ACCUSTREAM DIRECT LOAD

OWNERS MANUAL

CONFIDENTIAL

CONTENTS

CONTEXT

The purpose of this document is to outline how to operate every aspect of the Piper Accustream Direct Load metering system.

The document will cover:

- Initial Set-up and Checks
- Accessing the Menu
- Day to day operation
- Sampling
- C.I.P.
- Piper Portal

ABBREVIATIONS & ACRONYMS

The following are abbreviations that will be found throughout this manual.

Meter: PD 340 Magnetic flow meter

Prime: The volume of milk from the point of the Piper low level probe in the Balance Tank to the P3 Probe at the meter.

P3 Probe: Product detect probe at the meter. This probe is Normally Closed (NC)

C.S.V File   Comma separated value file

NC   Normally Closed

NO   Normally Open

SET-UP & FIRST USE

POWERING UP THE SYSTEM

Before powering up the system ensure all electrical connections have been checked and there are no loose cables.

1. Turn on the Piper power supply
2. The TS 7 Touchscreen controller will take approx. 60 seconds to progress though its boot up sequence. Do not touch the screen while this is in progress.
3. Once complete the system will display the home screen. *See image 1 below.*

PIPER SERVER CONNECTIVITY

In order for the system to transmit data to the Piper Server and Portal, connectivity must be established. This will require an ethernet cable from the Piper TS 7 touchscreen controller to the router on the farm. There is a *Network* Icon visible on the Home Screen which indicates the status on the connectivity to the Piper Server. *See Image 1 – Page 2*.

⬌ Green = Connectivity Established

⬌ Yellow = Trying to Establish Connectivity

⬌ Red = No Connectivity Established.

SERVER CONNECTIVITY
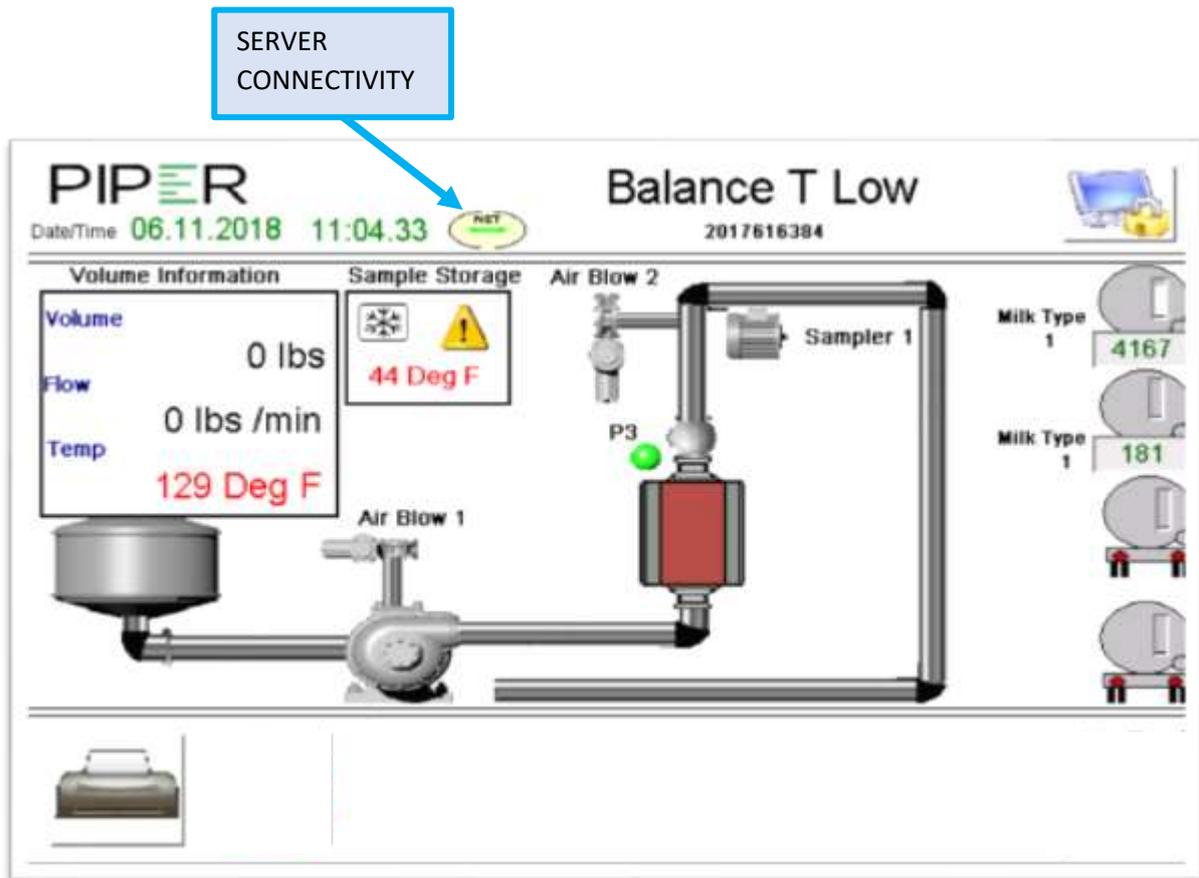
Image 1: Home Screen at Start-up

ACCESSING THE PASSWORD PROTECTED MENU

To access the menu the system must be in an Idle state. This means it cannot be accessed:

- While the system is in C.I.P
- While there is flow in the meter during a loading.
- While the balance tank low level probe is wet

1. On the Home screen, select the *PC* icon in the top right corner of the screen.
2. A pop-up *Login* window should appear on the screen.
3. On the pop-up *Login* window, the user will need to select the *Password* button to view the keypad. *See Image 2 – Page 3.*
4. Once the *Keypad* window appears on the screen, enter 2829 and press *Enter. See Image 3 – Page 3*
5. The pop-up *Login* window will re-appear and the user will need to select *RET*.
6. If steps 1-4 were completed successfully, there should now be a "*Tools*" icon on the bottom right corner of the screen. *See Image 4 – Page 4.*
7. Select the *Tools* icon and the *Menu* window will appear. *See Image 5 - Page 4 & Image 6 - Page 5*
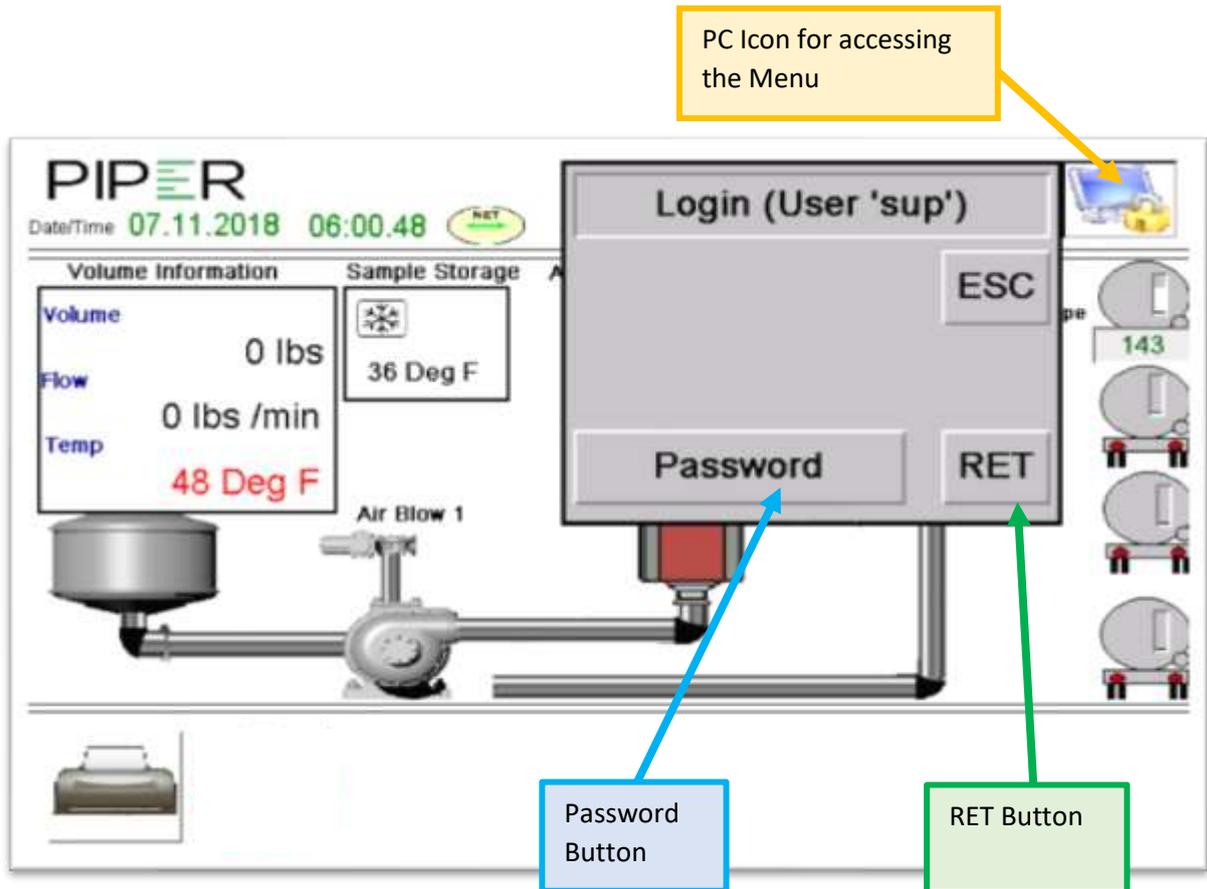
Image 2: Accessing the Menu Screen
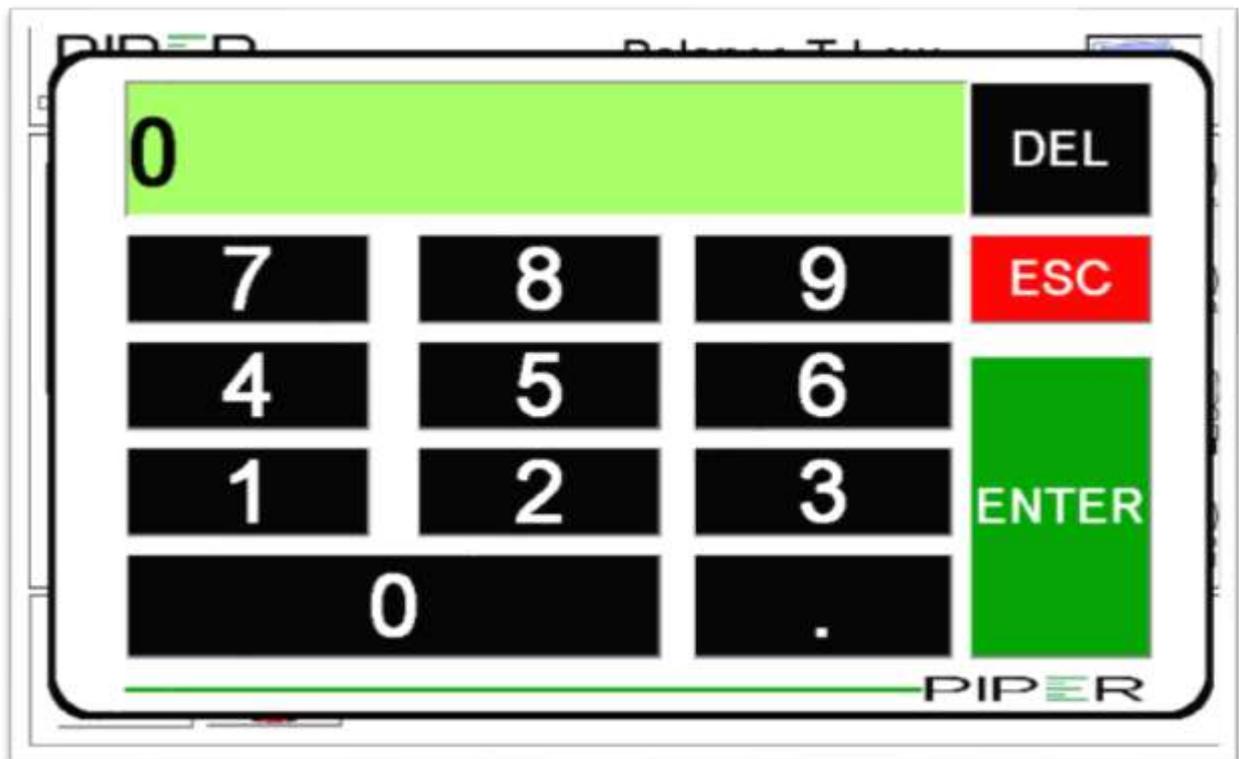
Image 3: Keypad Window
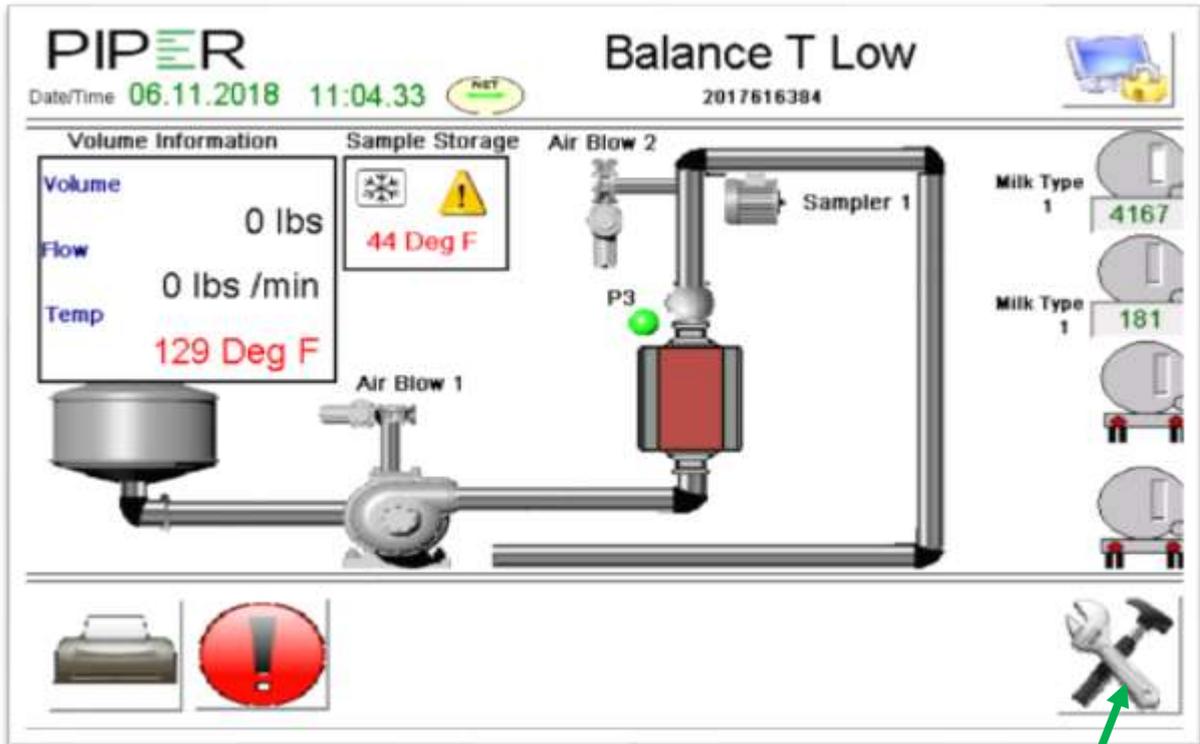
Image 4: Tools Icon for accessing the Menu Screen

