Get **"In Touch"** with your Medical Air system

Stay informed about the performance and maintenance of your Medical Air system with the HMI (Human Machine Interface) touch screen display.

Installed on all Medical Air systems built by **Patton's Medical**, the HMI contains a wealth of information to help you monitor you system easily and accurately.

Features of the Medical Air system display:

+ Pressure display
+ Run time display
+ Dew point/CO monitoring
+ 4-day dew point trend display
+ Alarm history
+ Maintenance schedule
+ Maintenance history display
+ Service indicator
+ Replacement parts display
+ Battery backup for history display

Scroll down for more information.

MAIN SCREEN

1. PRESSURE (PSI): Display's the current pressure inside the air receiver.

2. DEW POINT (D/P): Display's the current dew point reading at the units discharge point. If the dew point reading is higher than –2°C, a high dew point alarm will occur. The dew point indicator will flash red and the horn will sound. Pressing the reset button on the face of the control panel will silence the alarm. Selecting the indicator when flashing red will open a troubleshooting window. The dew point indicator will continue to flash red until the dew point falls below –2°C. At this point the dew point alarm will reset.

3. CO: Display's the current CO reading at the units discharge point. If the CO reading is higher than 10 ppm, a high CO alarm will occur. The CO indicator will flash red and the horn will sound. Pressing the reset button on the face of the control panel will silence the alarm. Selecting the indicator when flashing red will open a troubleshooting window. The CO indicator will continue to flash red until the CO falls below 10 ppm. At this point the CO alarm will reset.

4. LAG ALARM: Indicator will flash red and horn will sound when last available compressor unit comes on. Press the reset button to silence the alarm. If the condition is corrected both the alarm and indicator will turn off. If a lag condition remains the indicating light on the HMI will remain on. Selecting the indicator when flashing red will open a trouble shooting window. Once the lag condition is corrected, press the reset button again to turn off alarm light.

5. TDC FAULT: Indicator will flash red and horn will sound if the transducer fails. Pressure reading on the display screen will default to "0" psi. Selecting the indicator when flashing red will open a trouble shooting window.

6. PLC FAULT: Indicator will flash red and horn will sound if the PLC fails. Pressure reading on the display screen will default to "0" psi. Selecting the indicator when flashing red will open a trouble shooting window.

7. SERVICE DUE: Service intervals and types of service are preprogrammed into the HMI. The button will flash yellow when service is due. Pressing the "service due" button when flashing will display the service schedule screen.

8. MENU: Displays menu screen which allows the operator to access the systems operating history, service requirements, dew point, CO, and pressure trends, troubleshooting info and main system info.
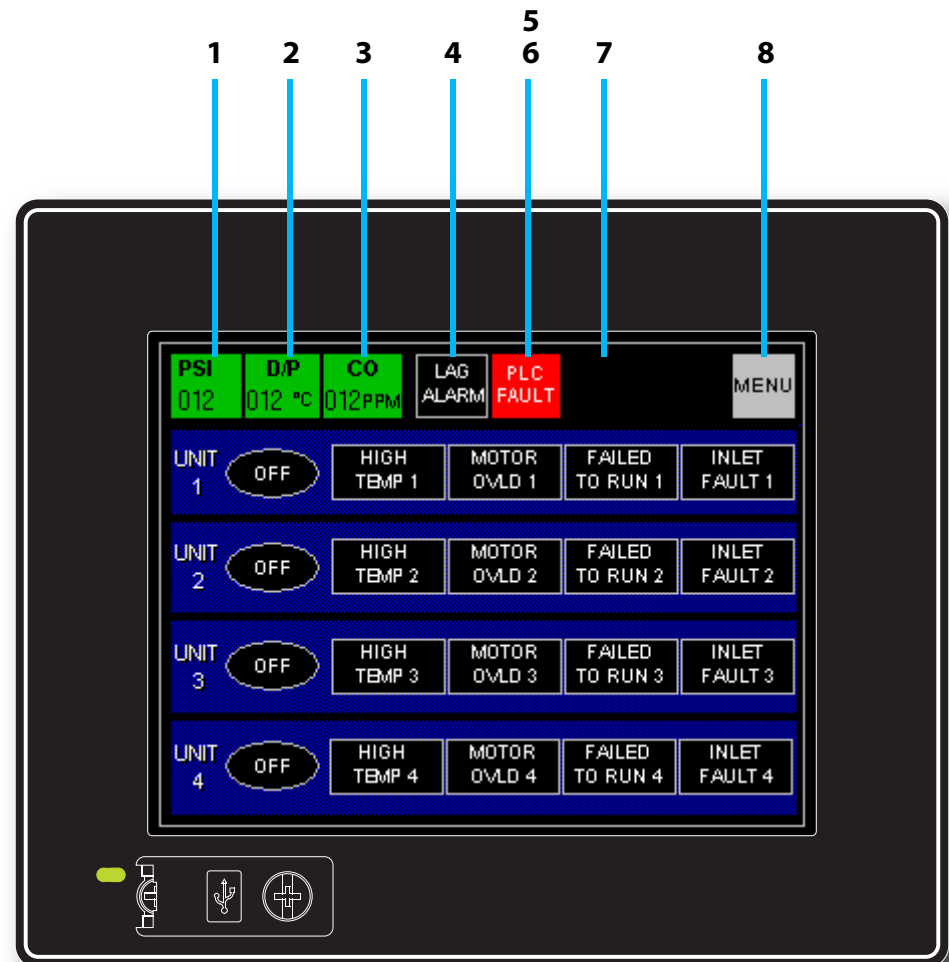
MAIN SCREEN

