Advisor Advanced Pedestrian System (AAPS) Installation Guide

906-0004

Revision E ● July 9, 2015

Campbell Company

450 W. McGregor Drive

Boise, Idaho

83705

USA

Tel: 1-208-345-7459 Fax: 1-208-345-7481

AAPS Installation Guide
906-0004

Revision History		
Revision	Revised By	Date
D	Zane Sapp	10-13-2014
E	Tony Brennan	7-09-15

APC

APB

1   Table of Contents

2　　Introduction

2.1　　Purpose of this document

This guide covers the installation of the Advisor Advanced Pedestrian System (AAPS) and its related components, Base Station, APC and Termination Board. It does not cover the configuration of the AAPS. For details on configuring the AAPS, please see the User's Manual.

2.2　　Additional Information

- See the AAPS User's Manual for operational information
- Reference the Campbell Company Message Worksheet for location specific information
- See the Installation Quick Guide for a brief graphical installation guide.
- See the Base Station Mounting Template for an easy to use hole pattern for mounting the APBs.

2.3　　Contact Information

The first line of contact should be the distributor that the system was purchased from. If you are unable to contact the distributor, contact Campbell Company directly.

3 Installation

3.1 Standard Components

- 1(+) ea. APB Base Station
- 1(+) ea. Terminal Cover Plate + Nipple
- 1(+) ea. Adapter Plate, Sign, & Hardware
- 1 ea. APC with Power Cable
- 1 ea. APC Input Cable (25 conductor)
- 1 ea. APC Output cable (9 conductor)
- 1 ea. 7ft EoP Cable (2 conductor)
- 1 ea. EoP Termination Board

3.2 Installation

3.2.1 Warranty Void

Do not connect the 120 VAC to the 2 position field wire terminals on the back of the APB station as this will cause damage to the unit. This will void terms and conditions of the warranty agreement.

3.2.2 Tactile Arrow Orientation

Mount the Base Station with the tactile arrow pointing directly to the crossing destination THE PEDESTRIAN RELIES ON THIS INFORMATION TO CROSS SAFELY. Some intersections do not call out arrow directions and require installation in the field. The tactile arrow is field selectable (left or right) requiring two security screws and a special bit. Campbell Company provides this hardware when specified at the time of purchase.

Bumpers on the back of the Base Station are adjustable allowing for a number of configurations to ensure a precise fit, especially on decorative or small diameter poles where the station needs to be angled to provide accurate directionality of the arrow.

3.2.3 Base Station Installation

Each station is pre-configured for a specific location as determined by the Intersection Worksheet. If the stations are not installed in the correct locations, the audio messages may not be correct. Incorrect messages are a safety hazard. The AAPS should not be left running as long as they are incorrect. If the stations are not installed in the correct position, see the AAPS User's Manual on how to re-configure them.

It is recommended to use an anti-seize compound on all screws going into the pedestrian station. Failure to do so may damage the station if removal is necessary.

Mounting the Pedestrian Stations

1. See the Base Station Mounting Template for a visual aid.
2. Mark the point where the PPB will be centered 36" to 42" from the ground.
3. Drill a 1 1/8" through hole 1 1/4" above PPB center.
4. Drill and tap for a 1/4-20 screw 2 1/4" above PPB center.
5. Drill and tap for a 1/4-20 screw 10 1/2" above PPB center.
6. Insert control cabinet field wiring through the terminal cover plate chase nipple.
7. Connect cabinet field input wires to screw terminals on the back of the base station.
8. Secure protective terminal plate with screws.
9. Adjust bumpers as necessary to ensure a secure fit. Place the pedestrian station on the pole and fasten using two 1/4-20 FHP screws.
10. Attach the adapter plate and/or sign using provided hardware. The adapter plate and mounting hardware differ depending on size.
11. Repeat these steps for all stations at the intersection.

Mounting the Termination Board

1. Locate a rail that spans the entire side of the cabinet wall to mount the Termination Board shown in Figure 1. It is recommended to choose an area at the bottom of the cabinet close to the entrance of the pedestrian field wires.

2. The termination board back plate has two 1/4" holes for fastening the plate on a cabinet rail. With two 1/4-20 x1/2" PHP, secure the back plate onto the cable rail.

3. Identify the pedestrian field wires that will land on the termination board. With any pair of field wires (APBs do not need to be in any particular order), connect both

Figure 1. Termination Board

wires in sequential order to the terminal block. Strip the field wire ends to 1/4" and slide them into the corresponding female terminal connection. Tighten the set screw above to ensure a good connection. Repeat for the remaining field wires.

