



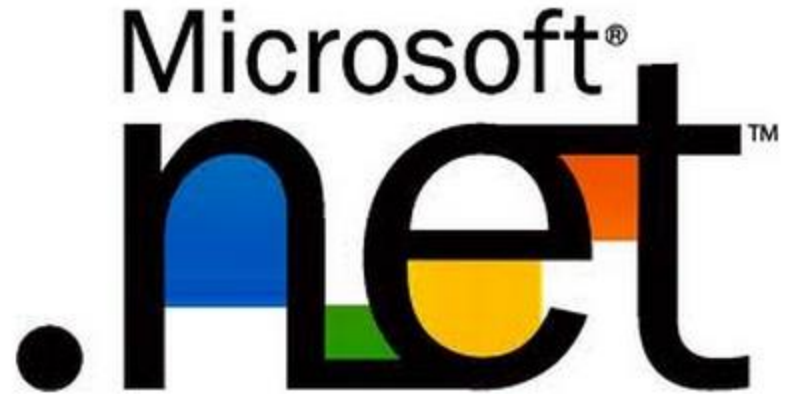
Process Control • Building Automation • SCADA Platform

# pbsHMI Specifications

[www.pbsControl.com](http://www.pbsControl.com)

# Basic concepts

- pbsHMI is SCADA/HMI Platform from pbsControl company
- pbsHMI is developed based on Microsoft .Net Technology
- pbsHMI is developed by the most professional component in the market



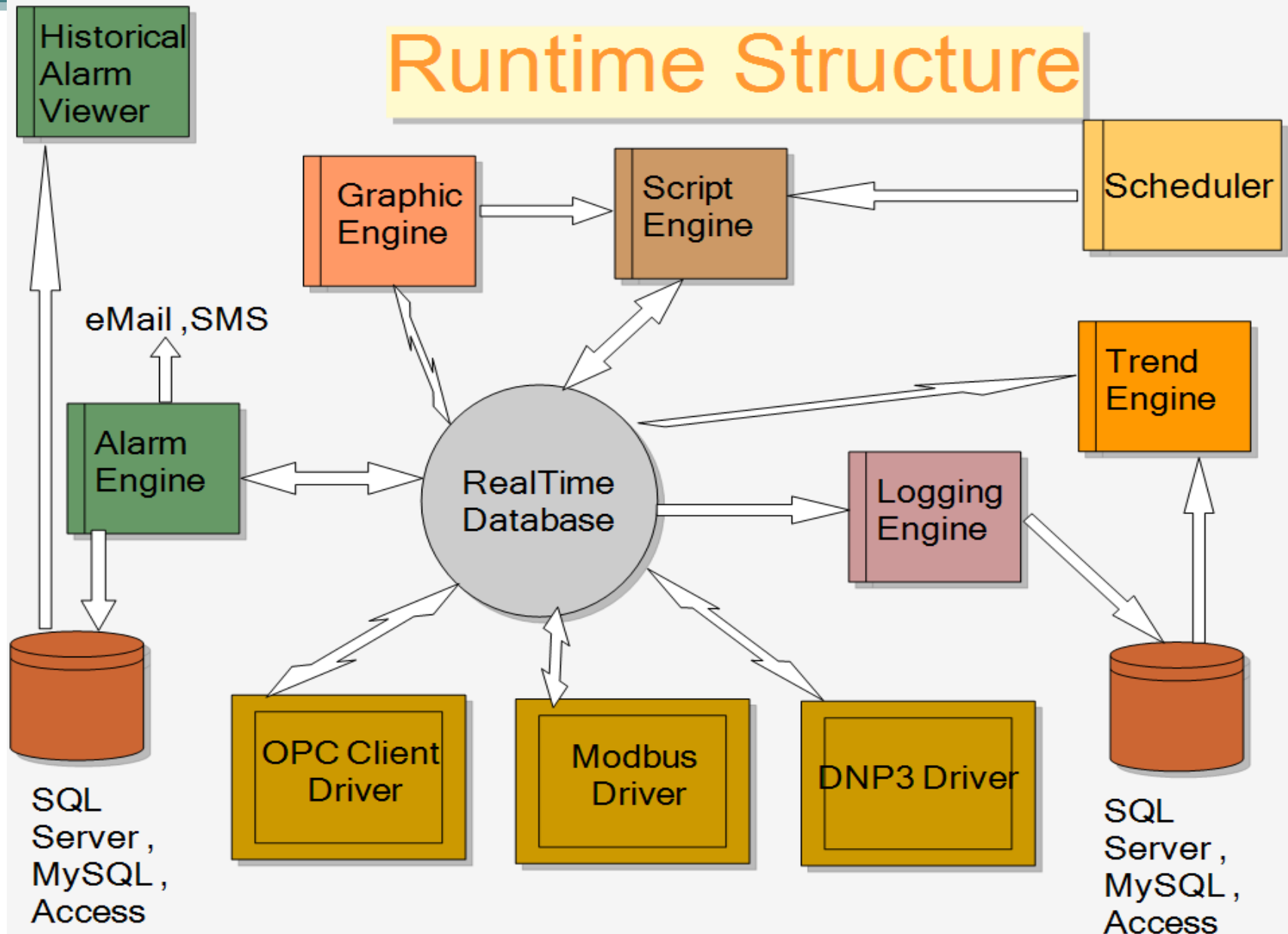
# Specifications

- Developed and Tested for 100,000 Physical tags
- Client/Server Architecture
- Distributed Server architecture with built in redundancy
- Object oriented graphics
- OPC Server DA as real time database in heart of runtime system
- OPC UA DA , AE client are supported
- Standard Alarm ,Event , trend and logging engine
- OPC UA / DA2.0 Client , Modbus Master TCP/RTU ,DNP3 , IEC870-5-104 , Siemens S7connect client protocols are supported
- C# Scripting Engine with Professional C# Editor
- Reusable , object oriented graphic component
- Different type of Dynamics for graphics components , Blink , Brush , Move , Rotate , Hide , Tool Tip ,...
- Right Click menu is supported for all objects
- Different type of events for graphics components

# Specifications

- Rapid Application Development (RAD) with different utilities ( Copy Dynamic , Copy Style, Copy Event , Copy page , replace Dynamics and events,... )
- Different type of Scheduling for running scripts ( Server Side Only)
- Microsoft SQL Server , MySQL Data logging and trending
- Automatic SMS and Email Alarm notification
- With More than 4000 Built in Industrial symbols
- User Activity logging facility
- Automatic update of Clients - Intelligent propagation
- Unified User database in clients and server
- Page zooming , panning and Automatic Declutring at runtime
- multi layer Graphic pages
- Tag Import/Export Facility to excel
- Unified Error handling

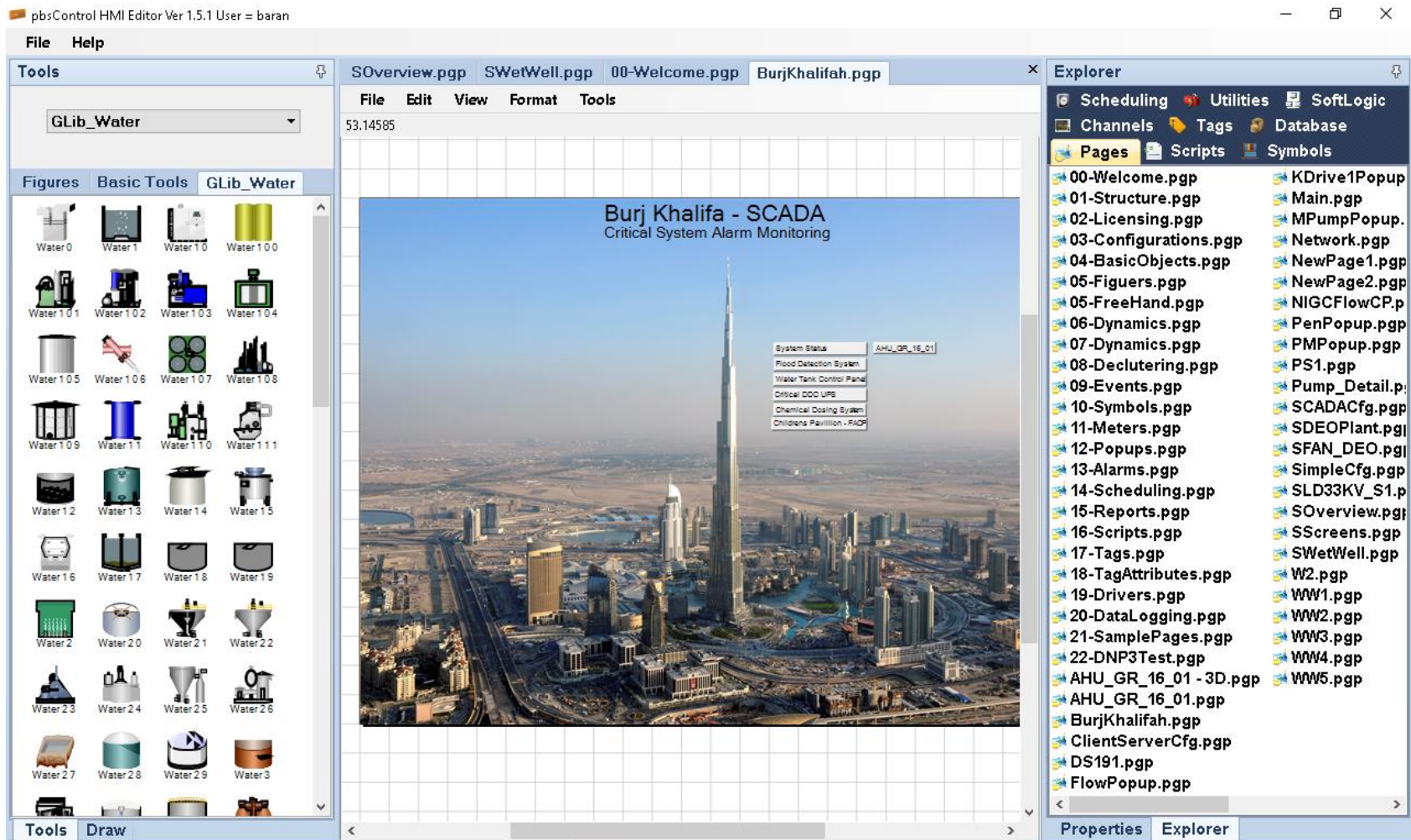
# Runtime Structure



# Runtime Specifications

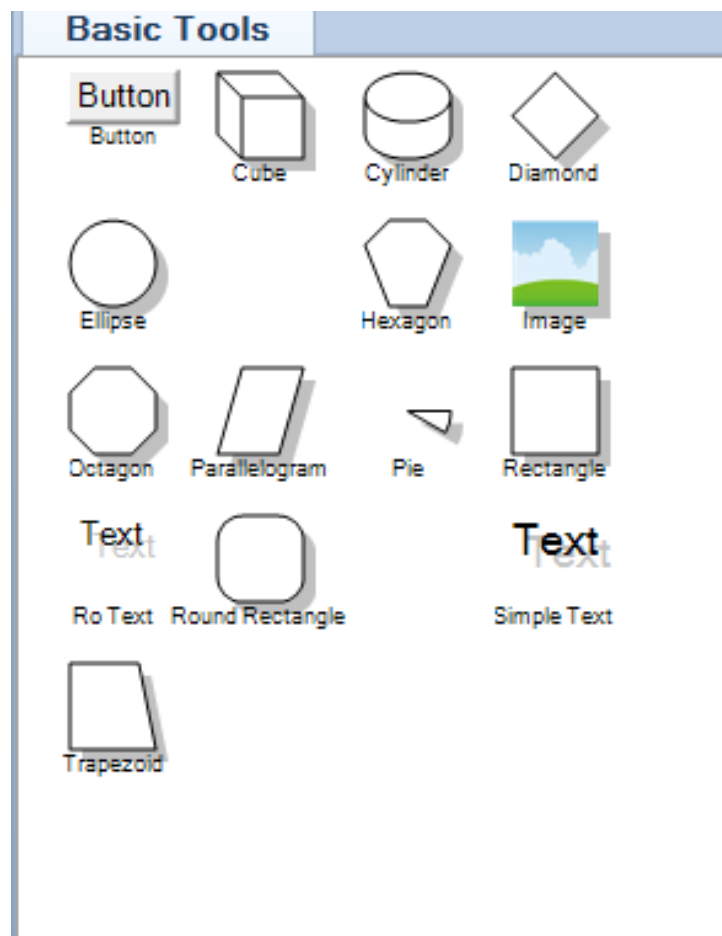
- Running and tested on Windows XP , Windows 7 , Windows Server 2008 and Windows Embedded 2009
- No limitation on number of Physical Tags
- No limitation on Number of Internal Tags
- No limitation for graphic pages
- No Limitation on number of objects on a page
- No Limitation on number of alarms
- Communication Channels are running in parallel
- Client/Server functionality is embedded with high performance in real time database of pbsHMIView
- Online Update of Graphic page is supported