9. UNIT RUN HOURS: Displays total run hours for each compressor module. Press the run status light to display the run hours screen.

10. HAND-OFF-AUTO: Displays status of each compressor module. The green "HAND" displays when the compressor is running and the HOA selector switch is in the HAND setting. The green "AUTO" displays when the compressor is not running and the HOA selector switch is in the AUTO position. The "OFF" indicator is displayed when the HOA selector switch is in the "OFF" position.

11. HIGH TEMP: Display will flash red and sound an alarm when the compressor unit is shut down due to high discharge air temperatures. Press the reset button on the front panel to clear the alarm. If the indicator light stays "ON", the high temp condition still exists. Selecting the indicator when flashing red will open a trouble shooting window. The unit may not restart after pressing the reset button, depending on the system sequencing and system pressure.

12. MOTOR OVLD: Display will flash red and sound an alarm when overload switch is tripped in the control panel. The compressor in question will not re-start until the reset button on the starter inside the main control cabinet is reset (See "Motor overheating" in the Troubleshooting Section 5.0). Press the reset button on front panel to silence the alarm. Selecting the indicator when flashing red will open a trouble shooting window. The indicator on the HMI will remain on until motor starter is reset.

13. FAILED START: Display will flash red if the compressor module failed to start/run when signaled to start. This alarm will also activate when a Motor Overload Shutdown occurs. Press the reset button on the front panel to silence the alarm (see "Failure to start" in the Troubleshooting Section 5.0). Selecting the indicator when flashing red will open a trouble shooting window. The indicator light on the HMI will remain on until the problem has been resolved and the reset button pushed again.

14. INLET FAULT: Display will flash red if the compressor inlet is restricted. Inlet fault will also cause a failed start alarm. The indicator will remain on until the problem is solved and the reset button is pushed.
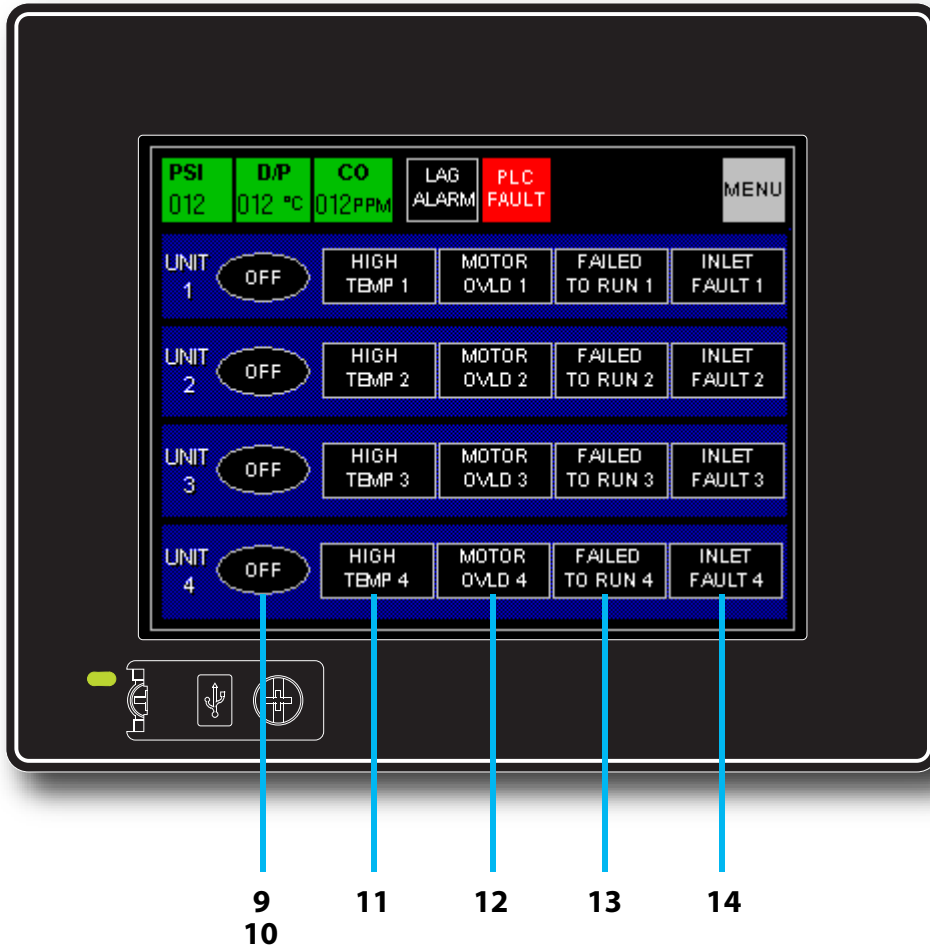
MENU SCREEN

