

Accord

Template Summary

AT Heating Plant C2 Operator Manual.docx

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1 Introduction

This Operator Manual is to describe the operation of the Accord Heating Plant system. The system controls 2 Tanks and delivers Product to an unspecified destination.

The area is controlled by 1 PLC

The Model in the Controller differs from C1 as it has 1 main program for Heating and 2 programs for the two Tanks. The Tanks programs just control the Tanks. The Heating program controls the Heating line and also the Tanks in a pragmatic S88 style.

2 Top Banner and Menu:

2.1 Top Banner

Accord		<div>Production Control 09/09/25 07:20:46 OVERVIEW</div>	<div>REPLAY</div>	<div>Reset Alarms</div>	<table><thead><tr><th></th><th>Date</th><th>Type</th><th>Name</th><th>Description</th></tr></thead><tbody><tr><td>1</td><td>09/09/25 07:20:46</td><td>Equipment</td><td>Tk01 V01 Inlet (Fail to Activate)</td><td>The device failed to activate.</td></tr><tr><td>2</td><td>09/09/25 07:20:46</td><td>Equipment</td><td>Tk01 V02 Outlet (Fail to Activate)</td><td>The device failed to activate.</td></tr><tr><td>3</td><td>09/09/25 07:20:46</td><td>Equipment</td><td>Tk02 V01 Inlet (Fail to Activate)</td><td>The device failed to activate.</td></tr></tbody></table>					Date	Type	Name	Description	1	09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.	2	09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.	3	09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.	<div>Engineer1</div> <div>LoginLogout</div> <div>37</div> <div>10/09/2025 09:25:28</div>
	Date	Type	Name	Description																									
1	09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.																									
2	09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.																									
3	09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.																									
<div>MENU</div>	<div>MIMIC</div>	<div>REPORTS</div>	<div>ALARMS</div>																										

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.

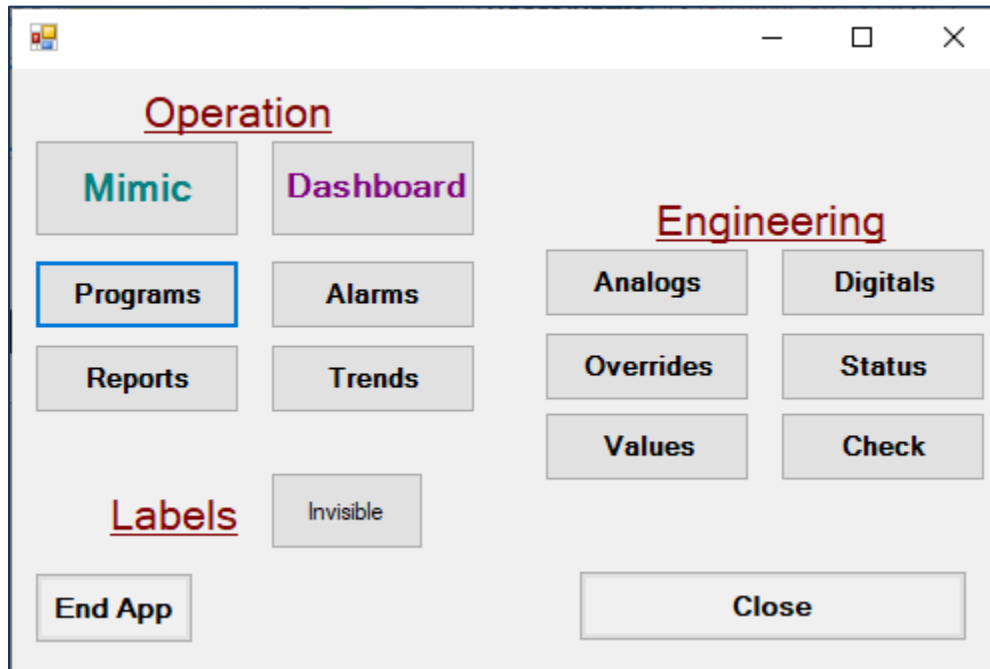
2.1.7 Mimic Button

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

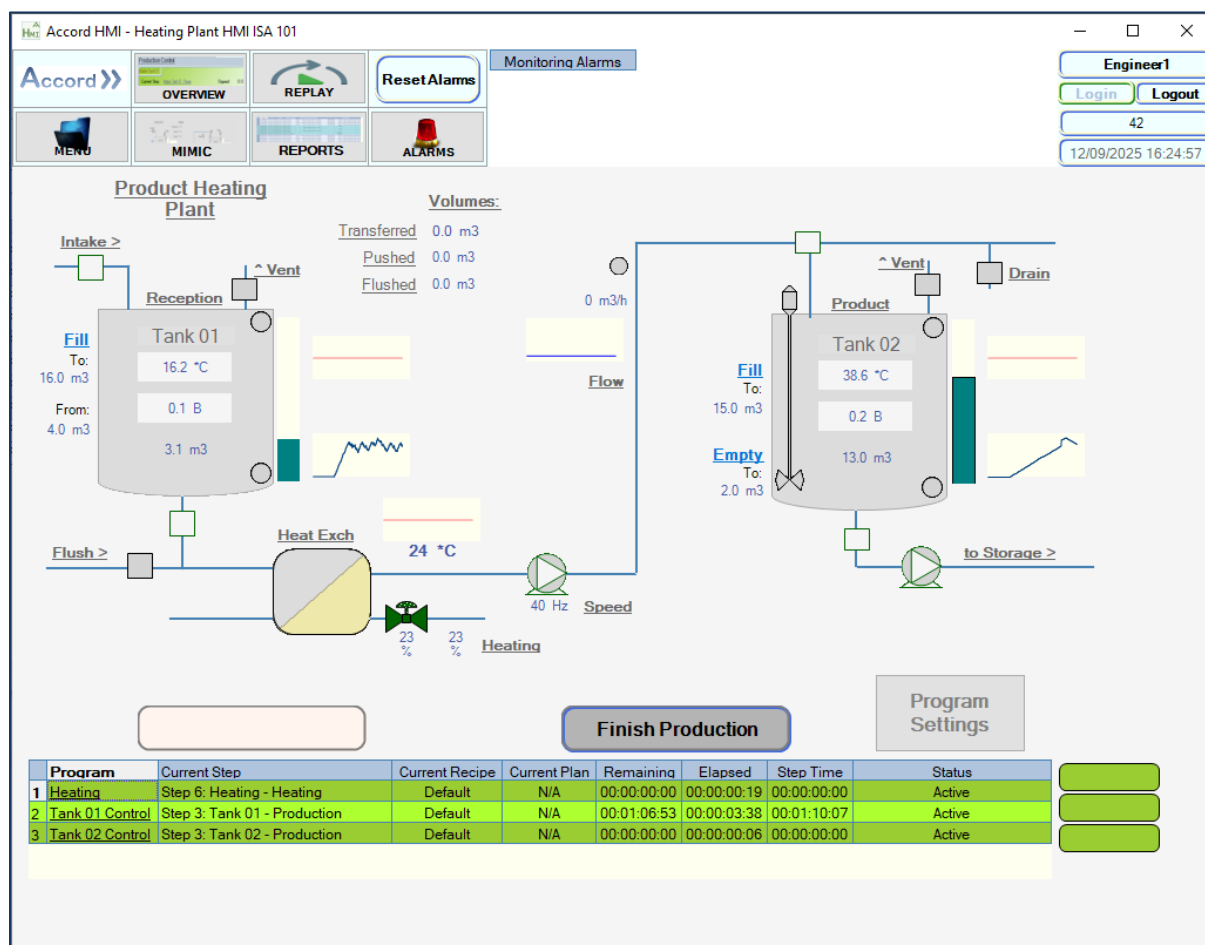


This is accessed by clicking on the 'Menu' Button in the Top Banner. It allows access to all screens, Mimic, Dashboard, Programs, Alarms, Reports, Trends, Analog Devices, Digital Devices, Overridden Devices, Device Status, Device Values, Check. Pressing the Close Button will close the Menu. Pressing the End button will end the HMI application program.

The Labels Button controls whether labels on the Mimic will be visible or invisible.

3 Screens

3.1 Mimic Screen – ISA 101 L2 type



Mimic Screen

This screen contains:

1. An active mimic representation of the Heating System Tanks and Lines. This includes values for current m3 filled Volume, and a fill-in colour to indicate the m3 filled volume on both tanks; Pressure indication in B on both tanks; Temperature *C on both tanks;
2. Filling, Transferring, and emptying lines with line flowmeters with small trends and Volumes transferred/pushed/flushed.
3. Heat Exchanger in Transfer line with control valve.
4. Program Controls for Background processing '0 Common', Emptying Tank 02, Filling Tank 01, Transferring to Tank 02. This can be found on the bottom in the form of buttons and a list.
5. Program settings in the bottom right which include setpoints.e.g. Pump speeds.

3.2 Mimic Devices and Programs

3.2.1 Device Colours

The Mimic is presented in an ISA 101 style, with muted colours.

Valves, Motors, Switches, Levels and Flows are shown on the screens and can be accessed by pressing on them.

