![AVCOMM INDUSTRIAL IT logo]

Quick Installation Guide

Industrial Cellular PoE Routing Switch AP316

www.avcomm.us

· Overview

The LTE PoE router AP316 provides ultra-resilient network by latest G.8032 ERPS v2 ring technology with 6 Giga ports, 2-port 100/1000M fiber ports, and simultaneous supports high-speed LTE routing. The LTE can backup network in case of ring failure and works as a redundant gateway. Dual SIM standby enables auto switch to secondary cellular network if primary network disconnects. Moreover, the router offers 4 Gigabit PoE/PoE+ ports for feeding IP cam or wireless AP. Integrated firewall ensures safe data transmission. Compact size and ruggedized design bring reliable deployment under the harshest conditions.

Model Name	Description
AP316-WLAN-SFP	Industrial Wireless Ring Network IIoT Routing POE Gateway,802.11 b/g/n WLAN Cat. 4. 2x2 MIMO,4G/3G/2G, 4-Port Gigabit POE Plus 2-Port Gigabit SFP,ITU standard ring redundancy protocol, under 50ms protection and recovery switch, dual power 46 to 57VDC, -40°C to 75°C, IP30
AP316-LTE-SFP	Industrial Wireless Ring Network IIoT Routing POE Gateway, LTE CAT.4, 2x2 MIMO,4G/3G/2G, 4-Port Gigabit POE Plus 2-Port Gigabit SFP,ITU Standard Ring Redundancy Protocol, Protection and Recovery Switching below 50ms, Dual Power 46 to 57VDC, To 40 ° C to 75 ° C, IP30

· Package Checklist

- 1 x Product Unit (Without SFP transceiver)
- 1 x 6-pin Removable Terminal Connector
- 1 x Attached Din Clip
- 2 x LTE Antenna, Black
- 1 x Quick Installation Guide

Optional Accessory (for detailed information please refer to the Datasheet)
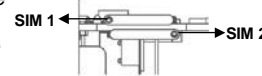
- Wall-mounting kit with 2 plates and 8 screws

· Installation

SIM Card Slot

The SIM Card Slot is used to insert the cellular card.

⚠️ **Warning**: Be careful when install the SIM Card, wrong installation procedure will cause damage. Make sure that pinhole of tray holder is facing up.

SIM 1 ← → SIM 2

DIN Rail mount

To mount the router on the DIN Rail track, insert the upper end of the DIN-Rail clip into the back of the DIN-Rail track from its upper side and lightly push the bottom of the DIN-Rail clip into the track. The DIN Rail should comply with DIN EN50022 standard. Using wrong DIN rail may cause unsafe installation.

← DIN Rail

Grounding Screw

The grounding screw is located on the bottom side of the router. For avoiding system damage by noise or electric shock, establish a direct connection between the ground screw and the grounding surface prior to connecting devices.

Grounding Screw

Wiring the Relay Output

The relay output of the 2-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form a close circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains opened.
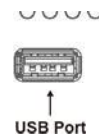
DO
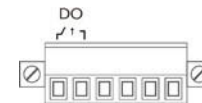
Wiring the Power Input

1) Insert the positive and negative wires into the V+ and V- contact on the terminal block connector.
2) Tighten screws when the wire is connected.
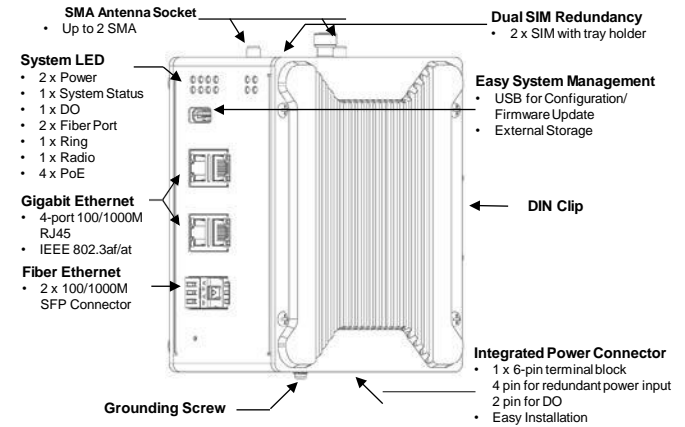3) Connect the power wires to suitable DC Switching type power supply.

