

IEN-8648-PN

Managed 8 x 10/100/1000 RJ45 & 4 x GbE SFP
Industrial Switch, PROFINET Approval

Description

The IEN-8648-PN Managed Industrial PROFINET compliant switch is equipped with 8 10/100/1000BASE-T RJ45 ports and 4 FX/Gigabit SFP slots. The Gigabit SFP slots give the advantage of configuring Ring or Daisy Chain topologies offering full-proof fiber advantages: safety, reliability and long distance Gigabit connectivity. Engineered with hardened components and enclosed in a rugged case, the switch can operate in wide temperatures from -40°C to 75°C and also has an excellent tolerance capability to high vibration and shock.

In a high precision control of industrial instruments and factory automation, data exchange rate must be close to real-time to meet the speed requirements; PROFINET open standard enables real-time communication for automation control by bypassing the network layer for specific applications. The PROFINET switches can transmit the real-time and non-real-time data in 10 and 100ms, respectively.

PROFINET is able to operate in industrial demanding and harsh environments and is capable of delivering the speed and precision required by manufacturing plants.

PROFINET[®]



Features Highlight

Robust Switch Performance

IEN-8648-PN is built with IP30 aluminum 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.



Swift Communication on PROFINET Networks

PROFINET device properties stored in a Generic Station Description (GSD) file in XML format and the descriptive language is called GSDML (GSD Markup Language). The PROFINET I/O device manufacturer creates the GSD file which is imported by the engineering tool (STEP 7) to create the bus configuration. Besides, SNMP MIB (Management Information Base) also stores the device information in files for device management. These files can be downloaded from switch to field controller automatically through management interface, and can be integrated into TIA Portal software. An approved PROFINET certification, Volktek industrial Ethernet switch supports very high capability for industrial field.

Support powerful diagnostic function via PROFINET I/O protocol to response device and network status. The PROFINET I/O is an automation approach to create automation solutions using the PROFINET standard for automation devices. In this process, a software stack is allowed to access the PROFINET I/O-devices without any additional communication software which reduces the development cost and time.

Network Redundancy

Volktek's industrial switch redundant ring architecture enhances network reliability and make them ideal for deploying secure automation network systems in tough outdoor industrial environments, such as ITS, maritime, mining, and manufacturing systems. Our PROFINET switch supports Media Redundancy Protocol (MRP) Slave mode for high reliable demands of PROFINET operational environment. MRP is a data network protocol that allows rings of industrial Ethernet switches to overcome any single failure with recovery time much faster than Spanning Tree Protocol which is suitable for most Industrial Applications.

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 as well as data to such applications is now made easy with IEN-8648-PN'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 source will enable the switch to provide continuous services.

