SOPHOS AP6 420X Cloud Managed Wi-Fi Access Points Instruction Manual

Contents

SOPHOS AP6 420X Cloud Managed Wi-Fi Access Points

Product Information

The AP6 420X is an access point (AP) that provides wireless connectivity. It comes with safety instructions and regulatory compliance guidelines to ensure safe usage.

Safety Instructions:

Connecting Earth Ground to Equipment:

- **WARNING:** The equipment has a separate protective earthing terminal on the chassis that must be permanently connected to earth ground to adequately ground the chassis and protect the operator from electrical hazards.
- **Caution:** Before equipment installation begins, ensure that a service personnel has attached an appropriate grounding lug to the grounding cable supplied.
- **To connect earth ground to equipment:**
    1. Connect one end of the grounding cable to a proper earth ground.
    2. Place the ground lug attached to the ground cable over the protective earthing terminal.
    3. Secure the grounding lug to the protective earthing terminal with washers and screws.
    4. Dress the grounding cable and ensure that it does not touch or block access to other components.
- **WARNING:** Before powering on the equipment, connect the frame of the equipment to earth. For earthing wire, green and yellow insulation is required and the cross-sectional area of the conductor must be more than 0.75mm2 or 18 AWG.
- **WARNING:** The protective earthing terminal with washers and screws where a screw is threaded into it shall be not less than twice the pitch of the screw thread, at least 3.5mm diameter; Star washers or Spring washers can be used.
- **WARNING:** After power off and disconnected from the equipment, then disconnect the frame of the equipment to earth.

Operating temperature range:

Model	Operating temp.	Power source
AP6 420X	Not specified	Not specified

PoE-Injector Safety Information:

- **Caution:** The PoE injector is to be connected only to PoE networks without routing to the outside plant.
- The power cord must have regulatory agency approval for the specific country in which it is used (for example, UL, CSA, VDE, GS, etc.).
- The power cord must be a three-conductor type (two current-carrying conductors; one ground conductor terminated on one end by an IEC 60320 appliance coupler (for connection to the PoE-Injector), and on the other end by a plug containing a ground (earthing) contact).
- The power cord must be razed for a minimum of 250 VAC RMS operation, with a minimum rated current capacity of 5 A (or a minimum wire gauge of 18 AWG (0.75 mm2)).
- A PoE-Injector installed in Australia requires power cords with a minimum wire gauge of 16 AWG (1.0 mm2).

Warnings:

California Proposition 65 Warning: This product may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Product Usage Instructions

To safely operate the AP6 420X access point, follow these instructions:

1. Ensure that the equipment’s protective earthing terminal is permanently connected to earth ground using a grounding cable.
2. Before equipment installation, make sure a service personnel has attached an appropriate grounding lug to the grounding cable.
3. Connect one end of the grounding cable to a proper earth ground.
4. Place the ground lug attached to the ground cable over the protective earthing terminal.
5. Secure the grounding lug to the protective earthing terminal using washers and screws.
6. Dress the grounding cable and ensure it does not touch or block access to other components.
7. Before powering on the equipment, connect the frame of the equipment to earth using an earthing wire with green and yellow insulation. The cross-sectional area of the conductor must be more than 0.75mm2 or 18 AWG.
8. The protective earthing terminal with washers and screws should have a screw thread pitch twice the diameter of the screw thread (at least 3.5mm diameter). Star washers or Spring washers can be used.
9. After powering off and disconnecting from the equipment, disconnect the frame of the equipment from earth.

Make sure to comply with the specified operating temperature range, although it is not provided in the manual.

When using the PoE-Injector, ensure that it is only connected to PoE networks without routing to the outside plant. Use a power cord with regulatory agency approval for the specific country and make sure it is a three-conductor type with the appropriate wire gauge for the PoE-Injector’s operation voltage and current capacity.

Safety Instructions

Connecting Earth Ground to Equipment

WARNING: The equipment has a separate protective earthing terminal on the chassis that must be permanently connected to earth ground to adequately ground the chassis and protect the operator from electrical hazards.

Caution: Before equipment installation begins, ensure that a service personnel has attached an appropriate grounding lug to the grounding cable supplied.
To connect earth ground to equipment:

1. Connect one end of the grounding cable to a proper earth ground.
2. Place the ground lug attached to the ground cable over the protective earthing terminal.
3. Secure the grounding lug to the protective earthing terminal with washers and screws
4. Dress the grounding cable and ensure that it does not touch or block access to other components.

