
Advisor Guide Pedestrian Signal (AGPS) Installation Manual

906-0003

Revision D • January 20, 2014

This Installation Guide provides guidance to those involved in the installation of the application. This guide assumes that you have some knowledge of the [operating system] and the [system].



Campbell Company

450 W. McGregor Drive

Boise, Idaho

83702

USA

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

Last edited: 20 January 2014

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Installation Guide

906-0003

Document Revision History			
Revision #	Revision Update	Revised By	Date
A	Released	tbrennan	6-18-2012
B	Released	tbrennan	10-01-2012
C (CAL TRANS)	Released	ptate	10-17-2012
C1	Released	Zsapp	12-21-2012
C2	Released	tbrennan	12-02-213
D	Released	tbrennan	1-13-20013



AGPS Base Station



400A Base Station

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1 Introduction

1.1 Purpose of this document

This guide covers the installation of the Advisor Guide Pedestrian Signal and its related components, Base Station, Signal Power Interface, and the Application Utility.

1.2 Identification

- Advisor Guide Pedestrian System (AGPS)
- Base Station – Fully Integrated Pedestrian Station (FIPS)
- Signal Power Interface (SPI)
- Utility Version: 1.3.X
- Firmware Version: 1.3.X

1.3 Reference information

- See AGPS Owner's Manual for operational information
- See AGPS Troubleshooting Manual
- Reference Campbell Company Intersection Worksheet for location information

1.4 Points of Contact

- Customer Support, Queries, and Troubleshooting information
- Tony Brennan, Manufacturing Engineer 1.208.345.7459 tony@pedsafety.com
- Cody Browne, Electrical Engineer 1.208.345.7459 cody@pedsafety.com
- Zane Sapp, Electrical Engineer, 1.208.345.7459 zane@pedsafety.com

2 Installation Plan

2.1 Scope

The Installation guide provides instructions for the installation of the Advisor Guide Pedestrian Signal and ensuring functionality. This document does not discuss the operational function, audio file transfer, or utility installation and/or modification. (See Owner's Manual)

2.2 Location

Identify the location of the AGPS Base Station using the Intersection Worksheet provided with the installation packet. Pedestrian Stations are identified with the Campbell Company Work Order number and Station Identification number.

2.3 Standard Components

- 1ea Base Station with four conductor cable
- 1ea Signal Power Interface
- 1ea USB (type B) cable per installation
- 1ea Adapter Plate (see dimension Hardware options below)
- 1ea Sign
- (5x7) Adapter Plate, Sign Hardware, and BS Mounting Hardware
 - 2ea. 8-32 X 1 3/4" FHP Screws (AP – bottom holes)
 - 2ea. 8-32 X 1 3/4" PHP Screws (Sign – AP – top holes)
 - 2ea. 8-32 X 1/4" PHP Screws (Sign – bottom holes)
 - 2ea. 1/4 - 20 x 1" FHP Screws (Standard mount bolts)
- (9x12 & 9x15) Adapter Plate, Sign Hardware, and BS Mounting Hardware
 - 4ea. 8-32 X 1 3/4" FHP Screws (AP – all holes)
 - 4ea. 8-32 X 1/4" PHP Screws (Sign – all holes)
 - 2ea. 1/4 - 20 x 1" FHP Screws (Standard mount bolts)
- (400A) BS Mounting Hardware
 - 2ea. 1/4 - 20 x 1" FHP Screws (Standard mount bolts)

2.4 Tasks

#	Sequence of Installation
1.	Identify Location – reference intersection worksheet
2.	Drill and tap pole for Base Station
3.	Pull 4-conductor cable from Base Station to SPI
4.	Connect field wires to Base Station
5.	Mount Base Station
6.	Install SPI in Pedestrian Signal Head
7.	Make Connections for the SPI
8.	Test and Adjust
9.	Fax checklist to Campbell Company

2.5 Install Utility Application

The AGPS Utility application provided by Campbell Company is required before installation:

USB Configuration Utility

Install the computer based configuration utility onto a portable computer. An electronic copy of the utility is available at www.pedsafety.com / customer support / downloads. A USB connection is required for base station communications. Contact Campbell Company Technical Support if you are experiencing problems with downloading or using the Utility.

