



Operation of the 755 Using Stor-Trac and T-Trac

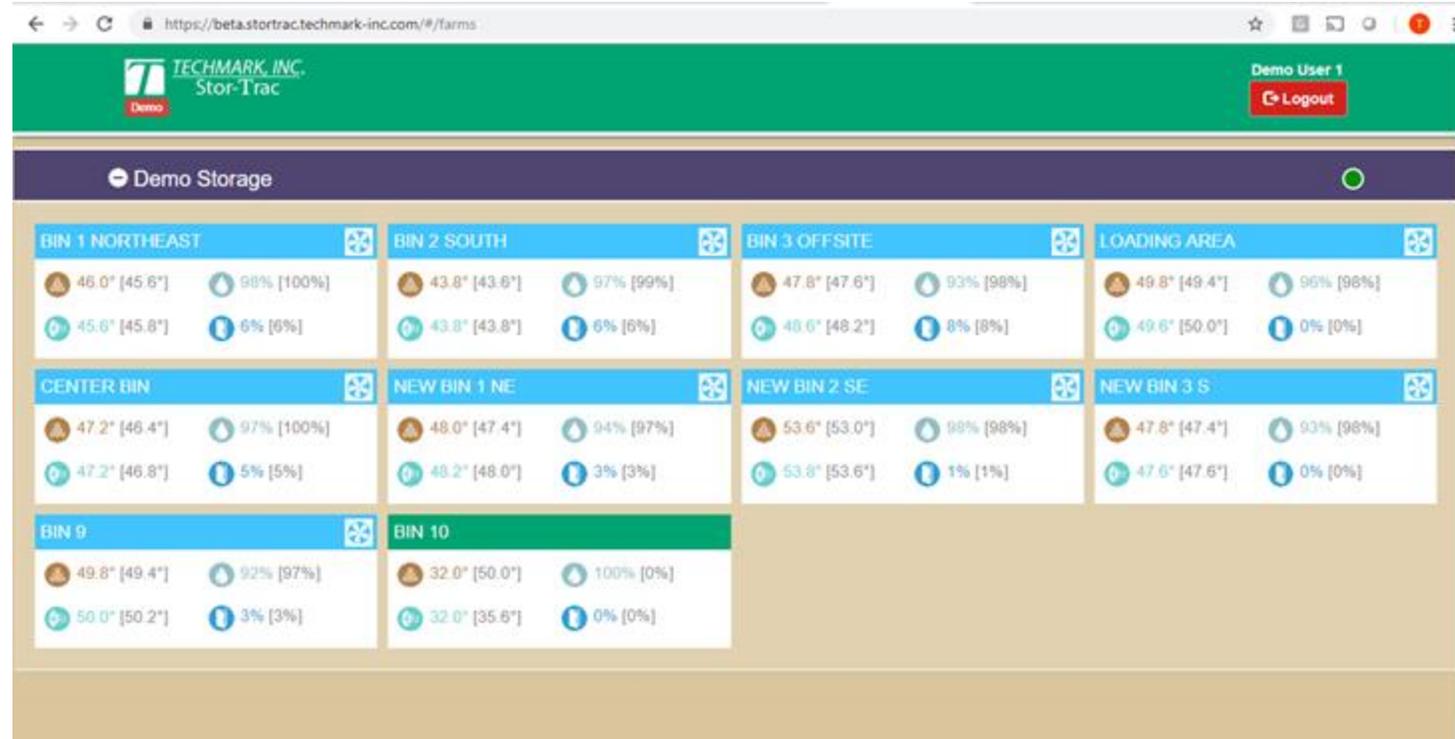


Gaia
CONSULTING

Techmark, Inc.



Stor-Trac Farm View



All Bins Displayed on One Screen for All Farms associated with the Local Instance



Stor-Trac View

The dashboard is organized into several functional tiles:

- ALARM:** Alarm Status: 5 Alarm Cancelled. Alarm: [button]
- START/STOP:** Start: On. Phase: COOLING.
- PILE:** 38.6° (setpoint), 38.0° (current). #1: 38.2°, #2: 38.6°, #3: 39.2°, #4: 38.6°.
- PLENUM:** 38.0° (setpoint), 38.0° (current). Control: FREE. MinTemp plnm: 36.0°.
- CO₂ CARBON DIOXIDE:** 1,070 ppm (current), 4,500 ppm (setpoint).
- OUTSIDE:** Calc Temp: -0.8°. Humidity: 83%. Pile: TOO WARM. Status: OK COOLING. Min: -99.0°, Max: 38.4°.
- AIR INLET:** 3% (current), setp. 3% (setpoint). Min: 0%, Max: 100%. CFM/CWT: 158. FT/MIN: 1,149.
- RELATIVE HUMIDITY:** 95% (current), 100% (setpoint). Dry Bulb: 38.0°. Wet Bulb: 37.4°.
- EQUIPMENT HOURS:** Today: 13:47 (ON CLOCK), 13:30 (PLENUM), 13:47 (ON), 0:00 (S.BY), 13:47 (ON). Yesterday: 22:53 (ON CLOCK), 22:36 (PLENUM), 22:50 (ON), 0:00 (S.BY).
- HEATING:** 38.0° (current), 42.0° (setpoint).
- COOLING:** 38.6° (current), 50.0° (setpoint).
- STATUS:** ON CLOCK, PLENUM, ON, S.BY, ON.
- FANLOCK:** Time: 13:46.
- NOTES:** Submitted by: [notes history](#). [add note button]

