

Accord

Template Summary

AT Biogas C1 Operator Manual.docx

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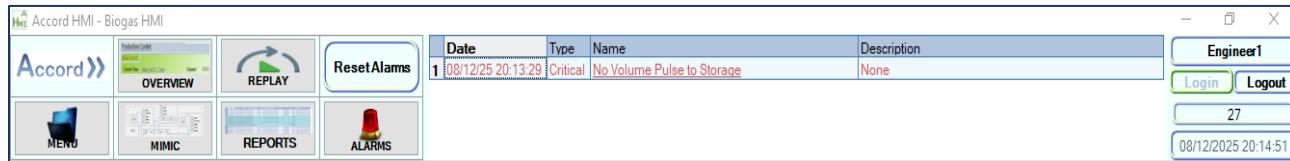
1 Introduction

This Operator Manual is to describe the operation of an initial Biogas Template in the Accord platform. The system controls 3 Reception Tanks, 6 Storage Tanks and 3 Digesters.

The area is controlled by 1 PLC

2 Top Banner and Menu:

2.1 Top Banner



2.1.1 Alarm Banner and Alarm Reset Button

The alarm banner is located in the top centre of the screen. It displays a list of currently active and unacknowledged alarms for the area. A panel for the device in Alarm appears when the device in the list is pressed.

Pressing 'Reset Alarms' is used to acknowledge and attempt to reset all current alarms or errors.

2.1.2 LifeByte

The lifebyte values should always update every 1 or 2 seconds. This lifebyte indicates a healthy connection with the PLC. The lifebyte can be found in the top right.

2.1.3 Login - Security Control

The Security Control is used to log into the Scada service. The name of the User who is currently Logged In User is shown. "Engineer1" is logged in above.

2.1.4 Alarms Button

The 'Alarms' button will display the current and unacknowledged alarms in full screen.

2.1.5 Overview Button

The 'Overview' button will display a screen showing the status of all automatic sequence programs and settings.

2.1.6 Replay Button

The 'Replay' button will allow Mimic re-simulation of past processes. A time is defined and the devices on a mimic replay through a historical sequence of a process.

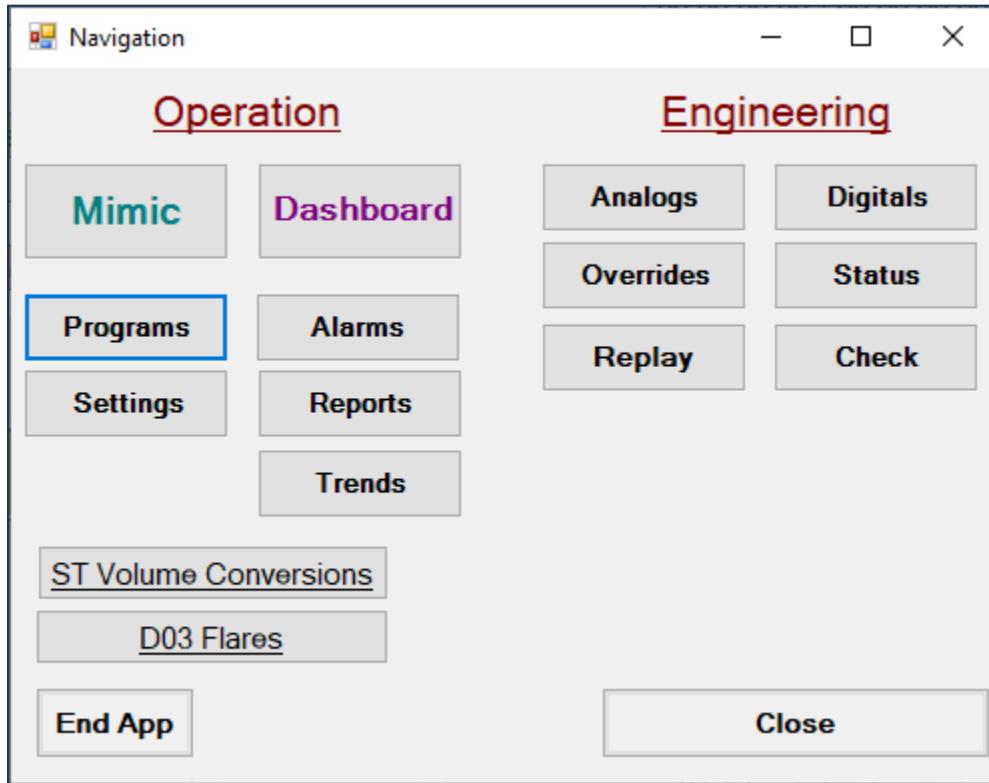
2.1.7 Mimic Button

The 'Mimic' Button will open the Main mimic for this project.

2.1.8 Reports Button

The 'Report' Button will allow for the lookup of historical logged information.

2.2 HMI Menu



This general navigation menu accessed by clicking on the 'Menu' Button in the Top Banner. It allows access to all screens; Mimic & Dashboard, and list based screens for Programs, Alarms, Analog Devices, Digital Devices, Overridden Devices, Device Status, Device Values, and screens for configurable Reports, Trends, and Check for Diagnostics. Popup screens for Storage Tank Volume Conversions and Digester 03 Flare control are also shown. Pressing the Close Button will close the Menu. Pressing the End App button will end the HMI application program.

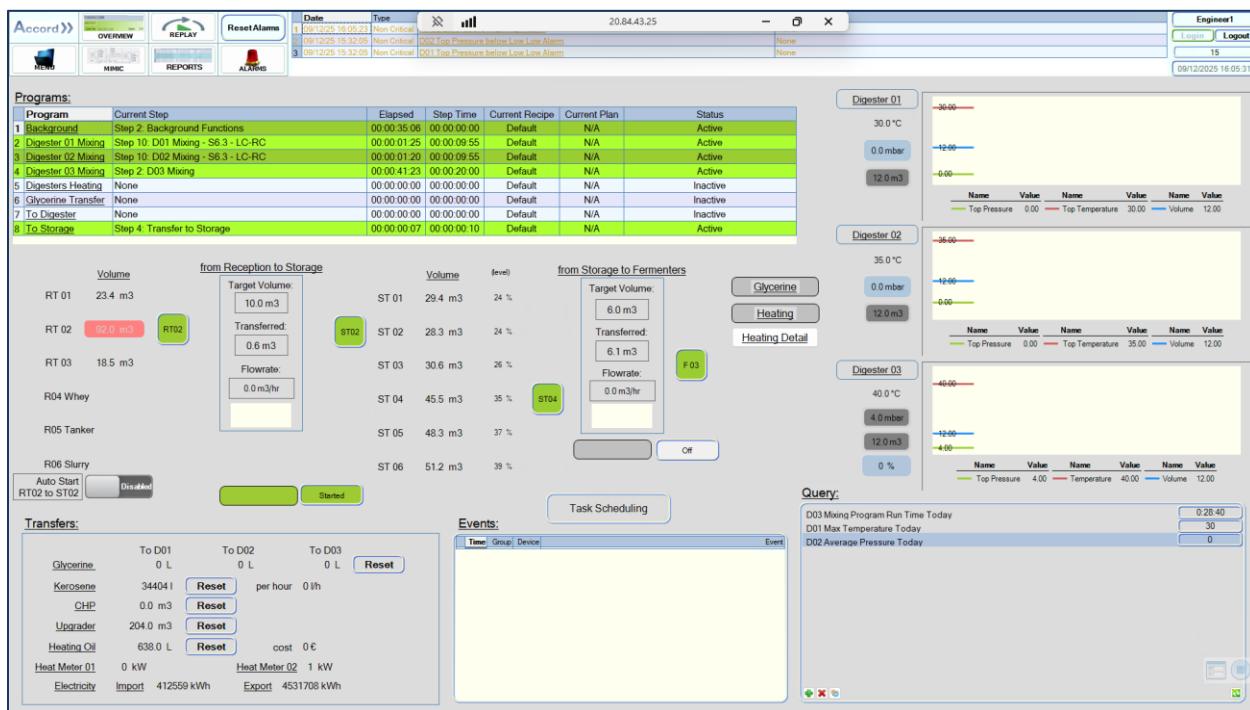
3 Overview / Dashboard Screen

This screen contains an active summary list of the programs, selections for each program and start buttons for the transfers. Main readings for Volumes and Flowrates.

Summary information and Trends for the Digesters is given at the right.

A Button which brings up the Task Scheduler is included.

The bottom of the screen shows a summary of consumptions, a list of recent events and a Query control, where the database can be queried for specific information.

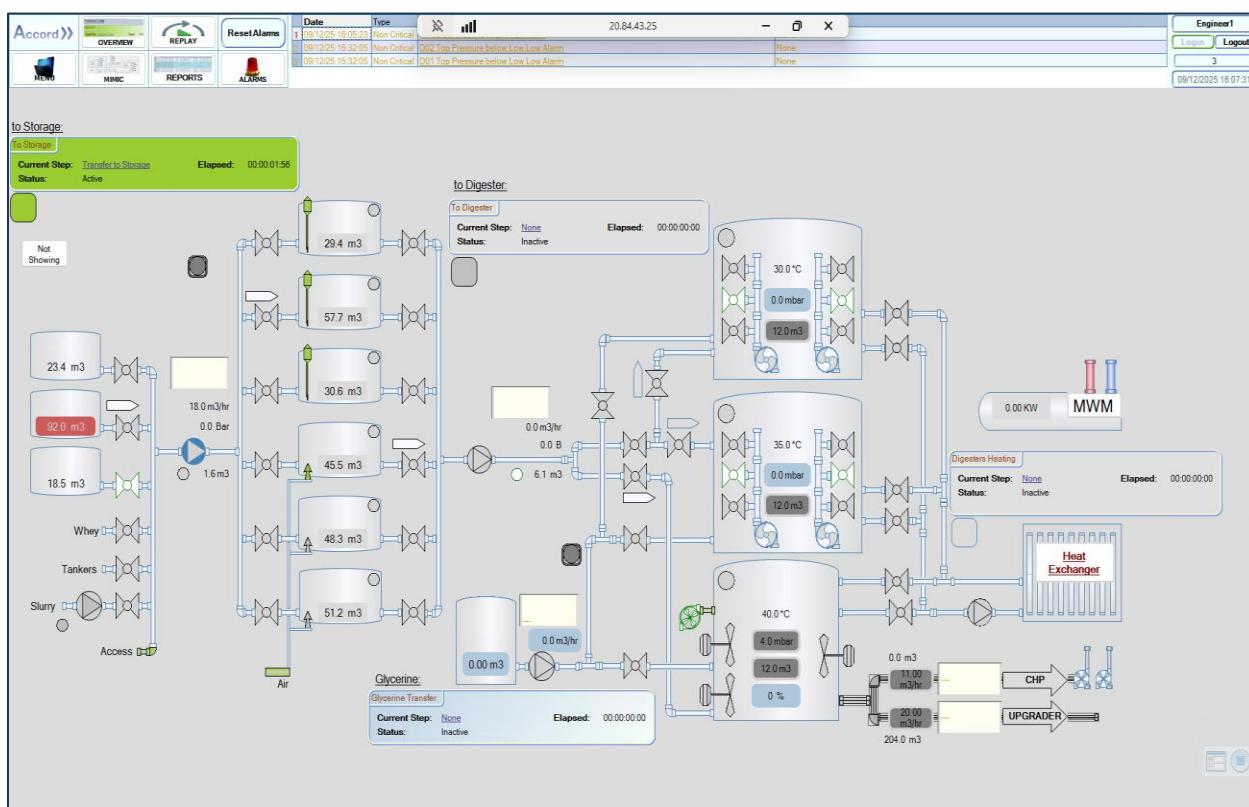


Overview Screen

4 Mimic Screen

This screen contains:

1. An active mimic representation of the Biogas System Tanks and Lines. This includes values for current filled Volumes for all tanks, and Pressure and Temperatures in the Digesters.
2. Filling and Transfer lines with line flowmeters with small trends and Volumes transferred.
3. Heat Exchanger for Digester Heating.
4. Program Controls for transfers 'To Storage', 'To Digester', 'Glycerine Transfer' and for 'Digester Heating'.



