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AP10 VaiNet Wireless Access Point

VaiNet Access Point AP10 is a wireless networking hardware device for Vaisala's proprietary wireless technology: VaiNet. AP10 transfers measurement data from wireless VaiNet data loggers to the monitoring system, and enables the remote configuration and management of VaiNet data loggers by the system's administrator. A wired Ethernet network connection is required.

AP10 with a cloud-based monitoring system

AP10 supports Vaisala viewLinc Cloud and Vaisala Jade Smart Cloud, both cloud-based data services for managing measurement data. When used with a cloud-based data service, the installation is very simple. No device pairing is needed, as the devices are associated with the cloud account when they are purchased. New devices become automatically available in the system.

Both supported cloud-based monitoring systems can utilize 8 access points and up to 256 wireless data loggers on a single site.

AP10 with an on-premise monitoring system

On-premise monitoring systems utilize Vaisala viewLinc Enterprise Server software. Instead of device pairing being preconfigured at the factory, the administrator of viewLinc ES has control over pairing. Whenever a new data logger is added to the system, AP10 automatically identifies it and forwards its information to viewLinc ES. The administrator of viewLinc ES makes the decision to accept the new device.

With viewLinc ES, the access points and data loggers can be deployed as a large VaiNet system by using the VaiNet segmentation feature. Systems with up to 32 access points and up to 1024 data loggers can be deployed on a single site, as long as the large system installation guidelines are followed.

AP10 synchronizes with default NTP servers over the Internet. When used with the viewLinc ES, AP10 can be configured to use your local NTP server, which allows operation without an Internet connection.

Data integrity

Data is encrypted during VaiNet transfers to protect against eavesdropping, data tampering, and transfer errors. Both the access point and the monitoring system verify that the data has been received correctly. Once the data is verified, it is stored to the monitoring system's secure database and protected from tampering and loss.

Redundancy

Redundancy of the wireless connection is achieved through use of multiple VaiNet access points and free connection capacity in the system. If a VaiNet data logger has a connection problem, it will automatically connect to another available access point in the system. At least 2 access points with free capacity are needed for failover to function.

Time synchronization

AP10 requires accurate time to operate its VaiNet wireless connection, and to maintain correct time on the connected data loggers. To achieve the accurate time, AP10 synchronizes with Network Time Protocol (NTP) servers.

Technical data

Wireless

Networking standards	Vaisala VaiNet
Wireless connection capacity	Up to 32 supported devices
Modulation	Chirp spread spectrum modulation
Output power	13 dBm (20 mW)
Antenna	Non-removable external antenna
Typical range (indoors)	At least 100 m (approx. 330 ft)
Maximum number of access points in an area	
Standard system	8
Large system [1]	32
Frequency bands	
AP10C model	500 MHz
AP10E model	868 MHz
AP10A model	915 MHz
AP10J model	920 MHz
AP10K model	921 MHz
AP10T model	922 MHz

1) Requires viewLinc Enterprise Server. Subject to additional installation requirements. See *Guidelines for Large VaiNet Systems (M212596EN)*.

General

Compatible monitoring systems [1]	viewLinc Enterprise Server 5.0 and newer viewLinc Cloud Jade Smart Cloud
Supported wireless devices	RFL100 data logger
User interfaces	Touchscreen interface Web browser interface [2]
User interface languages [3]	English, German, French, Portuguese, Spanish, Swedish, Chinese, Japanese
Internal clock	Synchronizes with Network Time Protocol (NTP) server on UDP port 123. NTP server connection required for operation.

1) See *product datasheets at docs.vaisala.com* for more information.
2) Not available on cloud-connected variant.
3) Only English language is available on the cloud-connected variant.

