarm Contact</b>	1x relay output with current carrying capacity of 1A @ 24 VDC
<b>Digital Inputs</b>	1x isolated input from the electronics. +13 to +30V for state "1" -30 to +3V for state "0" Max. input current: 8mA
<b>Button</b>	Multiple functions reset button
<b>Serial Console</b>	1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1
<b>Storage</b>	1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog

## Power Requirements

<b>Operation Voltage</b>	100~240VAC, 12~48VDC, redundant dual inputs
<b>Connection</b>	AC socket, DC 4-pin terminal block
<b>Power Consumption</b>	1.67A@24VDC; 0.494A@220VAC
<b>Protection</b>	Overload Current Protected, Reverse Polarity Protected

## Mechanical Construction

Features with star(\*) implies those are under development.

In a continuing effort of improvement and updated technology, product specifications are subject to change without notice.

<b>Enclosure</b>	Aluminum / Steel metal
<b>Protection Class</b>	IP30
<b>Dimensions</b>	440x44x331 mm (WxHxD)
<b>Weight</b>	6.1 kg
<b>Mounting</b>	Rack Mounting

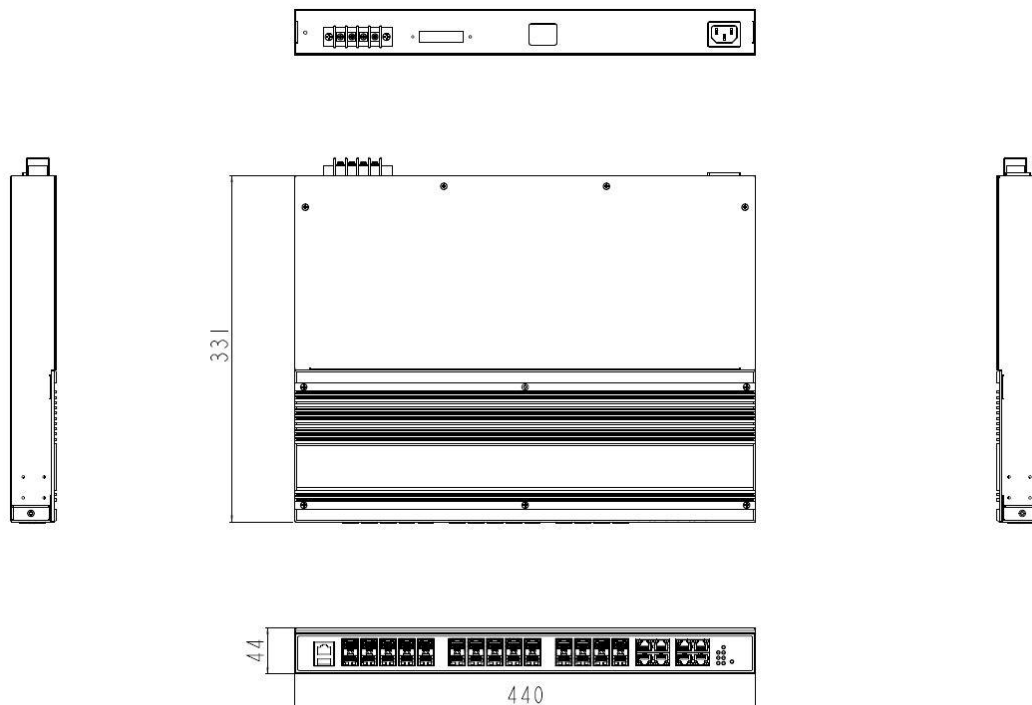
## Environmental Limits

<b>Operating Temperature</b>	Extended: -40°C ~ 75°C (-40°F ~ 167°F)
<b>Storage Temperature</b>	-40°C ~ 85°C (-40°F ~ 185°F)
<b>Ambient Relative Humidity</b>	5 to 95%, (Non-Condensing)

## Regulatory Approvals

<b>EMI</b>	FCC Part 15 Subpart B Class A CE EN 55032 Class A
<b>EMS</b>	IEC61000-4-2 (ESD) IEC61000-4-3 (RS) IEC61000-4-4 (EFT) IEC61000-4-5 (Surge) IEC61000-4-6 (CS) IEC61000-4-8 (Magnetic Field)
<b>Free Fall</b>	IEC60068-2-32
<b>Shock</b>	IEC60068-2-27
<b>Vibration</b>	IEC60068-2-6
<b>Green</b>	RoHS Compliant
<b>Certifications</b>	IEC 61000-6-2 IEC 61000-6-4
<b>MTBF</b>	>100,000 hours
<b>Warranty</b>	5 Years

## Dimensions (unit = mm)



## Ordering Information

<b>CS-0828X-1AC</b>	8+28 Port Industrial Managed L3 Switch with 10G Uplink - 8x 10/100/1000T(x) + 24x 1000F(x) SFP Slot + 4x 1/10 Gigabit Ethernet SFP+ Slot - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F) - 1x 90~264VAC Power Input
<b>CS-0828X-AD</b>	8+28 Port Industrial Managed L3 Switch with 10G Uplink - 8x 10/100/1000T(x) + 24x 1000F(x) SFP Slot + 4x 1/10 Gigabit Ethernet SFP+ Slot - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F) - 1x 90~264VAC Power and 1x 12~48VDC Power Input
<b>CS-0828X-DC</b>	8+28 Port Industrial Managed L3 Switch with 10G Uplink - 8x 10/100/1000T(x) + 24x 1000F(x) SFP Slot + 4x 1/10 Gigabit Ethernet SFP+ Slot - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F) - 2x 12~48VDC Robust Isolation Power Input