12-Port 10/100/1000Base-T + 4-Port 10G SFP+ L2 Plus Industrial Managed POE Switch

(ONV-IPS36168PFM)

16 Port Gigabit Industrial Managed PoE Switch

◆ L2+ features provide better manageability, security, QoS, and performance.

◆ 12*10/100/1000M Base-TX RJ45 Ports + 4*10G SFP+ Ports. All ports support line-speed forwarding mode

◆ Support L2+ Switching features including 802.1Q VLAN, Mirroring, Port isolation, IGMP Snooping, DHCP Snooping, LLDP, POE+ management, IP Source Guard, ARP inspection, ACLs etc.

◆ Support spanning tree STP(802.1D) and RSTP(802.1W).

◆ Jumbo frames support up to 9.6K kilobtyes.

◆ Support enhanced management through WEB, CLI,TELNET, SSH, SNMP.

◆ IEEE 802.3af and 802.3at. Supports per port PoE configuration function

Description

The ONV-IPS36168PFM, the next generation L2+ managed POE+ switch from ONV, features with powerful web management function. Fan-less & low consumption design. Supporting Looped Network Redundancy. (Self-healing time <20ms, with complete security and QoS policy, support VLAN division, port mirroring, port speed limit. Support broadcast storm suppression & flow control. Managed through a variety of interfaces and ways including the WEB, CLI and SNMP etc.

With the wide working temperature and anti-surge protection in all ports, it is widely used in rail traffic, electricity, water conservancy, petrochemical, industrial control, electric alarm bayonet and other harsh environment, stability required strictly industry or place.

Applications

Whether you want to create a high-performance network to connect all clients' computers or an application to deliver data, voice, and video services, the ONV-IPS36168PFM provides a solution to fit your requirements. Possible implement scenarios include:

◆ **Secure and High Performance PC or laptop connectivity:**

The ONV-IPS36168PFM switch can easily and securely connect clients' PC or laptop in offices with each other and with all of the servers, printers, and other networking devices they use. High performance and reliable connectivity will help to speed file transfers and data processing, improves network performance and security, and keeps the clients connected and productive.

◆ **Secure and Quality wireless connectivity:**

The ONV-IPS36168PFM switch connected with WiFi APs allow WiFi clients to work from conference rooms and public areas, collaborate in any place, and access networking from wherever they are. Gigabit Ethernet connectivity provides these clients have the suitable bandwidth and quality performance they need to make mobility connected. Through embedded security, the clients can work with confidence and authorized users can access networking and network devices.

◆ **Unified communications with open standards:**

To be a managed network solution, it provides the high performance and advanced networking quality to deliver all networking communications and data (such as IP telephony, IP surveillance, and Video Streaming) over a single network.

Benefits

The ONV-IPS36168PFM provides security, performance, quality of services, central managed and other network control capabilities. Optimized and customized design and affordable pricing. It provides:

◆ **Excellent performance and reliability:**

ONV-IPS36168PFM passed the rigorously testing to deliver excellent performance. As a managed switching solution, it also provides the flexibility to manage and prioritizes suitable-bandwidth traffic such as voice.

◆ **Strong security:**

ONV-IPS36168PFM provides an advance security and gives you tight control to safeguard the network from unauthorized users. Advanced security features include:
---Extensive access control lists (ACLs) to restrict sensitive portions
    of the network from unauthorized users or guests.
---virtual LANs (VLANs) provide internet connectivity to guests
    while isolating critical traffic from guest traffic.
---IP Source Guard and ARP inspection to prevent datagrams with spoofed addresses from being in the network.
---IEEE802.1X port security to tightly limit access to specific segments of network

