

# ZYXEL



## WAC6103D-I

### 802.11ac Dual Radio Dual-optimized Antenna 3x3 Access Point

Most access points on the market are designed with single static radiation pattern and it's typically only support ceiling-mount installation. However, in the real world ceiling-mount deployment is not always feasible for locations such as high ceiling warehouses, fancy ceiling lobbies or atriums. An AP with ceiling-mount pattern installed as wall-mount cannot achieve its best signal coverage and could cause interference. It's no doubt that a WiFi AP with installation flexibility, optimal performance and stylish exterior is a necessity today.

Zyxel's WAC6103D-I is a high performance 3-stream 802.11ac WiFi AP featuring ultra-fast speeds of up to 1.75 Gbps with groundbreaking "Dual-optimized" antenna design. With the innovative adjustable antenna, the WAC6103D-I provides two optimized signal coverage types for either ceiling-mount or wall-mount deployments. Even better, the stylish, ultra-slim industrial design perfectly blends into modern decorations. Choose WAC6103D-I for constant, no-compromise WiFi performance.

### Benefits

#### Superior performance with innovative "Dual-optimized" antenna

People without RF expertise may not realize that installing an AP optimized for ceiling-mount as wall-mount may cause the ceiling-mount radiation pattern to interfere with other devices up- or downstairs as well as to deliver signals with shorter-than-expected range for its clients. Designed with the innovative "Dual-optimized" antenna, the WAC6103D-I adapts to both wall- and ceiling-mount installations. Thus, users can switch between the two optimized antenna modes easily to fit either situation. To boost WiFi speeds for your network, the WAC6103D-I is definitely an excellent choice.



Enterprise class 3x3 802.11ac AP supports combined data rates of up to 1.75 Gbps



"Dual-optimized antenna" allows pattern optimization adapting to wall- or ceiling-mount installations



Dynamic Channel Selection, Load Balancing and Smart Client Steering ensure optimal wireless experience



Stylish, ultra-slim ID design as the 32 mm height blends perfectly into modern interior decorations



APFlex™ and Zyxel One Network utilities make deployment simple and fast

## Ultra-slim, stylish exterior blends into environments

The WAC6103D-I inherits the stylish honeycomb exterior design of the Zyxel WAC6500 Series; its low-profile white color blends perfectly into most modern decorations. The compact, elegant design makes WAC6103D-I flexible for different decors – it can be as outstanding as understated.

## Streamlined deployment tools save valuable time

WAC6103D-I features APFlex™ to simplify managed/standalone AP mode configuration and to facilitate integration into network environments automatically so pre-install preparation can be eliminated. The ZWO (Zyxel Wireless Optimizer) Utility also allows IT managers to perform AP planning, coverage detection and wireless health management centrally. ZyMesh is Zyxel's proprietary protocol for creating wireless mesh links for easy configuration, optimized management and enhanced reliability. These user-friendly tools not only save time, but also facilitate faster responses to network issues.

## Zyxel One Network experience

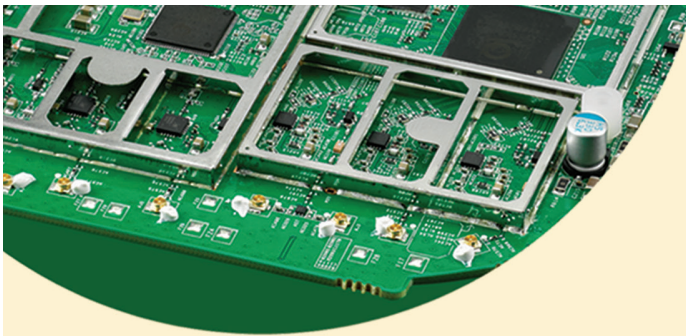
Aiming at relieving users from repetitive operations of deploying and managing networks, Zyxel One Network simplifies configuration, management and troubleshooting,

allowing users to focus on the business priorities. The Zyxel One Network presents Zyxel One Network Utility (ZON Utility), an easy-to-use tool, designed for instant network setup. Zyxel Smart Connect allows Zyxel networking equipment to be aware of as well as to recognize each other, and thus further facilitate remote network maintenance with one-click functions. The Zyxel One Network redefines network integration across multiple networking products from switch to WiFi AP and to Gateway.