Mimic Screen

4.1 System Colours:

Devices and Programs are shown and can be accessed by pressing on them.

Devices colours:

Grey: Inactive

White / Green: Active / On

Red: Alarm / Error

Purple: Masked – Error is not checked

Program Control colours;

Light Blue: Idle

Green: Active

Red: Alarm

Yellow: In Hold /Pause

See section 8 for more information on HMI controls.

5 Programs

A program is started by choosing a program, then pressing Start. Program selections are made prior to starting a program. Ending can be carried out from the program faceplate.

The system checks for the Tanks and Lines for any alarms when starting, and during programs.

5.1 Programs List

1. Digesters Heating
2. Digester 01 Mixing
3. Digester 02 Mixing
4. Digester 03 Mixing

Transfer Programs

5. Reception to Storage
6. Storage to Digesters
7. Glycerine Transfer

5.1.1 Alarms General

The following general Alarms are monitored in the Programs;

Attempt to run while in Maintenance Mode.

Low Flow from the pumps.

Tank Empty

Tank at High High Level

Tank at Low Low Level

Tank at High Pressure

Tank at High Temperature

5.1.2 Setpoints

The following Setpoints are available in the programs.

Background	Heating Oil Cost per L
Background	ST01 Volume Factor
Background	ST02 Volume Factor
Background	ST03 Volume Factor
Background	ST04 Volume Factor
Background	ST05 Volume Factor
Background	ST06 Volume Factor
Background	Count Converter Glycerin
Background	Heating Oil L per pulse
Background	Kerosene Converter
Digester 03 Mixing	D03 Mixing Cycle Time
Digester 03 Mixing	D03 Mixer 01 Start Time
Digester 03 Mixing	D03 Mixer 02 Start Time
Digester 03 Mixing	D03 Mixer 03 Start Time
Digester 03 Mixing	D03 Mixer 01 Stop Time
Digester 03 Mixing	D03 Mixer 02 Stop Time
Digester 03 Mixing	D03 Mixer 03 Stop Time
Digester 03 Mixing	D03 Starting Pressure Flare 02
Digester 03 Mixing	D03 Minimum Pressure Flare 02
Digester 03 Mixing	D03 Starting Pressure Flare 01
Digester 03 Mixing	D03 Minimum Pressure Flare 01
Digester 03 Mixing	D03 Minimum Balloon Height Flare 02
Digester 03 Mixing	D03 Starting Balloon Height Flare 02
Digester 03 Mixing	D03 Minimum Balloon Height Flare 01
Digester 03 Mixing	D03 Starting Balloon Height Flare 01
Digesters Heating	D01 Heat On SP
Digesters Heating	D02 Heat On SP
Digesters Heating	D01 Heat Off SP
Digesters Heating	D02 Heat Off SP
Digesters Heating	D03 Heat On SP
Digesters Heating	D03 Heat Off SP
To Digester	Transfer Volume Target
To Storage	to Storage Target Volume

Setpoints		
Type	Name	Value
1	Setpoint Count Converter Glycerin	1.00
2	Setpoint D01 Heat Off SP	43.00 * C
3	Setpoint D01 Heat On SP	40.00 * C
4	Setpoint D02 Heat Off SP	43.00 * C
5	Setpoint D02 Heat On SP	40.00 * C
6	Setpoint D03 Heat Off SP	44.00 * C
7	Setpoint D03 Heat On SP	40.00 * C
8	Setpoint D03 Minimum Balloon Height Flare 01	93.00 %
9	Setpoint D03 Minimum Balloon Height Flare 02	93.00 %
10	Setpoint D03 Minimum Pressure Flare 01	4.50 mbar
11	Setpoint D03 Minimum Pressure Flare 02	4.50 mbar
12	Setpoint D03 Mixer 01 Start Time	1.00 min
13	Setpoint D03 Mixer 01 Stop Time	15.00 min
14	Setpoint D03 Mixer 02 Start Time	1.00 min
15	Setpoint D03 Mixer 02 Stop Time	30.00 min
16	Setpoint D03 Mixer 03 Start Time	1.00 min
17	Setpoint D03 Mixer 03 Stop Time	15.00 min
18	Setpoint D03 Mixing Cycle Time	60.00 min
19	Setpoint D03 Starting Balloon Height Flare 01	95.00 %
20	Setpoint D03 Starting Balloon Height Flare 02	95.00 %
21	Setpoint D03 Starting Pressure Flare 01	4.90 mbar
22	Setpoint D03 Starting Pressure Flare 02	4.90 mbar
23	Setpoint Heating Oil Cost per L	0.00
24	Setpoint Heating Oil L per pulse	1.00 l
25	Setpoint Kerosene Converter	1.00 Imp/l
26	Setpoint ST01 Volume Factor	1.20
27	Setpoint ST02 Volume Factor	1.20
28	Setpoint ST03 Volume Factor	1.20
29	Setpoint ST04 Volume Factor	1.30
30	Setpoint ST05 Volume Factor	1.30
31	Setpoint ST06 Volume Factor	1.30
32	Setpoint to Storage Target Volume	10.00 m3
33	Setpoint Transfer Volume Target	1.00 m3

HMI Programs screen Setpoints section

5.1.3 Step Times

The Step Times can be accessed from the Program faceplate or from the Step Times section in the Program Screen.

Type	Name	Value
12 Step	D01 Mixing - S6.3 - LC-RC	595 Seconds
13 Step	D01 Mixing - S6.5.1 - Pumps Off	5 Seconds
14 Step	D01 Mixing - S7 - Pause	595 Seconds
15 Step	D01 Mixing - S8 - Start Stir Mix	3600 Seconds
16 Step	D01 Mixing - Start	0 Seconds
17 Step	D02 Mixing - Gas Production	0 Seconds
18 Step	D02 Mixing - S1 - LT-RT	1800 Seconds
19 Step	D02 Mixing - S2 Pause	10 Seconds
20 Step	D02 Mixing - S3 - LB-RB	590 Seconds
21 Step	D02 Mixing - S4 - Crossover	0 Seconds
22 Step	D02 Mixing - S4.3 LC-RB	0 Seconds
23 Step	D02 Mixing - S5 - Crossover	0 Seconds
24 Step	D02 Mixing - S5.3 - LB-RC	0 Seconds
25 Step	D02 Mixing - S6 - Crossover	5 Seconds
26 Step	D02 Mixing - S6.3 - LC-RC	595 Seconds
27 Step	D02 Mixing - S6.5.1 - Pumps Off	5 Seconds
28 Step	D02 Mixing - S7 - Pause	595 Seconds
29 Step	D02 Mixing - S8 - Start Stir Mix	3600 Seconds
30 Step	D02 Mixing - Start	0 Seconds
31 Step	D03 Mixing	1200 Seconds
32 Step	D03 Mixing - Start	0 Seconds
33 Step	Glycerine Start	0 Seconds
34 Step	Glycerine to Digester 01	10 Seconds
35 Step	Glycerine to Digester 02	10 Seconds
36 Step	Glycerine to Digester 03	14 Seconds
37 Step	Heat Digester 01	1800 Seconds
38 Step	Heat Digester 02	1800 Seconds
39 Step	Heat Digester 03	4800 Seconds
40 Step	Heating Monitoring	0 Seconds
41 Step	Heating Start	0 Seconds
42 Step	Initialise to Digester	2 Seconds
43 Step	Initialise to Storage	2 Seconds
44 Step	Open Route to Digester	0 Seconds
45 Step	Open Route to Storage	10 Seconds
46 Step	Sample Digester 01	1800 Seconds
47 Step	Sample Digester 02	1800 Seconds
48 Step	Sample Digester 03	4800 Seconds
49 Step	To Digester Start	0 Seconds
50 Step	To Storage Start	0 Seconds
51 Step	Transfer to Digester	0 Seconds
52 Step	Transfer to Storage	10 Seconds
53 Step	Wait after Glycerine to Digester 01	10 Seconds
54 Step	Wait after Glycerine to Digester 02	10 Seconds
55 Step	Wait after Glycerine to Digester 03	10 Seconds

HMI Programs screen Step times section

5.2 Transfer Reception to Storage Tank

The program is started from the Overview / Dashboard screen by selecting Reception Source and Storage Target Tanks and a Target Volume and pressing the Start button. The status changes from Off to Started and the program status can be seen in the Programs list in the top. The program activates valves and pumps until the target volume is transferred.

Normal Step Order

Order	Name
1	Transfer to Storage Startup Step
2	Initialise to Storage
3	Open Route to Storage
4	To Storage Start
5	Transfer to Storage

5.3 Transfer Storage to Digester

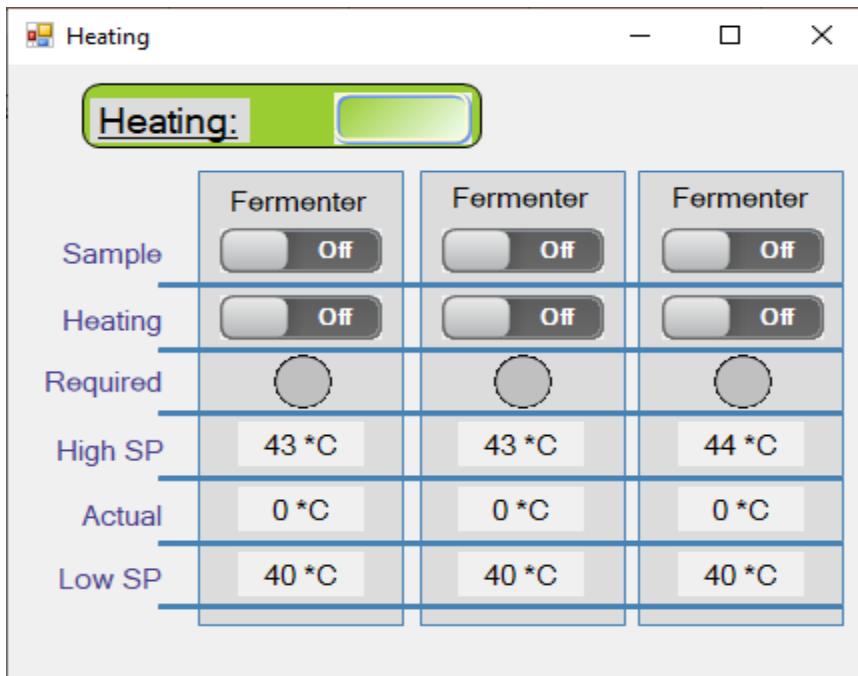
The program is started from the Overview / Dashboard screen by selecting Storage Source and Digester Target and entering a Target Volume and pressing the Start button. The status changes from Off to Started and the program status can be seen in the Programs list in the top. The program activates valves and pumps until the target volume is transferred.