Technical Specification

Feature	Description		
Performance			
Switching capacity and forwarding rate	Model Name	Capacity in Millions of Packets per Second (mpps) (64-byte packets)	Switching Capacity in Gigabits per Second (Gbps)
	ONV-IPS36168PFM	130.94	368
Layer 2 Switching			
Spanning Tree Protocol (STP)	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w		
G.8032 ERPS	<50ms ring protection for industrial high reliable application		
Aggregation	Link Aggregation Control Protocol (LACP) IEEE 802.3ad Up to 8 groups Up to 16 ports per group		
VLAN	Support up to 4K VLANs simultaneously (out of 4096 VLAN IDs) Port-based VLAN 802.1Q tag-based VLAN		
DHCP Snooping (Layer 2)	Prevent unauthorized configuration and use of IP addresses, while providing support for IP Source Guard and ARP detection		
IGMP v1/v2 snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters; supports 1024 multicast groups (source-specific multicasting is also supported)		
Security			
Secure Shell (SSH) Protocol	SSH secures Telnet traffic in or out the switch, SSH v1 and v2 are supported		

Secure Sockets Layer (SSL), HTTPS	SSL encrypts the http traffic, allowing advance secure access to the browser-based management GUI in the switch
Port Security	Locks MAC Addresses to ports, and limits the number of learned MAC addresses
IP Source Guard	Prevents datagram with spoofed addresses from being in the network
Storm control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
ACLs	Support for up to 256 entries Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP) / IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag

Quality of Service	
Hardware Priority Queue	Support 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service (802.1p/ CoS)
Classification	Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS) / DSCP based;
Rate Limiting	Ingress policer; egress shaping and rate control; per VLAN, per port and flow based

Management Web/ SSL, Telnet/ SSH, ping, Trivial File Transfer Protocol (TFTP), SNMP, Syslog	
Web GUI interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPs). Supports configuration, system dashboard, maintenance, and monitoring
Dual Image	Dual image provides independent primary and secondary OS files for backup while upgrading
Firmware upgrade	Web browser upgrade (HTTP/ HTTPs) and TFTP Upgrade through console port as well
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to **N-1 (N is Switch's Ports)** ports can be mirrored to single destination port. A single session is supported.
Other management	Single IP management; HTTP/HTTPs; SSH; RADIUS; DHCP Client; SNTP; cable diagnostics; ping; syslog; Telnet client

Green Ethernet	
Link detection	Compliant IEEE802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or Idle of client. Active mode is resumed without loss of any packets when the switch detects the link

	up
Cable length detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for cables shorter.
General	
Jumbo frames	Frame sizes up to 9KB supported on Gigabit interfaces
MAC Table	Up to 16K MAC addresses.
Discovery	
Link Layer Discovery Protocol (LLDP)	Used by network devices for advertising their identities, capabilities, and neighbors on a IEEE 802 local area network, principally wired Ethernet.

Interface

Ports	Model Name	Total System Ports	RJ-45 Ports	(100M/1G) SFP	(1G/10G) SFP+
	ONV-IPS36168PFM	16GbE	12	--	4

Environmental　(preliminary)

