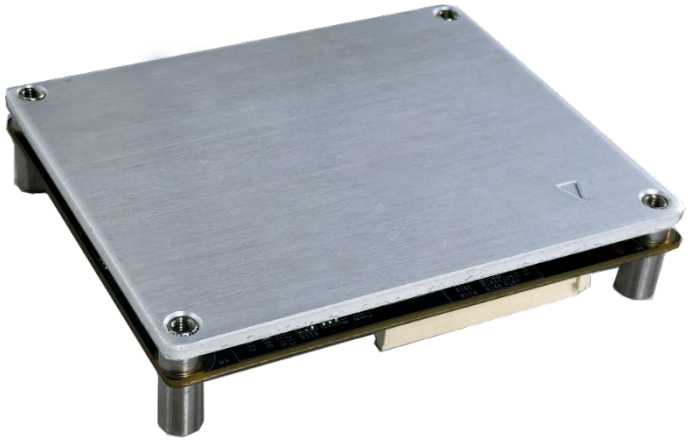
3onedata
Reliable Connections



ICM6400 Series

Embedded Mounting

28-Port Gigabit Layer 3 Managed Industrial Ethernet Switch Module

- Support 16 Gigabit copper ports and 4 Gigabit SFP slots
- Support 8 Gigabit copper ports or Gigabit SFP slots (optional), with external PHY connected via QSGMII interface.
- Support MRP ring network, reconfiguration time < 200ms
- Support multiple network protocols and industry standards, such as STP/RSTP/MSTP, ERPS, DHCP, VLAN, QoS, IGMP Snooping, LLDP, ACL and SNMP.
- Input voltage: 5VDC (±10%)
- Support -40~75℃ wide operating temperature range

Industrial Grade

Introduction

ICM6400 series is a layer 3 managed industrial Ethernet switch module, which has the characteristics of high integration, small size, rich functions, simple and convenient operation. This product provides 16 Gigabit copper ports, 4 Gigabit SFP slots, and 8 Gigabit copper ports or Gigabit SFP slots (optional), with external PHY signals led out. 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.

The network management system supports a variety of network protocols and industry standards, such as static routing, RIP, VRRP, NAT, Ring, STP/RSTP/MSTP, GMRP, ERPS, DHCP Server/Snooping/Relay, VLAN, QoS, IGMP, IGMP Snooping, IPv6 MLD-Snooping, LLDP, link aggregation, port mirroring, etc.; it has complete management functions, supporting port configuration, port statistics, port IP binding, access control, 802.1X authentication, network diagnosis, quick configuration, online upgrade, etc.; it can support access methods such as CLI, WEB, Telnet, SNMP, SSH, etc. 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 for the industrial scene environment with harsh requirements for EMC. It can be widely used in smart grid, railway transportation, smart city, safe city, new energy, aerospace, intelligent manufacturing, military project and other industrial fields.

