

# IDS-105GPP – Industrial Gigabit PoE Switch

 [perle.com/products/switches/5-port-industrial-gigabit-poe-switch.shtml](https://perle.com/products/switches/5-port-industrial-gigabit-poe-switch.shtml)

## 5 to 7 port Compact DIN Rail PoE Switch

- 5 port 10/100/1000Base-T ( RJ45 )
- 5 port 10/100/1000Base-T ( RJ45 ) with 1 or 2 Gigabit fiber ports (SC/ST/SFP)
- 4 PoE/PoE+ PSE capable ports, fully compliant to IEEE 802.3af/at
- Hazardous Location and Industrial Control Equipment Certification
- Corrosion resistant IP30 aluminum case
- Redundant dual power input 24/48 VDC
- Overload current and reverse polarity protection
- Industrial operating temperature support up to -40 to 75C



Perle **Industrial-grade Ethernet Switches** are designed to stand up to **extreme temperatures, surges, vibrations, and shocks** found in **industrial automation, government, military, oil and gas, mining** and **outdoor applications**.

In addition, these PoE Switches are classified as **Power Sourcing Equipment (PSE)**. While using standard UTP cables that carry Ethernet data, the IDS-108FPP have **4 ports** that also **provide up to 30 watts of power** to Powered Devices (PDs) such as **wireless access points, Voice over IP phones** and **IP cameras**. Learn more [about PoE](#).

The **IDS-105GPP is a 5 to 7 port Industrial Gigabit Ethernet** switch providing advanced performance enabling real-time deterministic network operation. It requires no configuration and will operate instantly as soon as you power it up.

IDS-105G are **rugged fan-less switches** that are hardened to provide superior reliability **in 0 to 60°C**, or harsh extended operating temperatures **from -40 to 75°C**. They come in a variety of models with 5 copper ports, 5 copper ports plus 1 fiber port or 5 copper ports plus 2 fiber ports.

**Perle** has been **designing industrial hardware** for serial ModBus and Profinet to Ethernet conversion environments **for over 35 years** and have used this expertise to design the **toughest Ethernet switches on the market**. Don't trust your critical communications to commercial switch products. Perle Industrial Ethernet switches give you proven assurance that your system will keep running for years to come.

## IDS-105GPP Industrial Gigabit PoE Switch Features

Rugged design for harsh environments	<ul style="list-style-type: none"> <li>• Corrosion resistant IP30 aluminum case</li> <li>• UL508A Industrial Control Equipment Safety certified</li> <li>• Hazardous locations - Class1/Div2, ATEX Class1/Zone2</li> </ul>
--------------------------------------	--

Reliable operation	<ul style="list-style-type: none"> <li>• Fan-less, no moving parts</li> <li>• Dual power input. Connect to separate power sources for redundancy.             <ul style="list-style-type: none"> <li>◦ Reverse polarity protection</li> <li>◦ Overload current protection</li> </ul> </li> <li>• Handles vibration and shock conditions found in industrial environments</li> </ul>
--------------------	---

Real-time Ethernet performance	<ul style="list-style-type: none"> <li>• Fast wire-speed , store and forward switching, non-blocking architecture</li> <li>• Auto-sensing for speed and duplex</li> <li>• Auto-mdi/mdix-crossover works with straight and crossover cables</li> </ul>
--------------------------------	---

PoE and PoE+ ( on 4 ports )	Up to 30 Watts per port driving up to four class 4 ( IEEE 802.3at Type 2 ) PDs
-----------------------------	--

Input Voltage Booster	Voltage boost technology supports 24V power sources ensuring that a full and proper PSE voltage is provided across all PoE ports
-----------------------	--

Jumbo Frames	Supports Jumbo frames up to 10 KB
--------------	-----------------------------------

Energy Efficient Ethernet ( EEE )	Energy Efficient Ethernet (EEE) as per 802.3az. This provides power savings during idle network activity.
-----------------------------------	---

### Power

Dual Power Input	<p>Both inputs draw power simultaneously. If one power source fails, the backup, supply enough power to meet the operational needs of the sw</p> <p>Flexible input voltage range : 24/48 VDC Nominal. ( 18 to 57 VDC)</p>
------------------	---

Input Voltage Booster	Voltage boost technology supports 24V industrial power sources ensu is available across all PoE ports
-----------------------	---

Power Connector	4-Pin Removable Terminal Block. Grounding screw on metal chassis
-----------------	--

Maximum Current Consumption @24 vDC	<p>.27 Amps (No PoE PDs attached)</p> <p>5.5 Amps (4 x PoE+)</p>
-------------------------------------	--

Maximum	0 Watts (No PoE PDs attached)
---------	-------------------------------

Maximum Power Consumption @24 vDC 6 Watts (NO PoE PDS attached)  
132 Watts (4 x 30 Watts PoE+)

Overload Current Protection Reset-able fuse provides overload current protection

Reverse polarity protection Protection is provided should inputs be reversed.

