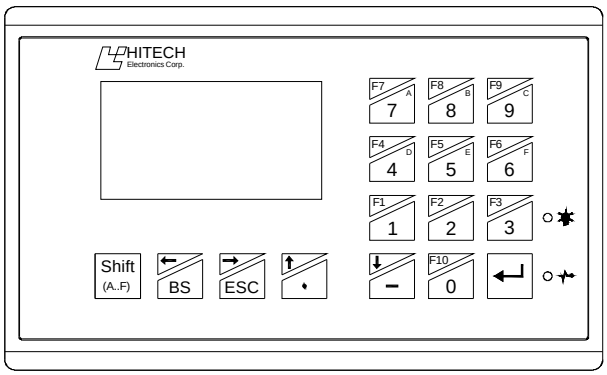
Introduction

PWS6300S is a Human Machine Interface (HMI) with a 3" STN LCD of a high resolution (160?80) and is IP65/NEMA4 proof with water and dust-resistant. The PWS6300S is CE marked and meets your need to be highly transient-resistant while it is in operation. Also, its compact design makes connections with other machinery more flexible, thus achieving the optimal performance of your machines. The latest released ADP Version 6.0 and above is used to design applications of the PWS6300S; it is reliable, user-friendly and compatible with many models.



1 Self-test

Once the PWS6300S is turned on, it will automatically execute a self-test to check its hardware. The result of a self-test is displayed on the LCD. See below.

The items to check in a self-test:

```
BIOS Version V1.0
(C) 2004 HITECH CORP
System RAM.... 128KB
Flash Memory.... 4MB
Battery check..... ?(or x)
Parameter check... ?(or x)
BIOS check........ ?(or x)
Firmware check.... ?(or x)
Application check. ?(or x)
RTC check......... ?(or x)
DIP SW 8~1: 11011111 (or other combinations)
```

Figure 1. PWS6300S Power-on Self-test

If any of the above items does not pass a self-test, the following message will be displayed on the screen for about two seconds and then disappeared.

```
Error code: 0x18
Wait for a minute
to continue
```

If power to the HMI or the PC was interrupted while downloading, the item "Firmware check" or "Application check" will not pass a self-test and will be checked with an "x" mark after power is restored. The situation is normal and users can simply follow the download procedures to re-download an application or data. After downloading, all items should pass the next self-test.

2 System Menu

Set the dip switch SW7=ON. After a self-test, the System Menu of the PWS6300S should be displayed on the screen:

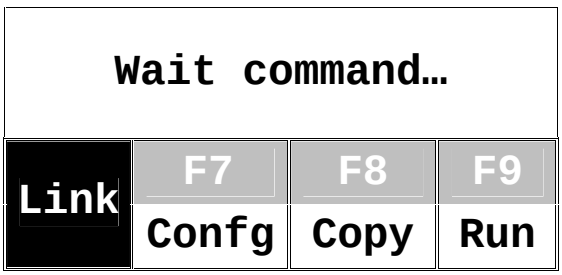


Figure 2. PWS6300S System Menu

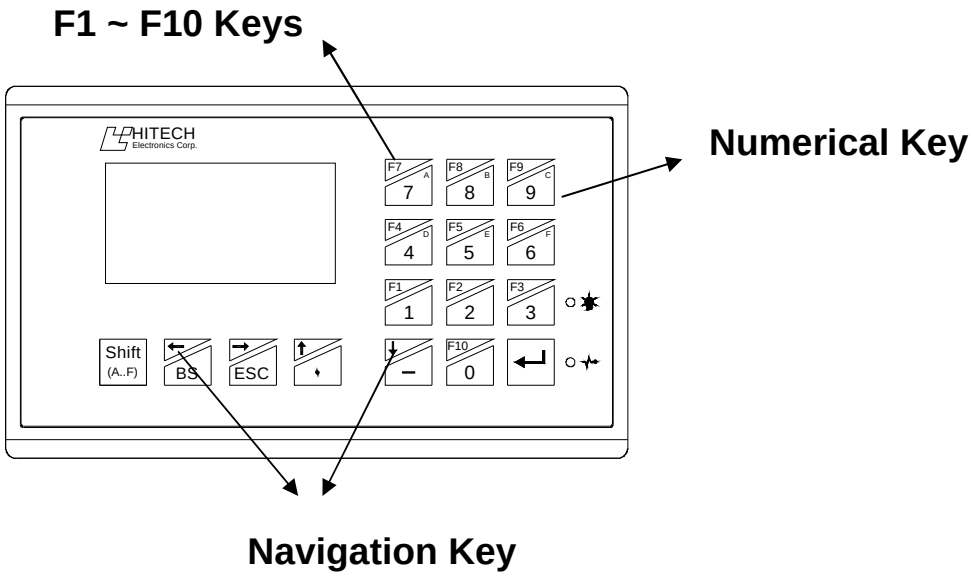
Note that when a command is highlighted on the screen with a black background, this indicates that the command is currently being executed by the PWS6300S. Command with gray background (e.g. F7, F8 …) could be executed if the associated function keys are pressed. The functions of the commands are briefly explained in the following table:

PWS6300S System Menu	Function
Link	The HMI is connected.
F7 - Confg	Set up the internal time clock and communication parameters in the HMI. Use ? and ? to move to desired field and ? and ? to set the value of the field.
F8 - Copy	Copy application data to another PWS6300S.
F9 - Run	Run an application.

3 Keypad

There are 16 keys in the PWS6300S and they can be categorized into **Numerical Keys**, **Navigation Keys** and **Functional Keys**. See below.

The **F1 ~ F10** keys are the **Functional or Auxiliary Keys** which could be defined in ADP. The functions of these keys could be, for example, setting a PLC bit or register, changing a screen or displaying a password table … etc. Please refer to ADP User's Manual for details.



When a key is pressed, the HMI will make a "beep" sound to signal that a command is pressed. (The default is 200 milli-seconds and is configurable.)

4 Bench and Function Tests

If the dip switches SW3 and SW4=OFF, then one is able to run the Bench and Function Tests for the PWS6300S. Turn on the HMI and then the following screen will be displayed:

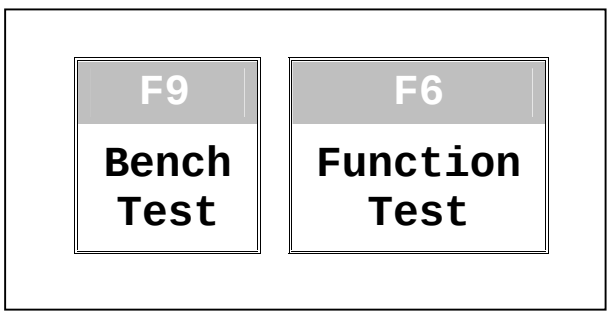


Figure 3. PWS6300S Test

The test items are listed in the following table:

PWS6300S Tests	Items	
F9 – Bench Test	Keyboard Test: 16 keys. BIOS: System RAM, Flash memory, Buzzer, LED, BIOS, Battery Status, RTC, COM port, Flash ROM.	
F6 – Function Test	F1: LED F2: Buzzer F3: DIP SW F4: LCD	F5: RS232 F6: RS422 F7: RS485 F8: KEY

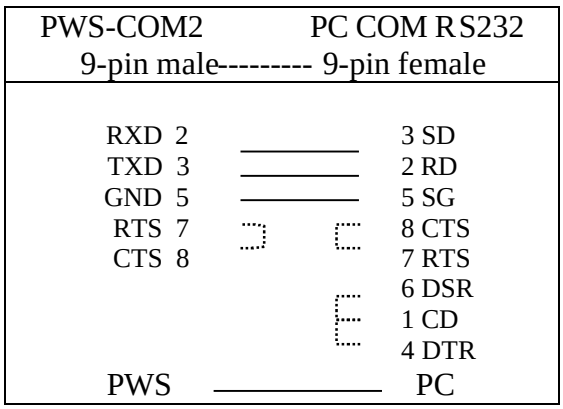
5 Setting Parameters

There are two options to configure working parameters; a user can set parameters in the HMI or ADP. To set parameters in the HMI, select **F7 – Confg** in the System Menu. Remember to set the dip switch SW5=ON if parameters are set in the HMI.

A user can also choose to set parameters in ADP. To set parameters in ADP, select [Application] / [Workstation Setup]. On the [Connection] tab, a user is then able to set communication parameters. Remember to set the dip switch SW5=OFF if parameters are set in ADP.