Footer: 01/19/2021, 13:44:12, 1:44 PM 1/19/2021

Notes, Fan Clock and Start-Stop Tiles



Stor-Trac View

NOTES

Submitted by: [notes history](#)

add note

February 6 2020 3:33pm

2/3 Empty Hold where we are.

Todd Forbush

October 2 2020 9:39am

55 at .4 a day

Chase Young

October 24 2020 8:44am

52 at .2 a day

Chase Young

October 30 2020 7:28am

Gassed 10/29.

Mark Witzel

Notes Tile and Notes History



Stor-Trac View Fan Clock

FANCLOCK

Time 13:49
Fan Status ON CLOCK
Fan % 70
Min 50
Max 75
MaxDif Meas/Set 0.2

[details](#)

FANCLOCK

Cycles Per Day: 3
Time: 13:50

Start	Stop	Type
0:00	23:59	FREE ▾
11:00	19:00	FORC ▾
19:01	23:59	FORC ▾

Use Alternating FORC and FREE Fan times as Potatoes use Less Air Inlet
Place 755 in Stop to Turn Ventilation Off



Equipment Hours



Your potatoes will tell you the story!

Air Inlets Opening Hours within 20% of Fan Time



Stor-Trac Classic View

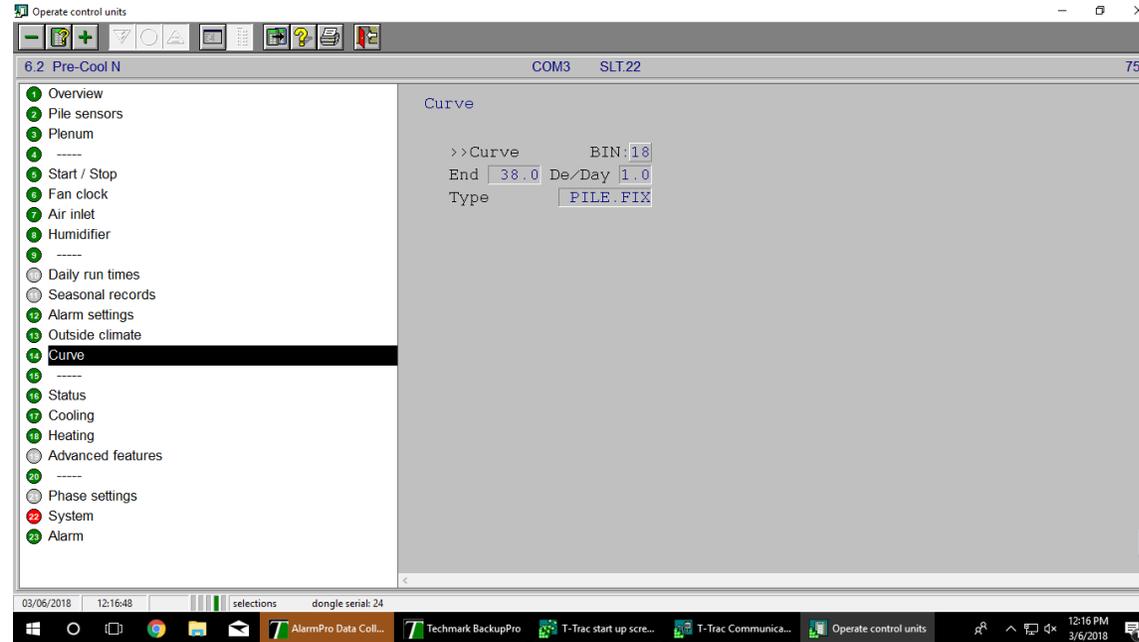
The screenshot displays the Stor-Trac Classic View interface. At the top, the header includes the Techmark, Inc. logo and 'Stor-Trac' text on the left, and 'Demo User 1' with a 'Logout' button on the right. Below the header, the facility name 'Demo Facility - 755C3' is shown. A navigation bar contains a minus sign, a plus sign, a 'Select:' dropdown, an 'Index: 1' dropdown, and three tabs: 'Farm List', 'Stor-Trac', and 'Classic'. The main content area is titled '1.2 Bin 2 South' and features a left-hand menu with 23 numbered items: 1 Overview (selected), 2 Pile sensors, 3 Plenum, 4 -----, 5 Start / Stop, 6 Fan clock, 7 Air inlet, 8 Humidifier, 9 -----, 10 Daily run times, 11 Seasonal records, 12 Alarm settings, 13 Outside climate, 14 Curve, 15 -----, 16 Status, 17 Cooling, 18 Heating, 19 Advanced features, 20 -----, 21 Phase settings, 22 System, and 23 Alarm. The main panel shows the 'Overview' page for Bin 2, with a '>>Overview' header and 'BIN: 2'. The data is presented in a table-like format:

