

# GENERAL SOFTWARE DESCRIPTIONS

This Software is designed for monitoring, logging data for motor testing and store data in the database. Also, it allows user to control pumps from the PC workstation.

## MENU

-File

- LogIn
- Exit

-Utilities

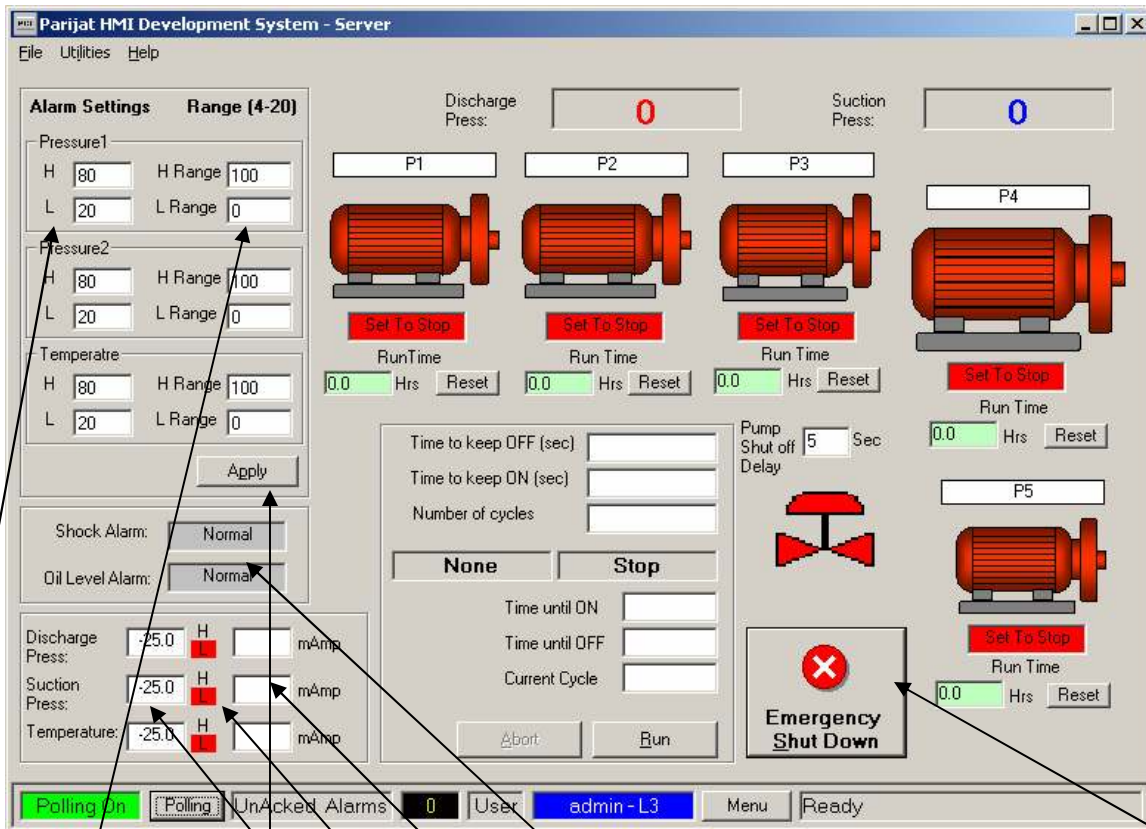
- Trending
- Port Monitor
- Reload

-Help

- About

# MONITORING SCREENS

This display provide overall picture of clean water system which includes Ground Storage Tanks, Booster Pumps, Water Well #1, Water Well #2, Hydro Pressure Tank, Elevated Tank, Various Valves. Shown labels represent actual values for System Pressure, Flow Rates, Chlorine Values, Levels, and bit statuses for variety of alarm conditions.



Alarm settings for analog inputs.