4. Attach the 7 ft. two wire EoP Cable from the 2 position terminal on the Termination Board to the APB Output connection on APC.
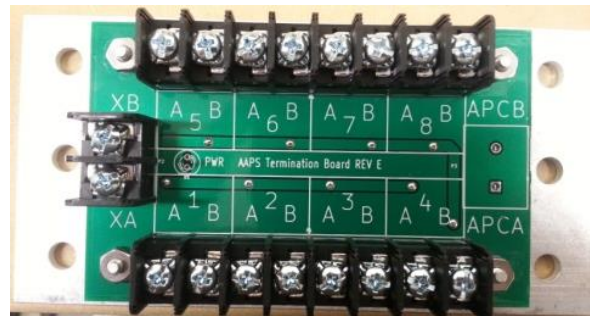
Installing the APC

1. Place the APC on shelf inside the cabinet. If shelf space is limited, Campbell Company provides optional mounting solutions.

Installing the Input Cable (DB25)

1. Identify the outputs to the pedestrian display from the traffic controller cabinet for the pedestrian phases. Reference the accompanying Campbell Company intersection worksheet and identified the pedestrian phases on the planning sheet (P2, P4, P6, P8, etc)

2. Route the DB25 APC input cable in Figure 2 from the front of the APC to the traffic controller cabinet load switch outputs. Secure the excess cable in a loop and tie neatly to avoid confusion.

3. Attach the APC input connections to Pedestrian Display Outputs (W and DW), and ground to traffic controller cabinet Pedestrian Display Outputs. See the Installation Quick Guide for wiring colors and labels.
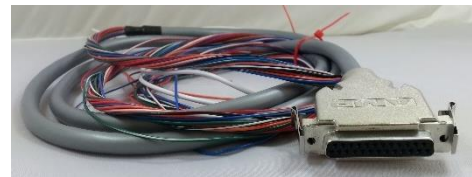

Figure 2. DB25 APC Input Cable

Installing the APC Output Cable (DB9)

1. Identify the pedestrian pushbutton inputs in the traffic controller cabinet (PB2, PB4, PB6, PB8, etc)

2. Route the DB9 APC output cable in Figure 3 from front of APC to the pedestrian pushbutton inputs.

3. Attach the APC output connections PB1 – PB8 to the cabinet's pushbutton inputs, and GND to the cabinet's pushbutton input common. See the Installation Quick Guide for wiring colors and labels.

Figure 3. DB9 APC Output Cable

Connect 120 VAC

1. The 120 VAC power cable shown in Figure 4 is supplied with the AAPS system.

2. Attach the green wire to the cabinet ground: the blue wire will attach to 120 VAC Neutral: the Brown wire will attach to the 120 VAC terminal (hot) in the cabinet. Note that some cables can have an alternate coloring. Green should be connected to earth ground, black to 120VAC (hot), and white to AC neutral.

Figure 4. 120VAC Power Cord

Power Up Sequence

1. Verify that all cables are connected to the front of the APC.

2. Make sure the power switch is in the OFF position before attaching the 120 VAC cord.

3. Turn the power switch to the RESET position allowing the APC to power up. The red status light should be blinking when the APC begins communicating with the APBs. (May take up to a minute to establish communications)

4. The APC display will show a green up arrow or down arrow for each APB.

Ethernet Connectivity

1. See the AAPS User's Manual for instructions on how to connect the APC to a network.

SEE AAPS USERS MANUAL FOR DETAILED OPERATIONAL INSTRUCTIONS

4 Post Installation

4.1 Operational Check

1. The AAPS comes fully configured from the factory. When first powered up, an audible locator tone will be present at the pedestrian station.
2. Depress the push button and verify the red LED turns on with an audible acknowledgement message "Wait". (No acknowledgment message in EPAPS mode). Verify that pedestrian call is transmitted to the traffic controller.
3. Following a momentary press, verify the Walk message is present and the vibro-tactile button vibrates concurrently with the walk sign.
4. Repeat again with an extended press and verify the red LED turns on and an audible location message plays.
5. After the Walk message, verify an audible locator tone is present during the clearance interval (Flashing Don't Walk).
6. Recheck all units for a full cycle to ensure all options and features operate as desired.
7. Depending on intersection location, factory default settings for volume, AGC, and vibo-tactile settings may require modifications.

5 Appendix A: Acronyms, Abbreviations & Definitions

Term	Meaning
Adapter Plate	An aluminum plate that mounts to the base station to display crosswalk signs.
APB	Advanced Pedestrian Button
APC	Advanced Pedestrian Coordinator
Base Station	Fully integrated APS station that contains the microcontroller, push button, speaker, adapter plate
EoP	Ethernet over Power line
Extended Press	On APS, holding the pedestrian push button down from 1-3 seconds may activate special features, including audible beaconing and extended pedestrian clearance interval.
Intersection Worksheet	Document containing the intersection specific information including where to install pedestrian stations.
Station ID	Intersection unique identification number for each APB
Termination Board	Circuit board that consolidates the pedestrian field wiring to 2 wires.