Parameter	Value	Setpoint
File	44.0	43.8
Plen	44.2	44.0
RH	97	99
CO2	0.63	0.00
File humidity		0
Abs. hum. pile		6.0

755 Control As It Looks at the Cover



Settings for Cooling on a Curve



Plenum = Coupled, Set Curve to “Pile Fix”, Set End at Desired Temperature (48.0 or 46.0 F)

Do Not Change the Plenum or Pile Set, Controller will Change This.

Once Pile Set is at End Temperature, Return to Holding Settings



Button 3 - Plenum Temperature

Plenum (Meas) - Shows the Actual Plenum Temperature

SetPoint - Shows Plenum Temperature Target

Coupled = Calculated with offset from the Pile Temp

Mode of Reaction

Weak – 2F max difference pile to plenum

Normal – 3F max difference pile to plenum

Strong – 5F max difference pile to plenum

Free = User Set the Plenum Target Independent of Pile Temperature, Pile Target must also be set

Curve = Plenum Target from Curve



Button 12 - Alarm Setpoints

1. **MinTempPlen** - shows the lowest temp allowed in the Plenum

Set at Pile Target – 3 degrees

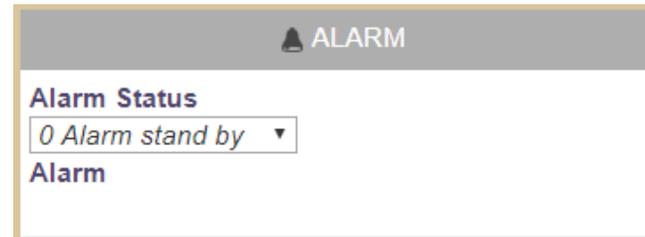
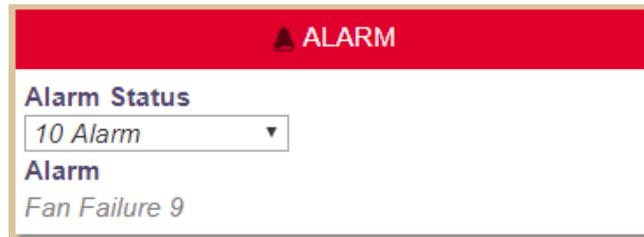
2. **MaxTemp Plen** shows the highest temp allowed in the Plenum

Set at Pile Target + 6 degrees



Resetting Alarms

- a. Alarm value 10 and alarm message displayed
- b. Change alarm value to 7 = alarm temp off
- c. Correct reason for alarm
- d. Change alarm value to 5 = alarm cancelled
- e. If reason for alarm does not return after max delay, then change alarm value to 0 = alarm standby
- f. Setting alarm value to 8 or 9 disables all alarms!
- g. 755 has a history feature to view last 10 alarms



Button 5 - Start/Stop

1. Proper way to turn off/on system
2. Used up or down arrow and then “#” or “Edit” button
3. Phase setting –use HOLDING OR COOLING during season – change to empty during offseason
4. Do not turn off controller completely during offseason

