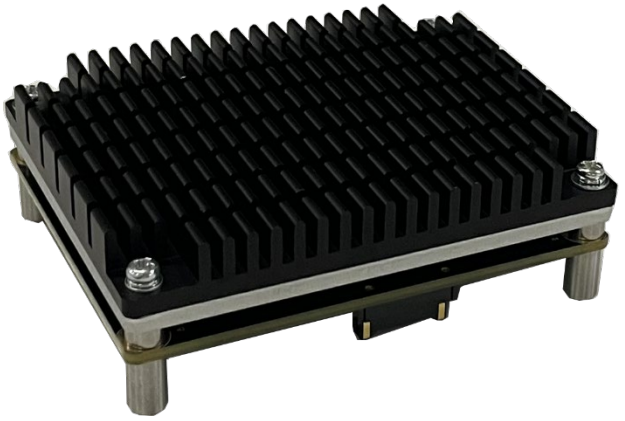
3onedata
Reliable Connections



IEM6400TSN-8GT4XS

Embedded Mounting

Managed Industrial Ethernet Switch Module

- Support 8 10/100/1000Base-T(X) Ethernet copper ports and 4 10Gigabit SFP+ slots
- Support Precision Time Protocol (PTP), provide sub-microsecond synchronization accuracy to meet requirements for high-precision time synchronization
- Support TSN (time sensitive networking) protocol standards such as IEEE802.1AS, IEEE802.1Qbv, IEEE802.1Qbu and IEEE802.1CB, which can provide deterministic transmission with low delay and high reliability for data.
- Support MRP ring network, reconfiguration time < 200ms
- Support 3.3VDC±5% voltage input
- Support -40~75℃ wide operating temperature range

Industrial Grade

Introduction

IEM6400TSN-8GT4XS is a multi-service access type, embedded industrial Ethernet switch network management module that integrates TSN (time sensitive network) features, which has the characteristics of high integration, small size, rich functions, simple and convenient operation. This product supports 8 Gigabit copper ports and 4 Gigabit SFP+ slots; Using embedded installation mode, users can customize the PCB baseboard specifications and choose any Ethernet interface type through the module pin to meet the needs of different application sites.

TSN (Time Sensitive Networking) is a set of protocol standards developed by IEEE802.1 TSN task group. This standard defines the time sensitive mechanism of Ethernet data transmission, and ensures the transmission performance of business traffic in Ethernet by allowing some traffic packets to be forwarded first, clearing routes by using gating scheduling mechanism and bandwidth reservation. It adds certainty and reliability to the standard Ethernet to ensure that the Ethernet can provide stable and consistent service levels for the transmission of critical data. Currently, the supported basic TSN protocols include: IEEE 802.1AS, IEEE 802.1Qbv, IEEE 802.1Qbu, IEEE 802.1CB, etc.

Network management system supports a variety of network protocols and industry standards, such as ARP, IPv4, Ring, MRP, VLAN, STP/RSTP/MSTP, TSN, PTP, ERPS, LLDP, IGMP Snooping, QoS, port trunking, port mirroring, QBV, QBU, STEAM, CB etc. It has perfect management functions, supporting port configuration, port statistics, ACL, 802.1X authentication, network diagnosis, rapid configuration, online upgrade, etc. CLI, WEB, Telnet, SNMP, SSH and other access methods can be supported. Network management system could bring you great user experience through its friendly interface design and easy and convenient operation.

The hardware adopts fanless, low power consumption and wide temperature and voltage design, which has passed rigorous industrial standard tests, and suits the industrial scene environment with harsh requirements for EMC. It can be widely used in smart substation, smart grid, energy storage, photovoltaic, wind electricity, non-electric industry SCADA system and other industrial fields.