# Development Environment



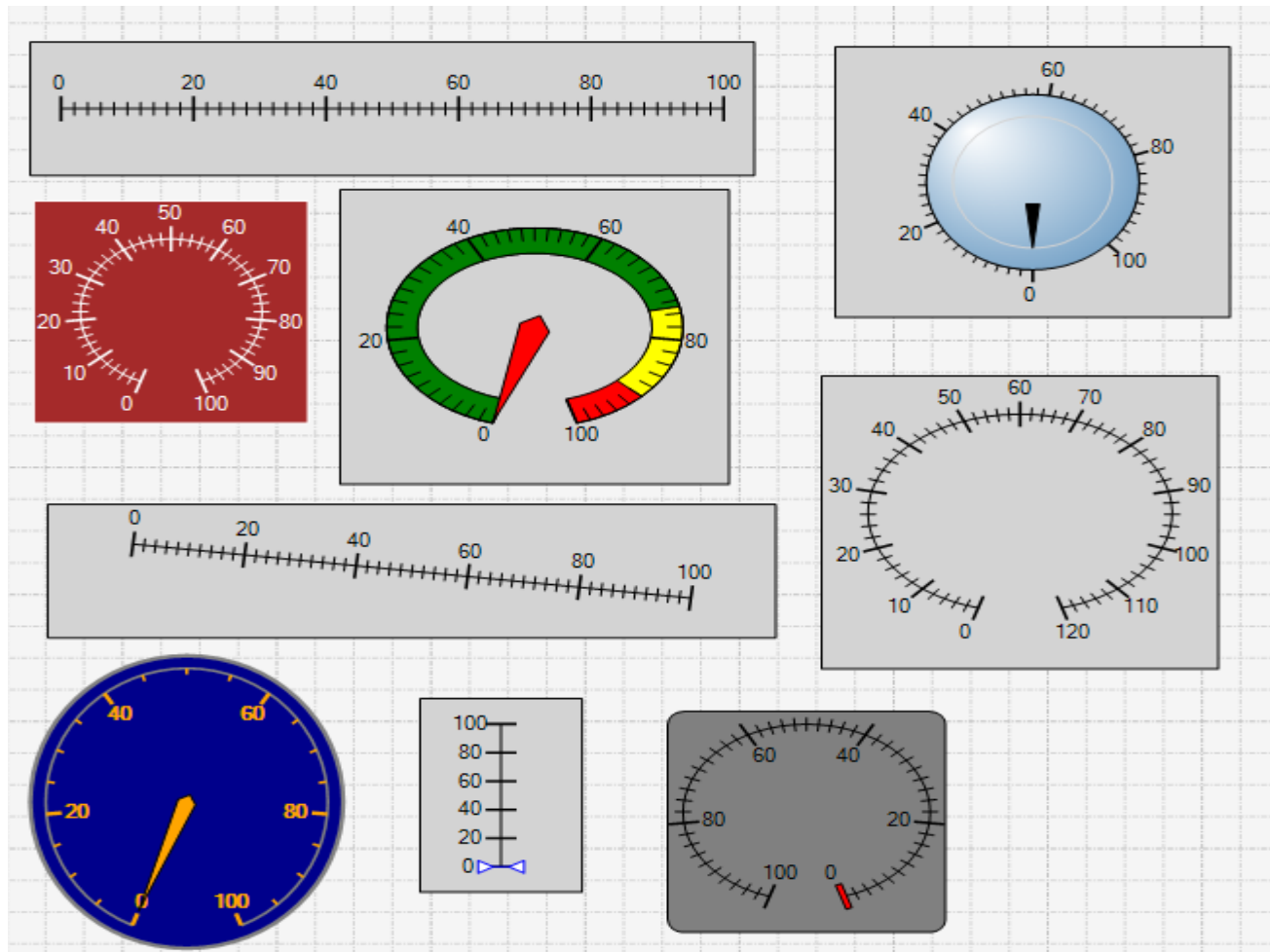


# Embedded Graphic Objects

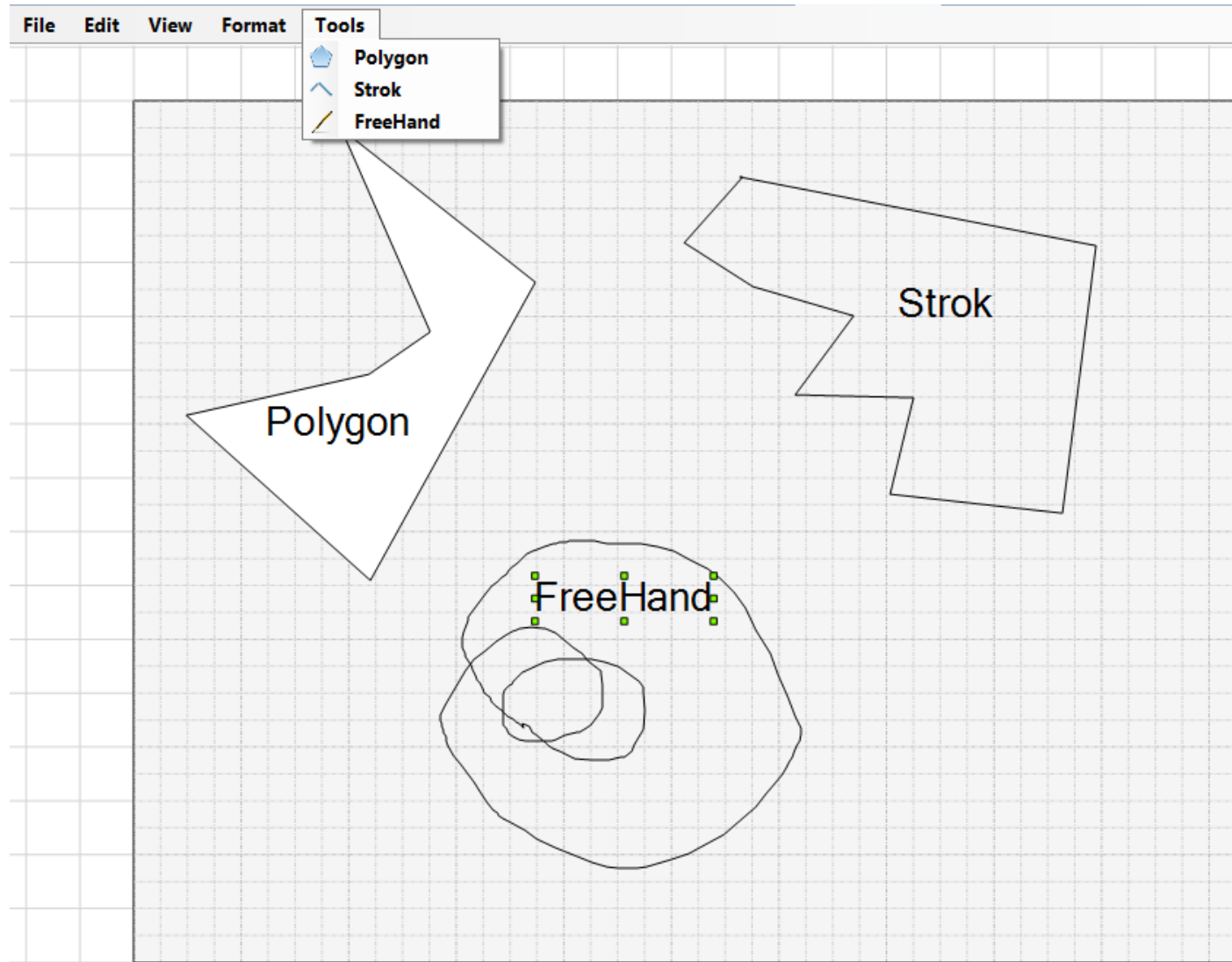




# Embedded Meter Objects

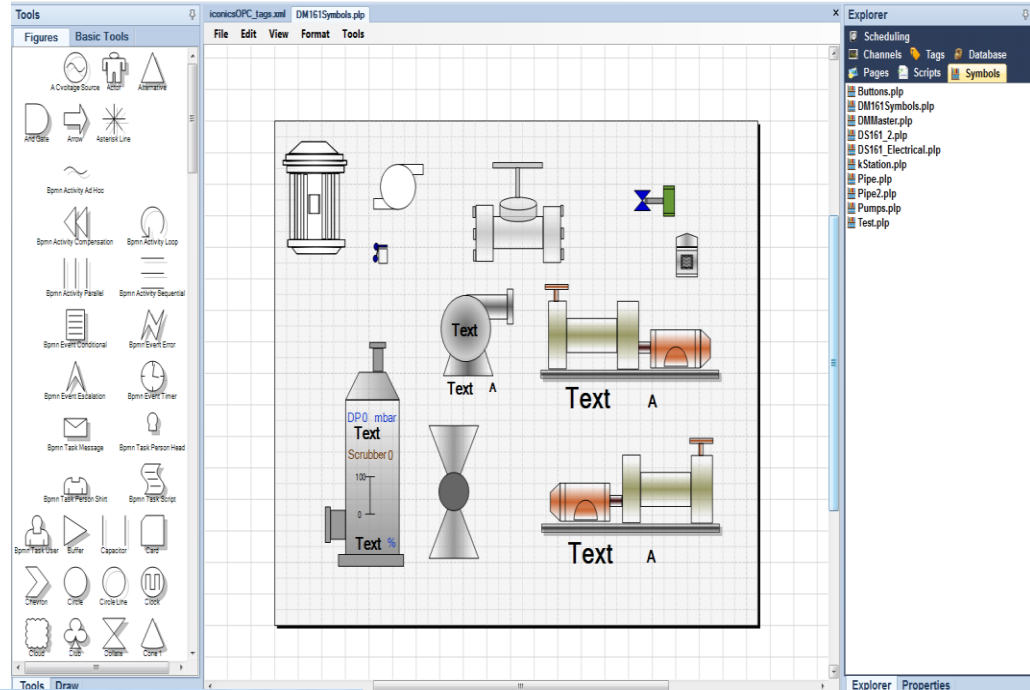


# Polygon , Strok and Free hand tools



# Symbols

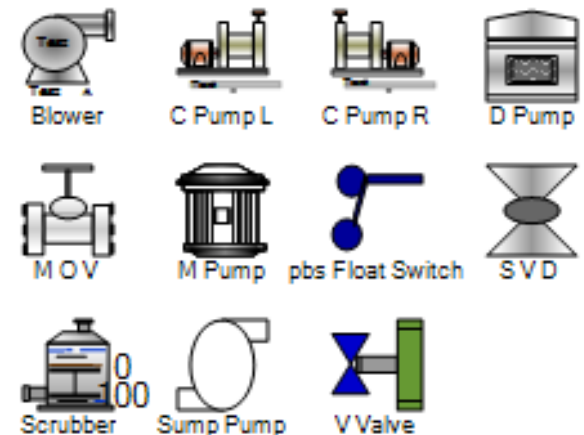
- More than 4000 ready graphic symbols
- User defined Integrated Graphic objects with C# Script
- Reusable in different projects
- High performance operation



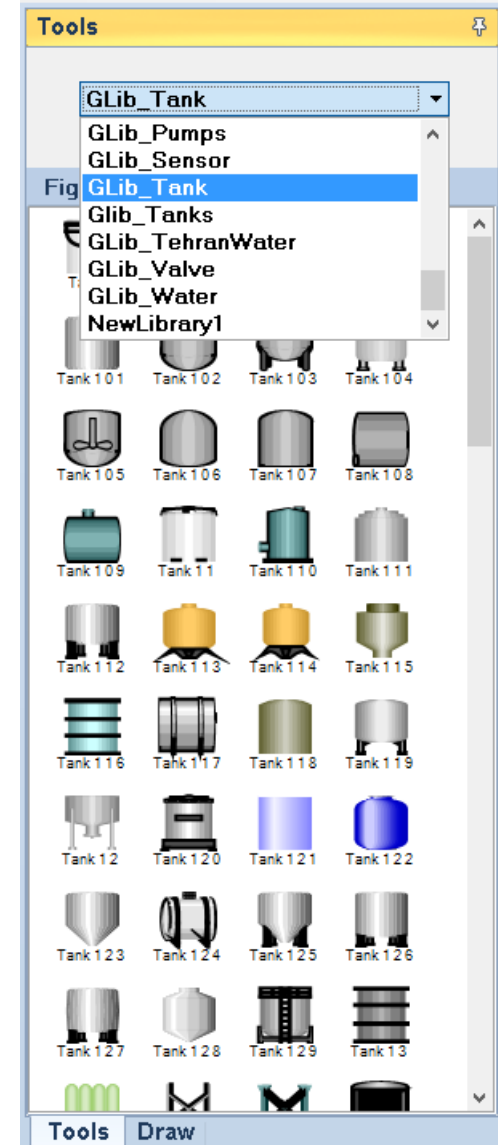
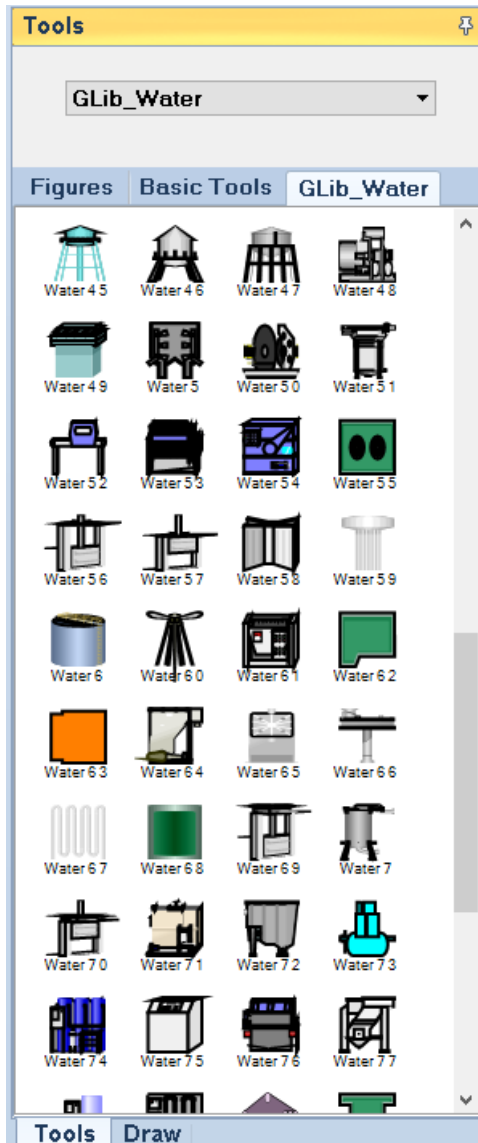
```

CSharp Function Editor
1 private void CyclicProc()
2 {
3     int TmpSTS1 = int.Parse( GetTag("STS1").ToString() );
4
5     CB_Closed = ((TmpSTS1>>0) & 1)==1 ;
6     CB_Opened = ((TmpSTS1>>1) & 1)==1 ;
7     SS_Remote = ((TmpSTS1>>14) & 1)==1 ;
8     P_Trip = ((TmpSTS1>>15) & 1)==1 ;
9     bool P_Alarm1 = ((TmpSTS1>>10) & 1)==1 ;
10    bool P_Alarm2 = ((TmpSTS1>>11) & 1)==1 ;
11    //bool P_Alarm3 = ((TmpSTS1>>12) & 1)==1 ;
12    P_Alarm = P_Alarm1 || P_Alarm2 ;
13    P_NTrip = !P_Trip;
14 }
15

