VaiNet Access Point AP10 is a wireless networking hardware device for Vaisala’s proprietary wireless technology: VaiNet. AP10 can connect up to 32 VaiNet wireless data loggers (such as the RFL100) to Vaisala viewLinc Monitoring 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

**AP10 in the 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**

<table>
<thead>
<tr>
<th>Networking standards</th>
<th>Vaisala VaiNet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modulation</td>
<td>LoRa™ chirp spread spectrum modulation</td>
</tr>
<tr>
<td>Output power</td>
<td>14 dBm (25 mW)</td>
</tr>
<tr>
<td>Antenna</td>
<td>Non-removable external antenna</td>
</tr>
<tr>
<td>Typical range (indoors)</td>
<td>At least 100 m (328 ft)</td>
</tr>
<tr>
<td>Maximum number of access points in an area</td>
<td>8</td>
</tr>
</tbody>
</table>

**Frequency Bands**

- Model AP10E: 868 MHz (Europe and Singapore)
- Model AP10A: 915 MHz (North America, China, Australia, and New Zealand)

**Safety**

- Electrical safety: EN/UL/IEC 61010-1
- RF exposure: KDB 447498 (United States) and RSS-102 Issue 5 (Canada)

**EMC and Radio Standards**

- Model AP10E: ETSI EN 300 220-2, EN 301 489-1, EN 301 489-3

**Operating Environment**

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

**Mechanical Specifications**

- IP rating: IP30
- Housing color: White
- Mounting methods: Screws, tie wrap
- Weight: 350 g (12.3 oz)
- Dimensions (H × W × D): 311 × 133 × 37 mm (12.24 × 5.24 × 1.46 in)

**Materials**

- Housing: PC/ABS blend
- Display window: Polyester
- Antenna: ABS

**Inputs and Outputs**

- Operating voltage using dedicated power supply connector: 10 ... 30 VDC
- PoE power class: Class 0
- Power consumption: Max. 13 W
- Internal clock: Synchronizes with Network Time Protocol (NTP) server. NTP server connection required for operation.
- Supported devices: Up to 32 VaiNet compatible data loggers
- Compatible viewLinc versions: 5.0 and above
- User interfaces: Web browser interface, Local touchscreen interface
- User interface languages: English, German, French, Portuguese, Spanish, Swedish, Chinese, Japanese

**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 (RU-45)

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