Status of items are shown by colours as

Grey:	Inactive
White / Green Border:	Active / On
Light Blue:	Interlocked
Red:	Alarm / Error
Purple:	Masked – Error is not checked

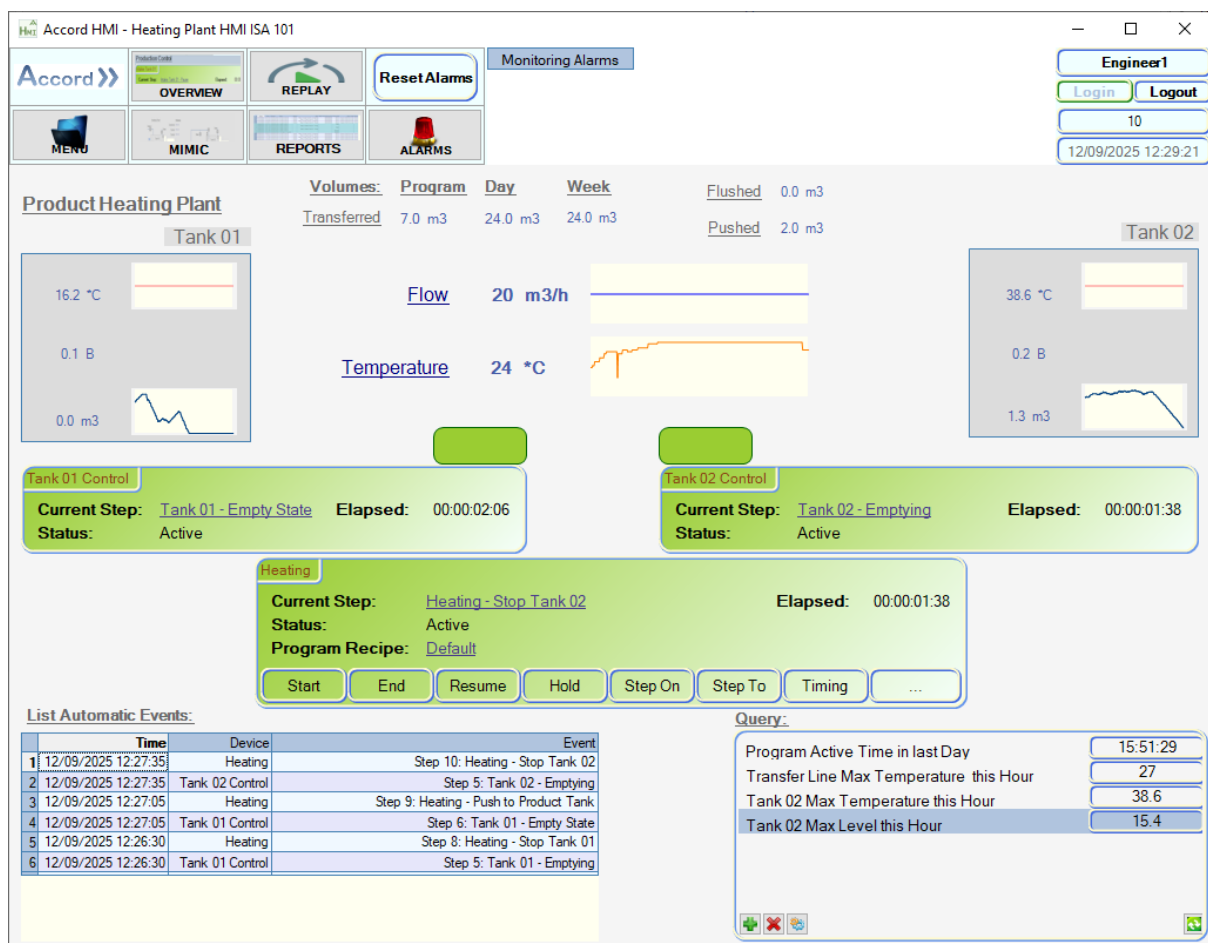
3.2.2 Program Colours

HMI Program Control panel will show status by the following colours;

Light Blue:	Idle
Red:	Alarm
Green:	Active
Yellow:	In Hold – Press Resume to Continue

See section 8 for more information on HMI controls.

3.3 Overview Screen – ISA 101 L1 type



Overview Screen

This screen contains:

1. A summary indication of Tanks Levels, Pressures and Temperatures and the line temperature and flow and Volumes for the production run and current day and week. The Volumes can be configured to be reset by inclusion of a Task control.
2. Control Faceplates for the Tank and Heating programs. The Heating program can be controlled from here. The Tank programs should work with the Heating program. The Tank programs can be accessed by pressing the rectangle close to the faceplate, which causes a control faceplate to appear.
3. Controls for Recent Events, which show recent events in chronological order and for Queries, which allow user defined queries to be made.

4 Programs

4.1 Heating

4.1.1 Program Operation

The program is started from the Overview Screen by pressing Start on the Heating program Control

Heating

Current Step: None Elapsed: 00:00:00:00

Status: Inactive

Program Recipe: Default

Start End Resume Hold Step On Step To Timing ...

Or by pressing Start Production on the Mimic.

								Program Settings	
Start Production				Finish Production					
Program	Current Step	Current Recipe	Current Plan	Remaining	Elapsed	Step Time	Status		
1 Heating	None	Default	N/A	00:00:00:00	00:00:00:00	00:00:00:00	Inactive		
2 Tank 01 Control	None	Default	N/A	00:00:00:00	00:00:00:00	00:00:00:00	Inactive		
3 Tank 02 Control	None	Default	N/A	00:00:00:00	00:00:00:00	00:00:00:00	Inactive		

The program can also be started by selection from the list control, then pressing “Start” in the program control. The system checks for the Tank and Line being available and not having any alarms and program then goes into the step ‘Initial Flush’ and will flush the line for time. The Heating Program starts the Tank 01 program which goes into the Filling Step. When the line is flushed the Heating program waits for the Tank 01 to be in Production Step and pushes from Tank 01 to Drain and Heats the product into Tank 02. The Heating Program will Pause if Tank 02 is full. Heating is ended in a controlled manner by pressing End Production or pressing Step On on the program control panel.

Once a Volume has been achieved in Tank 02, the program will enter a ‘Pause’ step, and will automatically attempt to try filling again when the Step time elapses. The program cannot step on if in Hold or Alarm status.

The program is ended by pressing the ‘Finish Production button’ in the Mimic, or ‘End’ in the program control faceplate on the Overview screen. This will cause Tank 01 to stop filling, then a Flush of the Line to Tank 02, then an Empty of Tank 02. Then the program all ends.

4.1.2 Normal Step Order

Order Name

- 1 Heating - Startup
- 2 Heating - Initial Alarm Check
- 3 Heating - Initial Flush
- 4 Heating - Wait for Tank 01
- 5 Heating - Push to Drain
- 6 Heating - Heating
- 7 Heating - Pause
- 8 Heating - Stop Tank 01
- 9 Heating - Push to Product Tank
- 10 Heating - Stop Tank 02
- 11 Heating - Final Flush

4.1.3 Alarms

The following Alarms are monitored in the Program;

Heating - Transfer Line Maintenance Check

Heating - Outlet Line Maintenance Check

Heating - Tank 01 in Alarm

Heating - Tank 02 in Alarm

Heating - Push to Drain WDT

4.2 Tank 01 Control

4.2.1 Program Operation

This program only controls Tank 01 and in S88 fashion it is controlled by Heating program as a slave, in an S88 version. The program can also be started by selection from the list control, then pressing “Start” in the program control. The Tank initially fills and then maintains a level during production and goes to Emptying when the Heating program goes to the Stop Tank 01 step and to Empty State when the Low Level switch is reached. The program can also be ended by pressing End on the program faceplate.

The program cannot step on if in Hold or Alarm status.

4.2.2 Normal Step Order

Order Name

- | | |
|---|-----------------------|
| 1 | Tank 01 - Startup |
| 2 | Tank 01 - Filling |
| 3 | Tank 01 - Production |
| 4 | Tank 01 - Pause |
| 5 | Tank 01 - Emptying |
| 6 | Tank 01 - Empty State |

4.2.3 Alarms

The following Alarms are monitored in the Program;

Tank 01 Maintenance Check

Tank 01 at High Alarm Pressure

Tank 01 at Vent Alarm Pressure

Tank 01 at High Alarm Temperature

4.3 Tank 02 Control

4.3.1 Program Operation

This program only controls Tank 02 and in S88 fashion it is controlled by Heating program as a slave, in an S88 version. The program can also be started by selection from the list control, then pressing “Start” in the program control. The Tank initially fills and then maintains a level during production and goes to Emptying when the Heating program goes to the Stop Tank 02 step and to Empty State when the Low Level switch is reached. The program can also be ended by pressing End on the program faceplate. The Tank will enter a Pause step for a time if the level is above filled level.

The program cannot step on if in Hold or Alarm status.

4.3.2 Normal Step Order

Order Name

- | | |
|---|-------------------------|
| 1 | Tank 02 - Startup |
| 2 | Tank 02 - Filling |
| 3 | Tank 02 - Production |
| 4 | Tank 02 - Pause Filling |
| 5 | Tank 02 - Emptying |
| 6 | Tank 02 - Empty State |

4.3.3 Alarms

The following Alarms are monitored in the Program;

Tank 02 Maintenance Check

Tank 02 at High Alarm Pressure

Tank 02 at Vent Alarm Pressure

Tank 02 at High Alarm Temperature

5 Other Screens

5.1 Settings Screen

This is a summary of Programs Setpoints.

