SmartValve Software Installation and User Guide

Information to user.

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

Warning

Changes or modifications to this equipment, not expressly approved by Radio-Tech, may void the user's authority to operate this equipment.

Author: S.Pang

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2 Document Control

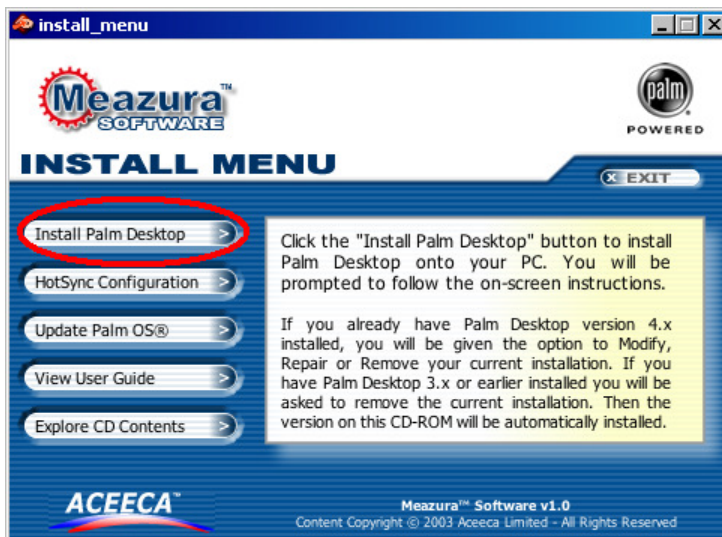| Issue	Details	Author	Date
1	Draft	SP	14-01-09
2	Added warning information	SP	03-07-09

3 Introduction

This document describes the software installation the Aceeca Handheld and SmartValve software on a Palm.

3.1   Aceeca Handheld Software Install

Insert CD into PC. The CD should start by itself and show a screen below:
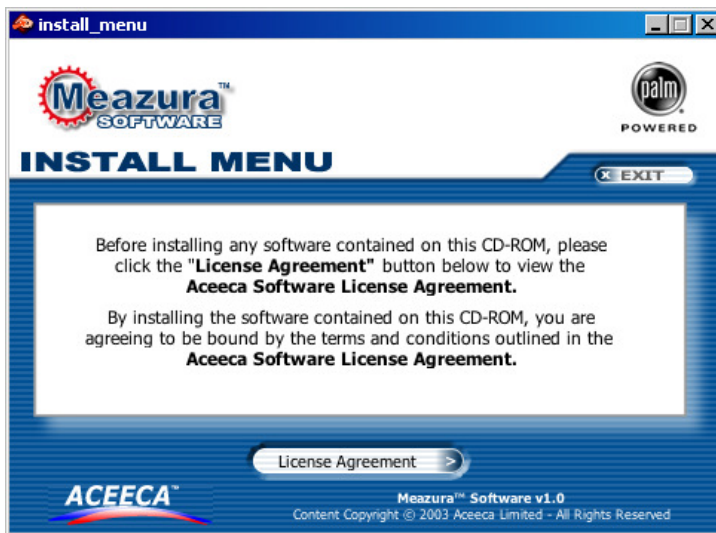
Click the License Agreement button then Accept.

On the install menu, click "Install Palm Desktop". Follow the on screen instruction.
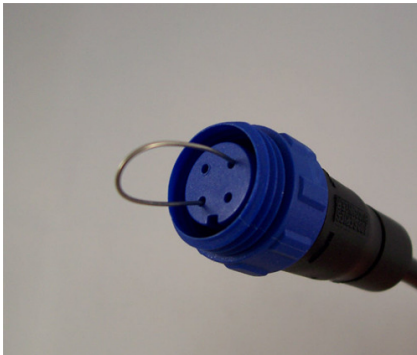
3.2 SmartValve Software Install

Insert the SmartValve CD and double click the file `SmartValve-PalmOS.exe`

Click Run when prompted and follow the on screen instruction.

4 Turning off Transport Mode

The SmartValve is shipped in a Transport Mode with its radio transmitter turned off. To turn off the Transport Mode. Insert a shorting wire between pin 2 and 4 of the connector. After about 10 seconds the unit will start transmitting.

5 Using the Handheld software

To use the Handheld software refer to the help file located at:

`C:\Program Files\SmartValve\SmartValve-Palm.chm`

Overview of Software

Smart Valve for PalmOS is used to open or close Smart Valve devices installed at water meter services. The valve can be either open or closed without entering the premises or opening a pit lid. The handheld computer must be within the proximity of the valve to actuate the device.

The software will either work with valved that are listed on the Task List or it will work with the valves found in the area using the proximity screen. The handheld computer will show the number of devices in the area and then work with them in a list.

Valve Operation

The Smart Valve device has a battery which energizes a capacitor to actuate the valve when its radio controller receives instructions from the handheld computer.

