INS-8648M

Managed Industrial Ethernet Switch

8-port 10/100/1000BASE-T + 4 SFP Gigabit Ports

Description

Volktek's INS-8648M Layer2 Managed Industrial switch is equipped with 8 port 10/100/1000Base-T and 4 Gigabit SFP slots. Engineered with hardened components and enclosed in a rugged case, the switch can operate in temperatures from 0°C to 70°C (wide temperatures from -40°C to 70°C for INS-8648MW) and also has an excellent tolerance capability to high vibration and shock. As an Industrial switch, the INS-8648M suits your heavy industrial environments and yet contains all the standard features of other switches.

Flexible management functions of the switch via Web and SNMP simplifies configuration of switch features such as port settings, security, QoS, VLANs etc. and reduces management burden. In case of any link failure, the INS-8648M's Xpress Ring technology offers a very fast recovery time of less than 50ms to ensure continuous network services. The switch offers hassle-free fiber deployments which makes it an ideal solution for surveillance network applications. The INS-8648M provides most rugged solutions for managing your network and is a most reliable option for Industrial networks.

Modbus DNV RoHS CE FC -40°C 70°C Wide Temperature IP Code 30 DIN Rail

Features Highlight

Robust Switch Performance

INS-8648M is built with IP30 metal case protection, surge and ESD protection to deliver robust performance and withstand extreme conditions in Industrial environments. The SFP ports support 1000Mbps for high bandwidth transmissions and the SFP DDM feature enables service providers to monitor SFP parameters. In case of any abnormal hardware condition, the switch automatically sends warnings through email and relay output with real-time alarm messages. This assists the system administrators to immediately react to emergency events and diagnose the faults more efficiently for smoother network operations.

Port-based VLAN, IEEE 802.1Q VLAN, GARP and GVRP to ease network planning

Planning, designing and managing complex networks is now simplified with INS-8648M. The switch supports VLANs which segment large networks into smaller parts and organize them into separate broadcast domains. This helps the administrators to control the traffic patterns, limit broadcast traffic and reduce broadcast storms. As the network expands, to provide control of increased VLANs, the switch offers GVRP feature, an application protocol of GARP, which registers and deregisters devices and its ports depending on their availability. This feature prevents unnecessary network traffic transmitted by unregistered users and simplifies the network design irrespective of its size.

Code Redundancy

The configuration file of the switch may be lost due to various reasons such as upgrading to a new firmware or power fluctuations and can lead to network down situation. To avoid such situations, the INS-8528M provides a perfect alternate solution using its code redundancy feature with its dual flash. The dual flash memory allows the switch to store a backup file of primary configuration on one flash space. Even if the primary configuration file is lost, the backup file will enable the switch and ensure that your network is running continuously.

Redundant Power system

Mission-critical industrial applications need to operate without any interruptions because even a minimum network downtime can hugely impact the overall output. Providing continuous power and as well as data to such applications is now made easy with INS-8648M's redundant power system. The switch is designed with standard industrial terminal block for redundant power. In case the primary power supply fails, the secondary power will powers up the switch and enables switch to provide continuous services.

Features Highlight

Efficient network monitoring and proactive capability

In a network, the issues that impact network performance can be quickly resolved with the INS-8648M's most accepted and enhanced traffic management, monitoring and analysis protocols such as SNMP and SFP DDMI. SNMP allows to centrally manage different levels in a network and SFP DDMI (Digital Diagnostics Monitoring Interface) enabled on the switch, administrators can easily monitor and troubleshoot SFP parameters such as temperature, voltage, laser bias current and evaluate SFP's working condition. User can ensure a reliable network by identifying connectivity and performance issues and isolating the problem remotely on individual switches.

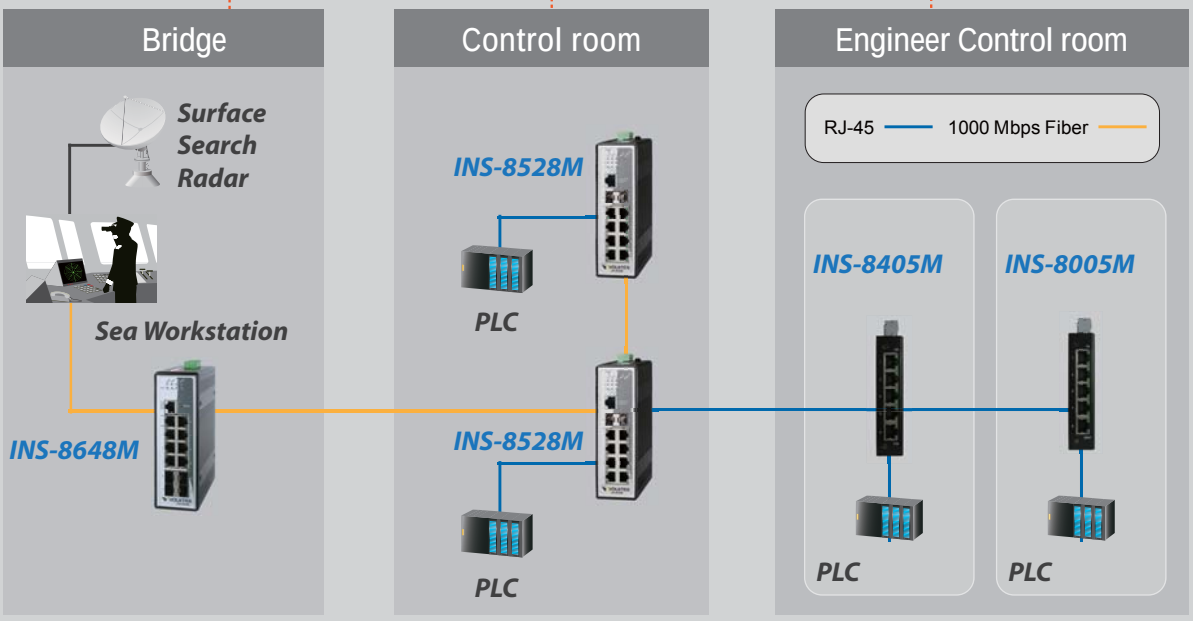
Comprehensive QoS Mechanisms to Assign Priority