Hi and Low ranges for analog inputs. See device manuals for information. Hi range is for 20 mAmp, Low range is for 4 mAmps

You must click apply button to apply and save settings

Alarm indicators

Current reads from analog devices in mAmps

Hi and Low Alarm indicators for analogs

Scaled values form mAmps

Emergency shut down button will stop all motors

Click to start/stop the pump

Run times for the pump. Click reset button to reset run time

Click to change Tag of the motor

Motor image.  
Red - Motor is not running  
Green - Motor is running

Starting the motor is only available if system is in Auto mode

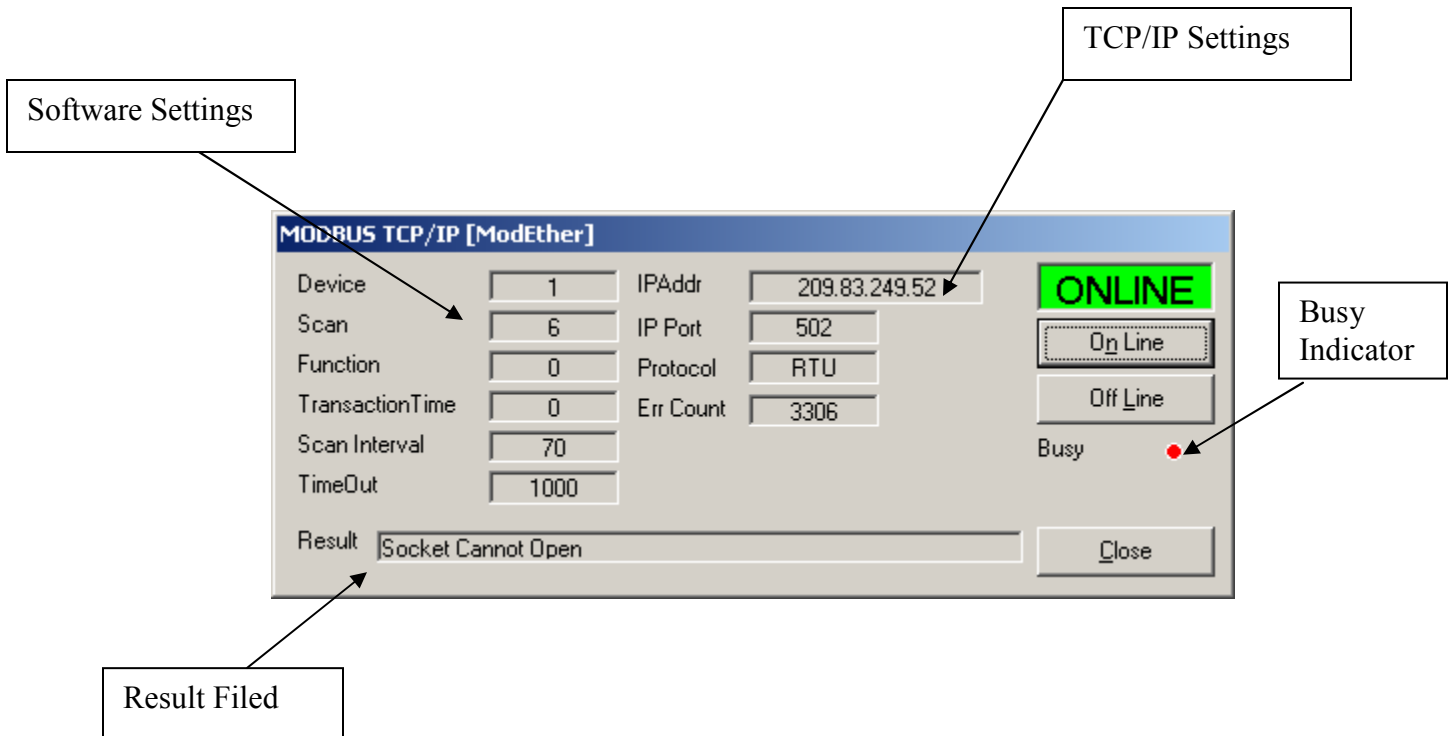
**To use solenoid functionality**

1. Enter Time to keep solenoid OFF in seconds. This is how many second solenoid will be off.
2. Enter Time to keep solenoid ON in seconds. This is how many second solenoid will be on.
3. Enter number of cycles for solenoid to change it state from on to off.
4. Click Run button

**Solenoid.**  
Red – closed  
Green – Open

## PORT MONITOR

This display is used to show the status of the Ethernet communication to the OPTO22 PLC using Modbus. The display also shows all the setting for the TCP/IP and the status of communication. Result field will show status of communication. Any error occurred during communication will be displayed in that field. “Success” shows that communication is going successfully.