Normal Step Order

Order	Name
1	Transfer to Digester Startup Step
2	Initialise to Digester
3	Open Route to Digester
4	To Digester Start
5	Transfer to Digester

5.4 Digesters Heating

The program generally waits in a Monitoring step and goes to the required step to transfer digestate from digester, through the Heat Exchanger and back to the Digester when required due to a fall in temperature in the Digester. The Heating must be enabled for the Digester. There is also the facility to Sample a Digester. The Enable and Sampling are available in Heating popup.



The Heating is called when the Actual Temperature, or Average Temperature, falls below the Low Setpoint, and continues until the Actual Temperature rises above the High Setpoint.

Toggling the Sample to On causes the transfer through the Heat Exchanger for a fixed time of 30 minutes.

Normal Step Order:

Order	Name
1	Digesters Heating Startup Step
2	Heating Start
3	Heating Monitoring
4	Heat Digester 01
5	Heat Digester 02
6	Heat Digester 03
7	Sample Digester 01
8	Sample Digester 02
9	Sample Digester 03

5.5 Digester 01 Mixing

This program performs a mixing cycle, using internal valves and pumps.

Normal Step Order:

Order	Name
1	Digester 01 Mixing Startup Step
2	D01 Mixing - Start
3	D01 Mixing - S1 - LT-RT
4	D01 Mixing - S2 Pause
5	D01 Mixing - S3 - LB-RB
6	D01 Mixing - S4 - Crossover
7	D01 Mixing - S4.3 LC-RB
8	D01 Mixing - S5 - Crossover
9	D01 Mixing - S5.3 - LB-RC
10	D01 Mixing - S6 - Crossover
11	D01 Mixing - S6.3 - LC-RC
12	D01 Mixing - S6.5.1 - Pumps Off
13	D01 Mixing - S7 - Pause
14	D01 Mixing - S8 - Start Stir Mix
15	D01 Mixing – Gas Production

5.6 Digester 02 Mixing

Normal Step Order:

Order	Name
1	Digester Mixing Startup Step
2	D02 Mixing - Start
3	D02 Mixing - S1 - LT-RT
4	D02 Mixing - S2 Pause
5	D02 Mixing - S3 - LB-RB
6	D02 Mixing - S4 - Crossover
7	D02 Mixing - S4.3 LC-RB
8	D02 Mixing - S5 - Crossover
9	D02 Mixing - S5.3 - LB-RC
10	D02 Mixing - S6 - Crossover
11	D02 Mixing - S6.3 - LC-RC
12	D02 Mixing - S6.5.1 - Pumps Off
13	D02 Mixing - S7 - Pause
14	D02 Mixing - S8 - Start Stir Mix
15	D02 Mixing – Gas Production

5.7 Glycerine Transfer

This program transfers a set amount of Glycerine to each Digester in turn. The amount is set up in the settings from the program faceplate or the general Programs Settings.

Normal Step Order:

Order	Name
1	Glycerine Transfer Startup Step
2	Glycerine to Digester 01
3	Wait after Glycerine to Digester 01
4	Glycerine to Digester 02
5	Wait after Glycerine to Digester 02
6	Glycerine to Digester 03
7	Wait after Glycerine to Digester 03

5.8 0 Common - Background

This program will start automatically on a PLC Start-up or reboot or may be stopped and started from PC. The Program has only one Step and should never be ended.

6 Other Screens

6.1 Settings Popup

This is a summary of main Programs Setpoints.

Each setpoint may be selected for change by pressing on the underlined text.

Programs Settings

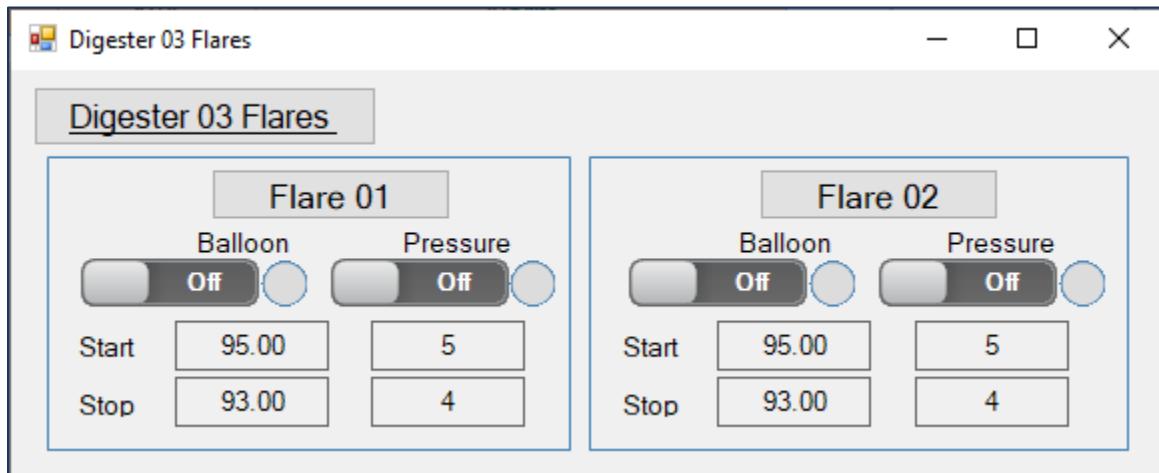
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Type		Name	Value
1	Setpoint	<u>D01 Heat Off SP</u>	43.00 * C
2	Setpoint	<u>D01 Heat On SP</u>	40.00 * C
3	Setpoint	<u>D02 Heat Off SP</u>	43.00 * C
4	Setpoint	<u>D02 Heat On SP</u>	40.00 * C

Type		Name	Value
1	Setpoint	<u>D03 Heat Off SP</u>	44.00 * C
2	Setpoint	<u>D03 Heat On SP</u>	40.00 * C
3	Setpoint	<u>D03 Minimum Balloon Height Flare 01</u>	93.00 %
4	Setpoint	<u>D03 Minimum Balloon Height Flare 02</u>	93.00 %
5	Setpoint	<u>D03 Minimum Pressure Flare 01</u>	4.50 mbar
6	Setpoint	<u>D03 Minimum Pressure Flare 02</u>	4.50 mbar

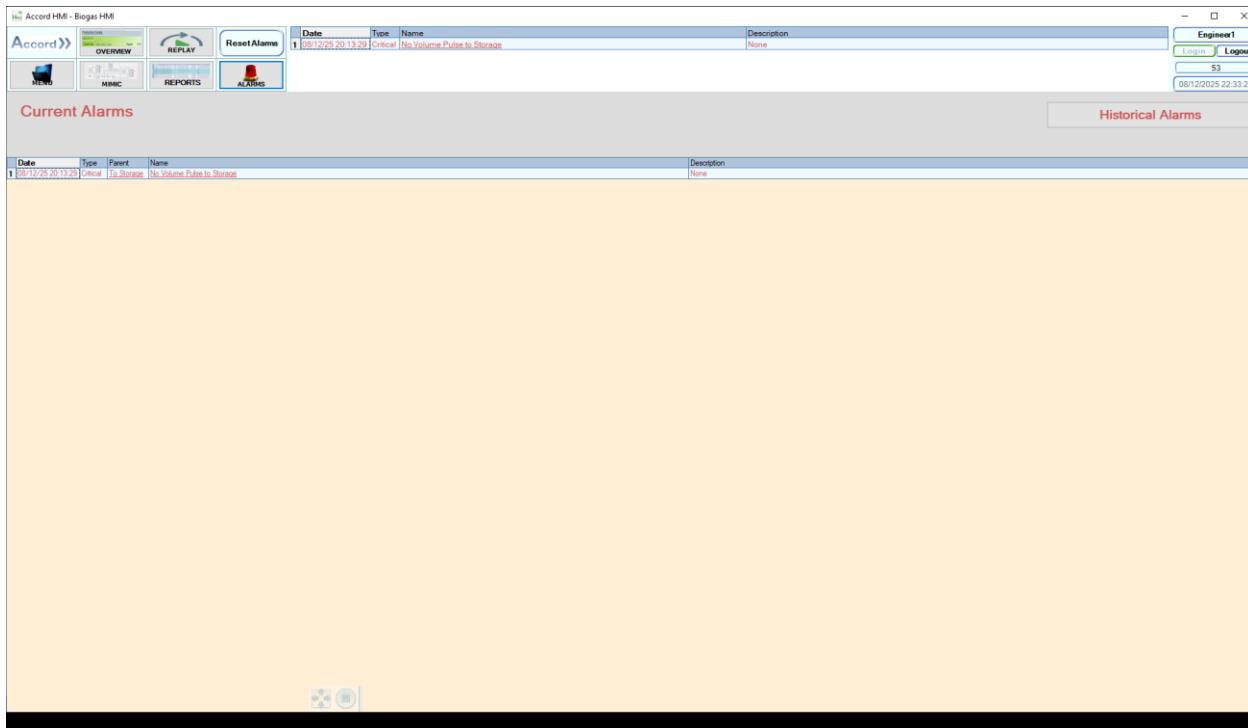
Type		Name	Value
1	Setpoint	<u>Count Converter Glycerin</u>	1.00
2	Setpoint	<u>Heating Oil Cost per L</u>	0.00
3	Setpoint	<u>Heating Oil L per pulse</u>	1.00 l
4	Setpoint	<u>Kerosene Converter</u>	1.00 Imp/l

6.2 Digester 03 Flares Popup



This gives control of Flares from Digester 03 by either Balloon Height or Pressure to activate each of the two flares.

6.3 Alarms Screen



Clicking on a Device item in the list will bring up the associated Faceplate, and overrides etc may be carried out from here.

