



ARY-7235-AC-PD

**Industrial Outdoor IP67 Plastic Housing IEEE 802.11a/b/g/n/ac Wireless
Access Point/Client/Bridge/Repeater/Router with PoE PD**



Hardware Manual

Version 1.0
(November 2020)



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FCC Warning

This equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Avertissement FCC

Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe A, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre de l'énergie radiofréquence. Cela peut provoquer des interférences nuisibles aux communications radio si l'équipement n'est pas installé et utilisé conformément aux instructions. Cependant, il n'y a aucune garantie qu'aucune interférence ne se produira dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou télévision, ce qui peut être déterminé en éteignant puis en rallumant l'équipement, l'utilisateur est encouragé à essayer de corriger les interférences par une ou plusieurs des mesures suivantes:

- Réorientez ou déplacez l'antenne de réception.
- Augmentez la distance entre l'équipement et le récepteur.
- Connectez l'équipement à une prise sur un circuit différent de celui auquel le récepteur est connecté.
- Consultez le revendeur ou un technicien radio / TV expérimenté pour obtenir de l'aide.

CE Mark Warning

This is a Class-A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Avertissement de marque CE

Ceci est un produit de classe A. Dans un environnement domestique, ce produit peut provoquer des interférences radio, auquel cas l'utilisateur peut être amené à prendre des mesures adéquates.

Industrial Wireless Access Points

Industrial Grade Wireless Access Point

Hardware Manual

Version 1.0 (November 2020)

The manual supports the following models:

- ARY-7235-AC-PD

This document is the current official release hardware manual. Please check our website (www.antaira.com) for any updated manual or contact us by e-mail (support@antaira.com).

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1 Overview

Antaira Technologies' ARY-7235-AC-PD is designed for industrial and enterprise outdoor wireless access applications. Embedded with the Qualcomm IPQ4029 SoC chipset, it boasts network robustness, stability and a wider network coverage. Based on IEEE 802.11a/b/g/n/ac, the access point supports high-speed data transmission of up to 867Mbps.

The ARY-7235-AC-PD is capable of operating in different modes, which makes it suitable for a wide variety of wireless applications including long-distance deployments. With the standard operating temperature range of -40°C to 50°C and the plastic housing IP67 rated, this wireless access point is built for applications where extreme dust and other harsh environmental conditions exist.

1.1 Product Hardware Features

System Interface and Performance

- Qualcomm IPQ4029 Quad-Core Wi-Fi SoC
- WAN 1*10/100/1000Tx
- LAN 1*10/100/1000Tx (with PoE PD)
- WLAN supports concurrent 2.4G/5GHz Wi-Fi

Product Input

- PoE PD: 48~56VDC
- The power input specification complies with the requirements of SELV (Safety Extra Low Voltage) and the power supply should comply with UL 61010-1 & UL 61010-2-201

Operating Temperature

- Standard operating temperature model: -40°C to 50°C

Case / Installation

- IP67 protection plastic housing
- Pole mount and wall-mount design

1.2 Package Contents

- ARY-7235-AC-PD
- Quick Installation Guide
- Pole mounting bracket set with screws

- Set of antennas

1.3 Safety Precaution

Attention: If the DC voltage is supplied by an external circuit, please use a protection device on the power supply input. The industrial wireless access point's hardware specs, ports, cabling information, and wiring installation will be described within this hardware manual.

Attention: Si la tension CC est fournie par un circuit externe, veuillez utiliser un dispositif de protection sur l'entrée d'alimentation. Les spécifications matérielles, les ports, les informations de câblage et l'installation du câblage du point d'accès sans fil industriel seront décrits dans ce manuel du matériel.

