

Accord

Template Summary

AT Biogas C1 Summary R1.0

Document: Accord Template Summary.

System: Biogas: AT Biogas C1

Function: Biogas Reception, Storage and Digesters

Revision: R01 15th Dec 2025

Introduction

Accord Template for Biogas with Reception, Storage and Digesters

This document is to assist engineering personnel with installation and usage of an Accord Template. The user should be familiar with Accord system. Accord User Guides provide more information on modules and setup.

This Accord Template is for a Biogas Plant, providing transfer from Reception Tanks to Storage Tanks and then to Digesters, with Mixing programs in the Digesters and Digester Heating and Glycerine Transfer programs.

The template maybe easily adapted for specific installations by renaming and modifying equipment and program items in Accord Designer.

Template Contents

The template AT CIP 1T1L C1 includes the following

<u>Item</u>	<u>Name</u>	<u>Editor</u>
Accord Model	AT Biogas C1 C R1.0.ctr	Designer
Accord HMI project	AT Biogas C1 HMI R1.0.zip	Designer
Summary	AT Biogas C1 Summary R1.0.pdf	
Simulator	AT Biogas C1 SimulatorProfile.csv	Excel
Operator Manual	AT Biogas C1 Operator Manual R1.0	

The items may have revision numbers, but most of the filename will be as above.

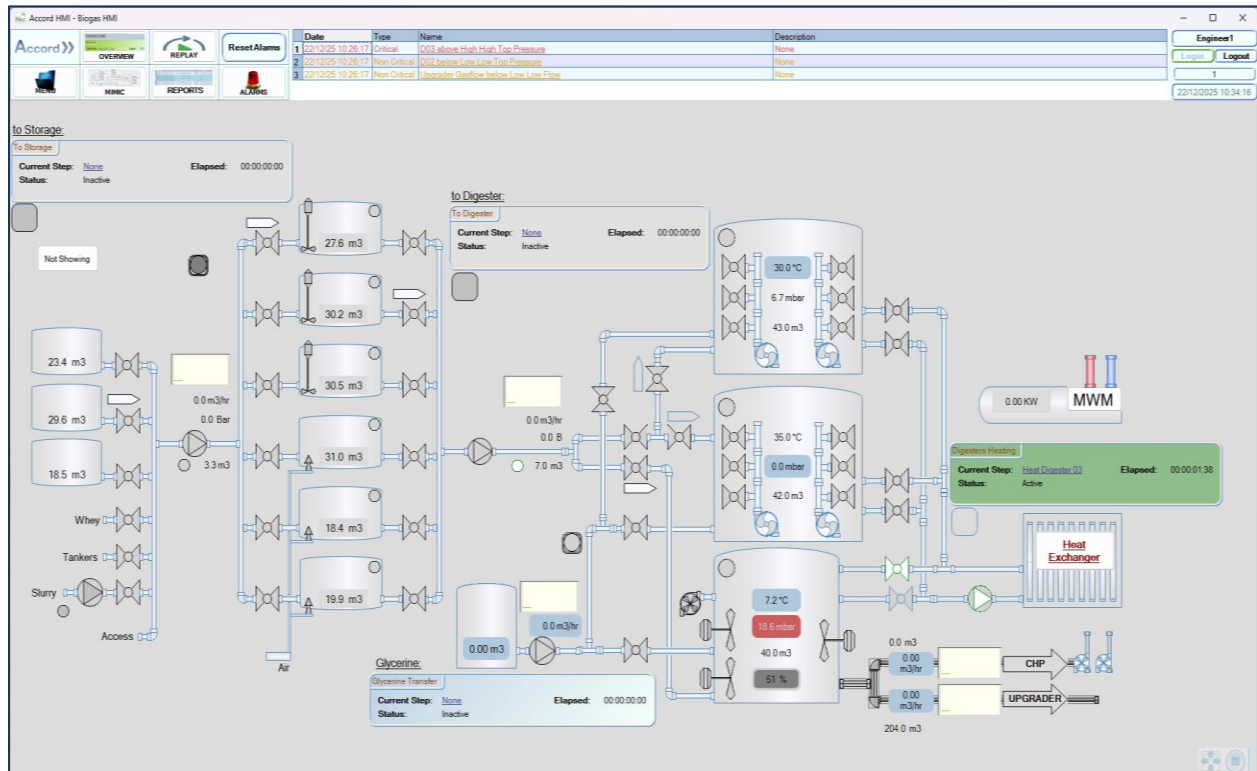
Index

1. System Description.....	4
2. Process Summary	6
2.1 List of Programs	6
2.2 Process Steps	7
2.3 Process Setpoints	8
3. Initial Setup	10
3.1 PC Software	10
3.2 Initial Start of Designer	11
3.3 Restoration of Controller in Designer	12
3.4 Restoration of HMI in controller	12
4. Using the Controller and HMI	13
4.1 Controller Properties and Deployment.	13
4.2 HMI Properties and Deployment.	15
4.3 Customisation	16
4.3.1 Adding an Equipment Item	16
4.3.2 Adding a Program Item	17
4.3.3 Renaming an Item.....	17
4.3.4 Removing or Deleting an Item	17
4.3.5 Changing Interlocks or Activations	17
5. Simulator.....	18