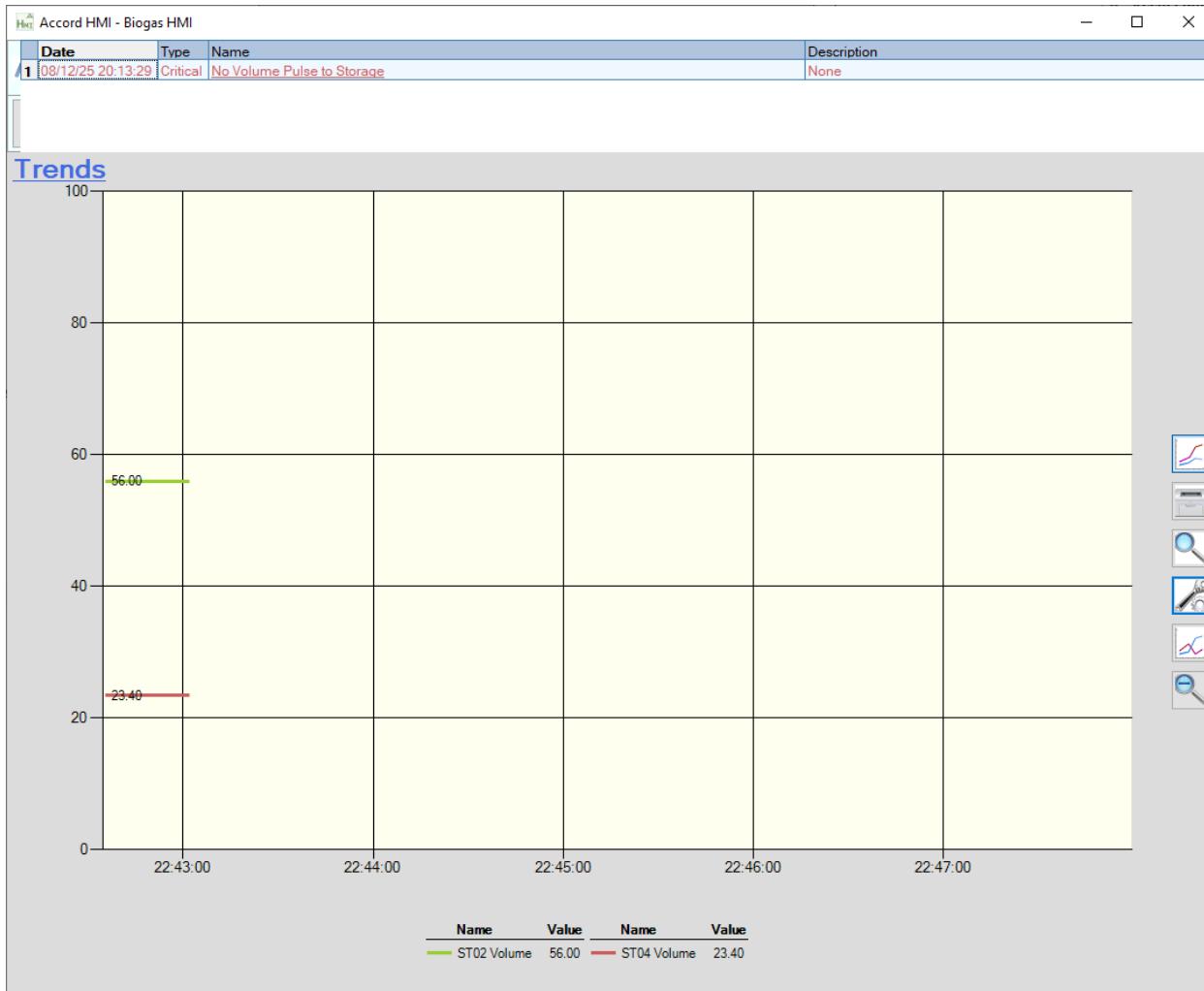
6.4 Historical Alarms Screen

#	Date	Time	Project	Item	Status	Description
1	06/12/2025	09:40:29	Booster Plant	D01 Glycerine V01 (Fail to Deactivate)	Active	
2	06/12/2025	16:02:17	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Inactive	
3	06/12/2025	16:02:17	Booster Plant	No Storage Tank Selected to Storage	Inactive	
4	06/12/2025	16:02:18	Booster Plant	D01 Glycerine V01 (Fail to Deactivate)	Active	
5	06/12/2025	16:02:19	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Active	
6	06/12/2025	16:02:19	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Active	
7	06/12/2025	16:02:19	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Active	
8	06/12/2025	16:02:19	Booster Plant	RTO1 V01 (Fail to Deactivate)	Active	
9	06/12/2025	16:02:19	Booster Plant	RTO1 V01 (Fail to Deactivate)	Active	
10	06/12/2025	16:02:19	Booster Plant	RTO1 V01 (Fail to Deactivate)	Active	
11	06/12/2025	16:02:19	Booster Plant	Turbo V01 (Fail to Deactivate)	Active	
12	06/12/2025	16:02:19	Booster Plant	WT1 V01 (Fail to Deactivate)	Active	
13	06/12/2025	16:02:25	Booster Plant	D03 HW V05 (Fail to Deactivate)	Active	
14	06/12/2025	16:02:27	Booster Plant	RTO1 V01 (Fail to Deactivate)	Active	
15	06/12/2025	16:02:29	Booster Plant	D03 HW V05 (Fail to Deactivate)	Active	
16	06/12/2025	16:02:29	Booster Plant	D03 HW V05 (Fail to Deactivate)	Active	
17	06/12/2025	16:02:29	Booster Plant	D03 HW V05 (Fail to Deactivate)	Active	
18	06/12/2025	16:02:30	Booster Plant	D03 HW V05 (Fail to Deactivate)	Active	
19	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
20	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
21	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
22	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
23	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
24	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
25	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
26	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
27	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
28	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
29	06/12/2025	16:02:32	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
30	06/12/2025	16:02:36	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Active	
31	06/12/2025	16:02:36	Booster Plant	D714 V01 (Fail to Deactivate)	Active	
32	06/12/2025	16:02:36	Booster Plant	D715 V01 (Fail to Deactivate)	Active	
33	06/12/2025	16:02:36	Booster Plant	D715 V01 (Fail to Deactivate)	Active	
34	06/12/2025	16:02:36	Booster Plant	D715 V01 (Fail to Deactivate)	Active	
35	06/12/2025	16:02:36	Booster Plant	D715 V01 (Fail to Deactivate)	Active	
36	06/12/2025	16:02:36	Booster Plant	D715 V01 (Fail to Deactivate)	Active	
37	06/12/2025	16:10:36	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Inactive	
38	06/12/2025	16:10:36	Booster Plant	D01 Feed V01 (Fail to Deactivate)	Inactive	
39	06/12/2025	16:10:36	Booster Plant	D01 Glycerine V01 (Fail to Deactivate)	Inactive	
40	06/12/2025	16:10:36	Booster Plant	D01 HW V05 (Fail to Deactivate)	Inactive	
41	06/12/2025	16:10:36	Booster Plant	D02 Feed V02 (Fail to Deactivate)	Inactive	
42	06/12/2025	16:10:36	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Inactive	
43	06/12/2025	16:10:36	Booster Plant	D05 HW V02 (Fail to Deactivate)	Inactive	
44	06/12/2025	16:10:36	Booster Plant	D06 Feed V01 (Fail to Deactivate)	Inactive	
45	06/12/2025	16:10:36	Booster Plant	D05 Feed V01 (Fail to Deactivate)	Inactive	
46	06/12/2025	16:10:36	Booster Plant	D05 Feed V01 (Fail to Deactivate)	Inactive	
47	06/12/2025	16:10:36	Booster Plant	D03 Glycerine V01 (Fail to Deactivate)	Inactive	
48	06/12/2025	16:10:36	Booster Plant	D03 HW V05 (Fail to Deactivate)	Inactive	
49	06/12/2025	16:10:36	Booster Plant	D04 Feed V01 (Fail to Deactivate)	Inactive	
50	06/12/2025	16:10:36	Booster Plant	RTO1 V01 (Fail to Deactivate)	Inactive	
51	06/12/2025	16:10:36	Booster Plant	RTO2 V01 (Fail to Deactivate)	Inactive	
52	06/12/2025	16:10:36	Booster Plant	SR1 V01 (Fail to Deactivate)	Inactive	
53	06/12/2025	16:10:36	Booster Plant	S711 V01 (Fail to Deactivate)	Inactive	
54	06/12/2025	16:10:36	Booster Plant	S712 V01 (Fail to Deactivate)	Inactive	
55	06/12/2025	16:10:36	Booster Plant	S713 V01 (Fail to Deactivate)	Inactive	
56	06/12/2025	16:10:36	Booster Plant	S714 V01 (Fail to Deactivate)	Inactive	
57	06/12/2025	16:10:36	Booster Plant	S702 V02 (Fail to Deactivate)	Inactive	
58	06/12/2025	16:10:36	Booster Plant	S703 V01 (Fail to Deactivate)	Inactive	
59	06/12/2025	16:10:36	Booster Plant	S703 V02 (Fail to Deactivate)	Inactive	

This is in form of a configurable database query Report. The style of the report, the start and end times and the devices to be queried may all be selected on the right hand side panels.

6.5 Trends

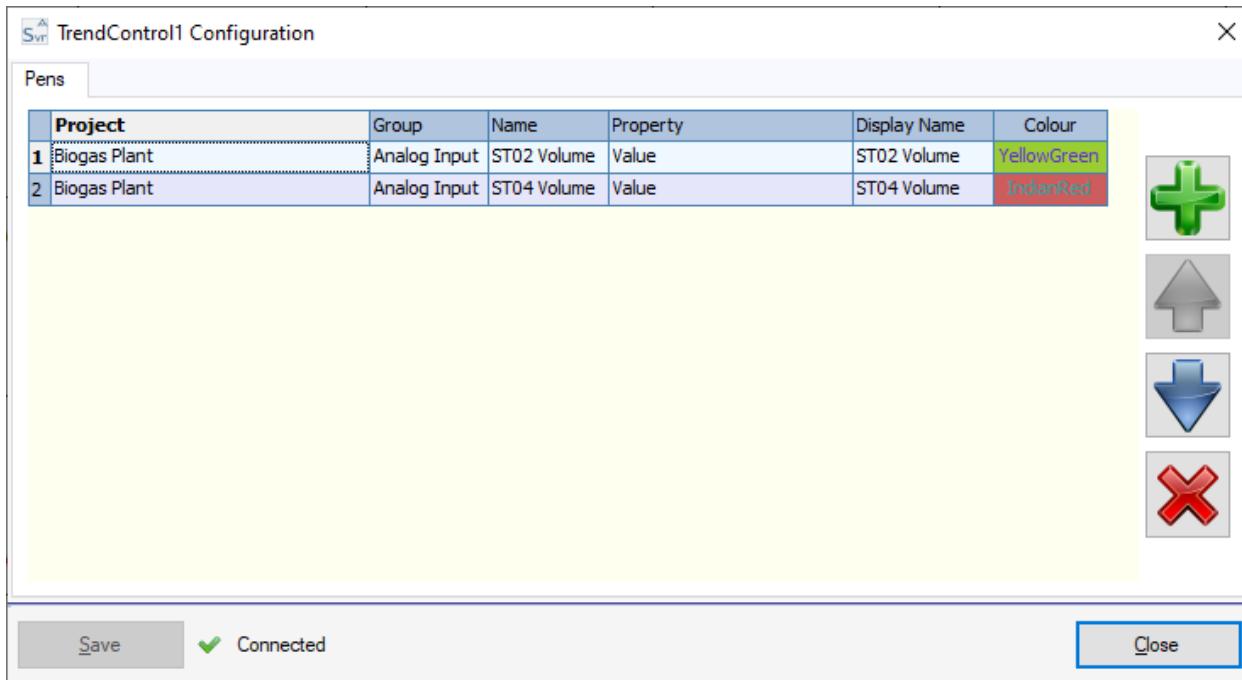
The Trend control can be used to display a live or historical trend graph of values. Historical trends are available for Logged devices. Selections and style settings are available at the right hand side.



