

## HAP103 Wi-Fi HaLow Access Point



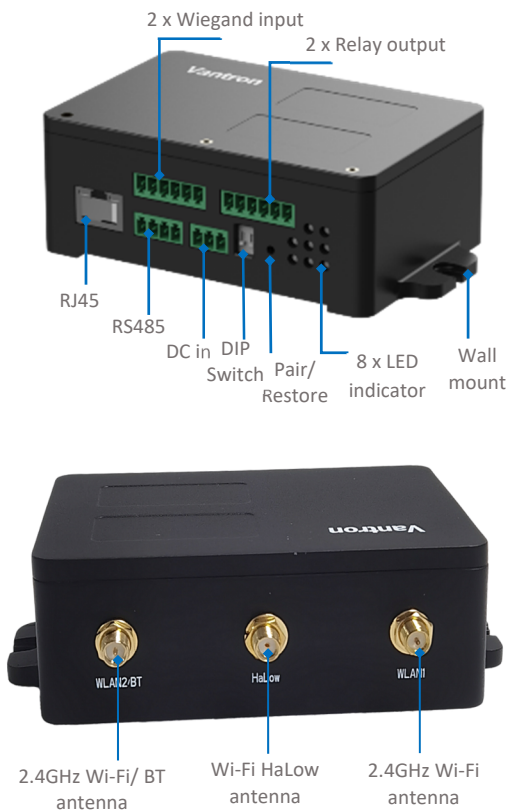
### Product Brief

Vantron HAP103 Wi-Fi HaLow access point is designed in compliance with the prominent IEEE 802.11ah (Wi-Fi HaLow) standard and IEEE 802.11 b/g/n (2.4GHz Wi-Fi) standard, offering a complete Wi-Fi connectivity solution for IoT developers who seek for wireless connections with energy efficiency, extended coverage, obstacle penetration, effortless accessibility, etc.

HAP103 provides user options including two Wiegand input connectors for data transmission in access control scenarios. The RS485 connector allows for flexible industrial data collection and transfer, and it can be switched to the debug mode to support device debugging. The optional PoE Powered Device (PD) feature eliminates the need for a separate power source, providing significant benefits in scenarios where efficient power management and connectivity are crucial.

HAP103 offers DIP switches for quickly toggling between HaLow AP and STA, as well as switching configurations between HaLow mesh application that involves multiple access points and standard HaLow applications. It is designed for long-distance sub-GHz networking such as smart home appliances, surveillance systems, industrial process control, logistics and asset management, and smart city facilities.

### Exterior and Features



#### HAP103

-  Wi-Fi HaLow with 2.4GHz Wi-Fi combined
-  Sub-1 GHz frequency bands supported
-  Longer distance: up to 1km
-  Ultra-low power consumption
-  Better penetration through walls and obstacles
-  Enhanced Wi-Fi security protections
-  Optional PoE PD feature
-  Optional multiple I/Os for varied purposes
-  Fast connection supported
-  DIP switches for convenient modes switch

