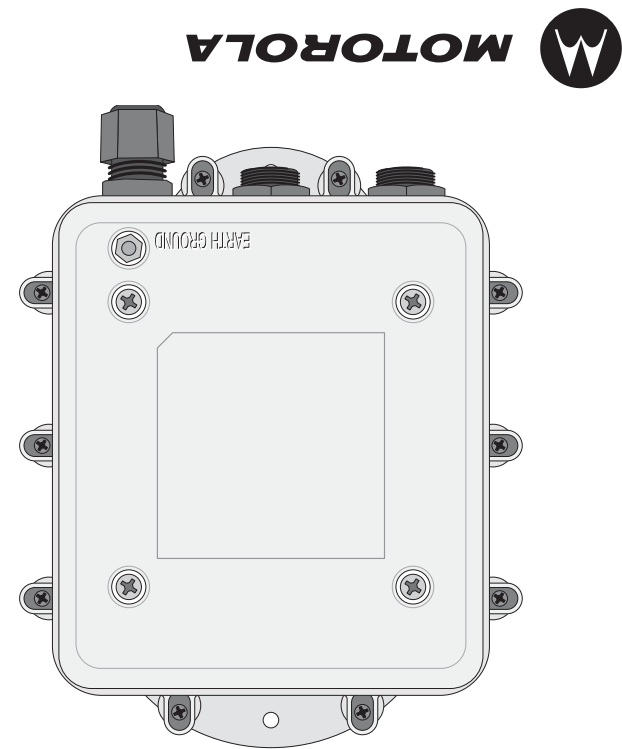




|                        |                |                                   |                  |
|------------------------|----------------|-----------------------------------|------------------|
| United States          | 1-800-653-5350 | Canada                            | 905-629-7226     |
| United Kingdom         | 0800 328 2424  | Asia/Pacific                      | +65-6796-9600    |
| Australia              | 1-800-672-906  | Austria/sterreich                 | 1-505-5794-0     |
| Denmark/Danmark        | 7020-1718      | Finland/Suomi                     | 9 5407 580       |
| France                 | 01-40-96-52-21 | Germany/Deutschland               | 6074-49020       |
| Italy/Italia           | 2-484441       | Mexico/México                     | 5-520-1835       |
| Netherlands/Nederland  | 315-271700     | Norway/Norge                      | +47 2322 4375    |
| South Africa           | 11-8095311     | Spain/España                      | 91 324 40 00     |
| Sweden/Sverige         | 84452900       | Inside Spain                      | +34 91 324 40 00 |
| Latin America          | 1-800-347-0178 | Inside US                         | +1-954-255-2610  |
| Sales Support          |                | Outside US                        | +1-954-255-2610  |
| Europe/Mid-East        |                | Contact local distributor or call | +44 118 945 7360 |
| Distributor Operations |                |                                   |                  |

**Service Information**  
Before using the unit, it must be configured to operate in the facility's network and run your applications. If you have a problem running your unit or using your equipment, contact your facility's Technical or Systems Support. If there is a problem with the equipment, they will contact Motorola.



## AP-5181 1-Port Power-over-Ethernet Power Tap Installation Guide

### Technical Specifications

#### Physical Specifications

|        |                     |
|--------|---------------------|
| Width  | 6.5 inches (165 mm) |
| Height | 3.75 inches (95 mm) |
| Depth  | 8 inches (203 mm)   |
| Weight | 1.6 lbs (726 grams) |

#### Environmental Specifications

|                         |   |
|-------------------------|---|
| Temperature             | -30°C to 55°C (Operating), -40°C to 85°C (Storage)                        |
| Humidity                | 5% to 95% Non-condensing (both Operating and Storage)                     |
| Altitude                | 8,000 feet/2438 m @28°C (Operating)<br>15,000 feet/4572 m @12°C (Storage) |
| Electrostatic Discharge | 20kV (air) @ 50% rh, 8kV (contact) @ 50% r                                |
| Drop                    | Bench drop 36 inches to concrete  |
| Wind Blown Rain         | 40 MPH @ 0.1 inch/minute, 15 minutes                                      |

#### Electrical Specifications

|                            |            |
|----------------------------|------------|
| Operating Voltage (input)  | 100-280VAC |
| Operating Voltage (output) | 48VDC      |

**Caution** - Only a certified electrician should attempt to open the Power Tap and feed the power cable into the unit, as a shock hazard exists when working inside the Power Tap enclosure.