Start/Stop On Stor-Trac



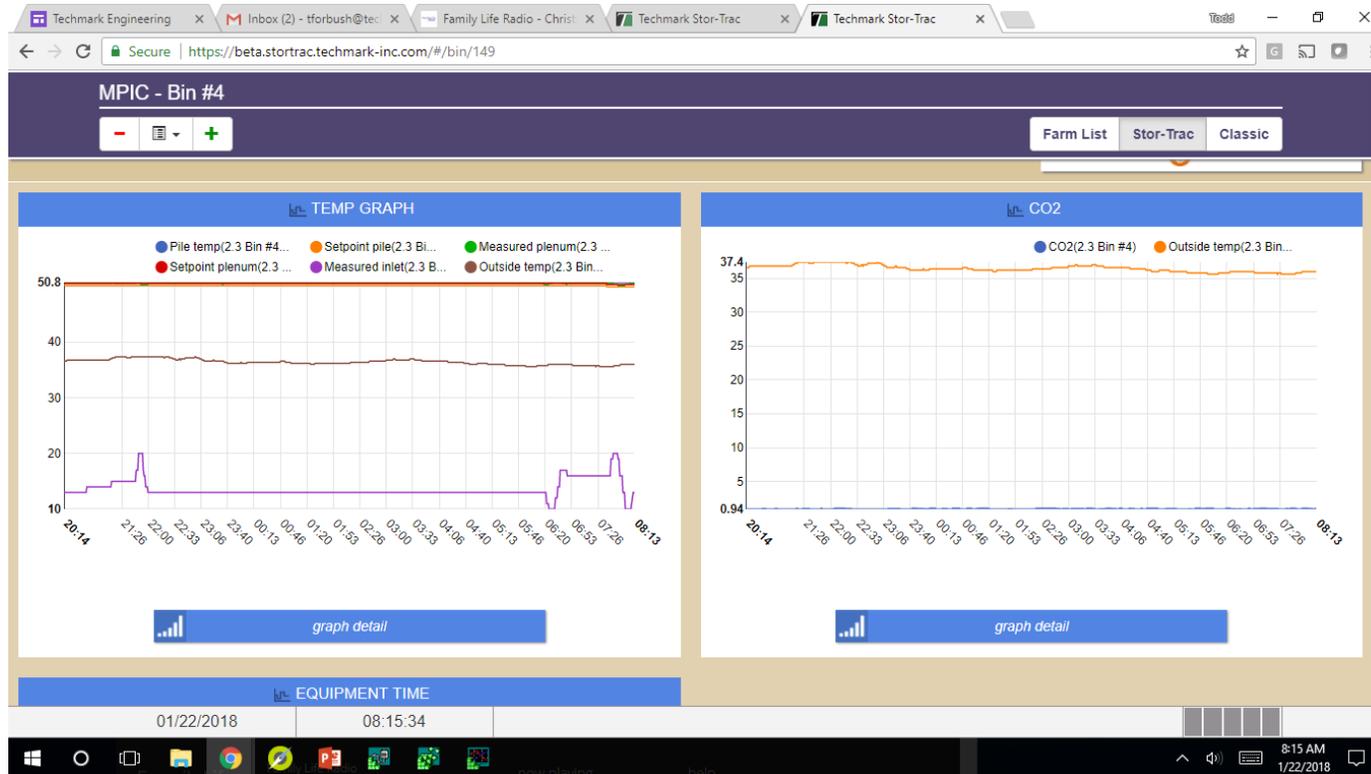
START/STOP

Start On

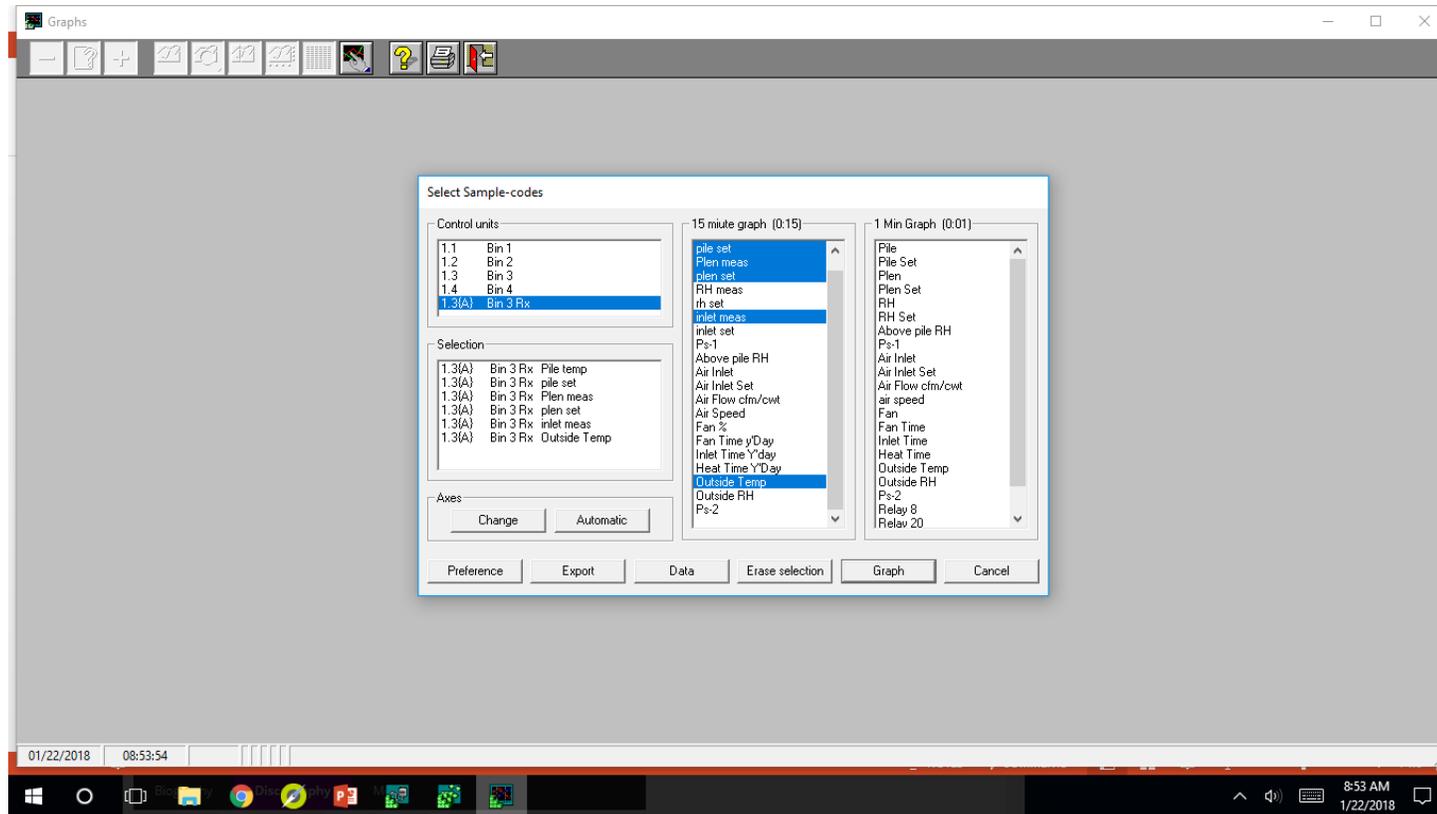
Phase: COOLING ▼



Stor-Trac Graph View



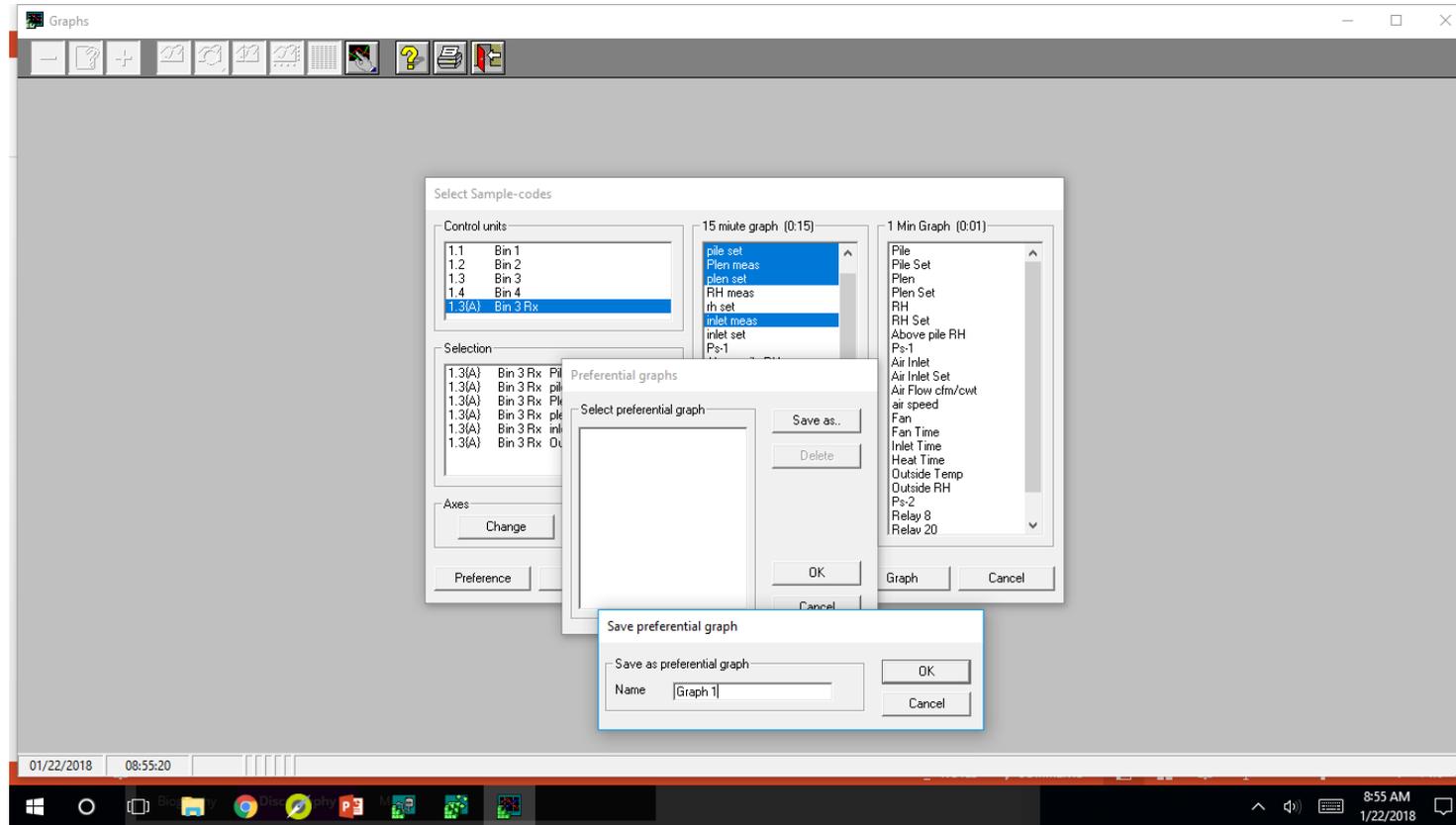
Setting Up Stor-Trac Graph View



Create a Preference Graph in T-Trac



Setting Up Stor-Trac Graph View



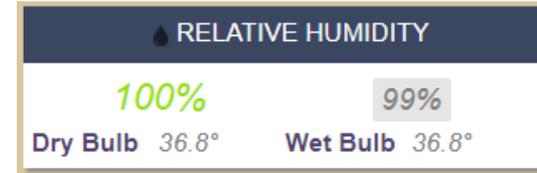
Create a Preference Graph in T-Trac and Stor-Trac will automatically Use the Codes for a Graph



Troubleshooting of Equipment

- Dry/Wet Comparison

- Remove wick from wet bulb sensor and allow to stabilize for 20 mins.
- Do they read the same temperature under Humidifier?
i.e. Dry: 36.8 Wet: 36.8
- If not, how much apart?
 - Is wet bulb higher? Dry: 36.8 Wet 37.0
 - Will read 101% for the RH reading and humidifier will not run.
 - Recalibration required!!