**HAP103 Wi-Fi HaLow Access Point Datasheet**

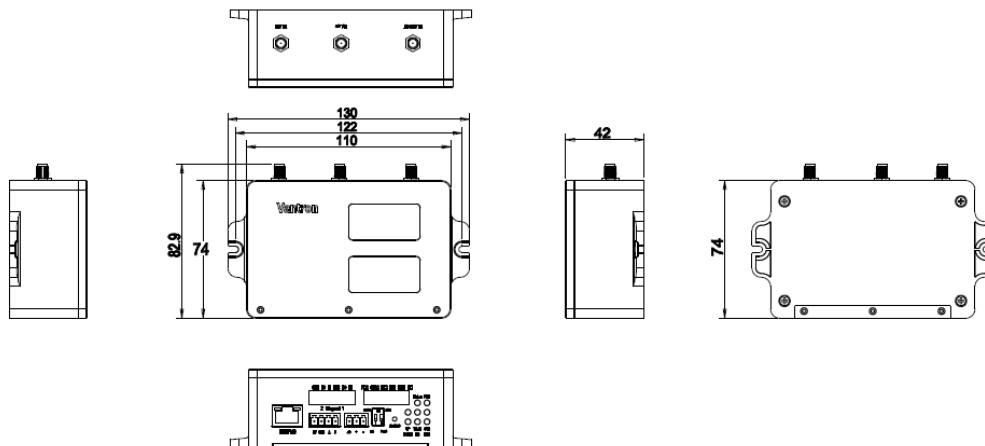
HAP103				
<b>System</b>	CPU	MediaTek 580MHz MIPS® CPU		
	Wi-Fi HaLow SoC	Morse Micro MM6108		
	Memory	256MB		
	Storage	64MB		
<b>WLAN Features</b>	2.4GHz Wi-Fi	Standard: IEEE 802.11 b/g/n		
		Frequency range: 2.412GHz ~ 2.462GHz		
		Channel bandwidth: 20/40 MHz		
		Data rate: up to 150 Mbps		
		Fast connection: WPS fast connection supported		
	Wi-Fi HaLow	Working mode: AP, STA (Multiple SSIDs supported in AP mode)		
		Standard: IEEE 802.11 ah		
		Frequency range: 903.5MHz~926.5MHz (US)		
		Channel bandwidth: 1/2/4/8 MHz, dynamic channel selection (DCS) supported		
		Transmit power: 21dBm		
<b>I/O</b>	Fast Ethernet	1 x RJ45, 10/100 Mbps (PoE PD optional)		
	Bluetooth	Optional		
	Serial port	1 x RS485 [4-pin terminal, 5V output, baud rate: 115200 (default)/57600(debug)]		
	Antenna	1 x Wi-Fi HaLow antenna	1 x 2.4GHz Wi-Fi/BT antenna	
		1 x 2.4GHz Wi-Fi antenna		
	Relay (Optional)	2 x Relay output		
	Input (Optional)	2 x Wiegand input (5V)		
	<b>System Control</b>	LED indicators	1 x Power indicator	1 x Wi-Fi HaLow activity indicator
			1 x Uplink indicator	1 x Downlink indicator
			1 x WLAN activity indicator	1 x Error indicator
1 x Reserved indicator (user-defined)			1 x System indicator	
Button		1 x Pair/Restore button		
DIP switch	2 x DIP switch (AP & STA; Mesh & other modes)			
<b>Mechanical</b>	Dimensions	IP40 version (With wall mount): 130mm x 74mm x 42mm		
		IP54 version (With wall mount and water proof kit): 130mm x 119mm x 44mm		
	Casing material	Black plastics, UL94, SP6 compliant (Optional: White casing)		
	Installation	Wall mounting		
IP rating	IP40 (Optional: IP54, enhanced with a waterproof kit)			
<b>Power</b>	Input	9V ~ 40V DC		
	Port	3-pin terminal (Over-current protection, reverse polarity protection)		

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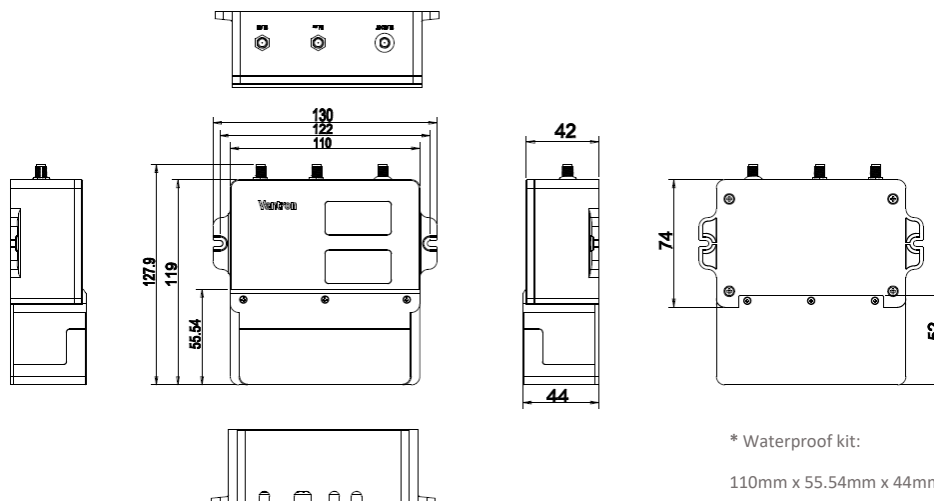
HAP103		
Software	Operating system	VantronOS
	Device management	Vantron BlueSphere GWM (Optional)
	Upgrade	Local upgrade, OTA upgrade
	VPN	OpenVPN
	Network protocol	IPV4, HTTPS, TCP & UDP, NTP client and server, ARP, TLS
	Link detection	Heartbeat detection, auto reconnection
	Network reliability	Multi-channel failover, backup between Ethernet, Wi-Fi, HaLow
	IP application	Ping, Traceroute, DHCP Server/Client
Security	IP routing	Static routing, dynamic routing
	2.4GHz Wi-Fi	TKIP, WPA, WPA2, AES, WPS
	Wi-Fi HaLow	WPA3
	Firewall	Stateful
Environmental	Access control	MAC address, IP address, URL
	Temperature	Operating: -20°C ~ +70°C      Storage: -40°C ~ +85°C
	Humidity	≤ 95% RH (non-condensing)
	Certification	FCC, ISED