```



# 4000 Ready symbols



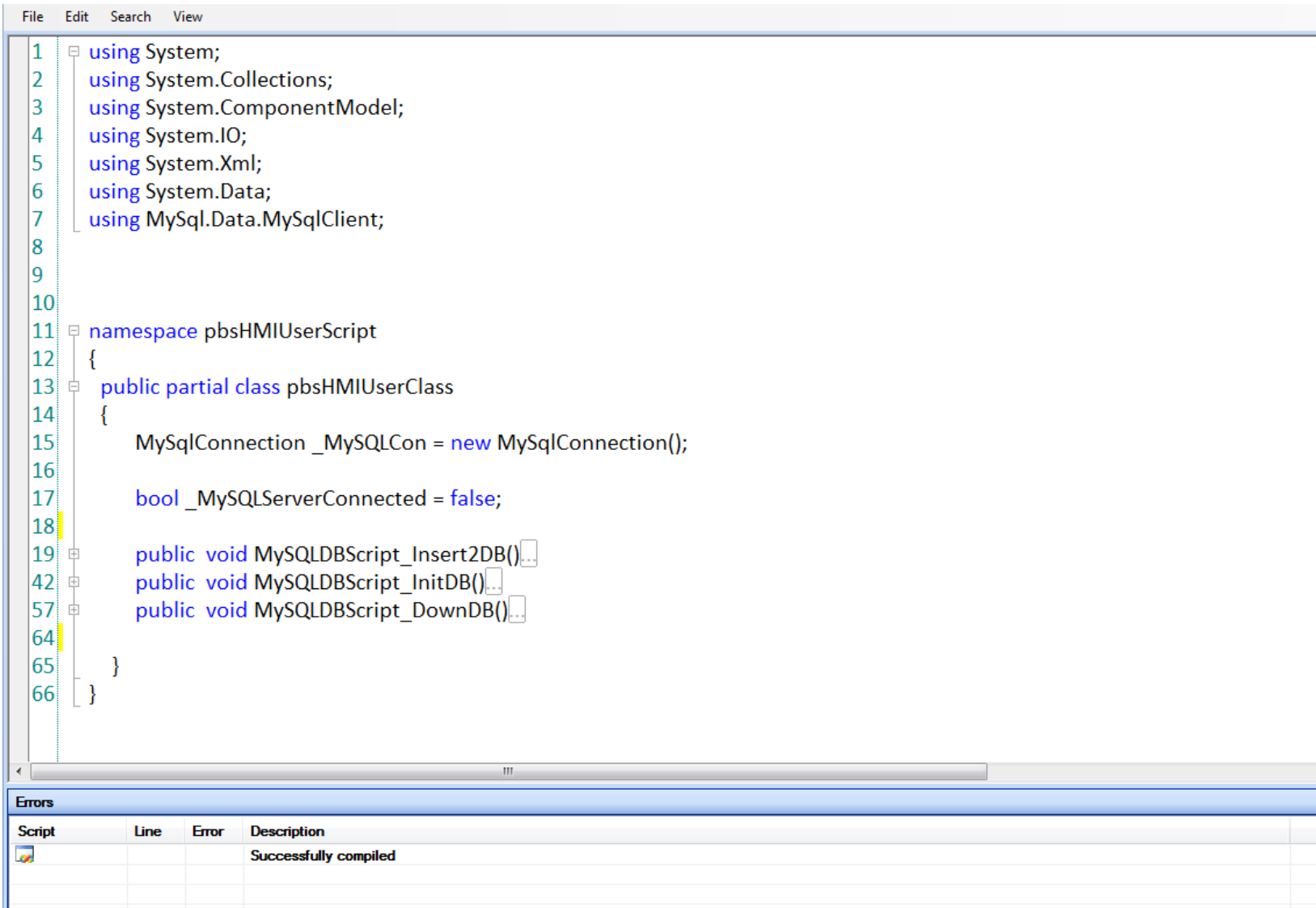
# Graphics Dynamics

[-] Dynamics	
BlinkDynamic	(Collection)
BrushDynamic	(Collection)
HideDynamic	
LeftDynamic	
RotationDynamic	Gtags.RotationDemo
TopDynamic	

# Graphics Events


[-] Event	
pbsEvent	Pulse
pbsEventPageLoad	Set
pbsEventPopupBaseID	Toggle
pbsEventPopupNewID	Pulse
pbsEventPulseWidth	Script
pbsEventScript	Load
pbsEventSetValue	Popup
pbsEventSignal	

# C# Scripting & Editor



The screenshot displays a C# script within a code editor. The script defines a namespace `pbsHMIUserScript` and a partial class `pbsHMIUserClass`. Inside the class, a `MySQLConnection` object is instantiated, a boolean `_MySQLServerConnected` is set to `false`, and three public void methods are declared: `MySQLDBScript_Insert2DB()`, `MySQLDBScript_InitDB()`, and `MySQLDBScript_DownDB()`. The editor interface includes a menu bar with 'File', 'Edit', 'Search', and 'View'. A line number column on the left ranges from 1 to 66. The bottom of the window features an 'Errors' panel with a table showing a successful compilation message.

```
1  using System;
2  using System.Collections;
3  using System.ComponentModel;
4  using System.IO;
5  using System.Xml;
6  using System.Data;
7  using MySql.Data.MySqlClient;
8
9
10
11 namespace pbsHMIUserScript
12 {
13     public partial class pbsHMIUserClass
14     {
15         MySqlConnection _MySQLCon = new MySqlConnection();
16
17         bool _MySQLServerConnected = false;
18
19         public void MySQLDBScript_Insert2DB()...
20
21         public void MySQLDBScript_InitDB()...
22
23         public void MySQLDBScript_DownDB()...
24
25     }
26 }
```

Script	Line	Error	Description
			Successfully compiled

# Different Types of scheduling for Automatic Tasks

Script

Run

☐ Every day at  hh:mm

☐ Every hour at  mm

☐ Every msec

☐ Loading

☒ Shutdown



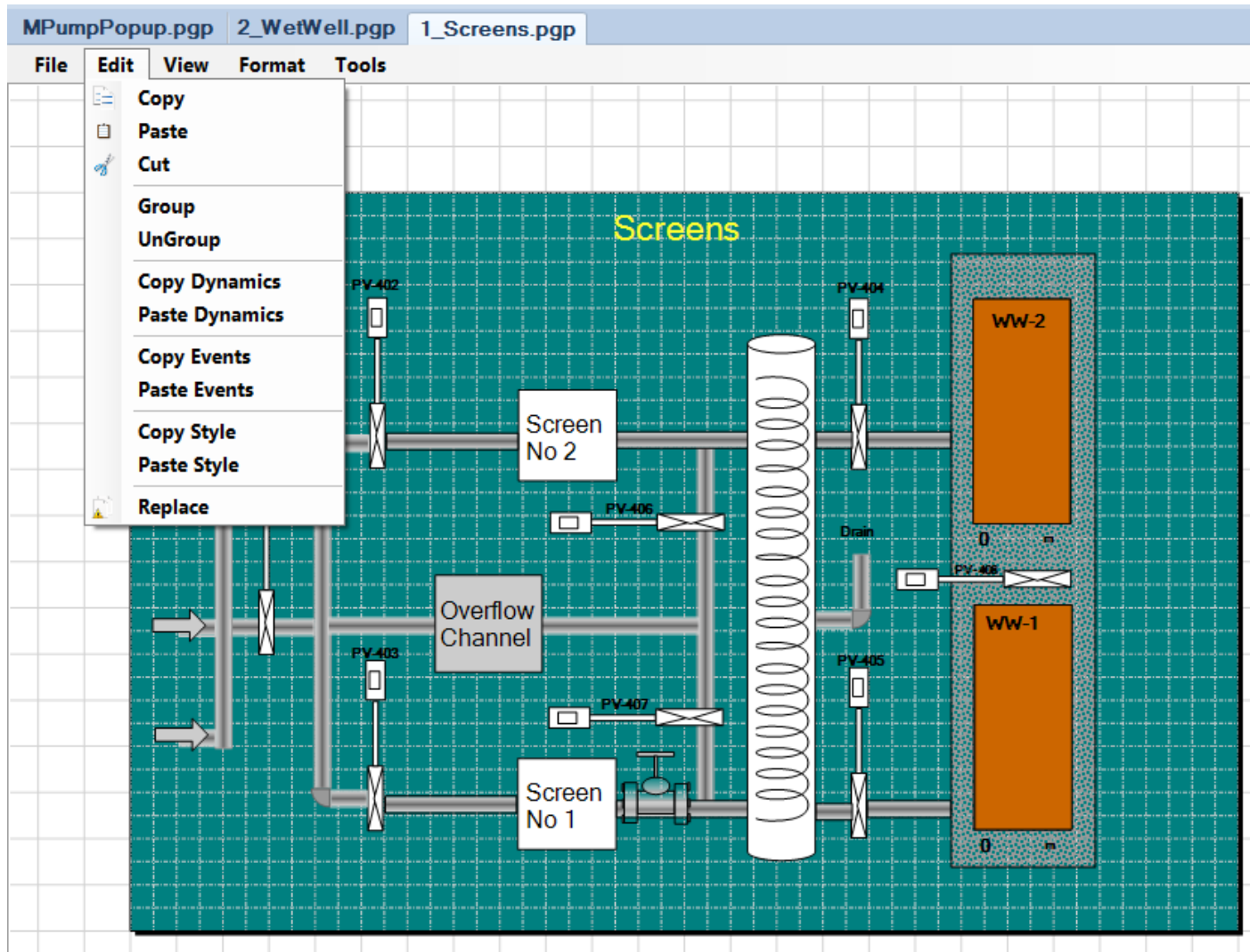
# Calling Popup Menu with different tag groups at runtime

The screenshot displays a process control software interface. The main window shows a schematic diagram of a pump system with three pumps (P-401, P-403, P-405) and various valves (MV-404, MV-411, MV-414, MV-416, MV-418) and pressure indicators (PIT-201, PIT-202, PIT-205, PIT-206, PIT-209, PIT-210). A popup menu is overlaid on the left, titled "Text", containing sections for "Pumps Parameters", "Status", "Faults", and "Soft Starter Parameter". The "Status" section includes radio buttons for "Main Switch ON", "Auto From Panel", "Auto From SCADA", "Soft Starter in remote", "Starting", and "Running". The "Faults" section includes radio buttons for "MMR Fault", "Soft Starter OL Trip", "Start Fault", "Stop Fault", "Earth Leakage", and "Supply Fault". The "Soft Starter Parameter" section includes text fields for "R-Y Voltage", "Y-B Voltage", "B-R Voltage", and "Kilo Watts", along with "R Ph Current", "Y Ph Current", and "B Ph Current". The "Start", "Stop", "Reset", and "Manual" buttons are at the bottom. A "Properties" window is open on the right, showing the "Event" tab with the following properties:

Property	Value
Top	495.2797
Width	68.5049438
Dynamics	
BlinkDynamic	(Collection)
BrushDynamic	(Collection)
HideDynamic	
LeftDynamic	
TopDynamic	
Event	
pbsEvent	Popup
pbsEventPageLoad	MPumpPopup.pgp
pbsEventPopupBaseID	_401_
pbsEventPopupNewID	_403_
pbsEventPulseWidth	2000
pbsEventScript	
pbsEventSecurityLevel	0
pbsEventSetValue	
pbsEventSignal	
Misc	
ChildNames	
Count	36
First	pbsHMIToolsMng.pbsFigure
Last	pbsHMIToolsMng.pbsFigure
Observers	Northwoods.Go.GoCollectio
pbsHasSubNode	False
pbsIsEditMode	True
pbsName	MPump_2
pbsTitle	

# Rapid Application Development tools

## Copy Dynamic , Copy Event , Copy Style , ...



# Event Viewer and Management

pbsHMView

Pages Alarms AlarmsHis Events EventsHis AnalogAlarms Trends Utility

Number of Events 676 [Click here to add filter criteria](#)