The Power Tap has a "transient ground" on the back of the unit used to ground the unit at the point of installation as a means of surge protection. A separate Power Tap is required for each AP-5181 comprising the network. The connection of the transient ground to an earth ground is required to ensure the safe operation of the Power Tap.

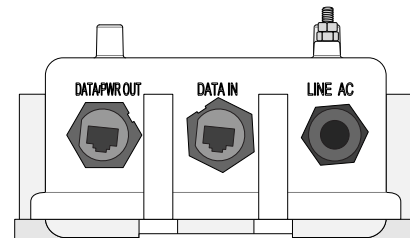
**Caution** - Ensure the Power Tap is connected to a protected AC supply (AC mains service disconnect box or breaker box). Again, only a certified electrician should attempt to open the Power Tap enclosure and install the unit.

**Caution** - Using the Power Tap with an unsupported Motorola device (other than the AP-5181 model access point) could render the device inoperable and void the device's warranty.

The Power Tap has no On/Off power switch. The Power Tap receives power and is ready for AP-5181 device connection and operation as soon as AC power is applied.

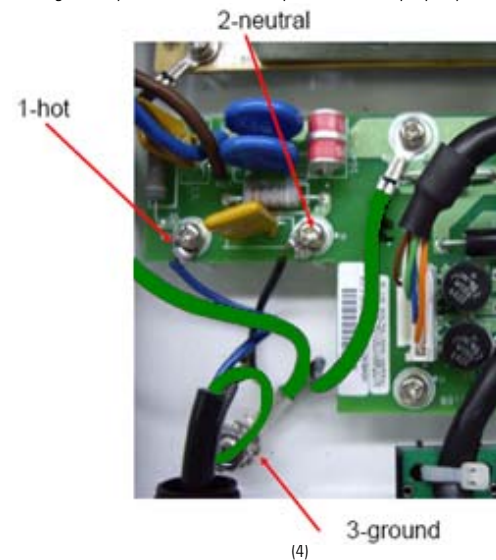
The Power Tap has the following features:

- Supports standard 10/100BaseT Ethernet networks over a standard TIA/EIA-568 Category 5 (or higher) cabling
- Meets the IEEE 802.3af standard- mid span power over un-used pairs (no discovery)
- Power Input (LINE AC connector): 100-280 VAC
- Minimum port output continuous allowable power of 15W at 48V minimum (minimum 12.95W at the PDTE)
- Wall mount installation support



**Caution** - The Power Tap should only be used with a Motorola AP-5181 model access point.

The Power Tap has a 100-280 VAC power input (LINE AC connector) on the bottom of the unit, accessed through a weather sealed gland. To supply power, a certified electrician is required to open the Power Tap enclosure, feed the power cable (customer supplied) through the Line AC gland, secure the power cable to the unit's three screw termination block and tighten the unit's LINE AC gland (by hand) to ensure the power cable is properly weather sealed.



- 1 Power Tap (Part No. AP-PSBIAS-5181-01R)
- 2 Weather Sealed Connector Plugs
- 1 Connector Cover
- This Power Tap Installation Guide (Part No. 72-95250-01)

Inspect the package contents and report any missing or damaged items to your sales representative. The packages should contain the following:

#### Verifying Package Contents

This guide is intended for the technician responsible for installing the Motorola Power Tap. It assumes the technician is familiar with basic Ethernet LAN-based networking and IEC60364, National Electrical Code (NEC) and Canadian Electrical Code (CEC) standards. This guide provides specifications, procedures and guidelines to use during the installation process. This guide does not provide site-specific installation procedures. For detailed site-specific installation procedures, refer to the site-specific documentation derived from site survey and site network analysis.