2.6 Installation Procedure

Base Station Installation

Tactile Arrow Orientation

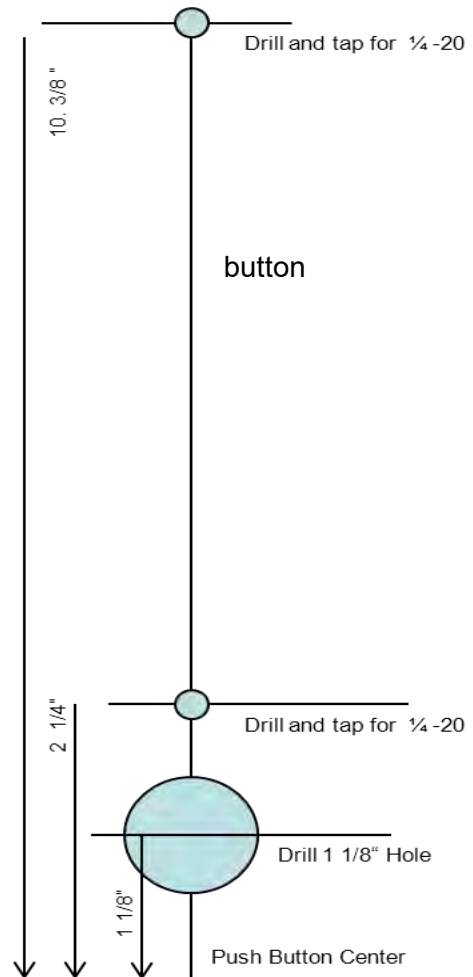
Mount the Base Station so the tactile arrow is pointing directly to the crossing destination. Some installations do not call out arrow directions and require installation in the field. The tactile arrow is field selectable (left or right) requiring two security screws and a security driver. Campbell Company provides this hardware packet only when specified at the time of purchase. Contact Campbell Company Technical Support if a security bit is needed for tactile arrow modification.

Note: THE PEDESTRIAN RELIES ON THIS INFORMATION TO CROSS SAFELY.

Rubber mounting bumpers screw on to the back plate of the Base Station. These are adjustable allowing for a number of configurations to ensure a precision fit - especially on decorative, small diameter poles where the station needs to be angled to provide accurate directionality at the arrow.

Drill and Tap Pole

1. Refer to Template 1 for diagram
2. Center the Base Station on the pole with the push at the appropriate height (36 – 42” inches center).
3. Mark the point where the PPB will be centered.
4. Mark for a hole 1 1/8” above PPB center, and drill a 1 1/8” hole
5. Mark for a hole 2 1/4” “above PPB center - drill and tap for a 1/4-20 thread
6. Mark for a hole 10 3/8” “above PPB center - drill and tap for a 1/4-20 thread



Template 1

Mount the Pedestrian Station

1. Route the four conductor cable from the 1 1/8" hole through the pole into the pedestrian signal head for connection to the SPI.
2. Route the four conductor cable and the pedestrian input circuit wires through the terminal back plate with nipple installed.
3. Connect four conductor cable and traffic control cabinet field input wires to barrier screw terminals on the back of the base station. See Table 1 page 10.
4. Place a small bead of silicone around the flange for the back plate and tighten screws.
5. Use an anti-seize compound on all screws.
6. Place the pedestrian station on the pole and fasten using two 1/4 - 20 FHP screws. Ensure a snug fit.
7. Place the adapter plate and / or sign using provided hardware.
8. Base Station Hardware kits:

(5x7) Adapter Plate, Sign Hardware, and Base Station Mounting Hardware

- 2ea. 8-32 X 1 3/4" FHP Screws (AP)
- 2ea. 8-32 X 1 3/4" PHP Screws (Sign – AP top holes)
- 2ea. 8-32 X 1/4" PHP Screws (Sign – bottom holes)
- 2ea. 1/4 - 20 x 1" FHP Screws (Standard mounting bolts)

(9x12 & 9x15) Adapter Plate, Sign Hardware, and Base Station Mounting Hardware

- 4ea. 8-32 X 1 3/4" FHP Screws (AP)
- 4ea. 8-32 X 1/4" PHP Screws (Sign)
- 2ea. 1/4 - 20 x 1" FHP Screws (Standard mounting holes)

(400 A) Base Station Mounting Hardware

- 2ea. 1/4 - 20 x 1" FHP Screws (Standard mounting bolts)