## Product Outlines

- IP40 version (With wall mount): 130mm x 74mm x 42mm (not including antennas)



- Optional IP54 version (With wall mount and water proof kit): 130mm x 119mm x 44mm (not including antennas)



## Ordering Information

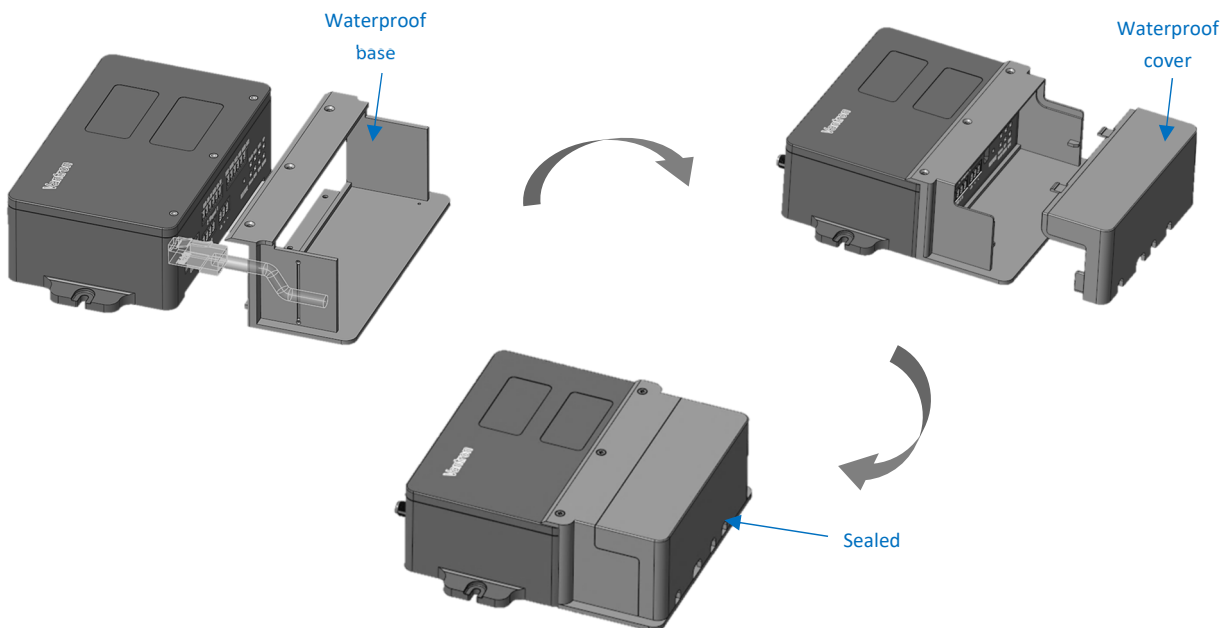
Ordering No.	Memory & storage	Description	IP rating	Installation
HAP103	256MB + 64 MB	RS485, RJ45, DIP switch	IP40	Wall mounting
HAP103-54			IP54	
HAP103-BT	256MB + 64 MB	RS485, RJ45, DIP switch, Bluetooth	IP40	Wall mounting

\* More variants are available, please contact your sales executive for details.

Packing list	
HAP103 Wi-Fi HaLow access point	1
Wi-Fi HaLow antenna	1
2.4GHz Wi-Fi antenna	1
2.4GHz Wi-Fi/BT antenna	1
RS485 terminal connector	1
DC power connector	1

Optional accessories		
12V/1A power adapter	1	
Power cord	1	
IP54 version	Waterproof base	1
	Waterproof cover	1

## Exploded View of the Waterproof Kit



Since 2002 established by two Silicon Valley entrepreneurs, Vantron Technology has been a pioneer in connected IoT devices and IoT platform solutions. Today, Vantron is serving customers all over the world, including many Global Fortune 500 companies. The product lines cover intelligent edge hardware, IoT communication devices, industrial displays and the cloud-based BlueSphere device management platform.

Vantron offers IoT communication devices that enable multi-protocol connections for industrial equipment and local data processing through edge computing. With abundant wired and wireless connectivity options, remote operations and maintenance have become easier than ever. Such devices can be deployed across different sectors such as smart retail, medical and warehousing. Moreover, Vantron's IoT solutions are designed to facilitate enterprises' digital transformation, streamline operations, enhance productivity, etc.