Features and Benefits

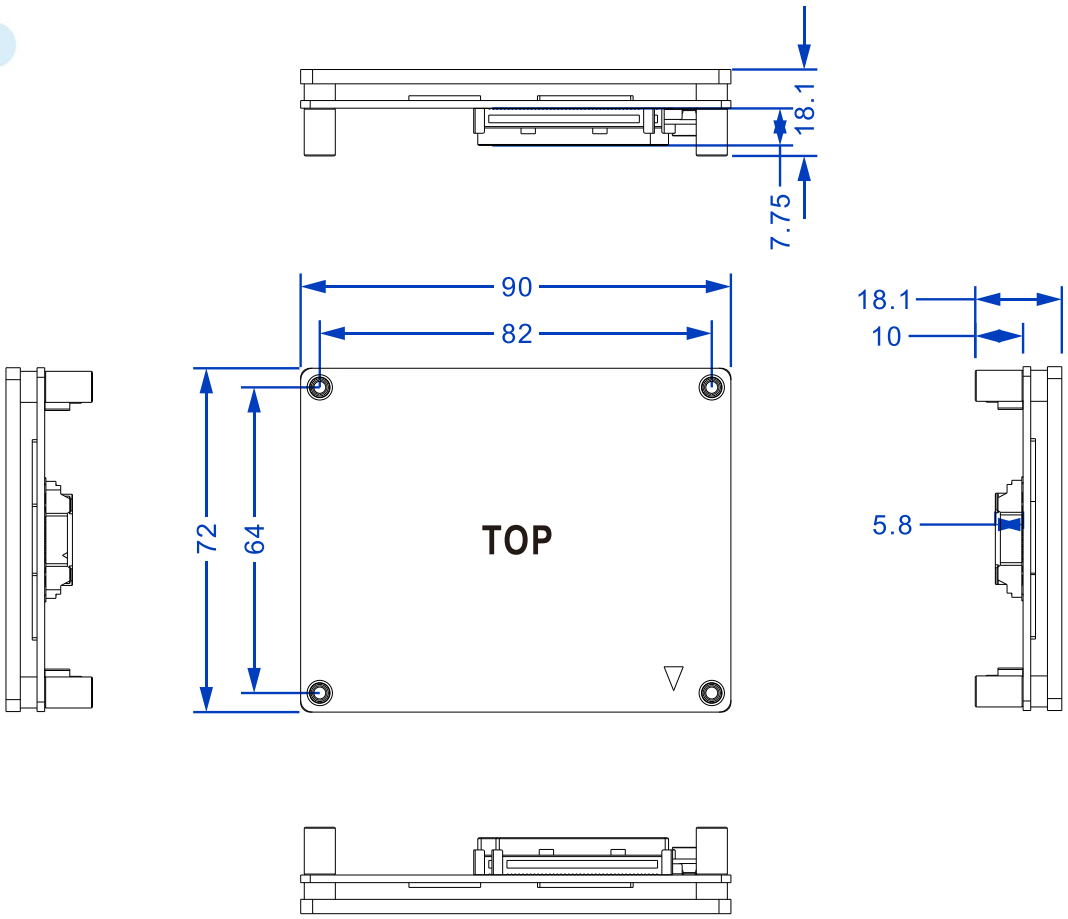
- SNMPv1/v2c/v3 is used for network management of various levels
- RMON can be used for efficient and flexible network monitoring
- QoS supports real-time traffic classification and priority setting
- LLDP can achieve automatic topology discovery, which is convenient for visual management
- DHCP server and DHCP client could be used for allocating IP address of different strategies
- DHCP Snooping can ensure DHCP client gets IP address from legal DHCP server
- DHCP relay function can realize IP address, gateway, DNS configuration cross network segment
- File management is convenient for the device rapid configuration and online upgrading
- Log information and log server can record user operation, system failure, system security and other information locally and remotely
- User privilege classification configuration can set user privilege level
- ACL can enhance the flexibility and security of the network, supporting bidirectional ACL

IN and OUT.

- SSH configuration and HTTPS configuration can improve device's management security and guarantee data access security
- Ring, MRP, STP/RSTP/MSTP can achieve network redundancy, preventing network storm
- EPRS function can realize link backup and improve the reliability of network
- Relay alarm is convenient for troubleshooting of construction site
- Storm suppression can restrain broadcast, unknown multicast and unicast
- VLAN is used for simplifying network planning
- Port Trunking and LACP can increase network bandwidth and enhance the reliability of network connection to achieve optimum bandwidth utilization
- IGMP/MLD Snooping can be used for filtering multicast traffic to save the network bandwidth
- IGMP/MLD can be used to manage and maintain multicast members
- ARP could be used for MAC address resolution
- VRRP, RIP/RIPng, ISIS, OSPF/OSPFv3 and BGP can realize dynamic routing configuration
- PIM-DM and PIM-SM can be used to create and maintain multicast routing table entries and realize multicast routing forwarding
- NAT maps private IP address to the legal IP address of external network, which can slow the consumption of IP address space
- Loop detection could efficiently eliminate the influence caused by port loopback by detecting the existence of loopback
- IPDT can track IP device status and realize interaction with other applications
- Smart Link link backup, providing reliable and efficient backup and fast switching mechanism
- Network diagnosis and troubleshooting could be conducted via Ping, Traceroute, Cable Diagnosis, SFP Digital Diagnosis
- Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging

Dimension

Unit: mm



Specification

Standard & Protocol	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3ab for 1000Base-T IEEE 802.3z for 1000Base-X 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 ITU-T G.8032 for ERPS IEEE 802.1Q for VLAN IEEE 802.1AB for LLDP IEEE 802.3ad for LACP
Management	SNMP v1/v2c/v3 Centralized Management of Equipment, RMON, Port Mirroring, QoS, LLDP, DHCP Server, DHCP Relay, File Management, Port Statistics, Log Information, Static ARP, Log management, Loopback Interface
Security	User privilege classification, ACL, NAT, 802.1X authentication, DHCP

	Snooping, SNMP, RMON, IPDT, IPv6DT, Smart-Link, SSHD configuration, Telnet configuration, loop detection, link flapping protection, aggregation protection, port alarm, power alarm, temperature alarm, and network load alarm
Switch Function	802.1Q VLAN, MAC, static aggregation, LACP, ARP, storm suppression
Unicast / Multicast	IGMP-Snooping, MLD-Snooping, GMRP, IGMP, MLD, PIM-SM, PIM-DM, IPv6-PIM-SM, IPv6-PIM-DM
Redundancy Technology	Ring, MRP, STP/RSTP/MSTP, ERPS
Routing Technique	RIP, RIPng, OSPF, OSPFv3, ISIS, VRRP, IPv6 VRRP, BGP
Troubleshooting	Ping, Traceroute, Network Cable Diagnosis, SFP Digital Diagnosis
Time Management	NTP Client, Time Zone Configuration
Interface	Ethernet ports: 16*10/100/1000Base-T(X) Ethernet copper ports, 4*1000Base-X SFP slots, and 8*10/100/1000Base-T Ethernet copper ports or 1000Base-X SFP slots (with external PHY signals led out). Console port: 1 TTL level serial data Alarm interface: support 1 alarm information output and 1 alarm information input
Indicator	Power indicator, running indicator, alarm indicator, interface indicator
Switch Property	Transmission mode: store and forward MAC address: 16K Buffer: 12Mbit Backplane bandwidth: 128Gbps Switch delay: <10μs
Power Supply	Module power supply: 5VDC (±10%) Backplane power supply: 12VDC (±10%)
Power Consumption	Normal temperature no-load: – 4.73W@5VDC (module) – 24GT4GS: 6.28W@12VDC (Backplane 1 + Module) – 16GT12GS: 8.4W@12VDC (Backplane 2 + Module) Normal temperature full-load: – 24GT4GS: 17.37W@12VDC (Backplane 1 + Module)

	– 16GT12SG: 21.75W@12VDC (Backplane 2 + Module) High temperature full load: – 24GT4GS: 19.53W@12VDC (Backplane 1 + Module) – 16GT12SG: 23.27W@12VDC (Backplane 2 + Module)
Working Environment	Operating temperature: -40~75℃ Storage temperature: -40~85℃ Relative humidity: 5%~95% (no condensation)
Mechanical Structure	Installation: embedded mounting Dimension (W x H x D): 90mm×72mm×18.1mm Weight: 0.105kg
Warranty	5 years

Ordering Information

Model	Gigabit Copper Port	Gigabit SFP Slot	QSGMII Interface	Power Supply
ICM6400-16GT12GS	16	4	8	Module: 5VDC (±10%) Backplane: 12VDC (±10%)
ICM6400-24GT4GS	16	4	8	

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