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

Settings

Tank 01

	Type	Name	Value
1	Setpoint	Tank 01 Fill Enable Level SP	4.00 m3
2	Setpoint	Tank 01 Filled Level SP	16.00 m3
3	Setpoint	Tank 01 High Alarm Pressure SP	2.00 B
4	Setpoint	Tank 01 High Alarm Temperature	60.00 °C
5	Setpoint	Tank 01 Vent Pressure SP	3.50 B

Production

	Type	Name	Value
1	Setpoint	Heating Temperature SP	48.40 °C
2	Setpoint	Heating VSD Speed SP	40.00 Hz
3	Setpoint	Line Push Volume SP	1.20 m3

Tank 02

	Name	Value
1	Tank 02 Agitator Enable Level SP	4.40 m3
2	Tank 02 Empty Level SP	2.00 m3
3	Tank 02 Filled Level SP	15.00 m3
4	Tank 02 High Alarm Pressure SP	4.00 B
5	Tank 02 High Alarm Temperature SP	60.00 °C
6	Tank 02 Vent Pressure SP	3.00 B

5.2 Alarms Screen

Accord HMI - Heating Plant HMI ISA 101

Accord>>

Production Control

OVERVIEW

REPLAY

Reset Alarms

MENU

MIMIC

REPORTS

ALARMS

	Date	Type	Name	Description
1	09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
2	09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
3	09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

Current Alarms

Historic Alarms

Date	Project	Type	Parent	Name	Description
1 09/09/25 07:20:46	Heating Plant	Equipment	Tk01 V01 Inlet	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
2 09/09/25 07:20:46	Heating Plant	Equipment	Tk01 V02 Outlet	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
3 09/09/25 07:20:46	Heating Plant	Equipment	Tk02 V01 Inlet	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.
4 09/09/25 07:20:46	Heating Plant	Equipment	Tk02 V02 Outlet	Tk02 V02 Outlet (Fail to Activate)	The device failed to activate.

Engineer1

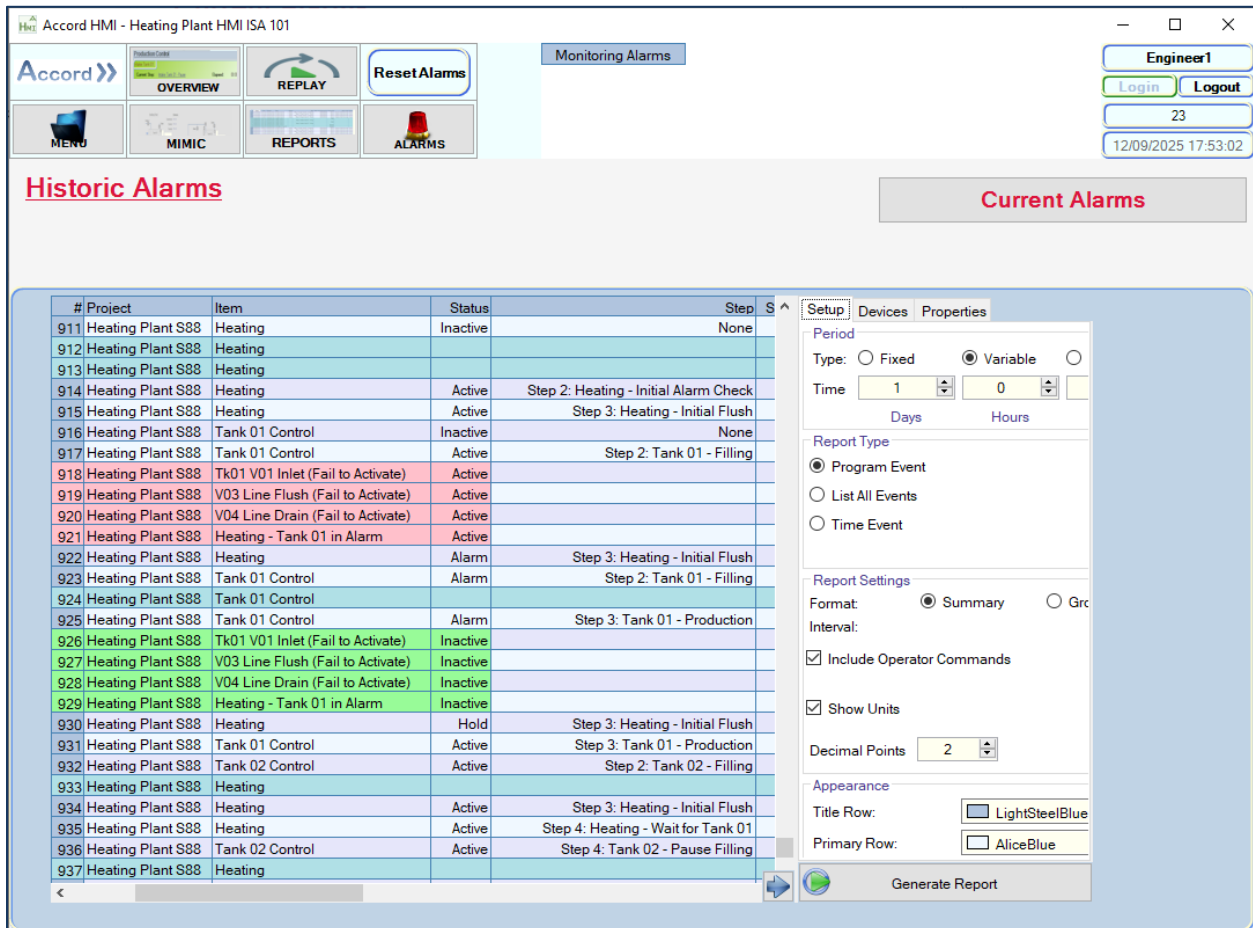
LoginLogout

55

10/09/2025 10:30:14

Clicking on an item in the list will bring up the Device Faceplate associated with the named device.

5.3 Historical Alarms Screen



Accord HMI - Heating Plant HMI ISA 101

Accord HMI

OVERVIEW REPLAY Reset Alarms

Monitoring Alarms

Engineer1

Login Logout

23

12/09/2025 17:53:02

Historic Alarms

Current Alarms

#	Project	Item	Status	Step	S
911	Heating Plant S88	Heating	Inactive	None	
912	Heating Plant S88	Heating			
913	Heating Plant S88	Heating			
914	Heating Plant S88	Heating	Active	Step 2: Heating - Initial Alarm Check	
915	Heating Plant S88	Heating	Active	Step 3: Heating - Initial Flush	
916	Heating Plant S88	Tank 01 Control	Inactive	None	
917	Heating Plant S88	Tank 01 Control	Active	Step 2: Tank 01 - Filling	
918	Heating Plant S88	Tk01 V01 Inlet (Fail to Activate)	Active		
919	Heating Plant S88	V03 Line Flush (Fail to Activate)	Active		
920	Heating Plant S88	V04 Line Drain (Fail to Activate)	Active		
921	Heating Plant S88	Heating - Tank 01 in Alarm	Active		
922	Heating Plant S88	Heating	Alarm	Step 3: Heating - Initial Flush	
923	Heating Plant S88	Tank 01 Control	Alarm	Step 2: Tank 01 - Filling	
924	Heating Plant S88	Tank 01 Control			
925	Heating Plant S88	Tank 01 Control	Alarm	Step 3: Tank 01 - Production	
926	Heating Plant S88	Tk01 V01 Inlet (Fail to Activate)	Inactive		
927	Heating Plant S88	V03 Line Flush (Fail to Activate)	Inactive		
928	Heating Plant S88	V04 Line Drain (Fail to Activate)	Inactive		
929	Heating Plant S88	Heating - Tank 01 in Alarm	Inactive		
930	Heating Plant S88	Heating	Hold	Step 3: Heating - Initial Flush	
931	Heating Plant S88	Tank 01 Control	Active	Step 3: Tank 01 - Production	
932	Heating Plant S88	Tank 02 Control	Active	Step 2: Tank 02 - Filling	
933	Heating Plant S88	Heating			
934	Heating Plant S88	Heating	Active	Step 3: Heating - Initial Flush	
935	Heating Plant S88	Heating	Active	Step 4: Heating - Wait for Tank 01	
936	Heating Plant S88	Tank 02 Control	Active	Step 4: Tank 02 - Pause Filling	
937	Heating Plant S88	Heating			

Setup Devices Properties

Period

Type: ☐ Fixed ☒ Variable ☐

Time: 1 Days 0 Hours

Report Type

☒ Program Event

☐ List All Events

☐ Time Event

Report Settings

Format: ☒ Summary ☐ Gr

Interval:

☒ Include Operator Commands

☒ Show Units

Decimal Points: 2

Appearance

Title Row: ☐ LightSteelBlue

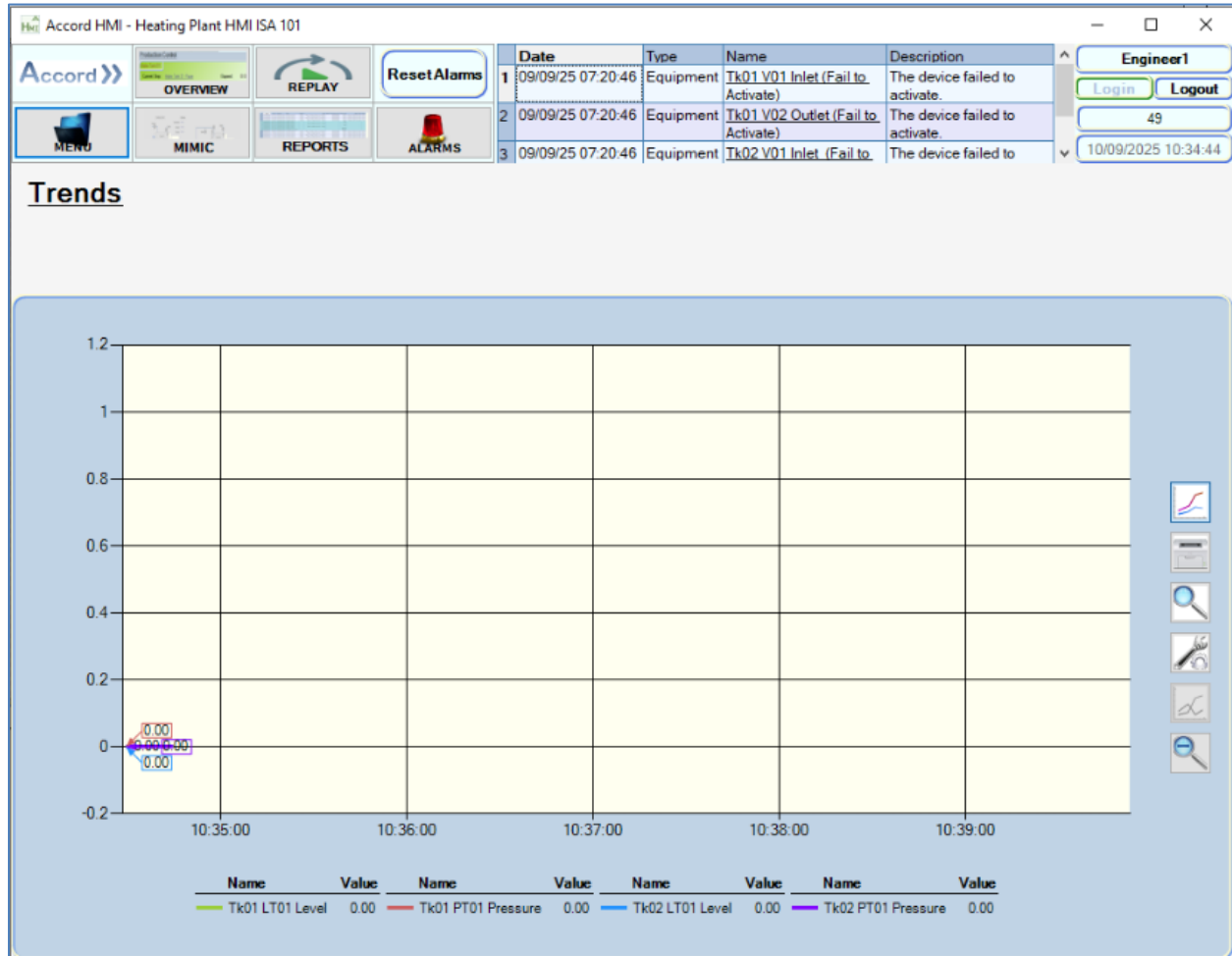
Primary Row: ☐ AliceBlue

Generate Report

This is in form of a Report, and times and PLC's may be selected using the selection panel on the right.

5.4 Trends

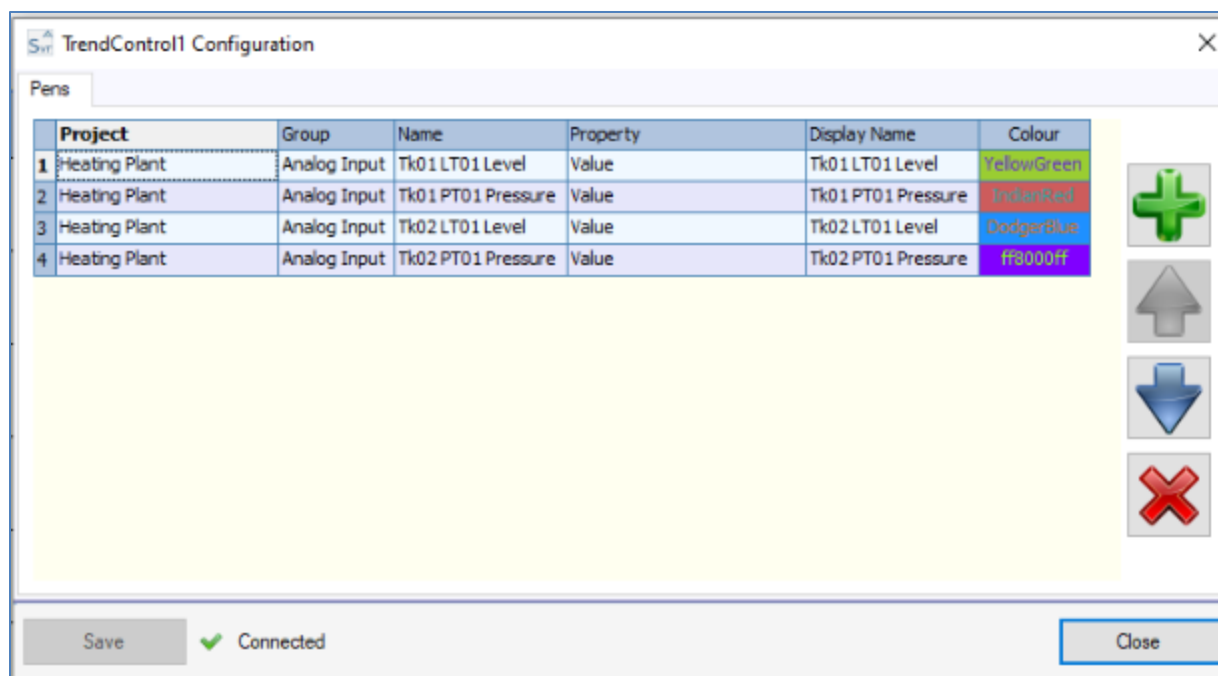
The Trend control can be used to display a live or historical trend graph of values. Historical trends are available for Logged devices.



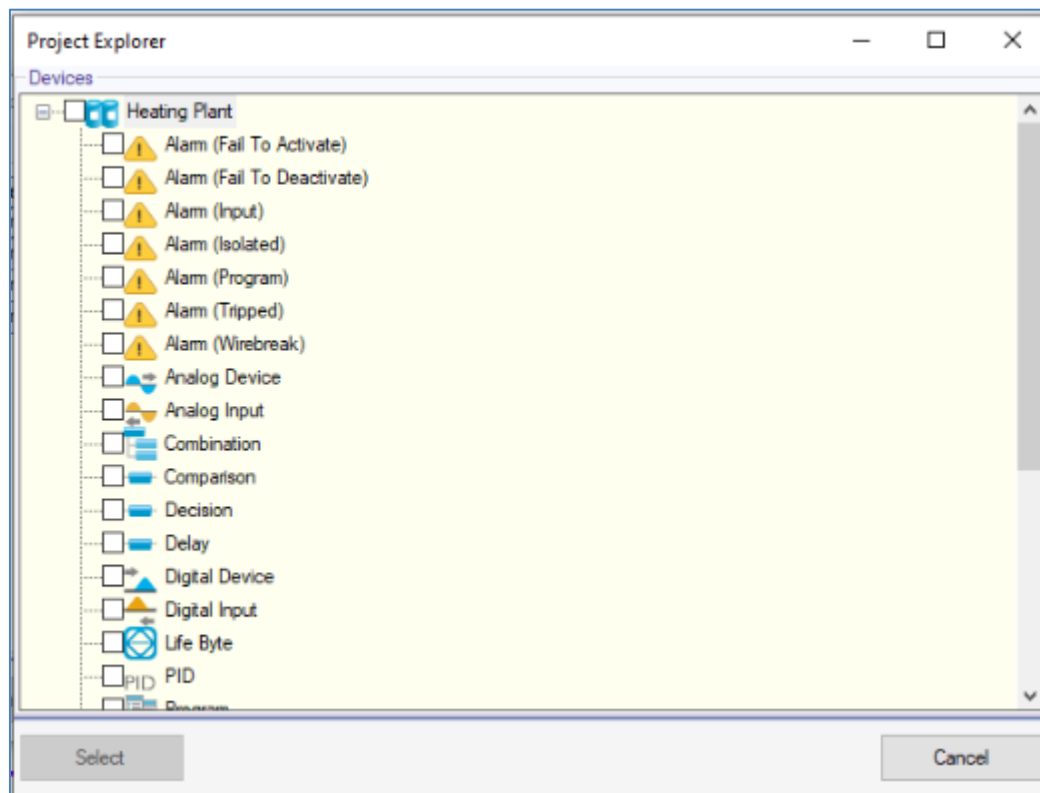
The following configuration options are available to the Trend control:

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.