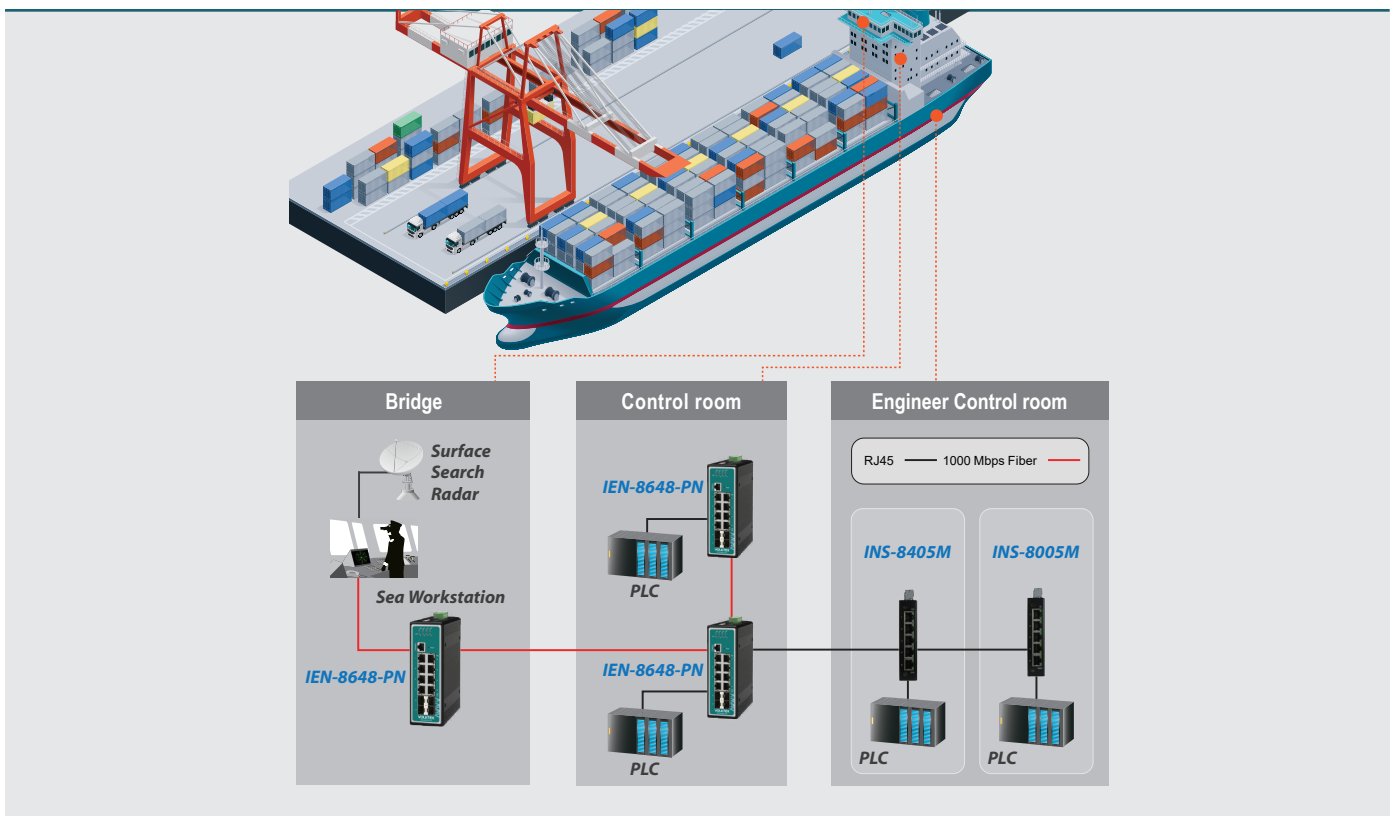
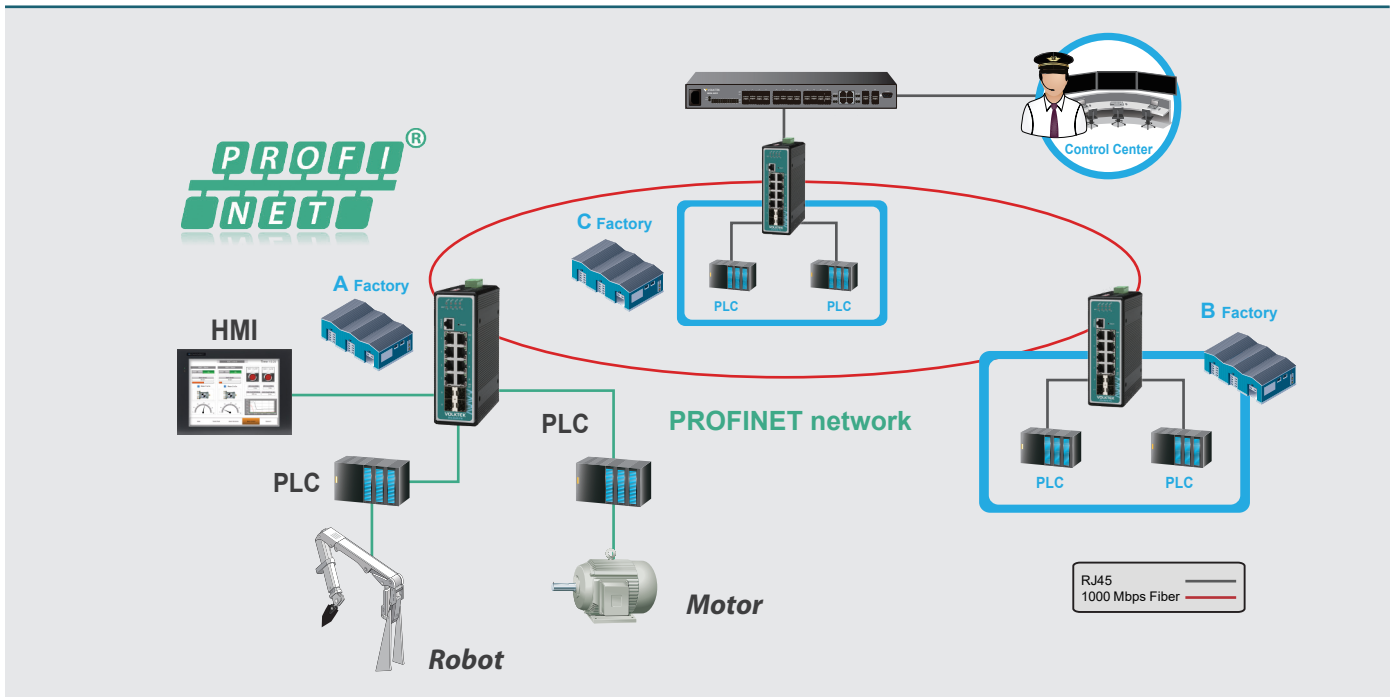


Features Highlight

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

Planning, designing and managing complex networks is now simplified with IEN-8648-PN. 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.

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 802.3 | Nway Auto-negotiation |
| IEEE 802.3x | Flow Control |
| IEEE 802.3ad | Link Aggregation |
| IEEE 802.1ab | LLDP |
| IEEE 802.ad | QinQ |
| IEEE 802.1D | STP |
| IEEE 802.1w | RSTP |
| IEEE 802.1s | MSTP |
| IEEE 802.1p | Class of Service |
| IEEE 802.1Q | VLAN Tagging |
| IEEE 802.1X | Port Authentication |
| IEEE 1588v2 | PTP |
| Interface | |
| Ports | 8 x 10/100/1000BASE-T |
| | 4 x GbE SFP Slots |
| | 1 x RJ45 Console Port |
| DIP Switch | Primary/Redundant Power Voltage Drop Alarm setting Port link alarm reporting |
| LED Panel | PWR, RPS, ALM, POST, SFP, 1000, LNK/ACT |
| Features | |
| Performance | Jumbo frame Size: 10KBytes |
| | MAC Table Entries: 16K |
| | Active VLAN: 4K |
| | Switch Fabric: 24Gbps |
| Management | L2 Forwarding Rate: 17.9Mpps |
| | CLI, Telnet/SSH, HTTP/HTTPs, SNMP v1/v2c/v3, SNMP Trap, MVLAN, Firmware Upgradable, Configuration Backup/Restore, Syslog, SNTP, LLDP, UDLD, DHCP Client, DHCP Option 82, e-mail Alarm, Service Control, DDM, ModbusTCP |
| | STP/RSTP/MSTP, Xpress Ring, ERPS v1/v2, Dual Homing, LACP, Code Redundancy, MRP |
| | IEEE 802.1Q, GARP/GVRP, Port-based VLAN, MAC-based VLAN, IP-based VLAN, Protocol-based VLAN, QinQ |
| Reliability | IGMP snooping/Throttling/Proxy, MVR, QoS, Flow Control, Abnormal Traffic Detection, Rate Limit, Storm Control, Port Isolation, Loop Detection |
| VLAN | ACL, SSH, Port Security, Port-based 802.1x, MAC-based 802.1x, TACACS+, MAC limit, MAC Search, Refusal MAC, Static MAC, DHCP Snooping, DHCP Sever Screening, ARP Inspection, BPDU Guard/Filter, Root Guard, Management Host |
| Traffic Control | PROFINET/RT Standard Conformance Class B (CC-B) PROFINET IO Device (Slave) PROFINET GSD file support MRP Client/Master |
| Security | |
| PROFINET | |

| Power | |
|----------------------------|---|
| Input Voltage | Primary inputs: 12~60VDC |
| | Redundant inputs: 12~60VDC |
| Connection | Terminal Block |
| Power Consumption | System: 18W |
| Alarm Relay | One relay output, 1A @ 24V DC |
| Mechanical and Environment | |
| Housing | Aluminum (IP30 Protection) |
| Mounting | DIN-Rail |
| Operating Temperature | -40°C~75°C (-40°F~167°F) |
| Storage Temperature | -40°C~85°C (-40°F~185°F) |
| Operating Humidity | 5 to 95% RH (non-condensing) |
| Storage Humidity | 5 to 95% RH (non-condensing) |
| Weight | 860 g (1.9 lb) |
| Dimension (WxHxD) | 50 x 165 x 122.2 mm (1.97 x 6.50 x 4.81 in) |
| Certifications | |
| EMI | FCC Part 15 Subpart B Class A |
| | EN 55022: class A |
| | EN 55011: 2009 class A |
| | EN 61000-6-4 |
| EMS | EN 55024 |
| | EN 61000-6-2 |
| | EN 61000-4-2 (ESD) |
| | EN 61000-4-3 (RS) |
| | EN 61000-4-4 (Burst) |
| | EN 61000-4-5 (Surge) |
| | EN 61000-4-6 (CS) |
| | EN 61000-4-8 (PFMF) |
| Shock | IEC 60068-2-27 |
| Freefall | IEC 60068-2-32 |
| Vibration | IEC 60068-2-6 |
| Safety | UL 61010-1, UL 61010-2-201 |
| Ordering Information | |
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| Optional Accessories | |
| Power Supply | SDR-120-48: DIN-Rail, 120W, 48VDC, Industrial Power Supply with PFC Function |
| GBM-104 | 1000BASE-SX 1.25G, Multi-mode SFP, 500m |
| GBM-123TS | 1000BASE-LX, Bi-Di SFP TX:1310/RX:1550 Single Mode, 10Km, 0°C~70°C (32°F~158°F) |
| GBM-123RS | 1000BASE-LX, Bi-Di SFP TX:1550/RX:1310 Single Mode, 10Km, 0°C~70°C (32°F~158°F) |

* The SFP communication distance upon the request.

* Industrial SFP with wide operating temperature from -40°C~85°C is available upon request.

* Specifications subject to change without notice.

Dimension

