

TSN-G5004 Series

4G-port full Gigabit managed Ethernet switch



Features and Benefits

- Compact and flexible housing design to fit into confined spaces
- Web-based GUI for easy device configuration and management
- Security features based on IEC 62443
- IP40-rated metal housing
- Supports Time-sensitive Networking (TSN) technology

Certifications



Introduction

The TSN-G5004 Series switches are ideal for making manufacturing networks compatible with the vision of Industry 4.0. The switches are equipped with 4 Gigabit Ethernet ports. The full Gigabit design makes them a good choice for upgrading an existing network to Gigabit speed or for building a new full-Gigabit backbone for future high-bandwidth applications. The compact design and user-friendly configuration interfaces provided by the new Moxa web GUI make network deployment much easier. The TSN-G5004 Series leverages standard Ethernet Time-sensitive Networking (TSN) technology to enable real-time communications with future firmware upgrades adding support for additional TSN standards.

Specifications

Ethernet Interface

Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseX IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 1588v2 PTP Precision Time Protocol (hardware-based) IEEE 802.1 AS for Time Synchronization IEEE 802.1 Qbv for Time-aware Shaper
10/100/1000BaseT(X) Ports (RJ45 connector)	4 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection

Ethernet Software Features

Management	IPv4/IPv6 LLDP SMTP SNMP Inform SNMPv1/v2c/v3 SNMP Trap DHCP Server/Client ARP TFTP SFTP HTTP HTTPS SSH Telnet Private MIB Syslog Port Mirror
MIB	RFC1213 Ethernet-like MIB IF MIB LLDP MIB Bridge MIB Q-BRIDGE MIB IEEE8021-PAE-MIB IEEE8021-SPANNING-TREE-MIB SNMPv2-MIB
Redundancy Protocols	RSTP STP Turbo Chain Link Aggregation
Security	Broadcast storm protection Trust access control Login and Password Policy HTTPS/SSL SSH SNMPv3 RADIUS TACACS+
Time Management	SNTP NTP Server/Client IEEE 1588v2 PTP (hardware-based) IEEE 802.1 AS IEEE 802.1 Qbv
Filter	802.1Q VLAN Static Multicast

Switch Properties

MAC Table Size	9 K
Max. No. of VLANs	256
VLAN ID Range	VID 1 to 4094
Packet Buffer Size	2 Mbits

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
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USB Interface

USB Connector	USB Type A
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Input/Output Interface

Alarm Contact Channels	1 Relay output with current carrying capacity of 1 A @ 24 VDC
Buttons	Reset button
Digital Input Channels	1
Digital Inputs	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA

LED Interface

LED Indicators	STATE, FAULT, PWR1, PWR2, SYNC
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Power Parameters

Connection	2 removable 4-contact terminal block(s)
Input Voltage	12 to 48 VDC Redundant dual inputs
Operating Voltage	9.6 to 60 VDC
Input Current	1.25 A @ 12 VDC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP40
Dimensions	25 x 135 x 115 mm (0.98 x 5.32 x 4.53 in)
Weight	582 g (1.28 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	-10 to 60°C (14 to 140°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

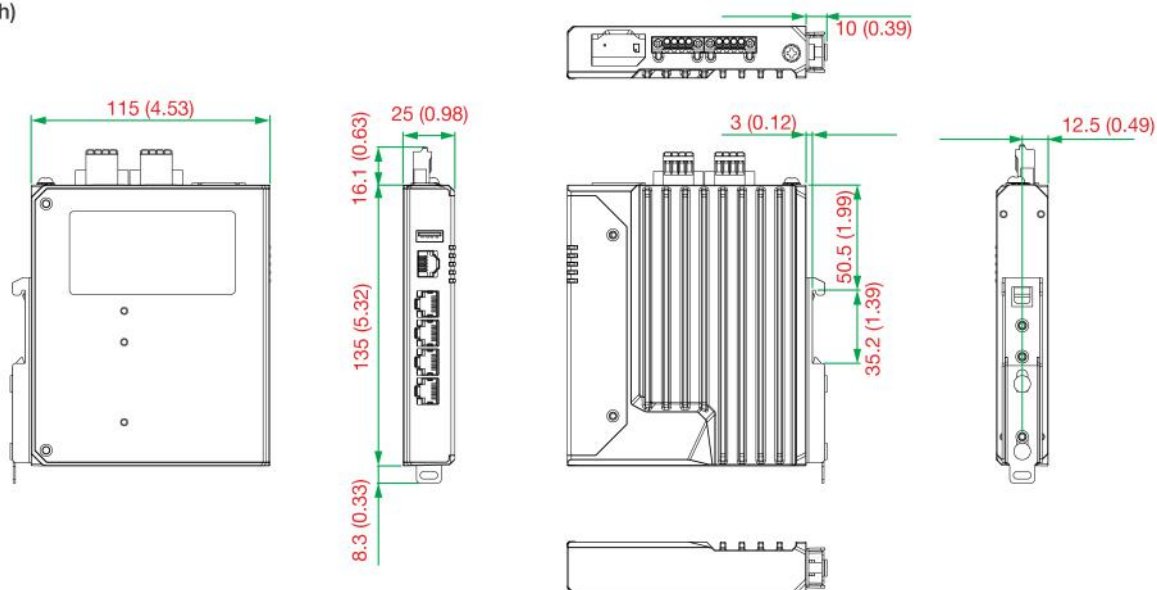
Standards and Certifications

Safety	UL 61010-2-201 EN 62368-1
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Shock	IEC 60068-2-27

Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF	
Time	848,997 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x TSN-G5004 switch
Cable	1 x RJ45-to-DB9 console cable
Documentation	1 x quick installation guide 1 x warranty card 1 x substance disclosure table 1 x product notice, Simplified Chinese 1 x product certificates of quality inspection, Simplified Chinese
Connectors	2 x Terminal blocks

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Layer	No. of Ports	10/100/1000BaseT(X) Ports RJ45 Connector	Operating Temp.
TSN-G5004	2	4	4	-10 to 60°C

Accessories (sold separately)

SFP Modules

SFP-1GEZXC	SFP module with 1 1000BaseEZ port with LC connector for 110 km transmission, 0 to 60°C operating temperature
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SFP-1GEZXLC-120	SFP module with 1 1000BaseEZ port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHXL	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLSXL	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLXL	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GSXL	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXL-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXL-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXL-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXL-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GTXRJ45-T	SFP module with 1 1000BaseT port with RJ45 connector for 100 m transmission, -40 to 75°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1FELL-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature

SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature
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Power Supplies

DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature
DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature
MDR-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
MDR-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature

Wall-Mounting Kits

WK-30-02	Wall-mounting kit, 2 plates, 4 screws, 30 x 66.8 x 2 mm
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Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature
ABC-03-microSD-T	MicroSD-based configuration backup and restoration tool, firmware upgrades, and log file storage tool for managed Ethernet switches and WLAN products, -40 to 85°C operating temperature

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