

HMI OPERATING MANUAL

Project Title: Hydro Pump Controller

Display Make: Schneider Electric HMIGXO3502

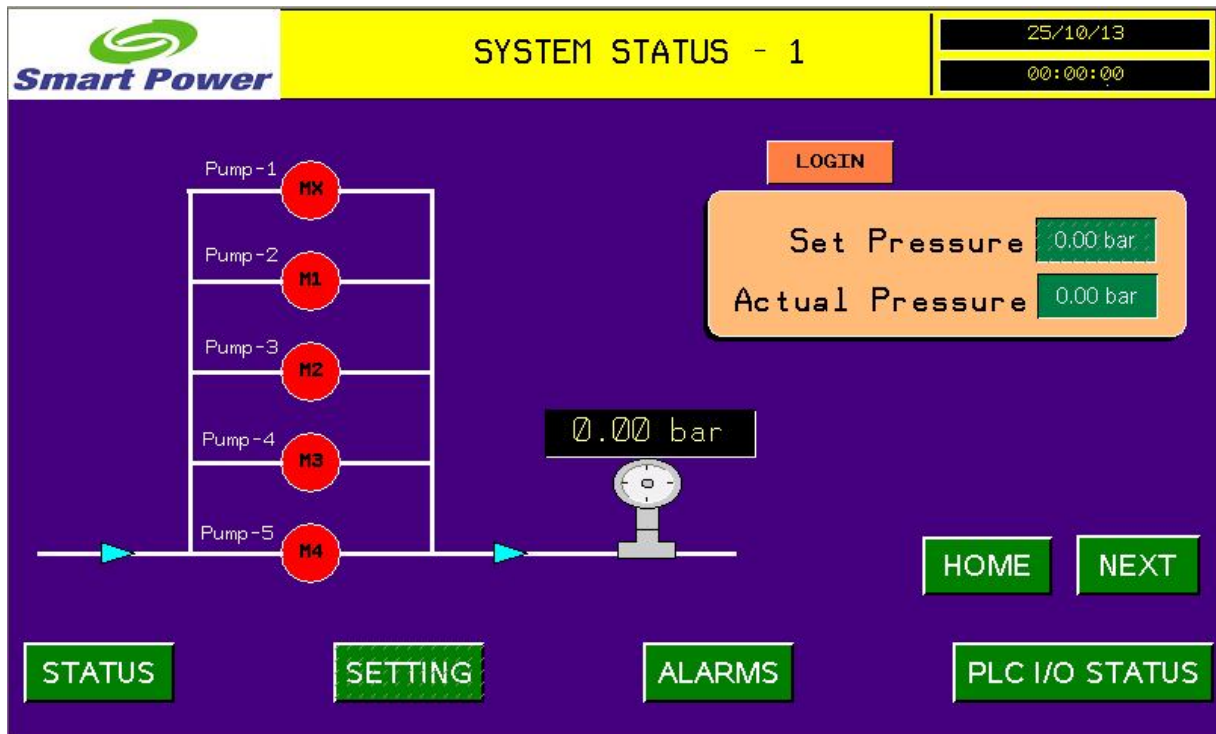
1. Home Page



Home Page contains Manufactures Address and Mail Id.

