

CS-1604X

16+4 Port Industrial Managed L3 Switch with 10G Uplink



- 16x Gigabit Ethernet ports
- 4x 1/10 Gigabit Ethernet 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 512 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 802.3ae 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 112Gbps

Priority Queues 8 Queues

Jumbo Frame 9216bytes

MAC Table Size 16K

Packet Buffer 12Mbits

VLAN Table Size 4094

IGMP Group 512

ACL Group 512

VLAN IP Entries 64

Routing Entries (IPv4/IPv6) 512/256 host, 64/64 LPM

Software Feature

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

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

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

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

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

Industrial Profiles Ethernet/IP, Modbus TCP, Profinet

L3 Switching Static Routing, RIP v1/v2, RIPng, OSPF v2, OSPF v3, VRRP v2

Interface

RJ45 Port	16x 10/100/1000T(x), auto negotiation speed duplex mode, auto MDI/MDI-X
Fiber Port	4x 1/10 Gigabit Ethernet SFP+ Slot
LED Indicators	Per unit: PWR1, PWR2, Fault, Ring Master, Ring State Ports: Link/Active with highest speed(Green), low speed(Amber)
Alarm Contact	1x relay output with current carrying capacity of 1A @ 24 VDC
Digital Inputs	1x isolated input from the electronics. +13 to +30V for state "1" -30 to +3V for state "0" Max. input current: 8mA
Button	Multiple functions reset button
Serial Console	1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1
Storage	1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog

Power Requirements

Operation Voltage	12-48VDC, redundant dual inputs
Connection	1x removable 4-contact terminal block
Power Consumption	0.70A@24VDC
Protection	Overload Current Protected, Reverse Polarity Protected

Mechanical Construction

Enclosure	Aluminum
Protection Class	IP30

Dimensions	91x145x118 mm (WxHxD)
Weight	0.97 kg
Mounting	DIN-Rail Mounting, Optional Wall Mounting Kits

Environmental Limits

Operating Temperature	Standard: -10°C ~ 60°C (14°F ~ 140°F) Extended: -40°C ~ 75°C (-40°F ~ 167°F) For 10G SFP+: -40 ~ 60°C (32°F ~ 140°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (Non-Condensing)

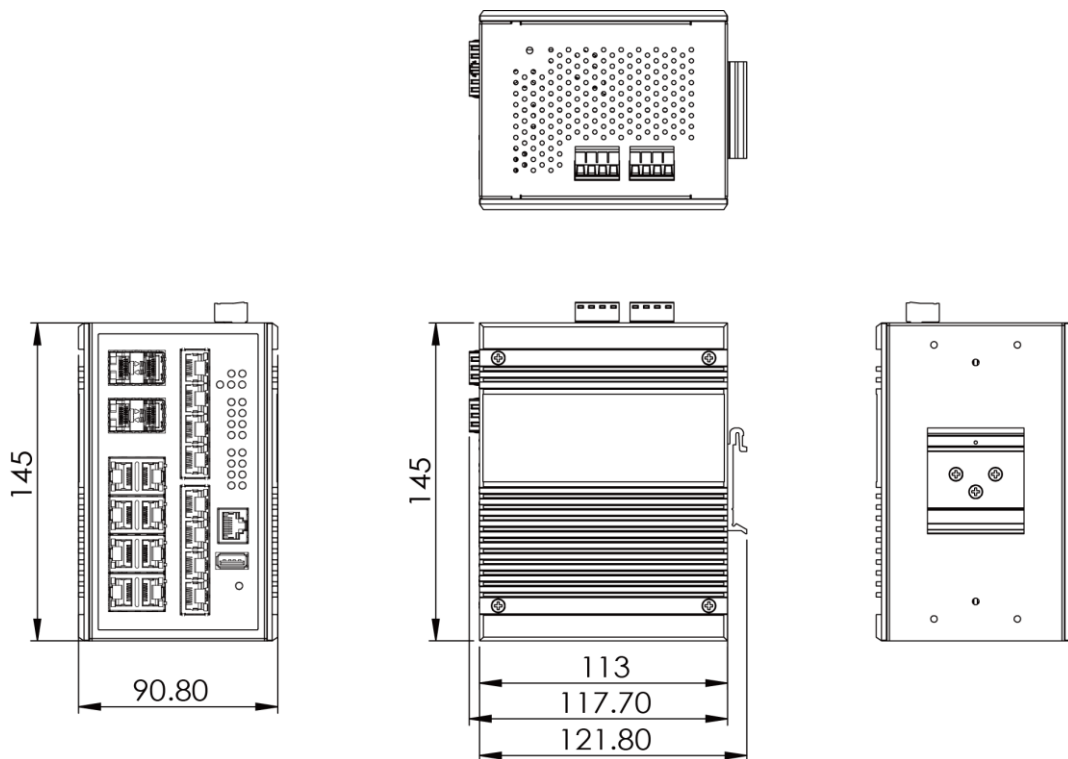
Regulatory Approvals

EMI	CE EN 55032 Class A
EMS	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)
Free Fall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Green	RoHS Compliant
Certifications	UL 60950-1/62368 (Pending) IEC 61000-6-2 IEC 61000-6-4 EN 50121-4
MTBF	>100,000 hours
Warranty	5 Years

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.

Dimensions (unit = mm)



Ordering Information

CS-1604X 16+4 Port Industrial Managed L3 Switch with 10G Uplink
 - 16x 10/100/1000T(x) + 4x 1/10 Gigabit Ethernet SFP+ Slot
 - Operating Temperature: -10°C ~ 60°C (14°F ~ 140°F)

CS-1604X-T 16+4 Port Industrial Managed L3 Switch with 10G Uplink
 - 16x 10/100/1000T(x) + 4x 1/10 Gigabit Ethernet SFP+ Slot
 - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F)

Optional Accessories

NDR-75-24 75W Industrial DIN-Rail Power Supply, 24VDC (metal case)

NDR-75-48 75W Industrial DIN-Rail Power Supply, 48VDC (metal case)