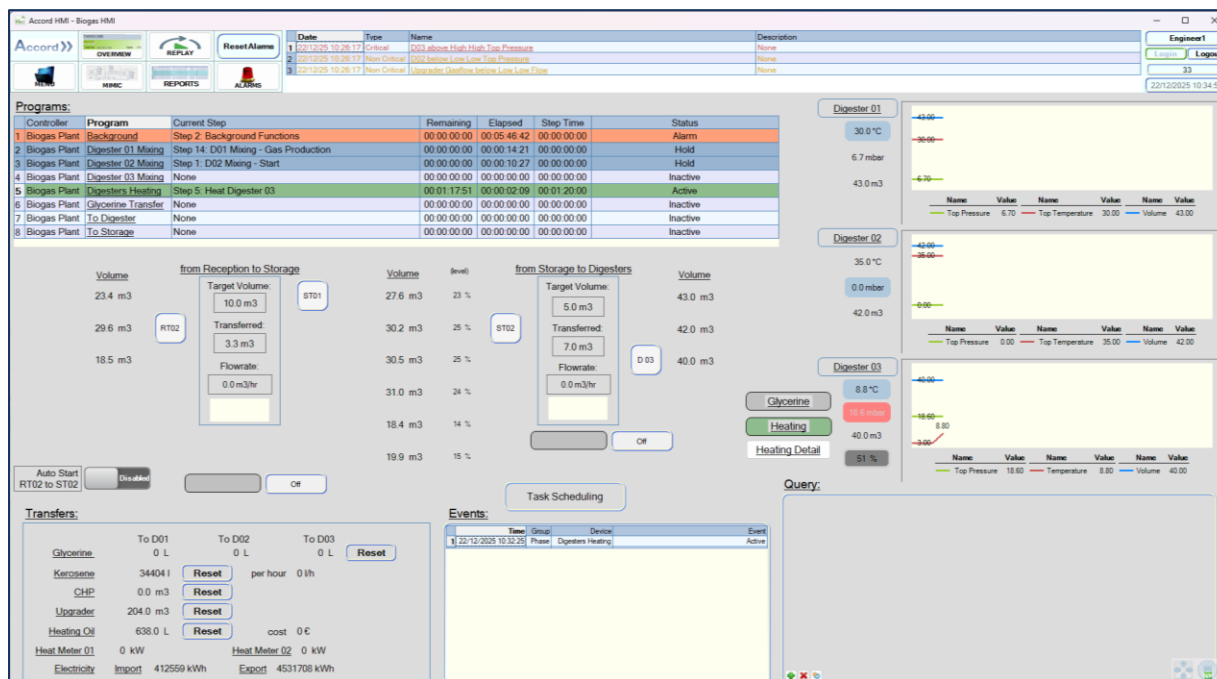
1. System Description

The system will provide

1. Automatic and Manual Operation of all devices and instruments.
2. Automatic program for transfer from any Reception to any Storage
3. Automatic program for transfer from any Storage to any Digester
4. Automatic program for heating Digesters
5. Automatic program for transfer of Glycerine



Mimic of the Biogas Plant



Dashboard view of the Biogas Plant

There is full automatic operation, including the ability to change to any step in the Program at any time. The programs will run according to selections and using the setpoints chosen and will automatically stop on critical alarms and resume on Alarms reset and resume commands.

The system may be easily customised; It is easy to add or delete a device or tank, program, step and also to change any Step Time or Temperature Setpoint for any step in the system.

Step Order may be changed in Designer or Recipe Manager

Setpoint Values may also be changed in Designer or HMI or Recipe Manager.

Decision States may also be changed in Designer or HMI or Recipe Manager.

2. Process Summary

2.1 List of Programs

Background:

There are checks for High High Temperatures, Pressures and Volumes in the Digesters. There are also checks for Volumes and Pressures below Low Low alarm points. This program also converts Volumes to Levels and derives Average Temperatures and Increments registers for Heat Meters and Electricity Exports. The program also monitors for Auto Start of Transfer to Tank 02 in Storage.

To Storage:

This program transfers has steps for Opening Route and then pumping a fixed volume from a Reception Tank or inlet to a Storage Tank, with checks for Tank Volumes and Level Switches. The Source and Target are selected at HMI.

To Digester:

This program transfers has steps for Opening Route and then pumping a fixed volume from a Storage Tank to a Digester, with checks for Tank Volumes and Level Switches.

Digesters Heating:

This program circulates from Digesters through the Heat Exchanger and back to the Digester. The circulation starts when the Temperature in the Digester falls below the Setpoint Temperature for the Digester. Only one Digester is heated at a time.

Glycerine Transfer:

This program transfer from Glycerine Tank to each Digester in turn, for a fixed time for each transfer. The volume transferred can be varied by varying the time for each transfer. There are checks for Low Flow and Low Volume in the Glycerine Tank.

Digesters Mixing:

There are 3 programs for 3 Digesters. Digesters 1 and 2 are configured with valves and pumps in circulation loops and programs with steps for circulation. Digester 3 is configured with a mixing agitator and a more simple program.