The **MENU** button in the upper right corner on the main screen when selected will display the "**MENU SCREEN**" window that will allow the operator to access information about the units' history, service requirements, dew point, CO and pressure trends, troubleshooting help and system information.

1. The **MAIN** button can be found on many of the screens within the HMI Controller. At any time when the "MAIN" button is selected, the HMI display will return to the Main Display Screen

2. The **"SERVICE"** button will open a new screen that allows the operator to view the service schedule for the unit, get a list of standard service parts and view the service intervals for the unit.

3. The **"HISTORY"** button will open a new window listing all the alarm conditions that have occurred as well as routine maintenance alerts. The list will show the date and time of the incident, type of incident and when the condition was cleared/corrected. This creates a permanent record of the history of the unit and cannot be reset.

4. The "**TROUBLE SHOOTING"** screen is designed to help the operator diagnose problems with the system. From the Main screen, press "Menu", then press the "Troubleshooting" button. Each button on this screen corresponds to an alarm button on the main panel. By touching one of the buttons the operator can view a trouble shooting list for the listed alarm conditions.

5. The **"TREND CO"** screen allows the operator to view graphically the CO levels over 5 different time spans.

6. The **"TREND DEW POINT"** screen allows the operator to view graphically the dew point levels over 4 different time spans.

7. The **"TREND PRESSURE"** screen allows the operator to view graphically the system pressure levels in the air receiver over 5 different time spans.

8. The **"SYSTEM INFO"** button displays all the system information required when scheduling maintenance or purchasing spare parts from Patton's Medical. The information includes model number, serial number, horsepower, system voltage and unit start up date. This information will be programmed into the HMI at startup by a Patton's Medical authorized technician. To return to the "Menu Screen" touch the arrow in the upper left corner.
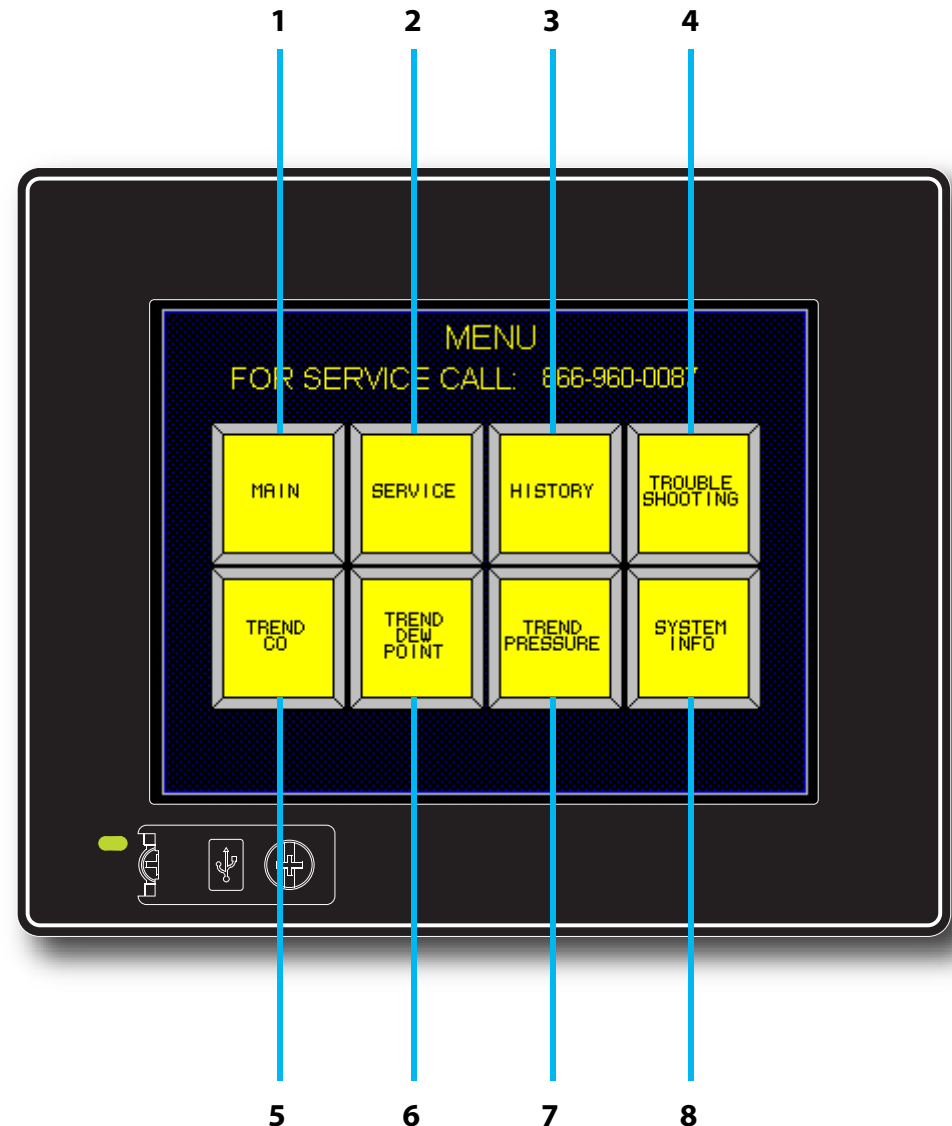
SERVICE SCREEN