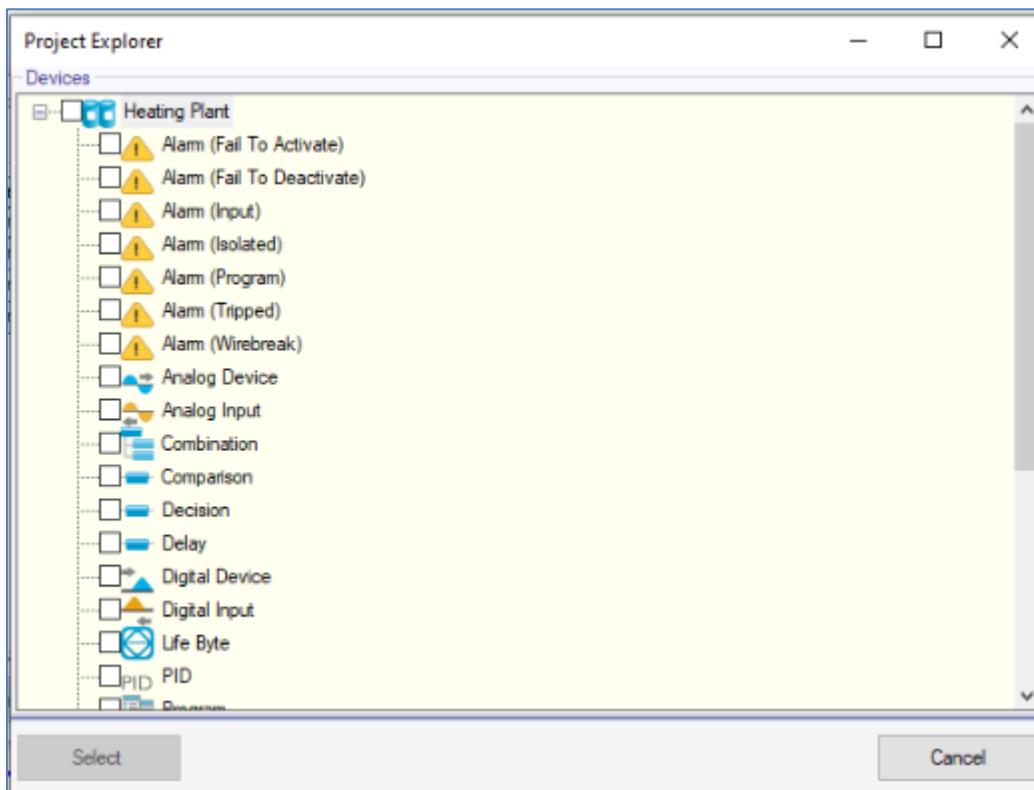
The following configuration options are available to the Trend control:

Right-click on the Trend allows the Trend Pens to be configured.

- An explorer window allows the required device to be accessed for the pen.
- A property of the device may also be assigned. Usually, the Value property is used.
- Text can be entered for the Display Name if required. The Device name will be used by default.
- A colour may be assigned to the Pen using the colour picker.



The required items for trend pens are selected using the Explorer, by pressing “+”



6.6 History Reports

The History Control is used to view a report of historical data via the HMI during Runtime. This is in form of a configurable database query Report. The style of the report, the start and end times and the devices to be queried may all be selected on the right hand side panels.

The select desired devices and timescale and report types are selectd before clicking 'Generate Report'.

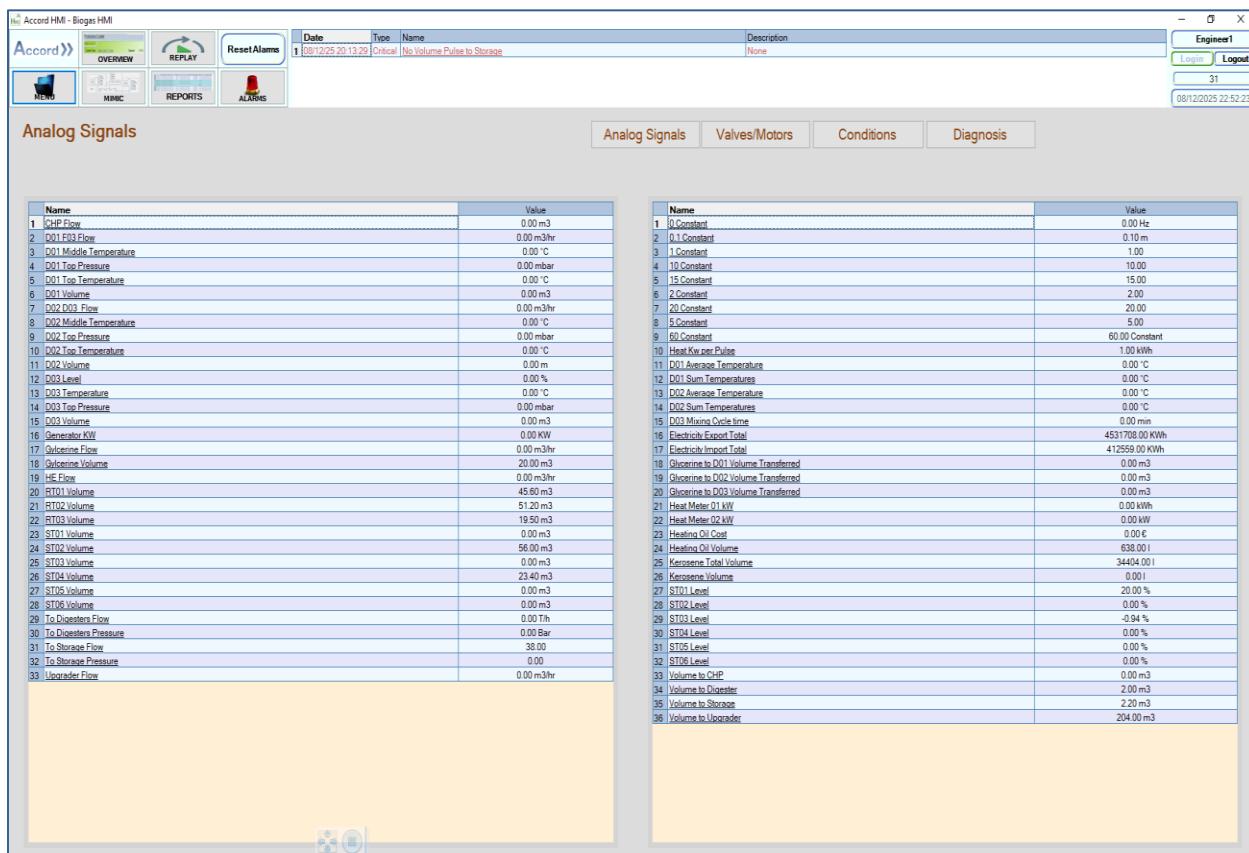
#	Date	Time	Project	Item	Status	Step	Step Time Remaining	Command	Alarm Type	Alarm
1	08/12/2025	10:28:47	Biogas Plant	Background	Inactive	None	00:00:00.00	Start	N/A	None
2	08/12/2025	10:28:47	Biogas Plant	Background				Start		
3	08/12/2025	10:29:07	Biogas Plant	Background				Start		
4	08/12/2025	10:29:17	Biogas Plant	Background	Inactive	Step 2: Background Functions	00:00:00.00	Start	N/A	None
5	08/12/2025	10:29:17	Biogas Plant	Background		Step 2: Background Functions				
6	08/12/2025	10:29:17	Biogas Plant	Background	Inactive	Step 2: Background Functions	00:00:00.00	Start	N/A	None
7	08/12/2025	10:38:26	Biogas Plant	Digester 01 Mixing				Start		
8	08/12/2025	10:38:27	Biogas Plant	Digester 01 Mixing	Active	Step 2: D01 Mixing - S1 - LT-RT	00:00:29:59	None	N/A	None
9	08/12/2025	10:52:20	Biogas Plant	Digester 01 Mixing		Step 14: D01 Mixing - Gas Production				
10	08/12/2025	10:52:31	Biogas Plant	Digester 01 Mixing	Active	Step 14: D01 Mixing - Gas Production	00:00:00.00	None	N/A	None
11	08/12/2025	10:57:09	Biogas Plant	Digester 02 Mixing		Step 14: D02 Mixing - Gas Production				
12	08/12/2025	10:57:10	Biogas Plant	Digester 02 Mixing	Active	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	N/A	None
13	08/12/2025	10:57:12	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
14	08/12/2025	11:01:54	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
15	08/12/2025	11:01:55	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
16	08/12/2025	11:02:30	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
17	08/12/2025	11:02:40	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
18	08/12/2025	11:12:00	Biogas Plant	Digesters Heating				Start		
19	08/12/2025	11:12:00	Biogas Plant	Digesters Heating	Inactive	Step 1: Heating Start	00:00:00.00	None	N/A	None
20	08/12/2025	11:12:01	Biogas Plant	Digesters Heating	Active	Step 4: Heat F01 to F03	00:00:10.00	None	N/A	None
21	08/12/2025	11:12:02	Biogas Plant	Digesters Heating	Active	Step 2: Heating Monitoring	00:00:00.00	None	N/A	None
22	08/12/2025	11:12:11	Biogas Plant	Digesters Heating		Step 3: Heat Digester 01				
23	08/12/2025	11:12:11	Biogas Plant	Digesters Heating	Active	Step 4: Heat F01 to F03	00:00:29:59	None	N/A	None
24	08/12/2025	11:12:12	Biogas Plant	Digesters Heating	Active	Step 2: Heating Monitoring	00:00:00.00	None	N/A	None
25	08/12/2025	11:13:41	Biogas Plant	Digesters Heating		Step 4: Heat Digester 02				
26	08/12/2025	11:13:41	Biogas Plant	Digesters Heating	Active	Step 5: Heat Digester 03	00:00:10.00	None	N/A	None
27	08/12/2025	11:13:42	Biogas Plant	Digesters Heating	Active	Step 2: Heating Monitoring	00:00:00.00	None	N/A	None
28	08/12/2025	11:15:03	Biogas Plant	Digesters Heating	Active	Step 4: Heat Digester 02	00:00:00.00	None	N/A	None
29	08/12/2025	11:15:03	Biogas Plant	Digesters Heating		Step 4: Heat Digester 02				
30	08/12/2025	11:15:08	Biogas Plant	Digesters Heating	Active	Step 2: Heating Monitoring	00:00:00.00	None	N/A	None
31	08/12/2025	11:15:13	Biogas Plant	Digesters Heating		Step 5: Sample Digester 03				
32	08/12/2025	11:15:14	Biogas Plant	Digesters Heating	Active	Step 5: Heat Digester 03	00:00:10.00	None	N/A	None
33	08/12/2025	11:15:17	Biogas Plant	Digesters Heating	Active	Step 2: Heating Monitoring	00:00:00.00	None	N/A	None
34	08/12/2025	11:17:13	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
35	08/12/2025	11:17:14	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
36	08/12/2025	11:19:41	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
37	08/12/2025	11:19:42	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
38	08/12/2025	11:21:36	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
39	08/12/2025	11:21:37	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
40	08/12/2025	11:29:17	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
41	08/12/2025	11:29:18	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
42	08/12/2025	11:37:51	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
43	08/12/2025	11:37:52	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
44	08/12/2025	11:42:32	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
45	08/12/2025	11:42:33	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
46	08/12/2025	11:43:34	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm
47	08/12/2025	11:43:36	Biogas Plant	Digester 02 Mixing	Alarm	Step 14: D02 Mixing - Gas Production	00:00:00.00	None	Program in Alarm	D02 Pressure above High High Alarm

6.7 Engineering List Screens

These screens provide summary information on devices

6.7.1 Analogs

This provides the current status of all analog inputs and variable values in the controller. All devices may be accessed by clicking to select.



