

# USER MANUAL

DIN Rail Industrial Ethernet Switches

WIWAV INC., A Corporation of California.



# Multilingual Instruction Manuals



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# Contents

## Introduction

About this Manual	1
General Safety Instruction	2
Packing List	3
Quick Installation	4
Applications	5

## Product description

<b>W1003-2FE1FX-I</b>	6
Overview of the device elements	6
Hardware Specifications	7
<b>W1005-5FE-I / W1105-5GE-I</b>	8
Overview of the device elements	8
Hardware Specifications	9
<b>WP1005-5FE-I / WP1105-5GE-I</b>	10
Overview of the device elements	10
Hardware Specifications	11
<b>W1005-4FE1FX-I / W1105-4GE1GX-I</b>	12
Overview of the device elements	12
Hardware Specifications	13
<b>WP1005-4FE1FX-I / WP1105-4GE1GX-I</b>	14
Overview of the device elements	14
Hardware Specifications	15
<b>W1008-8FE-I / W1108-8GE-I</b>	16
Overview of the device elements	16
Hardware Specifications	17
<b>WP1010-8FE1GE1GF-I / WP1110-9GE1GF-I</b>	18
Overview of the device elements	18
Hardware Specifications	19
<b>W1016-16FE-I / W1116-16GE-I</b>	20
Overview of the device elements	20
Hardware Specifications	21
<b>W1018-16FE2GF-I / W1118-16GE2GF-I</b>	22
Overview of the device elements	22
Hardware Specifications	23

## Installation

Mounting the device	24
SFP Transceiver Module Installation	25
Wiring the terminal block and operating the device	25
Further Support	26

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## **About This Manual**

The "Installation User Manual" document contains a device description, safety instructions, a display description and further information that you require to install the device.

## **Description**

The WIWAV's Industrial Ethernet Switches are designed for the special requirements of industrial automation. They meet the relevant Environmental Regulations, provide very high operational reliability, even under extreme conditions, and also long-term reliability and flexibility.

You have the ability to connect devices or other segments to the ports of the switch via twisted-pair cables. All Models work without a fan and mounted by latching in place on a DIN rail.

## General Safety Instruction

You operate this device with electricity. Improper usage of the device entails the risk of physical injury or significant property damage. The proper and safe operation of this device depends on proper handling during transportation, proper storage and installation, and careful operation and maintenance procedures.

- Before connecting any cable, read this document, and the safety instructions and warnings.
- Operate the device with undamaged components exclusively.
- The device is free of any service components. In case of a damaged or malfunctioning the device, turn off the supply voltage and return the device to WIWAV for inspection.
- The assembly guidelines provided in these instructions must be strictly adhered to in order to observe the EMC threshold values.



### WARNING

#### UNCONTROLLED MACHINE ACTIONS

To avoid uncontrolled machine actions caused by data loss, configure all the data transmission devices individually.

Before you start any machine which is controlled via data transmission, be sure to complete the configuration of all data transmission devices.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**



### Warning!

#### ELECTRIC SHOCK

Connect only a supply voltage that corresponds to the type plate of your device.

Never insert sharp objects (small screwdrivers, wires, etc.) into the connection terminals for the supply voltage, and do not touch the terminals.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

#### Note:

The information provided in this catalog contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. Availability and technical specifications are subject to change without notice.

All product designations may be trademarks or product names of WIWAV or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.

## Packing List

Item No.	Description	Quantity
1	Industrial Ethernet Switches	1 or 2
2	User Manual	1
3	DC Power Pigtail Cable	1
4	Grounding Pigtail	1

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Item	Model	Description
1	W1003-2FE1FX-I	3-Port 10/100Mbps Industrial Ethernet Media Converter
2	W1005-5FE-I W1105-5GE-I	5-Port 10/100Mbps & 10/100/1000Mbps Industrial Ethernet Switches
3	WP1005-5FE-I WP1105-5GE-I	5-Port 10/100Mbps & 10/100/1000Mbps PoE Industrial Ethernet Switches
4	W1005-4FE1FX-I W1105-4GE1GX-I	5-Port 10/100Mbps & 10/100/1000Mbps Industrial Ethernet Switches
5	WP1005-4FE1FX-I WP1105-4GE1GX-I	5-Port 10/100Mbps & 10/100/1000Mbps PoE Industrial Ethernet Switches
6	W1008-8FE-I W1108-8GE-I	8-Port 10/100Mbps & 10/100/1000Mbps Industrial Ethernet Switches
7	WP1010-8FE1GE1GF-I WP1110-9GE1GF-I	10-Port 10/100Mbps & 10/100/1000Mbps PoE Industrial Ethernet Switches
8	W1016-16FE-I W1116-16GE-I	16-Port 10/100Mbps & 10/100/1000Mbps Industrial Ethernet Switches
9	W1018-16FE2GF-I W1118-16GE2GF-I	18-Port 10/100Mbps & 10/100/1000Mbps Industrial Ethernet Switches

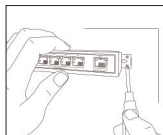
## Quick Installation

This product is intended to be supplied by a LPS Listed Power Unit(Ext.), Output rated 12V~48VDC, 1A~2.5A, or 12V~48VDC, 1.5A~3A, or 48V~57VDC, 3A~6A, Tma= 75°C or 85°C, Altitude of operation 5000m, non-energy hazards.

