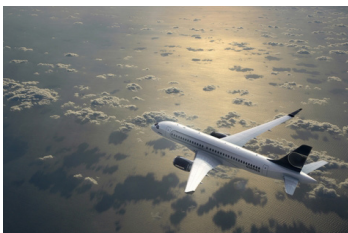


INWATER TECHNOLOGIES

Point4 Sync Software User Manual



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1. General Safety

Please read this manual before proceeding with installation, otherwise equipment damage or injury may result.

Consult a qualified electrician when installing or servicing any equipment operating under high voltage. Unpack all system components and inspect for shipping damage.

2. System Navigation



2.1. Home Screen

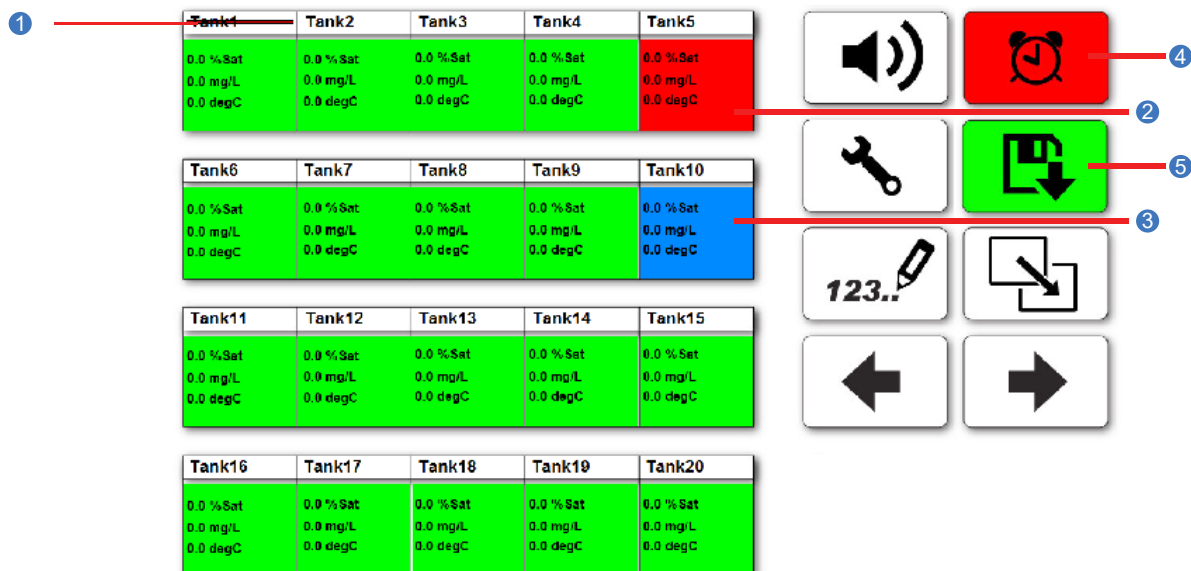
The Home Screen displays a grid of 20 tanks (Tank1 to Tank20) and a set of control buttons on the right. The tanks are arranged in four rows of five. Each tank displays three values: %Sat, mg/L, and degC. The control buttons on the right include: a speaker icon (1), an alarm clock icon (2), a wrench icon (3), a green button with a downward arrow (4), a button with '123..' and a pencil icon (5), a button with a square and a downward arrow (6), and two large arrow buttons (left and right) at the bottom.

The Home Screen displays the current values being collected by the probes. It indicates alarm and control situations. During normal conditions the screen appears as above.

