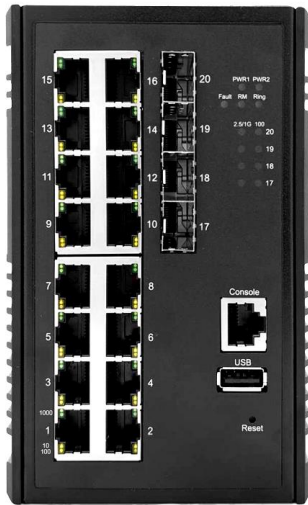


# CS-1604GE

## 16+4 Port Industrial Managed Gigabit L3 Switch



- 16x Gigabit Ethernet ports
- 4x 1G/2.5GF(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 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 802.3z 1000BaseX

### Standards

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

**Processing Type** Store and Forward

### Switch Properties

<b>Switch Fabric</b>	40Gbps
<b>Priority Queues</b>	8 Queues
<b>Jumbo Frame</b>	9216bytes
<b>MAC Table Size</b>	16K
<b>Packet Buffer</b>	4Mbits
<b>VLAN Table Size</b>	4094
<b>IGMP Group</b>	512
<b>ACL Group</b>	512
<b>VLAN IP Entries</b>	64
<b>Routing Entries (IPv4/IPv6)</b>	512/256 host, 64/64 LPM

## Software Feature

<b>Network Redundancy</b>	RSTP, MSTP, G.8032 ERPSv2, Port Trunking with LACP
<b>Security</b>	802.1X, RADIUS, TACACS+, SSL, SSH
<b>Management</b>	IPv4, IPv6, Web, Telnet, Serial Console, CLI, SNMP v1/v2c/v3, uPnP
<b>Diagnostics</b>	RMON, SNMP Inform/Trap, Syslog, SMTP, Port Mirroring, LLDP, RSPAN
<b>Configuration</b>	DHCP Server/Client, Relay Option 82, TFTP, USB
<b>Filter</b>	802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, IGMP Querier, Independent Vlan Learning
<b>Time Sync.</b>	NTP, IEEE1588v2 OC (Software Timestamp), TC (Hardware Timestamp)
<b>QoS</b>	CoS, DSCP, WRR/SPQ Queuing, Storm Protection
<b>PoE</b>	Powering Status, PoE Monitoring, Scheduling, PD Alive Check
<b>Industrial Profiles</b>	Ethernet/IP, Modbus TCP, Profinet
<b>L3 Switching</b>	Static Routing, RIP v1/v2, RIPng, OSPF v2, OSPF v3, VRRP v2

## Interface

<b>RJ45 Port</b>	16x 10/100/1000T(x), auto negotiation speed duplex mode, auto MDI/MDI-X
<b>Fiber Port</b>	4x 1G/2.5GF(x) SFP Slot
<b>LED Indicators</b>	<b>Per unit:</b> PWR1, PWR2, 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>	12-48VDC, redundant dual inputs
<b>Connection</b>	1x removable 4-contact terminal block
<b>Power Consumption</b>	19W
<b>Protection</b>	Overload Current Protected, Reverse Polarity Protected

## Mechanical Construction

<b>Enclosure</b>	Aluminum
<b>Protection Class</b>	IP30
<b>Dimensions</b>	91x145x118 mm (WxHxD)
<b>Weight</b>	0.97 kg
<b>Mounting</b>	DIN-Rail Mounting, Optional Wall Mounting Kits

## Environmental Limits

<b>Operating Temperature</b>	Standard: -10°C ~ 60°C (14°F ~ 140°F)
	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)

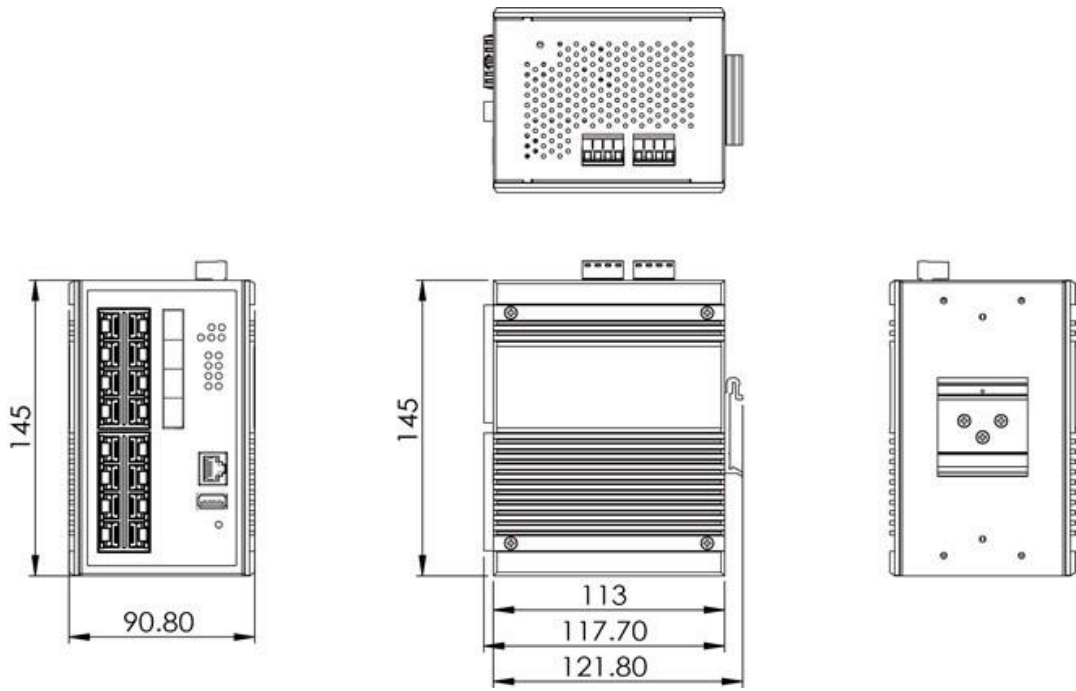
<b>Free Fall</b>	IEC60068-2-32
<b>Shock</b>	IEC60068-2-27
<b>Vibration</b>	IEC60068-2-6
<b>Green</b>	RoHS Compliant
<b>Certifications</b>	UL 60950-1/62368 (Pending)
	IEC 61000-6-2
	IEC 61000-6-4
	EN 50121-4
<b>MTBF</b>	>100,000 hours
<b>Warranty</b>	5 Years

### 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)

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

16+4 Port Industrial Managed Gigabit L3 Switch

**CS-1604GE**

- 16x 10/100/1000T(x) + 4x 1G/2.5GF(x) SFP Slot

- Operating Temperature: -10°C ~ 60°C (14°F ~ 140°F)

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16+4 Port Industrial Managed Gigabit L3 Switch

**CS-1604GE-T**

- 16x 10/100/1000T(x) + 4x 1G/2.5GF(x) SFP Slot

- Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F)

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## Optional Accessories

**NDR-75-24**

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

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**NDR-75-48**

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

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