Industrial applications need different levels of services delivered to them reliably without any transmission delays and interruptions. The INS-8648M has comprehensive QoS mechanisms which assign priority to applications and sends only specific dedicated traffic to them. In addition, bandwidth management function of the switch allocates high bandwidths to mission-critical communications and reduce the bandwidth to applications that are less critical. With full control of limiting the bandwidth, the administrators can prevent unpredictable errors and utilize the bandwidth more effectively.

Proprietary Technology Delivers Redundant Ring and Fast Recovery

Even a few seconds of missed communications due to link failures can cause inconvenience, and recovery can become critical. Volktek's proprietary Xpress Ring in INS-8648M rapidly reacts to such link failures and recovers in less than 50ms, a much faster fail-over time to support nonstop transmissions. This is critical for networks handling heavy video and data traffic. In addition, Dual Homing, LACP and RSTP provide a highly reliable network with redundancy connections whenever required and guarantee continuous network uptime.

Applications



Specifications

Standards	
IEEE 802.3	10BASE-T
IEEE 802.3u	100BASE-TX
IEEE 802.3ab	1000BASE-T
IEEE 802.3z	1000BASE-SX/LX
IEEE 802.3x	Flow Control
IEEE 802.3ad	Link Aggregation
IEEE 802.1d	STP
IEEE 802.1w	RSTP
IEEE 802.1p	CoS Prioritization
IEEE 802.1q	VLAN Tagging
IEEE 802.1x	Port Authentication
IEEE 802.1ab	LLDP
Network management	
Configuration	Command Line Interface, Telnet, Web GUI, SNMP v1/ v2c, Management VLAN, Firmware Upgradable, Configuration Upload/Download
LAN	IEEE 802.1Q, GARP/GVRP support, Port-based VLAN, 4K active VLAN support
Redendancy	Xpress Ring, Dual Homing, STP/RSTP
Security	Access Control List, SSH, Port Security, 802.1x Port Authentication, DHCP snooping, MAC limitation
Traffic control	IGMP snooping/Querier, MVR, Link Aggregation, QoS, Flow Control, Abnormal Traffic Detection, Rate Limitation, Storm Control, Port Isolation, Loop Detection
Diagnostics	LED status, SNMP trap, E-mail alarm, SFP DDMI, Port Mirroring, Real-time Statistic Traffic, SNTP, RMON, Syslog
Power	
Input Voltage	Primary inputs: 12~60VDC
	Redundant Inputs: 12~60VDC
Power Consumption	18W
Support Overload Current Protection	Present
Power Reverse Polarity Protection	Present
Power Voltage Drop Alarm	Present
One removable 6-pin terminal block	Present
Interface	
Ports	8 x 10/100/1000Base-T (RJ-45) 4 x Gigabit SFP Slots 1 x Console Port (RJ-45 to RS-232)

Mechanical and Environment	
Housing	IP30 Protection
Din-Rail	Metal
Operating Temperature	0°C~70°C (INS-8648M)
Wide Operating Temperature	-40°C~70°C (INS-8648MW)
Storage Temperature	-40°C~80°C
Operating Humidity	10 to 95% RH (non-condensing)
Storage Humidity	5 to 95% RH (non-condensing)
Weight	860g
Dimensions	50x162x120mm (WxHxD)
Standards and Certifications	
EMI	FCC Part 15 Subpart B Class A EN55022 : class A EN 55011 : 2009 class A EN 61000-6-4
EMS	EN 55024 EN 61000-6-2 : IEC 61000-4-2 (ESD) : Level 3 IEC 61000-4-3 (RS) : Level 3 IEC 61000-4-4 (Burst) : Level 3 IEC 61000-4-5 (Surge) : Level 3 (L to PE 3KV) IEC 61000-4-6 (CS) : Level 3
Approval & Test	
Marine	DNV 2.4, IEC-60945, IACS E10
Shock	IEC 60068-2-27 (Processing)
Freefall	IEC 60068-2-32 (Processing)
Vibration	IEC 60068-2-6 (Processing)
Ordering Information	
INS-8648M	8-port 10/100/1000Base-T + 4-slot Gigabit SFP Industrial Managed Switch
INS-8648MW	8-port 10/100/1000Base-T + 4-slot Gigabit SFP Wide Temperature(-40°C~70°C) Industrial Managed Switch
Optional Accessories	
GBM-104	1000Base-SX 1.25G, Multi-mode SFP, 500m
GBM-104-2	1000Base-SX 1.25G, Multi-mode, 3.3V, 1310nm, 2Km
GBM-104-10	1000Base-LX 1.25G, Single mode SFP, 10Km
GBM-123	1000Base-LX Bi-di Single Mode SFP Module, 10Km

**Specifications subject to change without notice.*

Dimension