Description	State	Timetable	Val...	RH	RM
DI1M001 COORD PDC MODE	OFF	9/8/2015_3:36:35 PM:873	0	0	0
DI1M002 COORD ALR MODE	ON	9/8/2015_3:36:35 PM:888	1	133	15
DI1M003 BLR FOLLOW MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M004 BLR INPUT MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M005 TBN FOLLOW MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M006 BLR HAND MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M067 MW REJECT MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M514 BLR RUNBACK MODE	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M007 TBN GOV AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M071 TBN GOV HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M008 BLR MASTER AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M072 BLR MASTER HAN	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M010 FUEL GAS FLOW CV AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M073 FUEL GAS FLOW CV HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M011 FUEL OIL FLOW CV AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M074 FUEL OIL FLOW CV HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M012 GAS OIL FLOW CV AUTO	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M075 GAS OIL FLOW CV HAND	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M015 FLUE GAS O2 AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M078 FLUE GAS O2 HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M013 A-FDF AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M076 A-FDF HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M014 B-FDF AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M077 B-FDF HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M016 HR FEED WATER CV AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M079 HR FEED WATER CV HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M017 LR FEED WATER CV AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M080 LR FEED WATER CV HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M018 A-BFP AUTO	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M081 A-BFP HAND	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M019 B-BFP AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0
DI1M082 B-BFP HAND	OFF	9/8/2015_3:36:35 PM:888	0	0	0
DI1M020 C-BFP AUTO	ON	9/8/2015_3:36:35 PM:888	1	0	0

Pages

A-BFP.pgp  
A-CWP.pgp  
A-FDF.pgp  
A-GAH.pgp  
A-GRF.pgp  
B-BFP.pgp  
B-CWP.pgp  
B-FDF.pgp  
B-GAH.pgp  
B-GRF.pgp  
Boiler.pgp  
C-BFP.pgp  
powerplant.pgp  
start.pgp  
structure.pgp  
UnitMWV.pgp

Utility

Login  
Logout  
Change Password  
Shut Down  
Enable Commands

# Alarm Viewer and Management

pbshMIView

Pages Alarms AlarmsHis Events EventsHis AnalogAlarms Trends Utility

Ack AckAll Click here to add filter criteria

Number of Alarms 46

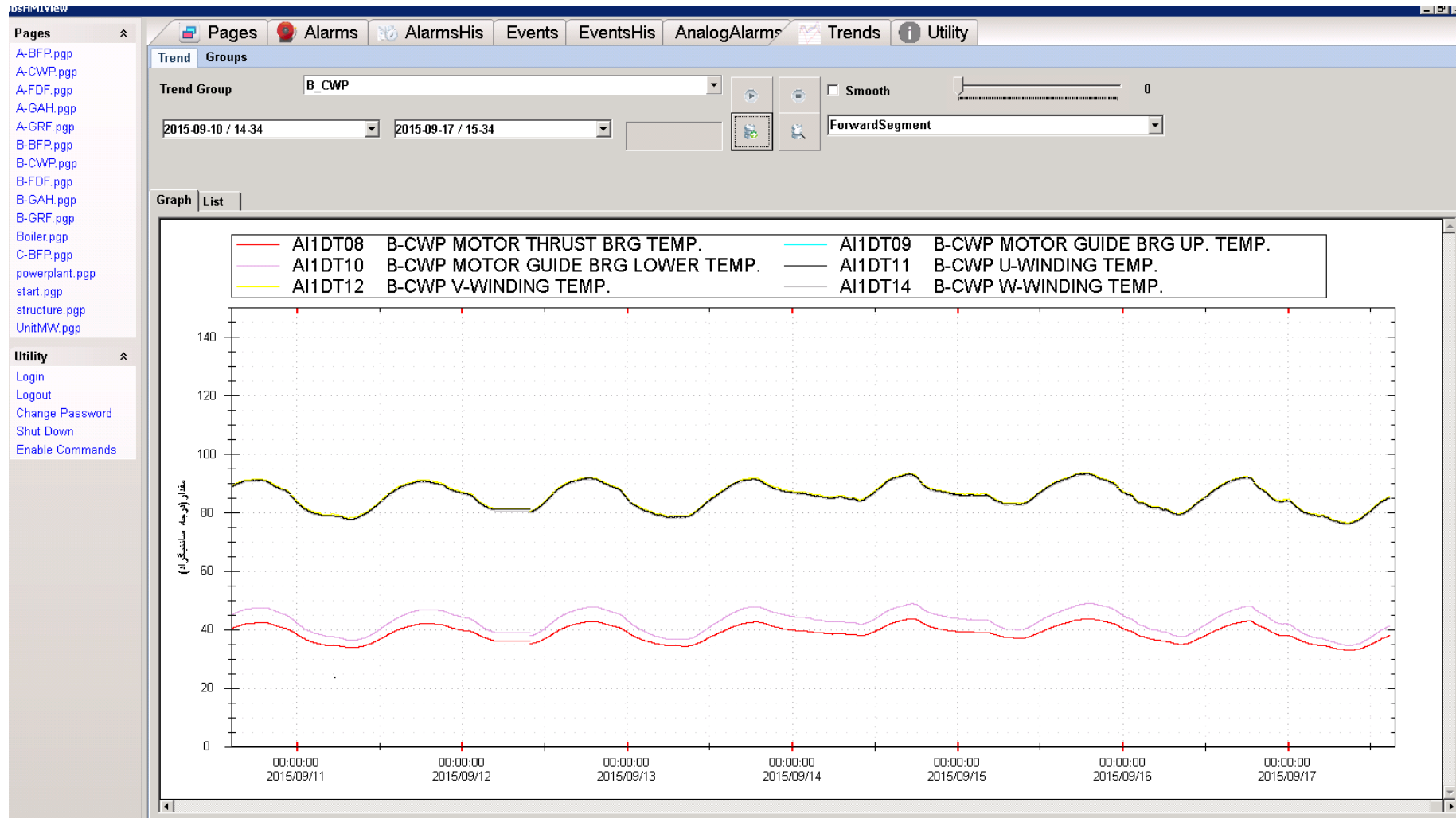
Description	State	Value	Analog State	Timetable	User
AI1WA07 ECO INLET FEED WATER PH (L=8,H=9)	ActiveNotACK	0	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1BA01 BLR DRUM WATER PH (L=8,H=10)	ActiveNotACK	2.00488400598988	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1WA04 CBP OUTLET DO2(L=20,H=300)	ActiveNotACK	-124.847374796867	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1WA10 A-CPP OUTLET WATER CONDUCTIVITY(H=0)	ActiveNotACK	0.0448717772960663	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1WA11 B-CPP OUTLET WATER CONDUCTIVITY (H=0)	ActiveNotACK	0.0100732445716858	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1WA09 ECO INLET FEED WATER CONDUCTIVITY(H=0)	ActiveNotACK	0.0680707991123199	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1SA02 MAIN STEAM CONDUCTIVITY(H=0)	ActiveNotACK	0.14529912173748	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1SP02 TBN INLET MAIN STEAM PRESS. (L=130,H=156)	ActiveNotACK	-49.9389499388635	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1WL01 COND WATER LEVEL (L=2,H=3)	ActiveNotACK	3.24816850607749	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
CWP DISCHARGE WATER PRESS(L=2,H=3)	ActiveNotACK	0	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
CIRCULATING WATER FLOW(L=25,H=27)	ActiveNotACK	32.576303543523	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
DEA STORAGE TANK LEVEL(L=2,H=3)	ActiveNotACK	-1	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
LP NO.2 HTR LEVEL(L=50,H=150)	ActiveNotACK	-150	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
HP NO.5 HTR LEVEL(L=50,H=150)	ActiveNotACK	-199.633699633181	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
HP NO.6 HTR LEVEL(L=50,H=150)	ActiveNotACK	-199.633699633181	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
TBN LUB. OIL PRESS.(L=0,H=1)	ActiveNotACK	1.39316202234477	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1GT27 AIR COOLER OUTLET AIR TEMP. (H=50)	ActiveNotACK	53.9438224993646	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1TX02 TBN ECCENTRICITY (L=0,H=100)	ActiveNotACK	-13.553113501519	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1JV03 B-BFP VIBRATION (IN SIDE)(L=5,H=34)	ActiveNotACK	-24.9389499388635	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1EE02 U-M/C BUS-A VOLTAGE (U-V PHASE) (L=5,H=7)	ActiveNotACK	4.32142929360271	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1EE03 U-M/C BUS-B VOLTAGE (U-V PHASE) (L=5,H=7)	ActiveNotACK	-2.25	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1EE17 A-FDF MOTOR CURRENT (H=275)	ActiveNotACK	297.557925343513	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1DL01 CONDENSATE STORAGE TANK LEVEL (H=3)	ActiveNotACK	9.64010829245672	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1LE04 S-M/C BUS VOLTAGE (U-V PHASE) (L=5)	ActiveNotACK	0	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1FT01 HOP INLET TEMP(L=40,H=60)	ActiveNotACK	0	L_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1ST10 L-FINAL SH OUTLET STEAM TEMP(H=555)	ActiveNotACK	567	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1ST11 BLR OUTLET MAIN STEAM TEMP(L=521,H=555)	ActiveNotACK	564	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1ST12 TBN INLET MAIN STEAM TEMP(L=521,H=555)	ActiveNotACK	559	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1ST15 BLR OUTLET HRH STEAM TEMP(L=511,H=555)	ActiveNotACK	562	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1ST16 TBN INLET HRH STEAM TEMP(L=511,H=555)	ActiveNotACK	560	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
AI1JT35 C-BFP HYD. COUPLING BRG-R2 TEMP(H=90)	ActiveNotACK	469	H_Alarm	9/8/2015_3:36:35 PM:998	Admin
LP NO.1 HTR LEVEL(L=50,H=150)	ActiveNotACK	-149.02319920063	L_Alarm	9/8/2015_3:36:40 PM:272	Admin
LP NO.3 HTR LEVEL(L=50,H=150)	ActiveNotACK	-149.877899900079	L_Alarm	9/8/2015_3:39:26 PM:585	Admin
AI1BL02 D-POWER DRUM LEVEL(L=125,H=100)	ActiveNotACK	594.573540589132	L_Alarm	9/8/2015_3:40:31 PM:745	Admin

Pages Alarms AlarmsHis Events EventsHis AnalogAlarms Trends Utility

Utility

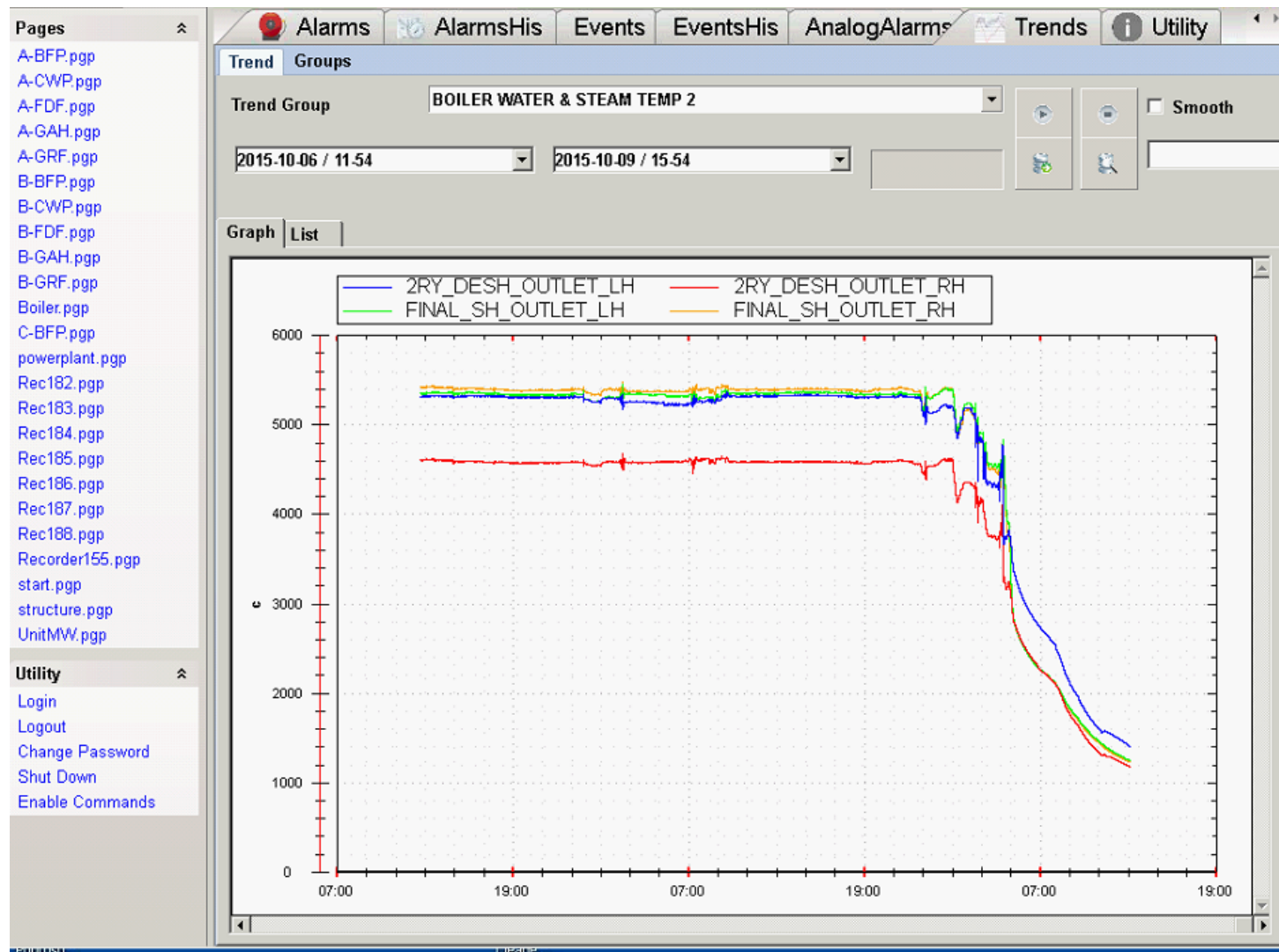
Login Logout Change Password Shut Down Enable Commands