Button for Navigate the
System Monitoring Pages

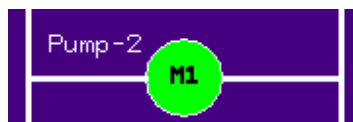
2. System Status Page



All Graphical Pages contains Common Quick navigation Buttons

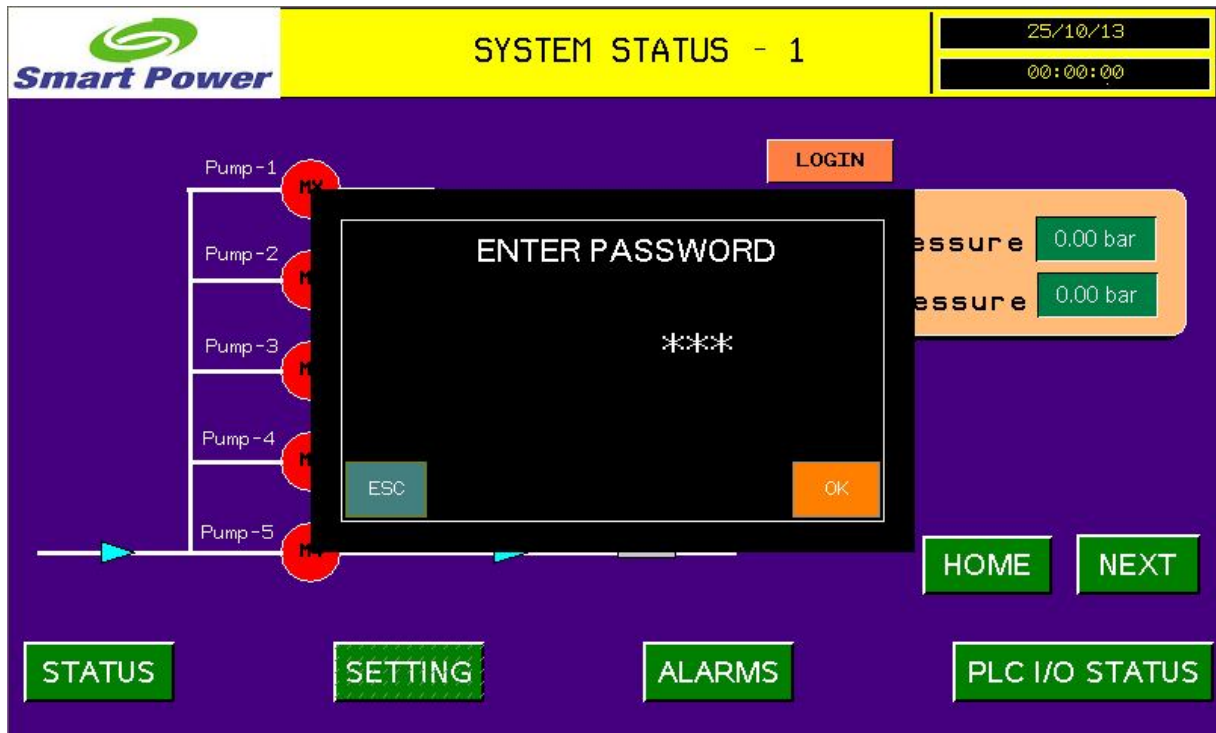
- Status Button – To view the system status & VFD Parameters.
- Setting Button – To access system settings parameters which will be explained later.
- Alarm button – To navigate the alarm page which contains Present & Past Alarm list.
- PLC I/O Status – To troubleshoot PLC Input / Output Status.
- Alarm Banner – Active alarm will be displayed as scrolling text

In this page user can see the set pressure, actual pressure and pump status whether it is ON / OFF.



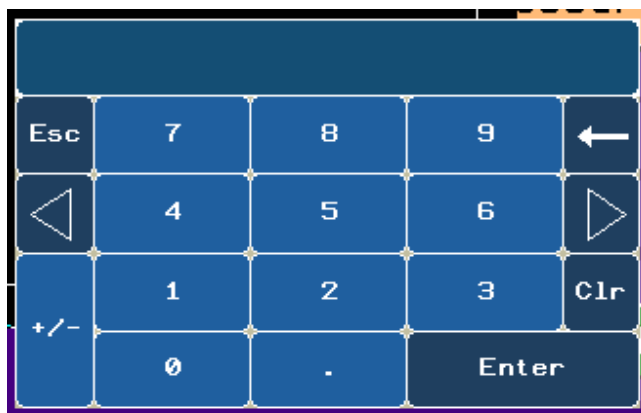
If the pump is ON, the color will be changed as