### Access Ports

RJ45 5 shielded RJ45 ports for 10/100/1000Base-T up to 100 meters ( 328 ft ) capable  
Auto-negotiation  
Auto-MDI/MDIX-crossover for use with either crossover over straight-through Ethernet isolation 1500 V

PoE 4 PoE/PoE+ ports  
Up to 30 Watts per port ( @ switch RJ45 ) driving up to four class 4 ( II )

Small Form Factor Pluggable ( SFP ) slot(s) 1 or 2 empty SFP slot models for 1000Base-X SFP modules supplied | of MSA compliant SFPs

Fixed Fiber port Fixed fiber port models  
Duplex SC or ST connector

- Multimode 50/125 or 62.5/125 micron fiber cable
- Single mode 9/125 micron fiber cable

Simplex ( BIDI, single strand ) SC connector

- Multimode 50/125 or 62.5/125 micron fiber cable
- Single mode 9/125 micron fiber cable

PC and UPC type patch cords supported.

Fixed Fiber Port Specs	Fiber1 Type	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm)	IEEE
		Min	Max	Min	Max			
	MMF (Duplex SC/ST)	-9.5	-4.0	-17.0	-3.0	7.5	850	1000Base-SX

MMF (Duplex SC/ST)	-6.0	0.0	- 17.0	0.0	11.0	1310	1000B; LX
SMF (Duplex SC/ST)	-9.5	-3.0	- 20.0	-3.0	10.5	1310	1000B; LX/LH
SMF (Simplex SC)	-9.0	-3.0	- 20.0	-3.0	11.0	1310 / 1490 1490 / 1310	1000B; BX-U 1000B; BX-D
SMF (Simplex SC)	-8.0	-3.0	- 22.0	-3.0	14.0	1310 / 1490 1490 / 1310	1000B; BX-U 1000B; BX-D
SMF (Duplex SC/ST)	-2.0	2.0	- 23.0	-3.0	21.0	1310	1000B; EX
SMF (Simplex SC)	-3.0	2.0	- 23.0	-3.0	2-.0	1310 / 1490 1490 / 1310	1000B; BX-U 1000B; BX-D
SMF (Duplex SC/ST)	-2.0	5.0	- 23.0	-3.0	21.0	1550	1000B; ZX
SMF (Simplex SC)	-2.0	3.0	- 26.0	-3.0	24.0	1510 / 1590 1590 / 1510	1000B; BX-U 1000B; BX-D
SMF (Duplex SC/ST)	0.0	5.0	- 32.0	-9.0	32.0	1550	1000B; ZX
SMF (Simplex SC)	-3.0	2.0	- 34.0	-9.0	31.0	1510 / 1590 1590 / 1510	1000B; BX-U 1000B; BX-D
SMF (Duplex SC/ST)	2.0	5.0	- 34.0	-9.0	36.0	1550	1000B; ZX

\* 1db/km multimode fiber cable

\*\* as per ITU-T G.652 SMF specifications

---

### Switch Properties

---

Standards	<ul style="list-style-type: none"><li>• IEEE 802.3 for 10Base-T</li><li>• IEEE 802.3u for 100Base-TX and 100Base-FX</li><li>• IEEE 802.3ab for 1000Base-T</li><li>• Energy Efficient Ethernet (EEE) as per 802.3az.</li><li>• IEEE 802.3x for Flow Control</li><li>• IEEE 802.3af Power Over Ethernet</li><li>• IEEE 802.3at Power Over Ethernet</li></ul>
-----------	--

---

Processing Type	Store and Forward, non-blocking architecture
-----------------	--

---

MAC Address Table Size	8K
------------------------	----

---

Packet Buffer Memory	1 Mbit
----------------------	--------

---

Jumbo Frame Size	10 KB
------------------	-------

---

### Indicators

---

P1	This green LED is turned on when power is applied to the power #1 in
----	--

---

P2	This green LED is turned on when power is applied to the power #2 in
----	--

---

RJ45 Ethernet	These integrated colored LEDs indicate link, activity and speed for each
---------------	--

---

Fiber Link	Fiber link LED indicates Link and Data Activity
------------	---

---

### Environmental Specifications

---

Operating Temperature Ranges	Standard temperature models : 0° C to 60° C (32° F to 140° F). Industrial extended temperature models : -40° C to 75° C ( -40 F to 16
------------------------------	--

---

Storage Temperature Range	Minimum range of -25° C to 70° C (-13° F to 158° F). -40 C to 85 C (-4
---------------------------	--