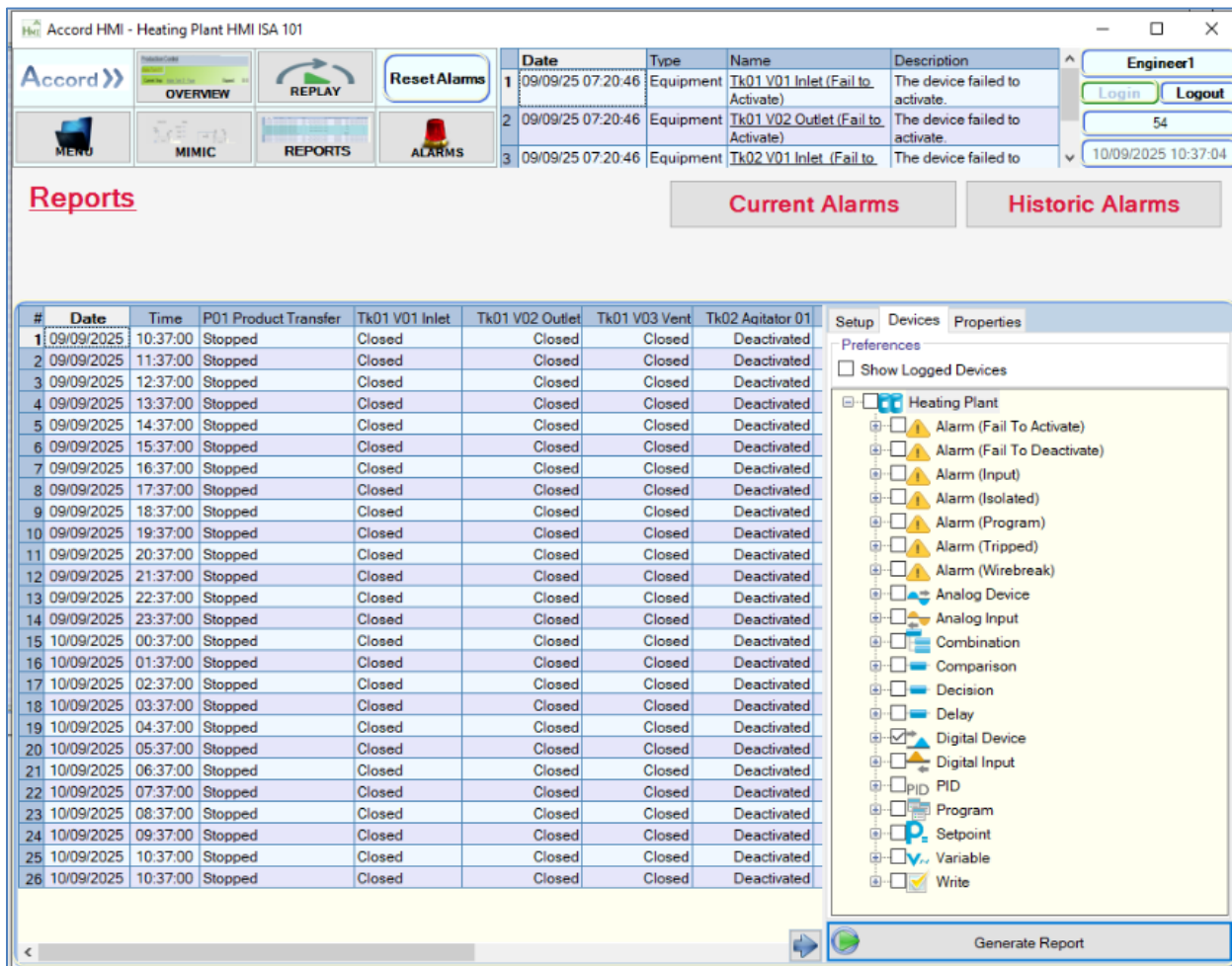
The required items for trend pens are selected using the Explorer, by pressing “+”



5.5 History Reports

The History Control is used to view a report of historical data via the HMI during Runtime.

To view historical data, select desired device types, then click 'Generate Report'.



The screenshot displays the Accord HMI interface for the Heating Plant HMI ISA 101. The top navigation bar includes buttons for Overview, Replay, Reset Alarms, Menu, Mimic, Reports, and Alarms. The Reports section is active, showing a table of historical data and a sidebar for device selection.

Current Alarms | **Historic Alarms**

#	Date	Time	P01 Product Transfer	Tk01 V01 Inlet	Tk01 V02 Outlet	Tk01 V03 Vent	Tk02 Agitator 01
1	09/09/2025	10:37:00	Stopped	Closed	Closed	Closed	Deactivated
2	09/09/2025	11:37:00	Stopped	Closed	Closed	Closed	Deactivated
3	09/09/2025	12:37:00	Stopped	Closed	Closed	Closed	Deactivated
4	09/09/2025	13:37:00	Stopped	Closed	Closed	Closed	Deactivated
5	09/09/2025	14:37:00	Stopped	Closed	Closed	Closed	Deactivated
6	09/09/2025	15:37:00	Stopped	Closed	Closed	Closed	Deactivated
7	09/09/2025	16:37:00	Stopped	Closed	Closed	Closed	Deactivated
8	09/09/2025	17:37:00	Stopped	Closed	Closed	Closed	Deactivated
9	09/09/2025	18:37:00	Stopped	Closed	Closed	Closed	Deactivated
10	09/09/2025	19:37:00	Stopped	Closed	Closed	Closed	Deactivated
11	09/09/2025	20:37:00	Stopped	Closed	Closed	Closed	Deactivated
12	09/09/2025	21:37:00	Stopped	Closed	Closed	Closed	Deactivated
13	09/09/2025	22:37:00	Stopped	Closed	Closed	Closed	Deactivated
14	09/09/2025	23:37:00	Stopped	Closed	Closed	Closed	Deactivated
15	10/09/2025	00:37:00	Stopped	Closed	Closed	Closed	Deactivated
16	10/09/2025	01:37:00	Stopped	Closed	Closed	Closed	Deactivated
17	10/09/2025	02:37:00	Stopped	Closed	Closed	Closed	Deactivated
18	10/09/2025	03:37:00	Stopped	Closed	Closed	Closed	Deactivated
19	10/09/2025	04:37:00	Stopped	Closed	Closed	Closed	Deactivated
20	10/09/2025	05:37:00	Stopped	Closed	Closed	Closed	Deactivated
21	10/09/2025	06:37:00	Stopped	Closed	Closed	Closed	Deactivated
22	10/09/2025	07:37:00	Stopped	Closed	Closed	Closed	Deactivated
23	10/09/2025	08:37:00	Stopped	Closed	Closed	Closed	Deactivated
24	10/09/2025	09:37:00	Stopped	Closed	Closed	Closed	Deactivated
25	10/09/2025	10:37:00	Stopped	Closed	Closed	Closed	Deactivated
26	10/09/2025	10:37:00	Stopped	Closed	Closed	Closed	Deactivated

Setup | **Devices** | **Properties**

Preferences

- ☐ Show Logged Devices
- ☐ Heating Plant
 - ☐ Alarm (Fail To Activate)
 - ☐ Alarm (Fail To Deactivate)
 - ☐ Alarm (Input)
 - ☐ Alarm (Isolated)
 - ☐ Alarm (Program)
 - ☐ Alarm (Tripped)
 - ☐ Alarm (Wirebreak)
 - ☐ Analog Device
 - ☐ Analog Input
 - ☐ Combination
 - ☐ Comparison
 - ☐ Decision
 - ☐ Delay
 - ☒ Digital Device
 - ☐ Digital Input
 - ☐ PID
 - ☐ Program
 - ☐ Setpoint
 - ☐ Variable
 - ☒ Write

Generate Report

5.6 List Screens

The project screen lists all devices in the system in list controls.

5.6.1 Analogs

Displays the current status of all analog inputs and analog outputs in the system



The screenshot displays the Accord HMI interface for the Heating Plant HMI ISA 101. The top navigation bar includes buttons for MENU, OVERVIEW, REPLAY, and ALARMS, along with a Reset Alarms button. A table on the right shows alarm history with columns for Date, Type, Name, and Description. Below the navigation bar, the 'Analogs' screen is active, showing two main sections: 'Analog In' and 'Analog Out'. Each section contains a table of device names and their current values.