3. Login access

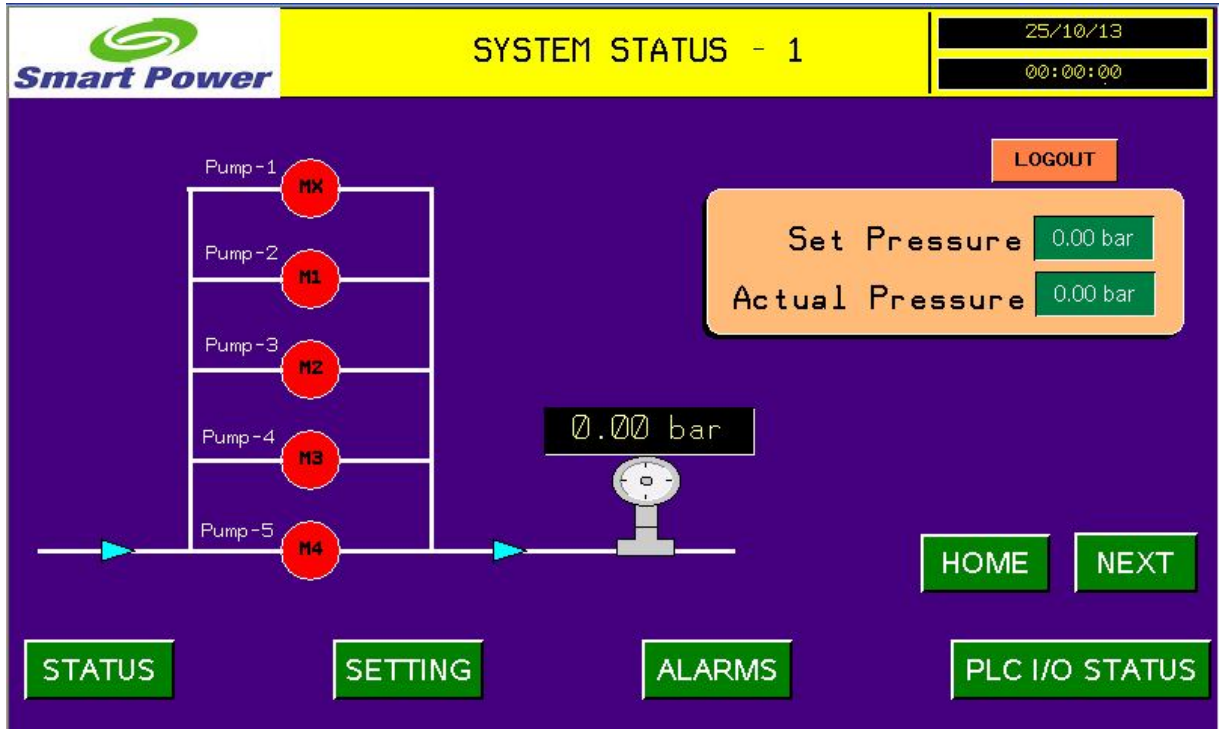


By touching the login button, it will display the popup menu for ask the password screen through which user can able to access the various system settings.

By Touching *** In the Popup It Will Open Number pad By Which User Can Enter The Password, Designed Password Is 9996. Common Number Pad Displayed Below.