#### To the Installer

#### Warnings

- Read the installation instructions before connecting the Power Tap to a power source.
  - Follow basic electricity safety measures whenever connecting the Power Tap to its power source.
  - This product relies on the building installation for short-circuit (over current) protection. Ensure a fuse or circuit breaker no larger than (277VAC, 5A) is used on the phase conductor.
  - A voltage mismatch can cause equipment damage and could pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the Power Tap to that particular source.
  - The Power Tap **DATA IN** and **DATAPWR OUT** ports are RJ-45 sockets. Only RJ-45 data connectors should be connected to these sockets.
  - Disconnect **DATA IN** and **DATAPWR OUT** before opening the enclosure.
- Canada Recommended - Gardner Bender 6-14 AWG Mechanical Lug; GSSLU-3; UL Listed).
- The protective earth wire connector is not supplied with the device. Use only a suitable of 14 AWG that is certified, as appropriate, for the country of installation.
  - The protective earth cable is not supplied with the device. Use only a minimum wire size code.
  - The earth ground connector must be connected to a earth ground as defined by local code.
  - All primary wiring must be completed by a licensed and certified electrician.
  - The earth ground connector must be connected to a earth ground as defined by local code.
  - The power cable must be rated for a minimum of 277VAC RMS operation, with a minimum rated current capacity of 5A [or as defined by local code].
  - The Power Tap **DATA IN** and **DATAPWR OUT** interfaces are qualified as SELV (Safety Extra-Low Voltage) circuits according to IEC 60950. These interfaces can only be connected to SELV interfaces on other equipment.
  - Only trained and qualified personnel should install and remove the Power Tap. A power cable is not supplied with the device. Use only a correctly rated power cable that's certified, as appropriate, for the country of operation. Only a licensed electrician should install the power cable.
- Before operating any equipment, review this document for any hazards associated with installation and use of the device. Also, review standard practices for preventing accidents.

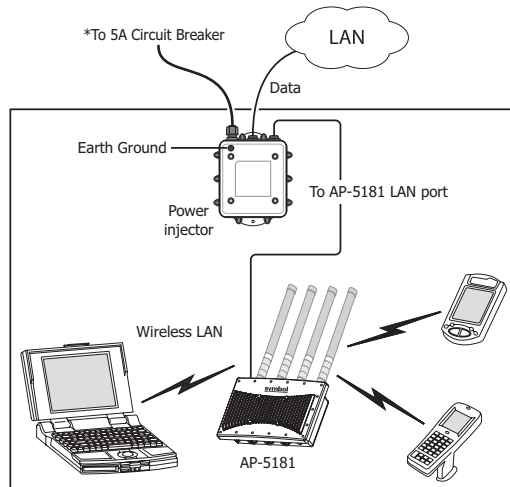
#### Safety Information

### Introduction

When users purchase a Motorola WLAN solution, they often need to place access points in obscure locations. In the past, a dedicated 24-hour, power source was required for each access point in addition to the Ethernet infrastructure. This often required an electrical contractor to install power drops at each access point location. With the Motorola AP-5181 Power Tap solution (Part No. AP-PSBIAS-5181-01R), centralized power can now be provided for an AP-5181 (deployed outdoors) without a local power supply for each AP-5181. Thus, the Power Tap is optimal for proper electrical isolation from outdoor electrical events.

### Product Description

The Motorola Power Tap (Part No. AP-PSBIAS-5181-01R) is a single-port, 802.3af compliant Power-over-Ethernet hub combining low-voltage DC with Ethernet data in a single cable connecting to an AP-5181 model access point. The Power Tap is designed and ruggedized for use with an AP-5181's outdoor deployment. The Power Tap's single DC and Ethernet data cable creates a modified Ethernet cabling environment eliminating the need for separate Ethernet and power cables.



\* 5 Amp Circuit Breaker – UL Listed; 1 or 2 Pole for L/N only.

