

How to Setup and Calibrate New RTU

Logging in and adjust LCD Contrast

=====

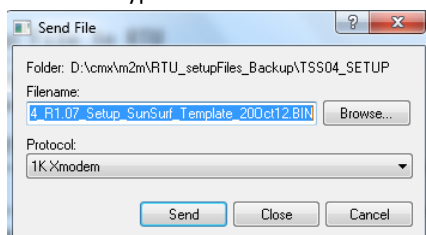
1. Power on RTU. The status LED should blink twice or else either the unit is faulty or the code is not flash. Then adjust the trimmer pot on the LCD board until the character is visible.
2. Set the power supply to 12V. Check with a DVM so that the voltage is 12.0V +/- 0.2V
3. Connect PM052 to PC USB. On the desktop, double click on Hypterminal icon.
 - a) Run HyperTerminal, Select File -> Open -> T38400-COM2. If unable to detect the RTU, Select File -> Properties. ON the Option "Connect Using : " list box select the correct COMPort. If the COMport setting is incorrect, Set the COMPORT to 38400, 8bit, No Parity, 1 stop Bit and select the Virtual COMPort.
4. If the LCD shows "Get Setup Failed. Please restore+Reset RTU via console". Assuming that you already managed to connect to the RTU and the screen shows "Login:" (if it shows password, then press enter to skip until you see Login)
Login as: JXQkJXRydw==
Password as: ZWZjaGFgZWE=
When the main screen appear, select "Setup Meu" -> "2. Reset Factory Default" , send the factory login details again. Then select " Reset ALL Settings to Factory Default"
Finally press "Esc Key"until you go back to Main Menu and select "Hardware Reset". Then login again.

TSS04 MODEL ONLY (YHH)

=====

1. For TSS model only, select " Setup" -> Select "5 Download Setup to RTU". Then select "1 Download Entire Setup".
2. The screen will show:
Downloading Entire Setup File to RTU

Please use: 'Transfer->Send File...'
Select 1K Xmodem for the Protocol
3. On the Hypterminal Menu select "Transfer" -> Send File"



On the filename select "Browse" and select the file "TSS04_R1.07_Setup_SunSurf_Template_20Oct12.BIN" and then click on "Send"
Wait for the complete file to be send and the LCD will show "save Setup successful"

Calibration

A. Calibrate Power Supply

1. Login as "admin" and password is "admin"
2. Measure the battery voltage (+ve Lead to Top of Battery, -ve Lead on the Power supply negative terminal". Battery should be at least 3V. Check the Power supply voltage should be about +12.00V +/-0.2V
3. Select "3. Calibration Menu-> "2. Power calibration" -> "2. Calibrate Power"
4. Select "DC Power In". Enter the DC power supply voltage in 2 decimal place (for example 12.02)
5. Then select "RTC Battery". Enter the Battery Voltage in 3 decimal place (For example 3.175)
- *6. When finish press "Esc" Key until main menu. Select "Setup Menu" -> "Save Setup"

B. Calibration Of Analog Input

1. Connect the calibrator and the switches to the Analog Input (AIN1 to AIN8) of the RTU
2. Select "3. Calibration Menu-> "1. ADC Calibration" -> "2. Raw Calibration"->"2. Calibrate Raw Points"
3. On the calibrator switch Put Channnel 1 Down (all other up). Press the 25% button the calibration until it shows 4.000mA
4. On the HypterTemrinal, select Input "1. AIN# 1" (it could be rename as other analog input such as TSS)

On the screen shown:

```
=====
Analog Input 1
=====
1 Calibrate Point 1 (ADC Raw Value: 5228)
2 Calibrate Point 2 (ADC Raw Value: 26144)
```

Select "1. Calibrate Point 1"

The following is shown on the screen.

```
=====
ADC Channel 1 Point 1:

Apply 0% Input to channel #1, OR, Type in the Expected Raw Count (0-32767)
Press <ENTER> when ready
=====
```

4. Press <Enter Key>

The screen will have to reply as below.

>Calibration Point 1 OK

Verify the calibration for Point#1 is about 5,000 count as shown below.

```
=====
Analog Input 1
=====
1 Calibrate Point 1 (ADC Raw Value: 5243) ←--- Verify count is about 5,000 count
2 Calibrate Point 2 (ADC Raw Value: 26144)
-----
```

5. Press the "25% button" on the calibrator until the LCD shows 20.00mA" Now select "2. Calibrate Point 2".

The following is shown on the screen.

```
=====
ADC Channel 1 Point 2:
```

Apply 100% Input to channel #1, OR, Type in the Expected Raw Count (0-32767)

Press <ENTER> when ready

Then Press the <ENTER> Key

The screen will have to display:

>Calibration Point 2 OK

=====

Analog Input 1

=====

1 Calibrate Point 1 (ADC Raw Value: 5243)

2 Calibrate Point 2 (ADC Raw Value: 26200) ←-- verify count is about 26,000 count

6. Press Esc Key. Now Flip the calibrator Switch "1" to UP and Flip calibrator Switch "2" Down (to select channel 2)

Repeat the analog input calibration for the rest of the channels, noting that only 1 switch is in the down position.

Press the "25%" button on the calibrator to go back to 4.000mA to calibrate Point #1. Or you can calibrate Point#2 first and then Point#1.

7. When all channel has been calibrated, Press <ESC> Key until main menu. Select "Setup" – Save Setup.

8 . FINALLY. Make a backup of the calibration. Select "Setup" -> "3 Backup/Restore Setup" -> "1 Backup Calibration Setup". The software will ask for login name and password (uses admin login). When asked to confirmed saving, type 'Y'. Ensure the screen says "Backup is OK"

System Admin

=====

1. In Main Menu select "System Admin"

2. Select "3. Change Date" The screen will shows:

Current Date: 03/01/2000

Enter new Date in format dd/MM/yyyy, or press <ESC> to keep current Date

3. Enter the current date in DD/MM/YYYY format.

4. Select "4. Change Time" The screen will show:

Current Time: 23:24:02

Enter new Time in 24H format HH:MM:SS, or press <ESC> to keep current Time

5. Enter the current date in HH:MM:SS format (24 hour format).

6. Finally Select " 12 Clear Logs/Lists/Queues". When prompt for username and password use the admin account.

The screen will shows:

1. Clear ALL

2. Clear General Event Log

..... and etc....

7. Select "1. Clear ALL" to reset all the logs on the RTU.

8. Finally save Setup.

9. When completed, go to main menu and Logout.