Controls & Functions

Controls	Functions
1 Location Description	User defined location description which can be entered on the <u>Wrench Setup Menu</u> .
2 Process Value	The current Process Variables as read from the connected RIU. The Process Variables are given in units which can be defined in the <u>Probe Setup Menu</u> . Touch the Units Display Box to enter the <u>Trend Graph Screen</u> .
3 Audible Alarm Button	Press to toggle audible alarm Enabled/Disabled.
4 Alarm Setpoint Menu	Press button to enter the high and low Alarm Setpoints. Button will turn red to indicate an active alarm condition.
5 Wrench Setup Menu	Press button to enter the Wrench Setup Menu.
System Setup Menu	Press button to enter System Setup Menu.
Control Setpoint Menu	Press button to enter the high and low Control Setpoints.
6 RIU Toggle	Press button to toggle between RIU Channels 1 - 20 and 21 - 40.
Forward / Back	Toggle PV to display for the RIU channels: 1) All PVs 2) PV1 3) PV2 4) PV3

Tank 1	Tank 1	Tank 1
0.0 mg/L	0.0 % %SAT	0.0 degC



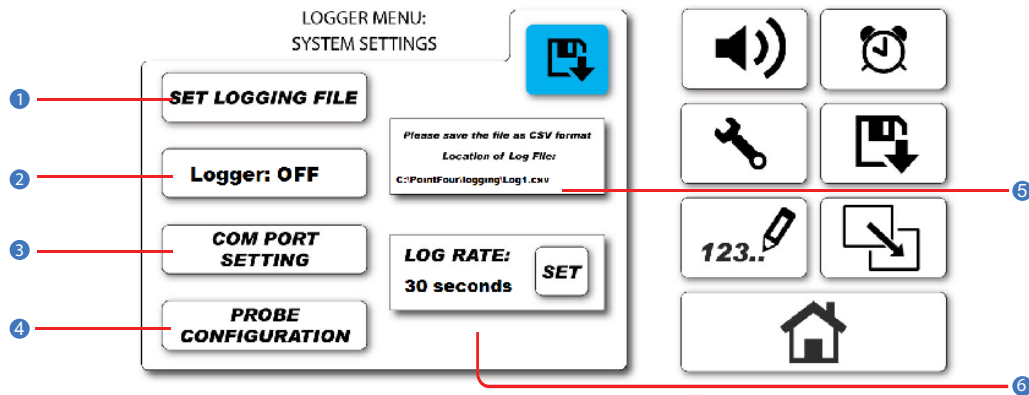
During alarm, logging and control conditions the Home Screen appears as above.

Controls & Functions

Controls	Functions
① Communication Error	A RED line is displayed through the location description box to indicate a communication error with the RIU unit.
② Alarm Condition	The process value will turn RED to indicate an alarm threshold has been exceeded on the respective channel.
③ Relay (Solenoid Active)	The process value will turn BLUE to indicate a control SetPoint has been reached and the relay (solenoid) is now active.
④ Global Alarm Condition	The Alarm button will turn RED to indicate an alarm threshold has been exceeded on any channel.
⑤ Logger On/Off	When the Logger is activated in the Logger Setup Menu, The Logger Icon turns GREEN to signify that the Logger is "ON". Turning "OFF" the Logger in the Logger Setup Menu turns the Logger Icon WHITE .