---

Operating Humidity Range	5% to 90% non-condensing
--------------------------	--------------------------

---

Storage Humidity Range	5% to 95% non-condensing
------------------------	--------------------------

---

range

Operating Altitude	Up to 3,048 meters (10,000 feet)
Chassis	Aluminum with an IP30 ingress protection rating
Din Rail Mountable	DIN Rail attachment included. Mounts to standard 35 mm DIN rail in a Removable to accommodate optional Panel/Wall mount kit
Maximum Heat Output	178 BTU/Hr
MTBF	648,530 hours (without fiber module) 492,890 hours (with fixed fiber module) 472,435 hours (with 1 SFP slot) 371,779 hours (with 2 SFP slots) <i>MTBF Calculation model based on MIL-HDBK-217-FN2 @ 30 °C</i>

### Product Weight and Dimensions

Weight	0.37 Kg, 0.82 lbs
Dimensions	111 x 138 x 47.4 mm, 4.37 x 5.43 x 1.87 inches

### Packaging

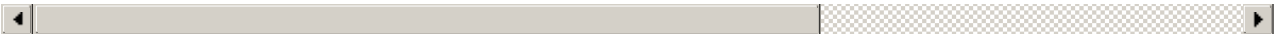
Shipping Weight	0.52 Kg, 1.15 lbs
Shipping Dimensions	170 x 260 x 70 mm, 6.69 x 10.24 x 2.76 inches
Contents Shipped	Industrial Ethernet Switch with DIN Rail attachment Terminal block Installation guide

### Standards and Certifications

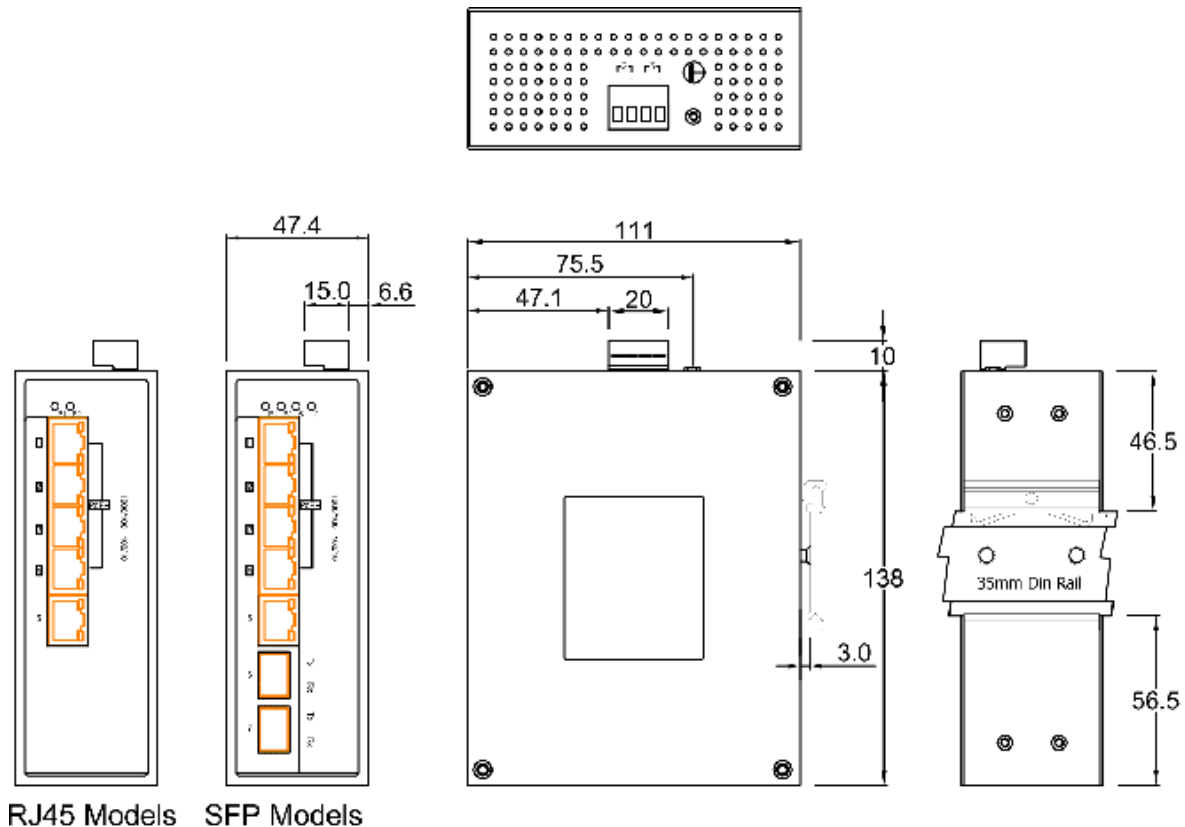
Safety	IEC 62368-1 (ed 2) EN 62368-1:2014 UL 60950-1 CSA C22.2 No. 60950-1 IEC 60950-1:2005+A1:2009 and EN 60950-1:2006+A11:2009+A1:2010+A12:2011 CE Mark UL508 ( Industrial )
EMC Emissions	FCC 47 Part 15 Class A ICES-0003 CISPR 22:2008/EN55022:2010 (Class A) EN61000-6-4
EMC Immunity	CISPR 24:2010/EN 55024:2010 IEC/EN 61000-4-2 (ESD) : Contact discharge +/- 4kV, Air Discharge + IEC/EN 61000-4-3 (RS) : 80 MHz to 2.7 Ghz ; 10V/m, 800 MHz to 100 IEC/EN 61000-4-4 (EFT) : DC 100V, 100ns, 100V, 100ns, 100V, 100ns

