

# VOLKTEK

## INS-840G

### Unmanaged 16 x 10/100/1000 RJ45 Industrial Switch

#### Description

INS-840G is an unmanaged industrial Gigabit Ethernet switch with 16 auto-negotiation 10/100/1000Mbps downlink ports for scalable networks in automated settings. This high port density switch is used in complex industrial applications to connect to multiple devices including multi-axis robots and their peripherals such as PLCs, HMIs, and legacy devices.

The switch offers various in-built traffic optimization and network performance features to prioritize important industrial data packets, prevent the loss of data during communication, and stable transmission; like flow and VLAN Passthru. Ensures the delivery of high priority time-sensitive data with transfer priority for PROFINET protocols and 802.1p Tag QoS data.

This networking device is built with industrial grade components to protect it from hazards like vibration, shock, free fall, interference, and extreme temperatures that make it resistant to harsh industrial environments. The device also uses a Redundant Power Supply and Alarm System to ensure it works uninterrupted, even during power outages and alert technicians if one power source fails.



RoHS CE FCC



#### Features Highlight

##### Ruggedized Components Designed for Harsh Industrial Environments

Built with industrial-grade components, good thermal conductivity, and enclosed in an IP30 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  $-40^{\circ}\text{C}$ ~ $75^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ~ $167^{\circ}\text{F}$ ). It follows international safety standards like CE, FCC, and ROHS for safe operation.



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

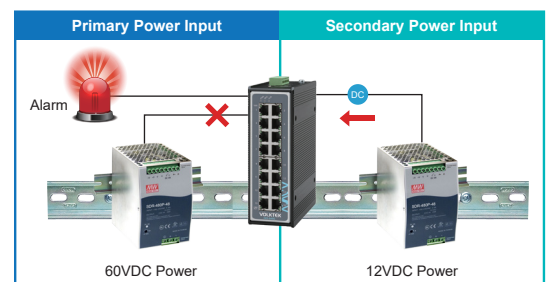
INS-840G works as soon as it is connected and makes installation convenient. Two 12~60VDC power supplies and one alarm connect to the 6-pin terminal block for power and notifications. The 10/100/1000Mbps ports use auto MDI/MDI-X connection for auto-negotiation to work as soon as connected to other network devices at the required speed without extra software installation needed. The LED lights display when the device is in operation. The compact and port-dense 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. INS-840G uses Flow Control to prevent devices from overwhelming each other during the exchange of data hence keeping devices working within their capacity.

##### Redundant Power Supply and Alarm System

Two power supplies and one alarm connect to the 6-pin terminal block of this device to ensure it is powered all the time. When one of the connected power supplies stops working or in case of power outage, the device feeds power from the alternative power source and switches the alarm on. The Alarm signal on the LED panel lights up. The alarm notifications can be activated through the DIP switch on its physical interface.



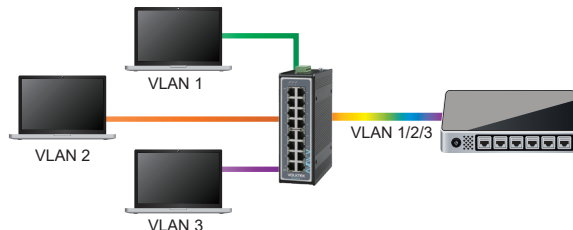
## Features Highlight

### High Port Density for Complex Applications

This high port density switch has 16 10/100/1000Mbps Ethernet ports to connect many devices like robots, control devices and peripherals for large and complex applications and automated processes. Each port adapts accordingly to the speed required by the device connected to this networking switch.

### Intelligent VLAN Data Forwarding

This unmanaged switch is aware enough to read the source and destination of VLAN tagged data packets. INS-840G delivers VLAN packets without changing or dropping them assuring operational data in industrial fields is delivered safely across devices.



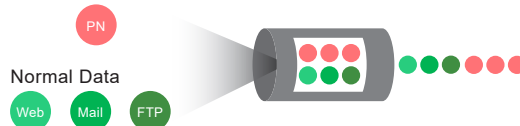
### Critical Data Transmission Priority

INS-840G streamlines the execution of time-sensitive applications with the 802.1p Tag QoS by classifying data into high and low priority. Mission-critical applications in industrial automation like manufacturing and monitoring can be done without delay.