WARNING: Before powering on the equipment, connect the frame of the equipment to earth. For earthing wire, green and yellow insulation is required and the cross-sectional area of the conductor must be more than 0.75mm2 or 18 AWG.
WARNING: The protective earthing terminal with washers and screws where a screw is threaded into it shall be not less than twice the pitch of the screw thread, at least 3.5mm diameter; Star washers or Spring washers can be used.
WARNING: After power off and disconnected from the equipment, then disconnect the frame of the equipment to earth.

You can operate the access point (AP) safely if you follow the information in these Safety Instructions and on the appliance.

- Do not reach into the appliance. There are dangerous circuits inside the appliance that can cause death if you touch them.
- Damaged appliances must be returned. It is forbidden to open the hardware appliance or to change its components. Failure to comply with this rule results in the loss of warranty cover from Sophos.
- The equipment power supply cord shall be connected to a socket-outlet with earthing connection. The power outlet socket should have grounded connection.
- Connect the device to a power socket with a fully functional earth conductor. Defective earth conductor connections do not comply with the requirements for safety and electromagnetic compatibility. Check the power socket before connecting the hardware appliance.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Before you switch on the appliance make sure that your mains voltage complies with the supply voltage of the appliance. The connection data are shown on the name plate.
- To disconnect the appliance completely take the power cable from the power socket. Make sure that the power plug is freely accessible.
- Make sure that no one can trip over the power cable and that it cannot be damaged by objects.
- Only connect system peripherals complying with the requirements for protective extra-low voltage according to UL/EN/IEC 62368-1.
- Only use parts and accessories validated by Sophos. Using non-approved parts and accessories may affect the functioning of the appliance and your safety.

- The appliance produces heat. Ensure that there is sufficient air circulation to remove the heat.
- Avoid a permanent high level of air humidity and formation of condensation. Protect the appliance from humidity and chemicals. Safe use of the appliance is no longer possible if:
    - the chassis is damaged
    - water penetrated the appliance
    - objects entered the appliance via air opening
    - smoke comes out of the appliance
    - the power cable is damaged
    - it does not work properly
- Immediately turn off the appliance in the event of one of the above problems, remove the power cable from the power socket and contact your customer service as soon as possible.
- We expressly exclude any product liability and warranty claims if the appliance is not operated according to the instructions in these notes and to the notes attached to the appliance itself.

Operating temperature range

- **Model** AP6 420X
- **Operating temp.** -20–55°C
- **Power source** PoE only 57Vdc, 0.6A (optional)

This product is intended to be supplied by a listed (certified) power supply that complies with PS2 or LPS. The output of PoE is rated 57Vdc, 0.6A minimum, Tma 55°C minimum. If you need further assistance, please contact the manufacturer, the UL file owner, or the brand owner for further information.

PoE-Injector Safety Information

Caution: The PoE injector is to be connected only to PoE networks without routing to the outside plant.

- **AC Power Cord:**
  The power cord must have regulatory agency approval for the specific country in which it is used (for example, UL, CSA, VDE, GS, etc.).
    - The power cord must be a three-conductor type (two current carrying conductors; one ground conductor terminated on one end by an IEC 60320 appliance coupler (for connection to the PoE-Injector), and on the other end by a plug containing a ground (earthing) contact).
    - The power cord must be razed for a minimum of 250 VAC RMS operation, with a minimum rated current capacity of 5 A (or a minimum wire gauge of 18 AWG (0.75 mm2)).
    - A PoE-Injector installed in Australia requires power cords with a minimum wire gauge of 16 AWG (1.0 mm2).
- The PoE-Injector “Data In” and “Data & Power Out” ports are shielded RJ45 data sockets. They cannot be used as Plain Old Telephone Service (POTS) telephone sockets. Connect RJ45 data connectors only to those sockets.
- The AC wall socket-outlet must be near the PoE-Injector and easily accessible.
  You can remove AC power from the PoE-Injector by disconnecting the AC power cord from either the wall socket-outlet or the PoE-Injector appliance coupler.
- The PoE-Injector “Data In” and “Data & Power Out” interfaces are qualified as Safety Extra-Low Voltage (SELV)

circuits according to IEC 62368-1.
Connect these interfaces only to SELV interfaces on other equipment.

Warnings

- Connect the PoE-Injector only to the IP device with which it was bought. Using the PoE-Injector with other IP devices can cause damage to the IP device.
- Read the installation instructions before connecting the PoE-Injector to its power source.
- Follow basic electricity safety measures whenever connecting the PoE-Injector to its power source.
- A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the PoE-Injector to that power outlet.

California Proposition 65 Warning

Warning: Cancer and Reproductive Harm – www.P65Warnings.ca.gov
This product contains components that can cause exposure to substances known to the State of California to cause cancer and/or reproductive harm.