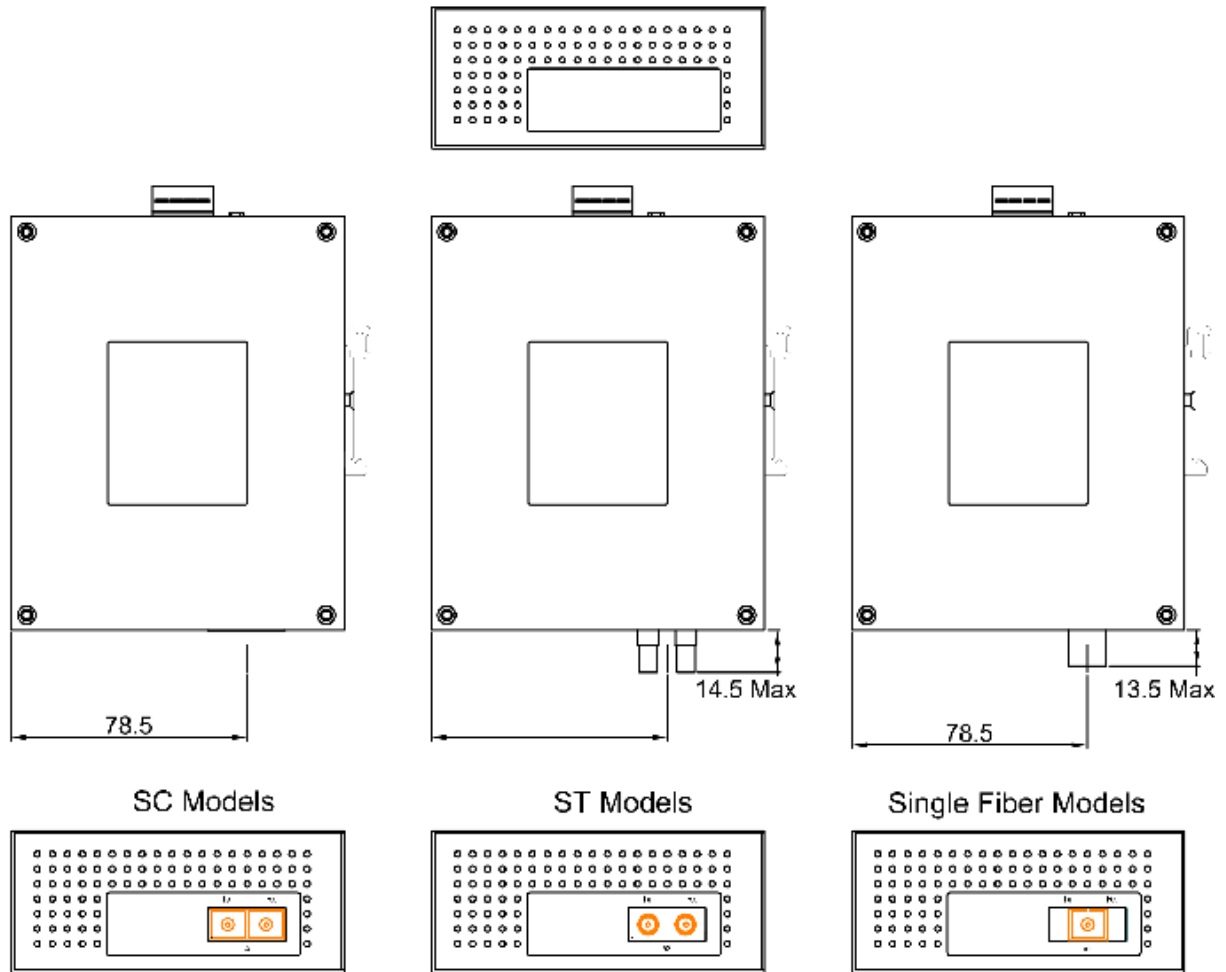
IEC/EN 61000-4-4 (EFT) : DC power line +/- 2 kV, Data Line +/- 1kV  
 IEC/EN 61000-4-5 (Surge) : DC power line, Line/Line +/- 0.5kV, Line/E 1kV  
 IEC/EN 61000-4-6 (CS) : 150kHz to 80 MHz; 10V  
 IEC/EN 61000-4-8 : 30A/m  
 IEC/EN 61000-6-2 ( General Immunity in Industrial Environments )