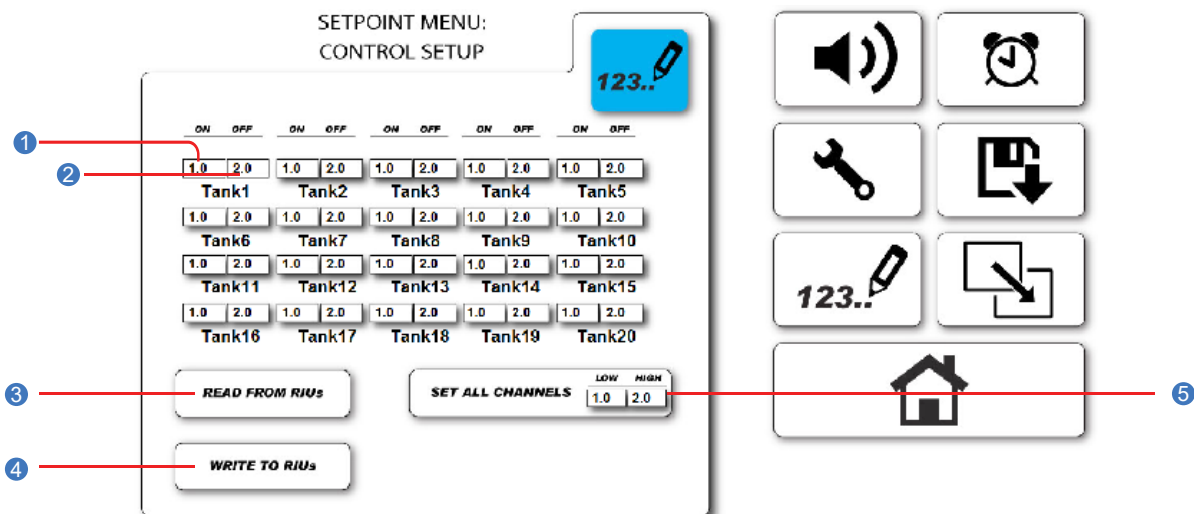


2.2 System Setup Menu



Controls & Functions

Controls	Functions
① Set Logging File	Used to enter the file location for the Data Logging file. If it is desired to open the file directly in Microsoft excel a extension of ".csv" must be given to the file name.
② Logger: On / Off	Turns On/Off the external data logger. The Data Logger Icon will turn GREEN to indicate the Logger is "ON".
③ COM Port Setting	This is typically set at the factory. User should not change these values without manufacture consent.
④ Probe Configuration	Press button to enter Probe Setup Menu. See section 7.6 for Probe Configuration instructions.
⑤ Log File Location	Displays the location of the Log File defined by the "Set Logging File" button.
⑥ Log Rate (seconds)	Used to set the interval in which data is saved to the external data logging file. This value is set in seconds.
Log Rate Set Button	When finished entering set points press the "Set" button to save all settings to the system. Note: The value entered will not be saved unless the "SET" Button is pressed.



Controls & Functions

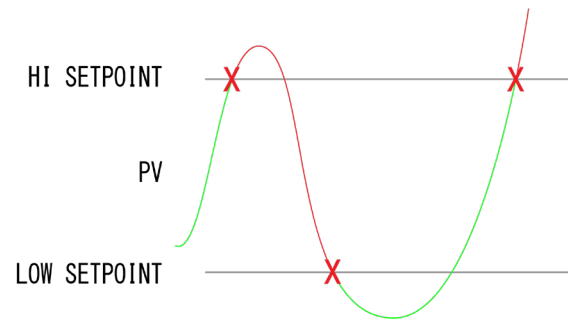
Controls	Functions
① High Set Point	Select this box to set the High Set Point for CB1 on the corresponding RIU. This is explained further in section 7.3.1 and in the RIU Manual.
② Low Set Point	Select this box to set the Low Set Point for CB1 on the corresponding RIU. This is explained further in section 7.3.1 and in the RIU Manual.
③ Read From RIUs	Reads the current control set points from the connected RIUs and displays them on the screen. A status bar shows the read progress.
④ Write To RIUs	Writes the user-entered values to the control set points in the connected RIUs. A status bar shows the write progress.
⑤ Set All Channels	This function is used to quickly set ALL set points to an identical value

2.3.1. Control Bandwidth Output

If the process value (PV) is within the user defined high and low set points the system condition is normal. If the process value (PV) fluctuates below the low set point the system will go into a control situation. This turns on (or off depending on normal conditions) a relay. The relay will remain on until the process value (PV) reaches the high set point at which point it will switch off.

The process can be reversed so that a relay turns on when the process value (PV) fluctuates above the high setpoint, depending on the customers needs.

This is indicated on each individual channel by the **blue** indicator.



