Item	Industrial Gigabit Ethernet Switch
Series No.	IES3104
Description	4 x 10/100/1000Base-T to 1000Base-X

Overview

The IES3104 series is a high performance and cost-effective Industrial Gigabit Ethernet Switch that meets the high reliability requirements of industrial network operations. It is designed to extend the distance of a network by converting Gigabit Ethernet data between twisted pair cabling and multi-mode or single-mode fiber-optic cabling.

The IES3104 features 1x 1000Base-X fiber port and 4 x 10/100/1000Base-T twisted-pair port. The fiber optic port features SC connector and operating distance from 550 to 120km depending on different Model. The twisted-pair port has an RJ-45 connector with a maximum operating distance of 100m. IES3104-F provides one SFP slot for any MSA-complaint pluggable 1.25G SFP transceivers.

The IES3104 Industrial Gigabit Ethernet Switch is designed to stand up to extreme temperature, surges, vibrations, and shocks found in industrial automation, government, military, oil & gas, mining and outdoor applications, such as traffic management, oil and gas pipelines.

The IES3104 series enables real-time deterministic network operation, requires no configuration and will instantly operate as soon as you power it up. Additionally, they can be installed by DIN-rail or wall-mounted, allowing users to deploy any mix of network conversions required.

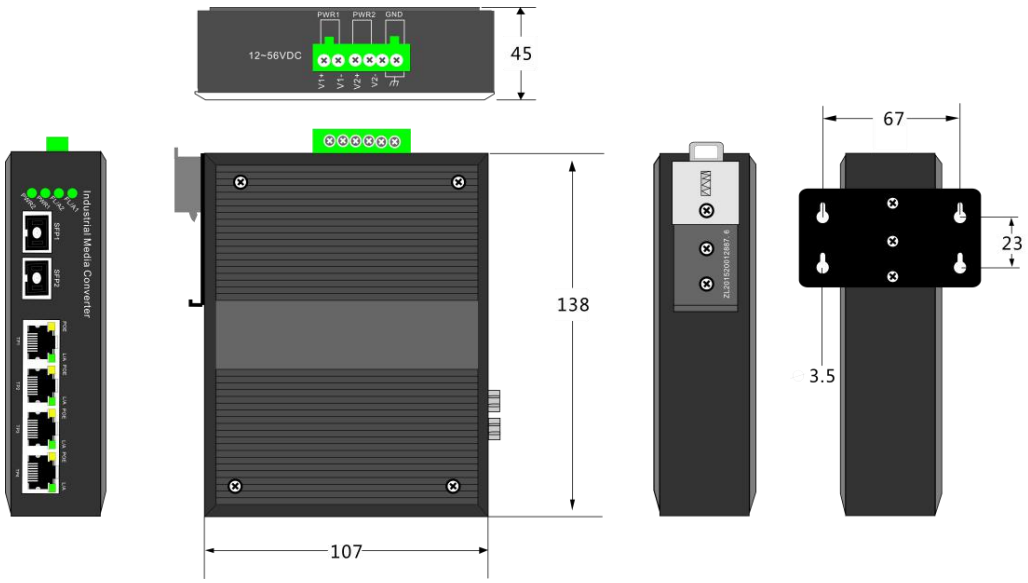
Many Backbone switch products now support the industry-standard IEEE802.1Q specification for VLANs that send extra-long data packets on the network. The IES3104 series converters are fully compatible with these long packets, enabling them to be used in modern networks.