## Optimized wireless experience with advanced feature settings

With a range of wireless features, the WAC6103D-I ensures optimized wireless experience for users. Dynamic Channel Selection (DCS) avoids interference of co-channel and overlapping channel at initialization, while Load Balancing enables administrators to limit the number of clients associated with each AP. Smart Client Steering features with Band Select, Signal Threshold and Band Balancing, offering stable, reliable wireless connections. The WAC6103D-I has been certified with industrial-strength WPA2 enterprise protection and features Layer-2 isolation. With these technologies, the WAC6103D-I is capable of delivering consistent, uninterrupted and highly secured wireless access experience to its users.

## Robust Hardware

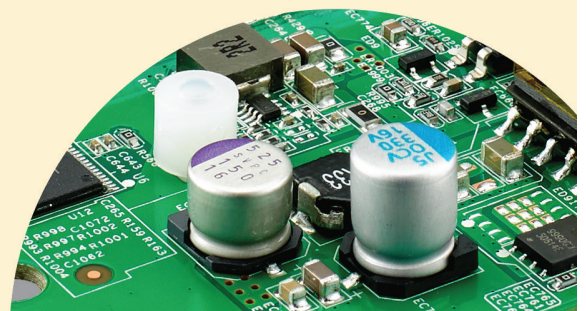


### Fine art of RF design

The WAC6103D-I isolates RF circuits by solid shielding frames. Thus, RF noise and electromagnetic interference (EMI) is mitigated meanwhile RF performance is enhanced as well.

### Solid capacitor for longevity

All-solid capacitor design provides up to 6 times lifespan than electrolytic capacitors that delivers better stability and reliability.



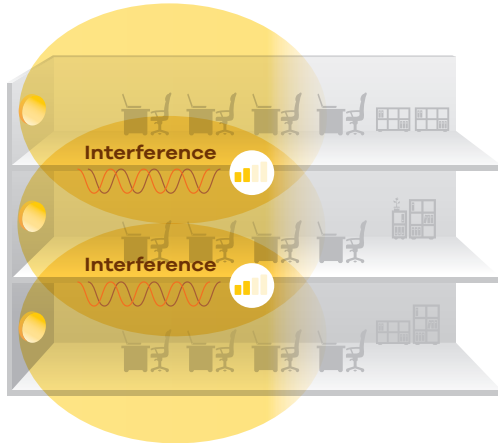
## Dual-optimized Antenna

The unprecedented Dual-optimized Antenna is an adjustable internal antenna with “just fit” pattern options optimized for wall- or ceiling-mount that the installation technician can instantly change the antenna pattern simply via the physical antenna switch without booting the device. If needed, administrators can base on their know-

how to perform granular signal optimization per floor plan via software configuration remotely. With the flexibility, the WAC6103D-I can fit for wall-mount or ceiling-mount deployment without the hassles of antenna accessory selection and signal coverage adjustment.

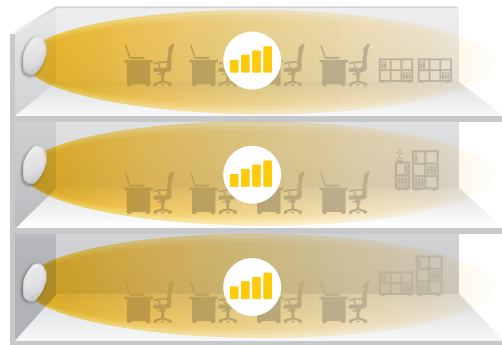
### Traditional (Side View)

Pattern for wall-mount (H-plane, side view)