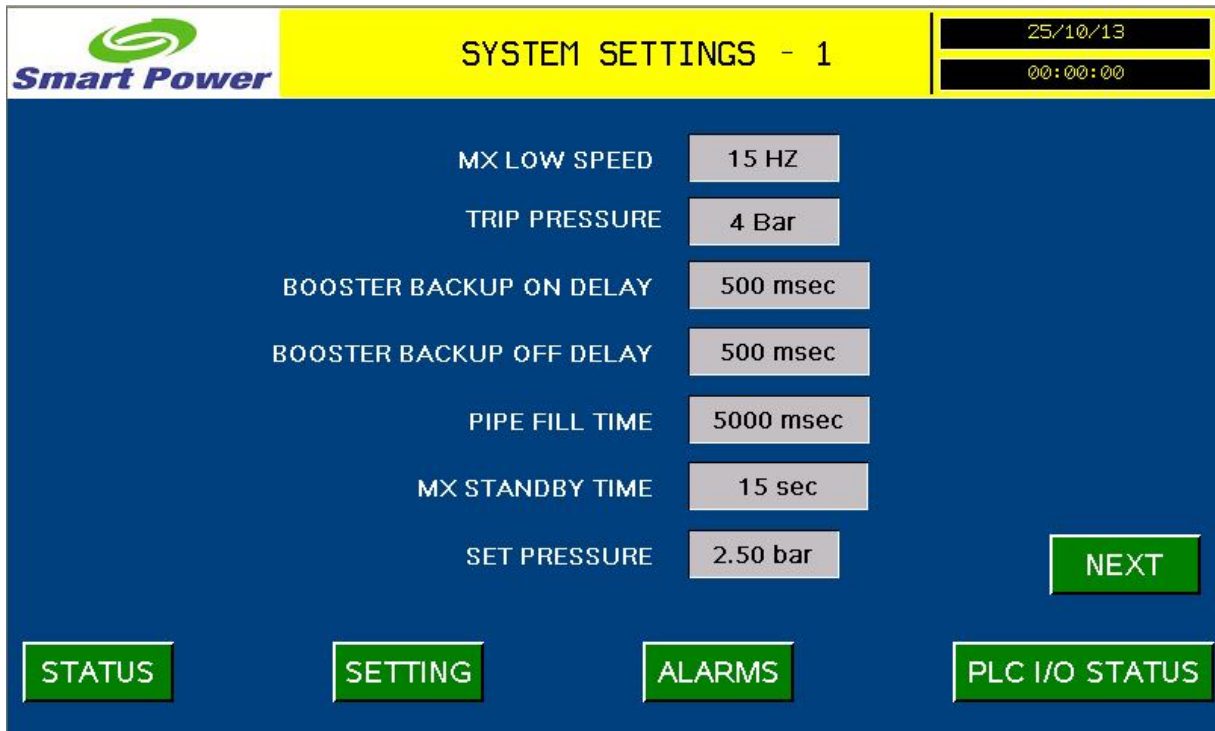


If The Password Is Correct The Login Button Will Disappear Logout Button Will Be Visible As The Screen Below.



4. General Settings

After Login Successful By Touching  Button It Will Goto Settings Menu-1



Parameter	Value
MX LOW SPEED	15 HZ
TRIP PRESSURE	4 Bar
BOOSTER BACKUP ON DELAY	500 msec
BOOSTER BACKUP OFF DELAY	500 msec
PIPE FILL TIME	5000 msec
MX STANDBY TIME	15 sec
SET PRESSURE	2.50 bar


- **Mx Low Speed** – This Settings Limits The Vfd Speed Falling Below The Allowed Value, This Speed Has To Be Set In Minimum Speed In Which Pump Can Able To Deliver The Water.Limited Between 0Hz To 40HZ.
- **Trip Pressure** – System Safety Pressure Above Which All Pump Will Be Tripped(Limit 0bar To 10bar)
- **Booster Backup On Delay** – On Pressure Demand Second Pump Wakeup Delay
- **Booster Backup Off Delay** – If The Pressure Above The Set Pressure Delay To Switch Off The Secondary Pump.
- **Pipe Fill Time** – In Fresh Startup One Pump Will Run At Medium Speed To Fill The Pipe With Minimum Pressure the time user can set through this setup.
- **MX Standby Time** – If there Is no demand all secondary pump will be off and primary pump will run at Mx LowSpeed. Primary Pump Run In Low Speed Upto the Mx Standby Time After That Primary Pump Will Also Off.

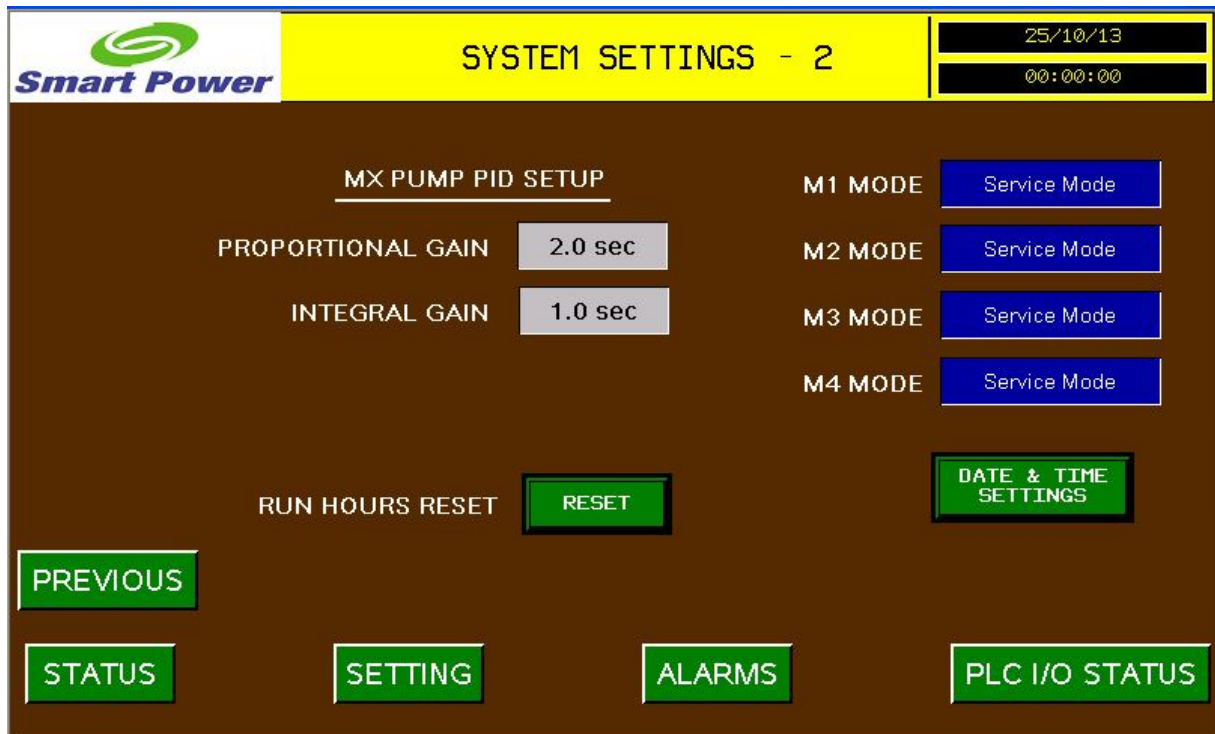
By Touching On The Numeric Indication User Can Able Change The Settings Value. An Example Has Shown Below.