The **"SERVICE"** button will open a new screen that allows the operator to view the service schedule for the unit, get a list of standard service parts and view the service intervals for the unit

1. "SYSTEM SERVICE SCHEDULE" button will display a new window listing the service items, when they are due to be serviced and the last time service was performed on that item. The buttons shown at the bottom of the screen allows the operator to navigate between the individual compressor units (unit #1, unit #2) and the overall system service screen.

The "SYSTEM SERVICE SCHEDULE" screen can be accessed from the main service menu screen or from the service due button on the main screen (if that button is flashing yellow).

2. The **"SERVICE PARTS"** button will display a screen listing all the service parts for a given HP that are part of the routine maintenance schedule. The screen lists the part description, quantity per module and part numbers for ALL systems.

3. The **"MODIFY SERVICE INTERVAL"** button will display a screen listing the time interval for routine maintenance for each system. The time intervals are pre-programmed into the HMI at the factory and are used to trigger the "Service Due" indicator on the main control screen.

4. The **"MODIFY PRESSURE SETTINGS"** button will display a screen listing the pressure settings for for each system. The pressure settings are pre-programmed into the HMI at the factory but can be adjusted to fit the application through a password protected log in.

5. "MAIN" button will return you to the main screen.

6. "MENU" button will return you to the Menu Screen.

7. The **"DRYER SERVICE/FAULTS"** button will display a screen indicating the operating and service conditions of the dryers.

8. The **"PUMP SERVICE"** button will display a new window listing the service items of that particular compressor, when they are due to be serviced and the last time service was performed on that item. The buttons at the bottom of the screen allows the operator to navigate between the individual compressor units (unit #1, unit #2). The service intervals can be reset through a password protected log in.
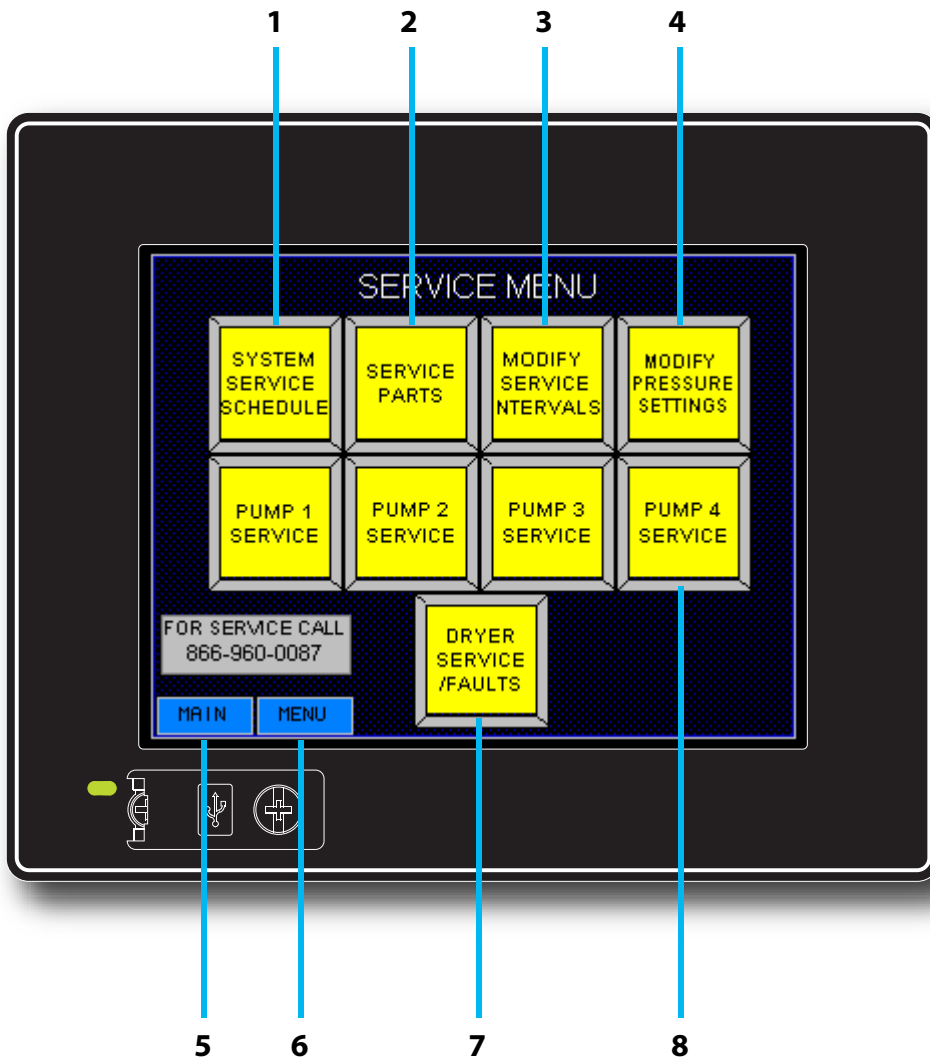
HISTORY SCREEN