2.2 Process Steps

Program	Step
Background	Background Functions
Background	Background Startup Step
Digester 01 Mixing	D01 Mixing - Gas Production
Digester 01 Mixing	D01 Mixing - S1 - LT-RT
Digester 01 Mixing	D01 Mixing - S2 Pause
Digester 01 Mixing	D01 Mixing - S3 - LB-RB
Digester 01 Mixing	D01 Mixing - S4 - Crossover
Digester 01 Mixing	D01 Mixing - S4.3 LC-RB
Digester 01 Mixing	D01 Mixing - S5 - Crossover
Digester 01 Mixing	D01 Mixing - S5.3 - LB-RC
Digester 01 Mixing	D01 Mixing - S6 - Crossover
Digester 01 Mixing	D01 Mixing - S6.3 - LC-RC
Digester 01 Mixing	D01 Mixing - S6.5.1 - Pumps Off
Digester 01 Mixing	D01 Mixing - S7 - Pause
Digester 01 Mixing	D01 Mixing - S8 - Start Stir Mix
Digester 01 Mixing	D01 Mixing - Start
Digester 02 Mixing	D02 Mixing - Gas Production
Digester 02 Mixing	D02 Mixing - S1 - LT-RT
Digester 02 Mixing	D02 Mixing - S2 Pause
Digester 02 Mixing	D02 Mixing - S3 - LB-RB
Digester 02 Mixing	D02 Mixing - S4 - Crossover
Digester 02 Mixing	D02 Mixing - S4.3 LC-RB
Digester 02 Mixing	D02 Mixing - S5 - Crossover
Digester 02 Mixing	D02 Mixing - S5.3 - LB-RC
Digester 02 Mixing	D02 Mixing - S6 - Crossover
Digester 02 Mixing	D02 Mixing - S6.3 - LC-RC
Digester 02 Mixing	D02 Mixing - S6.5.1 - Pumps Off
Digester 02 Mixing	D02 Mixing - S7 - Pause
Digester 02 Mixing	D02 Mixing - S8 - Start Stir Mix
Digester 02 Mixing	D02 Mixing - Start
Digester 03 Mixing	D03 Mixing
Digester 03 Mixing	D03 Mixing - Start
Digesters Heating	Heat Digester 01
Digesters Heating	Heat Digester 02
Digesters Heating	Heat Digester 03
Digesters Heating	Heating Monitoring
Digesters Heating	Heating Start
Digesters Heating	Sample Digester 01
Digesters Heating	Sample Digester 02
Digesters Heating	Sample Digester 03
Glycerine Transfer	Glycerine Start
Glycerine Transfer	Glycerine to Digester 01
Glycerine Transfer	Glycerine to Digester 02
Glycerine Transfer	Glycerine to Digester 03

Glycerine Transfer	Wait after Glycerine to Digester 01
Glycerine Transfer	Wait after Glycerine to Digester 02
Glycerine Transfer	Wait after Glycerine to Digester 03
To Digester	Initialise to Digester
To Digester	Open Route to Digester
To Digester	To Digester Start
To Digester	Transfer to Digester
To Storage	Initialise to Storage
To Storage	Open Route to Storage
To Storage	To Storage Start
To Storage	Transfer to Storage

2.3 Process Setpoints

Program	Setpoint	Min.	Max.	Default	Unit
Background	Count Converter Glycerine	0	1000	1	
Background	Heating Oil Cost per L	0	100	0	€
Background	Heating Oil L per pulse	0	1000	1	L
Background	Kerosene Converter	0	100	1	Imp/l
Background	ST01 Volume Factor	0	5	1.2	
Background	ST02 Volume Factor	0	5	1.2	
Background	ST03 Volume Factor	0	5	1.2	
Background	ST04 Volume Factor	0	5	1.3	
Background	ST05 Volume Factor	0	5	1.3	
Background	ST06 Volume Factor	0	5	1.3	
Digester 03 Mixing	D03 Minimum Balloon Height Flare 01	0	100	93	%
Digester 03 Mixing	D03 Minimum Balloon Height Flare 02	0	100	93	%
Digester 03 Mixing	D03 Minimum Pressure Flare 01	0	6	4.5	mbar
Digester 03 Mixing	D03 Minimum Pressure Flare 02	0	6	4.5	mbar
Digester 03 Mixing	D03 Mixer 01 Start Time	0	1440	1	min
Digester 03 Mixing	D03 Mixer 01 Stop Time	0	1440	15	min
Digester 03 Mixing	D03 Mixer 02 Start Time	0	1440	1	min
Digester 03 Mixing	D03 Mixer 02 Stop Time	0	1440	30	min
Digester 03 Mixing	D03 Mixer 03 Start Time	0	1440	1	min
Digester 03 Mixing	D03 Mixer 03 Stop Time	0	1440	15	min
Digester 03 Mixing	D03 Mixing Cycle Time	0	1440	60	min
Digester 03 Mixing	D03 Starting Balloon Height Flare 01	0	100	95	%
Digester 03 Mixing	D03 Starting Balloon Height Flare 02	0	100	95	%
Digester 03 Mixing	D03 Starting Pressure Flare 01	0	6	4.9	mbar
Digester 03 Mixing	D03 Starting Pressure Flare 02	0	6	4.9	mbar

Digesters Heating	D01 Heat Off SP	35	50	43	* C
Digesters Heating	D01 Heat On SP	35	50	40	* C
Digesters Heating	D02 Heat Off SP	35	50	43	* C
Digesters Heating	D02 Heat On SP	35	50	40	* C
Digesters Heating	D03 Heat Off SP	35	50	44	* C
Digesters Heating	D03 Heat On SP	35	50	40	* C
To Digester	Transfer Volume Target	0	10000	1	m3
To Storage	to Storage Target Volume	0	10000	10	m3

3. Initial Setup

This Template acts as a working system and a good template for similar systems. Systems may differ in many ways; Item naming, Nr of items, Nr of Tanks, Nr of program, etc. The following are brief guides to help customisation.