400A Base Station Installation

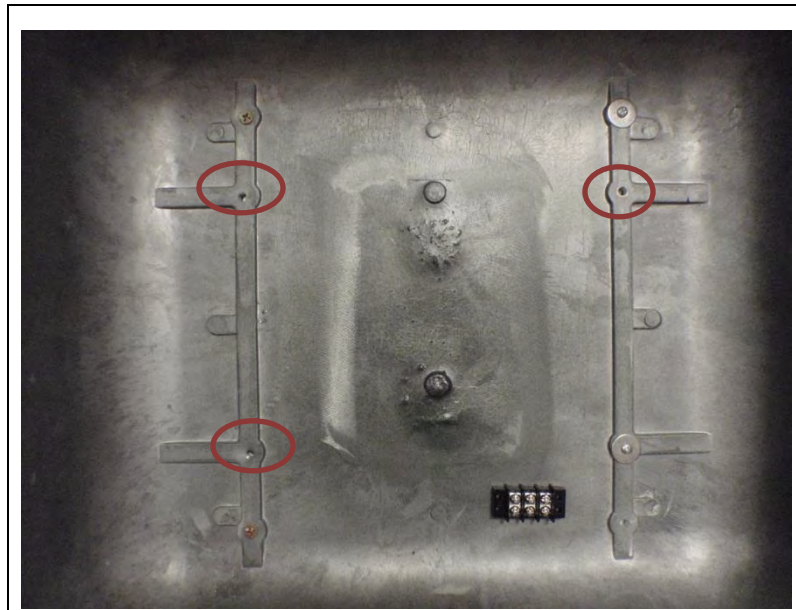
The 400A Base Station mounts to a 9x12 cast pedestrian station with 2ea. ¼" - 20 x 1" PHP screws. Align the Base Station so the tactile arrow is pointing directly to the crossing destination. Some installations do not call out arrow directions and require installation in the field. The tactile arrow is field selectable (left or right) requiring two security screws and a security driver. Campbell Company provides this hardware packet only when specified at the time of purchase. Contact Campbell Company Technical Support if a security bit is needed for tactile arrow modification.

Note: THE PEDESTRIAN RELIES ON THIS INFORMATION TO CROSS SAFELY.

Install Signal Power Interface Board (SPI)

1. Disconnect the power to the Pedestrian Signal Head prior to installing the SPI.
2. Open the Pedestrian Signal Head Display and identify a ¼-20 tapped hole (see Table 1) on the back surface wall to place the SPI. A ¼-20 x 2.0" FHP is used to screw through the SPI into the pedestrian display.

Figure 1



Pedestrian Signal Head Display back surface wall with ¼" – 20 tapped holes

3. Locate a tapped hole in close proximity to the 120 VAC three position barrier terminals (this may vary among manufactures)
4. Insert the $\frac{1}{4}$ " - 20 x 1" FHP through the SPI housing and into the tap holes. Align the SPI horizontally such that the 120 VAC wires sag below the housing and attach to the three position barrier terminal; tighten firmly securing the SPI to the back of the housing. See Table 2.

Note: The sag in the 120 VAC wire creates a drip loop for water to drain off the SPI housing on to the bottom of the Pedestrian Signal Head.

Attention: Do not set the SPI on the bottom of the Pedestrian Signal Head. Failure to attach the SPI vertically on the back surface wall can expose the power supply to water damage and will void the warranty of the SPI.

Figure 2

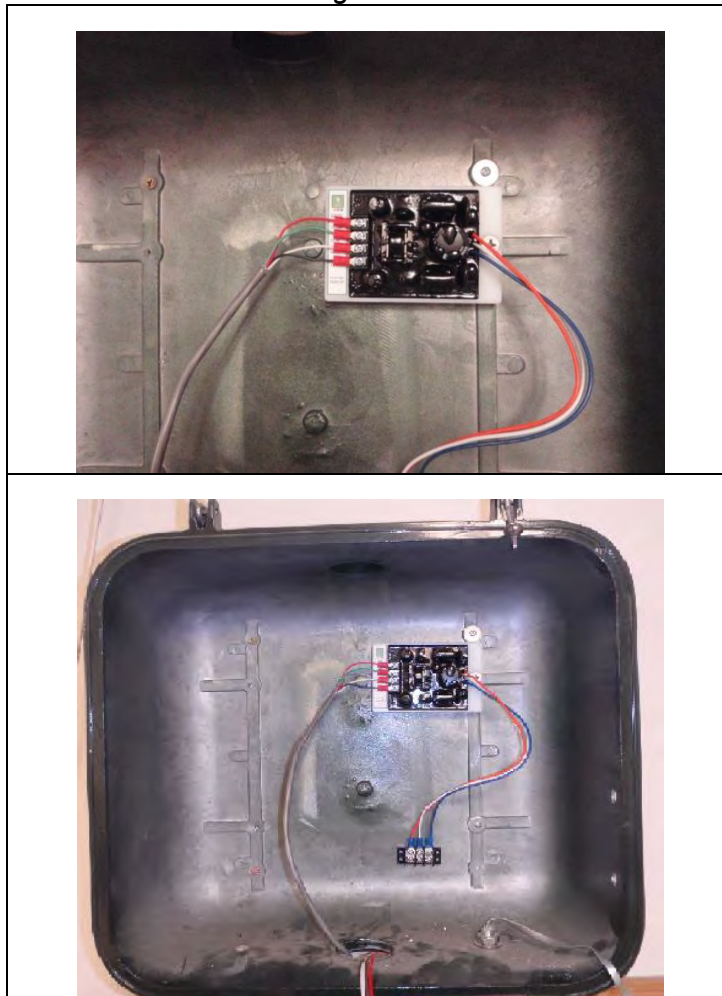


Figure 2 shows the drip loop in the 120 VAC lines and its location to the barrier terminal inside the Pedestrian Signal Head.