On Line button will establish communication to PLC if connection stopped for some reasons.

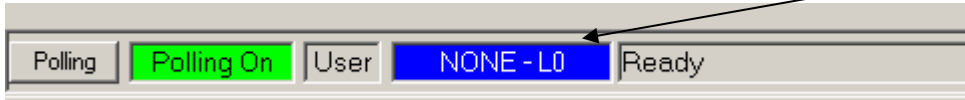
Off Line button will disconnect application from PLC. This will stop receiving data from PLC.

Busy will show red if software is retrieving data from PLC, and black if it is vacant to do some operations.

## BOTTOM STATUS BAR

Pooling Button – will turn communication ON or OFF. This button is used to stop communication if needed and resume it. The status of this button is shown on the label on the right with text displayed “Polling Off” - Red or “Polling On” – Green.

User – status of the logged on user.



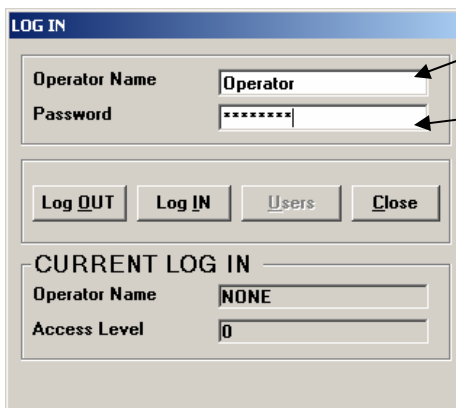
Log On status.  
Click to log on.

## SECURITY

This software supports multi user security access. After defined period of time of inactivity, the user will be logged off automatically. In order to continue, the user would have to log in again. If user is not logged on and he will click on the pump to turn on or off, he will be asked to enter user name and password.

To Log in – you would have to click on the blue label on the bottom status bar. Log In display will appear. Enter User name and password, and click Log IN button. Blue label will change to user name and access level.

Monitoring the data, does not require for user to be logged on.

A screenshot of a 'LOG IN' dialog box. The title bar says 'LOG IN'. It contains two input fields: 'Operator Name' with the text 'Operator' and 'Password' with asterisks. Below these are four buttons: 'Log OUT', 'Log IN', 'Users', and 'Close'. At the bottom, there is a section titled 'CURRENT LOG IN' with two fields: 'Operator Name' containing 'NONE' and 'Access Level' containing '0'. Arrows point from text boxes to the 'Operator Name' and 'Password' fields.

Enter Your User Name

Enter Your Password

# TROUBLESHOOTING

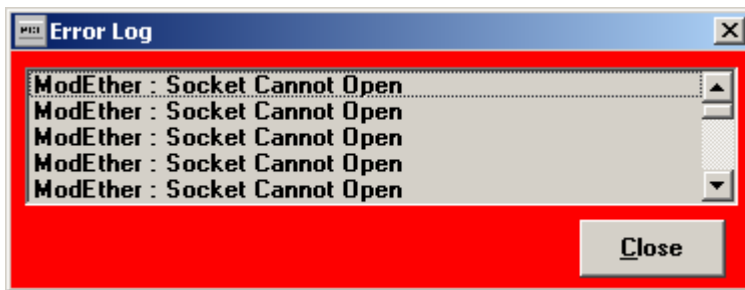
## Communication Error.

### *TimeOut:*

Verify that all cables are in good conditions and correctly. Verify that OPTO22 PLC in control room is powered up and connected to Ethernet cable. Try to click on ONLINE button on Port Monitor screen (Page 11).

