TSN-G5016 Series

16-port TSN-capable managed Ethernet switches

Features and Benefits

- Supports 10GbE Ethernet ports for high-bandwidth, low-latency communication
- Compact and flexible housing design to fit into confined spaces
- Web-based GUI for easy device configuration and management
- IP40-rated metal housing
- Supports Time-sensitive Networking (TSN) technology

Certifications

Introduction

The TSN-G5016 Series is designed to meet the demands of modern industrial networks and realize the vision of Industry 4.0. Equipped with up to four 10GbE Ethernet ports, these switches provide high-bandwidth, bounded low-latency communication, making them ideal for data-intensive applications and futureproof network expansion.

The compact and flexible design allows the TSN-G5016 Series to fit easily into confined spaces, while the durable IP40-rated metal housing ensures reliable operation in harsh industrial environments. The user-friendly web interface simplifies configuration and management, reducing deployment time and operational complexity.

Leveraging standard Ethernet time-sensitive networking (TSN) technology, the TSN-G5016 Series enables one unified Ethernet network that supports reliable, deterministic, bounded low-latency communication, with the ability to expand TSN capabilities through future firmware upgrades.

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 IEE 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)	12 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
10GbE SFP+ Slots	TSN-G5016-4XGS-SoMD-LV-T: 4
1000BaseSFP Slots	TSN-G5016-4GS-SoMD-LV-T: 4

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 Mirroring
MIB	Bridge-MIB Ethernet-like-MIB IEEE8021-AS-MIB IEEE8021-SPANNING-TREE-MIB IF-MIB LLDP-MIB PTPBASE-MIB Q-BRIDGE-MIB RFC1213-MIB SNMPv2-MIB
Redundancy Protocols	RSTP STP
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	8 Mbits

Serial Interface

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

USB Interface

USB Connector	(This interface is reserved for future use.)

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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, M/H, C/T, SYNC, R1, R2, R3

Power Parameters

Connector	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	3A (max.)
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP40
Dimensions	84 x 140 x 105 mm (3.31 x 5.51 x 4.13 in)
Weight	1,380.5 g (3.04 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

Environmental Limits

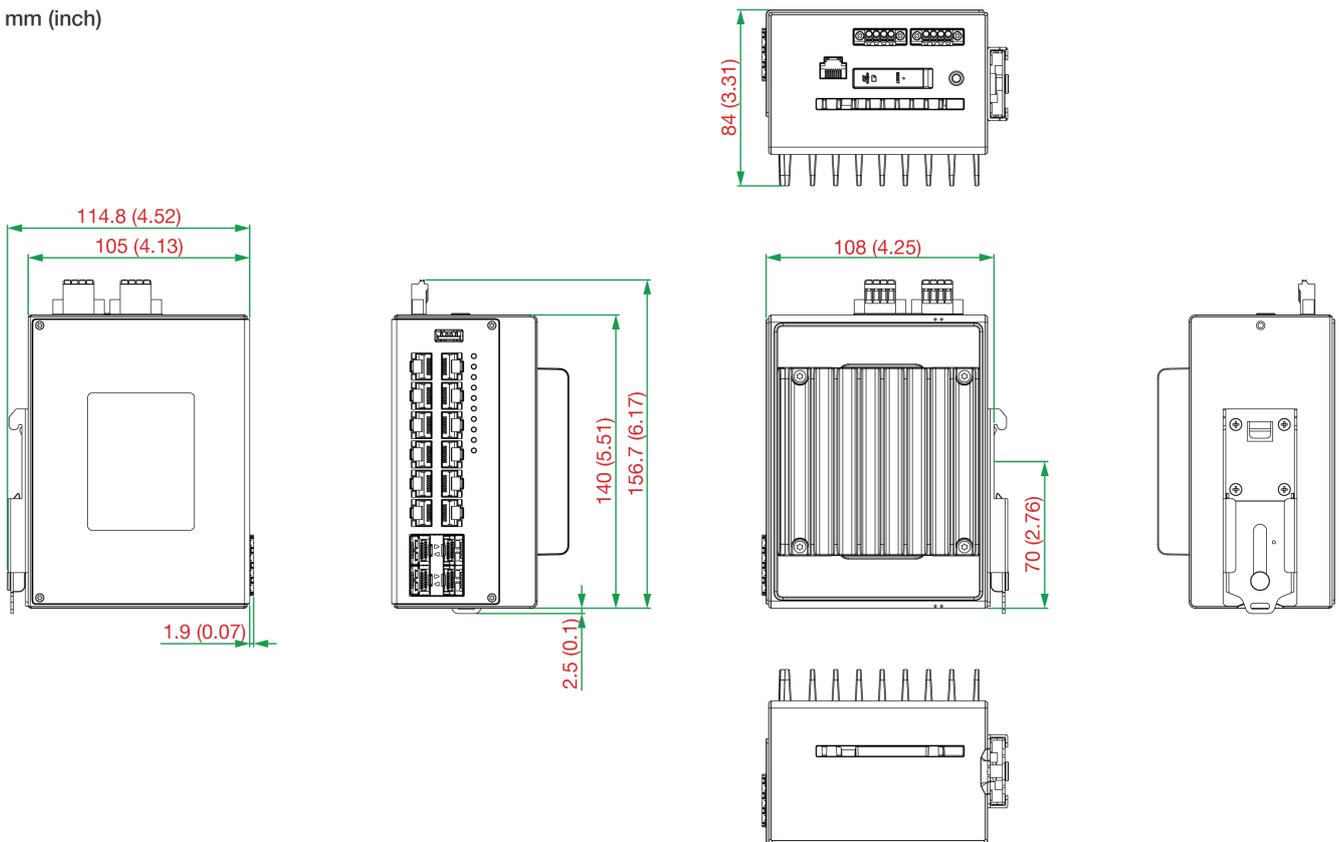|	
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

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	809,568 hrs
Standards	Telcordia (Bellcore), GB

Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents	
Device	1 x TSN-G5016 Series switch
Cable	1 x RJ45-to-DB9 console cable
Documentation	1 x quick installation guide 1 x warranty card 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)	SFP Ports (10GbE SFP+)	SFP Ports (1000BaseSFP)	Operating Temp.
TSN-G5016-4XGS-SoMD-LV-T	2	16	12	4	–	-40 to 70°C
TSN-G5016-4GS-SoMD-LV-T	2	16	12	–	4	-40 to 70°C

Accessories (sold separately)

SFP Modules

SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-10GLRLC-T	SFP+ module with 1 10GBase-LR port, LC connector for 10 km transmission, -40 to 85°C operating temperature

Power Supplies

NDR-120-24	120 W/5.0 A DIN-rail 24 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-240-48	240 W/5.0 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature