

# INS-802E

## Premium Unmanaged 8 x 10/100 RJ45 & 2 x FX/GbE SFP Industrial Switch

### Description

The INS-802E is an unmanaged industrial switch equipped with 8-port 10/100Base-TX, and 2-port FX/GbE SFP, dual fiber uplinks and redundant DC power inputs, an ideal solution for deployment in multiple high-speed automation systems. With its dry-contact smart alarm, the INS-802E initiates an alarm function that can be seen and heard on the factory floor in the event of any malfunction. The INS-802E operates in wide temperatures ranging from -40°C to 75°C and absorbs higher than normal degrees of vibration and shock, making it perfectly suitable and safe choice for harsh industrial environments.

The INS-802E is designed to deliver high performance in industrial environments where vibration, shock, heat, and RF interference is commonplace. Small and compact design of the switch makes DIN-rail mounting and installation very easy, especially in places where space is limited. The switch can be expanded by cascading two or more switches together in a 'daisy-chain' fashion. The switch combines dynamic memory allocation with store-and-forward switching to ensure that the buffer is effectively allocated for each port, while controlling the data flow between the transmit and receive nodes to guarantee against all possible packet loss.



**RoHS CE FCC**



### Features Highlight

#### Ruggedized Components Designed for Harsh Industrial Environments

Built with industrial-grade components, good thermal conductivity, and enclosed in an IP40 metal case, this Ethernet switch is resistant to extreme environments, vibration, EMI (electromagnetic interference), ESD (electrostatic discharge), power surge, over-voltage, over-current, and reverse polarity. It withstands operation at extreme temperatures between -40°C~75°C (-40°F~167°F). It follows international safety standards like CE, FCC, and ROHS for safe operation.



#### Quick and Convenient Installation with Auto-negotiation

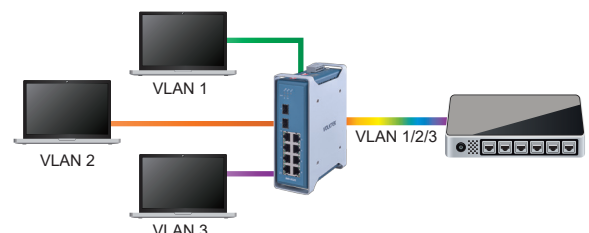
INS-802E works as soon as it is connected and makes installation convenient. One 12~48VDC power supply connects to the 3-pin terminal block for power. The 10/100 Mbps ports use auto MDI/MDI-X connection for auto-negotiation to work as soon as connected to other network devices at the required speed without extra software installation needed. The LED light displays when the device is in operation. The slim and small design allows it to fit at different locations for many devices to operate in the same network and can be mounted to a standard TH35 DIN rail.

#### Traffic Control Mechanisms to Optimize Bandwidth Usage

Traffic control mechanisms regulate excessive traffic to avoid delay, data loss and connection issues between devices. This unmanaged switch offers mechanisms such as Flow and Storm Control that prevent devices from overwhelming each other during the exchange of data and to keep the flux at a tolerable rate, hence keeping devices working within their capacity and avoiding the network from collapsing.

#### Intelligent VLAN Data Forwarding

INS-802E is aware enough to read the source and destination of VLAN tagged data packets. This unmanaged switch delivers VLAN packets without changing or dropping them assuring operational data in industrial fields is delivered safely across devices.



## Features Highlight

### Critical Data Transmission Priority

INS-802E streamlines the execution of time-sensitive applications with the 802.1p Tag QoS by classifying data into high and low priority. Additionally mission-critical applications in industrial automation like manufacturing and monitoring can be done without delay through port priority on port #1 even during high traffic.



### Prioritizes Industrial Standard Protocols

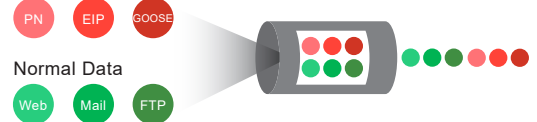
Industrial automation applications employ packet protocols that focus on delivering data under tight time constraints. This unmanaged switch is configured with iQoS to prioritize industrial application protocols and deliver time-sensitive data used in industrial applications first, including Ethernet/IP, PROFINET, and GOOSE (Generic Object Oriented Substation Events).

#### Industrial protocol

PN EIP GOOSE

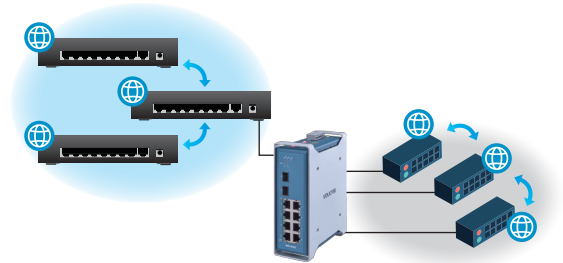
#### Normal Data

Web Mail FTP



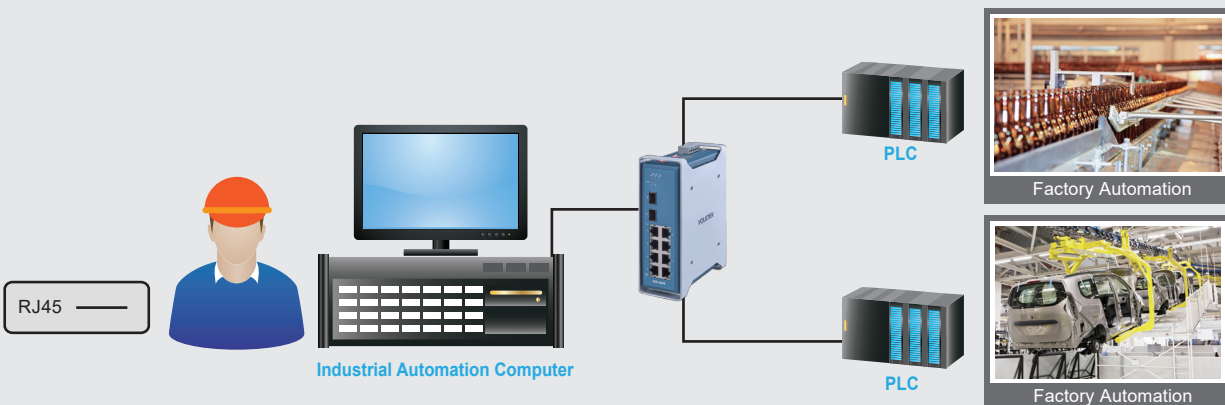
### Connects Large Network Groups and Facilitates Data for Monitoring Systems

During the network discovery process device flapping issue can be occurred when the peripheral devices are connected to an unmanaged switch in the network. The Link Layer Discovery Protocol (LLDP) Filter blocks the LLDP packets exchange at unmanaged devices only without disturbing managed groups to avoid the device flapping issue. However, the LLDP works well It provides precise device information and avoids false alarms in your network.



## Applications

The INS-802E is compatible with 10/100Mbps through RJ45 transceivers to guarantee a strong, stable connection of Ethernet, Fast Ethernet, as an ideal solution for deployment in multiple high-speed automation systems.



## Specifications

| Standards                       |                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| IEEE 802.3                      | 10Base-T                                                                                                                                     |
| IEEE 802.3u                     | 100Base-TX/FX                                                                                                                                |
| IEEE 802.3z                     | 1000Base-SX/LX                                                                                                                               |
| IEEE 802.3                      | Nway Auto-negotiation                                                                                                                        |
| IEEE 802.3x                     | Flow Control                                                                                                                                 |
| IEEE802.1p                      | Class of Service                                                                                                                             |
| Interface                       |                                                                                                                                              |
| Ports                           | 8 x 10/100Base-TX (RJ45)<br>2 x FX/GbE (SFP)                                                                                                 |
| Features                        |                                                                                                                                              |
| Performance                     | Jumbo Frame Size: 9216 Bytes                                                                                                                 |
|                                 | MAC Table size: 8K                                                                                                                           |
|                                 | Throughput: 14,880 pps to 10 Mbps ports                                                                                                      |
|                                 | 148,800 pps to 100 Mbps ports<br>148,800 pps to 1000 Mbps ports                                                                              |
|                                 | Switch Fabric: 5.6Gbps                                                                                                                       |
| Functions                       | LLDP Filter, Flow Control, VLAN Passthru,<br>Port Priority (Port 1, Port 2), 802.1p CoS/QoS,<br>Storm Control, iQoS (EIP/PROFINET/GOOSE QoS) |
| Power                           |                                                                                                                                              |
| Input Voltage                   | Primary inputs: 12~48VDC<br>Redundant inputs: 12~48VDC                                                                                       |
| Connection                      | Terminal block                                                                                                                               |
| Power Input Polarity Protection | Present                                                                                                                                      |
| Power Voltage Drop Alarm        | Present                                                                                                                                      |
| Power Consumption               | 6W (Max)                                                                                                                                     |
| Alarm Relay                     | One relay output, 1A @ 24V DC                                                                                                                |
| ESD Protection                  | Present                                                                                                                                      |
| Mechanical and Environment      |                                                                                                                                              |
| Housing                         | Aluminum (IP40 protection)                                                                                                                   |
| Mounting                        | DIN-Rail                                                                                                                                     |
| Operating Temperature           | -40°C to 75°C                                                                                                                                |
| Storage Temperature             | -40°C to 85°C                                                                                                                                |
| Operating Humidity              | 5 to 95% RH (non-condensing)                                                                                                                 |
| Storage Humidity                | 5 to 95% RH (non-condensing)                                                                                                                 |
| Weight                          | 791 g (1.74 lb)                                                                                                                              |
| Dimension (WxHxD)               | 57.3 x 175 x 126.4 mm (2.26 x 6.89 x 4.98 in)                                                                                                |

| Standards and Certifications |     |                                                                                                                                                                                                                  |
|------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CE                           | EMI | FCC Part 15 Subpart B Class A<br>CISPR 32 Class A<br>EN 55032 / BS EN 55032 Class A<br>EN 55011 / BS EN 55011 Class A<br>EN IEC 61000-6-4 / BS EN IEC 61000-6-4                                                  |
|                              | EMS | EN 55035 / BS EN 55035 Class A<br>EN IEC 61000-6-2 / BS EN IEC 61000-6-2<br>EN 61000-4-2 (ESD)<br>EN 61000-4-3 (RS)<br>EN 61000-4-4 (Burst)<br>EN 61000-4-5 (Surge)<br>EN 61000-4-6 (CS)<br>IEC 61000-4-8 (PFMF) |
| Shock                        |     | IEC 60068-2-27                                                                                                                                                                                                   |
| Freefall                     |     | IEC 60068-2-31                                                                                                                                                                                                   |
| Vibration                    |     | IEC 60068-2-6                                                                                                                                                                                                    |
| Ordering Information         |     |                                                                                                                                                                                                                  |
| INS-802E                     |     | Premium Unmanaged 8 x 10/100 RJ45 & 2 x FX/GbE SFP Industrial Switch                                                                                                                                             |
| Optional Accessories         |     |                                                                                                                                                                                                                  |
| Power Supply                 |     | SDR-120-48: 120W DIN-Rail 48VDC Industrial Power Supply, -25°C~70°C                                                                                                                                              |
| FPM-107                      |     | 100Base-FX Multi-mode SFP, 2Km                                                                                                                                                                                   |
| FPM-107-30                   |     | 100Base-FX Single mode SFP, 30Km                                                                                                                                                                                 |
| GBM-132TS                    |     | 100Base-FX, Bi-Di SFP TX:1310/RX:1550, Single mode, 20KM                                                                                                                                                         |
| GBM-132RS                    |     | 100Base-FX, Bi-Di SFP TX:1550/RX:1310, Single mode, 20KM                                                                                                                                                         |
| 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)                                                                                                                                  |

Note:

\* Specifications subject to change without notice.

## Dimension