Analog In

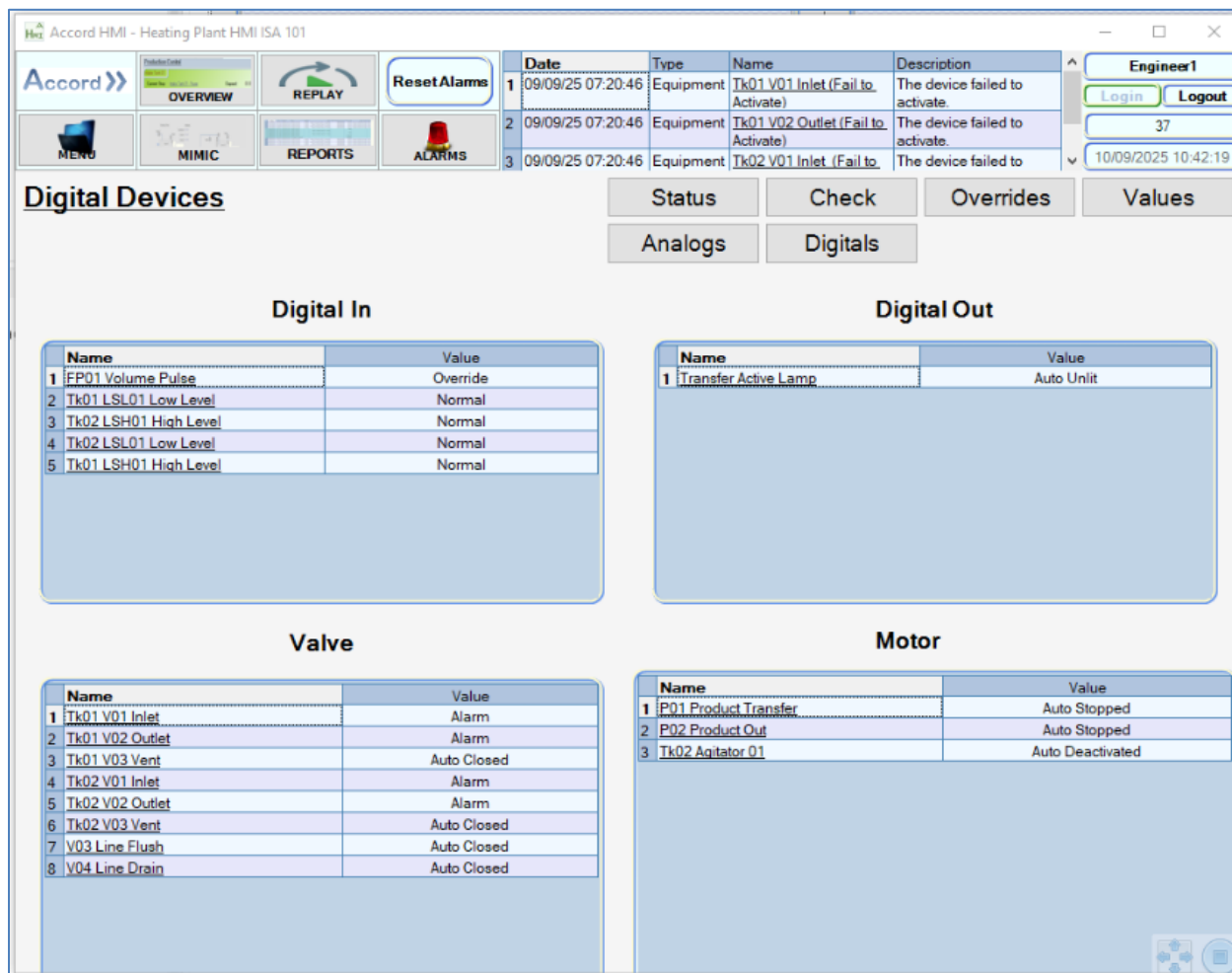
Name	Value
1 FT01 Transfer Flow Rate	0.00
2 Tk01 LT01 Level	0.00
3 Tk01 PT01 Pressure	0.00
4 Tk01 TT01 Temperature	0.00
5 Tk02 LT01 Level	0.00
6 Tk02 PT01 Pressure	0.00
7 Tk02 TT01 Temperature	0.00
8 TT03 Line Temperature	0.00

Analog Out

Name	Value
1 CV03 Heating Control	0.00 %
2 P01 Product Transfer VSD	0.00 Hz

5.6.2 Digitals

Displays the current status and values for all digital inputs and digital outputs in the system.



The screenshot shows the Accord HMI interface for the Heating Plant HMI ISA 101. The top navigation bar includes buttons for Overview, Replay, Reset Alarms, Menu, Mimic, Reports, and Alarms. A table on the right displays alarm history with columns for Date, Type, Name, and Description. Below the navigation bar, the 'Digital Devices' section is active, showing four sub-sections: Digital In, Digital Out, Valve, and Motor. Each sub-section contains a table of device names and their current values.

Digital In

Name	Value
1 FP01 Volume Pulse	Override
2 Tk01 LSL01 Low Level	Normal
3 Tk02 LSH01 High Level	Normal
4 Tk02 LSL01 Low Level	Normal
5 Tk01 LSH01 High Level	Normal

Digital Out

Name	Value
1 Transfer Active Lamp	Auto Unlit

Valve

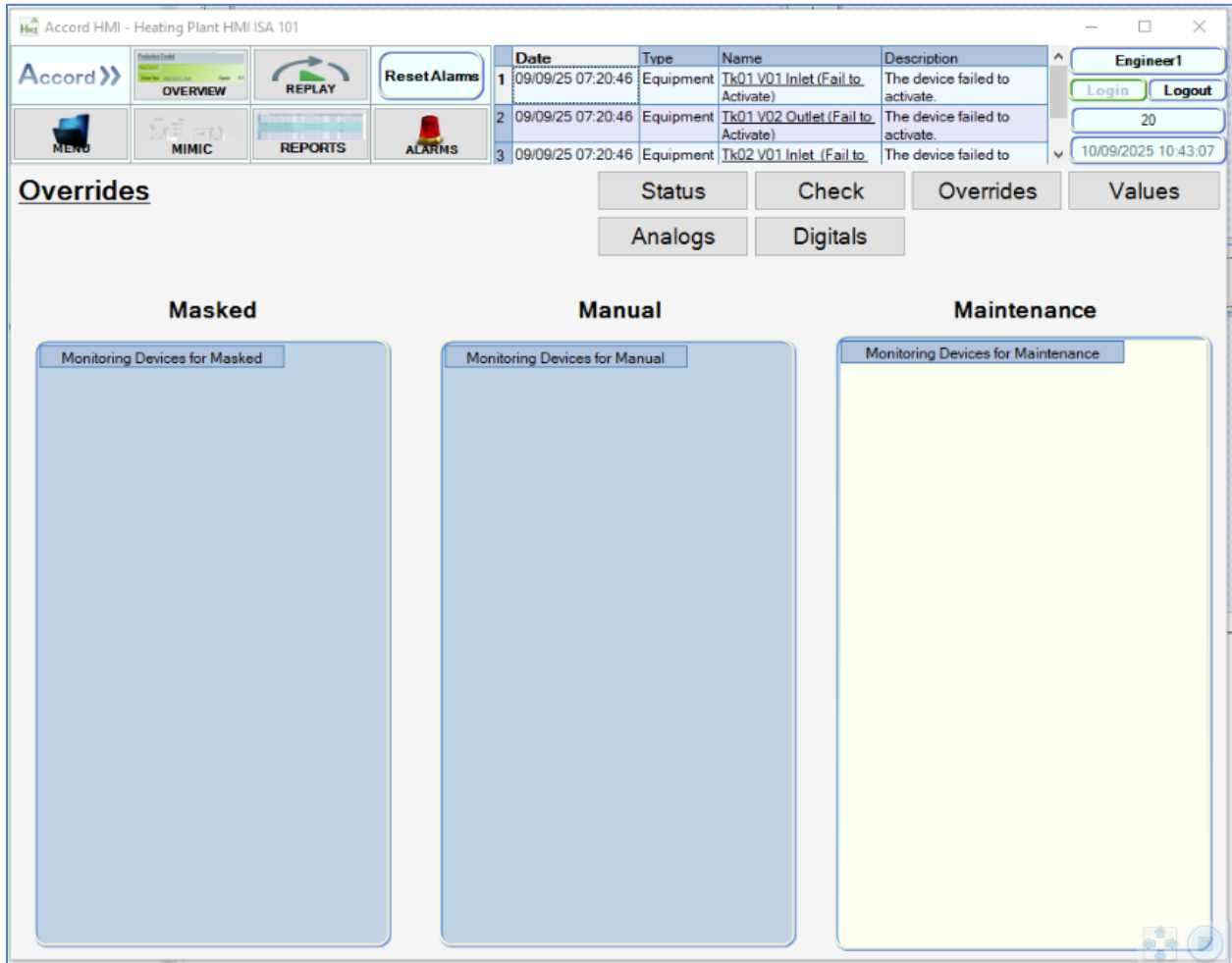
Name	Value
1 Tk01 V01 Inlet	Alarm
2 Tk01 V02 Outlet	Alarm
3 Tk01 V03 Vent	Auto Closed
4 Tk02 V01 Inlet	Alarm
5 Tk02 V02 Outlet	Alarm
6 Tk02 V03 Vent	Auto Closed
7 V03 Line Flush	Auto Closed
8 V04 Line Drain	Auto Closed

Motor

Name	Value
1 P01 Product Transfer	Auto Stopped
2 P02 Product Out	Auto Stopped
3 Tk02 Agitator 01	Auto Deactivated

5.6.3 Overrides

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



The screenshot shows the Accord HMI interface for a Heating Plant. The top navigation bar includes buttons for MENU, OVERVIEW, REPLAY, and ALARMS. A table displays recent alarm events:

	Date	Type	Name	Description
1	09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
2	09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
3	09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

Below the table, the 'Overrides' section is active, showing three panels: Masked, Manual, and Maintenance. Each panel contains a list of monitoring devices, though the lists are currently empty. The interface also includes a user login section on the right with the username 'Engineer1' and a 'Login' button.

5.6.4 Status

This displays all devices in the system and their status.