Please remember that changes made to the Model in Accord Designer will be also in Designer documents and in PLC or Emulator after import and download. Changes will also be automatically available in Accord Recipe, Plan and Reports.

Accord needs to be installed on a Windows 10 or 11 PC

3.1 PC Software

The following software is needed.

MS SQL Server 2014 or later, preferably with Management Studio, and .Net 4.8 enabled on PC.

Accord Designer

Accord Server

Accord HMI

The template is meant for understanding Accord, using the Emulator, but it could be transferred to a PLC, and in that case the following are required

PLC: Siemens or other that Accord PLC Library is available for.

Network: using Ethernet.

PLC Editor: (Siemens TIA or equivalent)

OPC Server (Kepware or equivalent)

The aspects of the template can be expanded and the following can be used

Accord Recipe

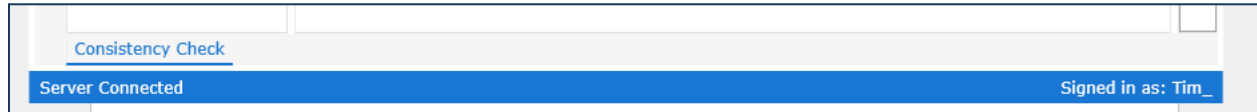
Accord Plan

Accord Reports

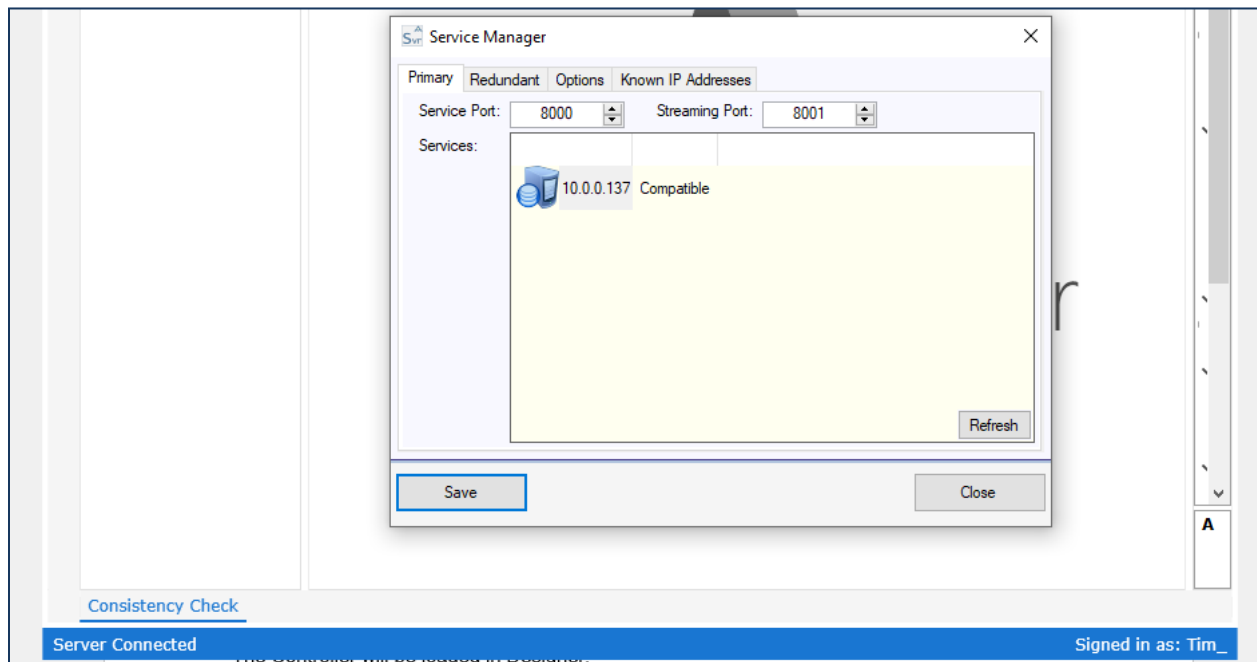
MS Word, Excel

3.2 Initial Start of Designer

Start Accord Server and Accord Designer and connect Designer and login to begin loading and editing.



Click on Server area to access the Server search panel.



Click on Refresh if necessary to find the IP of the PC hosting Accord Server. When the required IP appears then double-click to select it.