P2   P1
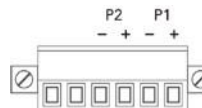
USB Port

Use the USB port in order to save or restore the configuration and upload the firmware upgrade file. For further configurations, please refer to User Manual.
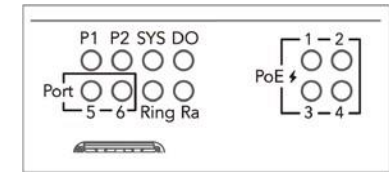
↑ USB Port

· Appearance

AP316

SMA Antenna Socket
- Up to 2 SMA

System LED
- 2 x Power
- 1 x System Status
- 1 x DO
- 2 x Fiber Port
- 1 x Ring
- 1 x Radio
- 4 x PoE

Gigabit Ethernet
- 4-port 100/1000M RJ45
- IEEE 802.3af/at

Fiber Ethernet
- 2 x 100/1000M SFP Connector

Dual SIM Redundancy
- 2 x SIM with tray holder

Easy System Management
- USB for Configuration/ Firmware Update
- External Storage

DIN Clip

Integrated Power Connector
- 1 x 6-pin terminal block 4 pin for redundant power input 2 pin for DO
- Easy Installation

Grounding Screw

· LED Indication

P1 P2 SYS DO   1—2
Port   5—6 Ring Ra   PoE ⚡ 3—4

LED	Status	Description
PWR (1/2)	Green On	DC-IN Power is On
	Off	No Power in DC-IN
System LED	Green On	Ready
	Green Blinking	Firmware Updating
	Off	Not Ready
DO	Red On	Any failures in port link by SW control
	Off	No failure occurs
Fiber Port	Green On	Links established
	Green Blinking	Packets transmitting/receiving
	Off	Link is inactive
Ring LED	Green On	Ring Normal (Not RPL Owner)
	Green Blinking	Ring Normal (RPL Owner)
	Amber On	Ring Abnormal
	Amber Blinking	Ring Port Fail
	Off	Ring is disabled
PoE LED	Green On	PoE delivering in progress
	Green Off	PoE is disabled / No Powered Device

Radio LED

LED	LTE Status
Ra	4G Connection: Green On
	2/3G connection: Green Blinking
	Disconnected: Off

· Antenna

The device supports up to 2 antennas sockets. AVCOMM provides the optional accessories, where the antenna color is black for the LTE.

	AP316
Ant 1	LTE-Main
Ant 2	LTE- Aux

· Safety Precautions

➢ Turn off DC power input source before connecting the DC Power supply module to the terminal block connectors. Do not turn-on the source of DC power module and make sure all connections were well established, then power on the DC source to powering the device.
➢ Do make sure that models connect to the corresponding supply voltage. The device is to be supplied by Limited Power Supply.
➢ The router is designed for Industrial IoT, ITS, wayside surveillance application.
➢ Never install or work on/with the equipment or the cabling during the period of its lightning activity.

· Management

This device supports both in-band and out-of-band network management. The user can either configure the device through the user-friendly Web/HTTPS management or remotely manage the device through the network Telnet/SSH.

1. Preparation for *Web management*: First, verify that device is properly installed in the network and that every PC of this network can access the router through the web browser (Google Chrome, Internet Explorer, Mozilla Firefox).

- Type **http://IP_address** in your browser (the default IP address is **http://192.168.10.1/**)
- Key in the username and password in login screen. The default username and password is **admin**.
- After you click OK, the Welcome page of the web-based management interface will appear.
- On the left side you can see the list of software features, on the right side – available settings.

◆ To link with the device, please make sure that the IP Address of the PC is located in the same subnet (**192.168.10.x**).

2. Preparation for *Telnet/SSH management*: You can connect to the device by Telnet and the command lines. Below are the steps to open Telnet connection to the router.

- Start -> Open Command prompt ->Enter
- Type the Telnet 192.168.10.1 (or the IP address of the router). And then press Enter.

SSH (Secure Shell)
The device also supports SSH console. You can remotely connect to the router to access command line interface. The SSH connection can secure all the configuration commands you sent to the switch.
SSH is a client/server architecture while the Router is the SSH server. When you want to make SSH connection with the switch, you should download the SSH client tool first.

SSH Client
There are many free, sharewares, trials or charged SSH clients you can find on the internet.

◆ **For further feature configurations, please refer to User Manual.**

· Support

At AVCOMM, you can use the online service forms to **request the support**. The submitted forms are stored in server for AVCOMM team member to assign tasks and monitor the status of your service. Please feel free to write to info@avcomm.us if you encounter any problems.

· Warranty

5-year Global warranties are available for AVCOMM products assuring our customers that the products shall remain free from defects in workmanship or materials and conform in all material respects to AVCOMM specifications, or Purchaser's supplied and accepted specifications. The warranty is limited to the repair and/or replacement, at AVCOMM' sole discretion, of the defective product during its warranty period. The customer must obtain a **Return Merchandise Authorization (RMA)** approval code prior to returning the defective Product to AVCOMM for service. The customer agrees to prepay shipping charges, to use the original shipping container or equivalent, and to ensure the Product or assume the risk of loss or damage in transit. Repaired or replaced products are warranted for ninety (90) days from the date of repair or replacement, or for the remainder of the original product's warranty period, whichever is longer.

· Disclaimer

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Defects, malfunctions, or failures of the warranted Product(s) caused by damage resulting from unforeseeable incidents (such as lightings, floods, fire, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances and surge, host computer malfunction and virus, incorrect power input, or incorrect cabling, incorrect grounding and damages caused by misuse, abuse and unauthorized alteration or repair are not warranted.