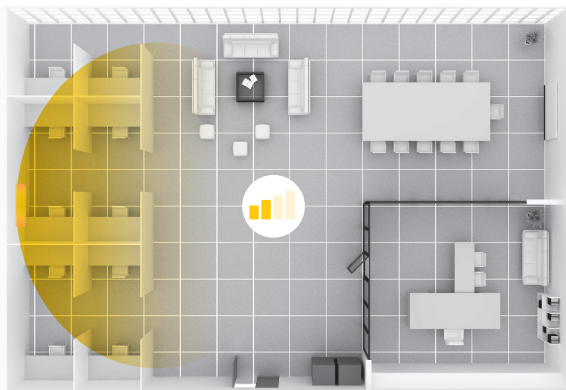
### Dual-optimized (Side View)

Pattern for wall-mount (H-plane, side view)



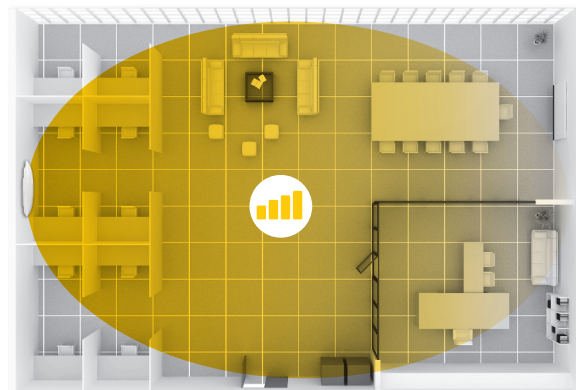
### Traditional (Top View)

Pattern for wall-mount (E-plane, top view)