The **"HISTORY"** button will open a new window listing all the alarm conditions that have occurred as well as routine maintenance alerts. The list will show the date and time of the incident, type of incident and when the condition was cleared/corrected. This creates a permanent record of the history of the unit and cannot be reset.

1. & 2. "SHOW CURSOR" and **"HIDE CURSOR"** buttons will turn on and off the highlight feature used to select specific line items on the history screen
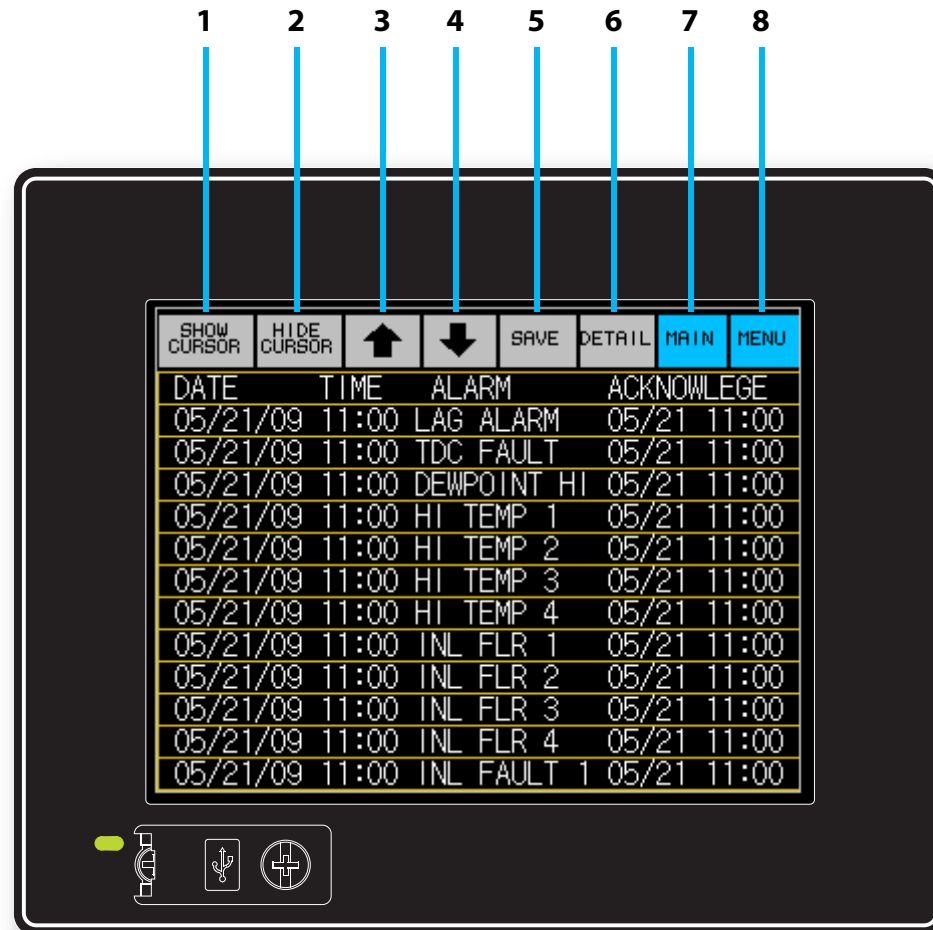
3. & 4. The **Up** and **Down** arrows allow you to scroll through the history list.