Regulatory Compliance

Manufacturers Federal Communication Commission Statements

Note: The access point Sophos AP6 420X is restricted to outdoor use only.

- **CFR Title 47 Part 15 Subpart A—General §15.19 Statement**
  This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- **CFR Title 47 Part 15 Subpart A—General §15.21 Statement**
  Any changes or modifications not expressly approved by Sophos could void the user's authority to operate this equipment.
- **CFR Title 47 Part 15 Subpart B—Unintentional Radiators §15.105 Statement**
  This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

Publication Number: 443999 Rule Parts: 15E—Professional Installation Instructions

Sophos AP6 420X

1. **Installation personnel**
   This product is designed for specific applications and needs to be installed by qualified personnel who have RF and related knowledge. The general user shall not attempt to install or change the settings.
2. **Installation location**
   This product shall be installed at a location where the radiating antenna can be kept 20.5 cm away from a nearby person under normal operation conditions in order to meet regulatory RF exposure requirements.
3. **External antenna(s)**
   Only use the antennas that are provided in the scope of supply, because they have been approved by the regulatory authorities. Non-approved antenna(s) may produce unwanted spurious emissions or excessive RF transmit power, which may lead to a violation of FCC/IC limits and is therefore prohibited.
4. **Installation procedure**
   Please refer to the user manual for details.
5. **Warning**
   Please carefully select the installation position and make sure that the final output power does not exceed the limits set forth in relevant rules. The violation of those rules can lead to serious federal penalties.

CFR Title 47 Part 1 Subpart I §1.1310 Radiofrequency Radiation Exposure

Limits Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment as referenced in CFR Title 47 Part 1 Subpart I §1.1310.
The access point Sophos AP6 420X should be installed and operated with a minimum distance of 20.5 cm between the radiator and your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ISED Canada Statements/Avis ISED Canada

RSS-GEN
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

RSS-247

- The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
- The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and

- The worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) shall be clearly indicated.
- Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Radiation Exposure Statement
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 22 cm between the radiator and your body. This radio transmitter has been approved by ISED to operate with the antenna type listed below with maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

List of approved antennas

Type	Gain	Impedance	Brand	Manufacturer
Dipole	2.4 GHz: 3.2dBi 5 GHz: 6.0 dBi	50 Ohms	Grand-Tek	Grand-Tek Technology Co., Ltd.
Sector antenna (120 °)	V-pol 2.4 GHz: 10.6~10.8 dBi 5 GHz: 12.5~13.1 dBi H-pol 2.4 GHz: 10.0~11.4 dBi 5 GHz: 11.6~12.9 dBi	50 Ohms	Grand-Tek	Grand-Tek Technology Co., Ltd.
Directional antenna (30°)	V-pol 2.4 GHz: 11.6~11.8dBi 5 GHz: 10.6~11.0 dBi H-pol 2.4 GHz: 11.6~12.0 dBi 5 GHz: 10.4~11.5 dBi	50 Ohms	Grand-Tek	Grand-Tek Technology Co., Ltd.

Class B Notice for Canada
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
CAN ICES-003 (B)/NMB-003(B)

Simplified EU/UK Declarations of Conformity

- Hereby, Sophos Ltd. declares that the radio equipment AP6 420X is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: **https://docs.sophos.com/nsg/other/RegulatoryCompliance/enus/index.html**
- Hereby, Sophos Ltd. declares that the radio equipment AP6 420X is in compliance with the Radio Equipment Regulations 2017 (S.I. 2017/1206). The full text of the UK declaration of conformity is available at the following internet address: **https://docs.sophos.com/nsg/other/RegulatoryCompliance/en-us/index.html**

Outdoor Use Statement

Caution: The Sophos access point AP6 420X restricted to outdoor operation only.

Frequency Ranges and Transmit Power

AP6 420X	2.400–2.4835 GHz	19.97 dBm
	5.500–5.700 GHz	29.85 dBm

MPE Statement

Caution: This product complies with maximum permissible exposure limits as set forth by the European Norm EN 62311. The Sophos access point should be installed and operated with minimum distance of 20 cm between the radiator and your body.

Safety Instructions and Regulatory Compliance AP6 420X

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Documents / Resources

	**SOPHOS AP6 420X Cloud Managed Wi-Fi Access Points** [pdf] Instruction Manual 2ACTO-AP6420X, 2ACTOAP6420X, AP6 420X, AP6 420X Cloud Managed Wi-Fi Access Points, Cloud Managed WiFi Access Points, WiFi Access Points, Access Points