6 Downloading an Application

First make sure that the HMI and the PC are connected. The way to connect the HMI and the PC is illustrated below:

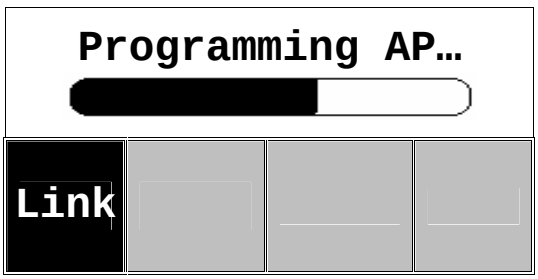


Warning: To avoid an electronic shock, be sure to switch off the power before connecting the download cable to the HMI.

Set the dip switch SW7=ON. After a self-test, the System Menu will be displayed on the screen and the PWS6300S is ready to download an application.

Open an application file to be downloaded in ADP and make sure that communication parameters are correctly configured. Also remember to compile a file before downloading if not yet. *Please note that one needs to compile a file before downloading or anytime a change has been made in a file.*

Next select [Application] / [Download Firmware and Application]in ADP if it is a first time to download an application to the HMI; otherwise, select [Application] / [Download Application]. The following should appear on the screen while the PWS6300S is downloading:



7 Uploading an Application

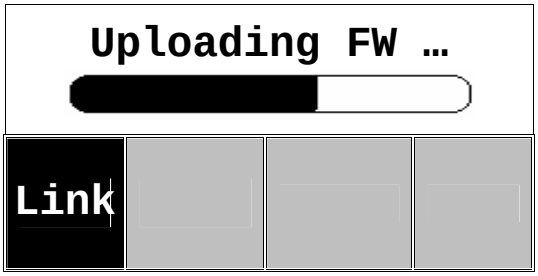
An application can also be uploaded from the HMI to the PC. Thus, a user can save an application as a *.V6F file in ADP for future use.

Warning: To avoid an electronic shock, be sure to switch off the power before connecting the communication cable to the HMI.

Make sure that the HMI and the PC are connected, shown as in Section 6. Set the dip switch SW7=ON. After a self-test, the System Menu will be displayed on the screen and the PWS6300S is ready to upload an application.

Also make sure that communication parameters are correctly configured. Select [File] / [Upload Application] in ADP and the [Save As] dialogue box will appear on the screen. Enter the name of a firmware file (*AF6) to save. Click [Save]. Then the HMI will prompt a user to ask for a password: enter the password set in ADP from [Application] / [Workstation Setup]. Once a password is entered, the PWS6300S starts to upload an application to the PC. (For setting a password,

please refer to Section 9.) While the PWS6300S is uploading, its screen should appear as the following:



After uploading, select [File] / [Reconstruct Source] in ADP and the [Open] dialogue box will appear on the screen. Open an uploaded application file (*.C64 or *.AA6) and then an application screen will show up in the PC. Finally, select [File] / [Save As] to save an application as a *.V6F file. Thus a source file can serve the purposes of maintenance and modification.

8 Copying

In the System Menu, select **F8 – Copy** to copy an application from the PWS6300S to the other PWS6300S. Set the dip switch SW7=ON and connect two PWS6300S with a download cable in COM2. After a self-test, the System Menu will be displayed on the screen.

Select **F8 – Copy** in the System Menu from the PWS6300S with the application to be copied. The HMI will prompt a user to ask for a password: enter the password set in ADP from [Application] / [Workstation Setup]. Once a password is entered, the PWS6300S starts to copy an application to the other PWS6300S. (For setting a password, please refer to Section 9.) The followings should appear on the screens while the PWS6300S is copying an application to the other:

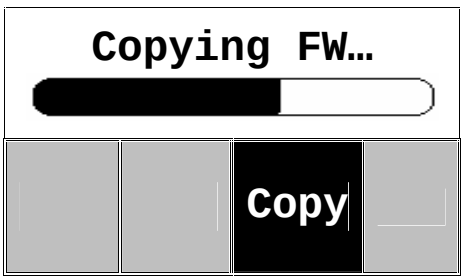


Figure 4. Copying to the other PWS6300S

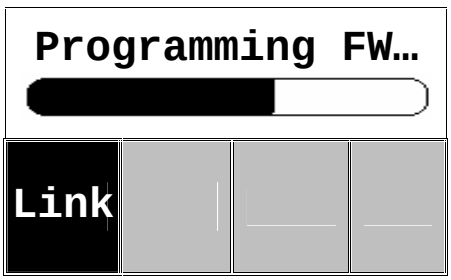


Figure 5. Copying from the other PWS6300S

9 Setting a Password - 4 Scenarios

Scenario 1: A password is required to start the HMI.