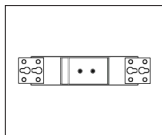
The devices have been developed for practical application in a harsh industrial environment.

On delivery, the device is ready for operation. to configure and operating, follow these steps:

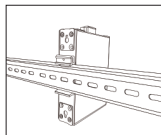
- Checking the package contents;
- Mounting the device (Wall Mount / Hang / DIN-Rail Mount);
- Wiring the terminal block (P1 or P2) for the supply voltage, general model for DC 12/24/36/48V (1~3A) or PoE model for 48/52/57V (3~6A) and the grounding;
- Operating the device, connecting data cables.



**Wall Mount**



**Hang**



**Din Rail Mount**



## Applications

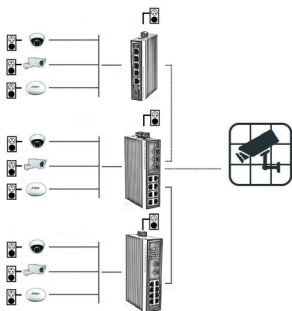
### 1.1 Plug and play simplicity with industrial-grade reliability

The WIWAV range of unmanaged industrial Ethernet switches are designed for use in such demanding applications as railways, water treatment, substation automation, roads and tunnels, as well as factory automation, IP surveillance and building automation systems (BMS). With multiple options for fibre optic and copper connectivity, PoE (Power over Ethernet) support, and little to no configuration required, our unmanaged industrial Ethernet switches ensure maintaining your network is made easy.

#### The benefits at a glance – Highlights

- Cost-effective construction of networks
- Comprehensive product portfolio
- Simple operation. Space-saving design
- Data transfer rates from 10/100Mbit/s or 1Gbit/s
- Auto-crossover/auto-negotiation. -40°C~+85°C

The robust WIWAV unmanaged Industrial Ethernet switches with electrical and/or optical port variants enable a cost-optimized machine level networking - even when subjected to extreme temperature fluctuations.



Conquer the tough demands of industrial environments Designed with a rugged IP40-rated housing, the network switch delivers maximum performance even in harsh industrial conditions. Its wide-range terminal block input gives you the flexibility to power the switch as required, based on your own power input source, while its wide operating temperature range keeps your network running smoothly. Get up and running in no time - This industrial Ethernet switch is easy to install, with an attached metal bracket for DIN rail mounting on equipment racks and cabinets.

Besides the compact and small form factor, a robust network for extreme ambient conditions also is an important factor. For instance, switches are used in the food production in refrigerated warehouses and freezers. For that, Ethernet components must be able to withstand temperatures below freezing. The switches must function not only in true critical temperature environments but also in potentially explosive atmospheres, e.g., caused by gases, vapors or mists.

## 2.1 W1003-2FE1FX-I

### 2.1.1 Overview of the device elements

Figure 2-1 shows the mechanical dimension details of the 3 Port Industrial Ethernet Media Converter series model.

- 2 x 10/100Mbit/s RJ45 + 1 x 100Mbit/s Built-in BIDI Single-mode SC Fiber, Up to 20km
- The compact MINI design lets you work in practically any size space, including close to electrical cabinet and walls, without compromising performance.
- Overload, Reverse connect protection

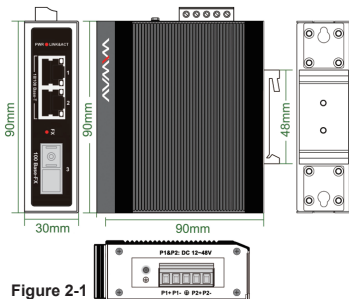


Figure 2-1

The W1003-2FE1FX-I is designed for setting up electrical or optical networks with direct current (12~48 VDC) for the easy connection of Ethernet nodes in buildings and for industrial purposes. The 3 Port unmanaged Industrial Ethernet Media Converters of the I product line facilitate flexible and straight forward media conversion from copper to fiber-optic cables.

FEATURES & BENEFITS	COMPACT MINI SIZE	Compact 3-port Ethernet Switch with 10/100Mbps automatic MDI/MDI-X crossover for plug-and-play
	LOW POWER CONSUMPTION	Energy-Efficient Ethernet (Power Consumption <2 watts) , Wide range 12/24/36/48V DC terminal block input
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.1.2 Datasheet 2-1 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	Instruction
PWR	Power Status	Green	Lights up	The device has been activated
			Turn off	Device is not ready for operation
LINK&ACT	Ports Status	Yellow & Green	Flashing	Device is transmitting and/or receiving data
			Turn off	No connection or link lost during data transfer

### 2.1.3 Datasheet 2-2 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.1.4 Datasheet 2-3 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.1.5 Datasheet 2-4 Product Specifications

Interfaces			
W1003-2FE1FX-I	2 x 10M/100M RJ45 + 1 x 100M Built-in BIDI SC Optical Transceiver Module, Up to 20km		
Specifications			
Communication Protocol	IEEE 802.3/u 10/100Base-TX + 802.3u 100Base-TX/FX		
MAC Table	1K	Packet Forwarding Rate	0.4464Mpps
Packet Buffer	448K	Switching Capacities	600Mbps
Power Consumption			
Max. Power Consumption	<2W	No-load power Consumption	<1W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	1 x Built-in BIDI SC / 20km
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.35kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 30mm x H: 90mm x D: 90mm (Not including DIN rail and accessories)		

## 2.2 W1005-5FE-I / W1105-5GE-I

### 2.2.1 Overview of the device elements

Figure 2-2 shows the mechanical dimension details of the various 5 Port I series models.