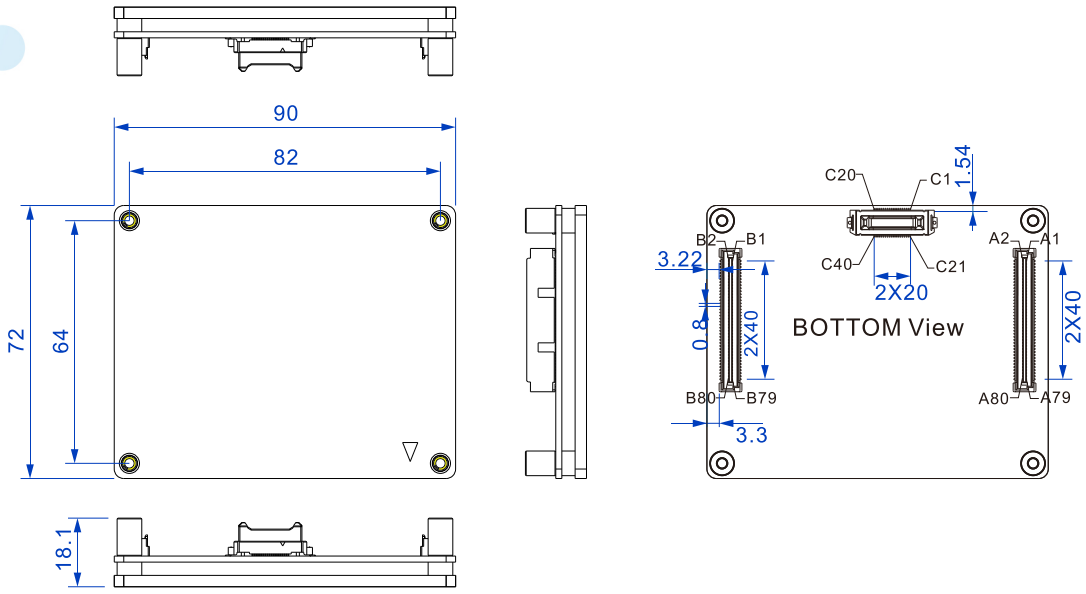
Features and Benefits

- TSN supports 802.1 TSN series standards and timely delivery of time-sensitive streams.
  - IEEE 802.1 AS Timing and Synchronization
  - IEEE 802.1 Qbv Time Aware Shaper
  - IEEE 802.1 Qbu Frame Preemption
  - IEEE 802.1 CB Frame Replication and Elimination for Reliability
- Precision Time Protocol (PTP), provide sub-microsecond synchronization accuracy to meet requirements for high-precision time synchronization

- SNMPv1/v2c/v3 is used for network management of various levels
- RMON can be used for efficient and flexible network monitoring
- Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging
- QoS supports real-time traffic classification and priority setting
- LLDP can achieve automatic topology discovery, which is convenient for visual management
- File management is convenient for rapid configuration and online upgrading of the device
- Log management records Console log, RAM log and Flash log
- Bandwidth management can reasonably distribute network bandwidth, preventing unpredictable network status
- Port statistics can be used for the port real time traffic statistics
- User password can conduct user hierarchical management to improve the device management security
- ACL can enhance network flexibility and security
- Relay alarm is convenient for troubleshooting of construction site
- Storm suppression can restrain broadcast, unknown multicast and unicast
- TELNET configuration and SSH configuration guarantee secure access to data
- Port Trunking can increase network bandwidth and enhance the reliability of network connection to achieve optimum bandwidth utilization
- IGMP Snooping and static multicast can be used to filter multicast data to save network bandwidth
- STP/RSTP/MSTP/Ring/MRP can achieve network redundancy, preventing network storm
- ARP could be used for MAC address resolution
- With high reliability and stability, ERPS could avoid broadcast storm caused by data loopback
- Network diagnosis and troubleshooting could be conducted via Ping, Traceroute, Cable Diagnosis, SFP Digital Diagnosis

Dimension

Unit: mm



Specification

Standard & Protocol	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3z for 1000Base-X IEEE 802.3ab for 1000Base-T IEEE 802.3ae for 10GBase-X IEEE 802.1AS for TSN IEEE 802.1Qbv for TSN IEEE 802.1Qbu for TSN IEEE 802.1CB for TSN IEEE 802.3x for Flow Control IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN IEEE802.1p for CoS IEEE 802.1X for 802.1X Authentication IEEE 802.1AB for LLDP ITU-T G.8032 for ERPS
TSN	PTP, QBU, QBV, Stream, CB
Management	SNMP v1/v2c/v3 centralized managed equipment, Port Mirroring, Link Flapping Protection, RMON, LLDP, DHCP Server, DHCP Snooping, port statistics, file management, online upgrade, log information, Syslog report
Security	User authority classification, port and power alarm, MAC security, AAA, 802.1X authentication, RADIUS, TACACS+,

	MAC-Based authentication, port speed limit, port isolation, port alarm, temperature alarm, power alarm, network load alarm
Switch Function	802.1Q VLAN, link aggregation, flow control, ARP, storm control
Unicast / Multicast	Multicast filtering, IGMP Snooping
Redundancy Technology	STP/RSTP/MSTP, ERPS, Ring, MRP
Troubleshooting	Ping, Traceroute, Network Cable Diagnosis, SFP Digital Diagnosis
Time Management	NTP, PTP
Connector	2 2x40 PIN connectors; 1 2x20 PIN connector
Interface	Gigabit copper port: 8 10/100/1000Base-T(X) copper ports, self-adaption or forced mode, Automatic Flow Control, Full/Half Duplex self-adaption, MDI/ MDI-X Autotunning 10Gigabit SFP+ slot: 4 10G Base-X self-adaption, 1G/2.5G forced mode, SFP+ slot Console port: CLI command management port, TTL level serial data
Indicator	Running Indicator, Alarm Indicator, Power Supply Indicator, Interface Indicator
Switch Property	Transmission mode: store and forward MAC address: 32K Cache: 3Mbit Backplane bandwidth: 50Gbps Switch time delay: <10μs
Power Supply	3.3VDC±5%
Working Environment	Operating temperature: -40~75℃ Storage temperature: -40~85℃ Relative humidity: 5%~95% (no condensation)
Power Consumption	No-load: 5.6W@12VDC (including DEMO board) Full load: 11.5W@12VDC (including DEMO board)

Mechanical Structure	Installation: embedded mounting Dimension (W x H x D): 90mm×18.1mm×72mm Weight: 206g
Warranty	5 years

Ordering Information

Model	Gigabit Copper Port	10Gigabit SFP+ Slot	Power Supply
IEM6400TSN-8GT4XS	8	4	3.3VDC±5%

Address: 3/B, Zone 1, Baiwangxin High Technology Industrial Park, Song Bai Road, Nanshan District, Shenzhen, 518108, China
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◄ Please scan our QR code for more details

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