Tools Icon
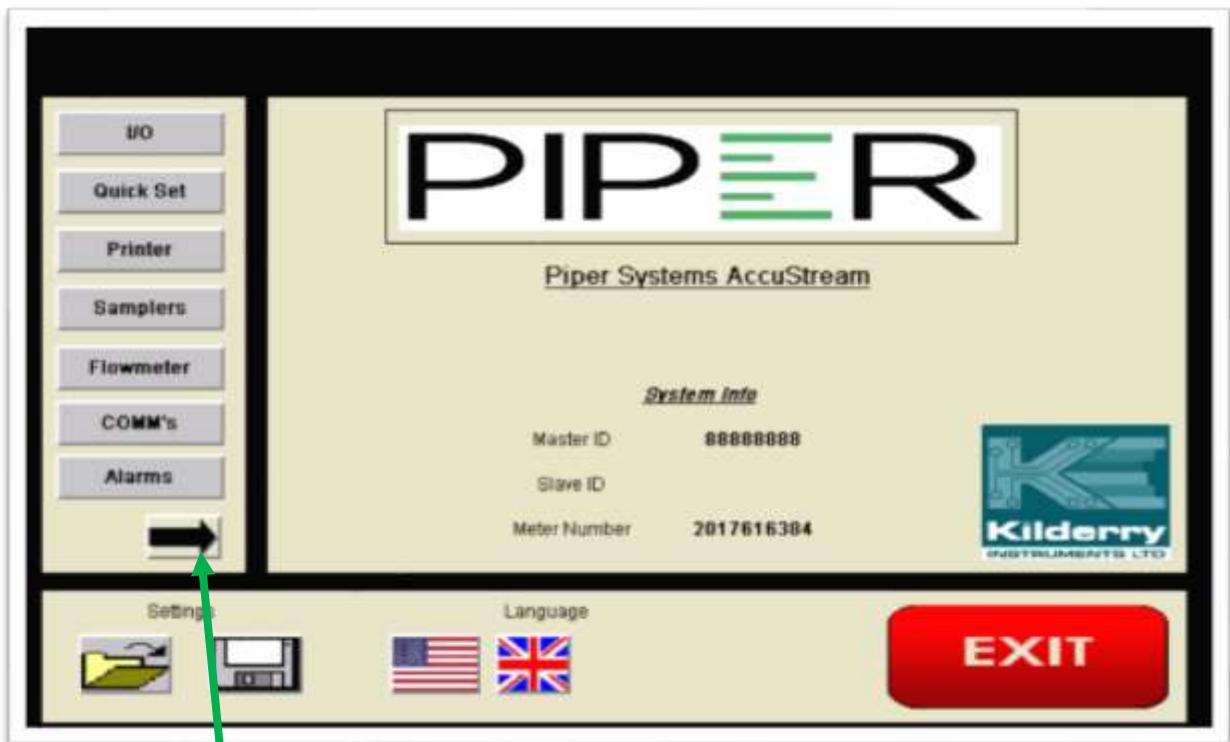
Press arrow to progress to Menu page 2

Image 5: Main Menu Page 1
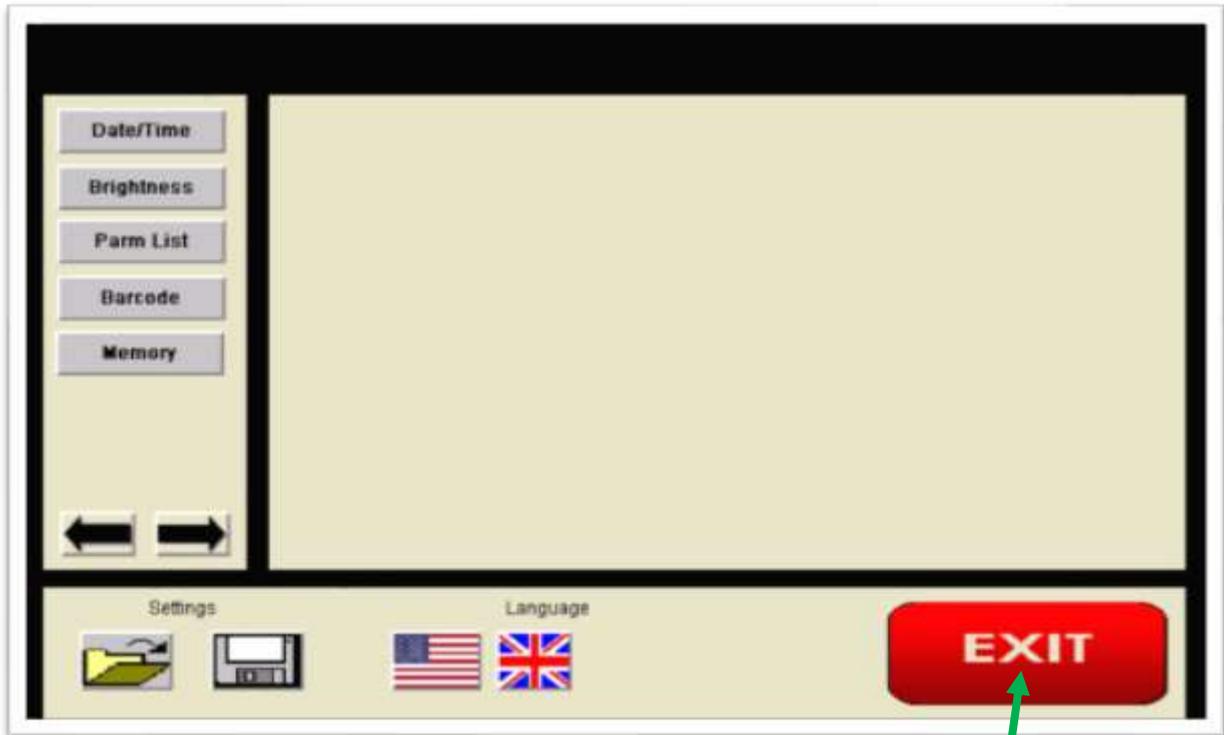
Image 6: Main Menu page 2

Select EXIT to Exit the Menu page and resume operation

SYSTEM CHECKS

Before using the system for the first time it is important to carry out system checks, this will ensure all required field device components are connected and operating. It is also important to review the *Quick Set Menu,* to enter site unique parameters values and ensure the system operates to your minimum requirements. *See Image 7 below.*

The full settings file will be discussed later in this document.

To carry out these tasks you will first need to access the *Main Menu*.
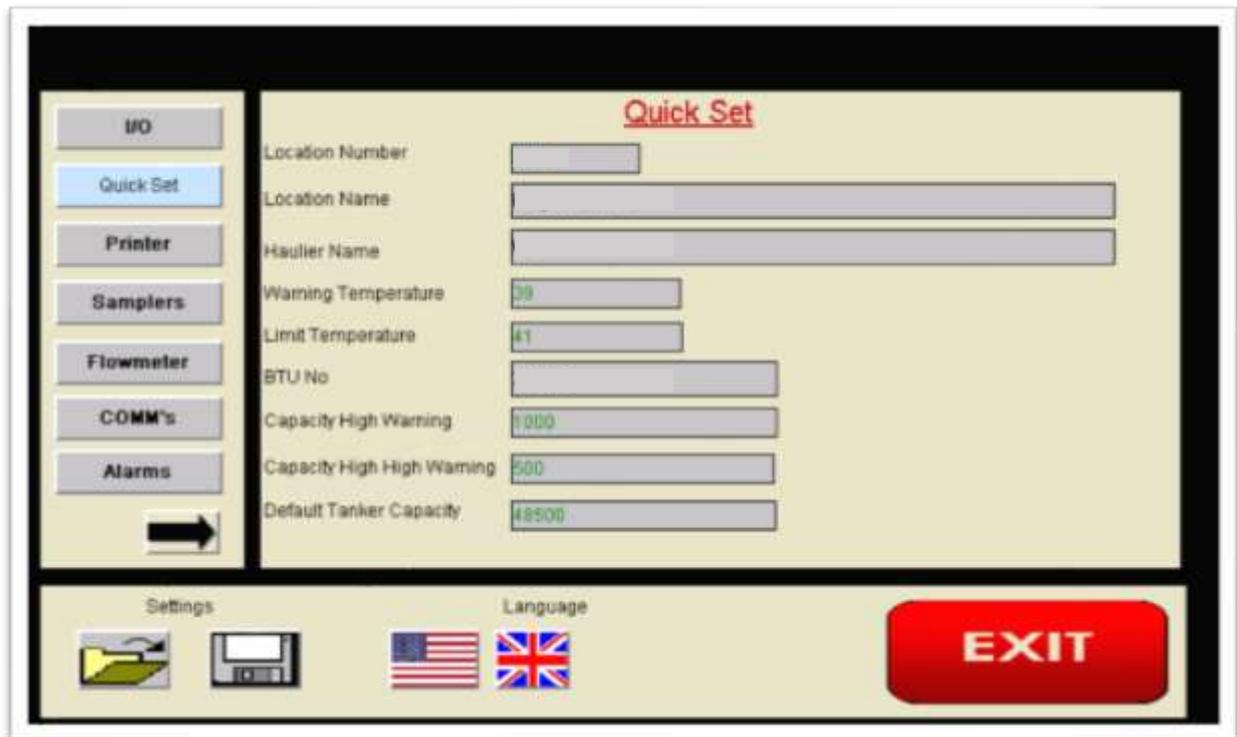
Image 7: Quick Set Menu

INPUT / OUTPUT (IO) CHECKS

The IO Menu is where the discrete system field device connectivity and operation can be checked.

This menu consists of an array of L.E.D icons with component descriptions beside them. *See Image 8 – Page 7.*

Inputs: If the field device sends an input signal to the system, operating this component should change the state of the L.E.D icon, changing its colour from grey (Off) to bright green (On) or visa-versa.

For example,

- The P3 probe at the meter is N.C., therefore if it is dry the corresponding L.E.D. icon should be bright green. Placing this probe in water should turn off the L.E.D.
- The Port switches should be N.O., therefore the corresponding L.E.D should be off until the delivery hose is connected to the Port and the switch closes.

<u>Output:</u> If the field device requires an output signal from system, selecting the corresponding L.E.D. icons should turn the L.E.D. icon on and send the required output signal to the field device.

For example,

- Selecting the Amber for the traffic light tower should turn on the Amber tier of the traffic light tower.

