

# ISM2005D Series Managed Industrial Ethernet Switch



## Key Features:

- ☑ Passed industrial class IV electromagnetic compatibility test
- ☑ -40 to 85°C temperature range
- ☑ G.8032v2, iRing (recovery time < 30ms), RSTP/STP for network redundancy
- ☑ RADIUS, TACAS+, IEEE802.1x for enhanced network security
- ☑ SNMPv3 InHand NMS network management tool
- ☑ DHCP & TFTP for automatic batch configuration
- ☑ Remote configuration via command line and web interface

## Product Overview

ISM2005D series products are five-port managed industrial Ethernet switches designed for applications in the field of electric power, transportation, industrial control and other severe industrial environments. . A solid performer in temperatures between -40 and 85°C with integrated security management, enterprise-class high-speed forwarding performance, strong cabinet, protected industrial circuit and other industrial features, the ISM2005D sets the standard in reliability and dependability. With ITU-T G.8032v2 protocol (self-recovery under 5ms), iRing, STP/RSTP ring network redundancy protocols and enhanced network management protocols, the ISM2005D stands as a cornerstone in the industrial ring network.

## Product Features

### ◇ Security Features

- SSH Configuration
- MAC based port security
- Port based network access control (802.1x)
- VLAN (802.1Q) to segregate and secure network traffic
- RADIUS, TACACS+, SSH to enhance network security
- SNMPv3 authentication and 56-bit encryption

### ◇ System Features

- RADIUS, TACAS+, IEEE802.1x port protection enhance network security
- Standard ITU-T G.8032v2 (recovery time under 50 ms)
- iRing (recover time under 30ms), RSTP/STP for network redundancy
- IGMP snooping and GMRP for filtering multicast traffic
- VLAN and GVRP to ease network planning
- Quality of Service (802.1p) for sensitive SCADA traffic
- LACP (Link aggregation) for optimum bandwidth utilization

- LLDP for layer 2 link state information real-time detection

#### ◇ Management and Maintenance

- Easy network management via web browser, CLI or telnet/serial console
- Detailed LED panel indicators, clearly displaying switch operational status
- Management protocol base on SNMPv1/v2/v3 with InHand NMS(Network Management System)
- RMON for efficient network monitoring and proactive capability
- Port mirroring, convenient to analyze data of port and rapidly diagnose faults
- Support local and remote log server functions to easily troubleshoot faults
- DHCP & TFTP for automatic batch configuration
- Automatically synchronization and backup configuration files via USB port
- Import and export configuration backup file and restore factory default settings
- Local and remote firmware update functions
- I/O relay terminal alarm output and mail alarm outputs with automatic incident reports

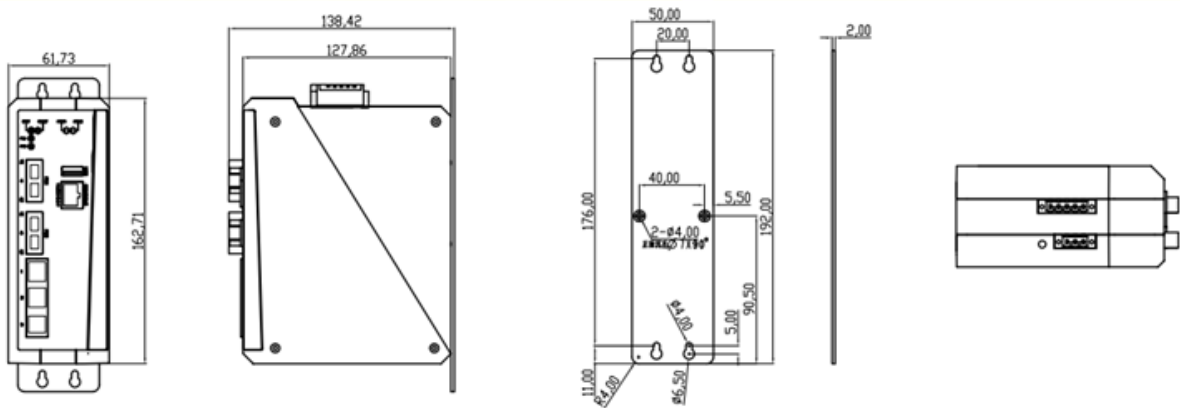
### Product Specification

Item		ISM2005D
Physical Interfaces	RJ45 port	10/100Base-T(X) auto-sensing RJ45 port
	FX fiber port	100Base-FX port (SC/ST/FC port)
	Console port	RS232 (RJ45 port)
	LED indication	PWR1, PWR2, STAT, FAULT, FX
Mechanical Properties	Housing	IP40 protection class, fully enclosed and seamless metal cabinet, PCB protection coating available
	Dimensions (WxHxD)	62 × 162 × 127.5 mm
	Dimensions (WxHxD)	2.4 × 6.4 × 5.0 inch
	Weight	0.88 Kg
	Heat dissipation mode	Fanless cooling
	Installation mode	DIN-Rail and wall mounting (kit optional)
Power Source	Input voltage	24 VDC (12 ~ 48 VDC), dual inputs (standard specification)
		48 VDC (36 ~ 72 VDC), dual inputs (optional)
	Interface terminal	5-pin pluggable screw-in connection terminal
	Overload protection	Available
	Reverse polarity protection	Available
Power consumption	< 6 W	
Operating Environment	Working temperature	-40~85°C
	Storage temperature	-40~85°C
	Relative humidity	5%~95% (non-condensing)
Switching Performance	Forwarding inherent time delay	< 4 μs
	Backplane bandwidth	1 Gbps
	MAC address table	8 KBytes
	Data package buffer	1 Mbit
Switching	Ethernet standard	IEEE 802.3 for 10Base-T
		IEEE 802.3u for 100Base-T(X) and 100Base-FX
		IEEE 802.3x for flow control