Industrial Safety	UL508 (Safety standard for Industrial Control Equipment ) CSA C22.2 No. 142
Hazardous Locations ( Hazloc )	ANSI/ISA 12.12.01, Class I Division 2 Groups A-D ( formerly known as CSA C22.2 No. 213 ATEX Class I Zone 2, EN 60079-0,15
Laser Safety	EN 60825-1:2007 Fiber optic transmitters on this device meet Class 1 Laser safety requirements and comply with 21CFR1040.10 and 21CFR1040.11.
Environmental	<u>Reach, RoHS and WEEE Compliant</u>
Other	ECCN: 5A991  HTSUS Number: 8517.62.0050  5 year warranty

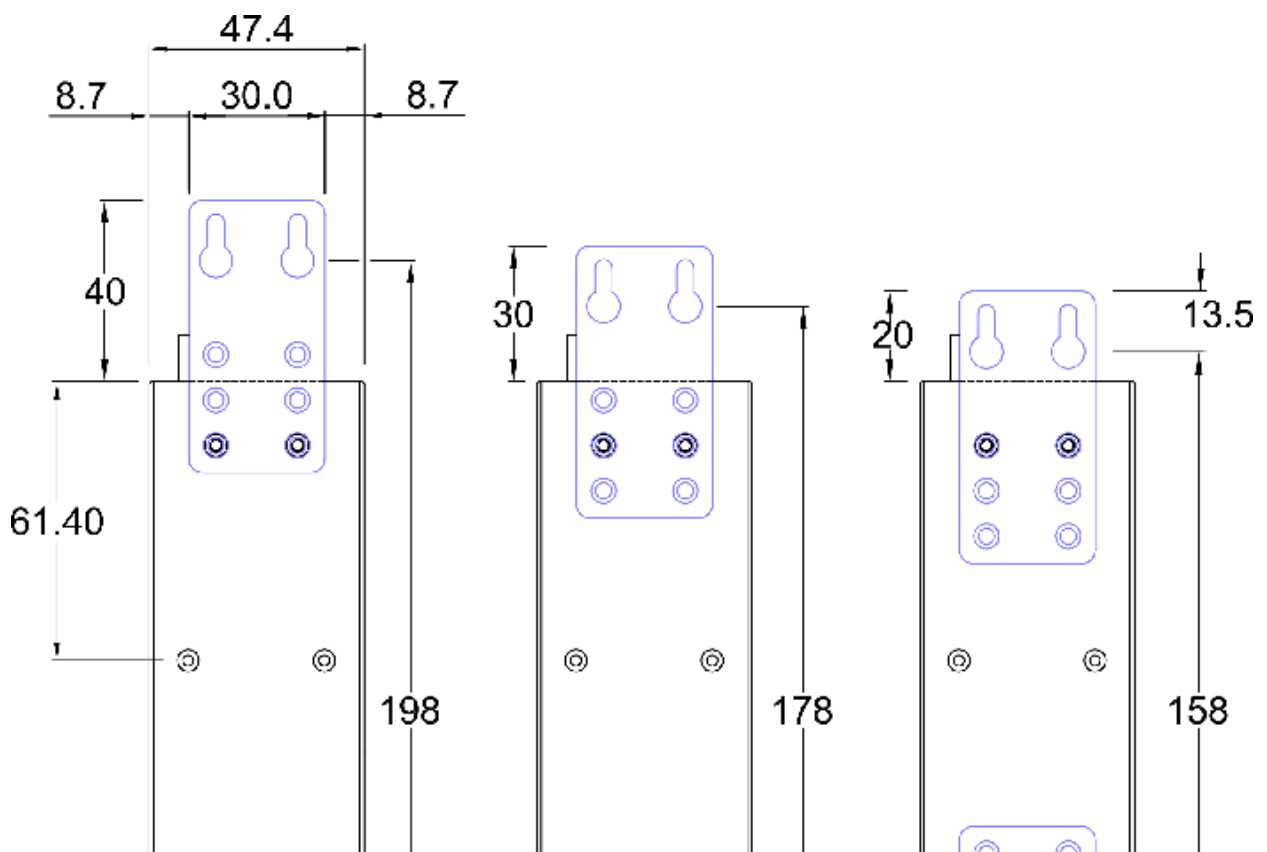


### IDS-105GPP with Standard DIN Rail

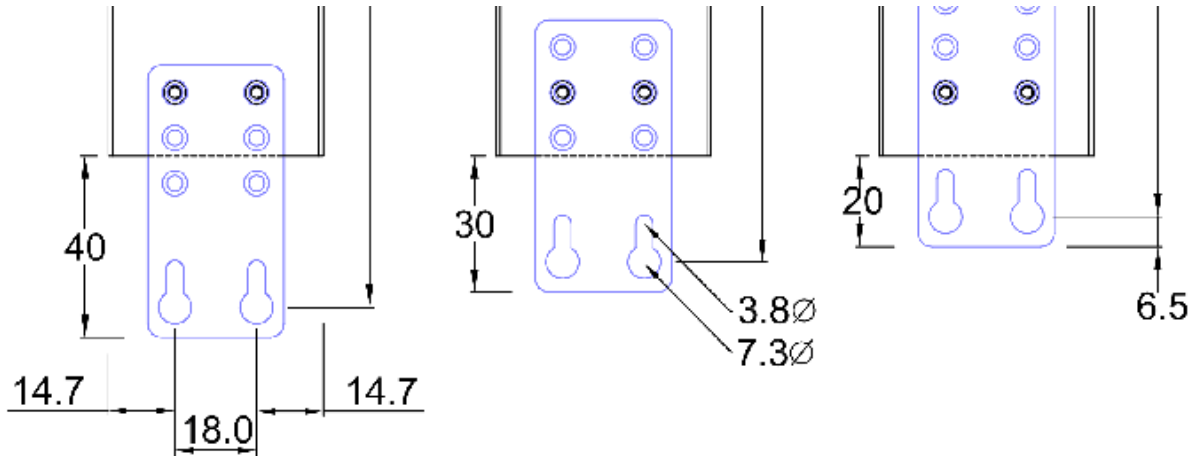




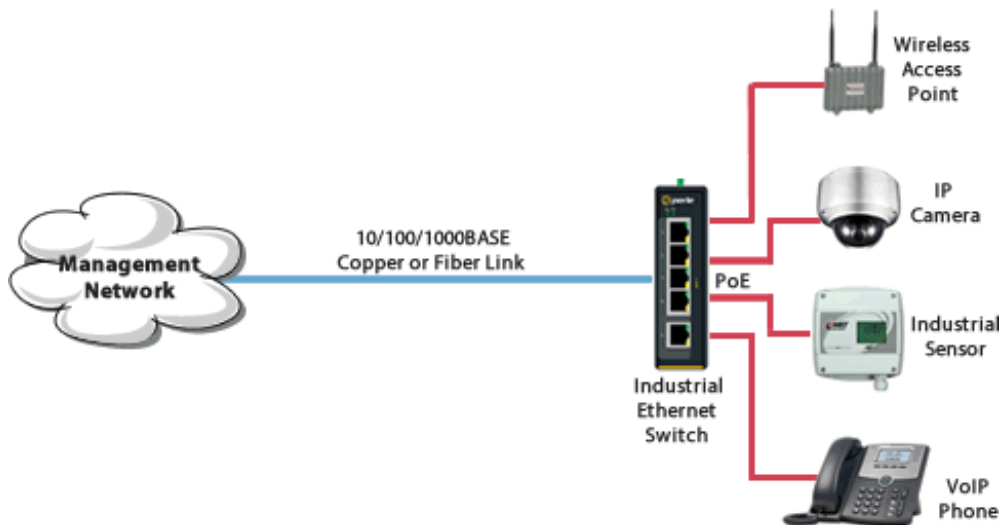
**IDS-105GPP with Optional Wall/Panel Mount Brackets**







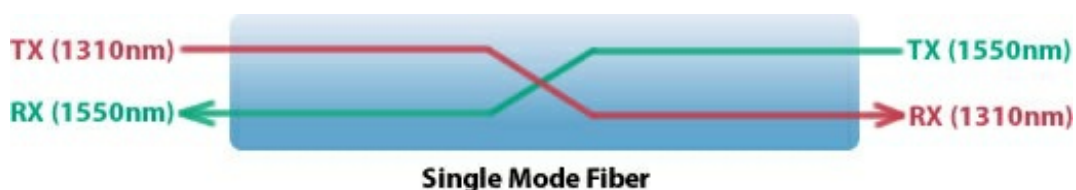
## IDS-105GPP Industrial Switch Power over Ethernet ( PoE )Diagram



### Single Mode / Single Strand ( WDM ) Fiber

#### Connecting devices over a single fiber strand ( also referred to as “Bi-Directional” BiDi or Simplex)

To reduce costs, or where there are limits on available fiber, Wavelength-Division Multiplexing (WDM) technology may be utilized. WDM uses separate transmit and receive frequencies to communicate on a single fiber strand. WDM technology relies on the fact that optical fibers can carry many wavelengths of light simultaneously without interaction between each wavelength. Thus, a single fiber can carry many separate wavelength signals or channels simultaneously. WDM systems are divided into different wavelength patterns, conventional/coarse (CWDM) and dense (DWDM).