Troubleshooting of Equipment



Troubleshooting of Equipment

- Air Inlet reading too high or low vs setpoint.
 - Close inlet with manual switch & record reading
 - Does it close physically and read 0 or 1?
 - Open inlet with manual switch & record reading
 - Does it open physically and read 99 or 100?
 - If inlet does not move when using override switch- issue at actuator or door control box near inlet. Call Techmark with Multi-meter in hand.



Troubleshooting of Equipment

- If closed and reading something other than 0 or 1, or when open and reading something other than 99 or 100, potentiometer is most likely cause of problem. Call Techmark with Multi-meter in hand.
- CO2 Sensor- Reading “#” sign or measurement is not steady.
 - Most likely will give an Alarm.
 - Call Smart Electric with Multi-meter in and to check supply voltage and output voltage.



Alarm Pro Administrator Usage



Alarm Pro Administrator Usage

A new version of Alarm Pro has been integrated into the StorTrac and SporTrac software. Farm administrators will have the ability to manage which bins will have alarms assigned to them, as well as which users will get those alarms. In addition to this, farm admins will be able to change the frequency in which alarms are sent out.

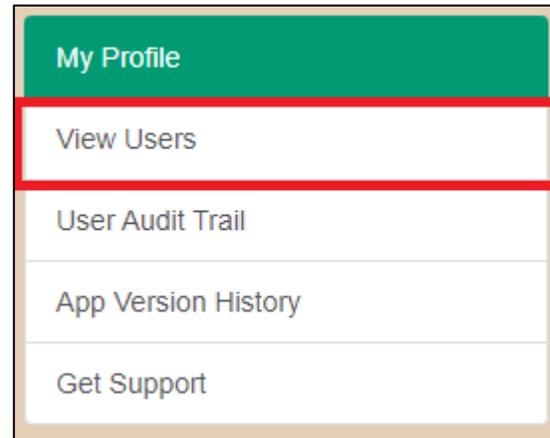


Alarm Pro Administrator Usage

1. Begin by pressing the “Settings” button shown in the red box.



2. Once in the settings, press “View Users”.



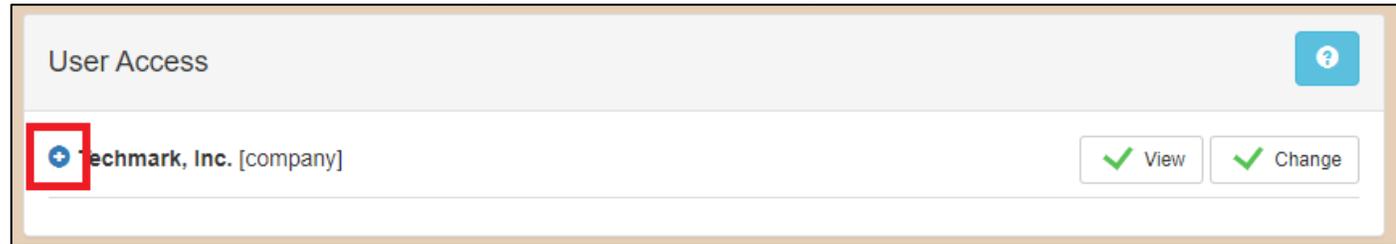
Alarm Pro Administrator Usage

3. Find a user you would like to assign or modify Alarm Pro settings for by clicking on the “Edit” button next to their name.



