



AP10 VaiNet Wireless Access Point



Features

- One AP10 supports up to 32 VaiNet data loggers
- Powered by Power over Ethernet (PoE) or DC adapter
- Minimal infrastructure and no signal amplifiers needed
- Uses HTTPS communication and encryption to ensure secure data transmission
- Chirp spread spectrum wireless modulation is resistant to multi-path fading
- Secure firewall and tamper-proof data backup

VaiNet Access Point AP10 is a wireless networking hardware device for Vaisala's proprietary wireless technology: VaiNet. AP10 can connect up to 32 wireless RFL100 data loggers to Vaisala viewLinc Monitoring System.

AP10 in viewLinc Monitoring System

AP10 access point transfers measurement data from wireless VaiNet data loggers to the viewLinc Enterprise Server, and enables the remote configuration and management of VaiNet data loggers by the viewLinc administrator. A wired Ethernet network connection between AP10 and viewLinc Enterprise Server is required.

Registration of new data loggers is handled by viewLinc Enterprise Server software. Whenever a new data logger is added to the system, AP10 automatically identifies it and forwards its information to viewLinc. Once accepted in viewLinc, VaiNet data loggers stay synchronized, even in situations where other nearby VaiNet networks overlap.

Data integrity

Data is encrypted during VaiNet transfers to protect against eavesdropping, data tampering, and transfer errors. Both the access point and the viewLinc Enterprise Server software verify that the data has been received correctly. Once the data is verified, it is stored to viewLinc'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 two 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.

AP10 synchronizes with default NTP servers over the Internet. To allow AP10 to operate without an Internet connection, configure it to use your local NTP server.

Technical data

Wireless

Networking standards	Vaisala VaiNet
Wireless connection capacity	Up to 32 supported devices
Modulation	LoRa™ 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	
Model AP10E	868 MHz
Model AP10A	915 MHz
Model AP10J	920 MHz
Model AP10T	922 MHz

¹⁾ Subject to additional installation requirements, including minimum distance between access points. See Guidelines for Large VaiNet Systems, document code M212596EN.

General

Compatible viewLinc versions	5.0 and above
Supported wireless devices	RFL100 data logger
User interfaces	Web browser interface Touchscreen interface
User interface languages	English, German, French, Portuguese, Spanish, Swedish, Chinese, Japanese
Internal clock	Synchronizes with Network Time Protocol (NTP) server. NTP server connection required for operation.

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
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)

Operating environment

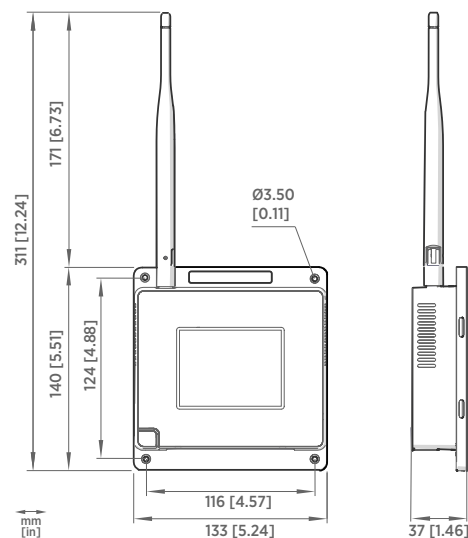
Operating environment	Indoor use
IP rating	IP30
Operating temperature	-20 ... +60 °C (-4 ... +140 °F)
Operating humidity	0 ... 90 %RH, non-condensing
Storage temperature	-20 ... +60 °C (-4 ... +140 °F)

Compliance

EMC compatibility	IEC/EN 61326-1, industrial environment
Electrical safety	IEC/EN 61010-1
AP10E model	
EU directives	RoHS Directive (2011/65/EU) 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 TRA No: ER67585/18
Compliance marks	CE, UKCA
AP10A model	
Radio standards and approvals	Anatel ID: 04763-19-12322 AS/NZS 4268 FCC ID: 2A039-AP10A IC ID: 23830-AP10A NOM ID: 1901C00393
Compliance marks	ANATEL, China RoHS, NOM, NYCE, RCM
AP10J model	
Radio standards and approvals	MIC ID: 012-200006
Compliance marks	GITEKI
AP10T model	
Radio standards and approvals	NCC ID: CCAP21LP1250T6
Compliance marks	NCC

Mechanical specifications

Housing color	White
Mounting methods	Screws, tie wrap
Weight	386 g (13.6 oz)
Dimensions (H × W × D)	311 × 133 × 37 mm (12.24 × 5.24 × 1.46 in)



AP10 access point dimensions