Control Band Output

Control/Relay Active [ON]
 Control/Relay Inactive [OFF]



2.4. Alarm Setpoint Menu

ALARM MENU:
HIGH / LOW ALARM SETUP

1

	LOW	HIGH		LOW	HIGH		LOW	HIGH		LOW	HIGH		LOW	HIGH
Tank1	0.0	100.0	Tank2	0.0	100.0	Tank3	0.0	100.0	Tank4	0.0	100.0	Tank5	0.0	100.0
Tank6	0.0	100.0	Tank7	0.0	100.0	Tank8	0.0	100.0	Tank9	0.0	100.0	Tank10	0.0	100.0
Tank11	0.0	100.0	Tank12	0.0	100.0	Tank13	0.0	100.0	Tank14	0.0	100.0	Tank15	0.0	100.0
Tank16	0.0	100.0	Tank17	0.0	100.0	Tank18	0.0	100.0	Tank19	0.0	100.0	Tank20	0.0	100.0

2

3

4

5

6

SAVE SETTINGS

SET ALL CHANNELS

Audible Alarm Disabled

Silence Time: 0 minutes

Alarm type: PV2

123..

Home icon

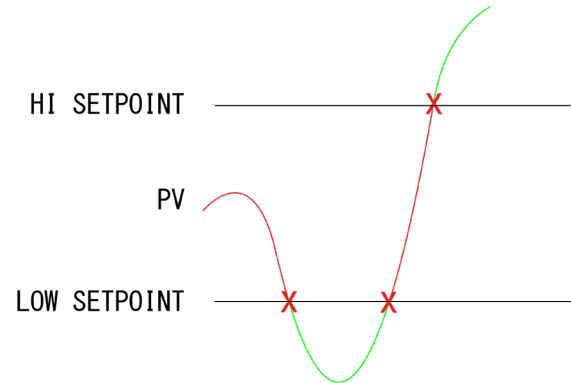
Controls & Functions

Controls	Functions
1 Alarm Low/High Value Input	The set point values are used to activate a Red Alarm Condition. This is used as a notification that the Oxygen values are below the control set point. This is explained further in section 7.4.1.
2 Save Button	Press once all alarm values have been set to save to the system.
3 Audible Alarm Enabled/Disabled	Press to toggle the Audible Alarm enabled or disabled.
4 Alarm type: PV1/PV2	Toggle process variable to alarm on (PV1 or PV2).
5 Set All Channels	Used as a quick setup function. ALL RIU's will be updated with these values.
6 Silence Time	Click to set the Silence Time duration. When the Alarm Silence button is pressed from any page, the audible alarm will be silenced for this amount of time.

2.4.1. Alarm Bandwidth Output

If the process value (PV) is within the user defined high and low set points the system condition is normal. If the process value (PV) fluctuates out of the alarm bandwidth (above the high set point or below the low set point) the system will go into alarm.

This is indicated on the Home Screen when the process value turns **red**.

