



Cisco Industrial Ethernet 1000 Series Switches

Lightly Managed Switches for Industrial Environments

The Cisco® Industrial Ethernet 1000 (IE1000) Series Switches enable industrial network connectivity where traditional unmanaged switches lack the required performance and do not offer visibility and control.

Cisco IE1000 is a lightly managed Layer 2 switch designed for industrial users to better achieve productivity and network reliability, a primary element to business success.

The traditional industrial Ethernet switch of the past was a DIN rail unmanaged switch with few Ethernet ports to interconnect various nodes, including computer, HMI, PLC, I/O, drive, and sensors. The main challenge when deploying unmanaged switches is that it is difficult to monitor and troubleshoot issues that impact operational productivity. The IE1000 offers basic management for QoS, and security along with monitoring capability, which are essential in industrial environments.

The Cisco IE1000 Series has the option of Power over Ethernet (PoE) applications. Cisco IE1000 switches are designed to meet IEEE 802.3af (PoE) and 802.3at (PoE+) standards for network devices such as wireless access points, IP surveillance cameras, display monitors, and PoE-enabled industrial devices. One benefit of a PoE network solution is that it reduces the time and cost of having power cabling or outlets installed by certified electricians. The IE1000 PoE series is for industry users that seek flexible, low-cost, and easy-to-use installation solutions.

Benefits

- **Minimized downtime:** troubleshoot, monitor, and diagnose with Web-based GUI tool.
- **Improved network resiliency:** spanning tree enables network link redundancy and fast link recovery.
- **Increased network security:** port security allows disabling ports to control what gets connected to the network.
- **Critical traffic prioritization:** guaranteed delivery of mission critical end devices traffic.
- **Reduced overall TCO:** VLANs allow for logical segmentation in a single switch, which reduces total number of switches needed.

How It Works

As soon as you power up the IE1000, you can access the switch using a web browser to start the network connectivity. The IE1000 boots within 30 seconds from power up. It also allows you to monitor traffic flows, and Ethernet port utilization. You can administratively shut down or block unwanted devices in case of safety or security concern.

You can prioritize traffic on a per-port basis to assure that the critical traffic is delivered end to end with priority. In addition, the Cisco IE1000 transports industrial protocol traffic such as Ethernet/IP, PROFINET, and Modbus/TCP without extra provisioning. The support of SNMP, alarm relay, and syslog allows you to uncover errors before the network stops totally.

Use Case Examples

- **Machine builders:** Connects complex I/O and automation gears
- **Panel builders and panel shops:** for electricians to manage Ethernet connectivity.
- **PoE solution for smart cities:** Connects Wi-Fi access points and IP camera in locations without flexible power outlet or in space-constrained roadside cabinets.

Next Steps

For more information about the Cisco Industrial Ethernet 1000 Series Switches, visit www.cisco.com/go/ie1000.

Solution Highlights and Capabilities

The Cisco IE1000 Series Switches support the features and capabilities sufficient for industrial usage, including:

- Port density: 5, 6, 8, and 10
- FE copper or GE fiber uplink ports
- 4 or 8 Fast Ethernet downlinks
- Up to 8 PoE/PoE+ ports
- Data load optimization with VLAN awareness
- IGMP and DHCP snooping
- Web GUI-based provisioning and monitoring with no need for extensive IT knowledge
- High reliability and five-year hardware warranty

The Cisco IE1000 Series complements other Cisco IE product families, including IE2000, 3000, 4000, and 5000 series, offering a secure, reliable, and easy-to-manage switch to extend the OT networking infrastructure to the edge of industrial environments in delivering an end-to-end IT to OT network solution.