Accord HMI - Heating Plant HMI ISA 101

Accord HMI Navigation: OVERVIEW, REPLAY, Reset Alarms, MENU, MIMIC, REPORTS, ALARMS

Alarm Log:

Date	Type	Name	Description
09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

User: Engineer1
Login Logout
7
10/09/2025 10:43:59

Status

Buttons: Status, Check, Overrides, Values, Analogs, Digitals

Analogs

Type	Name	Value
1	Analog Device CV03 Heating Control	0.00 %
2	Analog Input FT01 Transfer Flow Rate	0.00
3	Analog Device P01 Product Transfer VSD	0.00 Hz
4	Analog Input Tk01 LT01 Level	0.00
5	Analog Input Tk01 PT01 Pressure	0.00
6	Analog Input Tk01 TT01 Temperature	0.00
7	Analog Input Tk02 LT01 Level	0.00
8	Analog Input Tk02 PT01 Pressure	0.00
9	Analog Input Tk02 TT01 Temperature	0.00
10	Analog Input TT03 Line Temperature	0.00

Digitals

Type	Name	Value
1	Digital Output Transfer Active Lamp	Auto Unltd
2	Motor P01 Product Transfer	Auto Stopped
3	Motor P02 Product Out	Auto Stopped
4	Motor Tk02 Agitator 01	Auto Deactivated
5	Valve Tk01 V01 Inlet	Alarm
6	Valve Tk01 V02 Outlet	Alarm
7	Valve Tk01 V03 Vent	Auto Closed
8	Valve Tk02 V01 Inlet	Alarm
9	Valve Tk02 V02 Outlet	Alarm
10	Valve Tk02 V03 Vent	Auto Closed
11	Valve V03 Line Flush	Auto Closed
12	Valve V04 Line Drain	Auto Closed
13	Digital Input FP01 Volume Pulse	Override
14	Digital Input Tk01 LSL01 Low Level	Normal
15	Digital Input Tk02 LSH01 High Level	Normal
16	Digital Input Tk02 LSL01 Low Level	Normal

5.6.5 Values

Displays the current state of “internal logic” used by the model.

Accord HMI - Heating Plant HMI ISA 101

Accord >> OVERVIEW REPLAY Reset Alarms

Menu MIMIC REPORTS ALARMS

Date	Type	Name	Description
1 09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
2 09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
3 09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

Engineer1 Login Logout 49 10/09/2025 10:44:46

Values - States Status Check Overrides Values

Analogs Digitals

Conditions

Name	Value
1 Tank 01 at High Alarm Pressure	Monitoring
2 Tank 01 at Vent Alarm Pressure	Monitoring
3 Tank 01 High Temperature check	Monitoring
4 Tank 01 Level above Filled	Monitoring
5 Tank 01 Level below Refill	Enabled
6 Tank 02 at High Alarm Pressure	Monitoring
7 Tank 02 at Vent Alarm Pressure	Monitoring
8 Tank 02 High Temperature check	Monitoring
9 Tank 02 Level above Agitator Level	Monitoring
10 Tank 02 Level above Empty Enable	Monitoring
11 Tank 02 Level above Filled	Monitoring
12 Tank 02 Level below Empty	Enabled
13 Tank 02 Level below Refill	Enabled

Combinations

Name	Value
1 Levels for Transfer and Transfer Enabled	Monitoring
2 Tank 01 Filling Enable	Monitoring
3 Transfer Pump High Speed Needed	Monitoring
4 Transfer Pump Low Speed Needed	Monitoring

Delays

Name	Value
1 Tank 01 above Filled Level for Time	Monitoring
2 Tank 01 at High Alarm Pressure for Time	Monitoring
3 Tank 01 at Vent Alarm Pressure for Time	Monitoring
4 Tank 01 below Refill Level for Time	Monitoring
5 Tank 02 above Agitator Level for Time	Inactive
6 Tank 02 above Filled Level for Time	Inactive
7 Tank 02 above High Alarm Pressure for Time	Inactive
8 Tank 02 above Vent Alarm Pressure for Time	Inactive
9 Tank 02 below Refill Level for Time	Inactive
10 Tank 02 within Level for Slow Fill for Time	Inactive

Variables

Project	Name	Value
1 Heating Plant	0.0 Constant	0.00
2 Heating Plant	1.0 Constant	1.00
3 Heating Plant	10.0 Constant	10.00
4 Heating Plant	5.0 Constant	5.00
5 Heating Plant	Tank 02 Amount to Fill	2.30 m3
6 Heating Plant	Tank 02 Volume Flushed	0.00 m3
7 Heating Plant	Tank 02 Volume Pushed	0.00 m3
8 Heating Plant	Tank 02 Volume Transferred	31.00 m3
9 Heating Plant	Tank 02 Volume Transferred Day	18.00
10 Heating Plant	Tank 02 Volume Transferred Week	18.00

5.6.6 Check

Displays the current state of all objects in the system.

The screenshot displays the Accord HMI interface for a Heating Plant. The title bar reads "Accord HMI - Heating Plant HMI ISA 101". The interface includes a top navigation bar with buttons for "Accord >>", "OVERVIEW", "REPLAY", "Reset Alarms", "MENU", "MIMIC", "REPORTS", and "ALARMS". A table at the top right lists alarm events:

	Date	Type	Name	Description
1	09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
2	09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
3	09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

Below the table are buttons for "Status", "Check", "Overrides", and "Values". Further down are buttons for "Analog" and "Digital". On the right side, there is a user login section with the text "Engineer1", "Login", "Logout", and a numeric keypad showing "18". A timestamp "10/09/2025 10:45:19" is also visible.

The main area is titled "Check" and contains a tree view on the left under "Heating Plant" with the following items:

- Alarm (Program)
- Combination
- Delay
- Digital Device
- Step

On the right, there is a "Device Information" panel with the following details:

- Project: N/A
- Group: N/A
- Name: N/A
- Description: N/A

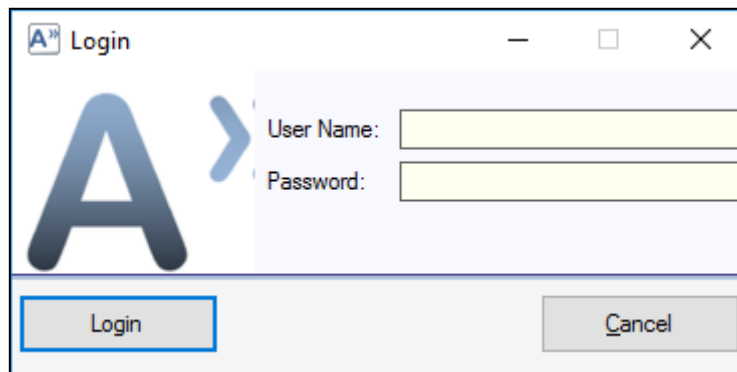
6 Screen Functions and general operation

6.1 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.



6.2 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.



6.3 Program Control

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

The screenshot displays the 'Program Control' window with two tabs: 'Device Information' and 'Device Status'.

Device Information Tab:

Project:	Heating Plant S88	User:	Engineer1
Group:	Program	User Group:	Engineering
Name:	Heating		

Device Status Tab:

Current Step:	Step 5: Heating - Push to Drain	Expected:	00:00:01:00
Step Number:	5	Remaining:	00:00:00:55
Status:	Active	Elapsed:	00:00:00:05
Program Recipe:	Default		

Below the status information is a row of buttons: Start, End, Resume, Hold, Step On, Step To, Timing, and ...

At the bottom of the window are two buttons: History and Close.

The Program Faceplate shows the following information:

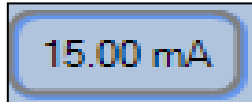
- **Name:** The name of the Program.
- **Current Step:** The name of the step which is currently running. If logged in, a user may click the step name to step to a selected step.
- **Step Number:** The recipe position of the current step.
- **Status:** The status of the Program.
- **Expected:** The step 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.

6.4 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.

6.5 Analog Input

Device Information

Project: [Heating Plant](#)

User: [Engineer1](#)

Group: [Analog Input](#)

User Group: [Engineering](#)

Name: [Tk01 LT01 Level](#)

Device Status

Actual Value:	0.00 m3	Signal Value:	0.00 m3
Status:	Low Low Reached	Process Alarm:	Low Low Reached
Override:	<input type="checkbox"/>	Override Value:	<input type="text" value="0.00 m3"/>
High High Setpoint:	<input type="text" value="8.50 m3"/>	High High Reached:	No
High Setpoint:	<input type="text" value="6.50 m3"/>	High Reached:	No
Low Setpoint:	<input type="text" value="2.20 m3"/>	Low Reached:	Yes
Low Low Setpoint:	<input type="text" value="1.10 m3"/>	Low Low Reached:	Yes
Min Range:	<input type="text" value="0.00"/>	Min Limit Reached:	Yes
Max Range:	<input type="text" value="12.00"/>	Max Limit Reached:	No
Time Setpoint:	<input type="text" value="5 Seconds"/>	Wirebreak:	No
Hysteresis Setpoint:	<input type="text" value="0.25"/>	Signal Under:	No
Maintenance:	<input type="checkbox"/>	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.

6.6 Analog Device

The screenshot displays the 'Analog Device' faceplate interface. It is divided into two main sections: 'Device Information' and 'Device Status'. The 'Device Information' section at the top shows the following details: Project: Heating Plant, User: Engineer1, Group: Analog Device, User Group: Engineering, and Name: CV03 Heating Control. The 'Device Status' section below it contains several fields and controls. On the left, 'Output Value' is 0.00 %, 'Status' is 'Written By PID Loop', 'Manual' is a toggle switch currently set to 'Auto', 'Minimum Limit' is 'No', 'Min Range' is 0.00 %, and 'Maintenance' is a toggle switch currently set to 'Off'. On the right, 'Auto Value' is 0.00 %, 'Manual Value' is 0.00 %, 'Maximum Limit' is 'No', and 'Max Range' is 100.00 %. At the bottom of the faceplate, there are four buttons: 'Settings' (highlighted with a yellow border), 'Trends', 'Show PID Loop', and 'Close'.