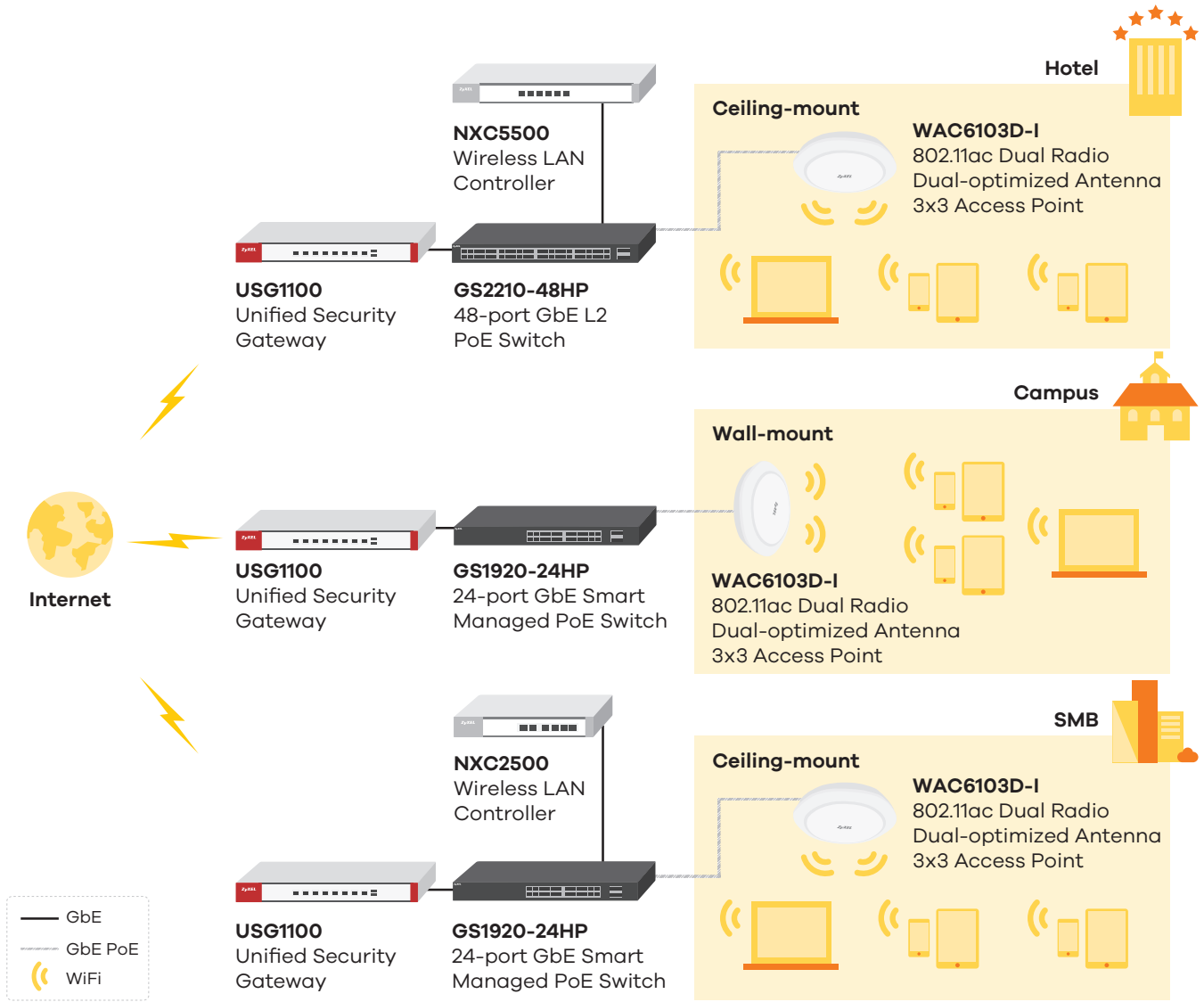


### Dual-optimized (Top View)


Pattern for wall-mount (E-plane, top view)



# Application Diagram



# Specifications

<b>Model</b>	<b>WAC6103D-I</b>	
<b>Product name</b>	802.11ac Dual Radio Dual-optimized Antenna 3x3 Access Point	
		
<b>Main Design</b>		
<b>Wireless frequency</b>	2.4 and 5 GHz	
<b>Radio</b>	2	
<b>RF Specifications</b>		
<b>Frequency band</b>	2.4 GHz (IEEE 802.11 b/g/n) <ul style="list-style-type: none"> <li>• USA (FCC): 2.412 to 2.462 GHz</li> <li>• Europe (ETSI): 2.412 to 2.472 GHz</li> <li>• Taiwan (TW): 2.412 to 2.462 GHz</li> </ul>	5 GHz (IEEE 802.11 a/n/ac) <ul style="list-style-type: none"> <li>• USA (FCC): 5.15 to 5.25 GHz; 5.725 to 5.850 GHz</li> <li>• European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz</li> <li>• Taiwan (TW): 5.15 to 5.25 GHz; 5.725 to 5.850 GHz</li> </ul>
<b>802.11n/ac premium features</b>	<ul style="list-style-type: none"> <li>• 3x3 Multiple-Input Multiple-Output (MIMO) with three spatial streams</li> <li>• Maximal Ratio Combining (MRC)</li> <li>• 20-, 40- and 80-MHz channels</li> <li>• Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)</li> <li>• Cyclic Delay diversity (CSD) support</li> <li>• Maximum Likelihood Demodulation (MLD) support</li> <li>• Low Density Parity Check (LDPC) support</li> </ul>	
<b>Conducted typical transmit output power (dBm)</b>	<b>FCC 11b/g</b>	28
	<b>FCC 11g/n</b>	28
	<b>FCC 11a</b>	28
	<b>FCC 11n/a (ac)</b>	28
	<b>EU 11b/g</b>	20
	<b>EU 11g/n</b>	20
	<b>EU 11a</b>	21
	<b>EU 11n/a (ac)</b>	26
<b>Antenna system</b>	Dual-optimized internal antenna	
<b>Antenna gain</b>	<ul style="list-style-type: none"> <li>• Ceiling: 2.4 GHz 3 dBi; 5 GHz 4 dBi</li> <li>• Wall: 2.4 GHz 4 dBi; 5 GHz 5 dBi</li> </ul>	
<b>Support data rate</b>	<ul style="list-style-type: none"> <li>• 802.11a/g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps</li> <li>• 802.11b: 1, 2, 5.5 and 11 Mbps</li> <li>• 802.11n: up to 450 Mbps in MCS23 (40 MHz)</li> <li>• 802.11ac: up to 1300 Mbps in MCS9 (80 MHz)</li> </ul>	
<b>Receive sensitivity</b>	Min. Rx sensitivity to -102 dBm	
<b>Interfaces</b>		
<b>Number of 10/100/1000M LAN</b>	2 x switch ports	
<b>Console port</b>	4-Pin serial	
<b>PoE</b>	Yes	
<b>PoE power draw</b>	12.48 W (802.3at PoE)*1	
<b>WLAN Features</b>		
<b>WLAN maximum throughput</b>	Up to 900 Mbps	
<b>Mesh AP (By License)*2</b>	Yes	
<b>Mesh AP for multiple SSID with VLAN*2</b>	Yes	
<b>Fast roaming</b>	Pre-authentication, PMK caching and 802.11r/k/v	