All field device components should be checked and correct operation verified as early as possible
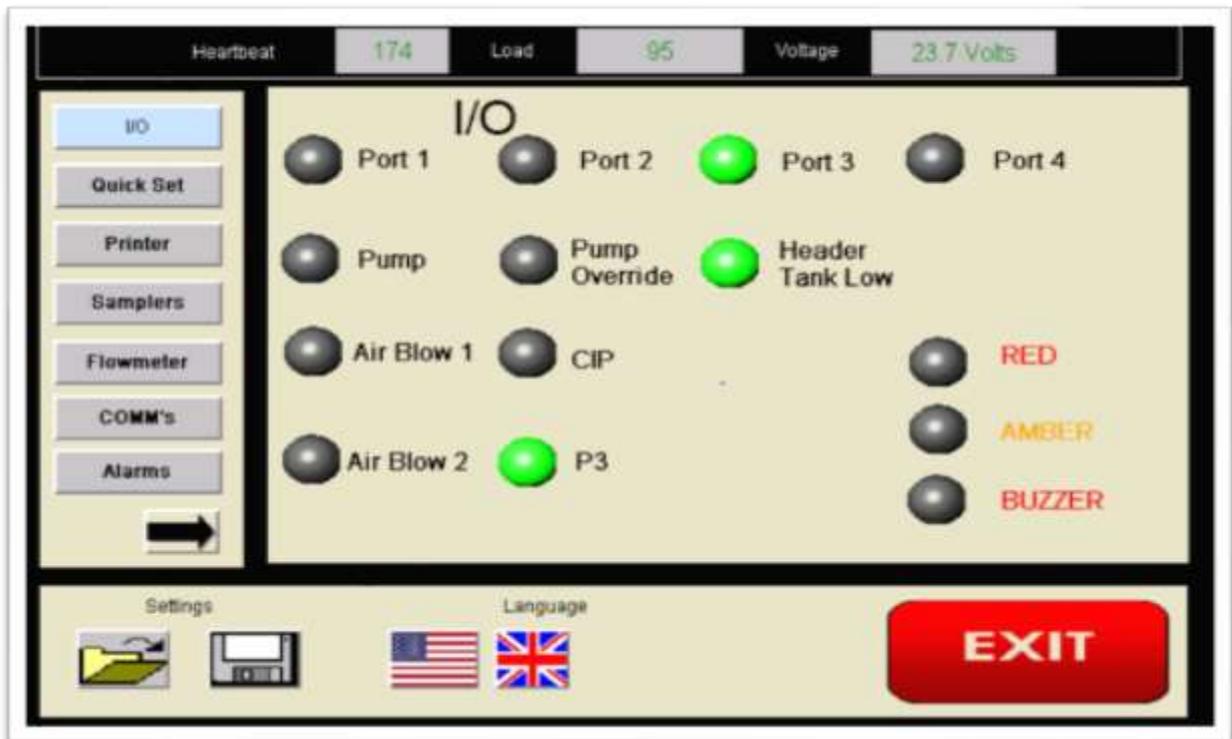
Image 8: IO Menu

SAMPLERS CHECK

It is also important to check the operation of the sampler before commencing milk volume metering. The Sampler(s) can be tested via the *Samplers Menu*. The *Samplers Menu* is accessed through the *Samplers* tab on the right-hand side of the *Main Menu* screen.

With the *Sampler Menu* open:

1. The user can test the Sampler(s) using the *Test* function.
2. It is recommended to test the sampler(s) to ensure
    a. The sampler(s) is/are operating
    b. The sampler(s) is/are spinning in the right direction.
3. If more than one Sampler is installed there is an arrow to progress to Sampler 2 menu window. *Image 9 below indicates where this arrow is found.*
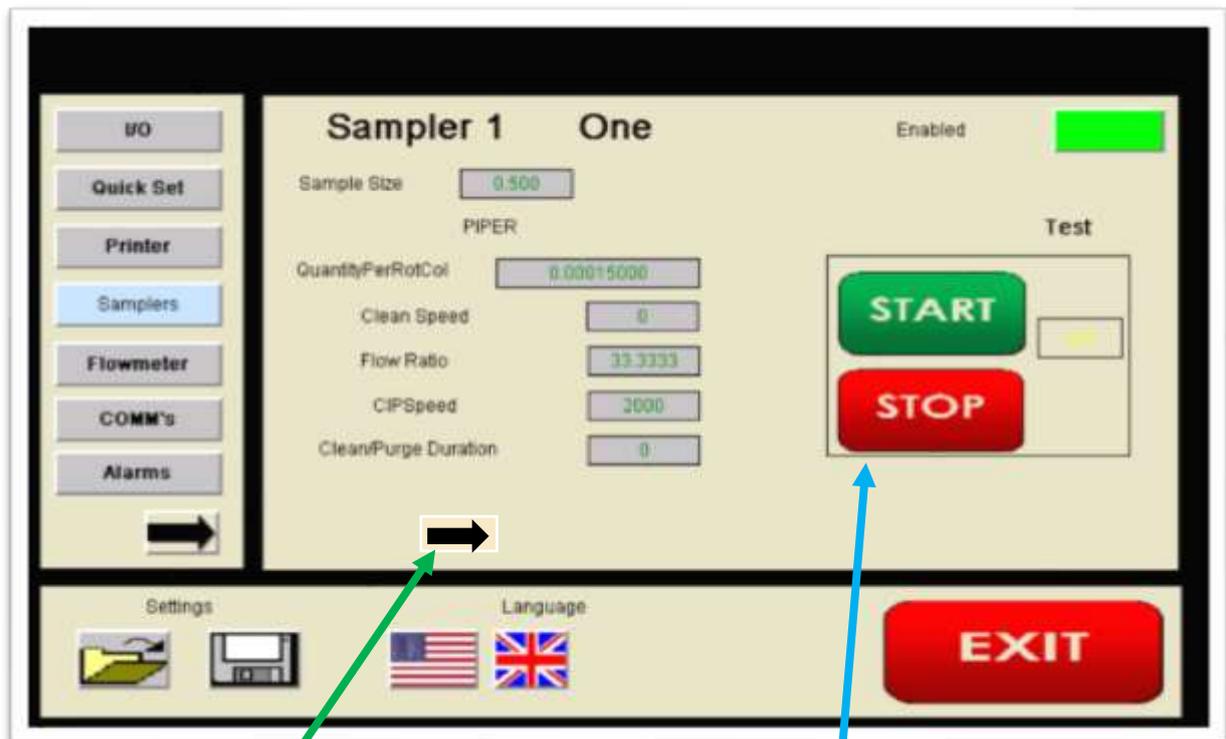
Image 9: Samplers Menu

Arrow for Access to Samper 2 Menu

Test Start & Stop

SYSTEM CHECKLIST

The following is a checklist of field device components and connections.

MAIN COMPONENT	SUB COMPONENT	INSTALLED	CHECKED AND OPERATIONAL
TS-7 Controller			
	Power		
	Ethernet Cable		
Delivery Port Interface Box			
	Port switches wired and connected		
Meter			
	P3 Probe		
	Temperature Probe		
Piper Sampler			
	Operating Correctly		
	QMI Port		
	Sample Temperature Probe in refrigerator		
Signal Interface Box			
	Air Blow 1		
	Air Blow 2		
	C.I.P.		
	Piper Balance Tank Low Level Probe		
Tower Light			
	Red Tier		
	Amber Tier		
	Buzzer		

FILE SET-UPs

TANK CAPACITY FILE

The user can request a Capacity.csv file from Piper Systems. This is an excel type file that is used to identify the capacity of a tank by its number. This means when an operator is registering a trailer and the trailer number is entered, the capacity of that trailer will automatically be populated. This removes the risk of overfilling a small trailer due the system operating with a larger default capacity. There is an example of the Capasity.csv file in *APPENDIX B*

MILK TYPE FILE

The user can request a MilkTypes.csv file from Piper Systems. The is an excel type file that is used to identify the milk type being metered. The user can define a milk type by a number in the file and enter a description of that milk type. For example, *"Everyday Milk"* or *"Non-Saleable Milk"*. When the operator is registering a load, they will select a Milk Type number and the load can be identified. There is an example of the MilkTypes.csv file in *APPENDIX C*

MENUS

To access the password protected menu refer to *ACCESSING THE PASSWORD PROTECTED MENU - Page 2*.

IO MENU
See *INPUT / OUTPUT (IO) CHECKS - Pages 6 & 7*

QUICK SET MENU
See *SYSTEM CHECKS - Page 6*

PRINTER MENU
The printer menu is very basic. It gives a visual indication that the Printer is enabled and also gives the operator the opportunity to Print a test ticket.
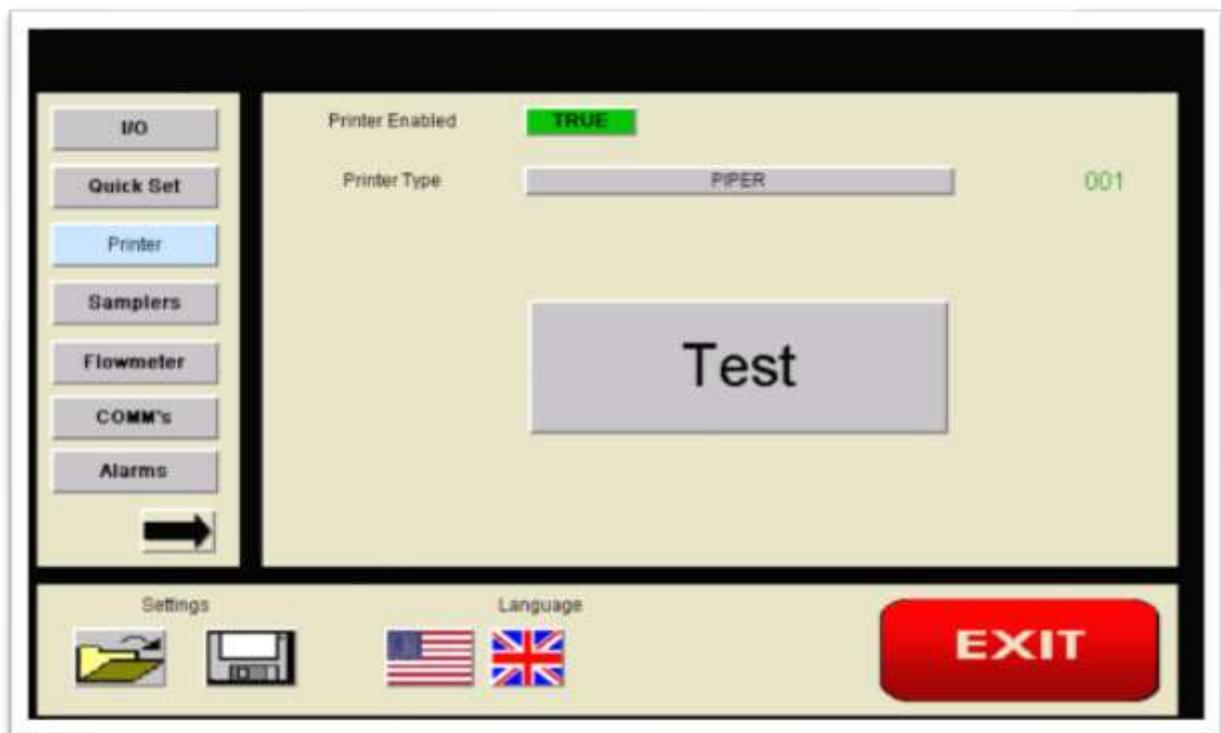
Image 10: Printer Menu

SAMPLERS MENU

Image 9 – Page 8

The Samplers menu is where Sampler(s) operation can be tested and settings can be adjusted.

Testing is simply a START / STOP operation.

- Sample size is the only field that an operator should need to alter. The sample size is entered in Pounds (Lbs). To take a 3 lb sample into a Qualitru sample bag, the sample size would be set to 3. Image 9 – Page 8 suggests a 0.5lb sample.
- Quantity per Rotation is a calibrated value, indicating the volume of liquid pumped through the sample wheel per full rotation
- Clean Speed – *Typically Not Applicable to Direct Loading.*
  Clean speed is the speed the sample wheel spins back before commencing a new load to purge the silicone tube of milk residue. It is only relevant if the sample tube is being left in place between loads.
- Flow Ratio – Calibrated Piper value.
- C.I.P Speed - *Typically Not Applicable to Direct Loading.*
  C.I.P Speed is the speed the sampler wheel spins during C.I.P if the sample tube is being left in place during C.I.P with the bag removed.
- Clean / Purge Duration - *Typically Not Applicable to Direct Loading.*
  See C.I.P speed above, this is the time in seconds the sampler would be active for.

FLOWMETER MENU

The flow meter menu is used when calibrating:

1. the meter size (factor)
2. the temperature probe.