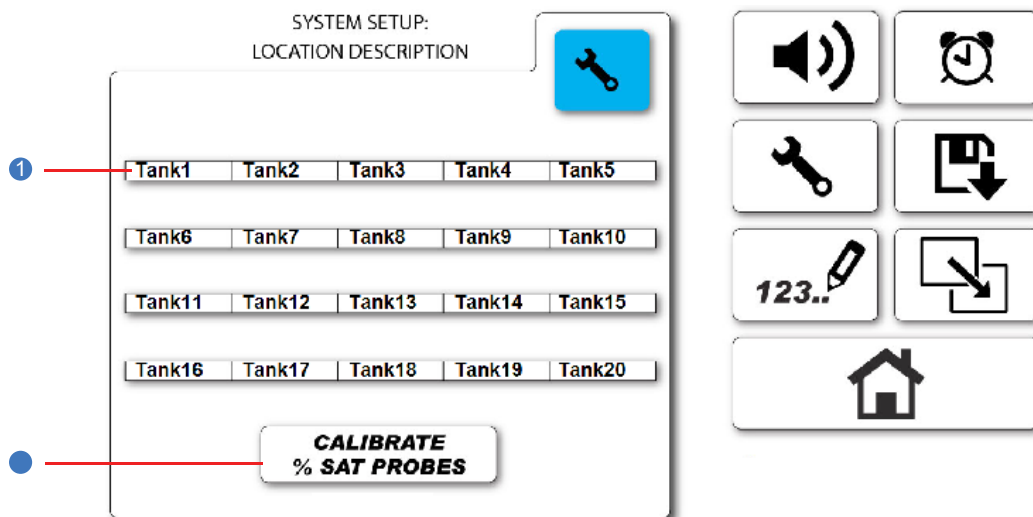


Alarm Control Output

 Alarm/Relay Active [ON]
 Alarm/Relay Inactive [OFF]



2.5. Wrench Setup Menu (Location Description)



Controls & Functions

Controls	Functions
① Location Name Input	This menu is used to setup personalized location naming for each of the probes. Select the box to input a name using the on screen key-board (Max 10 Characters)
② System Calibration	Calibration of all OxyGuard %Sat probes in the system. Do not use this feature if there are probes other than %Sat probes in the system. Before selecting this button make sure all probes are removed from water and dried (1 hour), then select the CAL button Once the Red status bar above the CAL icon has finalized, calibration is complete

2.6 Probe Setup Menu

①

RIU 1	Oxy/TEMP: Commander (%SAT/mg/L/Temp)	RIU 11	CO2: OxyGuard(mg/L)
RIU 2	Oxy/TEMP: Commander (%SAT/mg/L/Temp)	RIU 12	Temp: PT4 (DegC)
RIU 3	Oxy/TEMP: Commander (%SAT/mg/L/Temp)	RIU 13	Oxy/TEMP: Commander (%SAT/mg/L/Temp)
RIU 4	Oxy/TEMP: Commander (%SAT/mg/L/Temp)	RIU 14	Oxy/TEMP: Commander (%SAT/mg/L/Temp) Oxy: Stationary (%SAT) Oxy: Insitu RDO (mg/L) TGP: PT4 TGP(%TGP/dP/mmHg) Salinity: Sensorex (PPT) PH: Sensorex(PH) ORP: Sensorex(mV) CO2: OxyGuard(mg/L) Temp: PT4 (DegC) NOPROBE
RIU 5	Oxy: Stationary (%SAT)	RIU 15	PH: Sensorex(PH)
RIU 6	Oxy: Insitu RDO (mg/L)	RIU 16	ORP: Sensorex(mV)
RIU 7	TGP: PT4 TGP(%TGP/dP/mmHg)	RIU 17	CO2: OxyGuard(mg/L)
RIU 8	Salinity: Sensorex (PPT)	RIU 18	Temp: PT4 (DegC)
RIU 9	PH: Sensorex(PH)	RIU 19	NOPROBE
RIU 10	ORP: Sensorex(mV)	RIU 20	NOPROBE