- 5 x RJ45 socket for 10/100/1000Mbit/s or 10/100Mbit/s Twisted Pair connections
- 5-Pin pluggable terminal block
- LED display element for device status
- Low Power Consumption
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

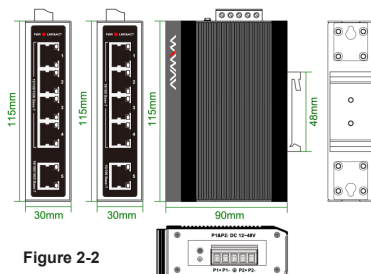


Figure 2-2

WIWAV 5 Port industrial ethernet switch provides top performance in a wider range of operating temperatures than conventional network switches, making it ideal for factories and warehouses. The 5 Port I series give you full/half-duplex auto-negotiation and auto MDI/MDIX operation, enabling you to connect your network devices quickly and easily with little to no configuration required.

FEATURES & BENEFITS	COMPACT SIZE	Compact 5-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	LOW POWER CONSUMPTION	Energy-Efficient Ethernet (Power Consumption <1 watts or 4 watts) , Wide range 12/24/36/48V DC terminal block input
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.2.2 Datasheet 2-5 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	W1005-5FE-I	W1105-5GE-I
PWR	Power Status	Green	Lights up / Turn off	The device has been activated / Device is not activated	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green flashing / lights up	Device is transmitting and/or receiving data	1000M connected and working
			Green turn off	No connection or link lost	100M connected and working

### 2.2.3 Datasheet 2-6 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.2.4 Datasheet 2-7 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.2.5 Datasheet 2-8 Product Specifications

Interfaces	W1005-5FE-I	W1105-5GE-I	
Port Description	5 x 10M/100M RJ45	5 x 10M/100M/1000M RJ45	
Communication Protocol	IEEE 802.3/u 10/100Base-TX	IEEE 802.3/u/ab 10/100/1000Base-T	
Specifications			
MAC Table	2K	Packet Forwarding Rate	0.74Mpps / 7.44Mpps
Packet Buffer	2M	Switching Capacities	1Gbps / 10Gbps
Power Consumption			
Max. Power Consumption	<1W / <4W	No-load power Consumption	<0.5W / <1W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	None
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~-185°F (-40°C~85°C)	Storage Temperature	-49°F~-185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.4kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 30mm x H: 115mm x D: 90mm (Not including DIN rail and accessories)		

## 2.3 WP1005-5FE-I / WP1105-5GE-I

### 2.3.1 Overview of the device elements

Figure 2-3 shows the mechanical dimension details of the various 5 Port PoE I series models.

- 5 x RJ45 socket for 10/100/1000Mbit/s or 10/100Mbit/s Twisted Pair connections
- Power Over Ethernet PoE Models
- LED display element for device status
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

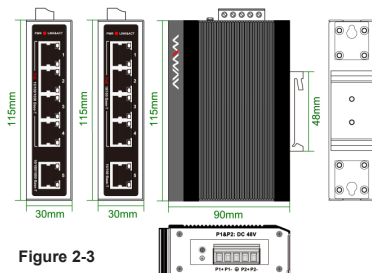


Figure 2-3

The 5 Port PoE series feature different port characteristics which enables small networks to be constructed with the right switch for the respective application, e.g. for hazardous areas. The available port density helps to save costs. And with WP1005-5FE-I and WP1105-5GE-I, These are possible to supply up to 4 terminal devices via Power-over-Ethernet (PoE) with data and power simultaneously.

FEATURES & BENEFITS	COMPACT SIZE	Compact 5-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	PoE SUPPORT	Power-Over-Ethernet PoE function supports
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.3.2 Datasheet 2-9 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	WP1005-5FE-I	WP1105-5GE-I
PWR	Power Status	Green	Lights up / Turn off	The device has been activated / Device is not activated	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green flashing / lights up	Device is transmitting and/or receiving data	1000M connected and working
			Green turn off	No connection or link lost	100M connected and working

### 2.3.3 Datasheet 2-10 Slide Panel

Figure	Description
P1 / P2	PoE 48~57V ( 4 Ports PoE support ) pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.3.4 Datasheet 2-11 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.3.5 Datasheet 2-12 Product Specifications

Interfaces	WP1005-5FE-I		WP1105-5GE-I
Port Description	5 x 10M/100M RJ45		5 x 10M/100M/1000M RJ45
Communication Protocol	IEEE 802.3/u/af/at 10/100Base-TX		IEEE 802.3/u/ab/af/at 10/100/1000Base-T
Specifications			
MAC Table	2K	Packet Forwarding Rate	0.74Mpps / 7.44Mpps
Packet Buffer	2M	Switching Capacities	1Gbps / 10Gbps
Max. Power Consumption			
PoE Power Consumption	<63W / <64W	Non-PoE Power Consumption	<1W / <4W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	None
Power Terminal	5 x 5.08mm terminal block	PoE Function	Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.4kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 30mm x H: 115mm x D: 90mm (Not including DIN rail and accessories)		

## 2.4 W1005-4FE1FX-I / W1105-4GE1GX-I

### 2.4.1 Overview of the device elements

Figure 2-4 shows the mechanical dimension details of the various 5 Port Industrial Ethernet Media Converter series models.