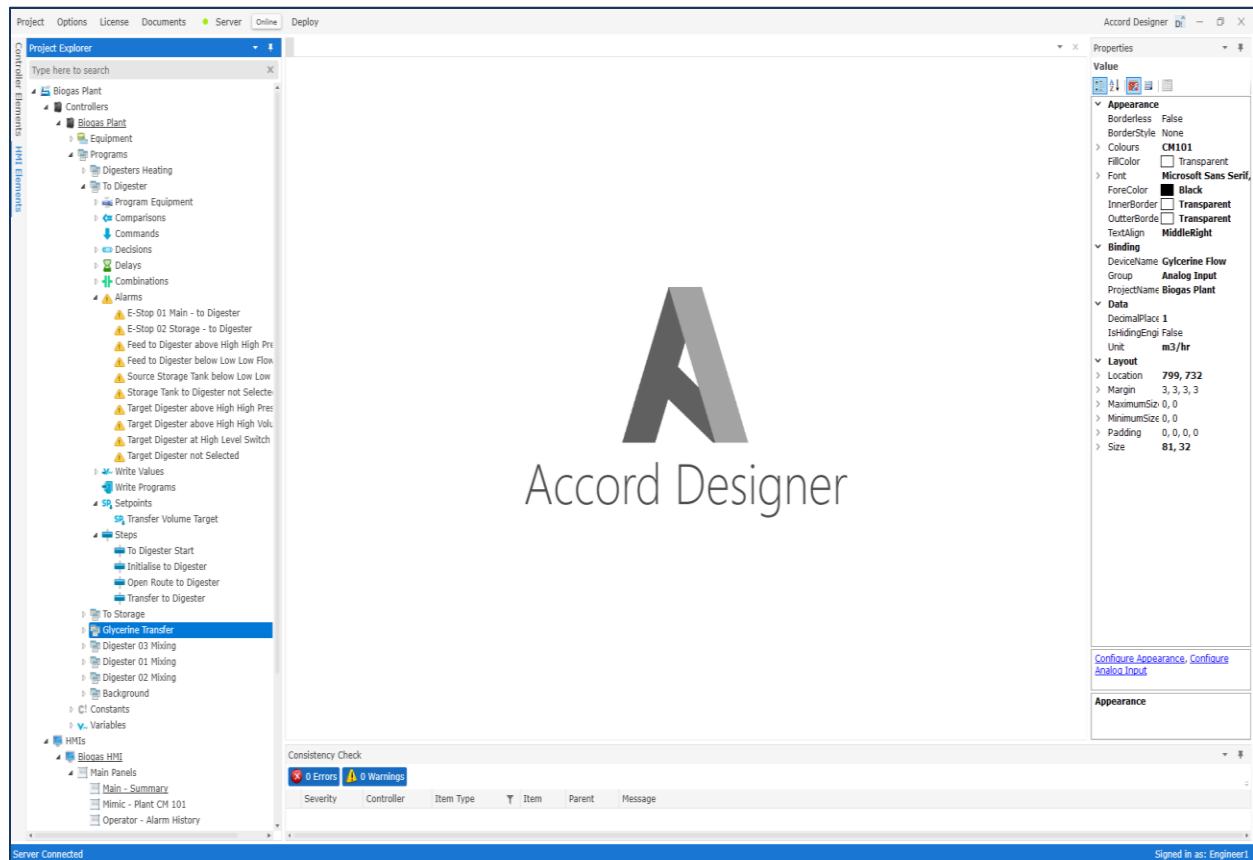
A login popup will then appear. Engineer1 and password Engineer is available for initial use. The name or password may be changed in Server or Designer later.

3.3 Restoration of Controller in Designer

When Designer is open, then select Restore in Controllers section and browse to and select the AT Biogas C1 C R1.0.ctr and confirm by Open.

The Controller will be loaded in Designer.

Screen showing loaded Controller which may be modified.



3.4 Restoration of HMI in controller

The HMI may be received as a zipped file and needs to be extracted to a folder.

Select Restore in HMI section in Designer and browse to and select the AT Biogas HMI folder and select the .lhp file and confirm by Open.

The HMI will be loaded in Designer.

4. Using the Controller and HMI

The following is for initial information, there is more information in the Designer Manual.

4.1 Controller Properties and Deployment.

The Controller needs to be deployed to the Emulator, (or PLC) initially and after changes.

The screen shows the initial set-up, for an Emulator. The Emulator will have to be set up in Server, and selected, if not already set up. See Server / Settings / Emulator

If the Controller process model information is to be downloaded to a PLC, then the Accord PLC Library must be copied into the PLC project and an OPC profile must be setup for communication. Obtain the PLC Library and instructions from vendors. The PLC type would be selected in the dropdown, and the PLC can be selected from an OPC profile, which can be automatically read in by Accord.

The screenshot shows a window titled "Biogas Plant" with a "Controller Name" field set to "Biogas Plant". On the left is a sidebar with tabs: "General" (selected), "Basic Information", "Connection Settings", and "License Information". The main area displays the following information:

- Basic Information**
 - PLC Type: **PLC Emulator** (dropdown)
 - Last Modified: 15/12/2025 09:48:26
 - Last Deployment: 19/12/2025 14:05:35
 - Active: ☒
- Connection Settings**
 - OPC Server: **Accord Emulation Module** (dropdown)
 - OPC Channel: **Emulator** (dropdown)
 - OPC Device: **Biogas Plant_EM** (dropdown)
- List of Current OPC profiles with Controllers
- License Information**
 - License Code: Licensed with Server
 - Band: 0 Equipment Items
 - Issue Date: N/A
 - ☒ Polling Rates

A "Close" button is located at the bottom left of the window.

Deployment to a PLC, or Emulator, is carried out by Right-clicking and selecting Deploy or Partial Download. A consistency check is performed and advised before the deployment and the summary for changes is presented,

Deployment Summary

	Modified	Total
<u>Devices</u>	5	792
<u>List Spaces</u>	0	0
<u>Data (Download)</u>	9	2726
<u>Data (Config)</u>	20	3198
<u>Recipes</u>	0	1
<u>Transitions</u>	0	11
<u>References</u>	0	0

Download Option: Partial Download (Changes Only)

Clicking on the underlined links brings up more information if needed.
Space may be reserved for spare items to be added using Partial Downloads.