# Online and Offline Trending





# Historical Trending

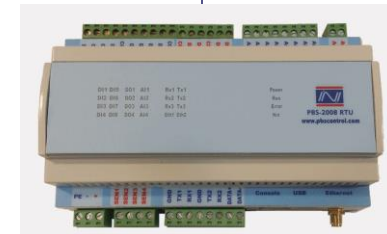
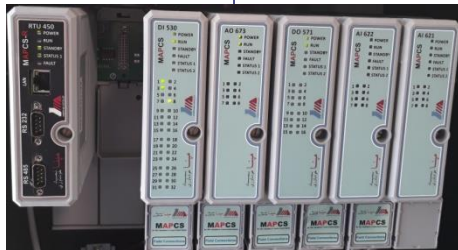


# pbsHMI simple Setup

- Integrated I/O server , Alarm Server , Graphic pages , Data logging in one Computer

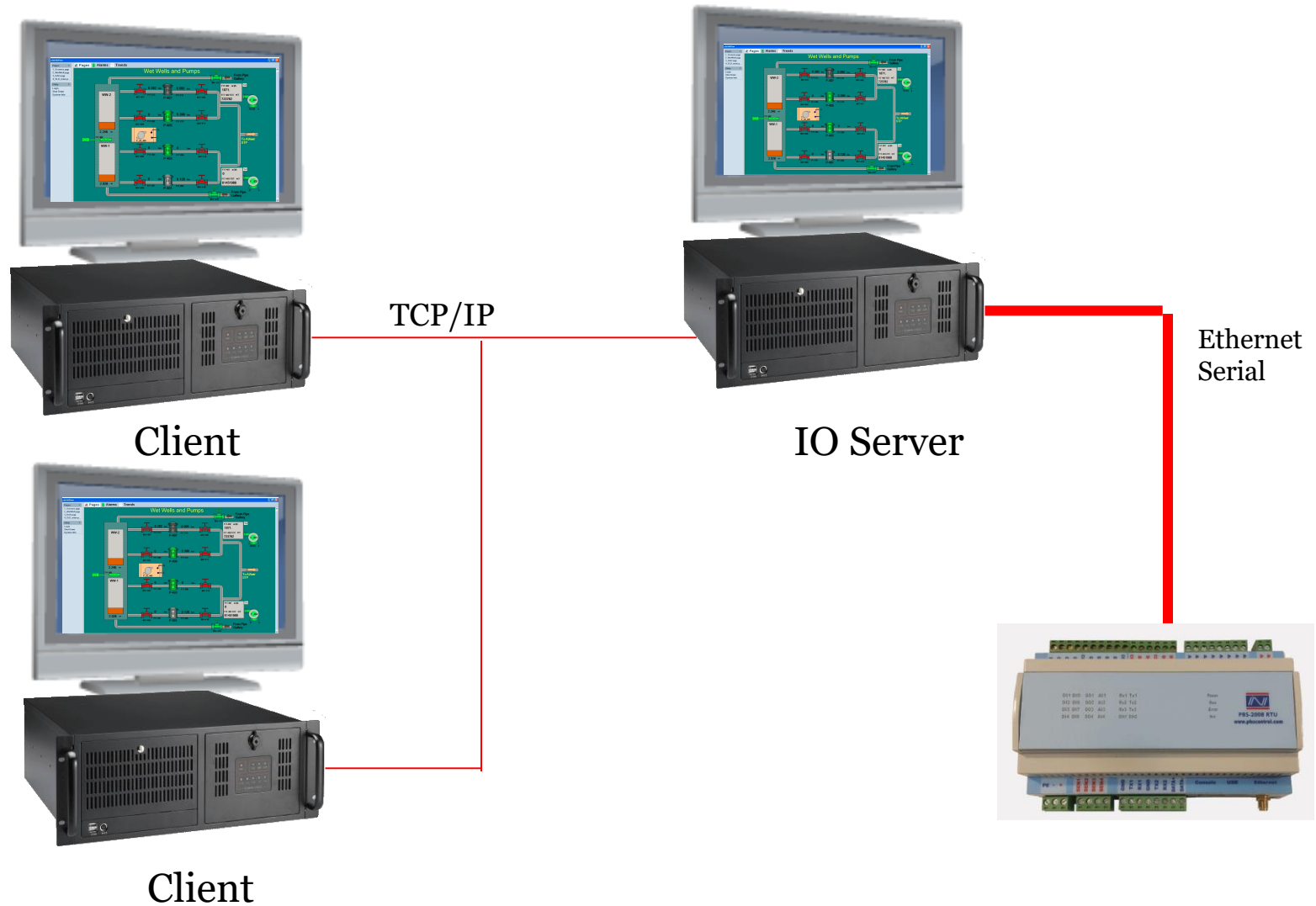


Ethernet Network TCP/IP

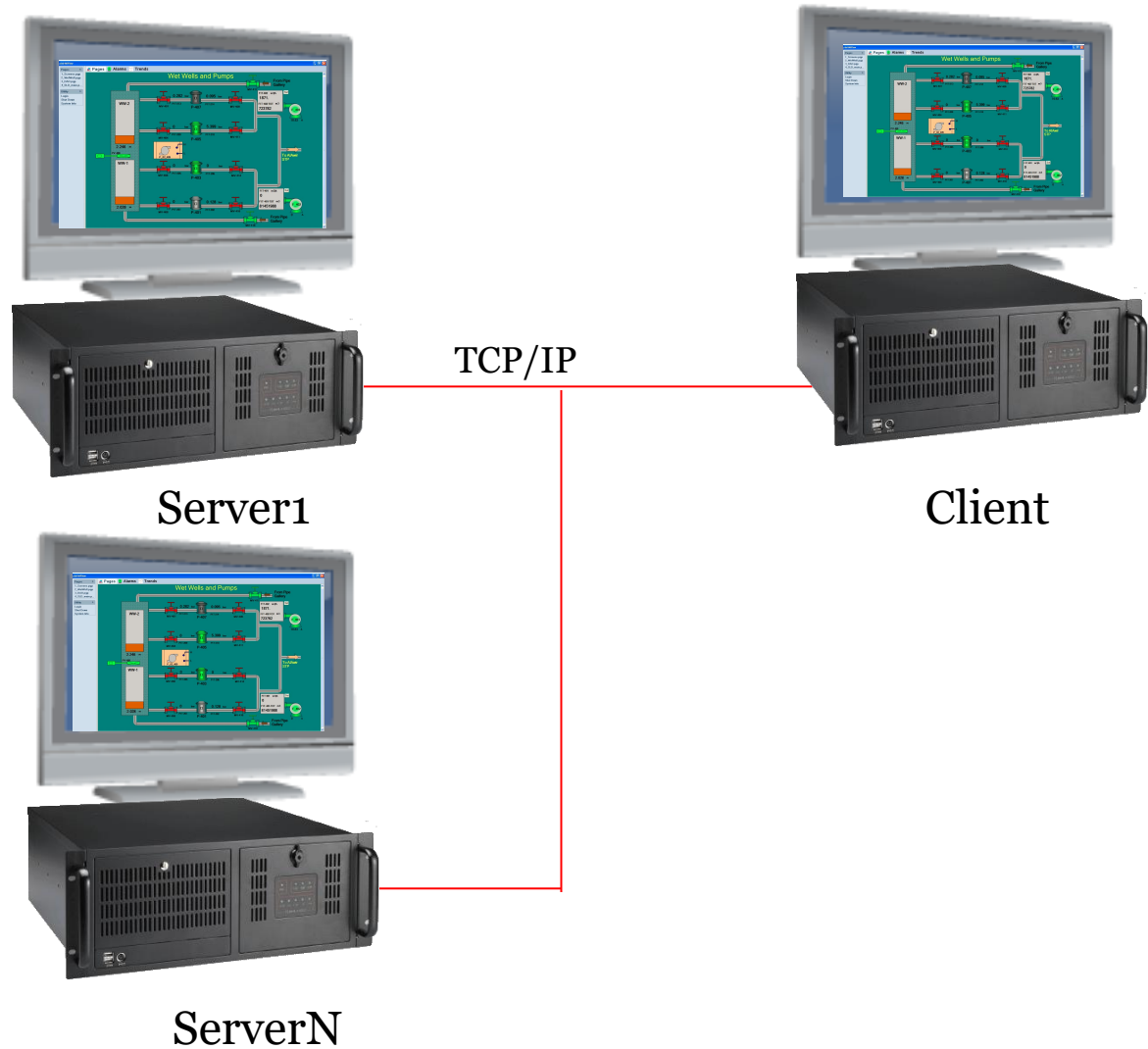




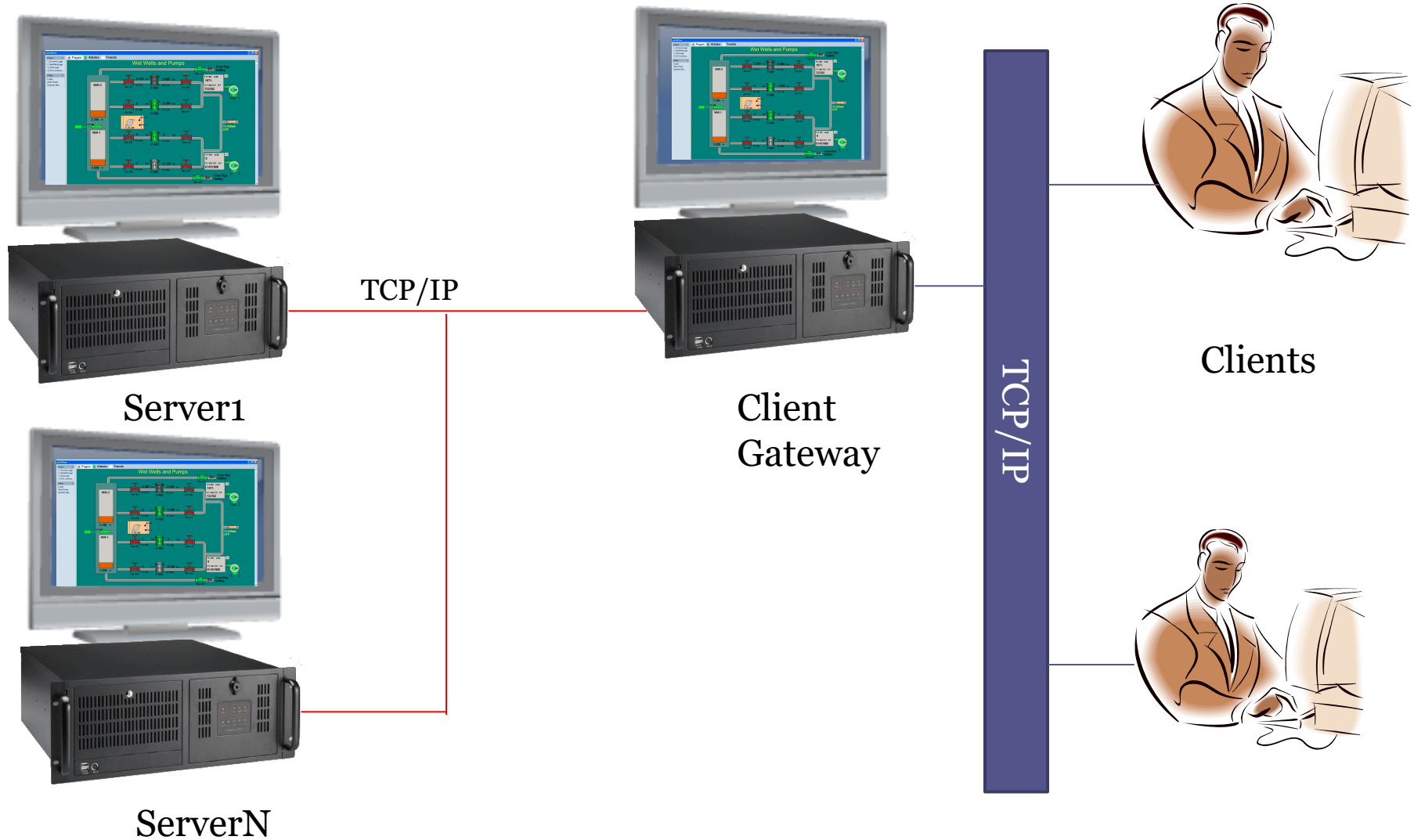
# pbsHMI Client/Server Setup



# pbsHMI Client/Servers Setup



# pbsHMI Gateway Setup



pbsHMI Clients



pbsHMI Client  
Operate as Gateway



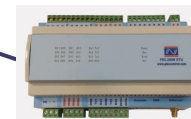
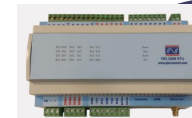
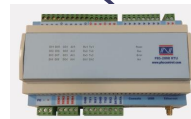
pbsHMI Server1