- 4 x 10/100Mbit/s or 1000Mbit/s RJ45 and 1 x 100Mbit/s or 1000Mbit/s Built-in BIDI Single-mode SC Fiber, Up to 20km
- LED display element for device status
- Low Power Consumption
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

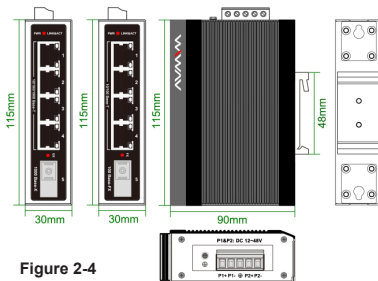


Figure 2-4

The W1005-4FE1FX-I and W1105-4GE1GX-I are designed for setting up electrical or optical networks with direct current (12~48 VDC) for the easy connection of Ethernet nodes in buildings and for industrial purposes. The 5 Port unmanaged Industrial Ethernet Media Converters of the I product line facilitate flexible and straight forward media conversion from copper to fiber-optic cables.

FEATURES & BENEFITS	COMPACT SIZE	Compact 5-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	LOW POWER CONSUMPTION	Energy-Efficient Ethernet (Power Consumption <2 watts or 4 watts) , Wide range 12/24/36/48V DC terminal block input
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing

### 2.4.2 Datasheet 2-13 Front Panel


After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	W1005-4FE1FX-I	W1105-4GE1GX-I
PWR	Power Status	Green	Lights up / Turn off	The device has been activated / Device is not activated	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green flashing / lights up	Device is transmitting and/or receiving data	1000M connected and working
			Green turn off	No connection or link lost	100M connected and working



### 2.4.3 Datasheet 2-14 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.4.4 Datasheet 2-15 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.4.5 Datasheet 2-16 Product Specifications

Interfaces	W1005-4FE1FX-I		W1105-4GE1GX-I
Port Description	4 x 10M/100M RJ45 + 1 x Built-in 100M BIDI SC, Up to 20km		4 x 10/100/1000M RJ45 + 1 x Built-in 1000M BIDI SC, Up to 20km
Communication Protocol	IEEE 802.3/u 10/100Base-TX + 802.3u 100Base-TX/FX		IEEE 802.3/u/ab 10/100/1000Base-T + IEEE 802.3z 1000Base-LX
Specifications			
MAC Table	2K	Packet Forwarding Rate	0.74Mpps / 7.44Mpps
Packet Buffer	2M	Switching Capacities	1Gbps / 10Gbps
Power Consumption			
Max. Power Consumption	<2W / <4W	No-load power Consumption	<1W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	1 x Built-in BIDI SC / 20km
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.4kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 30mm x H: 115mm x D: 90mm (Not including DIN rail and accessories)		

## 2.5 WP1005-4FE1FX-I / WP1105-4GE1GX-I

### 2.5.1 Overview of the device elements

Figure 2-5 shows the mechanical dimension details of the various 5 Port PoE Industrial Ethernet Media Converter models.

- 4 x 10/100Mbit/s or 1000Mbit/s RJ45 and 1 x 100Mbit/s or 1000Mbit/s Built-in BIDI Single-mode SC Fiber, Up to 20km
- Power Over Ethernet PoE Models
- LED display element for device status
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

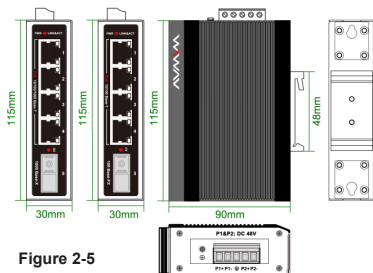


Figure 2-5

The 5 Port Industrial Ethernet Media Converter PoE series feature different port characteristics which enables small networks to be constructed with the right switch for the respective application, e.g. for hazardous areas. The available port density helps to save costs. And with WP1005-4FE1FX-I and WP1105-4GE1GX-I, These are possible to supply up to 4 terminal devices via Power-over-Ethernet (PoE) with data and power simultaneously.