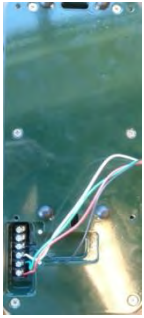
5. Attach the four conductor wires from the Base Station to the to the four position 12VDC barrier terminal on the SPI. (See Figure 3)
 - Terminal 1: S1 DW
 - Terminal 2: S2 W
 - Terminal 3: Neutral
 - Terminal 4: 12VDC

6. Attach the three 120 VAC #16 AWG wires from the SPI to the three position barrier terminal for the pedestrian signal head visual display (See fig.1).

7.
 - a. Orange to Don't Walk
 - b. White to Neutral
 - c. Blue to Walk

Warning – Danger! All SPI leads become hot when the Orange or Blue 120 VAC is connected. Disconnect the power to the Pedestrian Signal Head prior to SPI installation

Figure 3

<p><u>12 VDC Outputs</u></p> <p>Terminal 1: S1 DW</p> <p>Terminal 2: S2 W</p> <p>Terminal 3: Neutral</p> <p>Terminal 4: 12VDC</p>		<p><u>120 VAC INPUTS</u></p> <ul style="list-style-type: none"> • Orange to Don't Walk • White to Neutral • Blue to Walk
	<p><u>AGPS Connections</u></p> <p>FT: Pedestrian Field Wires</p> <p>FT: Pedestrian Field Wires</p> <p>Terminal 4: 12VDC</p> <p>Terminal 3: Neutral (GND)</p> <p>Terminal 2: S2 W</p> <p>Terminal 1: S1 DW</p>	<p><u>Orientation:</u></p>  <p><i>bottom</i></p>

3 Post Installation

3.1 Operational Check

1. The AGPS comes fully configured at the factory. When first powered up, an audible locator tone will be present.
2. Depress the push button and verify the red LED turns on with an audible message "Wait". (No acknowledgment message in EPAPS mode). If field wires from the traffic controller are connected to the station, verify that pedestrian call is transmitted to the traffic controller.
3. Following a momentary press, verify the Walk Phase message or percussive tone is present and the vibro-tactile button vibrates concurrently when the walk sign is on.
4. Repeat again with 2 second extended press and verify the red LED turns on with an audible location message.
5. After the Walk Phase message, verify an audible locator tone is present at the clearance phase (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 vibro-tactile settings may require modifications. Proceed to the System Configuration section for details.

3.2 Operational Check List

- ___ Base Station is securely attached to the pole (extension bracket) with the arrow pointing to the destination.
- ___ Audible "Walk Tone / Message" is present when call is placed and Walk Sign is on.
- ___ Locator tone is present when no call is placed.
- ___ Locator tone is audible 6 to 12 feet or building line whichever is less from ped station.
- ___ Messages are audible to a distance of 6 to 12 feet from pedestrian station.
- ___ Correct message for the Walk Cycle is present (Percussive Tone / Verbal Message)
- ___ Correct messages is present for location and walk
- ___ LED is lit when call is placed
- ___ Vibro-tactile arrow is active when call is placed and walk cycle is active (only when VIB is enabled in the utility)

4 System Requirements

4.1 Software Requirements

The following software is required to install this application:

USB Configuration Utility

A computer based USB configuration utility download onto a portable computer. A USB connection is required for base station communications.

4.2 Hardware Requirements

The recommended minimum specifications for the computer include the following:

Computer

- USB port
- USB cable (type B)

4.3 Operating Systems

The Utility operates on the following operating systems:

- Windows XP or higher w/net 4.0
- MAC OSX 10.4 or higher (pending)
- Linux (pending)

5 Appendix A: Acronyms, Abbreviations & Definitions

Term	Meaning
Adapter Plate (AP)	An aluminum plate that mounts to the base station to display crosswalk signs.
Base Station (BS)	Fully integrated APS station that contains the microcontroller, push button, speaker, adapter plate (BS)
COM Port	Windows Serial communication port
Extended Press	On APS, holding the pedestrian push button down from 1-3 seconds may activate special features, including audible beaoning and extended pedestrian clearance interval. (EP)
Intersection Worksheet	Intersection Map of street names and station locations provided with installation packet. Pedestrian Stations are identified with Campbell Company Work order # and Station Identification number
Signal Power Interface (SPI)	Power Source that interfaces with Pedestrian Signal Head power for Base Station Interface.
Station ID #	Identification number of base station for location and custom messaging
Terminal Plug	Electrical connection at the back of Base Station for Cabinet field wires
USB Port	USB docking plug on Base Station
Utility	Application to interface with Base Station
.wav file	A file format for storing digital audio data on a computer system