Adjusting the Meter Size: The meter size (factor) should only be adjusted after a calibration proving the need to make the adjustment. To adjust the meter size (factor):

1. Enter the new meter size in the meter size numeric box. *Value = 0 in Image 11 below*
2. Press the arrow to implement the change and the new meter size should appear in the numeric box to the right of the arrow. *Value = 45438 in Image 11 below*

Adjusting the Temperature Probe: The temperature probe should only be adjusted after determining the exact degree of error using a calibrated temperature probe. To adjust the probe, enter a positive or negative value in the "Offset" numeric box and observe the change take effect in the temperature reading.

Image 11: Meter Menu

COMMS MENU

The Comms Menu is where connectivity to the Piper servers can be configured and checked. No changes should be made in this menu, unless instructed to do so by a Piper representative.

 The following are descriptions of the menu fields:

- SLOT NUMBER – This refers to the slot on the Piper Server that the system reports into.
- SERVER NAME – This refers to the DNS of the Piper server that the system transmits data to. If this is changed, no information will be received by Piper Systems
- SEQUENCE NUMBER – This number is used for validation between the system and the server is transmits data to.
- LOCAL IP: The Piper System has its own internal router and this I.P address relates to the Piper router.
- GATEWAY: This again relates to the internal router in the Piper System.

Note: GPS is not used for Direct Load Systems.
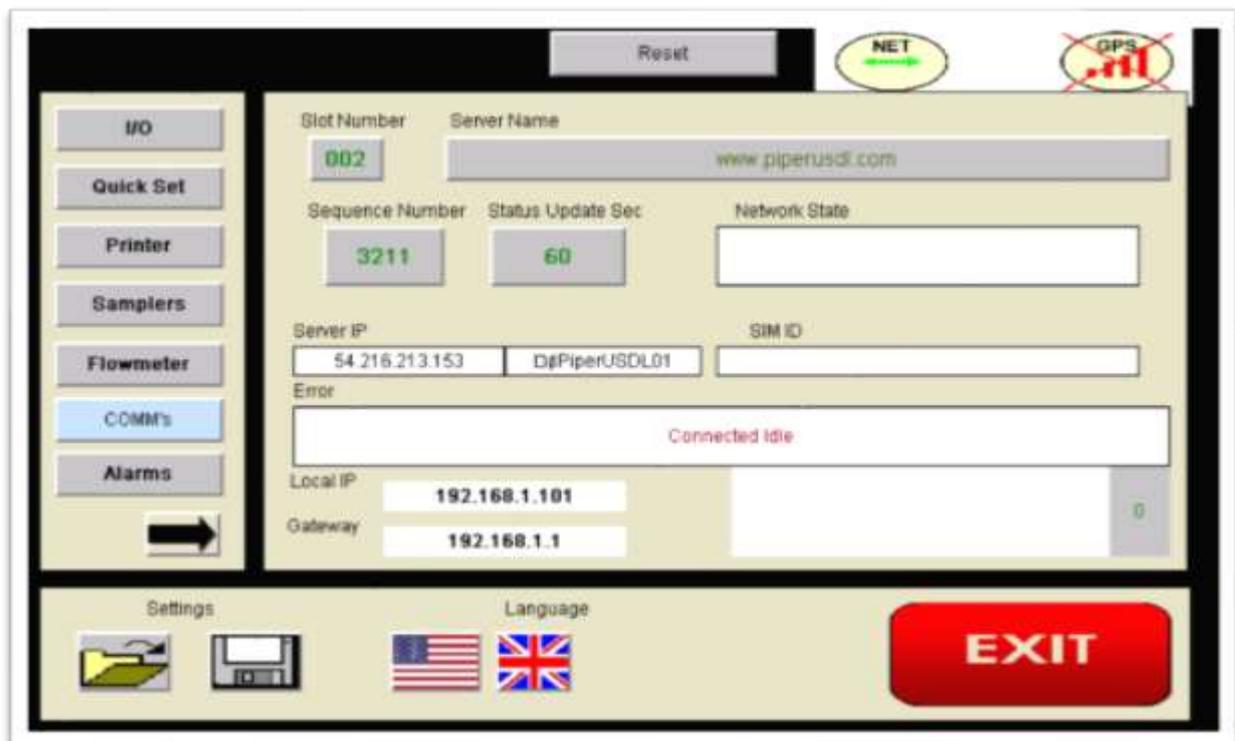
Image 12: Comms Menu

ALARMS MENU

This is a log on all existing and historic alarms. Current alarms that have not yet been acknowledged will be displayed on the main window. The operator can acknowledge these alarms by selecting *Confirm All.* There is also the option to view historic alarms and the operator can scroll through these windows using the tab left and tab right arrows.

DATE/TIME MENU

This is where the operator can change the date and time on the system. To make a change select the relevant icon and use the arrows to scroll to the correct value. *See Image 13 below.*

Image 13: Date / Time Menu

BRIGHTNESS MENU

The screen brightness can be adjusted using this menu. It is very straightforward and requires no further explanation.

SETTINGS/PARAMETER LIST (PARM LIST) MENU

The Settings File (PARM LIST) is where all settings for the system can be altered in one place. It gives the user the opportunity to change all User Defined parameters to best meet their individual requirements. A copy of this file with descriptive parameter meanings can be found in *Appendix A.* All User Defined parameters are highlighted in GREEN, all other parameters should not be changed.

BARCODE MENU

If barcode sampling is being used the barcode can be test scanned in this menu

MEMORY MENU

The Memory menu is used to Export files and local memory to the SD card. This is utilized by Piper when upgrading the system software. Do not use this menu unless instructed to do so by a Piper Systems representative.

Image 14: Memory Menu

USING THE SYSTEM

REGISTERING A TRAILER

The system can have four trailers registered at any one point in time. Registering a trailer is simple and can be done while another trailer on another port is being loaded.

1. First the operator must select a Port:
    a. On the Home Screen there are four vertically stacked icons of the back of a trailer. These icons represent Ports 1 – 4. Port 1 being on top and descending to Port 4 on the bottom.
    b. Select the Port icon that the trailer is parked at.
    c. Once the Port has been selected the Port Window will be displayed. *See Image 15 below*
2. Once a Port is selected there are three fields to enter values in:
    a. Number: This field is where the trailer number is entered
    b. Capacity: This field is where the trailer capacity is entered.
        i. If the Capacity.csv file has been downloaded to the system and the trailer number is recognised, the trailers capacity from the file will be prompted.
        ii. If the Capasity.csv file has not been updated with relevant trailer numbers the "Default Capacity" from the parameter list will be prompted. The operator will be required check and alter this value if it is not the capacity of the trailer being registered to the Port.
    c. Milk Type: This field is used to identify the milk port being loaded at that Port.
        i. If the MilkTypes.csv file has been downloaded to the system, the operator will enter a number to identify the Milk Type being metered for the load.
3. Once Trailer registration is complete the operator should select *START LOAD* and then the *Home* icon seen in *Image 15 below*.
   This does NOT mean that metered milk from this point on will be registered to that trailer. It does mean, that any milk that passes through the meter when Port 3 is connected from this point on, will be accredited to the registered trailer, until *End Load* is selected.
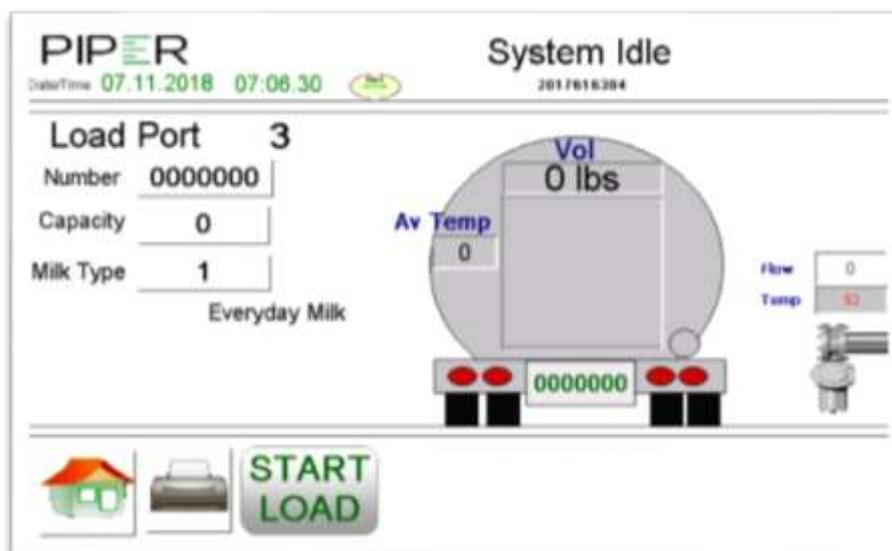
Image 15: Port 3 Window

CONNECTING A PORT AND COMMENCING LOADING

To begin loading into a trailer the delivery hose must first be connected from a Port to a trailer. Once this is complete the operator MUST visually check the Piper System *Home Screen* to verify that the system has received an input signal from the Port switch. This is indicated by the on-screen pipework connecting to the relevant port.

If the system does not receive an input signal from the Port switch and the operator fails to verify the connection on the screen, the system will not know which of the registered trailers the milk is being loaded into. Therefore, the milk will not be accredited to any trailer. Remember, there could potentially be four trailers registered. The exception to this is, if an operator realises they did not verify the connection on the screen and upon inspecting the screen does not see a connected port, rectifying this before a loading is *Finished* or before a C.I.P. is initiated will correct the loaded volume into the trailer registered at the connected Port.

Image 1 – Page 2 shows a system with no port connected

Image 16 shows the on-screen pipework is now connected to Port 3 Trailer 204.
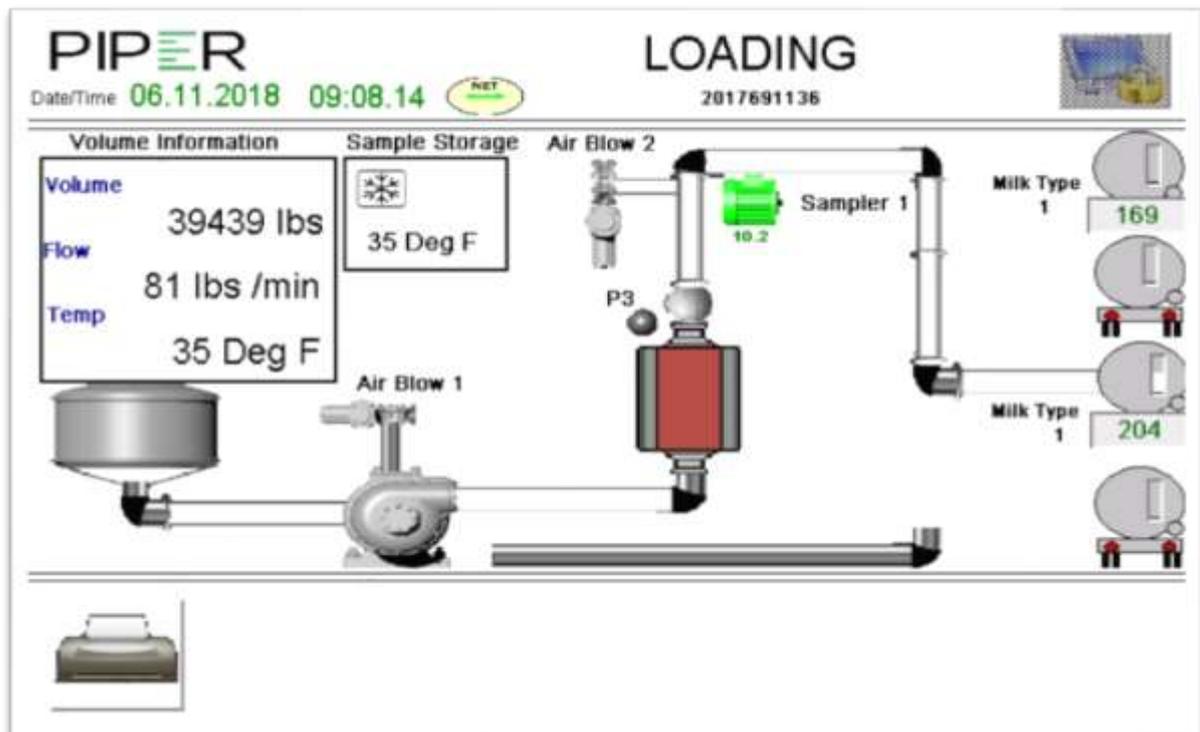
Image 16: On-screen pipework connected to Port 3 trailer 20