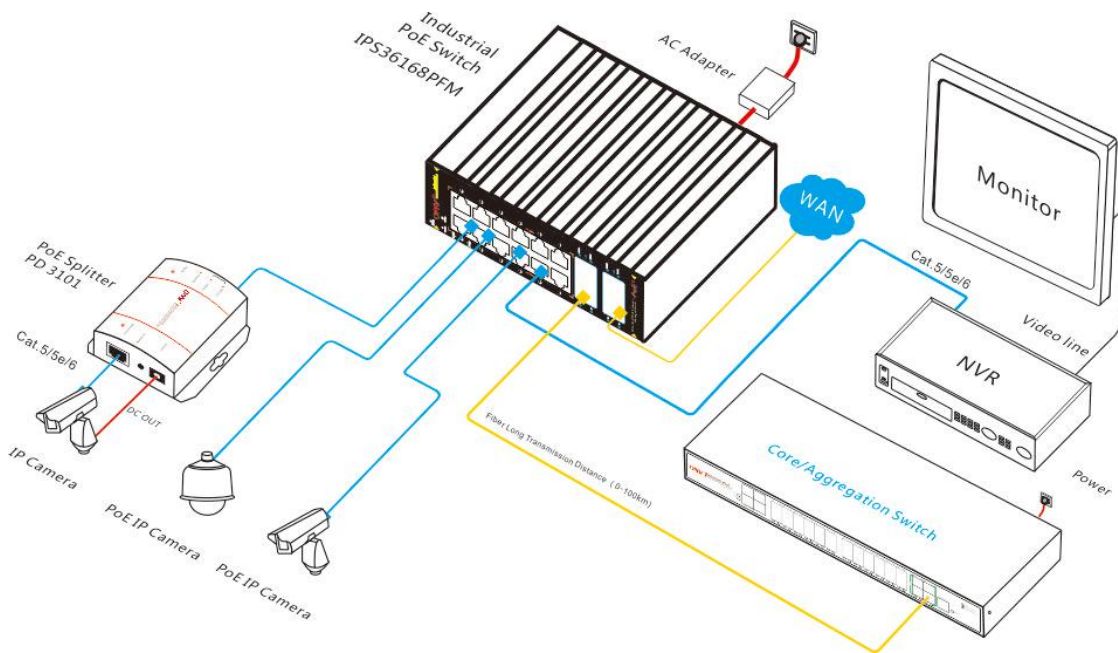| Dimensions	165*148*54mm
Weight	1.5kg
Power	DC 48~57V
Certification	CE, ROHS, FCC
Operating temperature	-40 ~ 80 ℃
Storage temperature	-40℃ ~ 85 ℃
Operating humidity	10% to 90% , relative, non-condensing

Dimension
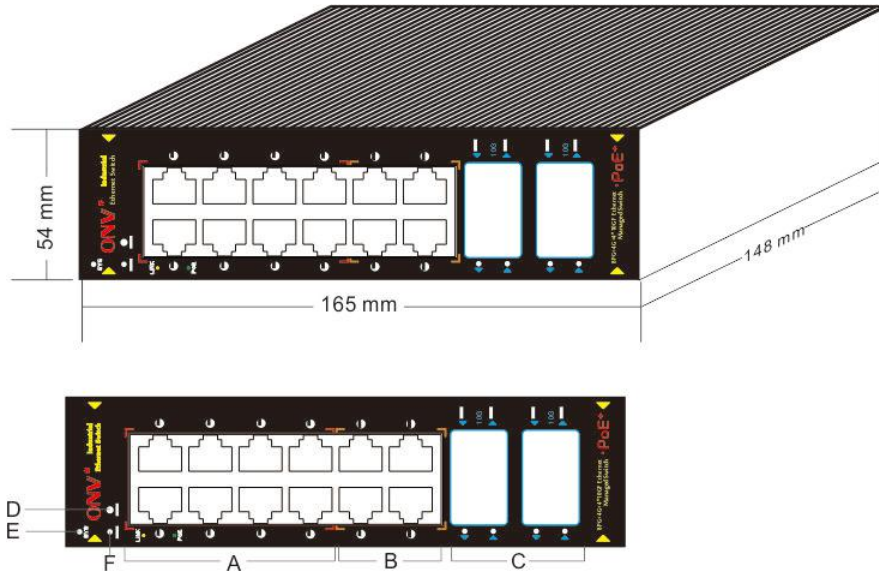
A. 10/100/1000M PoE RJ45 Port
B. 10/100/1000M RJ45 Port
C. 10G SFP Fiber Port

D. Reset Button
E. System LED Indicator
F. PWR LED Indicator

Application

Ordering Information

Model Name	Description
ONV-IPS36168PFM	12-Port 10/100/1000Base-T + 4-Port 10G SFP+ L2 Plus Industrial Managed PoE Switch

Packing List

Package Contents
1. Industrial PoE Switch
2. User Guide
3. Warranty Card

Minimum Requirements
■ Web browser: Mozilla Firefox version 2.5 or later, Microsoft Internet Explorer version 6 or later
■ Category 5 Ethernet network cable
■ TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in network

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