

## HAP101 Wi-Fi HaLow Access Point



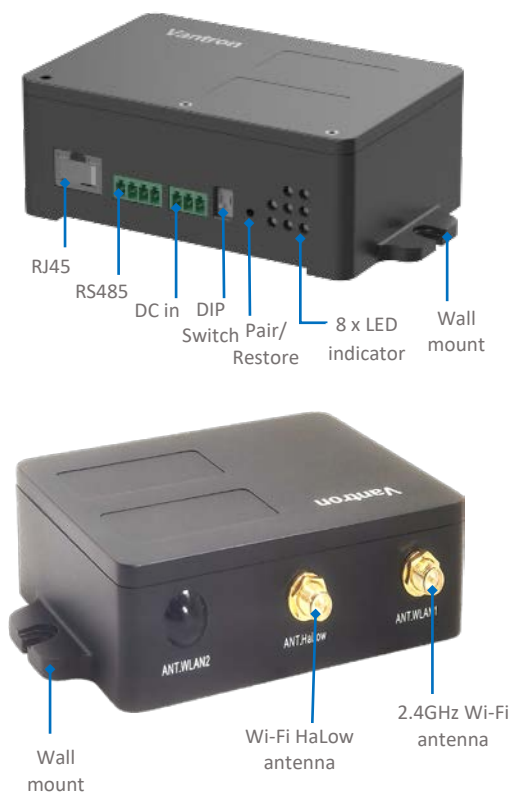
### Product Brief

Vantron HAP101 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. It offers a complete Wi-Fi connectivity solution for IoT developers who seek for wireless connections with energy efficiency, extended coverage, obstacle penetration, effortless accessibility, etc.

HAP101 supports up to 1km coverage at ultra-low power consumption while still delivering optimal performance with data rates up to 150 Mbps (2.4GHz Wi-Fi) and 32.5 Mbps (Wi-Fi HaLow), respectively. By complying with the IEEE 802.11ah standard, it supports operation in the sub 1GHz license-exempt RF bands to avoid the crowded 2.4GHz frequency band. Meanwhile, the 2.4GHz Wi-Fi offers connectivity to clients without HaLow capability as a supplementary option.

HAP101 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



#### HAP101

-  Wi-Fi HaLow with 2.4GHz Wi-Fi combined
-  Sub-1 GHz frequency bands supported
-  Longer distance: up to 1km
-  Data rates up to 150 Mbps (2.4GHz Wi-Fi) and 32.5 Mbps (Wi-Fi HaLow)
-  Ultra-low power consumption
-  Better penetration through walls and obstacles
-  Enhanced Wi-Fi security protections
-  Wide range of commercial and IoT applications
-  Fast connection supported
-  DIP switches for convenient modes switch

**HAP101 Wi-Fi HaLow Access Point Datasheet**

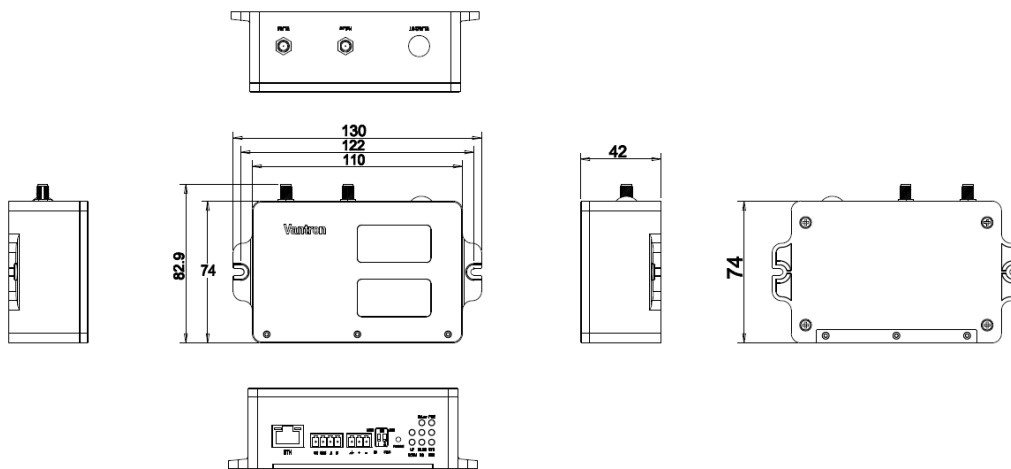
HAP101			
<b>System</b>	CPU	MediaTek 580MHz MIPS® CPU	
	Wi-Fi HaLow SoC	Morse Micro MM6108	
	Memory	256MB	
	Storage	64MB	
<b>WLAN Features</b>	2.4GHz Wi-Fi	Standard: IEEE 802.11 b/g/n	
		Frequency range: 2.412GHz ~ 2.462GHz	
		Channel bandwidth: 20/40 MHz	
		Data rate: up to 150 Mbps	
		Fast connection: WPS fast connection supported	
		Working mode: AP, STA (Multiple SSIDs supported in AP mode)	
	Wi-Fi HaLow	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	
		Data rate: up to 32.5 Mbps @8MHz or 15 Mbps @4MHz	
		Application mode: Mesh, Ad Hoc, BridgeWAN, Repeater	
<b>I/O</b>	Fast Ethernet	1 x RJ45, 10/100 Mbps	
	Serial port	1 x RS485 (4-pin terminal, 5V output, baud rate: 115200)	
	Antenna	1 x Wi-Fi HaLow antenna	1 x 2.4GHz Wi-Fi antenna
<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)	