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.

6.7 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.

6.8 Digital Input

The screenshot displays a software interface for a digital input device. It is divided into two main sections: 'Device Information' and 'Device Status'. The 'Device Information' section includes fields for Project (Heating Plant), Group (Alarm), Name (Tk01 LSH01 High Level), User (Engineer1), and User Group (Engineering). The 'Device Status' section shows the current Result (Not High Level), Status (Normal), and Override State (Not High Level). It also features controls for Override (Off), Delay On (5 Seconds), Delay Off (5 Seconds), and Maintenance (Off). At the bottom, there are buttons for Settings, History, and Close.

Device Information	
Project:	Heating Plant
Group:	Alarm
Name:	Tk01 LSH01 High Level
User:	Engineer1
User Group:	Engineering

Device Status	
Result:	Not High Level
Status:	Normal
Override:	<input type="checkbox"/> Off
Override State:	<input type="checkbox"/> Not High Level
Delay On:	5 Seconds
Delay Off:	5 Seconds
Maintenance:	<input type="checkbox"/> Off

Settings History Close

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.

6.9 Digital Output / Device

Device Information

Project: [Heating Plant](#) User: [Engineer1](#)
 Group: [Motor](#) User Group: [Engineering](#)
 Name: [P01 Product Transfer](#)

Device Status

Auto Manual Interlock Alarm Output

Output:	Stopped	Auto Command:	Off
Status:	Auto Stopped	Feedback Correct:	Yes
Manual Mode:	<input checked="" type="radio"/> Auto	Manual Command:	<input type="radio"/> Off
Interlock:	Yes	Interlock Override:	<input type="radio"/>
Alarm:	No	Alarm Masked:	<input checked="" type="radio"/> Unmasked
Pulse Active:	No	Pulse Command:	Off
Run Feedback	No	Isolator Feedback	No
Trip Feedback	No		
Delay On:	<input type="text" value="0 Seconds"/>	Delay Off:	<input type="text" value="0 Seconds"/>
Fail Time (On):	<input type="text" value="2 Seconds"/>	Fail Time (Off):	<input type="text" value="2 Seconds"/>
Pulse Cycle Time:	<input type="text" value="0 Seconds"/>	Pulse Time:	<input type="text" value="0 Seconds"/>
Activations:	365	Activation Time:	00 Hours 26 Mins
ABM Unit A:	No	Auto Reserve Enabled:	No
ABM Unit B:	No	Auto Reserved:	No
Maintenance:	<input type="checkbox"/>	Override Reserve:	<input type="checkbox"/>

Settings History Check Close

The Digital Output Faceplate shows the following information:

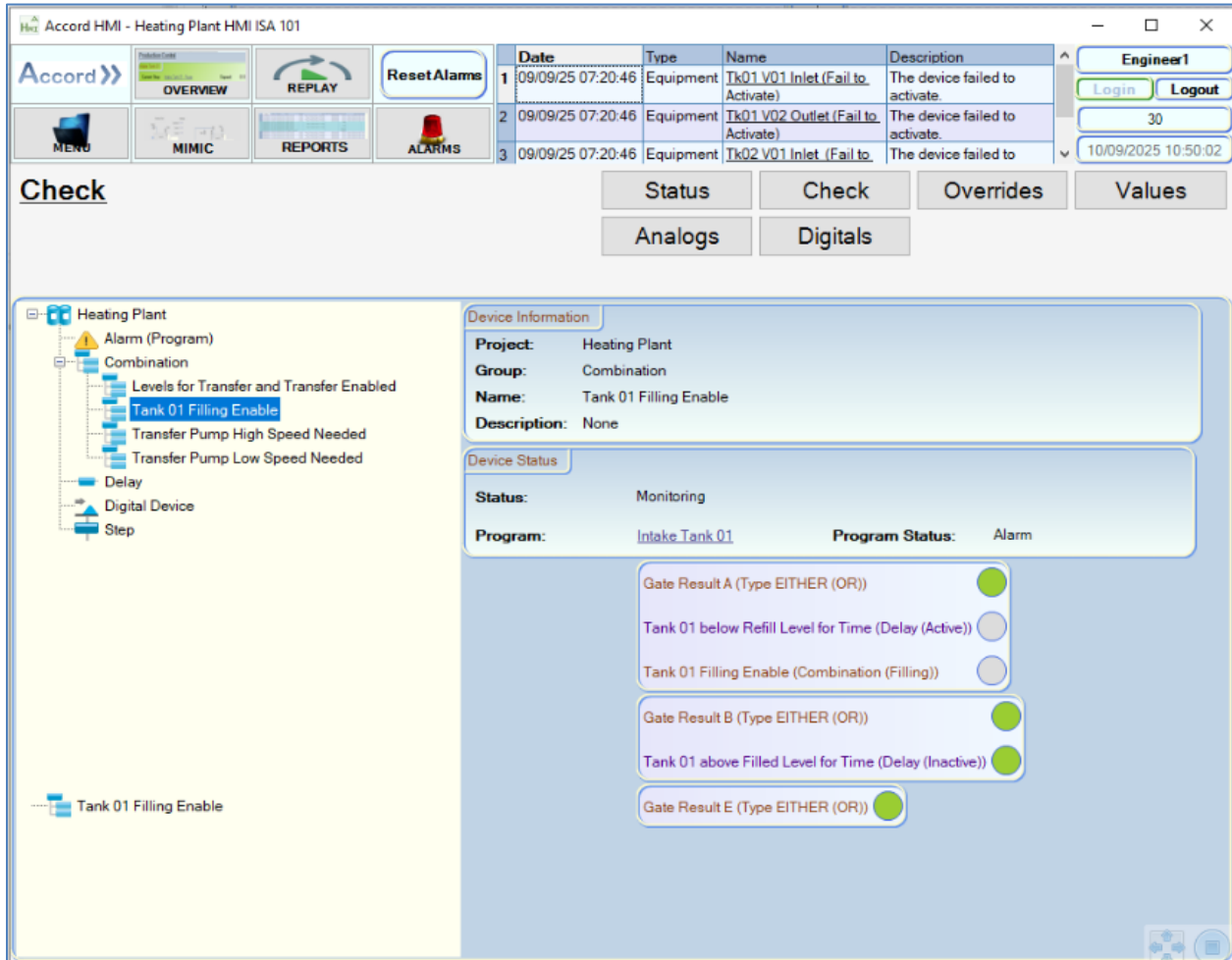
- **Status:** The current status of the Digital Output.
- **Output:** The value of the output as configured within Accord Builder.
- **Interlock:** This shows that the item is currently interlocked by another device state. The list of interlocking devices can be found in the Equipment List document.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

6.10 Check Control

The Check Control is used to drill down through the logic of a Device with a digital result to analyse the logical results of the affecting devices and components.



Accord HMI - Heating Plant HMI ISA 101

Navigation: Overview, Replay, Reset Alarms, Alarms

Date	Type	Name	Description
09/09/25 07:20:46	Equipment	Tk01 V01 Inlet (Fail to Activate)	The device failed to activate.
09/09/25 07:20:46	Equipment	Tk01 V02 Outlet (Fail to Activate)	The device failed to activate.
09/09/25 07:20:46	Equipment	Tk02 V01 Inlet (Fail to Activate)	The device failed to activate.

Check Control Panel:

Check (Status, Check, Overrides, Values, Analogs, Digitals)

Tree Menu:

- Heating Plant
 - Alarm (Program)
 - Combination
 - Levels for Transfer and Transfer Enabled
 - Tank 01 Filling Enable
 - Transfer Pump High Speed Needed
 - Transfer Pump Low Speed Needed
 - Delay
 - Digital Device
 - Step

Device Information:

- Project: Heating Plant
- Group: Combination
- Name: Tank 01 Filling Enable
- Description: None

Device Status:

- Status: Monitoring
- Program: Intake Tank 01
- Program Status: Alarm

Logical Operations:

- Gate Result A (Type EITHER (OR))
- Tank 01 below Refill Level for Time (Delay (Active))
- Tank 01 Filling Enable (Combination (Filling))
- Gate Result B (Type EITHER (OR))
- Tank 01 above Filled Level for Time (Delay (Inactive))
- Gate Result E (Type EITHER (OR))

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.

6.11 Unit

The screenshot shows a 'Unit Faceplate' dialog box with two tabs: 'Device Information' and 'Device Status'. The 'Device Information' tab is active, displaying fields for Project, Group, Name, User, and User Group. The 'Device Status' tab is also visible, showing a table of status indicators. A 'Close' button is located at the bottom right of the dialog.

Device Information	
Project:	Heating Plant
Group:	Line
Name:	Tank Q1 to Tank Q2
User:	Engineer1
User Group:	Engineering

Device Status	
Selected:	Selected
Unit In Alarm:	Yes
Unit In Maintenance:	No
Unit In Manual:	Yes
Analog Input Wire Break:	No
Device In Alarm:	Yes
Device In Maintenance:	No
Device In Manual:	Yes

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.