5. "SAVE" button will open a new window called Program/Data Control. From this screen you can save the Alarm History to a CF (Memory) Card. (Optional)
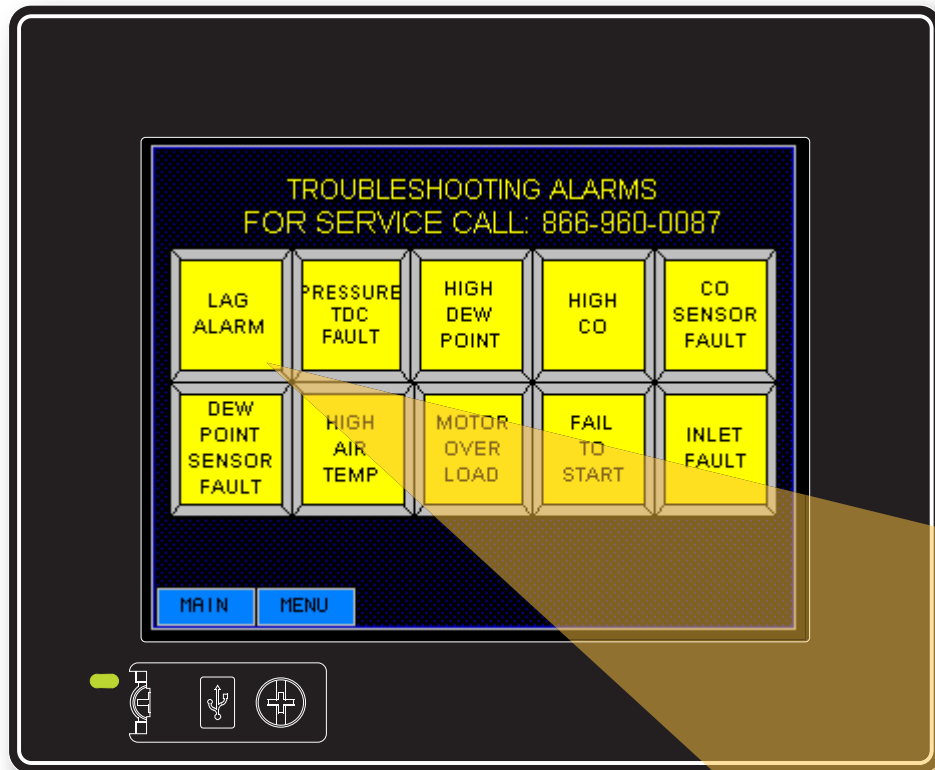
6. "DETAIL" button will open another window which will give the operator more info about a specific occurrence. Highlight specific line to view details then press "Details" button. Service messages will display what actions need to be taken to service the unit. Alarm messages will list troubleshooting info to help resolve the alarm condition.

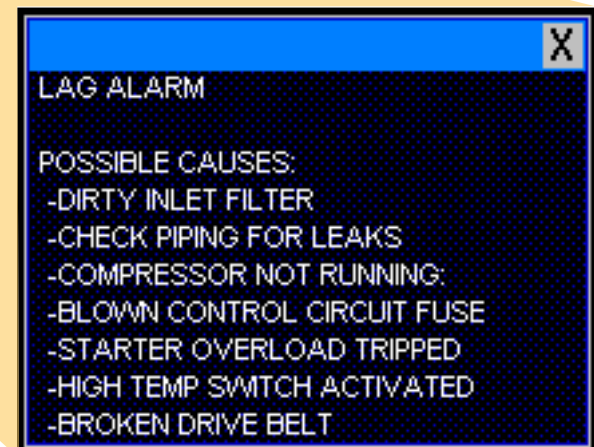**7. "MAIN"** button will return you to the main screen.

8. "MENU" button will return you to the Menu Screen.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| SHOW CURSOR | HIDE CURSOR | ⬆ | ⬇ | SAVE | DETAIL | MAIN | MENU |

DATE	TIME	ALARM	ACKNOWLEGE
05/21/09	11:00	LAG ALARM	05/21 11:00
05/21/09	11:00	TDC FAULT	05/21 11:00
05/21/09	11:00	DEWPOINT HI	05/21 11:00
05/21/09	11:00	HI TEMP 1	05/21 11:00
05/21/09	11:00	HI TEMP 2	05/21 11:00
05/21/09	11:00	HI TEMP 3	05/21 11:00
05/21/09	11:00	HI TEMP 4	05/21 11:00
05/21/09	11:00	INL FLR 1	05/21 11:00
05/21/09	11:00	INL FLR 2	05/21 11:00
05/21/09	11:00	INL FLR 3	05/21 11:00
05/21/09	11:00	INL FLR 4	05/21 11:00
05/21/09	11:00	INL FAULT 1	05/21 11:00

TROUBLE SHOOTING SCREEN

TROUBLESHOOTING ALARMS
FOR SERVICE CALL: 866-960-0087

| LAG ALARM | PRESSURE TDC FAULT | HIGH DEW POINT | HIGH CO | CO SENSOR FAULT |
| DEW POINT SENSOR FAULT | HIGH AIR TEMP | MOTOR OVER LOAD | FAIL TO START | INLET FAULT |

MAIN   MENU

The **"TROUBLE SHOOTING"** screen is designed to help the operator diagnose problems with the system. Each button on this screen corresponds to an alarm button on the main panel. By touching one of the buttons the operator can view a trouble shooting list for the listed alarm conditions.