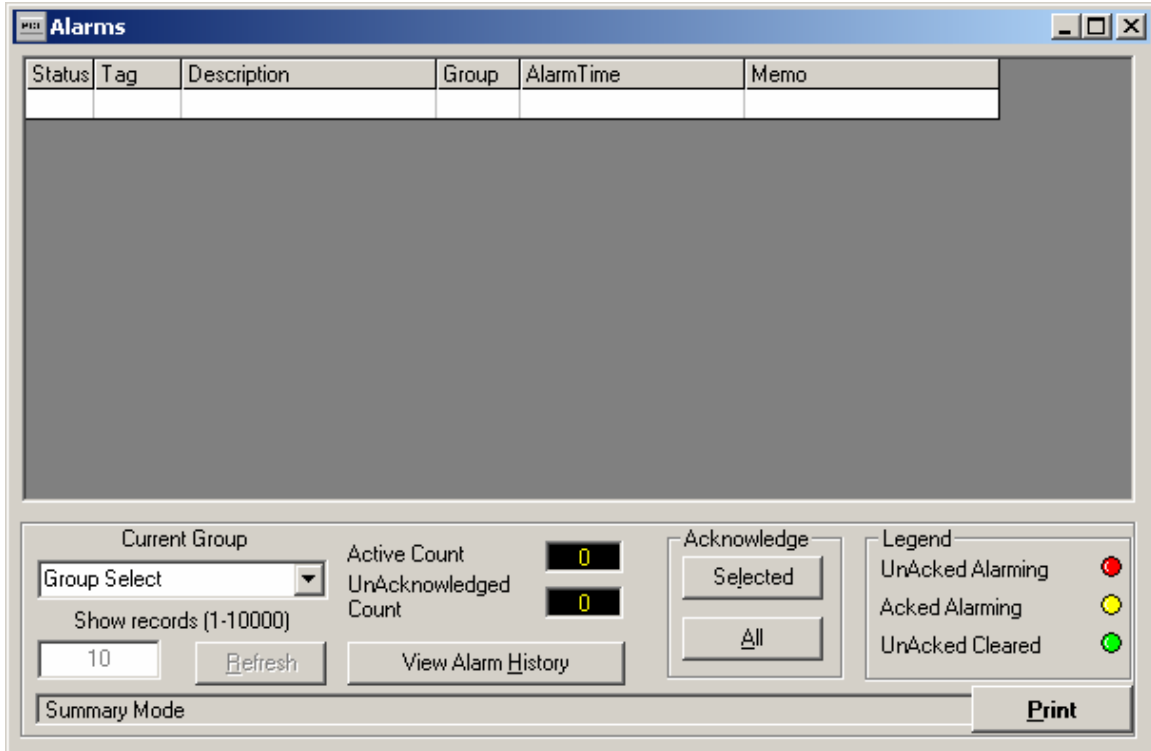
### *Socket Cannot Open:*

Application cannot find specified IP address. Verify the IP address of OPTO22, Check that PC and PLC are connected to Ethernet.



## Alarm Viewer

This screen will show all alarm conditions which are active or happened before. You can acknowledge alarms.



Alarms will appear in the main grid area. The fields shown are "ID" (The ID of the point), "Status" (A small image indicating status, Red - Unacknowledged, Yellow - Acknowledged, Green - Cleared), "Tag" (Short name for point), "Description" (Longer name and description for point), "Group" (Group number for point used to sort alarms), "AlarmTime" (Time alarm event occurred).

The PCIAAlarm operates in two modes, Summary and History. In summary mode, only the currently active alarms are shown on the screen. In History mode, alarm history is displayed from files. To change modes, click on the Alarm History button, the caption will then change to Alarm Summary so that the mode may be changed back. To select a day of alarms to view, click on the Date combo box. Names of available files are shown in the combo box.