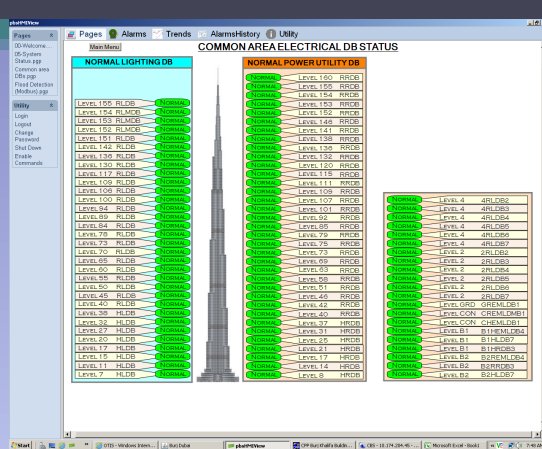


pbsHMI Server2

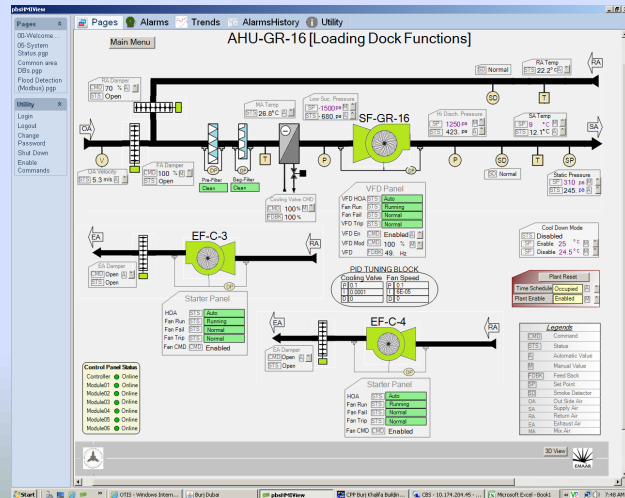


pbsHMI ServerN





# Sample Pages



## Pages

00-Welcome....  
05-System  
Status.pgp  
Common area  
DBs.pgp  
Flood Detection  
(Modbus).pgp

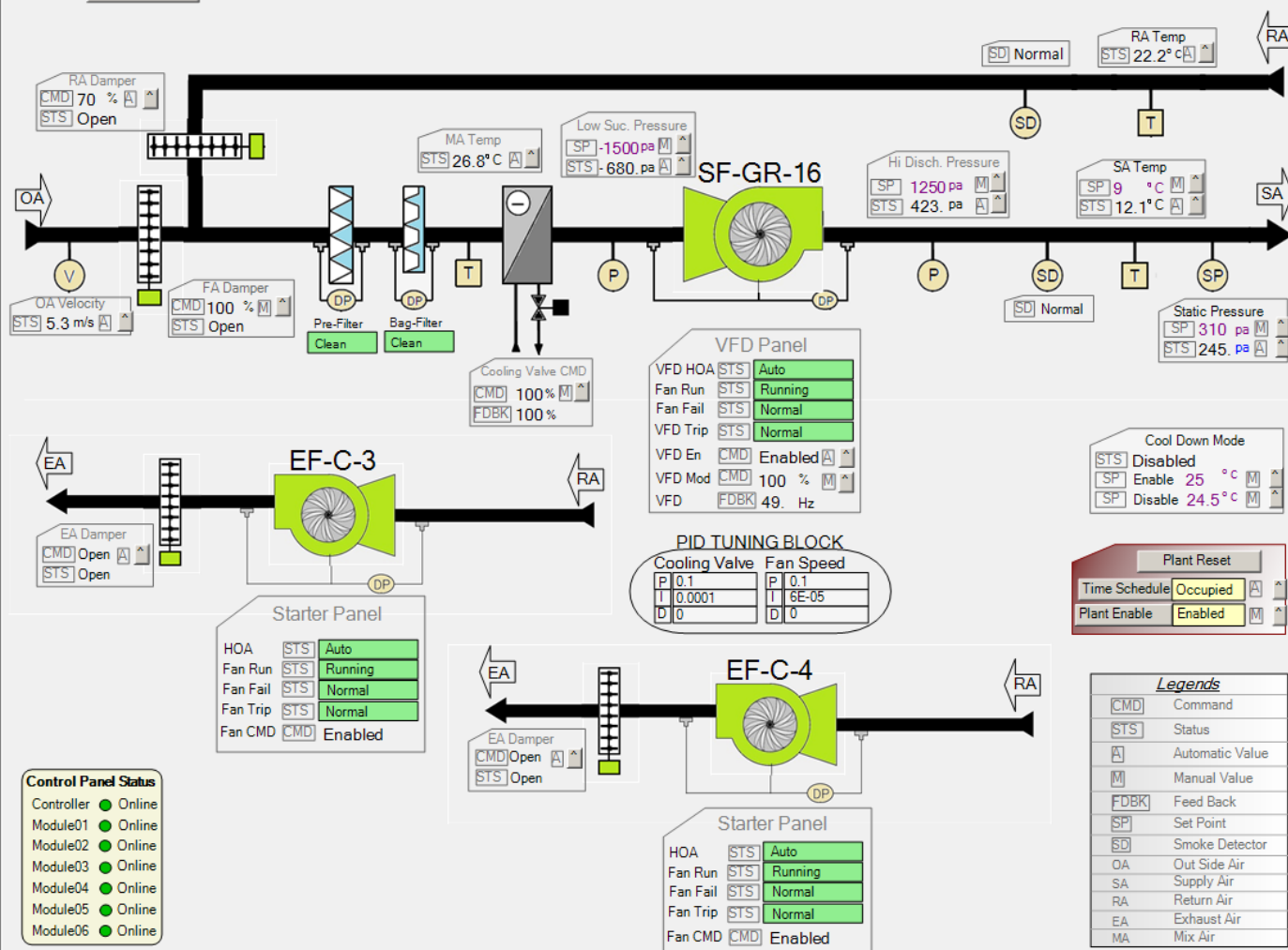
## Utility

Login  
Logout  
Change  
Password  
Shut Down  
Enable  
Commands

## Pages Alarms Trends AlarmsHistory Utility

## Main Menu

## AHU-GR-16 [Loading Dock Functions]



3D View





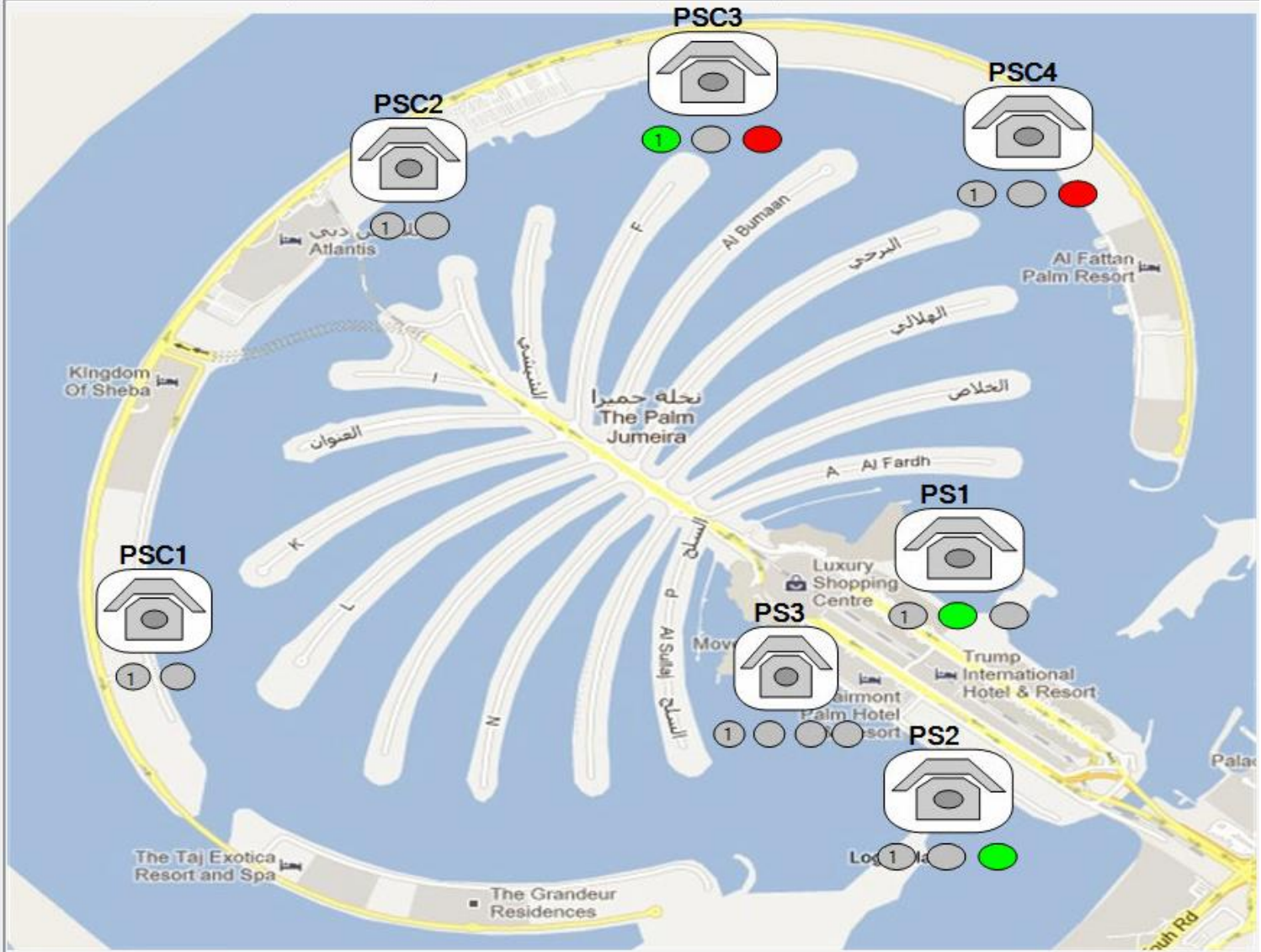
## Pages

List.pgp  
Palm.pgp  
Start.pgp  
Utilities.pgp

## Utility

Login  
Logout  
Change  
Password  
Shut Down  
Disable  
Commands

Pages Alarms Trends AlarmsHistory Utility





## Pages

List.pgp  
Palm.pgp  
Start.pgp  
Utilities.pgp

## Utility

Login  
Logout  
Change  
Password  
Shut Down  
Disable  
Commands

## Pages Alarms Trends AlarmsHistory Utility

Last Poll Time 0:0:6  
5/8/2014 10:16 PM

☒ I/O Module Healthy  
☒ PMS COMM Healthy

☒ DEWA Supply Healthy  
☐ Generator Supply Off

Instance Power (Watt) 279

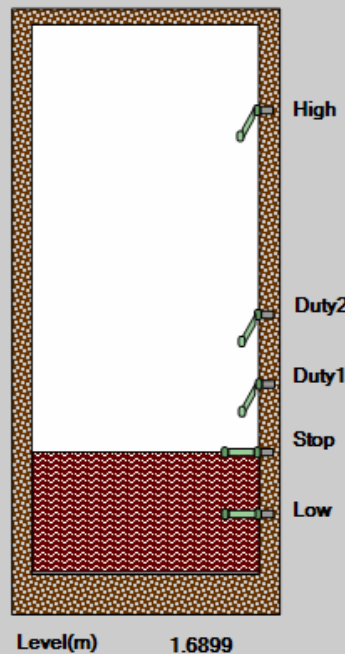
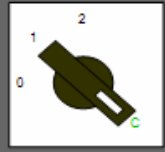


Flow (L/S) 0

☒ PLC Status

☐ Odour Fault  
☒ Odour Healthy  
☐ Odour Running  
☒ Odour Open  
☐ Odour Close

☒ Pen Power On  
☐ Fault  
☐ Open ☐ Close  
☐ Auto ☐ Hand

Duty  
Pump  
Selector

PSC2  
Enable

## Pump1



IDLE

☐ RUN  
☐ START

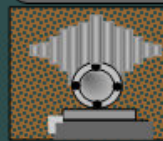
Current (A) 206

☐ Over Current  
☐ Over Heat  
☐ Earth Leakage  
☐ Protection Relay  
☐ Insulation Fail  
☒ Starter Power

☒ High Current Alarm  
☐ Low Current Alarm  
☐ Continuous Running  
☐ Stop Period Exceeded  
☐ Pump Cycling  
☐ Maintenance Period