\*1: Max. power draw is 12.48 W. In extreme cases, the inrush current is greater than 802.3af limit, thus 802.3at PoE is required.

\*2: Supports when working with Zyxel NXC controller

<b>Model</b>	<b>WAC6103D-I</b>	
<b>Wireless Security</b>		
WEP	Yes	
WPA/WPA2-PSK	Yes	
WPA/WPA2-Enterprise	Yes	
WMM(WiFi certified)	Yes	
<b>Wireless Security</b>		
WLAN access control list	Yes	
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST, EAP-AKA and EAP-SIM	
IEEE 802.1X	Yes	
Number of SSID	16	
Web authentication*	Yes	
MAC filtering	Yes	
Layer-2 isolation	Yes	
RADIUS authentication	Yes	
Microsoft AD authentication*	Yes	
LDAP authentication*	Yes	
MAC authentication*	Yes	
Rogue AP detection	Yes	
Rogue AP containment	Yes	
<b>Network</b>		
IPv6 host	Yes	
VLANs	Yes	
DHCP client	Yes	
<b>QoS</b>		
WMM	Yes	
WMM power save	Yes	
DiffServ marking	Yes	
<b>Management</b>		
<b>ZON Utility</b>	<ul style="list-style-type: none"> <li>• Discovery of Zyxel switches, APs and gateways</li> <li>• Centralized and batch configurations <ul style="list-style-type: none"> <li>• IP configuration</li> <li>• Device reboot</li> <li>• Firmware upgrade</li> <li>• IP renew</li> <li>• Device locating</li> <li>• Password configuration</li> <li>• Device factory reset</li> <li>• Web GUI access</li> <li>• One-click quick association with Zyxel AP Configurator (ZAC)</li> </ul> </li> </ul>	
<b>Smart Connect</b>	<ul style="list-style-type: none"> <li>• Neighbor device discovery</li> <li>• One-click remote management access to the neighboring Zyxel devices</li> </ul>	
<b>Zyxel AP Configurator</b>	<ul style="list-style-type: none"> <li>• Batch AP configuration</li> <li>• Batch AP firmware upgrade</li> <li>• Batch AP profile backup</li> </ul>	
<b>Zyxel Wireless Optimizer</b>	<ul style="list-style-type: none"> <li>• WiFi AP planning</li> <li>• WiFi coverage detection</li> <li>• Wireless health management</li> </ul>	
<b>Standalone AP mode</b>	Yes	
<b>Managed AP mode</b>	Yes	
<b>CLI</b>	Yes	
<b>Web UI</b>	Yes	
<b>SNMP</b>	v2c/v3	