Inputs and outputs

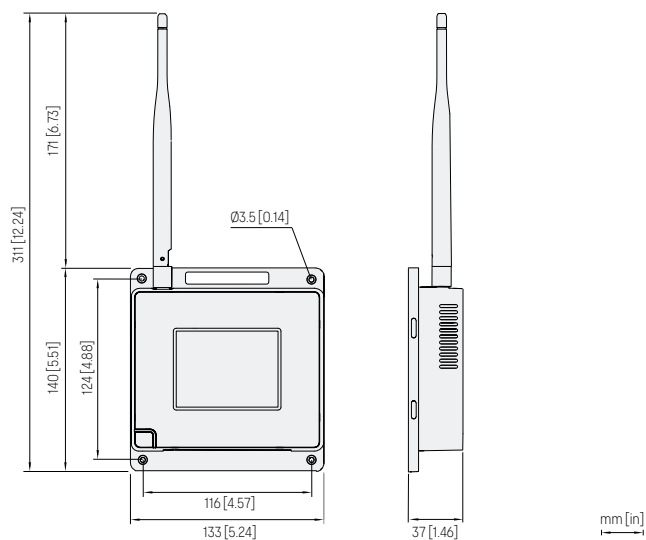|	
Supply voltage using dedicated power supply connector	10–30 V DC
PoE power class	Class 0
Power consumption	Max. 13 W
Ethernet interface	
Supported standards	10BASE-T, 100BASE-TX
IPv4 address assignment	DHCP (automatic), static [1]
Connectors	
Power supply connector	2.0 mm center pin locking type DC power jack
Service port	Micro-USB (2.0)
Expansion port	USB type A (2.0)
Ethernet	8P8C (RJ-45)

1) Static IP address assignment is not available on the cloud-connected variant.
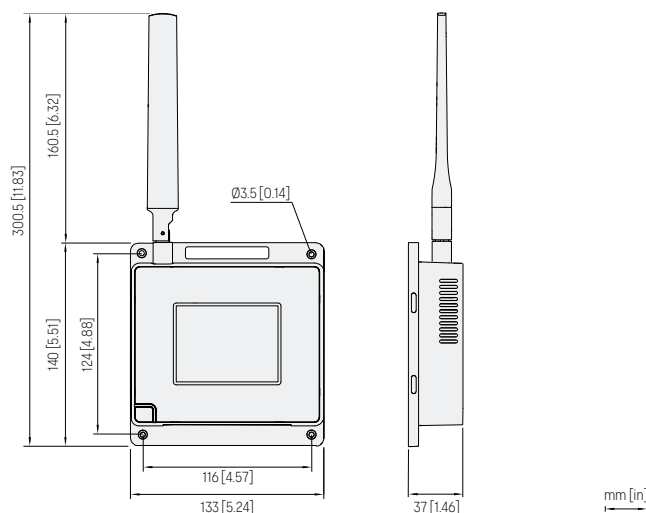
Operating environment

Operating environment	Indoor use
IP rating	IP30
Operating temperature	−20 ... +60 °C (−4 ... +140 °F)
Operating humidity	0–90 %RH, non-condensing
Storage temperature	−20 ... +60 °C (−4 ... +140 °F)

Compliance

Electromagnetic compatibility (EMC)	IEC/EN 61326-1, industrial environment
Electrical safety	IEC/EN 61010-1
AP10C model	
Radio standards and approvals	China MIIT 工业和信息化部公告 2019 年第 52号
Compliance marks	China RoHS
AP10E model	
EU directives and regulations	RoHS Directive (2011/65/EU) as amended by 2015/863 Radio Equipment Directive, RED (2014/53/EU)
Radio standards and approvals	ETSI EN 300 220-2 ETSI EN 301 489-1 ICASA No: TA 2020-7918 IMDA No: DB105576 TDRA No: ER36051/24 Serbia: И005 21
Compliance marks	AAA, CE, ICASA, UKCA
AP10A model	
Radio standards and approvals	Anatel ID: 04763-19-12322 AS/NZS 4268 FCC ID: 2AO39-AP10A IC ID: 23830-AP10A NOM ID: 1901C00393
Compliance marks	ANATEL, NOM, NYCE, RCM
AP10J model	
Radio standards and approvals	MIC ID: 012-200006
Compliance marks	GITEKI
AP10K model	
Radio standards and approvals	KC ID: R-R-ys8-AP10
Compliance marks	KC
AP10T model	
Radio standards and approvals	NCC ID: CCAP21LP1250T6
Compliance marks	NCC

AP10 access point dimensions

AP10C model dimensions

Mechanical specifications

Housing color	White
Mounting methods	Screws, tie wrap
Weight	386 g (13.62 oz)
Dimensions (H × W × D)	
AP10C model	300.5 × 133 × 37 mm (11.83 × 5.24 × 1.46 in)
Other models	311 × 133 × 37 mm (12.24 × 5.24 × 1.46 in)
Materials	
Housing	PC/ABS blend
Display window	Chemically strengthened glass
Antenna	ABS

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