MANUALLY SELECTED PORT

In the event that there is flow in the meter and no Port switch input signal is being received by the system a *Port Selection* window will be displayed on the screen. The first action for the operator in this event should be to check the port switch and try rectify the problem there. If the Port switch is faulty and not closing the operator should Manually select a Port on the screen from the *Port Selection* window. This should only be utilised when completely necessary because a change of state from (1) Loading to Idle or (2) C.I.P to Loading will require the operator to reconfirm the manual port selection. A manually selected port is indicated on the *Home Screen* by an image of a hand over the port. *Image 18 shows the Home Screen with a manually selected port on Port 2*
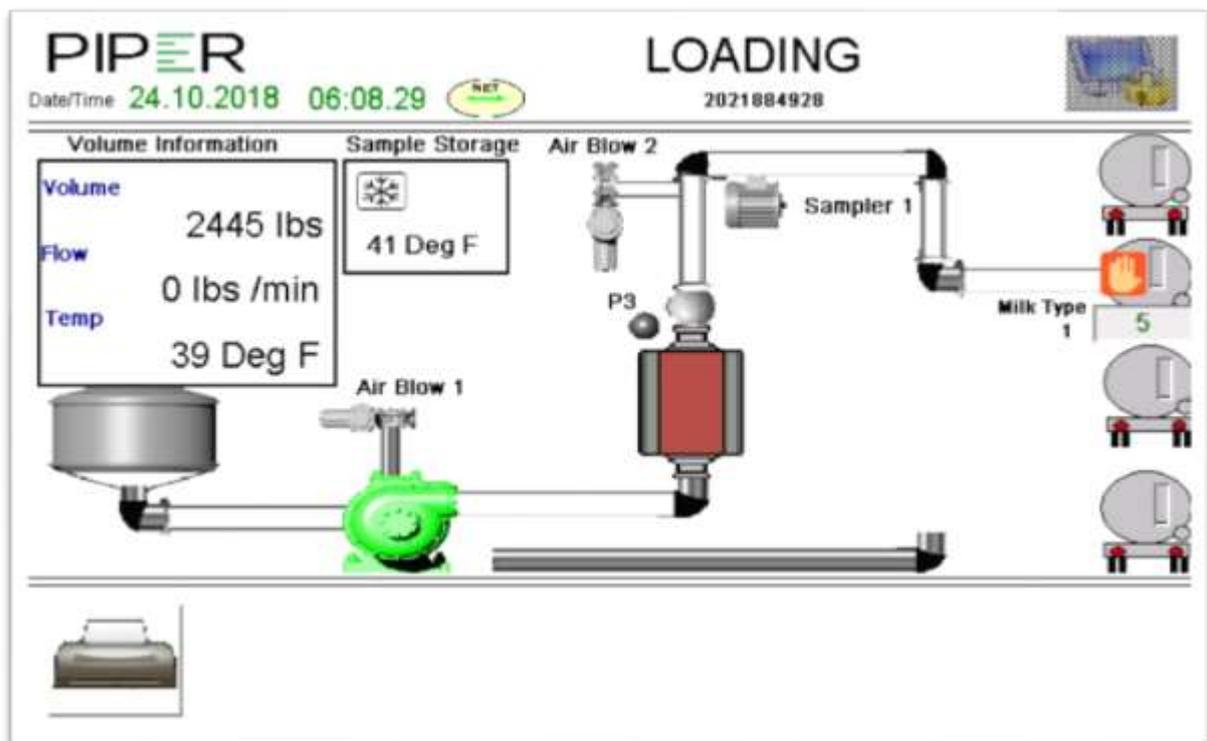
Image 18: Manually Selected Port on Home Screen

LOADING VIEW

The operator can monitor the current loading from two screens.

The Home screen will display:

1. Loaded Volume
2. Flow Rate
3. Milk Temperature
4. Sample Temperature
5. The Connected Port
6. All registered trailers
7. All field device activations, indicated by turning GREEN in colour. See Sampler 1, *Image 16 – Page 17.*

The operator can also select the trailer icon for any port to view registered trailers or the current Load status of the connected trailer. *Image 19 below shows a trailer on Port 1 during loading.*

Here the operator can see:

- Loaded volume
- Trailer Number
- Trailer capacity
- Milk Type
- Flow rate
- Current temperature
- The average temperature over the loaded volume
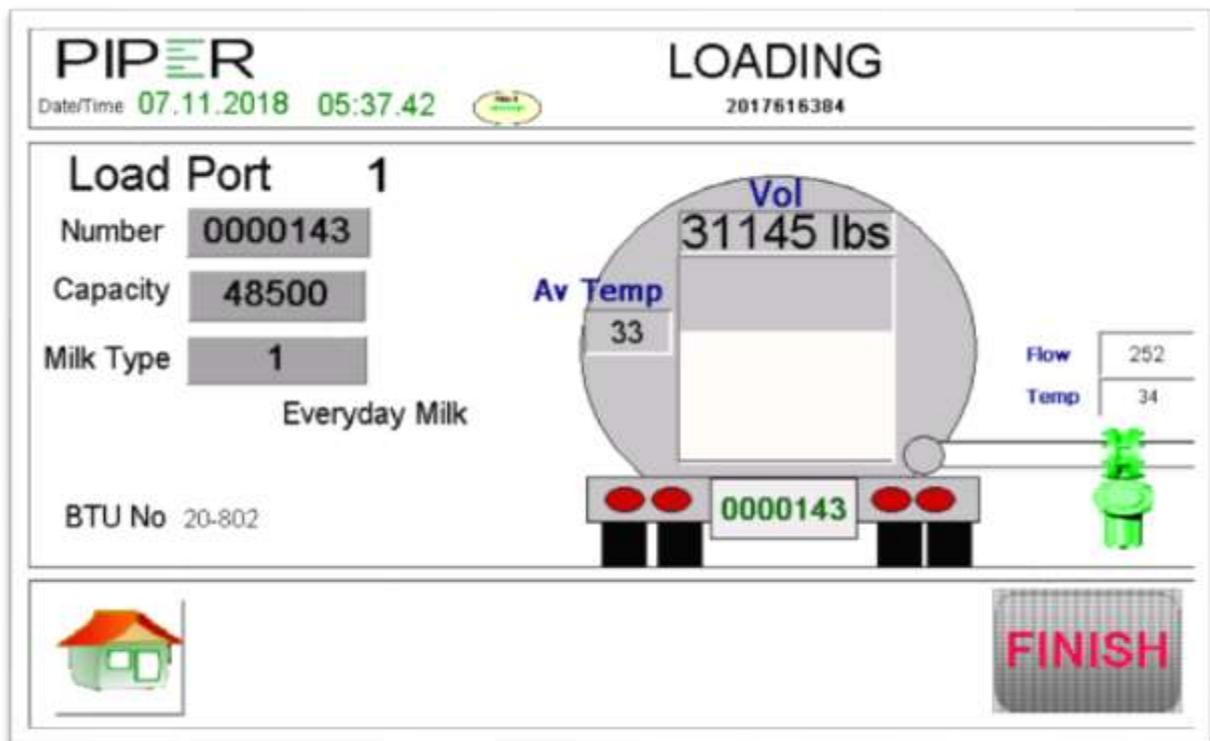
Image 19: Viewing Loading through Port Window

FINSIHING A LOAD

1. To Finish and "End the Load", the operator must select the Port on the *Home Screen*.
2. On the Port Window, select *Finish*. <u>*See image 19 – Page 19.*</u>
3. Once *FINISH* has been selected the operator will be brought to the *END LOAD* window. <u>*See image 20 below.*</u>
4. Here, the Sample Number, Samplers I.D., Manifest Number and Load Tracking ID can be scanned, with a barcode scanner, or manually entered by selecting the numeric box and entering the correct number through the pop-up *Keypad* window.
    a. These fields can have a maximum of 9 characters entered. If a ten-digit number is entered the keypad will revert to 999999999
5. Once these values have been entered and the operator is satisfied they are correct, they should select END LOAD.
6. The load is complete and no amendments can be made.

C.I.P.

The system logs all C.I.P data and presents it on the Piper Portal. The system records:

1. the volume of fluid that passes through the meter
2. the maximum and minimum temperatures of the C.I.P fluid

There user can define a valid C.I.P. by entering values in settings parameters:

- C.I.P. Max temperature (deg F)
- C.I.P Min Volume (Lbs)
- C.I.P. Validity Period (Hours)

If the user chooses to utilise this functionality and enters values against these parameters, the system will monitor C.I.Ps. If the defined temperature is not reached or the minimum volume of C.I.P fluid not metered, the system will prompt the user to perform C.I.P and will discontinue metering until these parameters are met. The C.I.P validity period ensures a C.I.P is performed every XX hours. If this period of time elapses and the system is in a "Loading State", the system will allow loading to continue until the system goes into an "Idle State". Once this happens the system will discontinue metering until a C.I.P is performed.
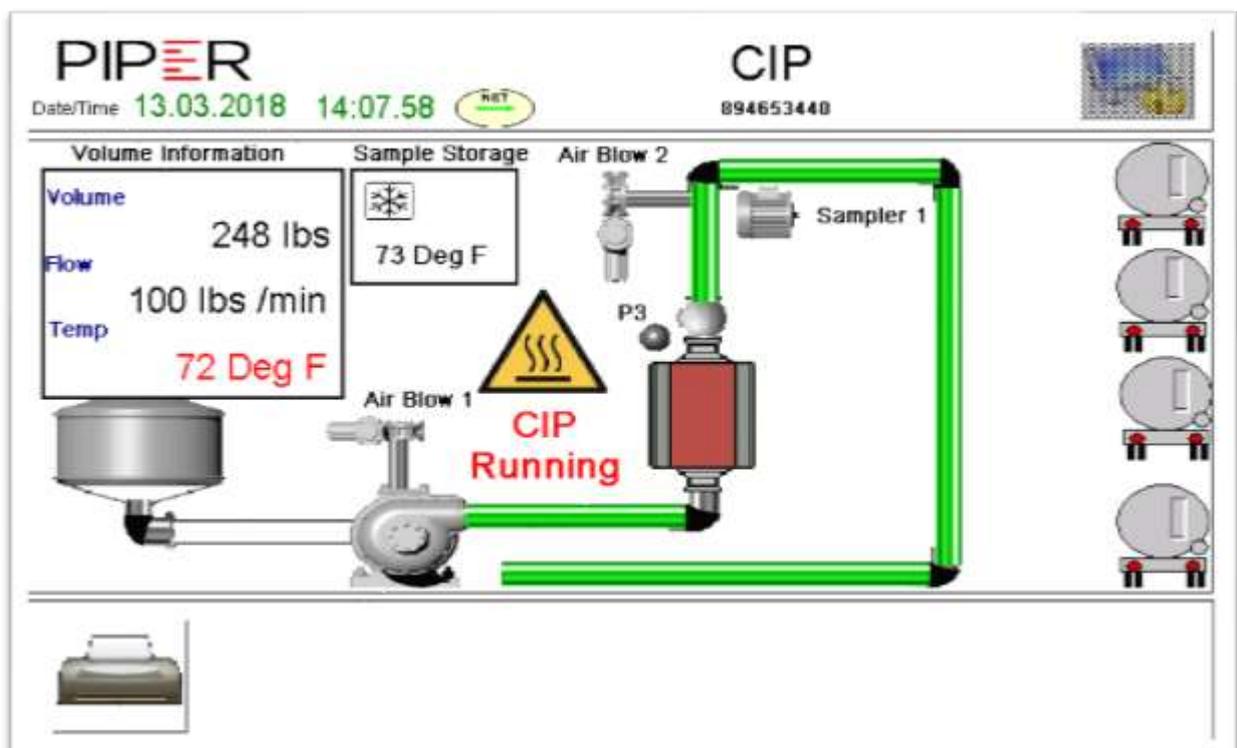
Image 21: C.I.P Activation

Traffic Light Warning System

The system is supplied with a traffic light warning tower to warn the operators in the parlour of system events. There are three tiers to the tower:

1. Top Tier: Audible Buzzer
2. Middle Tier: Amber
3. Bottom Tier: Red

The sequences of activation are as follows:

- Trailer Capacity Warning:
    - Momentary activation on the buzzer with Flashing RED tier
- Trailer Capacity Limit:
    - Continuous activation of the buzzer with Solid RED tier
- Sample Temperature Limit:
    - Momentary activation of the buzzer with Flashing AMBER tier
- Milk Temperature Limit:
    - Momentary activation of the buzzer with Solid AMBER tier

ACCESSING THE PRINT REPORT PAGE

The operator has the option to re-print the previous C.I.P and Load Dockets. There is a printer icon located on the bottom left corner of the *Home Screen* to access this window.