\* Supports when working with Zyxel NXC controller

<b>Model</b>	<b>WAC6103D-I</b>	
<b>Others</b>		
<b>Plenum rating</b>	Yes	
<b>Input power</b>	802.3at PoE only (No DC jack)	
<b>MTBF (hr)</b>	1,005,235	
<b>Standard Compliance</b>		
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>• IEEE 802.3</li> <li>• IEEE 802.3u</li> <li>• IEEE 802.11ab</li> <li>• IEEE 802.3au</li> <li>• IEEE 802.3az</li> <li>• IEEE 802.3at</li> </ul>	
<b>PoE</b>	IEEE 802.3at	
<b>WLAN</b>	<ul style="list-style-type: none"> <li>• 802.11b: DBPSK, DQPSK, CCK</li> <li>• 802.11g: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11a: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11n: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11ac: BPSK, QPSK, 64-QAM, 256-QAM</li> </ul>	
<b>Certifications</b>		
<b>Radio</b>	FCC part 15C, FCC part 15E, ETSI EN 300 328, EN 301 893, LP0002	
<b>EMC</b>	FCC part 15B, EN 301 489-1, EN 301 489-17, EN55022, EN55024, EN61000-3-2/-3, EN60601-1-2, BSMI CNS13438	
<b>Safety</b>	EN 60950-1, IEC 60950-1, BSMI CNS14336-1	
<b>Physical Specifications</b>		
<b>Item</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	203.9 x 191.7 x 34.7/8.03 x 7.55 x 1.37
	<b>Weight (g/lb.)</b>	445/0.98
<b>Packing</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	235 x 246 x 60/9.25 x 9.69 x 2.36
	<b>Weight (g/lb.)</b>	938/2.07
<b>Included accessories</b>	Wall/ceiling mount plate	
<b>Environmental Specifications</b>		
<b>Operating</b>	<b>Temperature</b>	0°C to 50°C/32°F to 122°F
	<b>Humidity</b>	10% to 90% (non-condensing)
<b>Storage</b>	<b>Temperature</b>	-40°C to 70°C/-40°F to 158°F
	<b>Humidity</b>	10% to 90% (non-condensing)

## Optional Accessory

Part Number	Description
<b>ACCESSORY-ZZ0105F</b>	Accessory, T-bar ceiling clips for ceiling mount AP to WAC6303D-S, 5 sets, ROHS
<b>PoE12-HP</b>	802.3af/at PoE Injector

## Weather-Proof Mounting Option

### Outdoor Enclosure

People like to enjoy the combination of great view, fresh air and WiFi service when they're outdoors. This weather-resistant enclosure brings the Zyxel indoor AP outdoors to make deployments in places such as parks, campus, poolside or camping yard convenient and affordable. This enclosure allows the AP to be easily mounted on any wall or pole. The durable enclosure is designed to withstand a wide range of temperature from 50°C to -20°C, waterproof the APs with IPX5 rating certified and extend lifespan with the UV stabilized plastic, which makes it the most reliable weatherproof enclosure.

### Features

- **Compatible with various APs** including unified, cloud-managed and standalone units
- **Wide operating temperature** range from 50°C to -20°C
- **Compact size** easily blends into any environment seamlessly
- **UV stabilized plastic** extends enclosure lifetime
- **Flexible mount design** for wall mount, or pole mount installation with pole mount kit (sold separately)
- **IPX5 rating** makes Zyxel indoor AP weatherproof



Wall mount installation





Pole mount installation

### Specifications

Model	Enclosure
<b>Dimensions (WxDxH)(mm/in.)</b>	238.54 x 249.72 x 86.97/9.39 x 9.83 x 3.42
<b>Weight (kg/lb.)</b>	0.64/1.4
<b>Mounting options</b>	Wall, Pole (pole mount kit is sold separately)
<b>Certified</b>	IPX5
<b>Adjustability</b>	Swivel +/-40° Tilt +/-15°

### Compatibility List

Model	
	<ul style="list-style-type: none"><li>• NWA1123-ACV2</li><li>• NWA5121-NI</li><li>• NWA5123-AC</li><li>• NAP102</li></ul>
	<ul style="list-style-type: none"><li>• NWA1123-AC PRO</li><li>• WAC6103D-I</li><li>• NAP203</li></ul>



For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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Datasheet [WAC6103D-I](#)



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