The screenshot shows the 'SYSTEM SETTINGS - 1' screen. At the top left is the 'Smart Power' logo. The top right corner displays the date '25/10/13' and a time '00:00:00'. The main content area lists several settings: 'MX LOW SPEED' (0), 'TRIP PRESSURE' (Min. 0, Max. 40), 'BOOSTER BACKUP ON DELAY', 'BOOSTER BACKUP OFF DELAY', 'PIPE FILL TIME', and 'MX STANDBY TIME'. A numeric keypad is visible on the right side of the screen. Below the settings list, the 'SET PRESSURE' is shown as '0.00 bar'. At the bottom, there are four green buttons: 'STATUS', 'SETTING', 'ALARMS', and 'PLC I/O STATUS'. A green 'NEXT' button is located to the right of the 'SET PRESSURE' field.

This screenshot shows the same 'SYSTEM SETTINGS - 1' screen, but with the 'MX LOW SPEED' value updated to '15 HZ'. The numeric keypad is still present, and the 'NEXT' button is now highlighted in green. The other settings and interface elements remain the same as in the previous screenshot.

5. Settings Menu – 2

By Touching  Button In Settings-1 Page It Will Bring To This Page In Which Pid Setup, Pump Mode Selections, Run Hours Reset, System Dattime Setup Available.



Smart Power SYSTEM SETTINGS - 2 25/10/13 00:00:00

MX PUMP PID SETUP

PROPORTIONAL GAIN 2.0 sec

INTEGRAL GAIN 1.0 sec

M1 MODE Service Mode

M2 MODE Service Mode

M3 MODE Service Mode


M4 MODE Service Mode

RUN HOURS RESET RESET DATE & TIME SETTINGS

PREVIOUS STATUS SETTING ALARMS PLC I/O STATUS

- **Proportional Gain** – Rate Of Rise Of Vfd Speed Which Recommended to set between 0.5 to 4.0
- **Integral Time** – Ramp Up/Down Time Setup Recommended to set between 0.5 to 5.0 sec
- **Pump Mode** – Available Modes Are Service Mode, Manual Mode, Auto Mode. If The Pump Selected In Service Mode It Will Never Switched On As its Considered As Faulty.If It Is Selected as Auto Mode Pump Will Operate As per The Auto Sequence.
- **Run Hours Reset** – By Pressing This Button All Pump Run Hours Will Be Resetted

Pump Operating Mode Can Be Changed As Per The Below Images



SYSTEM SETTINGS - 2

25/10/13
00:00:00

MX PUMP PID SETUP

PROPORTIONAL GAIN 2.0 sec

INTEGRAL GAIN 1.0 sec


M1 MODE Service Mode

M2 MODE

M3 MODE Service Mode

M4 MODE Service Mode

RUN HOURS RESET



SYSTEM SETTINGS - 2

25/10/13
00:00:00

MX PUMP PID SETUP

PROPORTIONAL GAIN 2.0 sec

INTEGRAL GAIN 1.0 sec

M1 MODE Auto

M2 MODE Auto


M3 MODE Auto

M4 MODE

RUN HOURS RESET

6. Settings Menu – 2



By Touching  Button It Will Bring To System Date Time Setup Screen Which Has Shown Below.

