

23dBi 15km Wireless Network Bridge - 100 Mbps LAN Port

RG-AIRMETRO460F



The RG-AIRMETRO460F is a directional 5 GHz wireless bridge in the Ruijie Reyee AirMetro series. This high-powered WISP antenna transmits and receives signals within a focused 9° beam over distances up to 15 km with a maximum data rate of 100 Mbps. Featuring 23 dBi gain, it can operate in point-to-point (PTP) and point-to-multipoint (PTMP) networks with up to 32 clients* It is ideal for linking buildings, farms, mining sites and remote CCTV systems without the need for expensive wired backhaul infrastructure.

3-Year Manufacturer's Warranty

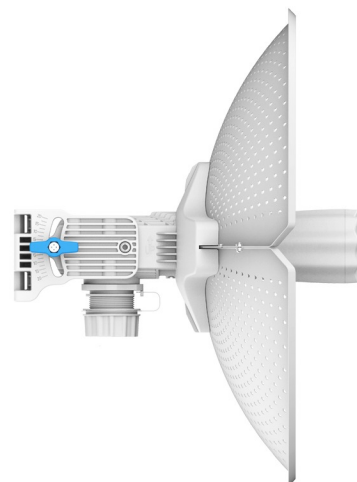
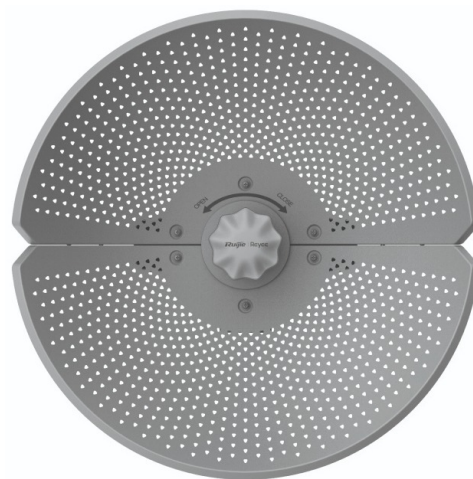
For full terms & conditions, please see – Ruijie Warranty T&Cs.

Features and Benefits

- » Semi-directional 5 GHz, 23 dBi Horizontal 9°, Vertical 9° WISP link antenna with up to 15 km range when used for PTP links**
- » Used with RG-AIRMETRO550G-B Base Station and RG-ANTxx sector antennas as the CPE antenna for omnidirectional and semi-directional PTMP high-speed wireless links.
- » Free cloud management for ease of setup and remote monitoring of the network
- » Free site survey tool included with spectrum scan and link optimisation for ease of network design and configuration
- » Simple, no-fuss one-touch pairing system
- » No need for expensive fibre backhails with Ruijie's modern, reliable wireless technologies.

* PTMP requires use with RG-AIRMETRO550G-B and one model of RG-ANTxx antenna at the Base Station location, the RG-AIRMETRO460F is only used at the CPE end when used in PTMP solutions.

** When aligning two RG-AIRMETRO460F over a long-range, the link window is very narrow and may take time to fine-tune for optimal performance. The Ruijie Reyee App has an alignment tool to assist with this step.



Specifications

Hardware Specifications

Port Specifications

Number of fixed LAN ports	1
Number of 10/100BASE-T ports	1
Reset button	1
LEDs	1 x system status LED 1 x Ethernet port LED 3 x signal status LEDs

System Specifications

CPU	Single-core processor, 575/580 MHz clock frequency
Flash memory	16 MB

System Specifications (continued)

RAM	128 MB DDR3
-----	-------------

Certification and Regulatory Compliance

Safety compliance	EN62368-1
EMC	EN 55032 EN 55035 EN 61000-3-3 EN 61000-3-2 EN 301489-1 EN 301489-3 EN 301489-17
Certification	CE, CB

Applicable Scenarios

Applicable Scenarios	CCTV/WISP
----------------------	-----------

Environment and Reliability

Mounting options	Pole
Operating temperature	-40°C to +70°C (-40°F to +158°F)
Storage temperature	-40°C to +85°C (-40°F to +185°F)
Operating humidity	5% RH to 95% RH (non-condensing)
Storage humidity	5% RH to 95% RH (non-condensing)
Altitude	Operating altitude: -500 m to +5,000 m (-1,640.42 ft. to +16,404.20 ft.) Storage altitude: -500 m to +5,000 m (-1,640.42 ft. to +16,404.20 ft.)
MTBF	400,000 hours (about 45 years)
Cooling	Natural cooling
IP rating	IP65
ESD protection	Standard test: contact discharge=24 kV, air discharge=24 kV, Class B