Features

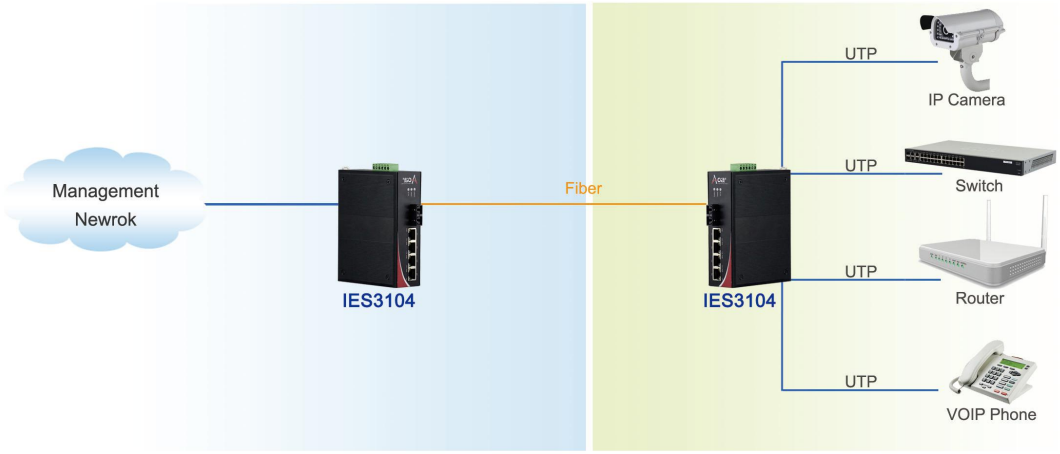
- 4 x 10/100/1000Base-T Port to 1 x 1000Base-X
- 1*9 fixed fiber module or SFP slot optional
- RJ45 support auto MDI/MDI-X function
- Auto-negotiation speed, half/full-duplex
- Store-and-forward
- Max packet size: 2048bytes
- Support wide operating temperature (-40 ˚C ~ +85 ˚C)
- Wide-range redundant power design (12~56VDC)
- Power polarity reverse protect
- Overload current resettable fuse present
- IP-40 protection
- Provide EFT protection for Power line
- Support Ethernet ESD protection
- DIN-Rail and Wall-Mounted Installation
- Low power consumption

Structure

Unit: (mm)



Applications



Technical Specifications

Standards	IEEE802.3 10Base-T IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-SX/LX standards IEEE802.3x Flow control and back pressure IEEE802.1d Spanning Tree
Performance	Processing Type : Store and Forward Back Bandwidth: 10Gbps MAC Address Size: 8Kbits Packet Buffer Size: 2Mbit Time Delay: <10us Frame: 10Kbytes
Copper Port	Data Rate: 10/100/1000M Connector: RJ45 x 4 Distance: 100m
Fiber Port	Data Rate: 1.25G Connector: SC as default, FC/ST/SFP optional Distance: MMF=550m/2km; SMF=20/40/80/100/120km Bi-Di=20/40/80/100/120km
LED indicators	PWR1: ON=Power Connected PWR2: ON= Power Connected FL/A: ON=Fiber Connected; Active=Data Transmitting TL/A: ON=Copper Connected; Active= Data Transmitting
Power	Input Voltage: 12~56 VDC, redundant power inputs Power Consumption: ≤7W Protection: Overload Current; Reverse Polarity Connector: Terminal Block
Environment	Operating Temperature: -40 ˚C ~ +85 ˚C Storage Temperature: --40 ˚C ~ +95 ˚C Relative Humidity: 5-95% (no condensation)
Physical Characteristics	Housing: IP40 Protection, Aluminum Alloy Installation: DIN-rail mounting, wall mounting(with optional kit) Dimension: 138*107*45mm(device); 220*175*73mm(packing) Weight: 0.48kg(device); 0.63kg(device with packing)

Standards and Certifications

EMC	CE
EMI	FCC Part 15　CLASS A
EMS	IEC 61000-4-2 Level 4 (8K/15K)
	IEC 61000-4-3 Level 3 (10V/m)
	IEC 61000-4-4 Level 3 (1V/2V)
	IEC 61000-4-5 Level 3 (4KV/2KV)
	IEC 61000-4-6 Level 3 (10V/m)
	IEC 61000-4-8 Level 4 (30A/m)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32 0.5m
Vibration	IEC 60068-2-6
Railway Traffic	EN50121-4

Order Information

Model No.	Description
IES3104-M05	10/100/1000M 1GX4GE,MMF,850nm, SC,550m
IES3104-M02	10/100/1000M 1GX4GE,MMF,1310nm, SC,2km
IES3104-S20	10/100/1000M 1GX4GE,SMF,1310nm,SC,20km
IES3104-S40	10/100/1000M 1GX4GE,SMF,1310nm,SC,40km
IES3104-A20	10/100/1000M 1GX4GE,Bi-di,TX1310/RX1550nm,SC,20km
IES3104-B20	10/100/1000M 1GX4GE,Bi-di,TX1550/RX1310nm,SC,20km
IES3104-A40	10/100/1000M 1GX4GE,Bi-di,TX1310/RX1550nm,SC,40km
IES3104-B40	10/100/1000M 1GX4GE,Bi-di,TX1550/RX1310nm,SC,40km
Note: 1. Power supply provided by user or ordered additionally 2. SC connector as default,　FC/ST as request	