②

Set All

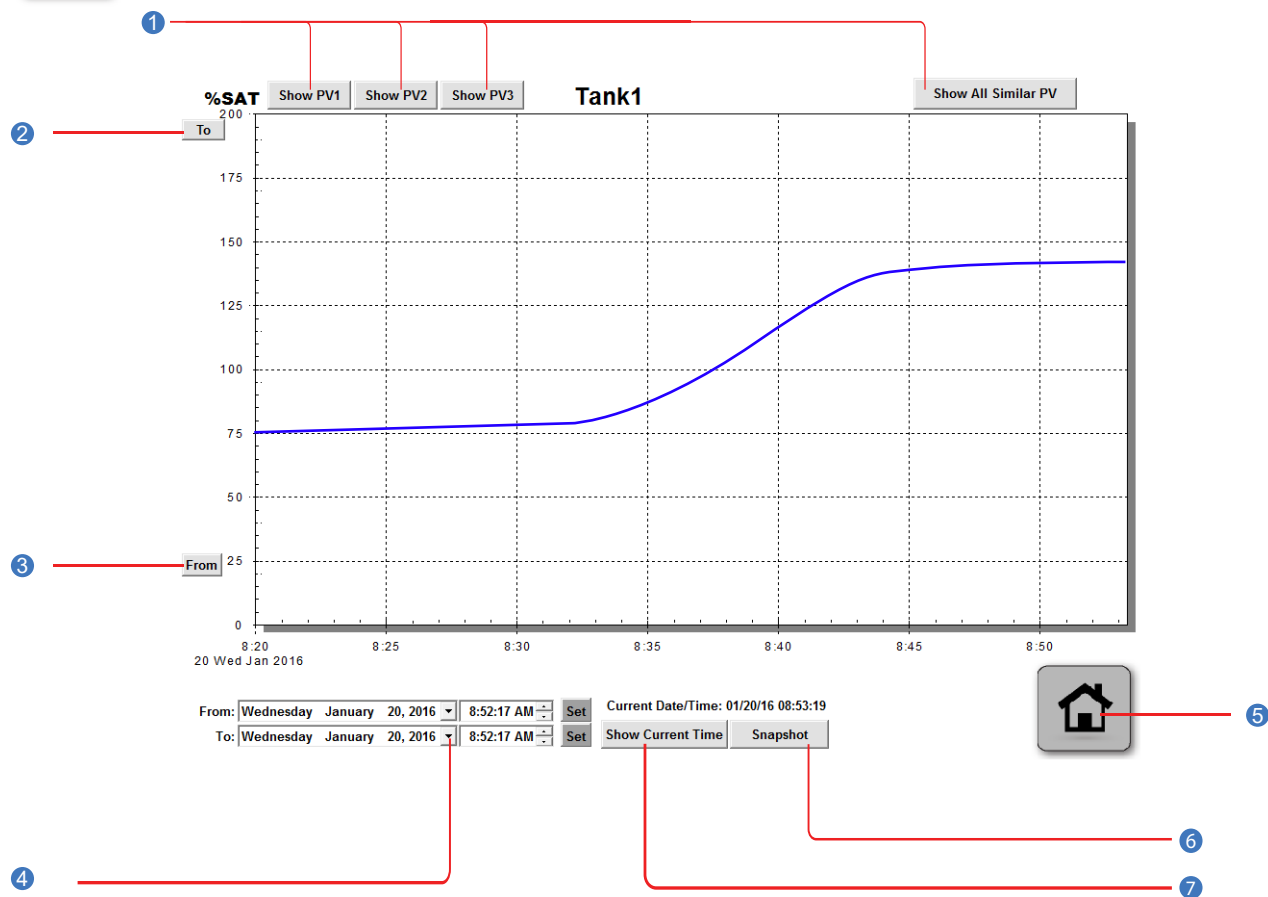
③

Controls & Functions

Controls	Functions
① RIU Probe Type	Click the dropdown menu to select the appropriate probe type for the corresponding RIU channel.
② Set All	Use this dropdown menu to select the same probe type for all RIU channels on the page.
③ Next/Finish	Click to move to the next page once all RIU channels have been updated correctly.



2.7. Trend Graph



Controls & Functions

Controls	Functions
1 Displayed Values	Select a button to display an activate trend line in one of three units [PV1, PV2, or PV3]. Select Show All Similar PV to display all values from all RIU channels that have the same PV as the currently selected channel.
2 Upper Limit Scale Value	Used to set upper scaling limits for the Y axis.
3 Lower Limit Scale Value	Used to set lower scaling limits for the Y axis.
4 Time Trending Range	Used to enter specific time trend. "Set" must be pressed to initialize scaling.
5 Home Button	Used to return to the main monitoring screen
6 Snapshot	Captures an image of the current trend graph displayed. Image is stored in location [C:\PointFour\Captured Images]
7 Show Current Time	Displays the last 30 minutes of data on the trend.