When Single Strand fiber is used, you will need an “Up” side and a “Down” side when interconnecting fiber devices.

Perle offers a wide variety of Single Fiber (“Up/Down”) [Ethernet Switches](#) and [Media Converters](#) for use with single strand of fiber.

Select a Model to obtain a Part Number – IDS-105GPP

Operating Temperature (Std) = 0° C to 60° C (32° F to 140° F).  
All Models have 5 x 10/100/1000Base-T ( RJ45 ) Connectors

Choose your Fiber Connection from the table below

## 1000Base-X Duplex Fiber

Model	Fiber Connector	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm)	Fiber Type	Optical Distance (km)
		Min	Max	Min	Max				
<u>IDS-105GPP</u>	No Fiber connection								
<u>IDS-105GPP-SFP</u>	1 x SFP slot (empty)	Fiber specifications are dependent upon the choice of SFP used							
<u>IDS-105GPP-DSFP</u>	2 x SFP slot (empty)	Fiber specifications are dependent upon the choice of SFP used							
<u>IDS-105GPP-M2SC05</u>	1 x Duplex SC	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	55 (1.0)
<u>IDS-105GPP-M2ST05</u>	1 x Duplex ST	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	55 (1.0)
<u>IDS-105GPP-M2SC2</u>	1 x Duplex SC	-6.0	0.0	-17.0	0.0	11.0	1310	MMF	21 (1.0)
<u>IDS-105GPP-M2ST2</u>	1 x Duplex ST	-6.0	0.0	-17.0	0.0	11.0	1310	MMF	21 (1.0)
<u>IDS-105GPP-S2SC10</u>	1 x Duplex SC	-9.5	-3.0	-20.0	-3.0	10.5	1310	SMF	10 (6.0)
<u>IDS-105GPP-S2ST10</u>	1 x Duplex ST	-9.5	-3.0	-20.0	-3.0	10.5	1310	SMF	10 (6.0)
<u>IDS-105GPP-S2SC40</u>	1 x Duplex SC	-2.0	2.0	-23.0	-3.0	21.0	1310	SMF	40 (2.0)
<u>IDS-105GPP-S2ST40</u>	1 x Duplex ST	-2.0	2.0	-23.0	-3.0	21.0	1310	SMF	40 (2.0)
<u>IDS-105GPP-S2SC70</u>	1 x Duplex SC	-2.0	5.0	-23.0	-3.0	21.0	1550	SMF	70 (4.0)

<u>IDS-105GPP-S2ST70</u>	1 x Duplex ST	-2.0	5.0	-23.0	-3.0	21.0	1550	SMF	70 (4)
<u>IDS-105GPP-S2SC120</u>	1 x Duplex SC	0.0	5.0	-32.0	-9.0	32.0	1550	SMF	12 (7)
<u>IDS-105GPP-S2ST120</u>	1 x Duplex ST	0.0	5.0	-32.0	-9.0	32.0	1550	SMF	12 (7)
<u>IDS-105GPP-S2SC160</u>	1 x Duplex SC	2.0	5.0	-34.0	-9.0	36.0	1550	SMF	16 (1)
<u>IDS-105GPP-S2ST160</u>	1 x Duplex ST	2.0	5.0	-34.0	-9.0	36.0	1550	SMF	16 (1)

**Operating Temperature (Ind) = -40° C to 75° C ( -40 F to 167° F )  
All Models have 5 x 10/100/1000Base-T ( RJ45 ) Connectors**

**Choose your Fiber Connection from the table below  
1000Base-X Duplex Fiber**

Model	Fiber Connector	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm)	Fiber Type	Opt D	
		Min	Max	Min	Max					
<u>IDS-105GPP-XT</u>	No Fiber connection									
<u>IDS-105GPP-SFP-XT</u>	1 x SFP slot (empty)	Fiber specifications are dependent upon the choice of SFP used								
<u>IDS-105GPP-DSFP-XT</u>	2 x SFP slot (empty)	Fiber specifications are dependent upon the choice of SFP used								
<u>IDS-105GPP-M2SC05-XT</u>	1 x Duplex SC	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	55 (1)	

<u>IDS-105GPP-M2ST05-XT</u>	1 x Duplex ST	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	55 (1.
<u>IDS-105GPP-S2SC10-XT</u>	1 x Duplex SC	-9.5	-3.0	-20.0	-3.0	10.5	1310	SMF	10 (6.
<u>IDS-105GPP-S2ST10-XT</u>	1 x Duplex ST	-9.5	-3.0	-20.0	-3.0	10.5	1310	SMF	10 (6.