About every 5 seconds, the Smart Valve device transmits its unique identifier and among other things, its current open or close state.

The handheld computer listens for these signals (called chirps) and assembles a list of Smart Valves that in the area. This list is used by the tasks screen and the proximity screen and permit you to change the valve from open to closed or from closed to open.

The radio module inside the handheld computer will accept and store your command until it hears the chirp from the Smart Valve device. When the chirp is heard, the radio module will then transmit the open/close instruction to the device. This means that there is a delay between the time you operate the software and provide the instruction and the valve actuates.

Because of this delay, feedback is provided to indicate the status of the valve change.

Starting the Software

Start the program by tappping the Smart Valve icon. If you do not see the icon, change the category in the upper, right corner to All and then scroll down to the S section.

If you have not entered the unlock code for your handheld device, you will see this Alert message that the unlock code needs to be entered. Tap OK to dismiss the message.

Using the Tasks Screen

In the upper right corner of the task screen, you can choose between the status of the tasks stored on the handheld computer.

- **All** Tasks at any status.
- **Complete** Tasks which are complete. Valve state was succesfully changed.
- **Uncopmlete** Valve state change has not been attempted yet.
- **Exception** Valve state change was attempted but was not successful.

The task screen is separated into differnt regions. The central table lists the tasks matching the catergoy selected by the category selector (upper right corner). A choice of All will display all records.

The numbers along the bottom edge of the screen are the last 6 modules which were heard by the handheld computer.

The button with the number indicates a count of the number of Smart Valves in the area. Tapping this button will display the proximity screen. The proximity screen permits allows the operator to actuate the valves which are in the area.

To work with valves that still require change, select the Uncomplete category. Only tasks not yet complete can be opened or closed. Switch to the Uncompleted category to view those valves that still require change.


The icon shown above represents a task and the valve needs to be closed. The actual state currently is likely open but the task is to close the vavle.

Conversely, the icon shown above represents a task and the valve needs to be opened. The actual state currently is likely closed but the task is to open the vavle.
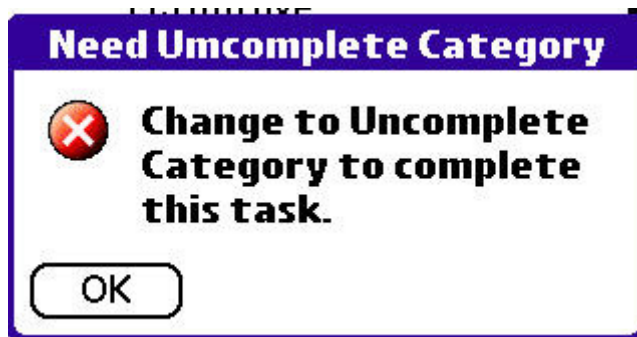

To change a valve from opened to closed or close to opened, select the Uncompleted category from the upper right corner. The Alert above will be shown that you need to be in the Uncompleted status to work with valves in the task list.
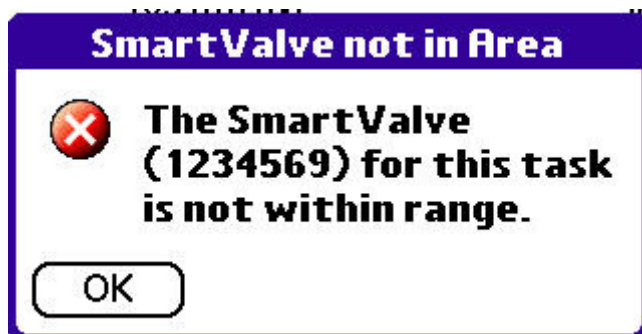
Secondarily, you should be near the valve to be actuated. When you select a Uncompleted task, the proram will compare the unique identifier of the SmartVavle device to the list of the Smart Valve devices in the proximity list. If the value does not exist in the list, you are not close enough to the physical valve for the radio module to hear the chirp. Move closer or relocate yourself to the valve and try again.

The alert above will be displayed if the Smart Valve to be actuated is not in the proximity list.

Act on Task

Are you sure you want to OPEN the valve?

Yes   No
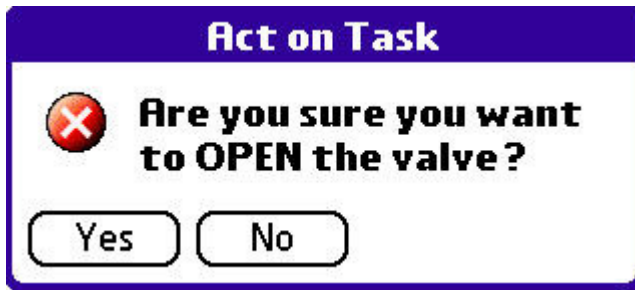
After the program confirms the valve is close enough range to be actuated, it will confirm you actually want to open or close the valve. Tap Yes to perform the change or No if you change your mind and elect not to perform the change.