### Prioritizes Industrial Standard Protocols

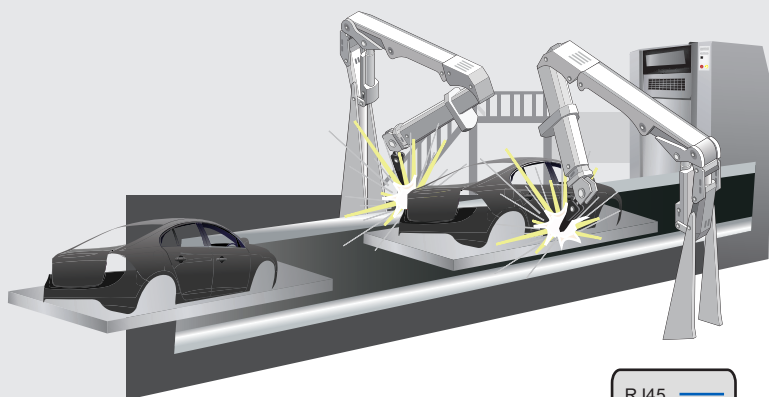
Industrial automation applications employ packet protocols that focus on delivering data under tight time constraints. This unmanaged switch is configured with iQoS to prioritize PROFINET industrial application protocols and deliver time-sensitive data used in industrial applications first.

Industrial protocol



## Applications

### Factory Automation

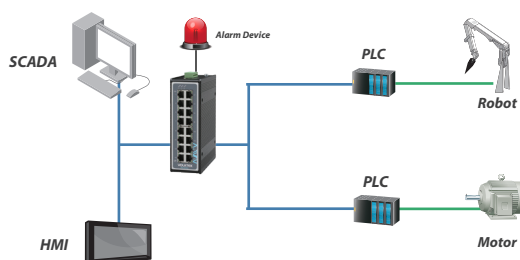


#### ► Redundant Power input

The INS-840G has dual power inputs to provide a redundant system against power supply disruptions. In case of one power source failure, the other acts as a backup to remain continuous network power for critical industrial applications.

#### ► Relay Output Alarm for Power Failure

The INS-840G is built with relay contact outputs that trigger alarms to notify network engineers in the event of power failure, and enables them to quickly respond and resolve high priority issues.



RJ45

PLC

## Specifications

Standards	
IEEE 802.3	10BASE-T
IEEE 802.3u	100BASE-TX
IEEE 802.3ab	1000BASE-T
IEEE 802.3	Nway Auto-negotiation
IEEE 802.3x	Flow Control
Interface	
Ports	16 x 10/100/1000BASE-T (RJ45)
DIP Switch	Primary/Redundant (PWR/RPS) power voltage drop alarm setting
LED Panel	PWR, RPS, ALM, 1000, LNK/ACT
Features	
Performance	Jumbo frame Size: 10KBytes
	MAC Table Entries: 8K
	L2 Forwarding Rate: 23.8Mpps
	Switch Fabric: 32Gbps
QoS	8 Hardware Queues
	Support priority tagged frame (VID=0)
Power	
Input Voltage	Primary inputs:12~60VDC Redundant inputs:12~60VDC
Connectors	Terminal Block
Power Consumption	18W (12V/1A)
Reverse Polarity	Present
Overload current	Present
Alarm Relay	One relay output, 1 A @ 24VDC
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	5~95% RH (non-condensing)
Storage Humidity	5~95% RH (non-condensing)
Weight	840g (1.8 lb)
Dimension (WxHxD)	50 x 164.9 x 119.9 mm (1.97 x 6.49 x 4.72 in)

## Certifications

EMI	FCC Part 15 Subpart B Class A
	EN 55011 class A
	EN 55032 class A EN 61000-6-4
EMS	EN 61000-6-2
	EN 55035
	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)
Safety	UL61010-2-201
Shock Test	IEC 60068-2-27
Freefall Test	IEC 60068-2-32
Vibration	IEC 60068-2-6
Safety	UL 61010-1, UL 61010-2-201

## Ordering Information

INS-840G	Unmanaged 16 x 10/100/1000 RJ45 Industrial Switch
Optional Accessories	
Power Supply	SDR-120-48: DIN-Rail, 120W, 48VDC, Industrial Power Supply with PFC Function

## Note:

- \* The highest degree of temperature operation certified by UL is -40°C~70°C (-40°F~158°F).
- \* Specifications subject to change without notice.

## Dimension