## Installation

### Preparing for Site Installation

The Power Tap can be wall mounted using the Power Tap’s wall mounting key holes or using an Accessories Kit (Part No. KT-5181-WP-01R). The following guidelines should be adhered to before cabling the Power Tap:

- Verify the device receiving converged power and Ethernet from the Power Tap is an AP-5181 model access point.
- Do not block or cover airflow to the Power Tap.
- Verify the power cord is UL listed and marked “water resistant,” “outdoor,” “W” or “W-A.”
- Ensure overcurrent protection (meeting the maximum rating of 5A) is installed at the access point’s installation site in front of the Power Tap and access point.
- Mount the Power Tap with its cabling facing downward.

- Ensure the communication cable (CAT5, CAT5e or CAT.6) is 26AWG min, type CM, CMG, CMR or CMP, and UL listed. Refer to Articles 725 and 800 (specifically) for clearances from power and lighting conductors and transient protection.

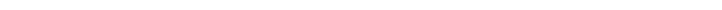
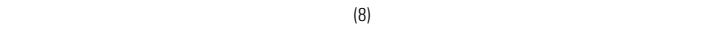
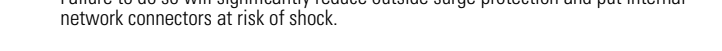
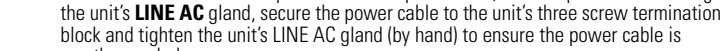
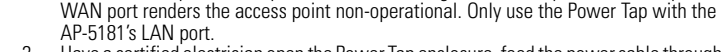
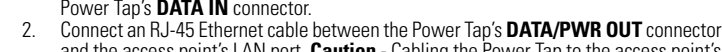
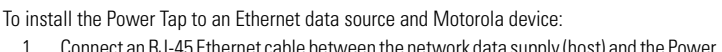
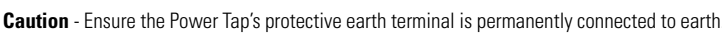
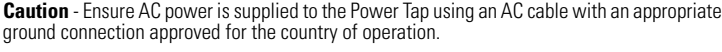
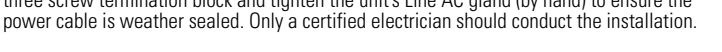
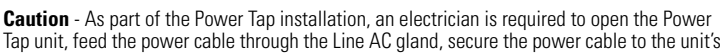
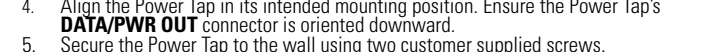
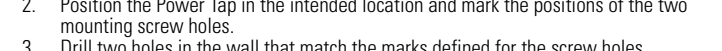
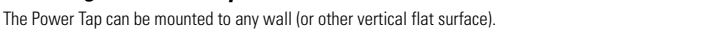
- The Power Tap is not a repeater, and does not amplify the Ethernet data signal. For optimal performance, ensure the Power Tap is placed as close as possible to the network data port. Do not configure the cable length between the Ethernet network source, the Power Tap and the AP-5181 beyond 100 meters (333ft).



Figure 7. Mounting the Power Tap to a wall



Figure 8. Mounting the Power Tap to a wall



5. Verify all cable connections are complete before supplying power to the AP-5181 access point.

**Caution** - Unlike other Motorola Power-over-Ethernet solutions, the AP-5181 Power Tap (Part No. AP-PSBIAS-5181-01R) does not have LED indicators. An AP-5181 is ready for operation (at an operating temperature at or above -30°C) as soon as all cable connections have been made and the Power Tap has been connected to a correctly rated power supply.

## Troubleshooting

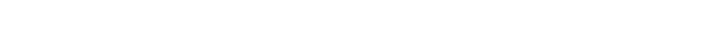
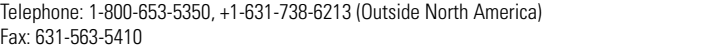
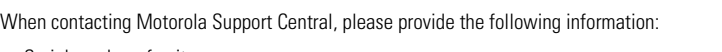
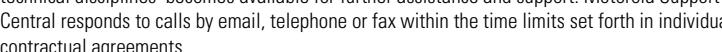
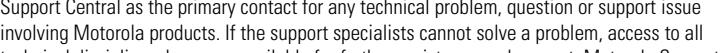
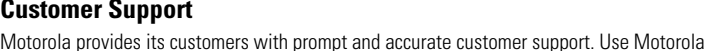
The following potential Power Tap problem scenarios should be addressed as follows:

### Power Tap does not power up properly

1. Verify the power cord is rated appropriately for the intended country of operation
2. Verify the voltage at the power inlet is between 100 and 280 VAC.
3. Remove and reapply power to the Power Tap.

