

# CS-1604G

16+4 Port Industrial Managed Gigabit L3 Switch



- 16x Gigabit Ethernet ports
- 4x 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 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

#### Standard

IEEE 802.3 10BaseT  
IEEE 802.3u 100BaseTX  
IEEE 802.3ab 1000BaseT  
IEEE 802.3x Flow Control  
IEEE 802.3az Energy-Efficient Ethernet

IEEE 802.3af Power over Ethernet  
IEEE 802.3at PoE+  
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

**Switch Fabric** 40Gbps  
**Priority Queues** 8 Queues  
**Jumbo Frame** 9216bytes  
**MAC Table Size** 16K  
**VLAN IP Entries** 64

**Packet Buffer** 12Mbits  
**VLAN Table Size** 4094  
**IGMP Group** 512  
**ACL Group** 512  
**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), TC (Hardware Timestamp)  
**QoS** CoS, DSCP, WRR/SPQ Queuing, Storm Protection  
**PoE** Powering Status, PoE Monitoring, Scheduling, PD Alive Check  
**Industrial Profiles** Ethernet/IP, Modbus TCP, Profinet  
**L3 Routing** NAT

### Interface

<b>RJ45 Ports</b>	16x 10/100/1000T(x) with PoE+, auto negotiation speed duplex mode, auto MDI/MDI-X	<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>Fiber Port</b>	4x 1000F(x) SFP Slot	<b>Button</b>	Multiple functions reset button
<b>LED Indicators</b>	Per unit: PWR1, PWR2, Fault, Ring Master, Ring State Ports: Link/Active with highest speed(Green), low speed(Amber) PoE: Output Power	<b>Serial Console</b>	1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1
<b>Alarm Contact</b>	1x relay output with current carrying capacity of 1A @ 24 VDC	<b>Storage</b>	1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog
<b>PoE Pin Out</b>	V+, V+, V-, V-, for pin 1, 2, 3, 6, Endspan, MDI Mode A		

### Power Requirements

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

### Mechanical Construction

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

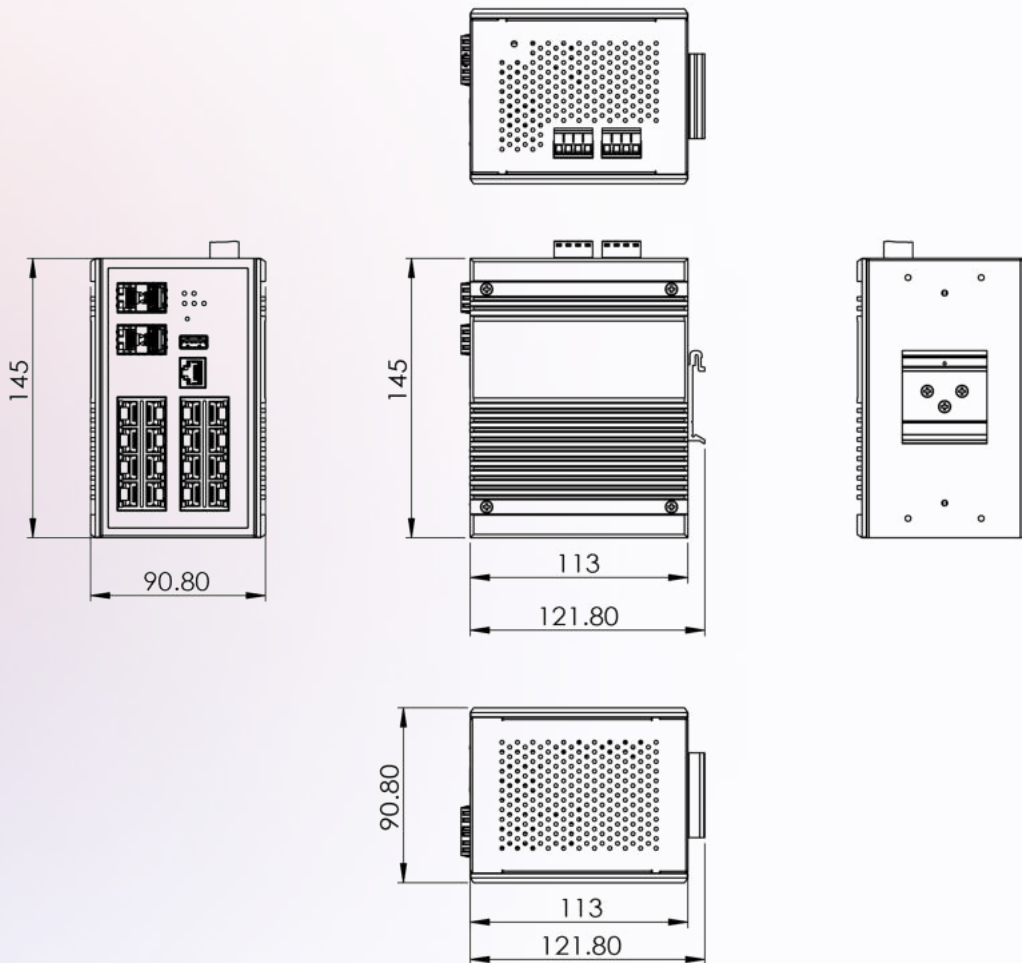
### Environmental Limits

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

### Regulatory Approvals

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

## Dimensions (unit = mm)



## Ordering Information

### Available Models

<b>CS-1604G-T</b>	16+4 Port Industrial Managed Gigabit L3 Switch - 16x 10/100/1000T(x) + 4x 1000F(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)

**NDR-75-48**

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