Environment and Reliability (continued)

Surge protection	Service port: ±6 kV for common mode Power connector: ±4 kV for common mode and ±2 kV differential mode
------------------	---

Antenna

Antenna	2.4 GHz: 1 x 1 Built-in omnidirectional antenna 5 GHz: 2 x 2 External directional antenna with built-in feed source, horizontal: 9°, vertical: 9°
Antenna gain (2.4 GHz)	3 dBi
Antenna gain (5 GHz)	23 dBi
Antenna horizontal orientation	9°
Antenna vertical orientation	9°

Power Supply and Consumption

Power supply	Passive PoE adapter
Power input	Passive PoE adapter: • Rated input voltage: 100 V AC to 240 V AC, 50 Hz to 60 Hz • Rated input current: 0.5 A Max • Rated output voltage: 24 V DC • Maximum output current: 0.6 A
Number of PoE In ports	1
Maximum power consumption	9 W

Dimensions and Weight

Weight	0.20 kg (0.44 lbs) (without packaging materials)
--------	--

Dimensions and Weight (continued)

Shipping weight	2.33 kg (5.14 lbs)
Product dimensions (W x D x H)	368.5 mm x 271 mm x 368.5 mm (14.51 in. x 10.67 in. x 14.51 in.) (Dimensions of the device after installation, including the mounting bracket.)
Package dimensions (W x D x H)	404 mm x 256 mm x 147 mm (15.91 in. x 10.08 in. x 5.79 in.)
Color	Elegant white

Wi-Fi Radio

Radio design	Dual-radio 3 spatial streams • Radio 1: 2.4 GHz, 1 spatial stream: 1 x 1, SISO • Radio 2: 5 GHz, 2 spatial streams: 2 x 2, MIMO
Operating band	IEEE 802.11b/g/n: 2.400 GHz to 2.483 GHz IEEE 802.11a/n/ac: 5.150 GHz to 5.350 GHz IEEE 802.11a/n/ac: 5.470 GHz to 5.725 GHz IEEE 802.11a/n/ac: 5.725 GHz to 5.850 GHz Note: Available bands vary with countries and regions. To use the preceding frequency bands, ensure that your country or region supports these frequency bands. For details, see Channels for Countries & Regions (official website link to be added).

Wi-Fi Radio (continued)

Wi-Fi standard	Wi-Fi 5 (IEEE 802.11ac) standard, compatible with IEEE 802.11a/b/g/ n standards
2.4 GHz Wi-Fi	Wi-Fi 4 (IEEE 802.11b/g/n)
5 GHz Wi-Fi	Wi-Fi 5 (IEEE 802.11ac)
2.4 GHz channel width	Auto/20/40 MHz
5 GHz channel width	Auto/20/40/80 MHz
Transmission rate	Maximum wireless data rate: 1166 Mbps • Radio 1: 2.4 GHz, 300 Mbps • Radio 2: 5 GHz, 866 Mbps

Wi-Fi Radio (continued)

Maximum transmit power	Frequency bands and maximum Effective Isotropic Radiated Power (EIRP): Note: Country specific restrictions apply. European Union & United Kingdom: 2400–2483.5 MHz, EIRP ≤ 20 dBm 5470–5725 MHz, EIRP ≤ 30 dBm Myanmar: 2400–2483.5 MHz, EIRP ≤ 23 dBm 5725–5850 MHz, EIRP ≤ 30 dBm Thailand: 2400–2483.5 MHz, EIRP ≤ 20 dBm 5150–5350 MHz, EIRP ≤ 23 dBm 5470–5725 MHz, EIRP ≤ 30 dBm 5725–5850 MHz, EIRP ≤ 30 dBm Indonesia: 2400–2483.5 MHz, EIRP ≤ 36 dBm 5725–5825 MHz, EIRP ≤ 36 dBm Egypt: 2400–2483.5 MHz, EIRP ≤ 20 dBm 5150–5350 MHz, EIRP ≤ 23 dBm Vietnam : 2400–2483.5 MHz, EIRP ≤ 23 dBm 5150–5350 MHz, EIRP ≤ 23 dBm 5470–5725 MHz, EIRP ≤ 30 dBm 5725–5850 MHz, EIRP ≤ 30 dBm
Maximum transmit power (2.4 GHz)	Combined power: 20 dBm (single stream power: 20 dBm) Note: The transmit power varies according to regulations in different countries and regions.