Name: Test, Demo
Email: demotest@techmark-inc.com
Farms: Techmark-20 ⓘ
Edit

4. Scroll down to the “User Access” section and press the blue “+” sign next to the company name to expand it.



User Access ⓘ

+ Techmark, Inc. [company] ✓ View ✓ Change

5. Press the blue “+” again to expand the farm view.



User Access ⓘ

- Techmark, Inc. [company] ✓ View ✓ Change

 Techmark Engineering [farm] ✓ View ✓ Change

+ Techmark-20 [farm] ✓ AlarmPro ✓ View ✓ Change

Techmark, Inc.



Alarm Pro Administrator Usage

6.The green arrow shows which bins are enabled to receive Alarm Pro alerts from and a red X shows when they are disabled. Press the Alarm Pro button next to the bin name to toggle.

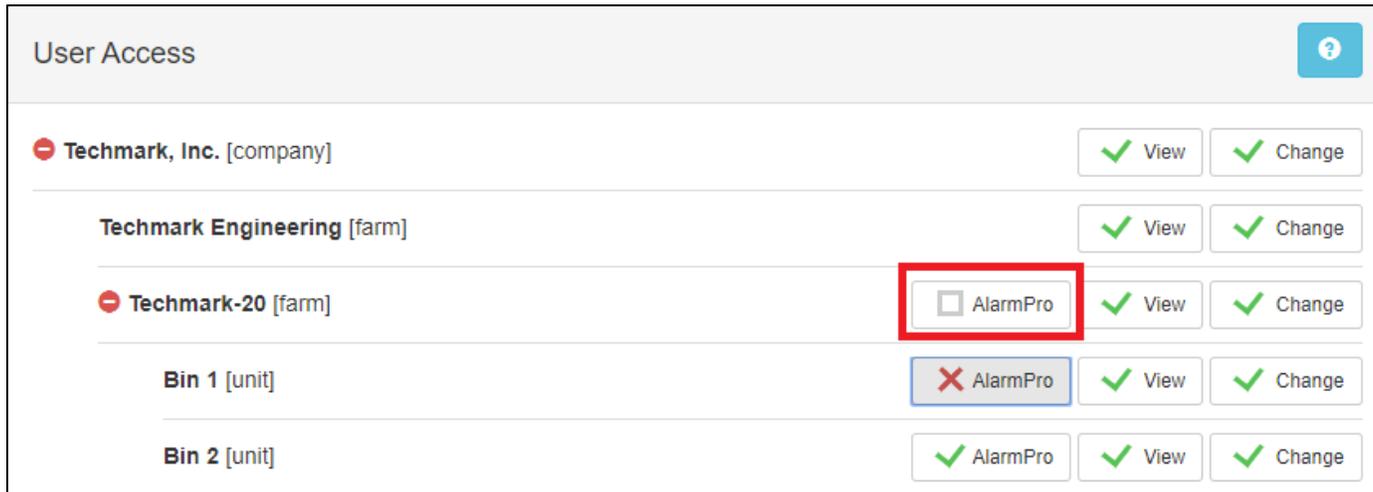
The screenshot shows a 'User Access' interface with a list of entities. Each entity has a 'View' and 'Change' button. The 'Bin 1 [unit]' entity has an 'AlarmPro' button highlighted with a red box, indicating it is enabled for Alarm Pro alerts. The 'Techmark-20 [farm]' entity also has an 'AlarmPro' button, but it is not highlighted.

Entity Name	Entity Type	AlarmPro	View	Change
Techmark, Inc.	[company]	✓	View	Change
Techmark Engineering	[farm]	✓	View	Change
Techmark-20	[farm]	✓	View	Change
Bin 1	[unit]	✓	View	Change
Bin 2	[unit]	✓	View	Change



Alarm Pro Administrator Usage

7. When the Alarm Pro button next to the Farm Name is green, it indicates that every bin in that farm is enabled. When it's a grey box, it indicates that there is a combination of enabled and disabled bin alerts.



The screenshot displays a 'User Access' interface with a list of entities and their associated 'AlarmPro' status. The entities are: Techmark, Inc. [company], Techmark Engineering [farm], Techmark-20 [farm], Bin 1 [unit], and Bin 2 [unit]. The 'AlarmPro' status is shown as a button with a checkmark (green) or an 'X' (grey). The 'AlarmPro' button for 'Techmark-20 [farm]' is highlighted with a red box.

Entity	AlarmPro Status	View	Change
Techmark, Inc. [company]	✓	View	Change
Techmark Engineering [farm]	✓	View	Change
Techmark-20 [farm]	☐	View	Change
Bin 1 [unit]	✗	View	Change
Bin 2 [unit]	✓	View	Change



Alarm Pro Administrator Usage

8.You can click on this farm Alarm Pro button to toggle every bin in that farm for quick management.

The screenshot shows a 'User Access' interface with a list of entities. The 'Techmark-20 [farm]' entry has its 'AlarmPro' button highlighted with a red box. The interface includes a search icon in the top right and 'View' and 'Change' buttons for each entity.