### AP-5181 receives power but no Ethernet

1. Verify the Ethernet cable is connected to an active hub or switch port on the network.
2. Verify the port indicator on the front panel is continuously illuminated.
3. Verify you are using a standard UTP/FTP Category 5 straight (non-crossover) cabling with all four pairs.
4. Ensure the Ethernet cable length is less than 100 meters from the Ethernet data source to the Power Tap.
5. Reconnect the AP-5181 to a different Power Tap. If the AP-5181 receives power, there is probably a faulty port or RJ-45 connection on the Power Tap.



## International Contacts

Outside North America:

Symbol Place

Winnersh Triangle, Berkshire, RG41 5TP

United Kingdom

Telephone: 0800-328-2424 (Inside UK), +44 118 945 7529 (Outside UK)

## Customer Support Web Sites

Comprehensive on-line support is available at the Support Central site at

<http://www.symbol.com/support/>. Support Central provides our customers with a wealth of information and online assistance including developer tools, software downloads, product manuals and online repair requests.

### Product Downloads

<http://www.symbol.com/downloads>

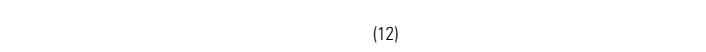
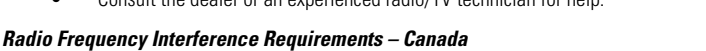
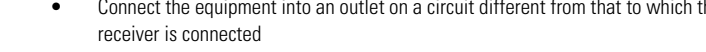
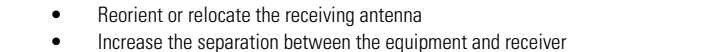
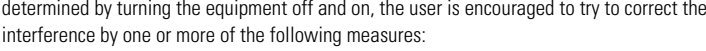
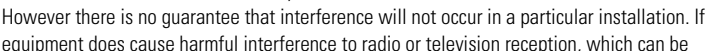
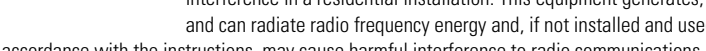
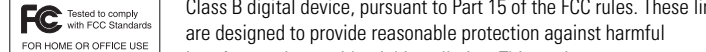
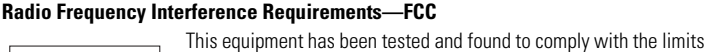
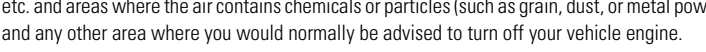
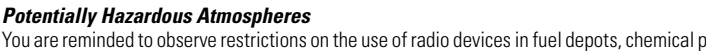
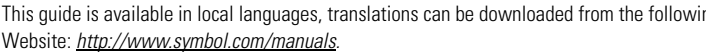
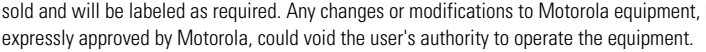
### Manuals

<http://www.symbol.com/manuals>

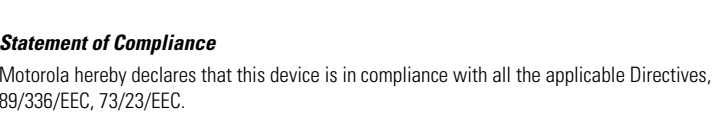
## Additional Information

Obtain additional information by contacting at:

- 1-800-722-6234, inside North America
- +1-631-738-5200, in/outside North America



## CE Marking and European Economic Area (EEA)



A Declaration of Conformity may be obtained from <http://www2.symbol.com/doc/>.