The deploy is then completed by pressing Continue.

See Designer and Server Manuals for setting up or changing Logging, User Security, Start-Up
Module selection, or other aspects of setting up the Server side.

4.2 HMI Properties and Deployment.

The HMI is composed of screens, and objects on the screens.

The initial properties above include the application resolution and the IP Address of the Server that will provide information for the HMI during Runtime. The HMI acts as a client only at all times.

The screenshot shows the 'Biogas HMI' configuration window. At the top, there's a title bar 'Biogas HMI'. Below it, a label 'HMI Name' is followed by a text box containing 'Biogas HMI'. A row of four tabs is present: 'General' (selected), 'Popup Triggers', 'Workstations', and 'Performance'. On the left side of the 'General' tab, there's a vertical list of settings: 'General', 'Screen Resolution', 'Server Connection', and 'Startup Panels'. The main area of the 'General' tab is divided into sections: 'Screen Resolution' with 'Width' (1920) and 'Height' (1080); 'Primary Connection' with 'Runtime Port' (8000), 'Streaming Port' (8001), and 'Server IP Address' (127.0.0.1); 'Redundant Connection' with 'Runtime Port' (8000), 'Streaming Port' (8001), and an empty 'Server IP Address' field; and 'Startup Panels' with five dropdown menus: 'Main Panel' (Main - Summary), 'Top Panel' (Top Panel), 'Left Panel', 'Right Panel', and 'Bottom Panel'.

Other common settings may also be configured here.

The Template HMI contains initial screens for a Mimic, an Overview dashboard and list screens for Alarms, and Device States.

The HMI may be emulated by pressing the Play button the top left hand corner. There are also buttons for alignment and other design aspects and changes may be saved using Save /Save All. All changes are stored in the Database and available immediately for Runtime client applications. See the HMI Runtime manual for starting a client application.

All Devices may be logged. Logging is set up in the Settings Tab.

Select Historian and then select Devices to be logged and in the case of Values select the log deadband, which is the change required to generate a new entry. Deadband values should be large enough to not cause excessive logging to PC hard-drive. Types of devices for logging are in the Groups drop down list and devices of a type will be presented when the Group is selected.

4.3 Customisation

Items in the Controller process model may be easily renamed or changed and the Cross Reference and Consistency Checks will help ensure secure modifications.

Accord is an integrated environment so all changes to Model are available in HMI, Recipe, Reports, as appropriate. Depending on the change, an item may need to be re-assigned using Project Explorer in Accord HMI.

Data should be uploaded from PLC to Designer Model, using the Sync Function, before modifications.

Controllers and HMI's can be copied within the project or copied between projects.

4.3.1 Adding an Equipment Item

Equipment Items are: Valve, Motor, Digital In, Digital Out Signal, Instrument or Drive

1. In the controller:

Drag in the appropriate icon into the unit

Or

Copy an existing item, using right-click copy and paste

Or

Right-click on the Unit and use Add Valve, etc....

Configure the item and give the new item an appropriate I/O address. Use the I/O Table from the top menu to see all the existing I/O and to modify for the new item if required. Remember that this table can be copied to excel, modified and copied back, if required.

When an Analog Output; a Drive or Control Valve, that has a PID Loop controller, is copied then PID Loop Controller is also copied automatically. The Process Variable for the PID Loop will have to be changed or confirmed.

2. In the HMI:

The new device will be available for placing on screen as required. The quickest way is to copy an existing device and select the new device name using the built-in HMI Explorer.

4.3.2 Adding a Program Item

Program Items are: Program, Step, Setpoint, Alarm, Comparison, Decision, Delay, Combination, Write,

1. In the controller:

Drag in the appropriate icon into the unit

Or

Copy an existing item, using right-click copy and paste

Or

Right-click on the container and use Add Write, etc....

Configure the item and add to / enable in Steps etc. as required.

2. In the HMI:

The new item will be available for placing on screen if appropriate . The quickest way is to copy an existing device and select the new device name using the built-in HMI Explorer.

4.3.3 Renaming an Item

Item objects are based in the Controller, so must be renamed there. Renaming can be done by right-clicking on the item and selecting Rename. The new name must not be used already. The new name will be used in all lists and references.

Items must be reselected, or renamed using properties in the HMI also. The Replace Text function can be used for this.

If the values or states of the object were logged in Server, then those records are retained under the original item name in case they are required in Reports. New values will be logged under the new name.

4.3.4 Removing or Deleting an Item

An Item can be removed or deleted using Right-click and Delete. An item which is removed from the controller must also be removed from the Screens. If an item was being logged, but is removed from the model then the logging of values will be stopped, but values will be retrained.

4.3.5 Changing Interlocks or Activations

Interlocks or Activations can be changed by selecting the required aspect within the Properties of the object. This applies to Digital Devices and Outputs.

5. Simulator

The small plant can be used in Emulator and with the Simulator. The Simulator will modify Analog Transmitter values and Digital Input results, to allow the operation of the plant to be tested. The Simulator can be accessed within Designer as of Accord Release 4.1.