\* 1db/km multimode 50/125 micron fiber cable

### Single Fiber ( Simplex / BiDi ) Models Recommended use in pairs

**Operating Temperature (Std) = 0° C to 60° C (32° F to 140° F).  
All Models have 5 x 10/100/1000Base-T ( RJ45 ) Connectors**

**Choose your Fiber Connection from the table below  
1000Base-X Simplex ( BiDi ) Fiber**

Model	Fiber Connector	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm) TX / RX	Fiber Type	Length (m)
		Min	Max	Min	Max				
<u>IDS-105GPP-S1SC10U</u>	1 x Simplex SC	-9.0	-3.0	-20.0	-3.0	11.0	1310 / 1490	SMF	10 (6.
<u>IDS-105GPP-S1SC10D</u>	1 x Simplex SC	-9.0	-3.0	-20.0	-3.0	11.0	1490 / 1310	SMF	10 (6.
<u>IDS-105GPP-S1SC20U</u>	1 x Simplex SC	-8.0	-3.0	-22.0	-3.0	14.0	1310 / 1490	SMF	20 (12.
<u>IDS-105GPP-S1SC20D</u>	1 x Simplex SC	-8.0	-3.0	-22.0	-3.0	14.0	1490 / 1310	SMF	20 (12.
<u>IDS-105GPP-S1SC40U</u>	1 x Simplex SC	-3.0	2.0	-23.0	-3.0	20.0	1310 / 1490	SMF	40 (24.

<u>IDS-105GPP-S1SC40D</u>	1 x Simplex SC	-3.0	2.0	-	-3.0	20.0	1490 / 1310	SMF	4
<u>IDS-105GPP-S1SC80U</u>	1 x Simplex SC	-2.0	3.0	-	-3.0	24.0	1510 / 1590	SMF	8
<u>IDS-105GPP-S1SC80D</u>	1 x Simplex SC	-2.0	3.0	-	-3.0	24.0	1590 / 1510	SMF	8
<u>IDS-105GPP-S1SC120U</u>	1 x Simplex SC	-3.0	2.0	-	-9.0	31.0	1510 / 1590	SMF	1
<u>IDS-105GPP-S1SC120D</u>	1 x Simplex SC	-3.0	2.0	-	-9.0	31.0	1590 / 1510	SMF	1

**Operating Temperature (Ind) = -40° C to 75° C ( -40 F to 167° F )  
All Models have 5 x 10/100/1000Base-T ( RJ45 ) Connectors**

**Choose your Fiber Connection from the table below  
1000Base-X Simplex ( BiDi ) Fiber**

Model	Fiber Connector	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm) TX / RX	Fiber Type	C I
		Min	Max	Min	Max				
<u>IDS-105GPP-S1SC10U-XT</u>	1 x Simplex SC	-9.0	-3.0	-	-3.0	11.0	1310 / 1490	SMF	1
<u>IDS-105GPP-S1SC10D-XT</u>	1 x Simplex SC	-9.0	-3.0	-	-3.0	11.0	1490 / 1310	SMF	1

### Industrial Ethernet Switch Accessories

Panel Mount kit PM3      Brackets for attaching 30 to 40mm wide Perle IDS industrial switches inside a control panel or to a wall.

Back Mount Kit              Bracket for mounting one or more Perle DIN Rail switches in a

rack-mount rail  
RM4U

Bracket for mounting one or more Penta DIN Rail switches in a standard 19" rack. Occupies "4U" of vertical rack space. 275 mm ( 10 inches ) deep

---

TRIO-  
PS/1AC/48DC/10  
Power Supply

TRIO-PS/1AC/48DC/10 Power Supply - DIN-Rail 48 VDC , 480 Watt power supply with universal 85 to 264 VAC, 30 to 56V DC output range adjustable, -25 to 70°C extended operating temperature. [Power Supply Specifications.](#)

---

UNO-  
PS/1AC/24DC/150W  
Power Supply

UNO-PS/1AC/24DC/150W Power Supply - DIN-Rail 24 VDC , 150 Watt power supply with universal 85 to 264 VAC, -25 to 70°C extended operating temperature. [Power Supply Specifications.](#)