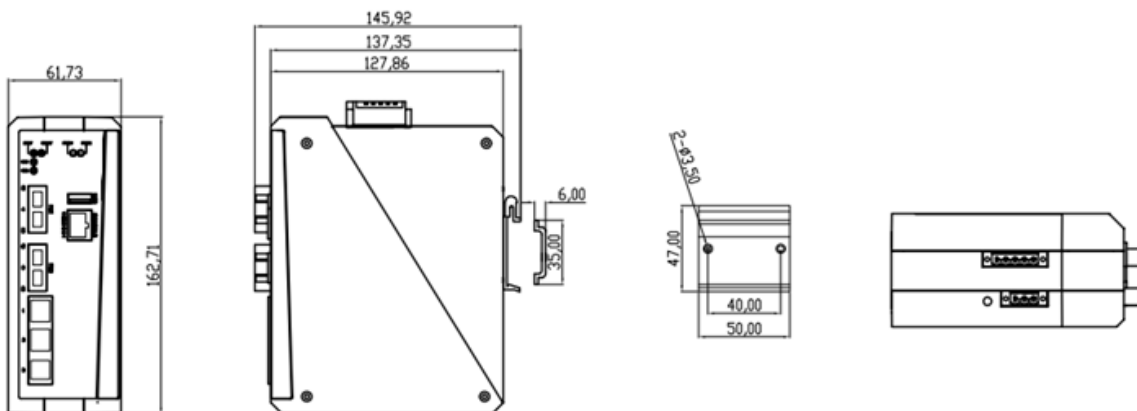
Item		ISM2005D
Features		IEEE 802.1D for Spanning Tree Protocol
		IEEE 802.1D for MAC Bridges
		IEEE 802.1D for GMRP
		IEEE 802.1w for Rapid STP
		IEEE 802.1Q VLAN Tagging
		IEEE 802.1p for Class of Service
		IEEE 802.1X for access control base on port and MAC address
		IEEE 802.3ad suitable for Port Trunk with LACP
	Industrial protocol conversion	Modbus TCP/RTU, OPC
	Multicast features	The maximum number of IGMP groups is 256
		GMRP
		IGMP snooping multicast filtering
	Port mirroring	Multiple port mirroring function
	Broadcast storm limiting	Automatic broadcast storm protection
QoS priority queue	4	
VLAN function	Port based VLAN	
	The max number of VLANs is 255	
	VLAN ID range: 1 ~ 4094	
	GVRP	
High reliability	Ring protocol	International Standard ITU-T G.8032v2 ring network protocol (recovery time less than 50 ms)
		InHand iRing protocol, recovery time below 30ms
		STP, RSTP protocol
		Single ring, double ring, tangent ring, cross ring topologies
	LLDP	Layer 2 link status information detection
Link aggregation	Multiple link aggregation based on LACP function	
Device Maintenance	Management Login	Command line interface (CLI) and web configuration
		Telnet, SSH login
		RADIUS, TACACS+
	Network manage protocol	SNMPv1/v2/v3
		RMON
	Alarm output	Rated capacity: 5A, 250 VAC, 5A, 30 VDC
		Maximum permissible power: 1250 VAC, 150W
		Maximum permissible voltage: 380 VAC, 125 VDC
		Maximum permissible current: 5A AC, 5A DC
	Email alarm output	Email alarms responding to down-links and sensor inputs
		Email sever address, port, username and password configuration
		Multiple alarm email destination address
	System status display	CPU load statistics
		Memory usage status display
Host online time status display		
Firmware version information display		
Model serial number host name display		
Backup/Restore	Import/export backup configuration file and restore the factory settings.	

Item		ISM2005D
	System log	Local log and remote log server function, convenient to troubleshoot
	System upgrade	Local/remote firmware upgrade function
	Installation	DIN-rail(standard), wall mounting (optional)
	MTBF	35 years
Industrial standard	Electromagnetic compatibility	IEC 61000-4-2(Electrostatic discharge) level 4
		IEC 61000-4-3(Radiated, radio-frequency, electromagnetic field) level 4
		IEC 61000-4-4(Electrical fast transient/burs) level 4
		IEC 61000-4-5(surge) level 4
		IEC 61000-4-6(Immunity to conducted disturbances, induced by radio-frequency fields) level 4
	IEC 61000-4-8(Power frequency magnetic field) level 5	
	Impact	IEC60068-2-27
	Free fall	IEC60068-2-32
Vibration	IEC60068-2-6	
Certification		CE, UL
Warranty		5 years

## Dimensions



### Wall Mount



### DIN-Rail Mount

## Ordering Information

Product Model	Port			
	10/100Base-TX	100BaseFX optical port(SC/ST/FC)		
		Multimode dual fiber	Single mode dual fiber	Single mode single fiber
ISM2005D-5T-24	5	-	-	-
ISM2005D-3T-2M-24	3	2	-	-
ISM2005D-3T-2S-24	3	-	2	-
ISM2005D-3T-2B-24	3	-	-	2

Notes:

- Multimode dual fiber runs up to 2km
- Single mode dual fiber 20/40/80/120KM
- Single mode single fiber support 0.5/20/40/60/80/120KM
- Standard DC24V low-voltage power supply included

### InHand Networks

InHand Networks provides reliable, secured and intelligent M2M solution for electric power, industrial automation, commercial and medical devices. Recognized by world class customers and partners. Proven by a large install base, Expanding with intensive investments in research and development, and Enduring for long-term support.

InHand Networks has become leader in industrial grade network technology by providing industrial cellular routers, industrial Ethernet switches, wireless sensor network devices and cloud based M2M platforms.

Connecting devices, enabling services.



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