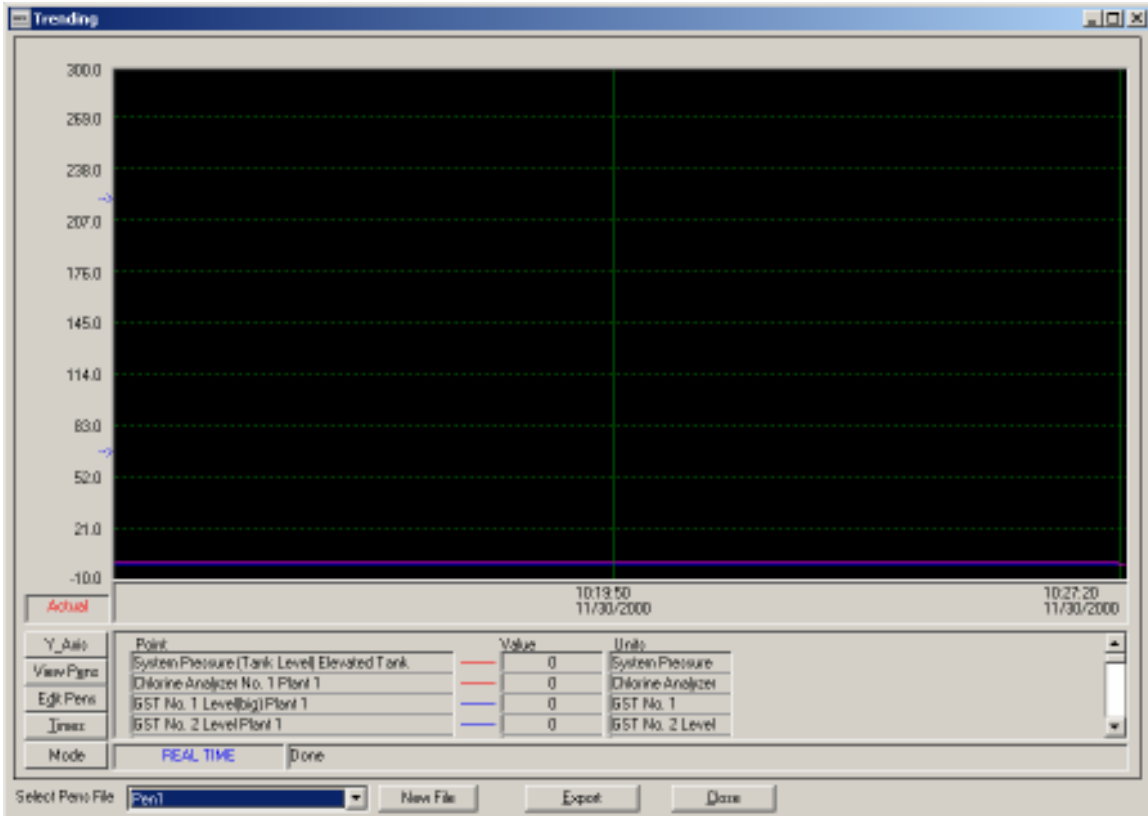
Alarms can be acknowledged with the two Acknowledge buttons. The All button will acknowledge all of the current alarms, while the Selected button will acknowledge only the alarm highlighted in the viewing grid.

Alarms can be sorted by group with the Group Selection combo box.

The Close Button will hide the viewer.

## Trending

Trending screen will show real time or historic data for selected points. You can specify specific points from the list to monitor, and assign different colors to the points. You can resize scaling.



## **Usage Details**

### **Y\_Axis**

The Y Axis of the trender is the vertical scale used to indicate the recorded value for a point. Values are marked in increments for Analog values. There are two small arrows  $\frac{1}{4}$  and  $\frac{3}{4}$  of the way up the left hand scale. The lower arrow indicates 0(OFF) for digital points. The upper arrow indicates 1(ON). Digital points will be slightly offset from each other to increase readability. The Y-axis scale is automatically selected during a trend according to the points used in the current pen set. The upper range is the highest upper range of all the points and the lower range is the lowest of all the lower ranges. To manually select the scale, click the Y\_Axis button and use one of the following methods

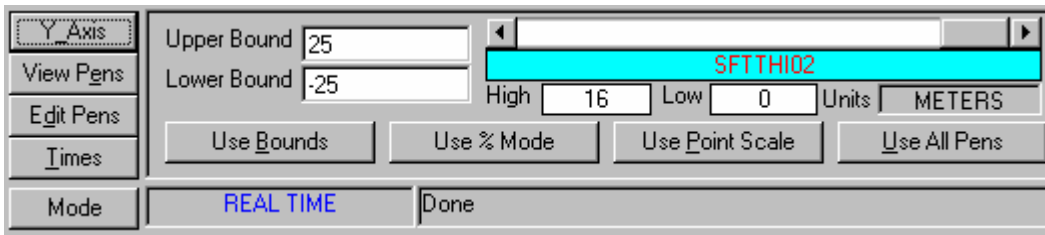


**Use Bounds** - Insert upper and lower bound. Click Use Bounds. Y axis scale will use this range.

**Use % Mode** - Click Use % Mode button to have each point displayed as a percentage of its range.

**Use Point Scale** - Select one of the current pens with slider and click Use Point Scale. That pen's high and low range will be used as the upper and lower bound of the Y axis.