The screenshot shows the 'Analog Signals' screen of the Accord HMI. The top navigation bar includes links for 'OVERVIEW', 'REPLAY', 'Reset Alarms', 'Date' (08/12/25 20:13:29), 'Type' (Critical), 'Name' (No Volume Pulse to Storage), 'Description' (None), 'Logout' (31), and the date '08/12/2025 22:52:23'. Below the navigation bar are buttons for 'MENU', 'MINIC', 'REPORTS', and 'ALARMS'.

The main content area has tabs for 'Analog Signals' (selected), 'Valves/Motors', 'Conditions', and 'Diagnosis'. The 'Analog Signals' tab displays two tables of variable data:

Name	Value
1 CHP Flow	0.00 m3
2 D01 E03 Flow	0.00 m3/hr
3 D01 Middle Temperature	0.00 °C
4 D01 Top Pressure	0.00 mbar
5 D01 Top Temperature	0.00 °C
6 D01 Volume	0.00 m3
7 D02 D03 Flow	0.00 m3/hr
8 D02 Middle Temperature	0.00 °C
9 D02 Top Pressure	0.00 mbar
10 D02 Top Temperature	0.00 °C
11 D02 Volume	0.00 m
12 D03 Level	0.00 %
13 D03 Temperature	0.00 °C
14 D03 Top Pressure	0.00 mbar
15 D03 Volume	0.00 m3
16 Generator KW	0.00 KW
17 Glycerine Flow	0.00 m3/hr
18 Glycerine Volume	20.00 m3
19 HF Flow	0.00 m3/hr
20 RT01 Volume	45.60 m3
21 RT02 Volume	51.20 m3
22 RT03 Volume	19.50 m3
23 ST01 Volume	0.00 m3
24 ST02 Volume	56.00 m3
25 ST03 Volume	0.00 m3
26 ST04 Volume	23.40 m3
27 ST05 Volume	0.00 m3
28 ST06 Volume	0.00 m3
29 To Dusters Flow	0.00 l/h
30 To Dusters Pressure	0.00 Bar
31 To Storage Flow	38.00
32 To Storage Pressure	0.00
33 Upgrader Flow	0.00 m3/hr

Name	Value
1 D01 Constant	0.00 Hz
2 D01 Constant	0.10 m
3 1 Constant	1.00
4 10 Constant	10.00
5 15 Constant	15.00
6 2 Constant	2.00
7 20 Constant	20.00
8 5 Constant	5.00
9 60 Constant	60.00 Constant
10 Heat Kw per Pulse	1.00 kWh
11 D01 Average Temperature	0.00 °C
12 D01 Sum Temperatures	0.00 °C
13 D02 Average Temperature	0.00 °C
14 D02 Sum Temperatures	0.00 °C
15 D03 Mixing Cycle time	0.00 min
16 Electricity Export Total	4531708.00 kWh
17 Electricity Import Total	412559.00 kWh
18 Glycerine to D01 Volume Transferred	0.00 m3
19 Glycerine to D02 Volume Transferred	0.00 m3
20 Glycerine to D03 Volume Transferred	0.00 m3
21 Heat Meter 01 kW	0.00 kWh
22 Heat Meter 02 kW	0.00 kW
23 Heating Oil Cost	0.00 €
24 Heating Oil Volume	638.00 l
25 Kerosene Total Volume	34404.00 l
26 Kerosene Volume	0.00 l
27 ST01 Level	20.00 %
28 ST02 Level	0.00 %
29 ST03 Level	-0.94 %
30 ST04 Level	0.00 %
31 ST05 Level	0.00 %
32 ST06 Level	0.00 %
33 Volume to CHP	0.00 m3
34 Volume to Duster	2.00 m3
35 Volume to Storage	2.20 m3
36 Volume to Upgrader	204.00 m3

6.7.2 Digitals

This displays the current status and values for all digital inputs and digital outputs in the system. Device faceplates may be accessed by clicking on the underlined name.

Type	Name	Value
1	Valve D01_02 Feed V04	Auto Deactivated
2	Valve D01 Feed V01	Auto Deactivated
3	Valve D01 Feed V01	Auto Deactivated
4	Valve D01 Glycerine V01	Auto Deactivated
5	Valve D01 HW V01	Auto Closed
6	Valve D01 HW V02	Auto Deactivated
7	Valve D01 M V01	Auto Closed
8	Valve D01 M V02	Auto Closed
9	Valve D01 M V03	Auto Closed
10	Valve D01 M V11	Auto Closed
11	Valve D01 M V12	Auto Closed
12	Valve D02 M V01	Auto Closed
13	Valve D02 Feed V02	Auto Deactivated
14	Valve D02 Glycerine V01	Auto Deactivated
15	Valve D02 HW V03	Auto Closed
16	Valve D02 HW V04	Auto Closed
17	Valve D02 M V01	Auto Closed
18	Valve D02 M V02	Auto Closed
19	Valve D02 M V03	Auto Closed
20	Valve D02 M V11	Auto Closed
21	Valve D02 M V12	Auto Closed
22	Valve D02 M V13	Auto Closed
23	Valve D03 Feed V01	Auto Deactivated
24	Valve D03 Feed V03	Auto Deactivated
25	Valve D03 Glycerine V01	Auto Deactivated
26	Valve D03 HW V05	Auto Deactivated
27	Valve D03 HW V06	Auto Closed
28	Valve RT01 V01	Auto Deactivated
29	Valve RT02 V01	Auto Deactivated
30	Valve RT03 V01	Auto Closed
31	Valve SR V01	Auto Deactivated
32	Valve ST01 V01	Auto Deactivated
33	Valve ST01 V02	Auto Deactivated
34	Valve ST02 V01	Auto Deactivated
35	Valve ST02 V02	Auto Deactivated
36	Valve ST03 V01	Auto Deactivated
37	Valve ST03 V02	Auto Deactivated
38	Valve ST04 V01	Auto Deactivated
39	Valve ST04 V02	Auto Deactivated
40	Valve ST05 V01	Auto Deactivated
41	Valve ST05 V02	Auto Deactivated
42	Valve ST06 V01	Auto Deactivated
43	Valve ST06 V02	Auto Deactivated
44	Valve Tanker V01	Auto Deactivated

Type	Name	Value
1	Digital Output Stem Below 01	Auto Deactivated
2	Digital Output Camera Light 01	Auto Deactivated
3	Digital Output Camera Light 02	Auto Deactivated
4	Digital Output Flare	Auto Deactivated
5	Digital Output ST04 Air On	Auto Deactivated
6	Digital Output ST05 Air On	Auto Deactivated
7	Digital Output ST06 Air On	Auto Deactivated
8	Motor Air Blower	Auto Stopped
9	Motor D01 Mixer Pump 01	Auto Stopped
10	Motor D01 Mixer Pump 02	Auto Stopped
11	Motor D02 Mixer Pump 01	Auto Stopped
12	Motor D02 Mixer Pump 02	Auto Stopped
13	Motor D03 Fan 01	Auto Deactivated
14	Motor D03 Fan 02	Auto Stopped
15	Motor D03 Mixer 01	Auto Stopped
16	Motor D03 Mixer 02	Auto Stopped
17	Motor D03 Mixer 03	Auto Stopped
18	Motor Glycerine Pump	Auto Deactivated
19	Motor Hot Water Pump	Auto Stopped
20	Motor P03 Heating Pump	Auto Stopped
21	Motor RT03 Mixer High Speed	Auto Stopped
22	Motor RT03 Mixer Low Speed	Auto Stopped
23	Motor Slurry Reception Pump	Auto Deactivated
24	Motor ST02 Mixer	Auto Deactivated
25	Motor ST02 Mixer	Auto Deactivated
26	Motor ST03 Mixer	Auto Deactivated
27	Motor To Digesters Pump 02	Auto Deactivated
28	Motor To Storage Pump P01	Auto Deactivated
29	Valve D01 Feed V04	Auto Deactivated
30	Valve D01 Feed V05	Auto Deactivated
31	Valve D01 Feed V01	Auto Deactivated
32	Valve D01 Glycerine V01	Auto Deactivated
33	Valve D01 HW V01	Auto Closed
34	Valve D01 HW V02	Auto Deactivated
35	Valve D01 M V02	Auto Deactivated
36	Valve D01 M V05	Auto Closed
37	Valve D01 M V03	Auto Closed
38	Valve D01 M V11	Auto Closed
39	Valve D01 M V12	Auto Closed
40	Valve D01 M V13	Auto Closed
41	Valve D01 Feed V02	Auto Deactivated
42	Valve D02 Feed V01	Auto Deactivated
43	Valve D02 HW V03	Auto Closed
44	Valve D02 HW V04	Auto Closed

6.7.3 Overrides

Displays all devices in the system that are in manual, override or have feedback alarm masked.

Type	Name (Masked)	Status
1	Motor Air Blower	Feedback Alarm Masked
2	Motor D01 Mixing Pump 01	Feedback Alarm Masked
3	Motor D01 Mixing Pump 02	Feedback Alarm Masked
4	Motor D02 Mixing Pump 01	Feedback Alarm Masked
5	Motor D02 Mixing Pump 02	Feedback Alarm Masked
6	Motor D03 Flave 01	Feedback Alarm Masked
7	Motor D03 Flave 02	Feedback Alarm Masked
8	Motor D03 Mixer 01	Feedback Alarm Masked
9	Motor D03 Mixer 02	Feedback Alarm Masked
10	Motor Glycerine Pump	Feedback Alarm Masked
11	Motor Hot Water Pump	Feedback Alarm Masked
12	Motor P03 Heating Pump	Feedback Alarm Masked
13	Motor Slurry Reception Pump	Feedback Alarm Masked
14	Motor ST01 Mixer	Feedback Alarm Masked
15	Motor ST02 Mixer	Feedback Alarm Masked
16	Motor ST03 Mixer	Feedback Alarm Masked
17	Motor To Digesters Pump 02	Feedback Alarm Masked
18	Motor To Storage Pump P01	Feedback Alarm Masked
19	Valve D01_02_Feed V04	Feedback Alarm Masked
20	Valve D01_Feed V01	Feedback Alarm Masked
21	Valve D01_Feed V01	Feedback Alarm Masked
22	Valve D01_Glycerine V01	Feedback Alarm Masked
23	Valve D01_HW V01	Feedback Alarm Masked
24	Valve D01_HW V02	Feedback Alarm Masked
25	Valve D01_Mu01	Feedback Alarm Masked
26	Valve D01_Mu02	Feedback Alarm Masked
27	Valve D01_Mu03	Feedback Alarm Masked
28	Valve D01_Mu11	Feedback Alarm Masked
29	Valve D01_Mu12	Feedback Alarm Masked
30	Valve D01_Mu13	Feedback Alarm Masked
31	Valve D02_Feed V02	Feedback Alarm Masked
32	Valve D02_Glycerine V01	Feedback Alarm Masked
33	Valve D02_HW V03	Feedback Alarm Masked
34	Valve D02_HW V04	Feedback Alarm Masked
35	Valve D02_Mu01	Feedback Alarm Masked
36	Valve D02_Mu02	Feedback Alarm Masked
37	Valve D02_Mu03	Feedback Alarm Masked
38	Valve D02_Mu11	Feedback Alarm Masked
39	Valve D02_Mu12	Feedback Alarm Masked
40	Valve D02_Mu13	Feedback Alarm Masked
41	Valve D03_Feed V01	Feedback Alarm Masked
42	Valve D03_Feed V03	Feedback Alarm Masked
43	Valve D03_Glycerine V01	Feedback Alarm Masked
44	Valve D03_HW V05	Feedback Alarm Masked