FEATURES & BENEFITS	COMPACT SIZE	Compact 5-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	PoE SUPPORT	Power-Over-Ethernet PoE function supports
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.5.2 Datasheet 2-17 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	WP1005-4FE1FX-I	WP1105-4GE1GX-I
PWR	Power Status	Green	Lights up / Turn off	The device has been activated / Device is not activated	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green flashing / lights up	Device is transmitting and/or receiving data	1000M connected and working
			Green turn off	No connection or link lost	100M connected and working

### 2.5.3 Datasheet 2-18 Slide Panel

Figure	Description
P1 / P2	PoE 48~57V ( 4 Ports PoE support ) pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.5.4 Datasheet 2-19 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.5.5 Datasheet 2-20 Product Specifications

Interfaces	WP1005-4FE1FX-I		WP1105-4GE1GX-I
Port Description	4 x 10M/100M RJ45 + 1 x Built-in 100M BIDI SC, Up to 20km		4 x 10/100/1000M RJ45 + 1 x Built-in 1000M BIDI SC, Up to 20km
Communication Protocol	IEEE 802.3/u/af/at 10/100Base-TX + 802.3u 100Base-TX/FX		IEEE 802.3/u/ab/af/at 10/100/1000Base-T + IEEE 802.3z 1000Base-LX
Specifications			
MAC Table	2K	Packet Forwarding Rate	0.74Mpps / 7.44Mpps
Packet Buffer	2M	Switching Capacities	1Gbps / 10Gbps
Max. Power Consumption			
PoE Power Consumption	<63W / <64W	Non-PoE Power Consumption	<2W / <4W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	1 x Built-in BIDI SC / 20km
Power Terminal	5 x 5.08mm terminal block	PoE Function	Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.4kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 30mm x H: 115mm x D: 90mm (Not including DIN rail and accessories)		

## 2.6 W1008-8FE-I / W1108-8GE-I

### 2.6.1 Overview of the device elements

Figure 2-6 shows the mechanical dimension details of the various 8 Port I series models.

- 8 x RJ45 socket for 10/100/1000Mbit/s or 10/100Mbit/s Twisted Pair connections
- LED display element for device status
- Low Power Consumption
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

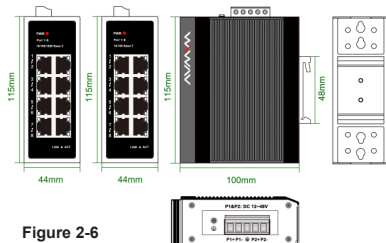


Figure 2-6

WIWAV 8 Port industrial ethernet switch provides top performance in a wider range of operating temperatures than conventional network switches, making it ideal for factories and warehouses. The 8 port I series give you full/half-duplex auto-negotiation and auto MDI/MDIX operation, enabling you to connect your network devices quickly and easily with little to no configuration required.

FEATURES & BENEFITS	COMPACT SIZE	Compact 8-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	LOW POWER CONSUMPTION	Energy-Efficient Ethernet (Power Consumption <2 watts or 4 watts) , Wide range 12/24/36/48V DC terminal block input
	FAST DATA TRANSMISSION	Each port supports both 10/100/1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.6.2 Datasheet 2-21 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	W1008-8FE-I	W1108-8GE-I
PWR	Power Status	Green	Lights up / Turn off	The device has been activated / Device is not activated	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green flashing / lights up	Device is transmitting and/or receiving data	1000M connected and working
			Green turn off	No connection or link lost	100M connected and working

### 2.6.3 Datasheet 2-22 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.6.4 Datasheet 2-23 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.6.5 Datasheet 2-24 Product Specifications

Interfaces	W1008-8FE-I	W1108-8GE-I	
Port Description	8 x 10M/100M RJ45	8 x 10M/100M/1000M RJ45	
Communication Protocol	IEEE 802.3/u 10/100Base-TX	IEEE 802.3/u/ab 10/100/1000Base-T	
Specifications			
MAC Table	2K / 16K	Packet Forwarding Rate	1.1904Mpps / 11.904Mpps
Packet Buffer	2M	Switching Capacities	1.6Gbps / 16Gbps
Power Consumption			
Max. Power Consumption	<2W / <4W	No-load power Consumption	<1W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	None
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge). EN 61000-4-3 RS Level 4 (30V/m 1kHz). EN 61000-4-4 EFT Level 4 (4kV 2kV). EN 61000-4-5 Surge Level 4 (4kV Line to Ground). EN 61000-4-6 CS Level 3 (10Vrms 1kHz). EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~-185°F (-40°C~85°C)	Storage Temperature	-49°F~-185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.5kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 44mm x H: 115mm x D: 100mm (Not including DIN rail and accessories)		

## 2.7 WP1010-8FE1GE1GF-I / WP1110-9GE1GF-I

### 2.7.1 Overview of the device elements

Figure 2-7 shows the mechanical dimension details of the various 10 Port PoE I series models.

- 8 x RJ45 Socket for 10/100Mbit/s or 10/100/1000Mbit/s + 1 x RJ45 Socket for 1000 Mbit/s + 1 x 1.25G SFP
- Power Over Ethernet PoE Models
- LED display element for device status
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

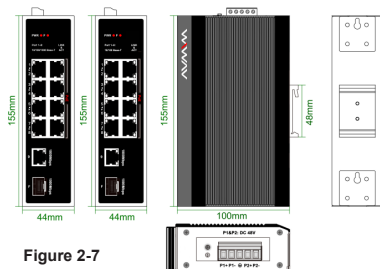


Figure 2-7

The 10 Port PoE series feature different port characteristics which enables small networks to be constructed with the right switch for the respective application, e.g. for hazardous areas. The available port density helps to save costs. And with WP1010-8FE1GE1GF-I and WP1110-9GE1GF-I, These are possible to supply up to 8 terminal devices via Power-over-Ethernet (PoE) with data and power simultaneously.