Simulator Configuration

Profile Name

BiogasSim01

Row	Used	Type	Item	Enabler Type	Enabler Item	Check	Check Value	Delay	Write	Change	Period	Limit
1	<input checked="" type="checkbox"/>	Digital Input	ST01 High Level Switch	Analog Input	ST01 Volume	>	92	2				
2	<input checked="" type="checkbox"/>	Digital Input	ST02 High Level Switch	Analog Input	ST02 Volume	>	92	2				
3	<input checked="" type="checkbox"/>	Digital Input	ST03 High Level Switch	Analog Input	ST03 Volume	>	92	2				
4	<input checked="" type="checkbox"/>	Digital Input	ST04 High Level Switch	Analog Input	ST04 Volume	>	92	2				
5	<input checked="" type="checkbox"/>	Digital Input	ST05 High Level Switch	Analog Input	ST05 Volume	>	92	2				
6	<input checked="" type="checkbox"/>	Digital Input	ST06 High Level Switch	Analog Input	ST06 Volume	>	92	2				
7	<input checked="" type="checkbox"/>	Analog Input	ST01 Volume	Valve	ST01 V01	Active		5		0.83	1	95
8	<input checked="" type="checkbox"/>	Analog Input	ST02 Volume	Valve	ST02 V01	Active		5		0.83	1	95
9	<input checked="" type="checkbox"/>	Analog Input	ST03 Volume	Valve	ST03 V01	Active		5		0.83	1	95
10	<input checked="" type="checkbox"/>	Analog Input	ST04 Volume	Valve	ST04 V01	Active		5		0.83	1	95
11	<input checked="" type="checkbox"/>	Analog Input	ST05 Volume	Valve	ST05 V01	Active		5		0.83	1	95
12	<input checked="" type="checkbox"/>	Analog Input	ST06 Volume	Valve	ST06 V01	Active		5		0.83	1	95
13	<input checked="" type="checkbox"/>	Analog Input	RT01 Volume	Valve	RT01 V01	Active		5		-0.2	1	0
14	<input checked="" type="checkbox"/>	Analog Input	RT02 Volume	Valve	RT02 V01	Active		5		-0.2	1	0
15	<input checked="" type="checkbox"/>	Analog Input	RT03 Volume	Valve	RT03 V01	Active		5		-0.2	1	0
16	<input checked="" type="checkbox"/>	Analog Input	D01 Volume	Valve	D01 Feed V01	Active		2		1	1	56
17	<input checked="" type="checkbox"/>	Analog Input	D02 Volume	Valve	D02 Feed V02	Active		2		1	1	56
18	<input checked="" type="checkbox"/>	Analog Input	D03 Volume	Valve	D03 Feed V03	Active		2		1	1	56
19	<input checked="" type="checkbox"/>	Analog Input	D01 Top Pressure	Step	D01 Mixing - Gas Produ	Active		2	6.7			
20	<input checked="" type="checkbox"/>	Analog Input	D02 Top Pressure	Step	D02 Mixing - Gas Produ	Active		1	8.9			
21	<input checked="" type="checkbox"/>	Analog Input	D03 Top Pressure	Step	D03 Mixing	Active		1	10.1			
22	<input checked="" type="checkbox"/>	Analog Input	D01 Top Temperature	Valve	D01 HW V01	Active		2		0.3	5	30
23	<input checked="" type="checkbox"/>	Analog Input	D02 Top Temperature	Valve	D02 HW V03	Active		2		0.2	5	35
24	<input checked="" type="checkbox"/>	Analog Input	D03 Temperature	Valve	D03 HW V05	Active		2		0.2	5	40
25	<input checked="" type="checkbox"/>	Analog Input	RT01 Volume	Digital Input	Farm Tank Level Switch	Active		0	45			
26	<input checked="" type="checkbox"/>	Analog Input	RT02 Volume	Digital Input	Farm Tank Level Switch	Active		0	47			
27	<input checked="" type="checkbox"/>	Analog Input	RT03 Volume	Digital Input	Farm Tank Level Switch	Active		0	26			
28	<input checked="" type="checkbox"/>	Digital Input	E-Stop at Main Plant	Always								
29	<input checked="" type="checkbox"/>	Digital Input	E-Stop at Storage Area	Always								
30	<input checked="" type="checkbox"/>	Analog Input	ST01 Volume	Valve	ST01 V02	Active		1		-0.2	1	0
31	<input checked="" type="checkbox"/>	Analog Input	ST02 Volume	Valve	ST02 V02	Active		1		-0.2	1	0
32	<input checked="" type="checkbox"/>	Analog Input	ST03 Volume	Valve	ST03 V02	Active		1		-0.2	1	0
33	<input checked="" type="checkbox"/>	Analog Input	ST04 Volume	Valve	ST04 V02	Active		1		-0.2	1	0
34	<input checked="" type="checkbox"/>	Analog Input	ST05 Volume	Valve	ST05 V02	Active		1		-0.2	1	0
35	<input checked="" type="checkbox"/>	Analog Input	ST06 Volume	Valve	ST06 V02	Active		1		-0.2	1	0

Move Row Up

Move Row Down

Add Row

Delete Row

Edit Row

Copy Row

Export Profile

Import Profile

Save

Close

Rows may be edited using the Edit button. They may be reordered or removed, and new rows may be added. The Profile may be exported and modified in Excel and imported using the arrow buttons.