Faults SP RHS

## Pump2



IDLE

☐ RUN  
☐ START

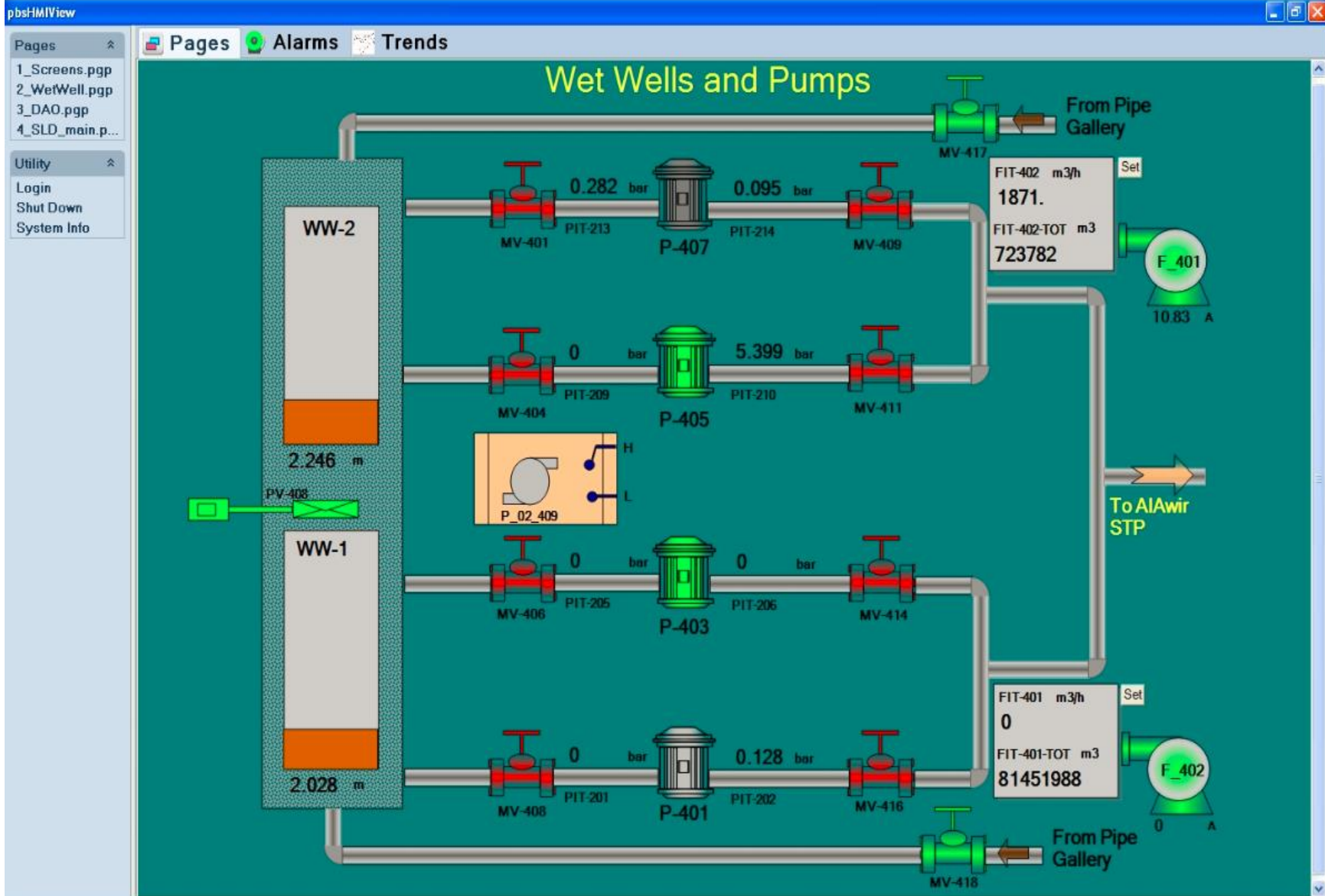
Current (A) 0

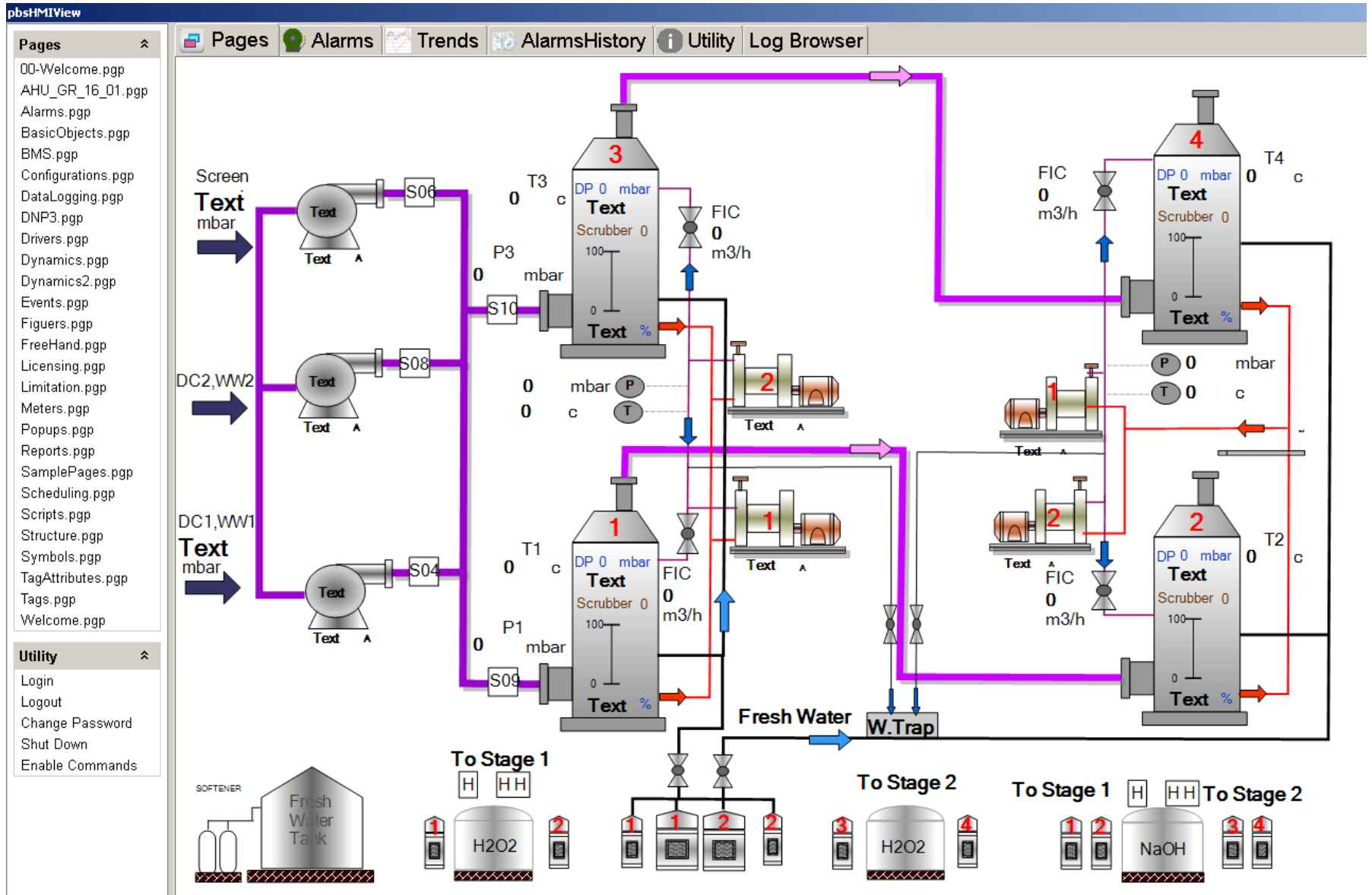
☐ Over Current  
☐ Over Heat  
☐ Earth Leakage  
☐ Protection Relay  
☐ Insulation Fail  
☒ Starter Power

☐ High Current Alarm  
☐ Low Current Alarm  
☐ Continuous Running  
☐ Stop Period Exceeded  
☐ Pump Cycling  
☐ Maintenance Period

Faults SP RHS

☒ P1 Starter Tripped  
☒ P2 Starter Tripped





## Pages

00-Welcome.pgp  
AHU\_GR\_16\_01.pgp  
Alarms.pgp  
BasicObjects.pgp  
BMS.pgp  
Configurations.pgp  
DataLogging.pgp  
DNP3.pgp  
Drivers.pgp  
Dynamics.pgp  
Dynamics2.pgp  
Events.pgp  
Figuers.pgp  
FreeHand.pgp  
Licensing.pgp  
Limitation.pgp  
Meters.pgp  
Popups.pgp  
Reports.pgp  
SamplePages.pgp  
Scheduling.pgp  
Scripts.pgp  
Structure.pgp  
Symbols.pgp  
TagAttributes.pgp  
Tags.pgp  
Welcome.pgp

## Utility

Login  
Logout  
Change Password  
Shut Down  
Enable Commands

Pages Alarms Trends AlarmsHistory Utility Log Browser

# Burj Khalifa - SCADA (MOXA)

## Critical System Alarm Monitoring



System Status

Childrens Pavillion - FACP

Flood Detection System

Water Tank Control Panel

Critical DDC UPS

Chemical Dosing System



## Pages

00-Welcome....  
05-System  
Status.pgp  
Common area  
DBs.pgp  
Flood Detection  
(Modbus).pgp

## Utility

Login  
Logout  
Change  
Password  
Shut Down  
Enable  
Commands

## Pages



## Alarms



## Trends



## AlarmsHistory



## Utility

# Burj Khalifa - SCADA (MOXA)

Critical System Alarm Monitoring

## SUMMARY

FLOOD DETECTION SYSTEM

FASTIVAL LIGHT MONITORING

WATER TANK CONTROL PANEL

CHLORINE DOSING SYSTEM

FACP (CHILDREN PAVILLION)

UPS (CRITICAL DDCs)

BMUs & TIER HATCH DOORS

BTU-SOLAR WATER HEATERS

iSCSI Room Temp / RH

FIELD DEVICE STATUS (MOXA)

COMMON AREA POWER DB STATUS

AHU\_GR\_16

Level-160

Level-136

Level-135

Level-109

Level-075

Level-073

Level-042

Level-040

Level-017

Level-002

Level-GRD

Level-CON

Level-0B1

Level-0B2

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- 00-Welcome....
- 05-System Status.pgp
- Common area DBs.pgp
- Flood Detection (Modbus).pgp

- Login
- Logout
- Change Password
- Shut Down
- Enable
- Commands

Main Menu

## HOT WATER TANKS

### A5-L160

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.

### A4-L135

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.
DP_135_123 HEADER PRESSURE	

### A3-L73

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.
DP_73_456 HEADER PRESSURE	

### A2-B2

Sec. A Mnt.	Sec. B Mnt.
DP_0B2_456 HEADER PRESSURE	

### H3-L40

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.

### H2-LB2

Sec. A Mnt.	Sec. B Mnt.
DP_0B2_101112 HEADER PRESSURE	

## COLD WATER TANKS

### A11-L160

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.

### A10-L136

Sec. A Mnt.	Sec. B Mnt.
DP_136_123 HEADER PRESSURE	

### A9-L73

Sec. A Mnt.	Sec. B Mnt.
DP_73_123 HEADER PRESSURE	

### H6-L42

Sec. A High Level	Sec. B High Level
Sec. A Mnt.	Sec. B Mnt.

### A8-LB2

Sec. A Mnt.	Sec. B Mnt.
DP_0B2_123 HEADER PRESSURE	

### H5-LB2

Sec. A Mnt.	Sec. B Mnt.
DP_0B2_789 HEADER PRESSURE	

00-Welcome....  
05-System  
Status.pgp  
Common area  
DBs.pgp  
Flood Detection  
(Modbus).pgp

Login  
Logout  
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Password  
Shut Down  
Enable  
Commands

Main Menu

## iSCSI (Security Equipment) Room Temperature / Humidity Monitoring



T136-027 (Level 136)

RH 15 %

Temp -15 °C



T109-031A (Level 109)

RH 56.2 %

Temp 20.5 °C



T73-037 (Level 73)

RH 56.2 %

Temp 23.7 °C



T40-040A (Level 40)

RH 63.9 %

Temp 21.4 °C



T2-019 (Level 2)

RH 48.8 %

Temp 23.4 °C



T17-040A (Level 17)

RH 52.9 %

Temp 24.0 °C



OB1-T1-013 (Level B1)

RH 50.4 %

Temp 26.9 °C

Low Temp &lt;18 °C RH &lt;35%

Normal Temp 18 °C ~ 24 °C RH 35% ~ 60%

High Temp &gt;25 °C RH &gt;60%



## Pages ^

00-Welcome....  
05-System  
Status.pgp  
Common area  
DBs.pgp  
Flood Detection  
(Modbus).pgp

## Utility ^

Login  
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Change  
Password  
Shut Down  
Enable  
Commands

Pages Alarms Trends AlarmsHistory Utility

Main Menu

## COMMON AREA ELECTRICAL DB STATUS

## NORMAL LIGHTING DB

LEVEL 155 RLDB	NORMAL
LEVEL 154 RLMDb	NORMAL
LEVEL 153 RLMDb	NORMAL
LEVEL 152 RLMDb	NORMAL
LEVEL 151 RLDB	NORMAL
LEVEL 142 RLDB	NORMAL
LEVEL 136 RLDB	NORMAL
LEVEL 130 RLDB	NORMAL
LEVEL 117 RLDB	NORMAL
LEVEL 109 RLDB	NORMAL
LEVEL 106 RLDB	NORMAL
LEVEL 100 RLDB	NORMAL
LEVEL 94 RLDB	NORMAL
LEVEL 89 RLDB	NORMAL
LEVEL 84 RLDB	NORMAL
LEVEL 78 RLDB	NORMAL
LEVEL 73 RLDB	NORMAL
LEVEL 70 RLDB	NORMAL
LEVEL 65 RLDB	NORMAL
LEVEL 60 RLDB	NORMAL
LEVEL 55 RLDB	NORMAL
LEVEL 50 RLDB	NORMAL
LEVEL 45 RLDB	NORMAL
LEVEL 40 RLDB	NORMAL
LEVEL 38 HLDB	NORMAL
LEVEL 32 HLDB	NORMAL
LEVEL 27 HLDB	NORMAL
LEVEL 20 HLDB	NORMAL
LEVEL 17 HLDB	NORMAL
LEVEL 15 HLDB	NORMAL
LEVEL 11 HLDB	NORMAL
LEVEL 7 HLDB	NORMAL