**Use All Pens** - Click Use All Pens to use the default method of highest and lowest range among selected points.



## View Pens

View currently selected pens by clicking View Pens button. This screen shows Point name, pen color and width, Value and Units for selected points. The Value shows the current value when in Real Time mode and shows values at times selected in Historical mode (See Cursor below).



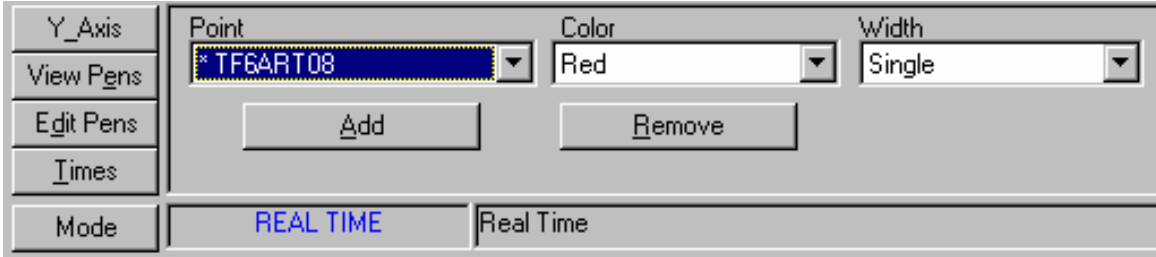
## Mode

The Historian uses two modes of operation, Real Time and Historical. Real Time mode gives constantly updated trends from present time to some point in past much like a strip chart. Historical mode allows review of past data. Modes are switched with the Mode button. The Label to the right of the Mode button indicates current mode. The next label to the right is the status indicator.

## Edit Pens

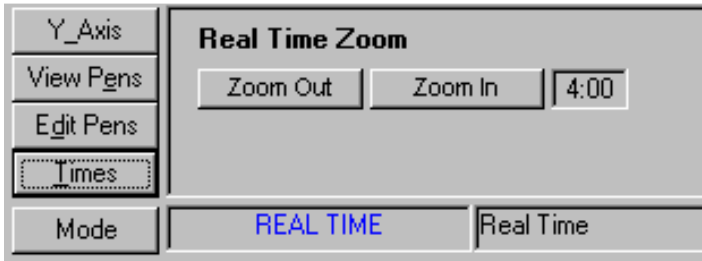
This screen permits the user to add, remove or modify pens in current set. Points available for trending will be listed in Point list. Currently selected points are at the top of the list and are preceded by an asterisk (\*). All other points are listed in alphabetical order. Select points to add, remove or modify. Up to 32 points may be added to one set.

Color and width are also selectable. Click Add to add pen. If point already exists in set, the pen style will be updated. Click Remove to remove pen from set.



**Times**

This screen allows the user to select the time scale of trends (x-axis). In realtime mode, this selects amount of time shown on screen. In both modes, minimum zoom is 1 minute and maximum is 72 hours.



In Historical mode, exact times may be entered with Start Time and End Time selectors. Times can also be easily entered with Pan and Zoom selectors. Pan indicates movement forward and backward in time. Pan indicator shows amount of movement forward or backward when using Pan buttons. This amount can be increased or decreased with Up/Down selector. Use Zoom In and Zoom Out buttons to increase or decrease the amount of time displayed. Indicator shows span. The Refresh button is then clicked to refresh graph with selected times. Until Refresh button is clicked, Pan and Zoom will use the last times selected with those buttons, not any times entered in selectors. Zoom always work from End Time back. Zoom will not be reflected by times manually selected.



**Cursor (Historical Mode)**

When viewing historical data, it is possible to get accurate indication of times in graph by clicking on the graph. A thick blue line will appear at the point the user clicked.

In the cursor box at top, the time and date for that point will appear. The cursor may be moved left or right by clicking the < and > buttons. Cursor moves one pixel at a time and time is calculated accordingly. Turn cursor off with x button. The values in the View Pens box will reflect the values for each point at that time.