If the dip switch SW6 is ON, then a user needs to enter a password to start the HMI. For this purpose, the **Object - Action Button** in ADP is available for a designer to create a button which displays a **Password Table** on the HMI, so a user with the right of access to the table can register passwords and user's levels in the table.

Figure 6 is an example to display a Password Table on the HMI; in this example, TBL button is an action button which displays a Password Table. Select this button and then a Password Table will be displayed on the screen for the user with the right to access the table. Use ? ? ? ? to move and ↵ to highlight an area for entering a value. See Figure 7. (For the details on the Action Button, please refer to ADP User's Manual.)

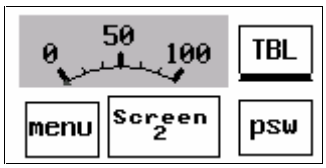


Figure 6. An example of setting a password

#	Password	Lv1	
1	00000000	1	
2	00000000	1	F1:
3	00000000	1	CANCEL
4	00000000	1	
5	00000000	1	
6	00000000	1	F2:
7	00000000	1	OK
8	00000000	1	

Figure 7. Password Table

After registering passwords and user's levels, set the dip switch SW6=ON (i.e. password required). Restart the HMI and after a self-test a user will be asked to input a password to run the HMI. See Figure 8.

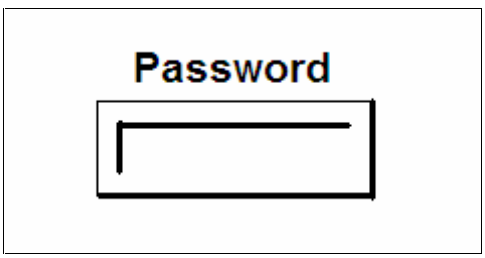


Figure 8. Password required to run the HMI

The HMI will determine a user's level from a password entered by a user. For instance, if the level of a password entered by a user is 1, then the HMI will set the user's level=1; if the level of a password entered by a user is 2, then the HMI will set the user's level=2. The user's level 1 has the highest privilege and

the user's level 9 has the lowest. Also note that only a user with the user's level 1 has the right of access to the Password Table.

Scenario 2: Re-enter a password.

The **Object - Action Button** in ADP is also available for a designer to create a button which asks a user to re-enter a password. For example, select psw button in Figure 9 and then the HMI will prompt a user to **re-enter a password**. The HMI will update a user's level according to the most recent password which has been entered. Therefore, this button can be applied to raise or drop one's privilege while the HMI is in operation. (For the details on the Action Button, please refer to ADP User's Manual.)

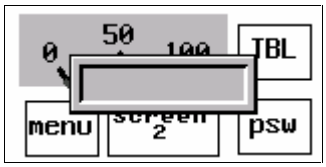


Figure 9. The HMI asks for a password.

Scenario 3: A password is asked to execute a button on the HMI.

A designer can design a button which requires a password to execute it. For example, a Goto Screen button can be designed with a high level of security; that is, it will require a password with a high level of privilege. As the button is selected and the current user has a lower privilege than the button which has been set for, the HMI will prompt a user to ask for a password, also see Figure 9. A user will need a password with at least the level of privilege which the button has been set for. This function can restrict a user to access to certain parts of an application.

Scenario 4: Enter a password to copy or upload an application.

Once **F8 – Copy** in the System Menu or [File] / [Upload Application] in ADP is selected, the HMI will also prompt a user to ask for a password. A user will need to enter the correct password to copy an application from one HMI to another. *Note that this password is different from those passwords set in Scenario 1~3.* To set this password, select [Application] / [Workstation Setup] in ADP. On the [Password] tab, a designer is then able to set the password.

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