2.7.1. The Logging Folder

15.6. Shown below is **AN EXAMPLE** of what the excel spreadsheet may look like. The following steps are a rough guide to managing the excel file.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	TheTime	humantime	FL2_RIU1_FL2_RIU1	FL2_RIU1_FL2_RIU1	FL2_RIU2_FL2_RIU2	FL2_RIU2_FL2_RIU2	FL2_RIU2_FL2_RIU2	FL2_RIU2_FL2_RIU2	FL2_RIU3_FL2_RIU3	FL2_RIU3_FL2_RIU3	FL2_RIU3_FL2_RIU3	FL2_RIU4_FL2_RIU4	FL2_RIU4_FL2_RIU4	FL2_RIU4_FL2_RIU4	FL2_RIU5_FL2_RIU5
2	40961.34	02/22/12 08:12:23	100	16.5	10	7	0	0	0	0	0	0	0	0	0
3	40961.34	02/22/12 08:12:44	101	16.8	10.1	7	0	0	0	0	0	0	0	0	0
4	40961.34	02/22/12 08:13:03	102	16.9	10.3	7	0	0	0	0	0	0	0	0	0
5	40961.34	02/22/12 08:13:24	100	16.5	10.1	7	0	0	0	0	0	0	0	0	0
6	40961.34	02/22/12 08:13:43	101	16	10.1	7	0	0	0	0	0	0	0	0	0
7	40961.34	02/22/12 08:13:43	101	16.4	10.1	7	0	0	0	0	0	0	0	0	0

15.6.1. Drag the columns width, so that the names of the columns are easier to read.

15.6.2. Column A is called TheTime, this is a communication column used by PT4 SYNC to communicate with Microsoft Excel. Right click this column header and hide the column or ignore these numbers, as they are meaningless to the end user.

15.6.3. Column B is called humantime, this refers to the exact date and time the logging took place. If the logging communication stopped for some reason this column will record that.

15.6.4. Columns C to AF represent RIU/Sensors. The default setting is 10 RIUs with 3 PV values. This cannot be changed. If the user only has 1 RIU with 2 PV values then only columns C and D will log. The rest of the table will log 0 only. PV values are explained in the PV Values and RIU Displays section.

- In the **EXAMPLE** above RIU 1 has a commander probe connected and RIU 2 has a pH probe connected.

15.6.5. From this Column C shows RIU 1 PV 1 which is DO %Sat, Column D shows PV 2 which is mg/L and Column E shows PV 3 which is temperature. Column F shows RIU 2 PV 1 which is pH. A pH probe has only one PV value (PV 1) and so PV 2 and PV 3 read 0. There are only 2 RIUs in this system, as a result the rest of the table reads 0.

15.6.6. In the EXAMPLE below, the above graph has been edited to make it more user friendly by:

- Hiding column A
- Widening all the columns
- Renaming the relevant columns

	B	C	D	E	F	G	H
1	humantime	Tank 1 DO %SAT	Tank 1 DO mg/l	Tank 1 Temp Deg C	Tank 1 pH	DNU	DNU
2	02/22/12 08:12:23	100	16.5	10	7	0	0
3	02/22/12 08:12:44	101	16.8	10.1	7	0	0
4	02/22/12 08:13:03	102	16.9	10.3	7	0	0
5	02/22/12 08:13:24	100	16.5	10.1	7	0	0
6	02/22/12 08:13:43	101	16	10.1	7	0	0

15.6.7. Save as this file as the original file name. Replace the existing file. The renamed columns will appear the next time the user closes and re-opens this file.

15.6.8. To manipulate the information using Microsoft Excel. (e.g. graphing and review functions) save the file as a different file name.