FEATURES & BENEFITS	COMPACT SIZE	Compact 10-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	PoE SUPPORT	Power-Over-Ethernet PoE function supports
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.7.2 Datasheet 2-25 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	WP1010-8FE1GE1GF-I	WP1110-9GE1GF-I
PWR	Power Status	Green	Lights up	The device has been activated	
			Turn off	Device is not ready for operation	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green lights up	100M connected and working	1000M connected and working
			Green turn off	10M connected or unlinked	10/100M connected or unlinked

### 2.7.3 Datasheet 2-26 Slide Panel

Figure	Description
P1 / P2	PoE 48~57V ( 8 Ports PoE support ) pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.7.4 Datasheet 2-27 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.7.5 Datasheet 2-28 Product Specifications

Interfaces	WP1010-8FE1GE1GF-I		WP1110-9GE1GF-I
Port Description	8 x 10M/100M RJ45 + 1 x 1000M RJ45 + 1 x 1.25G SFP		8 x 10M/100M/1000M RJ45 + 1 x 1000M RJ45 + 1 x 1.25G SFP
Communication Protocol	IEEE 802.3/u/af/at 10/100Base-TX + IEEE 802.3/u/ab 1000Base-T + IEEE 802.3z 1000Base-LX		IEEE 802.3/u/ab/af/at 10/100/1000Base-T + IEEE 802.3z 1000Base-LX
Specifications			
MAC Table	4K	Packet Forwarding Rate	4.166Mpps / 14.88Mpps
Packet Buffer	4M	Switching Capacities	5.6Gbps / 20Gbps
Max. Power Consumption			
PoE Power Consumption	<125W / <128W	Non-PoE Power Consumption	<4W / <6W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	1 x SFP / 1.25Gbps
Power Terminal	5 x 5.08mm terminal block	PoE Function	Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.65kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 44mm x H: 155mm x D: 100mm (Not including DIN rail and accessories)		

## 2.8 W1016-16FE-I / W1116-16GE-I

### 2.8.1 Overview of the device elements

Figure 2-8 shows the mechanical dimension details of the various 16 Port I series models.

- 16 x RJ45 socket for 10/100/1000Mbit/s or 10/100Mbit/s Twisted Pair connections
- 5-Pin pluggable terminal block
- LED display element for device status
- Fast Data Transmission
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

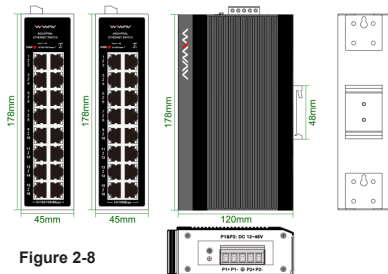


Figure 2-8

WIWAV 16 Port industrial ethernet switch provides top performance in a wider range of operating temperatures than conventional network switches, making it ideal for factories and warehouses. The 16 Port series give you full/half-duplex auto-negotiation and auto MDI/MDIX operation, enabling you to connect your network devices quickly and easily with little to no configuration required.

FEATURES & BENEFITS	COMPACT SIZE	Compact 16-port Ethernet Switch with 10/100 or 1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	REDUNDANT POWER	The 16-port network switch has dual redundant power inputs with overload and reverse current protection
	FAST DATA TRANSMISSION	Each port supports both 10/100 or 1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing

### 2.8.2 Datasheet 2-29 Front Panel


After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	W1016-16FE-I	W1116-16GE-I
PWR	Power Status	Green	Lights up	The device has been activated	
			Turn off	Device is not ready for operation	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green lights up	100M connected and working	1000M connected and working
			Green turn off	10M connected or unlinked	10/100M connected or unlinked



### 2.8.3 Datasheet 2-30 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.8.4 Datasheet 2-31 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

### 2.8.5 Datasheet 2-32 Product Specifications

Interfaces	W1016-16FE-I	W1016-16GE-I	
Port Description	16 x 10M/100M RJ45	16 x 10M/100M/1000M RJ45	
Communication Protocol	IEEE 802.3/u 10/100Base-TX	IEEE 802.3/u/ab 10/100/1000Base-T	
Specifications			
MAC Table	8K / 16K	Packet Forwarding Rate	2.38Mpps / 23.8Mpps
Packet Buffer	4M / 4.1M	Switching Capacities	3.2Gbps / 32Gbps
Power Consumption			
Max. Power Consumption	<3W / <10W	No-load power Consumption	<2W / <3W
Connectors and Cabling			
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	None
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support
Safety Certifications & Compliance Specifications			
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)		
EMI and EMC Compliance Reliability Testing	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU		
	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008		
Environmental Specifications			
Operating Temperature	-40°F~185°F (-40°C~85°C)	Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)	MTBF	357,000 hours
Mechanical			
Housing	Metal & Fanless	Degree of Protection	IP40
Weight	0.9kg	Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 45mm x H: 178mm x D: 120mm (Not including DIN rail and accessories)		

## 2.9 W1018-16FE2GF-I / W1118-16GE2GF-I

### 2.9.1 Overview of the device elements

Figure 2-9 shows the mechanical dimension details of the various 18 Port I series models.