The profile may be made Active and Stopped. Rows whose enablers are true are shown in blue when the profile is Active.

Simulator Profile															
Library		Active													
Row	Used	Type	Project Name	Item	Device Result	Enabler Type	Enabler Project Name	Enabler Item	Check	Check Value	Delay	Write	Change	Period	Limit
1	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST01 High Level Switch	False	Analog Input	Biogas Plant	ST01 Volume	>	92	2				
2	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST02 High Level Switch	False	Analog Input	Biogas Plant	ST02 Volume	>	92	2				
3	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST03 High Level Switch	False	Analog Input	Biogas Plant	ST03 Volume	>	92	2				
4	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST04 High Level Switch	False	Analog Input	Biogas Plant	ST04 Volume	>	92	2				
5	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST05 High Level Switch	False	Analog Input	Biogas Plant	ST05 Volume	>	92	2				
6	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	ST06 High Level Switch	False	Analog Input	Biogas Plant	ST06 Volume	>	92	2				
7	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST01 Volume	31.05 m3	Valve	Biogas Plant	ST01 V01	Active		5		0.83	1	95
7	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST02 Volume	30.24 m3	Valve	Biogas Plant	ST02 V01	Active		5		0.83	1	95
7	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST03 Volume	30.51 m3	Valve	Biogas Plant	ST03 V01	Active		5		0.83	1	95
7	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST04 Volume	31.05 m3	Valve	Biogas Plant	ST04 V01	Active		5		0.83	1	95
11	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST05 Volume	18.39 m3	Valve	Biogas Plant	ST05 V01	Active		5		0.83	1	95
12	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST06 Volume	19.85 m3	Valve	Biogas Plant	ST06 V01	Active		5		0.83	1	95
13	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT01 Volume	23.40 m3	Valve	Biogas Plant	RT01 V01	Active		5		-0.2	1	0
14	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT02 Volume	29.60 m3	Valve	Biogas Plant	RT02 V01	Active		5		-0.2	1	0
15	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT03 Volume	18.50 m3	Valve	Biogas Plant	RT03 V01	Active		5		-0.2	1	0
16	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D01 Volume	43.00 m3	Valve	Biogas Plant	D01 Feed V01	Active		2		1	1	56
17	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D02 Volume	42.00 m	Valve	Biogas Plant	D02 Feed V02	Active		2		1	1	56
18	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D03 Volume	40.00 m3	Valve	Biogas Plant	D03 Feed V03	Active		2		1	1	56
19	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D01 Top Pressure	6.70 mbar	Step	Biogas Plant	D01 Mixing - Gas Produ	Active		2	6.7			
20	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D02 Top Pressure	0.00 mbar	Step	Biogas Plant	D02 Mixing - Gas Produ	Active		1	8.9			
21	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D03 Top Pressure	18.60 mbar	Step	Biogas Plant	D03 Mixing	Active		1	10.1			
22	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D01 Top Temperature	30.00 °C	Valve	Biogas Plant	D01 HW V01	Active		2		0.3	5	30
23	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D02 Top Temperature	35.00 °C	Valve	Biogas Plant	D02 HW V03	Active		2		0.2	5	35
24	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	D03 Temperature	40.00 °C	Valve	Biogas Plant	D03 HW V05	Active		2		0.2	5	40
25	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT01 Volume	23.40 m3	Digital Input	Biogas Plant	Farm Tank Level Switch	Active		0	45			
26	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT02 Volume	29.60 m3	Digital Input	Biogas Plant	Farm Tank Level Switch	Active		0	47			
27	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	RT03 Volume	18.50 m3	Digital Input	Biogas Plant	Farm Tank Level Switch	Active		0	26			
28	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	E-Stop at Main Plant	False	Always									
29	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	E-Stop at Storage Area	False	Always									
30	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST01 Volume	27.60 m3	Valve	Biogas Plant	ST01 V02	Active		1		-0.2	1	0
31	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST02 Volume	30.24 m3	Valve	Biogas Plant	ST02 V02	Active		1		-0.2	1	0
32	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST03 Volume	30.51 m3	Valve	Biogas Plant	ST03 V02	Active		1		-0.2	1	0
33	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST04 Volume	31.05 m3	Valve	Biogas Plant	ST04 V02	Active		1		-0.2	1	0
34	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST05 Volume	18.39 m3	Valve	Biogas Plant	ST05 V02	Active		1		-0.2	1	0
35	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	ST06 Volume	19.85 m3	Valve	Biogas Plant	ST06 V02	Active		1		-0.2	1	0
36	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	To Storage Flow	0.00	Analog Input	Biogas Plant	To Storage Flow	>	3.6	0	3			
37	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	To Storage Flow	0.00	Motor	Biogas Plant	To Storage Pump P01	Active		0		0.2	1	50
38	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	To Storage Volume Pulse	False	Analog Input	Biogas Plant	To Storage Flow	>	3.6	0				
39	<input checked="" type="checkbox"/>	Digital Input	Biogas Plant	To Digesters Volume Pulse	True	Analog Input	Biogas Plant	To Digesters Flow	>	8	0				
40	<input checked="" type="checkbox"/>	Analog Input	Biogas Plant	To Digesters Flow	0.00 T/h	Analog Input	Biogas Plant	To Digesters Flow	>	8	0	7			