Wi-Fi Radio (continued)

Maximum transmit power (5 GHz)	Combined power: 29 dBm (single stream power: 26 dBm) Note: The transmit power varies according to regulations in different countries and regions.
Receive sensitivity	802.11b: -91 dBm (1 Mbps), -88 dBm (5 Mbps), -85 dBm (11 Mbps) 802.11a/g: -89 dBm (6 Mbps), -80 dBm (24 Mbps), -76 dBm (36 Mbps), -71 dBm (54 Mbps) 802.11n: -83 dBm@MCS0, -65 dBm@MCS7, -83 dBm@MCS8, -65 dBm@MCS15 802.11ac HT20: -83 dBm (MCS0), -57 dBm (MCS9) 802.11ac HT40: -79 dBm (MCS0), -54 dBm (MCS9) 802.11ac HT80: -76 dBm (MCS0), -51 dBm (MCS9)
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Highest QAM order	256

Software Specifications

Network Management and Monitoring

SON	Yes
AI heatmap	Yes
Camera detection	No
Network-wide management SSID configuration	Yes

Network Management and Monitoring (continued)

Network connection through the management SSID	No
Ruijie Cloud management	Yes
SNMPv1, v2c, and v3	No
Fault diagnosis	Yes Note: support for network tools (ping, traceroute, and nslookup), fault alarms, and fault collection
Restart cause prompt	Yes
Disconnection cause prompt	No
Cloud alarms on DFS signal detection	No

IP Service

IPv4 ping	Yes
IPv4 traceroute	Yes
DHCP server	Yes
DHCP client	Yes

Security

Broadcast storm control	Yes
-------------------------	-----

Basic Configurations

eWeb login with the username and password	Yes
Local upgrade	Yes
Configuration backup	Yes
System language	Chinese (Simplified), English
System time settings	Yes

Ethernet Switching

Interface rate	10/100 Mbps auto-negotiation
VLAN	Yes
Link aggregation	No

WLAN

BaseStation/CPE mode switching	Yes
Enhanced one-to-many transmission (TDMA)	Yes
Bridge SSID hiding	Yes
WPA2-PSK encryption	Yes
WPA-PSK encryption	No
WPA/WPA2-PSK encryption	No
Recommended channel	Yes
Bridge speed test	Yes
Random security key upon configuration delivery	No
Configuring a security key for network-wide bridges	Yes
Configuring a security key for a single bridge group	Yes
Configuring a security key for a single bridge	Yes
Bridge SSID, channel, and power configuration	Yes
WMM	Yes
Recommended PTMP connections	1

23dBi 15km Wireless Network Bridge - 100 Mbps LAN Port

RG-AIRMETRO460F



WLAN (continued)

Maximum bridge distance	15 km (9.32 miles)
One-touch pairing	Yes
Maximum effective distance of one-touch pairing	20 m (65.62 ft.)
Bridge performance	80 Mbps/1 km (0.62 miles) (HT40) 80 Mbps/3 km (1.86 miles) (HT40) 70 Mbps/5 km (3.11 miles) (HT40) 50 Mbps/10 km (6.21 miles) (HT40)
RSSI	-58 dBm/1 km (0.62 miles) -66 dBm/3 km (1.86 miles) -70 dBm/5 km (3.11 miles) -78 dBm/10 km (6.21 miles)
Recommended number of connected cameras (3 Mbps)	12/1 km (0.62 miles) 12/3 km (1.86 miles) 10/5 km (3.11 miles) 6/10 km (6.21 miles)
Recommended number of connected cameras (4-5 Mbps)	8/1 km (0.62 miles) 8/3 km (1.86 miles) 6/5 km (3.11 miles) 4/10 km (6.21 miles)
Recommended number of connected cameras (6-7 Mbps)	6/1 km (0.62 miles) 6/3 km (1.86 miles) 5/5 km (3.11 miles) 3/10 km (6.21 miles)
Recommended number of connected cameras (7-8 Mbps code streams)	4/1 km (0.62 miles) 4/3 km (1.86 miles) 3/5 km (3.11 miles) 2/10 km (6.21 miles)
Real-time signal strength	Yes

WLAN (continued)

Optimal signal strength	Yes
Active/Standby channel	Yes
Restoring to the active channel	Yes
Maximum number of devices on the SON	200

Package Contents

Accessories

Hose clamp	2
Power adapter	1 Note: 24 V passive PoE adapter
Power cord	1
Mounting bracket	1 x Mounting bracket 1 x Antenna base
Screw	10 x Phillips pan head screws 1 x hex head machine screws M5 x 65 mm 1 x M5 nut
Cable gland	1

Manual

User Manual	1
Warranty Card	1

Device

Device	1
Parabolic dish antenna	2