- 16 x RJ45 Socket for 10/100/1000Mbit/s or 10/100Mbit/s + 2 x 1.25G SFP
- 5-Pin pluggable terminal block
- LED display element for device status
- Fast Data Transmission
- Overload, Reverse connect protection
- Metal Brackets for DIN and Multi-Mounting

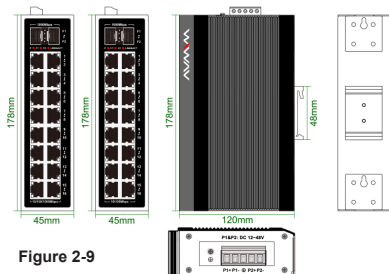


Figure 2-9

WIWAV 18 Port industrial ethernet switch provides top performance in a wider range of operating temperatures than conventional network switches, making it ideal for factories and warehouses. The 18 Port series give you full/half-duplex auto-negotiation and auto MDI/MDIX operation, enabling you to connect your network devices quickly and easily with little to no configuration required.

FEATURES & BENEFITS	COMPACT SIZE	Compact 18-port Ethernet Switch with 10/100/1000Mbps automatic MDI/MDI-X crossover for plug-and-play
	REDUNDANT POWER	The 18-port network switch has dual redundant power inputs with overload and reverse current protection
	FAST DATA TRANSMISSION	Each port supports both 10/100/1000Mbps speed auto negotiation, Supports IEEE 802.3, 802.3u, 802.3x standard
	ROBUST AND RELIABLE	Can be used in extreme industrial environments; Supports a wide range of operating temperatures -40°F~185°F (-40°C~+85°C)
	EASY TO USE	DIN rail mountable with built-in bracket, Robust IP40-rated housing


### 2.9.2 Datasheet 2-33 Front Panel

After the working voltage is set up, the software starts and initializes itself.

Afterwards, the device performs a self-test. During this process, various LEDs light up.

Display	Meaning	Color	LED Status	W1018-16FE2GF-I	W1018-16GE2GF-I
PWR	Power Status	Green	Lights up	The device has been activated	
			Turn off	Device is not ready for operation	
LINK& ACT	Ports Status	Yellow & Green	Yellow flashing	Device is transmitting and/or receiving data	
			Yellow turn off	No connection or link lost during data transfer	
			Green lights up	100M connected and working	1000M connected and working
			Green turn off	10M connected or unlinked	10/100M connected or unlinked

### 2.9.3 Datasheet 2-34 Slide Panel

Figure	Description
P1 / P2	Rated voltage range DC 12V~48V, pluggable terminal block for power supply and grounding.
	Functional ground connection.

### 2.9.4 Datasheet 2-35 Rear Panel

Accessories	Description
DIN Rail Clip	The sturdy DIN rail clip come in handy for standard 35mm DIN rail mounting devices.
Metal Brackets	With a pair of metal brackets, More easy to mounting on equipment racks and cabinets.

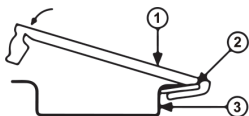
### 2.9.5 Datasheet 2-36 Product Specifications

Interfaces	W1018-16FE2GF-I		W1018-16GE2GF-I	
Port Description	16 x 10M/100M RJ45 + 2 x 1000M SFP		16 x 10M/100M/1000M RJ45 + 2 x SFP	
Communication Protocol	IEEE 802.3/u 10/100Base-TX + IEEE 802.3z 1000Base-LX		IEEE 802.3/u/ab 10/100/1000Base-T + IEEE 802.3z 1000Base-LX	
Specifications				
MAC Table	16K	Packet Forwarding Rate	5.36Mpps / 26.78Mpps	
Packet Buffer	4.1M	Switching Capacities	7.2Gbps / 36Gbps	
Power Consumption				
Max. Power Consumption	<5W / <11W		No-load power Consumption	<2W / <4W
Connectors and Cabling				
Ethernet Ports	100 Meter ( RJ45 )	Fiber Slot	2 x SFP / 1.25Gbps	
Power Terminal	5 x 5.08mm terminal block	PoE Function	Not Support	
Safety Certifications & Compliance Specifications				
Environmental Regulation	RoHS / REACH (SVHC)	QMS	ISO9001	
Compliance Marking	UL / cUL / IEC EN 62368-1 / FCC (North America) / CE (Europe) / PSE (Japan)			
EMI and EMC Compliance	FCC 47 CFR Part 15, Subpart B   EMC Directive 2014/30/EU			
Reliability Testing	EN 61000-4-2 ESD Level 4 (±8kV Contact Discharge ±15kV Air Discharge), EN 61000-4-3 RS Level 4 (30V/m 1kHz), EN 61000-4-4 EFT Level 4 (4kV 2kV), EN 61000-4-5 Surge Level 4 (4kV Line to Ground), EN 61000-4-6 CS Level 3 (10Vrms 1kHz), EN 61000-4-8 PFMF Level 4 (30A/m)   Mechanical Shock Test / IEC 60068-2-27:2008, Sinusoidal Vibration Test / IEC 60068-2-6:2007, Free Fall / IEC 60068-2-31:2008			
Environmental Specifications				
Operating Temperature	-40°F~185°F (-40°C~85°C)		Storage Temperature	-49°F~185°F (-45°C~85°C)
Humidity	5%-95% (Noncondensing)		MTBF	357,000 hours
Mechanical				
Housing	Metal & Fanless		Degree of Protection	IP40
Weight	0.9kg		Mounting	DIN-Rail / Wall Mount / Hang
Dimensions	W: 45mm x H: 178mm x D: 120mm (Not including DIN rail and accessories)			