## NORMAL POWER UTILITY DB

NORMAL	LEVEL 160	RRDB
NORMAL	LEVEL 155	RRDB
NORMAL	LEVEL 154	RRDB
NORMAL	LEVEL 153	RRDB
NORMAL	LEVEL 152	RRDB
NORMAL	LEVEL 146	RRDB
NORMAL	LEVEL 141	RRDB
NORMAL	LEVEL 138	RRDB
NORMAL	LEVEL 136	RRDB
NORMAL	LEVEL 132	RRDB
NORMAL	LEVEL 120	RRDB
NORMAL	LEVEL 115	RRDB
NORMAL	LEVEL 111	RRDB
NORMAL	LEVEL 109	RRDB
NORMAL	LEVEL 107	RRDB
NORMAL	LEVEL 101	RRDB
NORMAL	LEVEL 92	RRDB
NORMAL	LEVEL 85	RRDB
NORMAL	LEVEL 79	RRDB
NORMAL	LEVEL 75	RRDB
NORMAL	LEVEL 73	RRDB
NORMAL	LEVEL 69	RRDB
NORMAL	LEVEL 63	RRDB
NORMAL	LEVEL 58	RRDB
NORMAL	LEVEL 51	RRDB
NORMAL	LEVEL 46	RRDB
NORMAL	LEVEL 42	RRDB
NORMAL	LEVEL 40	RRDB
NORMAL	LEVEL 37	HRDB
NORMAL	LEVEL 31	HRDB
NORMAL	LEVEL 25	HRDB
NORMAL	LEVEL 21	HRDB
NORMAL	LEVEL 17	HRDB
NORMAL	LEVEL 14	HRDB
NORMAL	LEVEL 8	HRDB

NORMAL	LEVEL 4	4RLDB2
NORMAL	LEVEL 4	4RLDB3
NORMAL	LEVEL 4	4RLDB4
NORMAL	LEVEL 4	4RLDB5
NORMAL	LEVEL 4	4RLDB6
NORMAL	LEVEL 4	4RLDB7
NORMAL	LEVEL 2	2RLDB2
NORMAL	LEVEL 2	2RLDB3
NORMAL	LEVEL 2	2RLDB4
NORMAL	LEVEL 2	2RLDB5
NORMAL	LEVEL 2	2RLDB6
NORMAL	LEVEL 2	2RLDB7
NORMAL	LEVEL GRD	GREMLDB1
NORMAL	LEVEL CON	CREMLDMB1
NORMAL	LEVEL CON	CHEMLDB1
NORMAL	LEVEL B1	B1HEMLDB4
NORMAL	LEVEL B1	B1HLDB7
NORMAL	LEVEL B1	B1HRDB3
NORMAL	LEVEL B2	B2REMLDB4
NORMAL	LEVEL B2	B2RRDB3
NORMAL	LEVEL B2	B2HLDB7

جریان کم	اضافه بار	خطای فاز	حساس حفاظت	قطع ارتباط
جریان زیاد	خطای پاورمیتزر	خطای استارت	قطع برق	باتری ضعیف

چاه ۱

Reset

صفحه پاورمیتزر

صفحه چاه



کنترل پمپ

Start

Stop

کنترل از راه دور

آماده

اعمال فرمان خاموش

غیرفعال

حدوده مجاز جریان

غیرفعال

فعال

حد پایین جریان

حد بالای جریان

حد پایین جریان

حد بالای جریان

وضعیت پمپ



درپ بسته

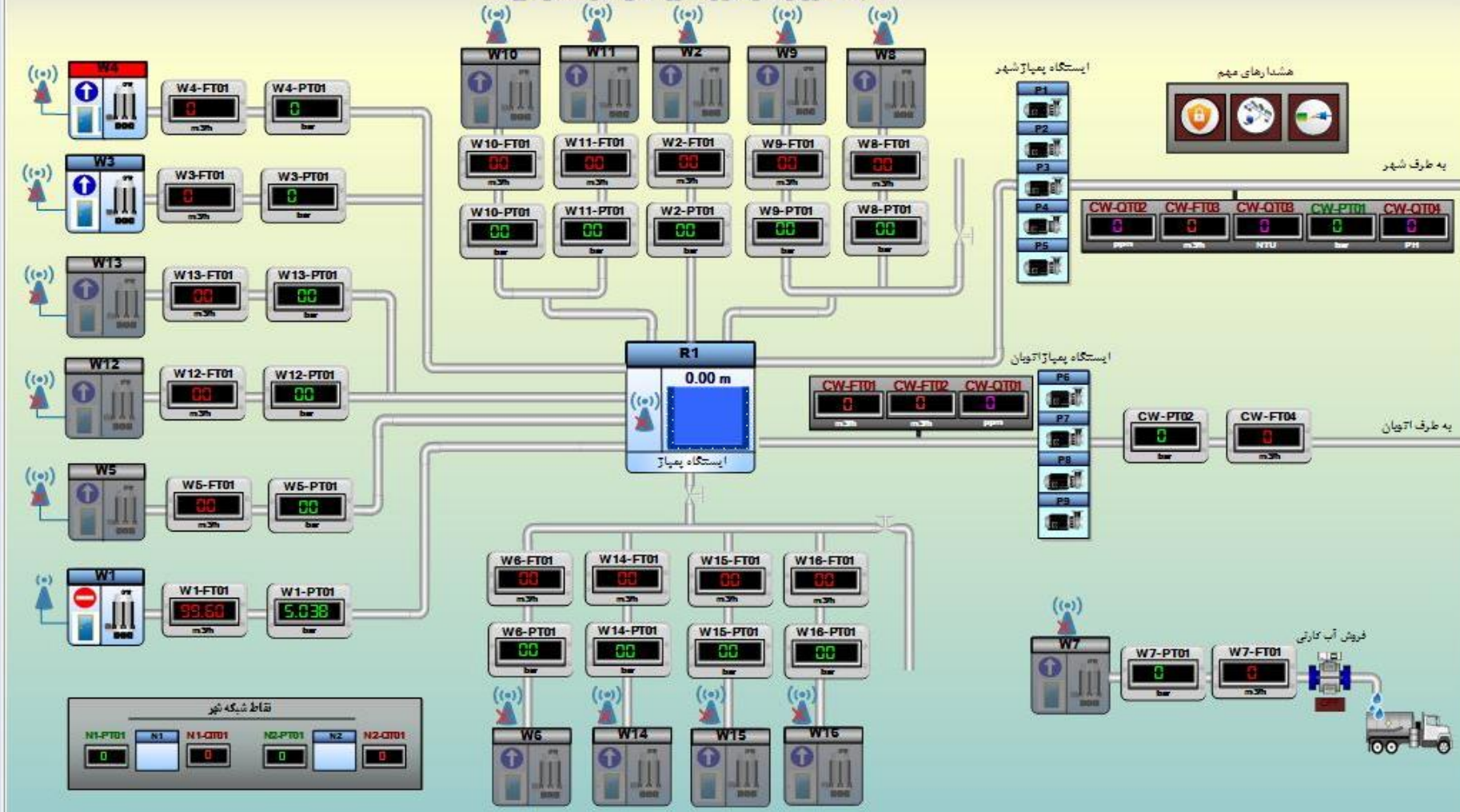


حفاظت فعال  
حفاظت غیر فعال



تحت سرویس  
خارج از سرویس

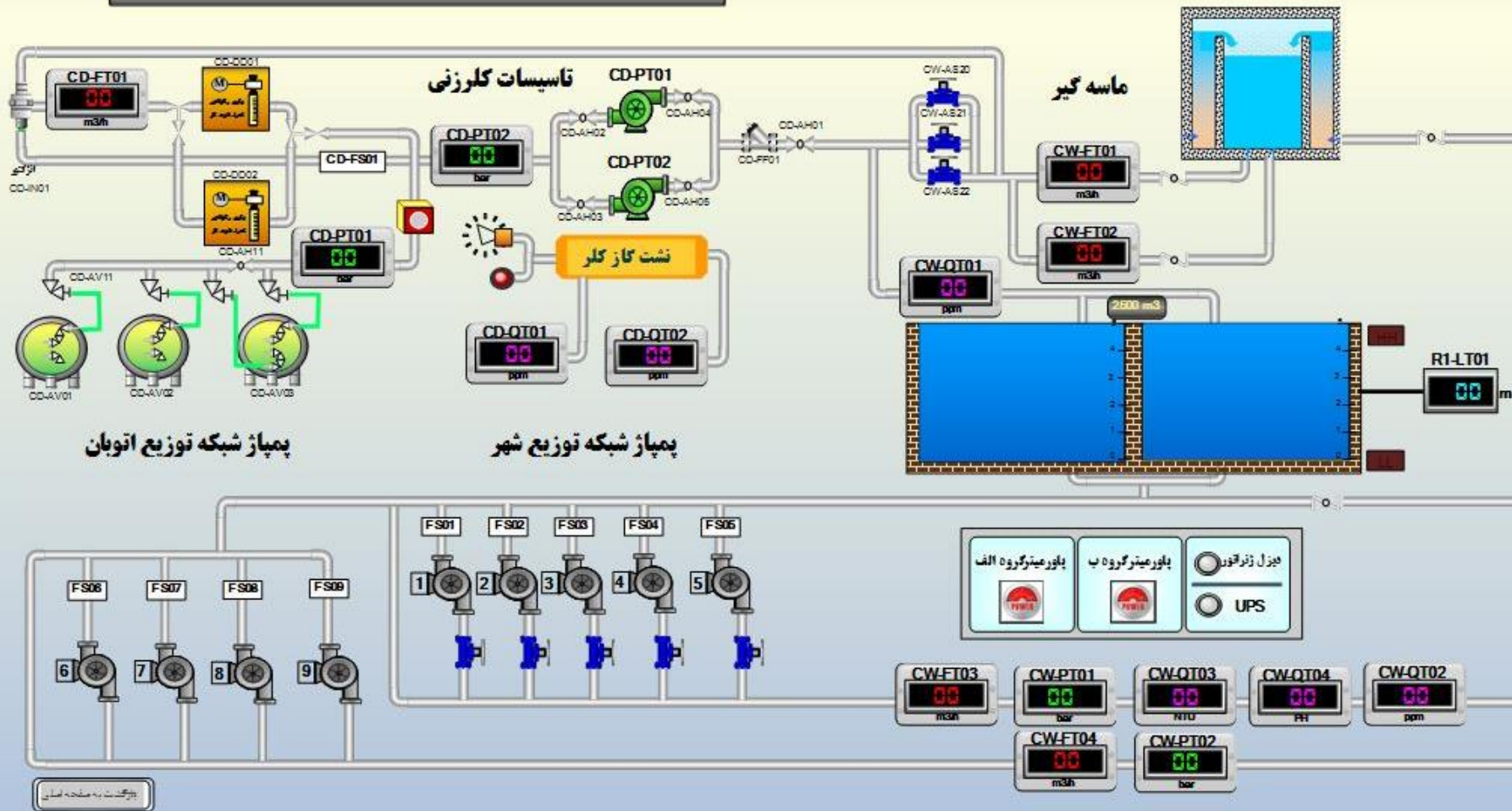
سیستم تله متری و کنترل از راه دور آبفای شهر صنعتی قزوین





خطای PPM	خطای فشار	خطای دما	خطای دما	خطای دما	خطای دما
خطای PPM	خطای فشار	خطای دما	خطای دما	خطای دما	خطای دما

ایستگاه پمپاژ شهر صنعتی



GT11 GT21 GT31 GT41 GT51 GT61

## GT11

### WEATHER STATION

TEMPERATURE	41.25	degC
HUMIDITY	28.26	%
PRESSURE	986.3	mbar

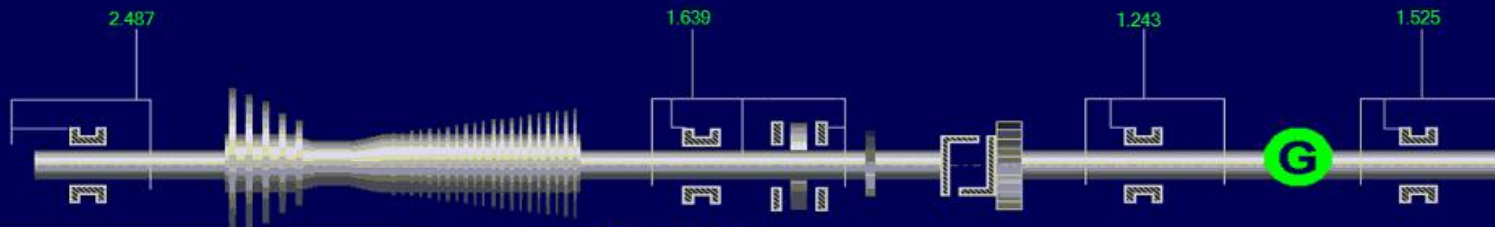
### FLOW

F GAS	0.002	kg/s
F OIL	25	l/mi
NOx WTR	32	kg/s

P	131.9	MW
n	3002.4	rpm
TIT	1100.2	degC
TAT	535.6	degC
VIGV	-0.15	deg



PULSATIONS	
LOW	4.467 mbar
HIGH	24.96 mbar



ACCEL 4.394 rpm/m

FUEL SEL



0

CMD GAS

CMD OIL

