

HEAP User Manual

*** - Administration Account Only**

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1 Login

1. Obtain login credentials from HEAP Administration.
2. Navigate to HEAP home page to login.

2 Process

2.1 Live Process Information

1. Navigate to 'Process'. The P&ID shows a live view of the process. Alarms are also presented in accordance with the ISA 18.2 colour code.

3 System Switches

3.1 Toggle Process (Also used for Emergency Shutdown)

1. Navigate to 'Process'.
2. Click 'System Toggles'.
3. Toggle 'Process' switch.
4. Click 'Yes' in confirmation window.

3.2 Toggle Plant Lights

1. Navigate to 'Process'.
2. Click 'System Toggles'.
3. Toggle 'Plant Lights' switch.

3.3 Toggle Air Pump

1. Navigate to 'Process'.
2. Click 'System Toggles'.
3. Toggle 'Air Pump' switch.

4 Data

4.1 View Trends

1. Navigate to 'Data'. You will be taken to the 'Trends' tab automatically.


4.2 Download Data

1. Navigate to the 'Trends' tab under 'Data'.
2. Locate the trend graph with desired data.
3. Select date range using the date picker on the top right or the zoom levels on the top left.
4. Click the chart context menu (top right-hand corner).
5. Click on desired data format.


4.3 View Images

1. Navigate to 'Data'.
2. Click on the 'Images' tab.

4.4 Download Images

1. Navigate to the 'Images' tab under 'Data'.
2. Click the download button ().

4.5 Delete Images

1. Navigate to the 'Images' tab under 'Data'.
2. Click the delete button (.
3. In confirmation window, click 'Yes' to confirm or 'No' to cancel.

N.B. If the image is linked to a data point on the NDVI plot, the data point is also deleted.

4.6 Capture Images on Demand

4.6.1 With average NDVI per trough calculation

1. Navigate to the 'Images' tab under 'Data'.
2. Click the 'Capture Image'.

4.6.2 Without average NDVI per trough calculation

1. Navigate to the 'Images' tab under 'Data'.
2. Click the 'Capture Image (Without NDVI Calculation)'.

4.7 * Deleting Data

1. Navigate to 'Settings'.
2. Click 'Remove Data'.
3. Select tab with desired data to be removed.
4. Click the input field.
5. Choose the date range using the widget or manually type it in the field.
6. Click 'Delete'.

5 Alarms

5.1 Acknowledging an Alarm

1. When an alarm is raised, a notification will be shown. Click this notification to go to the active alarms window.

5.2 View Active Alarms

1. Navigate to 'Alarms'. You will be taken directly to the active alarms window.

5.3 Clear Alarm

1. Navigate to 'Alarms'. You will be taken directly to the active alarms window
2. Locate the alarm to be cleared.
3. Click the 'x' in the top right corner of the alarm bubble.
4. Click 'Yes' in the confirmation window.

5.4 View Alarm Logs

1. Navigate to 'Alarms'.
2. Click the 'Alarm Logs' tab.

5.5 * Deleting Alarm Logs

1. Navigate to 'Settings'.
2. Click 'Remove Data'.
3. Click 'Alarm Logs'
4. Click the input field.
5. Choose the date range using the widget or manually type it in the field.
6. Click 'Delete'.

5.6 * Change Alarm Email Recipient(s)

1. Navigate to 'Settings'.
2. Click 'Alarms'
3. Locate the cell corresponding to 'Alarms Recipients' Emails'.
4. Input the email address(es). Separate multiple email addresses by commas.

6 Scheduling

6.1 * Scheduling Data Capture

1. Navigate to 'Settings'.
2. Click 'Scheduling'.
3. Locate the data capture to schedule.
4. Click the corresponding cell in the 'Cron Schedule' column.
5. Click the drop down menu and select the desired schedule or input a custom cron schedule by clicking 'Other Cron'.
6. Click the green tick to confirm or the red 'x' to cancel.

7 Additional Sensors

7.1 Adding a Sensor

1. Connect the sensor to the desired input in the 'Additional Sensor' Panel. Note that the ADC input is rated at 3.3V. Therefore, a voltage level shifter setup must be used if the sensor output doesn't match the ADC input.
2. Set the set the data capture schedule. (See 6.1)

7.2 Download Data from External Sensor

1. Navigate to the 'Data' window.
2. Click the 'Additional Sensors' tab.
3. Click the desired sensor to download the captured data as a csv file.

N.B. When the data capture schedule is changed to 'Disabled', the csv file for that sensor is deleted. Therefore, the data should be downloaded before disabling the data capture.

8 Dosing Pumps

8.1 * Check Dosing Pump Calibration

1. Navigate to 'Settings'.
2. Click 'Dosing Pumps and Flow Sensors'.
3. Click tab for desired pump.
4. Click the 'Test Pump . (Dose 10ml)' button.
5. Measure the output.

8.2 * Calibrating Dosing Pumps

1. Navigate to 'Settings'.
2. Click 'Dosing Pumps and Flow Sensors'.
3. Click tab for desired pump.
4. Click the 'Calibrate Pump .' button.
5. Follow the onscreen instructions.

9 System Parameters

9.1 * Changing System Parameters

1. Navigate to 'Settings'.
2. Click the desired group. (e.g. 'Troughs')
3. Click the desired element. (e.g. 'Trough 1')
4. Locate the parameter to be altered.
5. Click the corresponding cell in the 'Value' column.
6. Click the green tick to confirm or the red 'x' to cancel.

10 NDVI Calculator

10.1 Calculating NDVI of an Image

1. Navigate to the 'NDVI Calculator' window.
2. Click 'Choose File'.
3. Click the 'Calculate NDVI' button.

11 * Troubleshooting

1. Navigate to 'Settings'.
2. Click 'Troubleshooting'.
3. Click 'Test' to troubleshoot the corresponding actuator.

N.B. This can be used in the event of an alarm, to test if the actuator has failed or the sensor for the alarm.

12 Users

12.1 * Creating User Profiles

1. Navigate to 'Settings'.
2. Click 'Users'.
3. Click 'Create User'.
4. Fill out new user form.
5. Click 'Create User' to confirm or 'Cancel' to cancel.