Warning Labels

The caution label means that you should check certain information on the user manual when working with the device. (Shown in *Figure 1.1*)

Étiquettes d'avertissement

L'étiquette d'avertissement signifie que vous devez vérifier certaines informations du manuel d'utilisation lorsque vous travaillez avec l'appareil. (Illustré à la *figure 1.1*)



Figure 1.1 - Caution Label
Figure 1.1 - Étiquette de mise en garde



Figure 1.2 - Hot Surface Warning Label
Figure 1.2 - Étiquette d'avertissement de surface chaude

2 Hardware Description

2.1 Physical Dimensions

Figure 2.1, below, shows the physical dimensions of this product:

(W x D x H) is 230mm x 230mm x 58mm

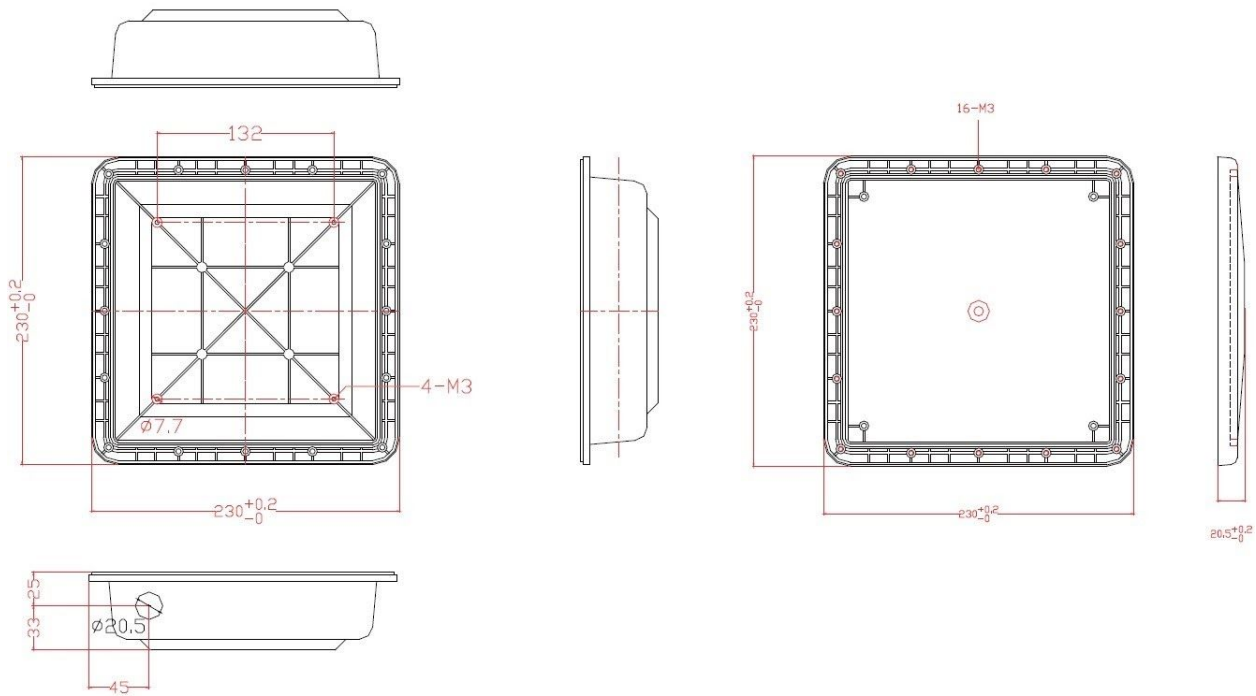


Figure 2.1 - Physical Dimensions

2.2 Front View Panel

Figure 2.2, below, shows the front panel of the product:

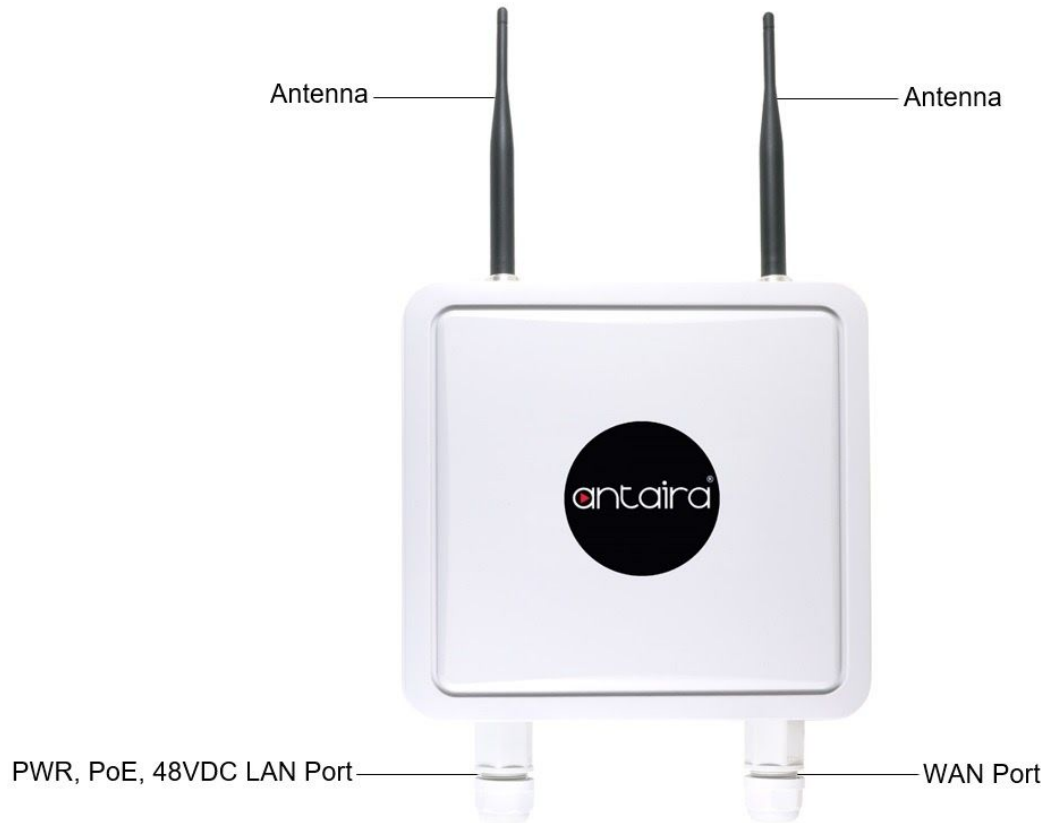


Figure 2.2 - Front View Panel

2.3 Ethernet Ports

- **RJ45 Ports**

RJ45 Ports (Auto MDI/MDI-X): The RJ45 ports are auto-sensing for 10Base-T, 100Base-TX, or 1000Base-T connections. Auto MDI means that the switch can connect to another switch or workstation without changing the straight-through or crossover cabling. See the figures below for straight-through and crossover cabling schematics.

- **RJ45 Pin Assignments**

Crossover Cable		Straight-Through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / RX+	3 / TX+	1 / RX+	1 / TX+
2 / RX-	6 / TX-	2 / RX-	2 / TX-
3 / TX+	1 / RX+	3 / TX+	3 / RX+
6 / TX-	2 / RX-	6 / TX-	6 / RX-

Table 2.2 - 10/100Base-T(X) RJ45 Pin Assignments

Crossover Cable		Straight-Through Cable	
Pin Number / Signal	Pin Number / Signal	Pin Number / Signal	Pin Number / Signal
1 / TP0+	3 / TP1+	1 / TP0+	1 / TP1+
2 / TP0-	6 / TP1-	2 / TP0-	2 / TP1-
3 / TP1+	1 / TP0+	3 / TP1+	3 / TP0+
4 / TP2+	7 / TP3+	4 / TP2+	4 / TP3+
5 / TP2-	8 / TP3-	5 / TP2-	5 / TP3-
6 / TP1-	2 / TP0-	6 / TP1-	6 / TP0-
7 / TP3+	4 / TP2+	7 / TP3+	7 / TP2+
8 / TP3-	5 / TP2-	8 / TP3-	8 / TP2-

Table 2.3 - 1000Base-T RJ45 Pin Assignments

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.

