PSI-Utility-300 Software; First Run Configuration

Chris LaRocque

In order to run the PSI-Utility-300 software for the first time you must allow the application access to and from the network and perform some manual configuration of the application setup files. Following is a checklist for the first execution of PSI-Utility.

First, open your firewall to PSI-Utility-300; permit program send and receive permission to UDP ports 7000 and 7001. This is necessary in order for discovery of the unit to succeed.

Next, install the PSIUtility software.

1. Unzip file with software and run the installation.
   1. Install the application on the root directory “C:\PSI-UTILITY” instead of the suggested “C:\Windows\Program Files(x86)\PSI-UTILITY”.
2. Using Windows Explorer find PSI Utility folder “C:\PSI-UTILITY”.
3. Find “C:\PSI-UTILITY\Userinfo.txt” file and open it.
   1. Change path on the line labeled “BASEPATH” to “C:\PSI-UTILITY\DATA”; i.e. “BASEPATH C:\PSI-UTILITY\DATA”.
   2. Change “BASEFILE” name to something you prefer; for example, “my-data”; i.e. “BASEFILE my-data”
   3. Save changes in the file.
4. Find the file “C:\PSI-UTILITY \Initiumsetup.txt” and open it.
   1. Insert ‘’ (two single quotes) to all of the lines starting with the word “DEVICE”; e.g. “''DEVICE OPTIMUS-SP 100 192.168.1.139”
   2. Delete ‘’ (two single quotes) from one of the lines beginning “Device Initium 111” or “''DEVICE OPTIMUS-SP 100”; e.g. “''DEVICE OPTIMUS-SP 100 200.206.0.99”
   3. Change IP address on this line to the IP address, taken from the label on the instrument.
   4. Change the path in lines “MSDITPATH” and “IFTPATH” to the path “C:\PSI-UTILITY\DATA”.
   5. Save changes in the file.
5. Create the new folder DATA in the PSI-UTILITY folder.

Finally, you must configure the function files for the system configuration. While there are some example functions defined they will not be matched to your needs. Following is a brief description of a basic configuration. Use the Optimus User’s Manual Programmers, chapter 4 Host Operation and Programming as a cross reference for this explanation. There are a set of configuration text files included with PSIUtility that further describes the configuration process and provides an example configuration. The following is based on page 46 of the Optimus User’s Manual describing “A Basic Configuration”.

Initialize two 64 port ESP Scanners attached to connectors 1 and 2 of the mSDI for OFIU CRS 111. The two Scanners are of the same pressure range and so are both assigned to LRN 1.

SD1 111 (1 64 1) (2 64 1)

Set up Table 1 to acquire data from the two scanners configured in the SD1 command. The data for Table 1 is to be averaged, the value for each port will be the average of 64 samples acquired by the A/D converter. There will be no delay between consecutive frames during averaging. The system will acquire 600 measurements emitting them at 500 millisecond intervals and then stop. Data will be acquired in response to an ADx command and will be controlled by a system timer rather than a TTL trigger. The addressing of the scanners will be in Parallel mode. The data returned will only contain the pressure data for the scanners and not temperature or Ez set data for DTC scanners.

SD2 111 1 64 0 600 500 free pam 2

Specify the order the order in which the channels will be returned in each data packet in Table 1.

SD3 111 1 101-264

Specify that temperature will be updated every 100 measurements for DTC ESP scanners.

sd5 111 -1 100

Pull (Upload) all of the DTC scanner coefficients from the DTC scanners and store them in system memory in preparation for use. This command will take approximately 40 seconds per ESP 64 port scanner to complete.

SD5 111 0 0

Initialize the PCU at Cluster Rack Slot (CRS) 211. It is a 1 psi differential pressure PCU assigned to Logical Range Number (LRN) 1 Calibration pressures will be set to a tolerance of +/- 0.001 psi.

PC1 211 1 diff 0.001 1

Set the units of measure that the system will use. In this case the units are defined as units "1" which is psi. Look in the Optimus User's Manual on page 116 for the units table. Units are consistently applied throughout the system configuration and output. The calibration pressures set in the PC2 command must be in the units defined in the PC4 command.

PC4 211 1

Set the number and value of the calibration pressures used for the CA3 Full Calibration command. These pressure values must be in the units specified by the PC4 command.

PC2 211 0.0 0.625 1.25 1.875 2.5

Following the transmission of the above commands to the Optimus it is ready to perform a calibration of the ESP scanners using the calibrator installed in the Remote Processor. After calibration data can be acquired and presented to the operator or written to a data file for later analysis.