Monitoring Devices for Manual	
1	08/12/2025 20:13:29
2	Critical
3	No Volume Pulse to Storage
4	None

6.7.4 Status

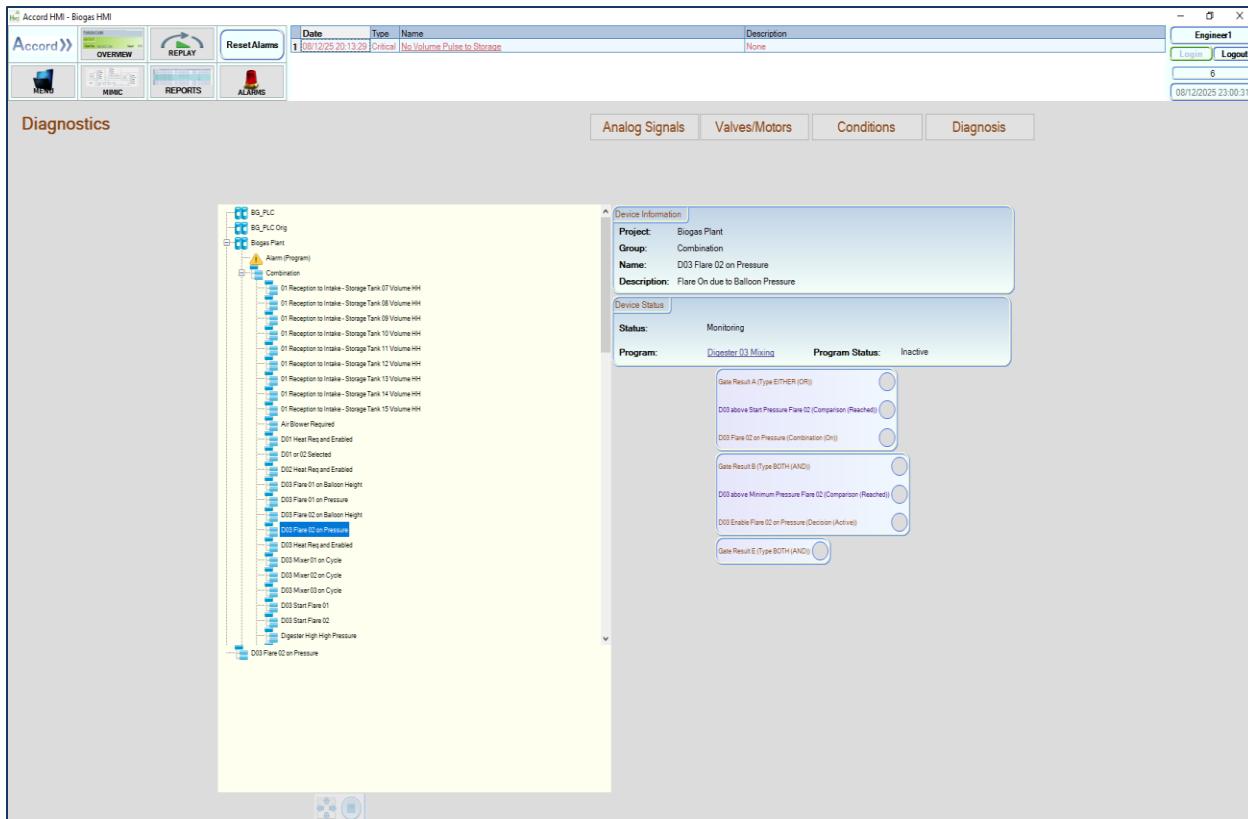
Displays the current state of Comparisons and Combinations and Delays in the controller.

Type	Name	Value
1	Combination 01 Reception to Intake - Storage Tank 07 Volume HH	Inactive
2	Combination 01 Reception to Intake - Storage Tank 08 Volume HH	Inactive
3	Combination 01 Reception to Intake - Storage Tank 09 Volume HH	Inactive
4	Combination 01 Reception to Intake - Storage Tank 10 Volume HH	Inactive
5	Combination 01 Reception to Intake - Storage Tank 11 Volume HH	Inactive
6	Combination 01 Reception to Intake - Storage Tank 12 Volume HH	Inactive
7	Combination 01 Reception to Intake - Storage Tank 13 Volume HH	Inactive
8	Combination 01 Reception to Intake - Storage Tank 14 Volume HH	Inactive
9	Combination 01 Reception to Intake - Storage Tank 15 Volume HH	Inactive
10	Delay 5 second Pulse	Inactive
11	Combination Air Blower Required	Deactivated
12	Decision D01 Enable Heating	Inactive
13	Combination D01 Heat Req and Enabled	Inactive
14	Comparison D01 Heat Required	Reached
15	Delay D01 Heat Required Timed	Active
16	Combination D01 or D2 Selected	Inactive
17	Decision D01 Sampled	Inactive
18	Comparison D01 Temperature SP Reached	Monitoring
19	Delay D01 Temperature SP Reached Timed	Inactive
20	Decision D02 Enable Heating	Inactive
21	Combination D02 Heat Req and Enabled	Inactive
22	Comparison D02 Heat Required	Reached
23	Delay D02 Heat Required Timed	Active
24	Decision D02 Sampled	Inactive
25	Comparison D02 Temperature SP Reached	Monitoring
26	Delay D02 Temperature SP Reached Timed	Inactive
27	Comparison D03 above Minimum Pressure Flare 01	Monitoring
28	Comparison D03 above Minimum Pressure Flare 02	Monitoring
29	Comparison D03 above Start Pressure Flare 01	Monitoring
30	Comparison D03 above Start Pressure Flare 02	Monitoring
31	Comparison D03 Balloon Level above Minimum Flare 01	Monitoring
32	Comparison D03 Balloon Level above Minimum Flare 02	Monitoring
33	Comparison D03 Balloon Level above Start Flare 01	Monitoring
34	Comparison D03 Balloon Level above Start Flare 02	Monitoring
35	Decision D03 Enable Flare 01 on Balloon Height	Inactive
36	Decision D03 Enable Flare 01 on Pressure	Inactive
37	Decision D03 Enable Flare 02 on Balloon Height	Inactive
38	Decision D03 Enable Flare 02 on Pressure	Inactive
39	Decision D03 Enable Heating	Inactive
40	Combination D03 Flare 01 on Balloon Height	Monitoring
41	Combination D03 Flare 01 on Pressure	Monitoring
42	Combination D03 Flare 02 on Balloon Height	Monitoring
43	Combination D03 Flare 02 on Pressure	Monitoring
44	Combination D03 Heat Req and Enabled	Inactive

Type	Name	Value
1	Comparison D03 Heat Required	Reached
2	Comparison D031 Temperature SP Reached	Monitoring
3	Comparison D032 Heat Required	Reached
4	Comparison D032 Temperature SP Reached	Monitoring
5	Comparison D033 above Minimum Pressure Flare 01	Monitoring
6	Comparison D033 above Minimum Pressure Flare 02	Monitoring
7	Comparison D033 above Start Pressure Flare 01	Monitoring
8	Comparison D033 above Start Pressure Flare 02	Monitoring
9	Comparison D033 Balloon Level above Minimum Flare 01	Monitoring
10	Comparison D033 Balloon Level above Minimum Flare 02	Monitoring
11	Comparison D033 Balloon Level above Start Flare 01	Monitoring
12	Comparison D033 Balloon Level above Start Flare 02	Monitoring
13	Comparison D033 Heat Required	Reached
14	Comparison D033 Mixer 01 Start Cycle Reached	Monitoring
15	Comparison D033 Mixer 01 Stop Cycle Reached	Monitoring
16	Comparison D033 Mixer 02 Start Cycle Reached	Monitoring
17	Comparison D033 Mixer 02 Stop Cycle Reached	Monitoring
18	Comparison D033 Mixer 03 Start Cycle Reached	Monitoring
19	Comparison D033 Mixer 03 Stop Cycle Reached	Monitoring
20	Comparison D033 Mixing Cycle Time Reached	Monitoring
21	Comparison D033 Temperature SP Reached	Monitoring
22	Comparison Target Volume in Dosepot Reached	Monitoring
23	Comparison Target Volume to Storage Reached	Monitoring

6.7.5 Check

This control is used to Check the reasons for Activations, and can query the status of components of logic.



To select an item to analyse, navigate the tree menu at the left of the control and click on a Device name.

Once selected, relevant information about the Device will be displayed on the right of the control, along with a graphical representation of any logical operations.

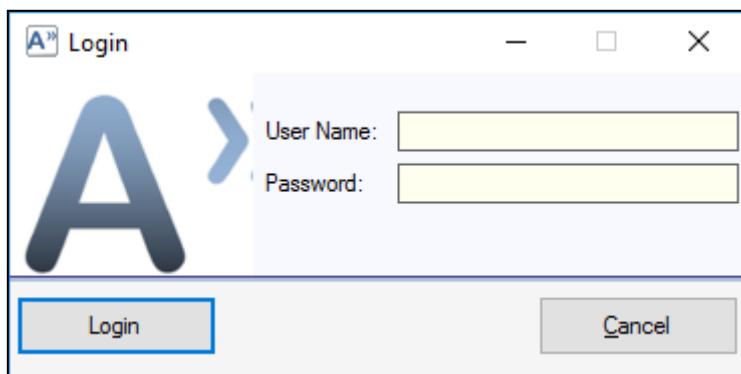
7 Screen Functions and general operation

7.1 Security Control

The Security Control is used to log into the HMI for control of programs and devices.



Clicking on the "Login" button on the top banner brings up the Login window and the user name and password are entered. The username is then shown in the top banner.



7.2 Alarm Reset

The Alarm Reset Control is used to acknowledge and attempt to reset all alarms.

You must be logged in to use the Alarm Reset.



Once a user logs into Scada service, the button will be enabled.



7.3 Program Control

The Program Control is used to display the status and other information of Program.



The Program Faceplate shows the following information:

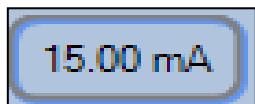
- **Name:** The name of the Program.
- **Current Step:** The name of the step which is currently running. If logged in, a user may click the step name to step to a selected step.
- **Step Number:** The recipe position of the current step.
- **Status:** The status of the Program.
- **Expected:** The step time setpoint which has been configured.
- **Remaining:** The duration remaining before the step time setpoint has elapsed.
- **Elapsed:** The amount of time for which the current step has been active.

Once logged in the command buttons may be used.