The screenshot shows a "TIME SETUP" screen. At the top left is the "Smart Power" logo. The title "TIME SETUP" is centered in a yellow bar. On the top right, there are two black boxes with white text: "25/10/13" and "00:00:00". The main area has a blue background with input fields for "Date" (25), "Month" (9), "year" (2013), "Hour" (13), "Minute" (45), and "Second" (35). Below these is a green "UPDATE" button. At the bottom, there are four green buttons: "PREVIOUS", "STATUS", "SETTING", and "ALARMS".

Field	Value
Date	25
Month	9
year	2013
Hour	13
Minute	45
Second	35

After Setting Required Date And Time By Touching Update The Plc Date Time Will Be Changed Which



Can Be Cross Checked From

7. System Status – 2

By Touching **NEXT** From System Status-1 Page It Will Bring To This Screen.

Smart Power **SYSTEM STATUS - 2** 25/10/13 00:00:00


MOTOR CURRENT	0 A		
MOTOR VOLTAGE	0 V	DC BUS VOLTAGE	0 V
MOTOR SPEED	0 RPM	LAST FAULT CODE	0

P1 RUN HOURS	0	P3 RUN HOURS	0
P2 RUN HOURS	0	P4 RUN HOURS	0
	VFD RUN HOURS	0	

PREVIOUS **STATUS** **SETTING** **ALARMS** **PLC I/O STATUS**

- In which We Can Able To Monitor And Troubleshoot The Following Details – Motor Current, Motor Voltage, VFD Motor Speed, VFD Dc Bus Voltage, Drive Last Fault Code.
- All Pumps Run Hours Through Which User Can Able To Plan Service And Replacement Schedule.

8. ALARM History

By Touching  Button From Any Page It Will Bring To This Screen



Message	Date	Time	State
PUMP3 OLR TRIP, .	25/10/13	12:00am	RTN
VFD OUTPUT CONTACTOR FAIL	25/10/13	12:00am	ACTIVE
TANK LEVEL LOW, .	25/10/13	12:00am	ACTIVE

VFD OUTPUT CONTACTOR FAIL

List Of Past And Present Alarm list Are Displayed In This page.

The Alarm Which Is In Green Colour Known As Inactive Alarms Which Means Past Alarms

PUMP3 OLR TRIP, .	25/10/13	12:00am	RTN
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The Alarms Which is In Red Colour Known as Present Alarm

VFD OUTPUT CONTACTOR FAIL	25/10/13	12:00am	ACTIVE
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Alarm Banner Displays Present Alarm Messages As Scrolling Text.

VFD OUTPUT CONTACTOR FAIL

9. Plc Input/Output Status-1

PLC I/O STATUS

By Touching Button From Any Page Will Bring To This Page

INPUT STATUS 1		25/10/13
AUTO SELECTED	●	00:00:00
VFD CONTACTOR ON	●	
SUMP LEVEL LOW	●	
SUMP LEVEL HIGH	●	
MX PUMP RUNNING	●	
MX OLR TRIP	●	
MX MPR OK	●	
M1 RUNNING	●	
M1 OLR TRIP	●	
M1 MPR OK	●	
M2 RUNNING	●	
M2 OLR TRIP	●	
M2 MPR OK	●	
M3 RUNNING	●	

STATUS SETTING ALARMS PLC I/O STATUS

NEXT

List Of Plc Inputs and Its Status Are Indicated. If This Input Present The Indication lamp Will Shown In Green Colour. If Its Not Present It Will Shown As Red Colour.

10. Plc Input/Output Status-2

NEXT

By Touching Button Plc Input/Output Status-1 Page It Will Bring To This Page.

Smart Power INPUT/OUTPUT STATUS 25/10/13 00:00:00

INPUT STATUS

- M3 OLR TRIP
- M3 MPR OK
- M4 RUNNING
- M4 OLR TRIP
- M4 MPR OK
- SPARE
- SPARE
- SPARE

OUTPUT STATUS

- AUTO ON
- VFD RUN COMMAND
- M1 PUMP ON
- M2 PUMP ON
- M3 PUMP ON
- M4 PUMP ON

PREVIOUS STATUS SETTING ALARMS PLC I/O STATUS