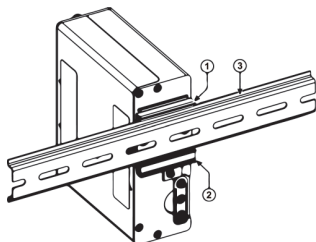
The devices have been developed for practical application in a harsh industrial environment.

On delivery, the device is ready for operation.

The device is for mounting on a 35 mm DIN rail in accordance with DIN EN 60715.



1.Din Rail Clip 2.Din Rail Spring 3.Din Rail



## Mounting the device

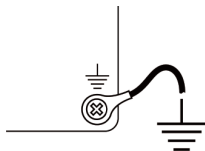
To mount the device onto a horizontally mounted 35 mm DIN rail according to the proceed as follows:

- Slide the upper snap-in guide of the device into the DIN rail.
- Press the media module downwards onto the clip-in bar.
- Snap in the device.

## Disassembly

Proceed as follows:

- Disconnect the data cables.
- Disable the supply voltage.
- Remove the power connector from the device.
- Use a screwdriver to pull the rail lock gate downwards.
- Pull the device downwards from the DIN rail module.



### 3.1.1 10/100/1000 Mbit/s twisted pair port

The 10/100/1000 Mbit/s twisted pair port offers you the ability to connect network components according to the IEEE 802.3 10BASE-T/100BASE-TX/1000BASE-T standard.

This port supports:

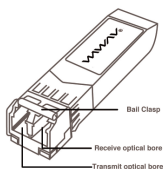
- Autonegotiation, Autopolarity, Autocrossing
- 1000 Mbit/s full duplex
- 100 Mbit/s half-duplex mode, and full duplex mode
- 10 Mbit/s half-duplex mode, 10 Mbit/s full duplex mode

### Pin assignments

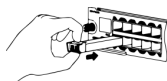


RJ45	Pin	10/100 Mbit/s	1000 Mbit/s
	1	TX+	BI_DA+
	2	TX-	BI_DA-
	3	RX+	BI_DB+
	4	—	BI_DC+
	5	—	BI_DC-
	6	RX-	BI_DB-
	7	—	BI_DD+
	8	—	BI_DD-

### 3.1.2 SFP Port



SFP Transceiver Module  
(Fiber-Optic LC Connector)



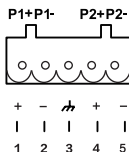
#### SFP Transceiver Module Installation

You can use any combination of SFP transceiver modules that your WIWAV device supports.

The only restrictions are that each port must match the wavelength specifications on the other end of the cable and that the cable must not exceed the stipulated cable length for reliable communications.

### 3.1.3 Wiring the terminal block for the supply voltage and the grounding

5-pin, pluggable terminal block for power supply and grounding

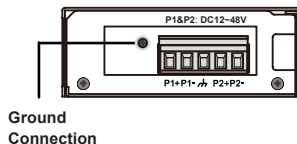


5-pin terminal block is used for the grounding and for connecting the supply voltage. The supply voltage is only connected with the ground connection via protective elements.

The shielding ground of the connectable twisted pair cables is connected to the ground connection as a conductor.

### 3.1.4 Operating the device

By connecting the supply voltage via the terminal block, you start the operation of the device.




Proceed as follows:

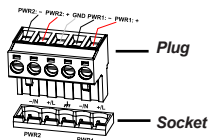
- Ensure the required conditions for connecting the supply voltage.
- Pull the terminal block off the device.
- Connect the ground connection.
- Connect the power supply cables.
- Plug the terminal block into the connection on the housing.

### 3.1.5 Power Terminal

Please refer to **Figure - Power Terminal** below for the definition of 5 pin 5.08mm separation distance plug-in connection terminal.

Terminal Number	Terminal Name	DC connection definition
1	P1+	Power1: +
2	P1-	Power1: -
3		GND: Protect Ground
4	P2+	Power2: +
5	P2-	Power2: -

**Figure - Power Terminal**



WIWAV industrial ethernet switches support dual redundant power supply. If one fails, the other power supply starts running to keep the switch powered up. Which greatly improves the reliability of network operation.

Note: The sectional area of power cable is more than 0.75mm<sup>2</sup> (max sectional area 2.5mm<sup>2</sup>) and the ground resistance is required to be less than 5 Ω.

### Security information

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept.

WIWAV' products and solutions only form one element of such a concept. For more information about industrial security, please visit <http://www.wiwav.com>



#### Further Support

##### Technical Questions

For technical questions, please contact any WIWAV dealer in your area or WIWAV directly. You will find the tech info at <http://www.wiwav.com> or E-mail us: [supports@wiwav.com](mailto:supports@wiwav.com).

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