## HAP101 Wi-Fi HaLow Access Point Datasheet

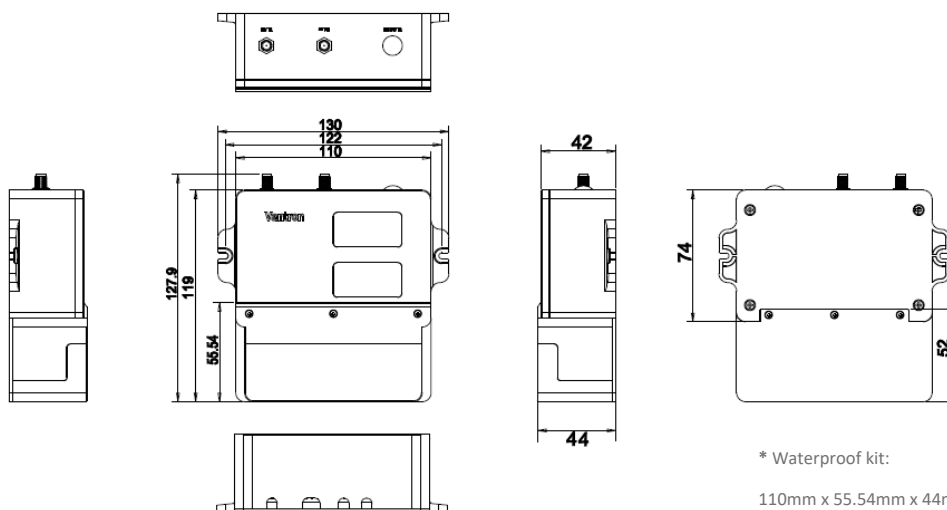
HAP101		
Software	Operating system	VantronOS
	Device management	Vantron BlueSphere GWM (Optional)
	Upgrade	Local upgrade, OTA upgrade
	VPN	OpenVPN
	Network protocol	IPV4, HTTPS, TCP & UDP, NTP client and server, ARP, TLS
	Link detection	Heartbeat detection, auto reconnection
	Network reliability	Multi-channel 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, IC

## 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

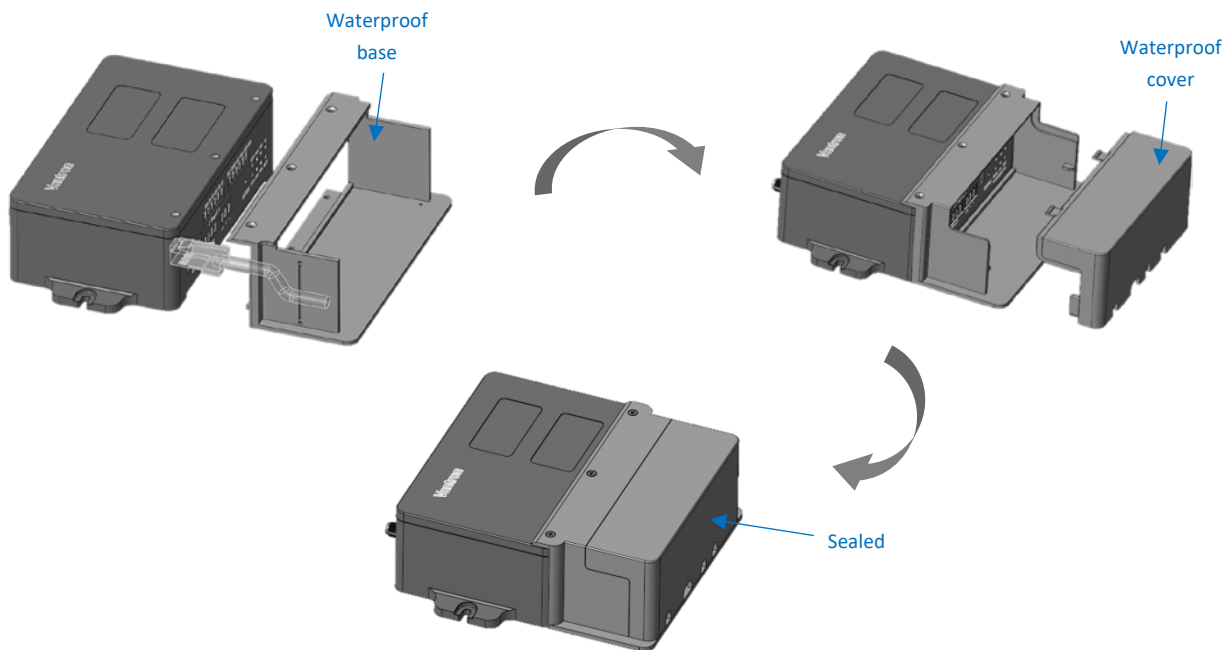
Ordering No.	Memory & storage	Main I/Os & power input	Casing color	IP rating	Installation
HAP101	256MB + 64 MB	RS485, RJ45, DIP switch,	Black	IP40	Wall mounting
HAP101-54		9V~40V DC input		IP54	

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

Packing list	
HAP101 Wi-Fi HaLow access point	1
Wi-Fi HaLow antenna	1
2.4GHz Wi-Fi 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.