Entity	AlarmPro	View	Change
Techmark, Inc. [company]	✓	✓	✓
Techmark Engineering [farm]	✓	✓	✓
Techmark-20 [farm]	✗	✓	✓
Bin 1 [unit]	✗	✓	✓
Bin 2 [unit]	✗	✓	✓

The screenshot shows the same 'User Access' interface, but the 'AlarmPro' button for 'Techmark-20 [farm]' is now highlighted with a blue box, indicating it has been toggled on. The 'AlarmPro' buttons for 'Bin 1 [unit]' and 'Bin 2 [unit]' are also highlighted with blue boxes.

Entity	AlarmPro	View	Change
Techmark, Inc. [company]	✓	✓	✓
Techmark Engineering [farm]	✓	✓	✓
Techmark-20 [farm]	✓	✓	✓
Bin 1 [unit]	✓	✓	✓
Bin 2 [unit]	✓	✓	✓

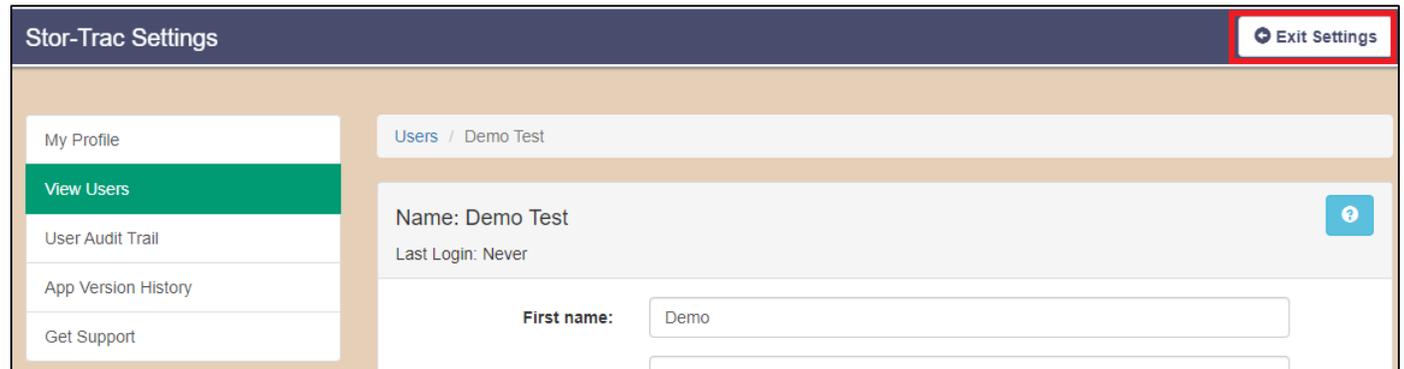


Alarm Pro Administrator Usage

9. When you are done adjusting the user settings make sure you scroll down and hit “Save Changes”.

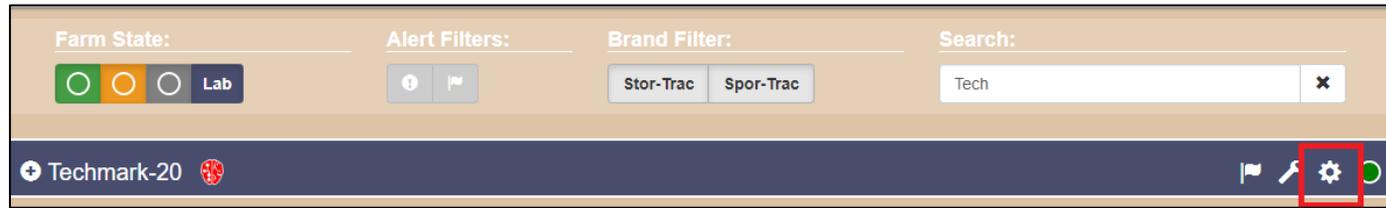


10. When the settings have been saved, scroll up to the top and press “Exit Settings”.

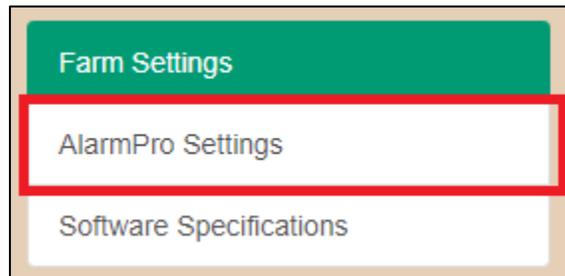


Adjusting Alarm Pro Alert Frequency

1. Press on the gear icon on your farm's banner to get to the farm's settings



2. Press on "Alarm Pro" settings



Alarm Pro Administrator Usage

3. From here you can change the frequency of alerts and see the list of users and their emails

AlarmPro	
Repeat every 15 minutes	
User	Contact

Questions?

For questions, concerns, or suggestions, please email or call: seffa@techmark-inc.com
517-322-0250





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Technology from the ground up



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