- Reports CIP: This will print previous C.I.P report, showing temperatures and volume
- Load Docket: This will print previous completed load for the selected port.
- Load Report: This will print the milking records of the previous load for the selected port
  - o Milk Start, Milk Stop, Volumes, Temperatures.
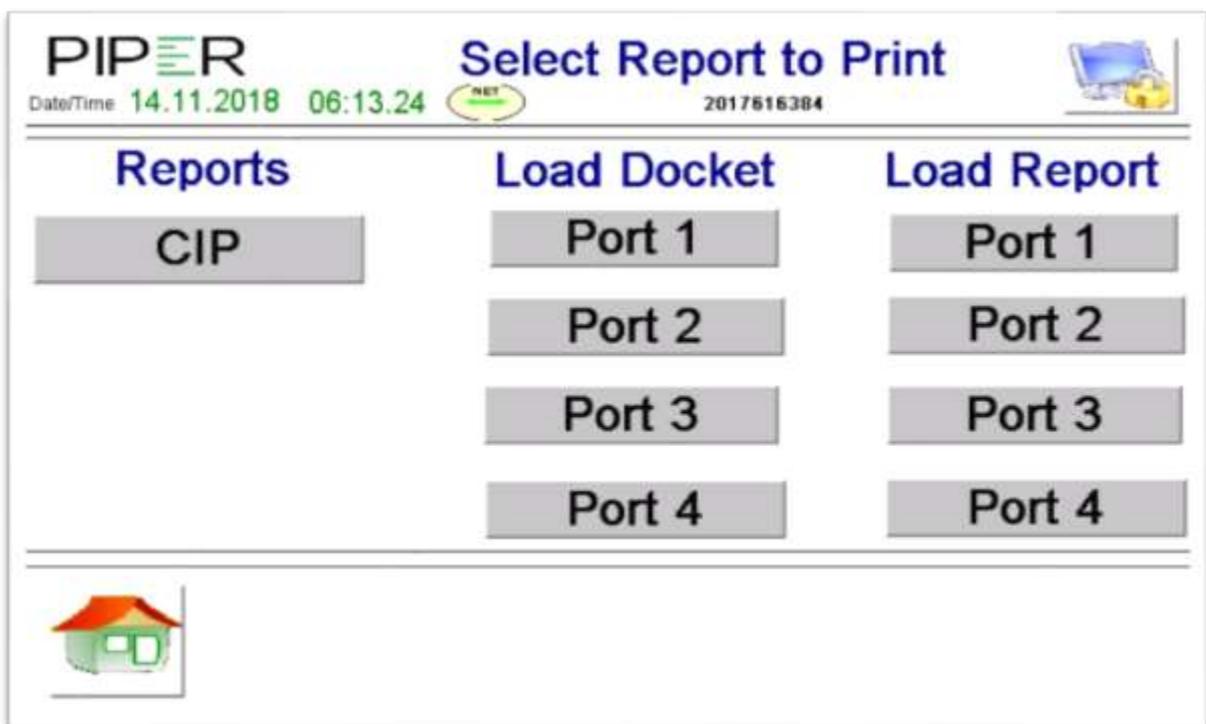
Image 22: Print Report Page

PIPER PORTAL

The Piper Systems Portal gives the user a complete over-view of the system performance. The user can:

- Live track a current loading
- View historic records of Loads and C.I.P.
- Set up reports and Alerts

PORTAL MONITORING - What to look for.

Once logged-in, the user is first presented with the Dashboard screen. This is a quick oversight of the systems most recent events. _See image 23 below._
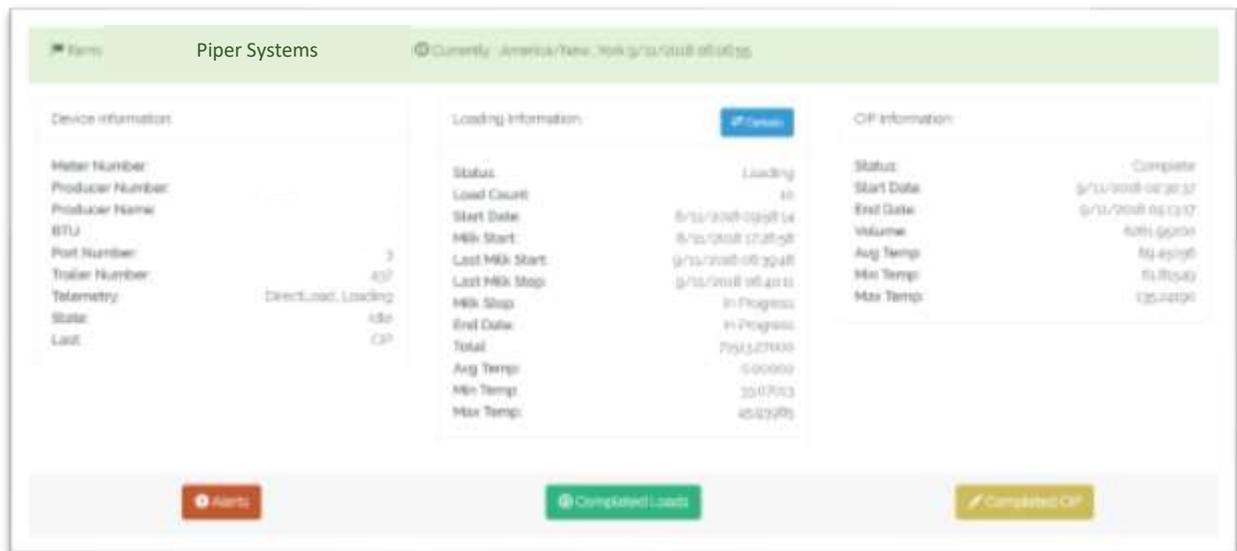
Image 23: Portal Dashboard
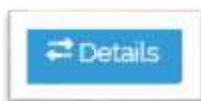
The Details tab can be found on the _Load Status_ pane. Here you will find information relating the current load. The tabs on this page such as Charts, Export, Alerts, Telemetry are the same tabs you will find on the completed loads page. These will be explained later
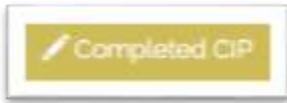
The Completed C.I.P tab can be found on the _C.I.P Status_ pane. Here you will find historic records of C.I.Ps. There is Chart tab that will bring you the bottom of the page where you will find a graphical representation of the C.I.P records. The Y-Axis has the temperature, while the X-Axis has references time. The Export Tab will allow you to export these records to an Excel file

The Completed Loads tab will show information for all previously loaded trailers. A glance over the preview of each loading will indicate:

- Trailer number
- Trip number
- Manifest Number
- Load Tracking ID
- If Prime was added
- The number of milking events during the loading (Records)
- The milk Start and Stop time
- The Ticket print time (This is useful when comparing to a scale because the driver usually prints the ticket, so you can reference the ticket print time to the Scale)

Selecting VIEW will bring you to the records for a loading. Within the records page there are 4 tabs:

- Chart
- Export
- Telemetry
- Alerts

Before looking at these tabs there are some key indicators on this screen that can identify where any error may have occurred. The key columns here are the Prime column and the Pumping Error column.

The Prime column will indicate if or when Prime was added. You should see Prime added before entering C.I.P and in the case where no Air-blow 2 is installed Prime should be added at the end of every loading.

CHART will again bring you to the bottom of the page for a graphical representaion of the loading.

EXPORT will export the loading records to an Excel file where you can manipulate the file, perform calculations and try to determine where an error occurred.

TELEMETRY will give you a more in-dept look at the system during the loading. This can all be *Exported* to an excel file format to view and work on. You can see minute by minute:

- Loading State
- Product and Sample Temperature
- Flow Rates
- Volume register states

ALERTS will give you an indication of the state of the discrete devices on the system during the loading. This can be very useful for determining if the operator has followed the correct procedure when:

- Draining down the Balance tank.
- Entering a C.I.P.
- Connecting Ports.

ERRORS EXPLAINED

PUMPING ERRORS

Pumping errors are an indication that the S.O.P was not followed. There are a number of errors that might appear here. The key errors are:

- AB1-P3WET. This tells us that Air Blow one was activated but P3 was not dry at the moment it was deactivated. Prime will be added to the load if this occurs but Piper determine this to be a mis-measure because it cannot be guaranteed that the full prime volume was blown into the Trailer.
- AB1 - LOADING: Air blow 1 was activated while system was in a "Loading State".
  This would indicate that:
  1. There was still flow in the meter or the Loading state timer had not timed out.
  2. The Piper balance tank low level probe was still wet when Air-blow 1 was activated. If this was dry, the system would not have been in a Loading State.
- AB2 - LOADING: Air blow 2 was activated while system was in a "Loading State".
  This would indicate that:
  1. Air blow 2 may have been activated while pump was running
  2. Air blow 2 was activated when pump was stopped but flow had not ceased in the meter
- BT L-H No AB1: The balance tank level fell below the Piper low level probe and rose above the Piper low level probe without an Air Blow 1 activation. During this time, due to the low volume of milk in the tank it cannot be guaranteed that air was not metered. In this event, a mismeasure is be declared.
- Flow No Port: Flow no port indicates that the system was NOT receiving an input signal from a Delivery Port switch and an operator had not manually selected a Port. This results in milk being metered by the system but the system not crediting that milk to any trailer loaded volume. If this occurrs during part of a loading but is subsequently corrected after a C.I.P. there is a risk of over-filling the trailer due to the system not recognising the volume of milk in the trailer during this error event.
- MCReset: This is a flag to indentify that the system was powered down.

METER ERRORS

Meter Errors are an indication that the meter is experiencing abnormal conditions. These include:

- A Flow rate greater than the meters manufactured specifications
- Air in the meter

As Piper Direct load systems are typically supplied with a 1.5" meter capable of flow rates up to 750 lbs/min, it is usually the presence of air that causes these errors. The user should check if there was an Air Blow activation at the time of these errors. The key errors are:

- Flow > Max: The meter is identifying a flow rate greater than the max flow rate it is capable of operating with.
- Flow > Max Pi em: Flow greater than Max is the Pipe Empty? The meter is identifying a flow rate greater than the max flow rate it is capable of operating with and is querying if the pipe was empty.
- Vol2 Overrun: This is a default message from the meter indicating that internal volume register 2 has reached its maximum value and reset to zero. This is normal and expected and does not need any further attention.

REPORTS & ALERTS

REPORTS & SCHEDULING

A Portal user can set up *Milk Volume* reports that will generate a PDF of the total loaded volume per port selected. This report can then be scheduled to be emailed to the user at a user defined frequency.

To set up and schedule a report follow these steps:

1. On the Portal Dashboard, select *Reports* from the blue taskbar across the top of the page.
2. The *Reports* page will be displayed, select   **+ New Report**

3. In the new report window, give the report a title and description and select *SAVE.*

4. Select   **+ Add Task**   , then select   **Select Type**

5. From the drop-down menu, select *Shift Report.*

6. Select   **Select Task**   , then *Total Milk Volume*

7. Select   **Add - Shift Report1**

8. If steps 1 – 7 were completed successfully you should arrive at a window similar to *image 24 – page 28.*
9. Select the three vertical dots shown in *image 24 – Page 28* to edit the shift report to meet your requirements.
10. Select *Set Task Range* to define the time range of the report.
11. In the *Start Shift Time* window, enter the time you would like the report to start from. For the purposes of this report, 15:00 (3pm)
12. In the *Start End Time* window, enter the time you would like the report to run to. For the purposes of this report, 23:00 (11 pm)
13. Select the Ports that you would like to include in the report. For this report, Ports 1-3 are selected and Port 4 will not be included in the report.
14. If steps 9 -14 were completed successfully, the report edit window should look similar to *image 25 – page 28.*
15. Select   **Apply**   and   **Close**

16. The report should now be visible on the main *Reports* page. Select the report, turning it Green and select   **Show Report**   on the bottom right corner of the screen.
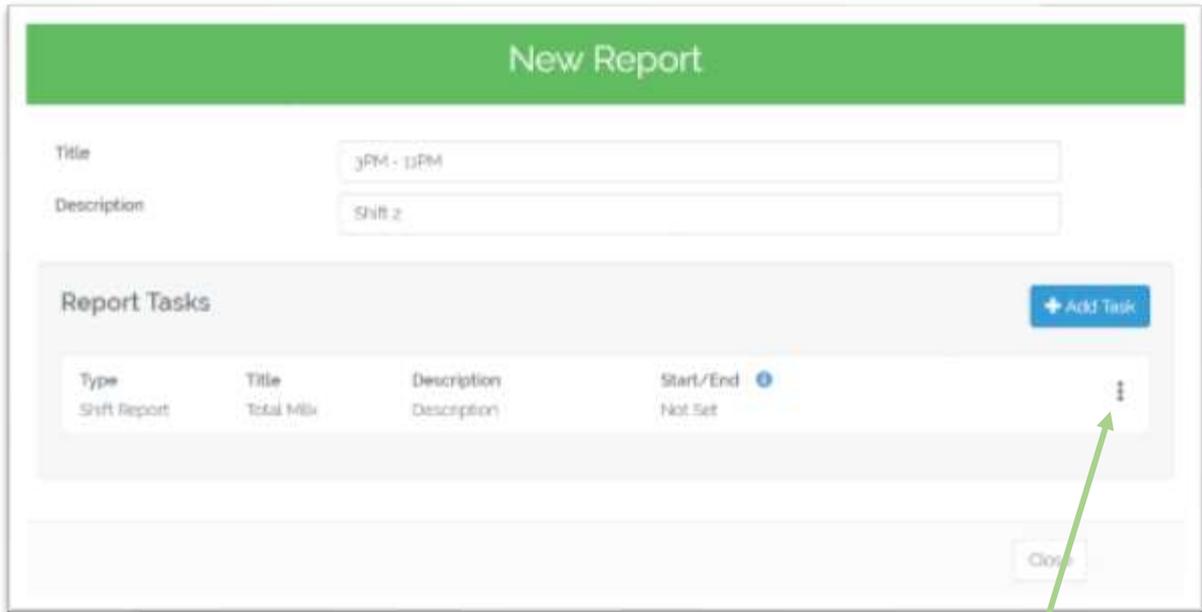
Image 24: New Report Window