2.4 Cabling

Twisted-pair segments can be connected with an Unshielded Twisted Pair (UTP) or Shielded Twisted Pair (STP) cable. The cable between the switch and the link partner (wireless AP, switch, hub, workstation, etc.) must be less than 100 meters (328 ft.) in length.

2.5 Wireless Antenna

The 2.4GHz/5GHz antennas are connected with N-Type connectors. Other external antennas can be used.

3 Mounting Installation

3.1 Pole Mounting

The unit has a pole mounting kit on the rear panel. Please see *Figure 3.1* for diagram on how to pole mount the wireless AP.

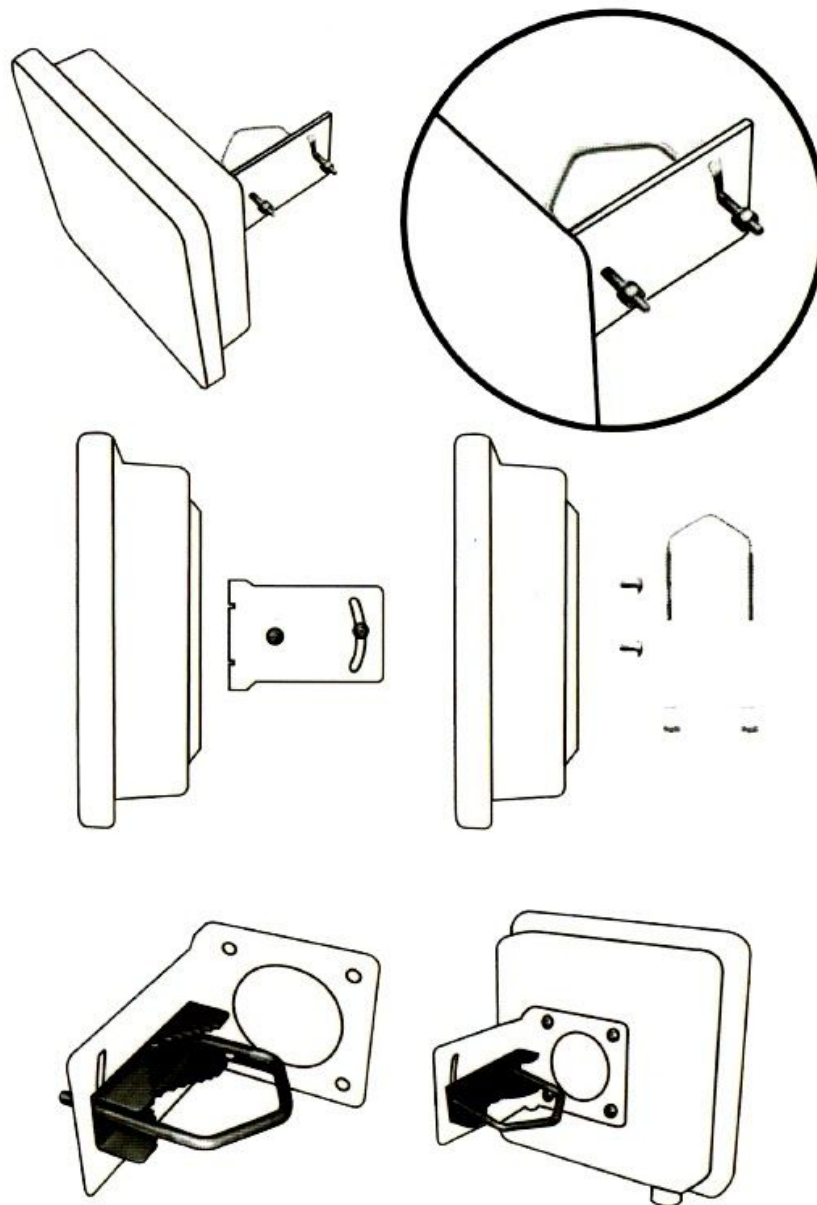


Figure 3.1 - Pole Mounting Bracket Installation Diagram

4 Hardware Installation

4.1 Installation Steps

This section will explain how to install the industrial wireless access point:

Installation Steps

1. Unpack the industrial wireless access point from the original packing box.
2. To hang the industrial wireless access point on a pole, please refer to the **Mounting Installation** section.
3. To power the industrial wireless access point, you will need an accessory that can provide PoE via an RJ45 cable.
4. Prepare the twisted-pair, straight-through category 5 cable for Ethernet connection/power.
5. Insert one side of the RJ45 cable into the wireless access point's Ethernet port (LAN) and on the other side into the networking device's Ethernet port (e.g.; switch, PC, or server).
6. When all connections are set, the installation is complete.

4.2 Maintenance and Service

- If the device requires servicing of any kind, the user is required to disconnect and remove it from its mounting. The initial installation should be done in a way that makes this as convenient as possible.
- Voltage / Power lines should be properly insulated as well as other cables. Be careful when handling them so as to not trip over.
- Do not under any circumstance insert foreign objects of any kind into the heat dissipation holes located in the different faces of the device. This may not only harm the internal layout, but might cause harm to users as well.
- Do not under any circumstance open the device for any reason. Please contact your dealer for any repair needed or follow the instructions within the manual.
- Clean the device with dry soft cloth.

4.3 Troubleshooting

- Always verify the right power cord or adapter is being used. Never use a power supply or adapter with a non-compliant DC output voltage or it will burn the equipment.
- Select the proper UTP or STP cable in order to construct the network. Use an unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ45 connections: 100Ω Category 5e for 10/100Mbps. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

5 Technical Specifications

Table 5.1 has the technical specifications for this product series.

Technology	
Standards	IEEE 802.11a/b/g/n/ac Wireless LAN IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3af/at Power over Ethernet
Protocols	IP, TCP, UDP, ARP, BOOTP, ICMP, HTTP, HTTPS, DNS Proxy, NAPT, SNTP, Dynamic DNS, SMTP, SNMP
WLAN Operation Modes	AP/Client/Bridge/Repeater/Router
Encryption Security	WPA, WPA2, WPA3, WEP, TKIP, AES, RADIUS, 802.1x/EAP
Interface	
Ethernet Ports	WAN: 10/100/1000Tx LAN (PoE PD): 10/100/1000Tx
WLANs	Dual Band 2.4GHz/5GHz concurrent
Antennas	2*External N-Type Antennas: 5dBi for 2.4GHz, 5dBi for 5GHz (MIMO support, Dual 2Tx/2Rx)
Frequency Range	
IEEE 802.11a/b/g/n/ac (2.4GHz)	2.402G - 2.482GHz, 25dBm
IEEE 802.11a/b/g/n/ac (5GHz)	4.92G - 5.92GHz, 24dBm
Mechanical Characteristics	
Housing	Plastic, IP67 rated
Dimensions	230 x 58 x 230 mm (W x H x D)
Weight	Unit: 2.689 lbs. Shipping: 4.047 lbs.
Mounting	Pole mounting
Power Requirement	
Input Voltage	802.3at PoE (48~56VDC)

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System Power Consumption	4.2 Watts
Environmental Limits	
Operating Temperature	-40°C to 50°C
Storage Temperature	-40°C ~ 80°C
Ambient Relative Humidity	5 to 95%, (non-condensing)
Regulatory Approvals	
EMI	FCC Part 15 Subpart B CE EN55032
EMS	CE EN55024 IEC61000-4-2,3,4,5,6,8,11
Green	RoHS Compliant
Certifications	FCC, CE
Warranty	5 Years

Table 5.1 - Technical Specifications

Antaira Customer Service and Support

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