- **Start:** Start the Program if it is not running.
- **End:** End the Program if it is currently running.
- **Resume:** Resume the Program if it is currently in hold.
- **Hold:** Place the Program into hold if it is currently running.
- **Step On:** End the current step and start the next step in the recipe step order.
- **Step To:** End the current step and step to the selected step.
- **Timing / Time Held:** Toggle whether or not the step time will increment.
- **Settings:** Examine related program conditions and change Setpoints and Step Times.

7.4 Value Control

The Value control is used to display a numerical value result from an Accord Server Device. During Runtime and once connected to the Scada service, the Value Control will show the current value in the desired format with the configured engineering units used, if applicable.



Clicking on the Value Control in Runtime will bring up the Device Faceplate associated with the device to which the control is bound.

7.5 Analog Input

Device Information

Project: Biogas Plant	User: Engineer1
Group: Analog Input	User Group: Engineering
Name: ST02 Volume	

Device Status

Actual Value: 56.00 m3	Signal Value: 0.00 m3
Status: Normal	
Override: <div style="width: 100%; height: 10px; background-color: #ccc; border: 1px solid #ccc; display: flex; align-items: center; justify-content: center; margin-bottom: 5px;"> </div>	Override Value: <input type="text" value="0.00 m3"/>
High High Setpoint: <input type="text" value="90.00 m3"/>	High High Reached: No
High Setpoint: <input type="text" value="80.00 m3"/>	High Reached: No
Low Setpoint: <input type="text" value="10.00 m3"/>	Low Reached: No
Low Low Setpoint: <input type="text" value="5.00 m3"/>	Low Low Reached: No
Min Range: <input type="text" value="0.00"/>	Min Limit Reached: No
Max Range: <input type="text" value="130.00"/>	Max Limit Reached: No
Time Setpoint: <input type="text" value="5 Seconds"/>	Wirebreak: No
Hysteresis Setpoint: <input type="text" value="1.00"/>	Signal Under: No
Maintenance: <div style="width: 100%; height: 10px; background-color: #ccc; border: 1px solid #ccc; display: flex; align-items: center; justify-content: center; margin-bottom: 5px;"> </div>	Signal Over: No

[Settings](#) [Trends](#) [History](#) [Close](#)

The Analog Input Faceplate shows the following information:

- **Actual Value:** The value returned from the instrument, scaled into Engineering Units.
- **Alarm:** The current device alarm, if any, which is active.
- **Status:** This shows the highest priority status of the item.
- **High High Reached:** The instrument value is above the High High Setpoint.
- **High Reached:** The instrument value is above the High Setpoint.
- **Low Reached:** The instrument value is below the Low Setpoint.
- **Low Low Reached:** The instrument value is below the Low Low Setpoint.
- **Min Limit Reached:** The instrument value is at the Lower Limit of the range.
- **Max Limit Reached:** The instrument value is at the Upper Limit of the range.

- **WireBreak:** An instrument failure has occurred, a faulty signal has been returned to the PLC.
- **Current Under:** The signal returned to the PLC is below the lowest allowed value
- **Current Over:** The signal returned to the PLC is above the highest allowed value

Once logged into the Scada service, the command buttons may be used to issue commands to the Analog Input.

- **Override:** This allows the value returned from the instrument to be over-written.
- **Override Value:** The over-write value if the instrument is being placed in Manual Override.
- **High High Setpoint:** The value for the instrument to register a High High Alarm.
- **High Setpoint:** The value for the instrument to register a High Alarm.
- **Low Setpoint:** The value for the instrument to register a Low Alarm.
- **Low Low Setpoint:** The value for the instrument to register a Low Low Alarm.
- **Min Range:** The lower limit of the range.
- **Max Range:** The upper limit of the range.
- **Maintenance:** The item may be put into maintenance here.
- **Time Setpoint:** The number of seconds required before the High High, High, Low or Low Low alarms are achieved or reset
- **Hysteresis Setpoint:** The deadband value to release alarms.

7.6 Analog Device



The Analog Device Faceplate shows the following information:

- **Output Value:** The current value being output by the Analog Device.
- **Auto Value:** The value to which the output is set once the device is in Automatic mode.
- **Status:** Indicates the current status of the device.

Once logged into the Scada service, the command buttons may be used to issue commands to the Analog Device.

- **Manual:** This allows the Device to be put into Manual Mode, overwriting the Automatic activation from the Program.
- **Manual Value:** This is the value to which the output is set once the Device is in Manual mode.
- **Min Range:** The minimum value to which the output of the Device can be set.
- **Max Range:** The maximum value to which the output of the Device can be set.
- **Maintenance:** This allows the device to be put into Maintenance.

There are currently no Analog Devices in the system.

7.7 Digital Devices

The Device Control is used to give a graphical representation of any device hosted by the Accord Server.



- Example of a Device Control representing a motor.



- Example of a Device Control representing a valve.

Clicking on a Device Control in Runtime will bring up the Device Faceplate associated with the device to which the control is bound.

7.8 Digital Input



The Digital Input Faceplate shows the following information:

- **Status:** The current status of the Digital Input.
- **Result:** The display value of the result as configured within Accord Builder.

Once logged into the Scada service, the command buttons may be used to issue commands to the Digital Input.

- **Override Feedback:** Override the result of the device to the desired value.
- **Result Override:** The value to which the result is overridden once Override Feedback is active.
- **Delay Setpoint (On):** This is the number of seconds that the Device Output activation will be delayed for following an Automatic activation request.
- **Delay Setpoint (Off):** This is the number of seconds that the Device Output de-activation will be delayed for following loss of an Automatic activation request.

7.9 Digital Output / Device

Device Information

Project: <u>Biogas Plant</u>	User: <u>Engineer1</u>
Group: <u>Valve</u>	User Group: <u>Engineering</u>
Name: <u>ST02 V02</u>	

Device Status

Auto
Manual
Interlock
Alarm
Output

Output:	Deactivated	Auto Command:	Off
Status:	Auto Deactivated	Feedback Correct:	Yes
Manual Mode:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="Auto"/>	Manual Command:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="Off"/>
Interlock:	No	Interlock Override:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="On"/>
Alarm:	No	Alarm Masked:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="Unmasked"/>
Pulse Active:	No	Pulse Command:	Off
Activated Feedback	No	Deactivated Feedback	Yes
Delay On:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="5 Seconds"/>	Delay Off:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="5 Seconds"/>
Fail Time (On):	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="15 Seconds"/>	Fail Time (Off):	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="15 Seconds"/>
Pulse Cycle Time:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="0 Seconds"/>	Pulse Time:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="0 Seconds"/>
Activations:	0	Activation Time:	00 Hours 00 Mins
ABM Unit A:	No	Auto Reserve Enabled:	No
ABM Unit B:	No	Auto Reserved:	No
Maintenance:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="On"/>	Override Reserve:	<input style="width: 100px; height: 25px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="On"/>

Settings
Check
Close

The Digital Output Faceplate shows the following information:

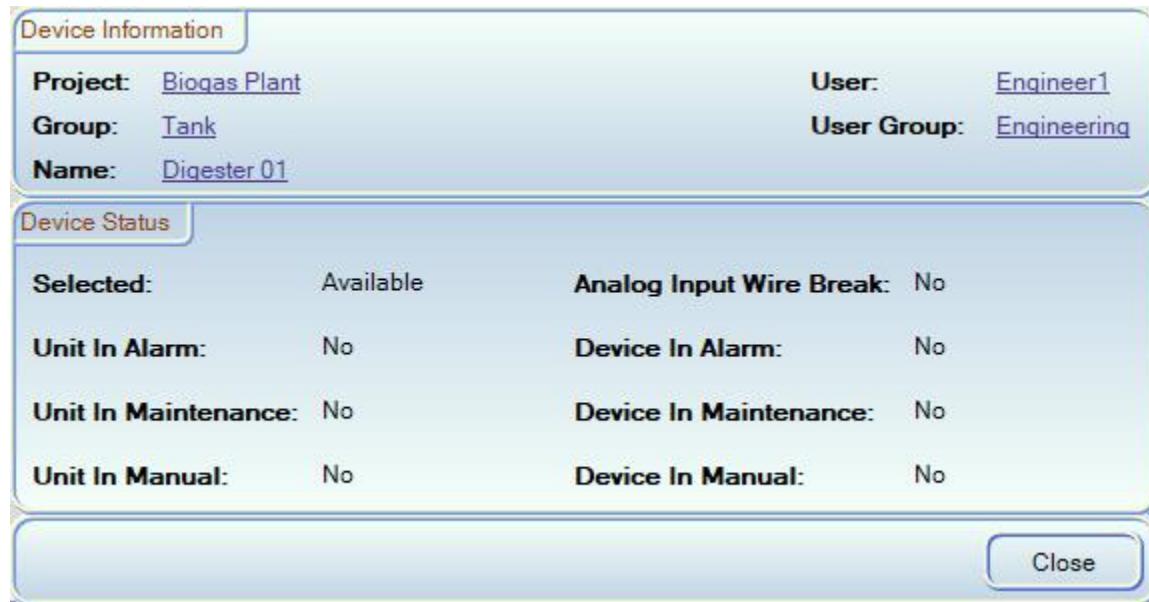
- Status:** The current status of the Digital Output.
- Output:** The value of the output as configured within Accord Builder.
- Interlock:** This shows that the item is currently interlocked by another device state. The list of interlocking devices can be found in the Equipment List document.
- Pulse Active:** The device is being activated for a time as indicated in the Pulse Time setup.

- **Pulse Command:** This shows that the Pulse activation command for the device is being generated by a Program.
- **Auto Reserved:** This shows that the item is part of a unit which is being reserved by a Program, but the Program is not activating the item.
- **Auto Reserved Enabled:** This shows if the device is enabled for reserved for automatic.

Once logged into the Scada service, the command buttons may be used to issue commands to the Digital Output.

- **Manual Mode:** This allows the item to be put into Manual Mode, overwriting the Automatic activation from the Program.
- **Manual Command:** This allows the item to be manually activated, overwriting the Automatic activation state. The item will be activated or deactivated immediately.
- **Interlock Override:** Enable this to allow the device to activate even when interlocked.
- **Delay Setpoint (On):** This is the number of seconds that the Device Output activation will be delayed for following an Automatic activation request.
- **Delay Setpoint (Off):** This is the number of seconds that the Device Output de-activation will be delayed for following loss of an Automatic activation request.
- **Override Reserve:** Enable this to allow the device to be set to manual mode even when reserved for automatic operation.
- **Maintenance:** Enable this to place the device into maintenance mode, preventing the device from activating.
- **Pulse Cycle Time:** This is the overall time in the Pulse Cycle.
- **Plus Time Setpoint:** This is the time that the item is activated for in the Pulse Cycle.

7.10 Unit



The Unit Faceplate shows the following information:

- **Selected:** Indicates whether a Unit can be selected for use by a Program.
- **Analog Input Wire Break:** Indicates whether an Analog Device within the Unit has a Wire Break alarm active.
- **Unit in Alarm:** Indicates whether a Unit is in an alarm state.
- **Device in Alarm:** Indicates whether a Device within the Unit is in an alarm state.
- **Unit in Maintenance:** Indicates whether a Unit is in maintenance mode.
- **Device in Maintenance:** Indicates whether a Device within the Unit is in maintenance mode.
- **Unit in Manual:** Indicates whether a Unit is in manual mode.
- **Device in Manual:** Indicates whether a Device within the Unit is in manual mode.