Select the three vertical dots to Edit the report
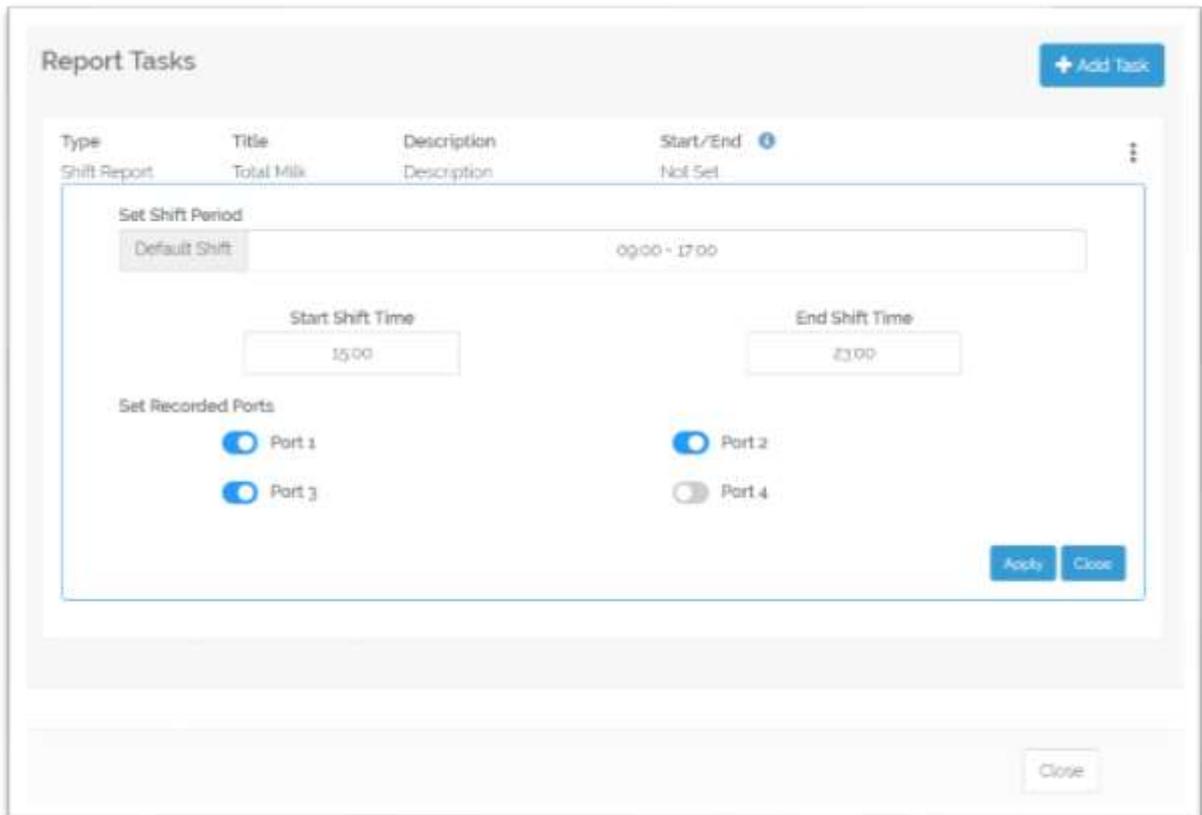
Image 25: Edit Report Window

SCHEDULING A REPORT

To schedule a report to be automatically emailed at set intervals follow these steps:

1. On the main *Reports* page, find the report that you want to schedule.
2. Select the three vertical dots to engage the edit pop-down window. *See Image 26 – Page 30*.
3. From the drop-down window, select *Edit Schedule.*
4. Select [Create Schedule] , followed by *Weekly* from the drop-down menu.

5. To create a schedule for everyday of the week repeat step 4 seven times.
6. Your screen should then look similar to *Image 27 – Page 30* but all days will be set to Monday.
7. To edit this, the *Device* must be selected first
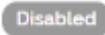8. Only after the device is selected can the Day or the Time changed. The time refers to the time the email will be sent, so be sure to set this time to later than the end of report time. For this report it is set to 23:30, 30 minutes after the shift ends.
9. Make sure to change the *Status* of each day to [Active] by clicking on [Disabled]

10. Once steps 1 – 9 are complete select *Close* on the bottom right of the screen.
11. The report and schedule are now set up and should run automatically.

ADDING EMAIL RECEIPIENTS TO AN EXISTING REPORT

A Portal user can add additional email addresses to reports they have set up on their profile. The new email address does not have to be linked to a Portal user profile. The following steps will show how to do this:

1. On the main *Reports* page, find the report that you want to add a new email recipient too.
2. Select the three vertical dots to engage the edit pop-down window. *See Image 26 – Page 30*.
3. From the drop-down window, select *Edit Schedule.*
4. Once in the *Report Scheduler* page, select the three vertical dots on the right to edit each schedule. *See Image 27 – Page 30.*
5. Select *Edit Email Addresses* from the drop-down window.
6. Enter the new email address in and select *Add.* The new email address should appear on the left-hand side beside the existing email recipients address. *See Image 28 – Page 31*.
7. Step 6 can be repeated to add more than one new recipient. Once all new email addresses have been added select *Close Email Editor.*
8. Repeat steps 4-7 for every day in the schedule if required.
9. Once complete close the *Report Schedule* page.
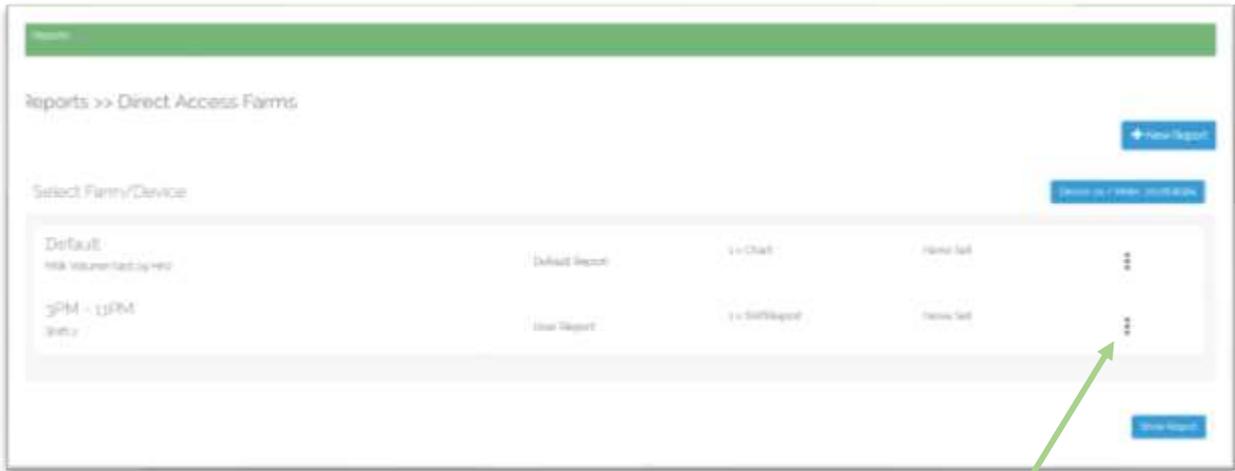
Image 26: Main Reports page

Select the three vertical dots to Edit the report
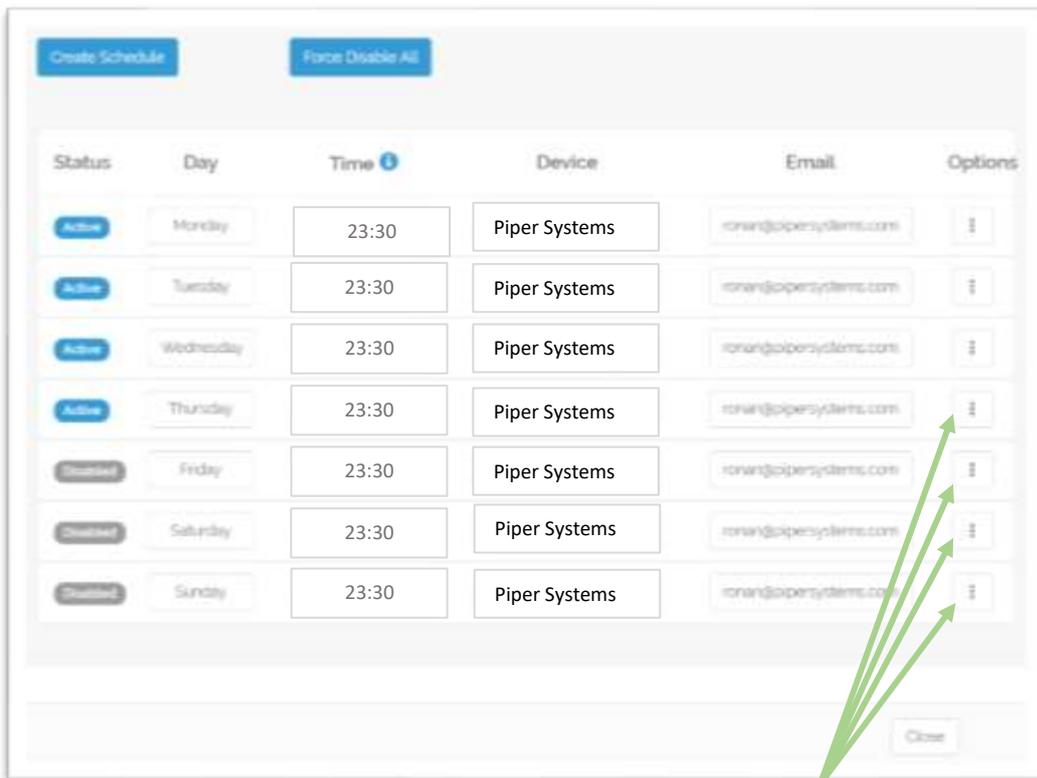
Image 27: Reports Scheduler page

Select the three vertical dots to Edit Schedule

Enter the new email address and select Add. The new email address should appear below the existing ronan@piperystems.com address.
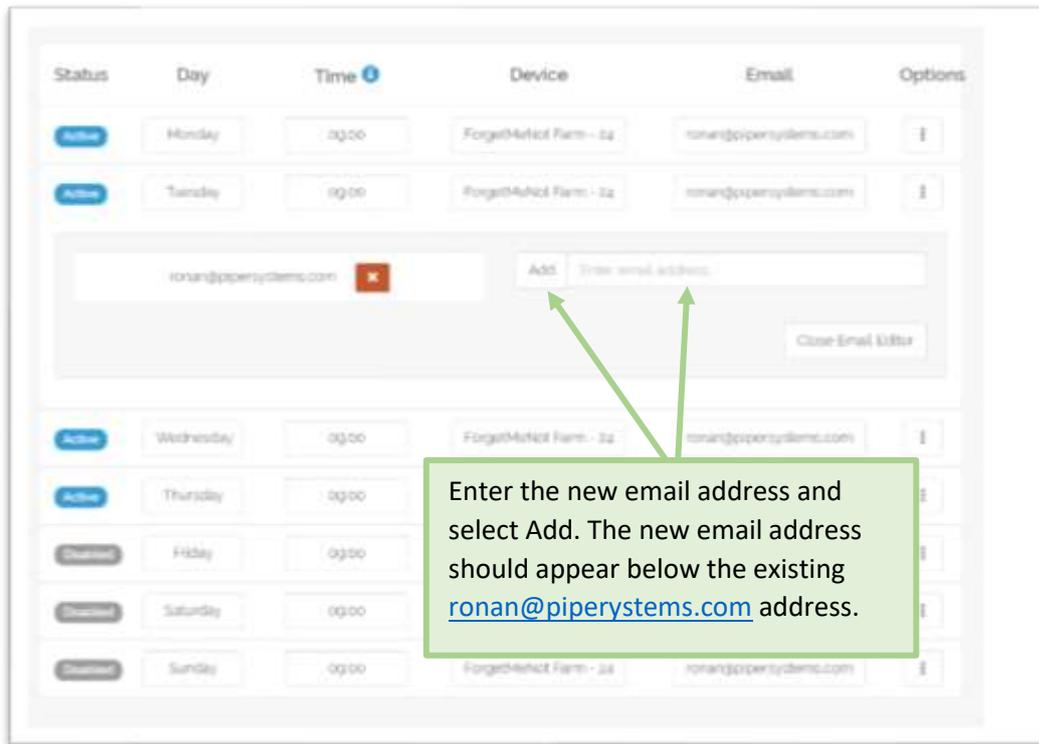
Image 28: Adding email recipients

ALERTS

A portal user can set up text an email alerts for over temperature events.