⅁ 83764

The program will assemble the instruction and pass it to the radio module where it is held until the Smart Valve chirps. Then the radio module will instruct the valve to either open or close. The program will count down from 10 to 1 waiting for the Smart Valve device to acknowledge the command. Once the Smart Valve receives and understands the instruction, it will reply with an acknowledgement. The program will display an ACK message when it receives the acknowledgement. The valve can take up to 10 seconds to actually change state. After the valve chirps again, the program will confirm the valve's state is the same as the requested state. If so, the valve change was successful and a checkmark will be displayed on the icon to indicate the task completed successfully.

✕ 83764

If the command is sent to the radio module and the counter counts down to 0, the radio did not acknowledge the command. An X icon will be displayed indicating the valve failed to change state. You should either try to procedure again or move closer to the Smart Valve device.

Using the Proximity Screen

The proximity screen is used to work with Smart Valve devices in the area. When a chirp is heard from a radio, it is added to the list. If the radio's chirp as not been received in a while, it will be removed from the list. The proximity screen works with only devices in range.

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The proximty button shows the number of devices in range. If the valve is 0 there are no Smart Valve devices in range and there are no radios in the list. The program will not switch to the proximity screen if no radios are in range.

| 83764 | 98825 | 98824 |
| 98823 | 98822 | 98821 |

The last 6 Smart Valve devices detected in range are displayed at the bottom of the main screen.

Proximity

```
╪ 98816
╪ 98817
╪ 98818
╪ 98819
╪ 98820
╪ 98821
╪ 98822
╪ 98823
╪ 98824
╪ 98825
```

(OK)
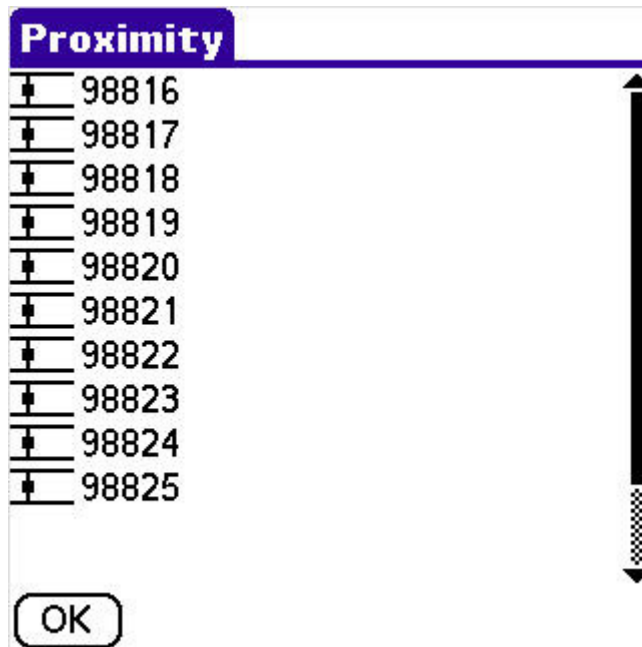
A list of Smart Valve devices in the area (in the proximity list) are shown on the proximity form. Use the scroll bar along the right edge to reposition the list.

```
╪ 83764
╪ 116532
```

Tap on the valve you wish to change state.

Act on Task

❌ **Are you sure you want to OPEN the valve?**

(Yes)   (No)
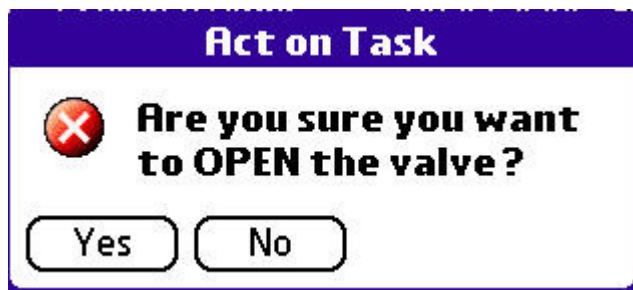
The program will ask if you want to either OPEN or CLOSE the valve. Tap Yes to perform the change or No if you change your mind and elect not to perform the change.

9 83764

The program will assemble the instruction and pass it to the radio module where it is held until the Smart Valve chirps. Then the radio module will instruct the valve to either open or close. The program will count down from 10 to 1 waiting for the Smart Valve device to acknowledge the command. Once the Smart Valve receives and understands the instruction, it will reply with an acknowledgement. The program will display an ACK message when it receives the

acknowledgement. The valve can take up to 10 seconds to actually change state. After the valve chirps again, the program will confirm the valve's state is the same as the requested state. If so, the valve change was successful and a checkmark will be displayed on the icon to indicate the task completed successfully.

✕ 83764

If the command is sent to the radio module and the counter counts down to 0, the radio did not acknowledge the command. An X icon will be displayed indicating the valve failed to change state. You should either try to procedure again or move closer to the Smart Valve device.