AP10 VaiNet Wireless Access Point

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.

**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

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: 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: 10BASE-T, 100BASE-TX
- IPv4 address assignment: DHCP (automatic), static

**Connectors**

- Power supply connector: 2.0 mm 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**

- **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**

- **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)

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