To set up these alerts:

1. Select *Custom Alerts* from the blue bar across the top of the Dashboard page.
2. Select   Add ➕

3. The user can now enter their email address and cell (mobile) phone number in the *Custom Alerts* window and select *Submit* to complete. *See Image 29.*

Select Real Time
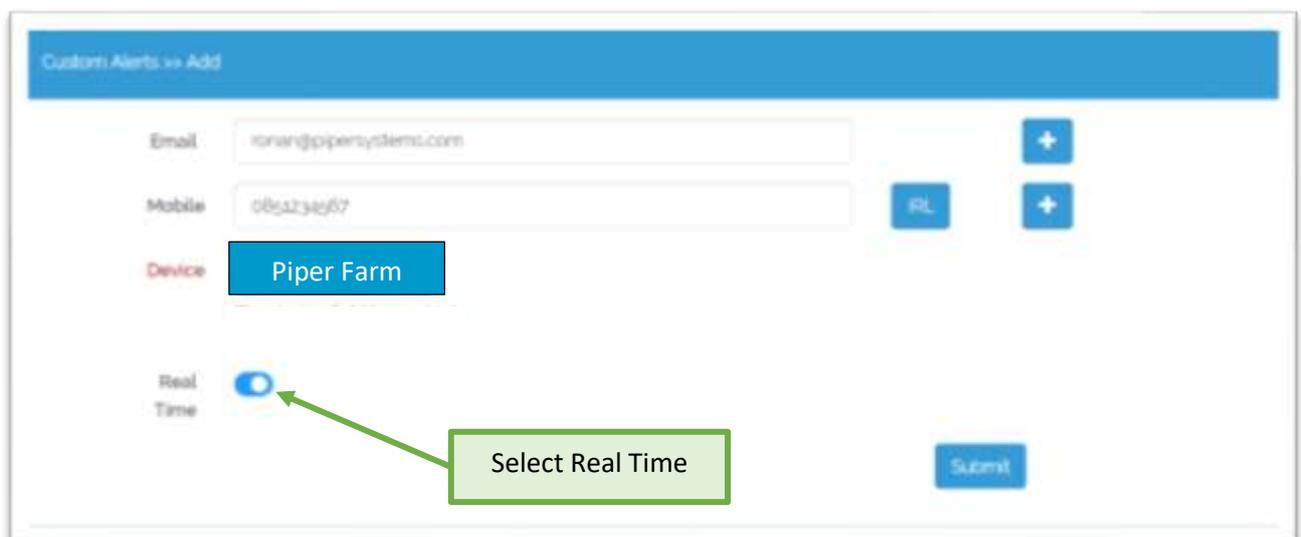
Image 29: Custom Alerts window

APPENDICES

APPENDIX A: Settings file (PARM LIST) with Descriptions

1	TruckNumber=****	Pre-configured or Defined by Master Controller (Master Controller truck number)
2	DirectLoadLocationNumber=*****	User Defined:Farm / Producer Number
3	DirectloadLocationName=******	User Defined:Enter Farm Name Here
4	HaulierName=******	User Defined:Enter Haulier Name Here
5	DH_Client_Slot=******	Pre-configure or Defined by Piper Systems
6	DH_Client_RemoteIP=www.piperusdl.com	Pre-configure or Defined by Piper Systems
7	DH_Client_RemotePort=*****	Pre-configure or Defined by Piper Systems
8	NoFlowTimeout=240	Pre-configure or Defined by Piper Systems
9	MinimumFlow=0.96	Pre-configure or Defined by Piper Systems
10	Prime=***	Installer Defined: Site unique volume must be calibrated by the Installer
11	WarningTemperature=40.0	User Defined: Temperature for warning alarm/alert. 40.0 = 40 degrees (F)
12	LimitTemperature=42.0	User Defined: Temperature Limit
13	OvrTempOnAverage=FALSE	User Defined: Over Temperature Alerts work off an average over * minutes
14	MinFlowBeforeTempAvG=40.0	User Defined: Minimum volume through system before average temperature is calculated
15	TemperatureOffset=0.0	User Defined: For calibrating Temperature probe
16	Printer_Enabled=TRUE	Pre-configure or Defined by Piper Systems
17	Printer_Type=1	Pre-configure or Defined by Piper Systems
18	CIPValidMinLiters=50.0	User Defined: Set minimum volume passing through the system before a C.I.P is recognised as valid
19	CIPValidMinMaxTemp=50.0	User Defined: Set minimum temperature passing through the system before a C.I.P is recognised as valid
20	CIPValidDuration=0	User Defined: User can define time period after which a C.I.P must be carried out

21	StartPoint=20.0	User Defined: Minimum metered volume through system after trailer swap before sampling commences.
22	DisplayResolutionVolume=0	Pre-configure or Defined by Piper Systems
23	DisplayResolutionTemp=1	Pre-configure or Defined by Piper Systems
24	ReportHeadderEnableRegister=16383	Pre-configure or Defined by Piper Systems
25	DH_Retry_Wait=300	Pre-configure or Defined by Piper Systems
26	DH_Retry_Max=2	Pre-configure or Defined by Piper Systems
27	SamplerSettings[1].Implementation=1	Pre-configure - defines the Sampler type: Piper Sampler or Pulse Sampler etc. Seek advice from Piper before altering.
28	SamplerSettings[1].BottleSize=3.0	Pre-configure - can be adjusted to alter sample volume taken
29	SamplerSettings[1].SampleSize=3.0	Pre-configure - can be adjusted to alter sample volume taken
30	SamplerSettings[1].QuantityPerRotCol=3.42e-4	Pre-configure or Defined by Piper Systems
31	SamplerSettings[1].QuantityPerStroke=0.0	Pre-configure or Defined by Piper Systems
32	SamplerSettings[1].OnTime=0.0	Pre-configure or Defined by Piper Systems
33	SamplerSettings[1].MinimumOffTime=0.0	Pre-configure or Defined by Piper Systems
34	SamplerSettings[1].CleenSpeed=0	Pre-configure - for use with non Piper samplers
35	SamplerSettings[1].CleanFreq=0.0	Pre-configure - for use with non Piper samplers
36	SamplerSettings[1].Cleanduration=0.0	Pre-configure - for use with non Piper samplers
37	SamplerSettings[1].StartLtrs=3.0	Pre-configure - allows * volume to pass through meter before sampling commences to ensure no carry over from previous load
38	SamplerSettings[1].FlowRatio=33.33333	Pre-configure or Defined by Piper Systems
39	SamplerSettings[1].CIPSpeed=2000	Pre-configure - for use with non Piper samplers
40	SamplerSettings[2].Implementation=0	Settings for second sampler if in use. See similar above
41	SamplerSettings[2].BottleSize=3.0	Settings for second sampler if in use. See similar above
42	SamplerSettings[2].SampleSize=3.0	Settings for second sampler if in use. See similar above
43	SamplerSettings[2].QuantityPerRotCol=3.42e-4	Settings for second sampler if in use. See similar above

44	SamplerSettings[2].QuantityPerStroke=0.0	Settings for second sampler if in use. See similar above
45	SamplerSettings[2].OnTime=0.0	Settings for second sampler if in use. See similar above
46	SamplerSettings[2].MinimumOffTime=0.0	Settings for second sampler if in use. See similar above
47	SamplerSettings[2].CleenSpeed=0	Settings for second sampler if in use. See similar above
48	SamplerSettings[2].CleanFreq=0.0	Settings for second sampler if in use. See similar above
49	SamplerSettings[2].Cleanduration=0.0	Settings for second sampler if in use. See similar above
50	SamplerSettings[2].StartLtrs=3.0	Settings for second sampler if in use. See similar above
51	SamplerSettings[2].FlowRatio=33.33333	Settings for second sampler if in use. See similar above
52	SamplerSettings[2].CIPSpeed=2000	Settings for second sampler if in use. See similar above
53	EnableStatusBackFill=TRUE	Pre-configure or Defined by Piper Systems
54	PNet_MeterSize (Readonly)=45437.56	Pre-configure or Defined by Piper Systems
55	ProgramVersionNo(ReadOnly)=DL1.00	Pre-configure or Defined by Piper Systems
56	SequenceNumber(ReadOnly)=2678	Pre-configure or Defined by Piper Systems
57	SystemDescription=Direct Load	Pre-configure or Defined by Piper Systems
58	P4_OnDebounce=T#1s	Pre-configure - can be adjusted. Piper Low level probe in the Balance tank debounce time. T#1s means the probe would need to be active for 1 second before the system recognises the event.
59	P4_OffDebounce=T#500ms	Pre-configure - can be adjusted. Piper Low level probe in the Balance tank debounce time. T#500ms means the probe would need to be de-active for 500 milliseconds before the system recognises the event.
60	BTUNumber=*****	User Defined: BTU number
61	CapacityHighLevel=2500	User Defined: 2500 would mean the high-level warning will alert when trailer is at full load capacity minus 2500 lbs
62	CapacityHighHighLevel=1000	User Defined: 1000 would mean the limit level warning will alert when trailer is at full load capacity minus 1000 lbs
63	StatusVerbosity=1	Pre-configure or Defined by Piper Systems

64	Port_OnDebounce=T#3s	Pre-configure - consult Piper before adjusting. Activation of Port switch Deboune time
65	Port_OffDebounce=T#3s	Pre-configure - consult Piper before adjusting. Deactivation of Port switch Deboune time
66	DefaultTankerCapacity=69000.0	User Defined: Default trailer capacity that will be prompted when registering a trailer
67	DefaultMilkType=1	User Defined: Default Milk type that will be prompted when registering a trailer
68	LoadingTimeOut=T#30m	Pre-configure or Defined by Piper Systems
69	TemperatureLimitTriggerTime=T#5m	User Defined: Time period of constant over temperature that must elapse before alert. T#5m = 5 miniutes
70	SampleTemperatureLimitTriggerTime=T#20s	User Defined: Time period of constant over temperature in sample fridge that must elapse before alert. T#20s = 20 seconds
71	SampleLimitTemperature=99.0	User Defined: Temperature limit for sample fridge for alert
72	StartPointPostCIP=99.0	User Defined: Minimum metered volume after C.I.P before recording temperatures to allow pipes to cool
73	BalanceTankLowMinRecordVolume=2.0	Pre-configure or Defined by Piper Systems. Minimum volume when Balance tank is low before recording metered volume. 2.0 = 2 Lbs.
74	BalanceTankLowMinRecordVolume=2.0	Ignore: Last line of settings file is always repeated.

APPENDIX B: Capacity.csv file

	A	B	C	D	E	F	G	H	I	J
1	Number	Description	Capacity	Dummy						
2	500	Small Trailer	32000	0						
3	1526	Medium Trailer	60000	0						
4	1628	Large Trailer	71000	0						
5	1629	Not Used	71000	0						
6	1631	Not Used	71000	0						
7	1723	Not Used	71000	0						
8	1725	Not Used	71000	0						
9	1731	Not Used	71000	0						

APPENDIX C: MilkTypes.csv file

	A	B	C	D	E	F	G	H	I	J
1	Number	Name	Code	Dummy						
2	0	No Description	0	0						
3	1	Everyday Milk	0	0						
4	2	Non-Saleable Milk	0	0						
5	3	Calf Milk	0	0						
6	4	T4 MILK	0	0						
7	5	T5 MILK	0	0						
8	6	T6 MILK	0	0						
9	7	T7 MILK	0	0						

APPENDIX D: Final Checklist

COMPONENT	SUB COMPONENT	CONNECTED	VALUE
TS-7 Controller			
	Power		
	Ethernet Cable		
Delivery Port Interface Box			
	Ports wired and Connected		
	Proximity Switch or Manual		
Signal Interface Box			
	Air Blow 1		
	Air Blow 2		
	C.I.P.		
	Piper Balance Tank Low Level Probe		
Tower Light			
	Wired and Tested		
Piper Sampler			
	QMI Port Installed		
Meter			
	P3 Probe		
	Temperature Probe		
Prime Calibrated			
	Value		
Setting Parameters			
	Producer Number		
	Farm Number		
	Haulier Name		
	BTU Number		
	Prime		
	Milk Temperature Warning		
	Milk Temperature Limit		
	Temperature on Average		
	Sample Temperature Limit		
	Volume after Trailer change before Temp is calculated		
	Volume after CIP before Temp is calculated		
	Time delay for over temp alarm		
	Time delay for Sample over temp alarm		
	Default tank capacity		
	Capacity Warning Alarm *(Capacity – Value)*		
	Capacity Limit Alarm *(Capacity – Value)*		
	Sampling start Point after Trailer swap		

	Default Milk Type		
	C.I.P Min Volume		
	C.I.P Max Volume		
	C.I.P validity Period		