LAG ALARM

POSSIBLE CAUSES:
-DIRTY INLET FILTER
-CHECK PIPING FOR LEAKS
-COMPRESSOR NOT RUNNING:
-BLOWN CONTROL CIRCUIT FUSE
-STARTER OVERLOAD TRIPPED
-HIGH TEMP SWITCH ACTIVATED
-BROKEN DRIVE BELT

TREND CO SCREEN

The **"TREND CO"** screen allows the operator to view graphically the CO levels over 5 different time spans.
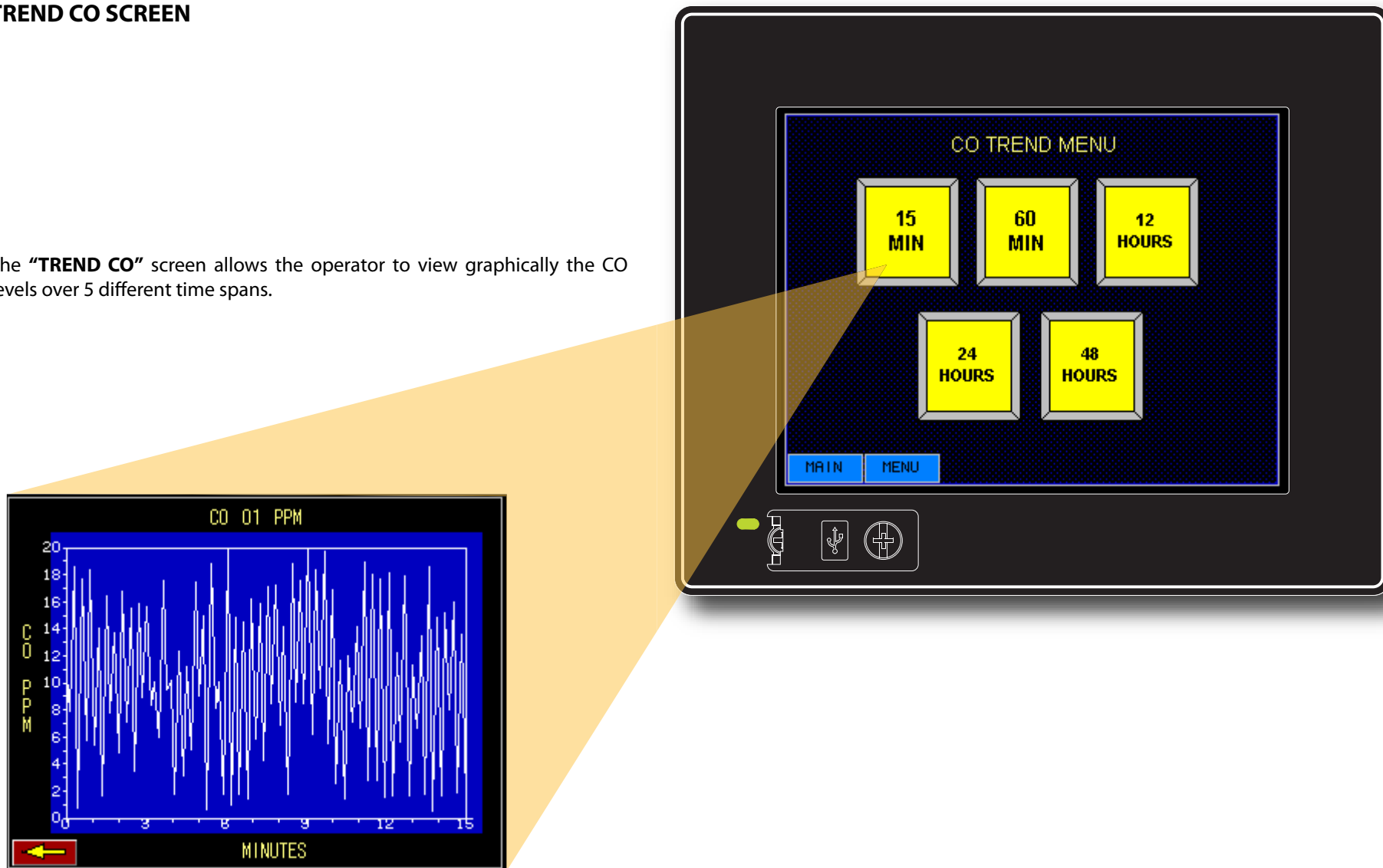
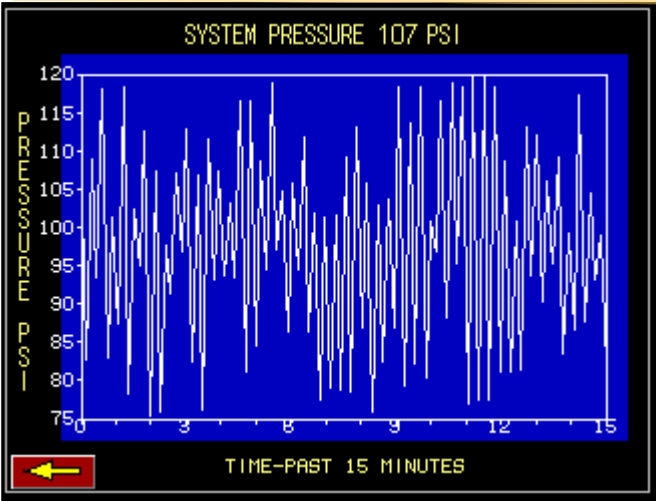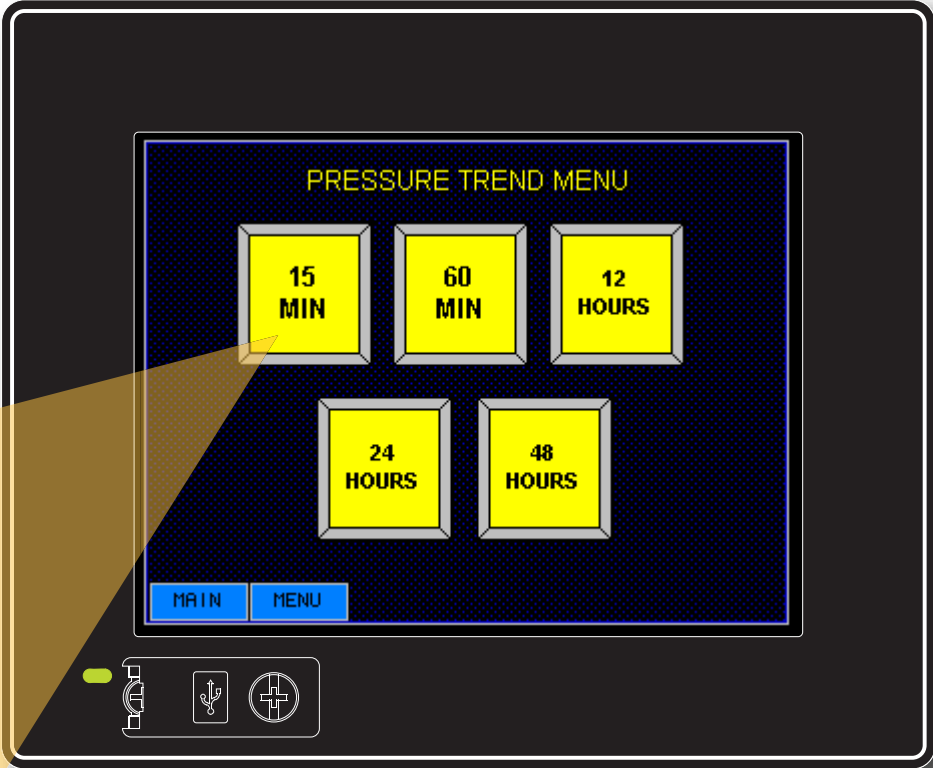**TREND DEW POINT SCREEN**

The **"TREND DEW POINT"** screen allows the operator to view graphically the dew point levels over 4 different time spans.
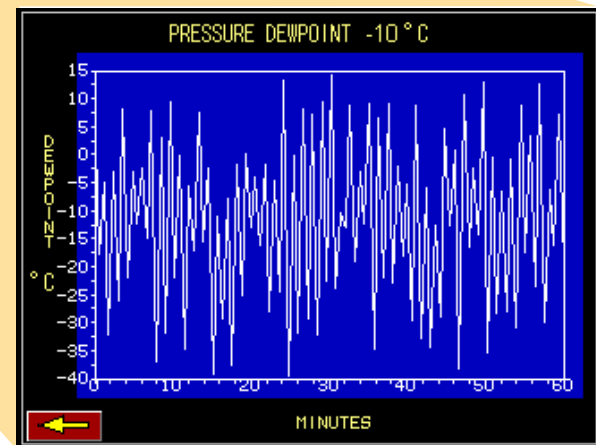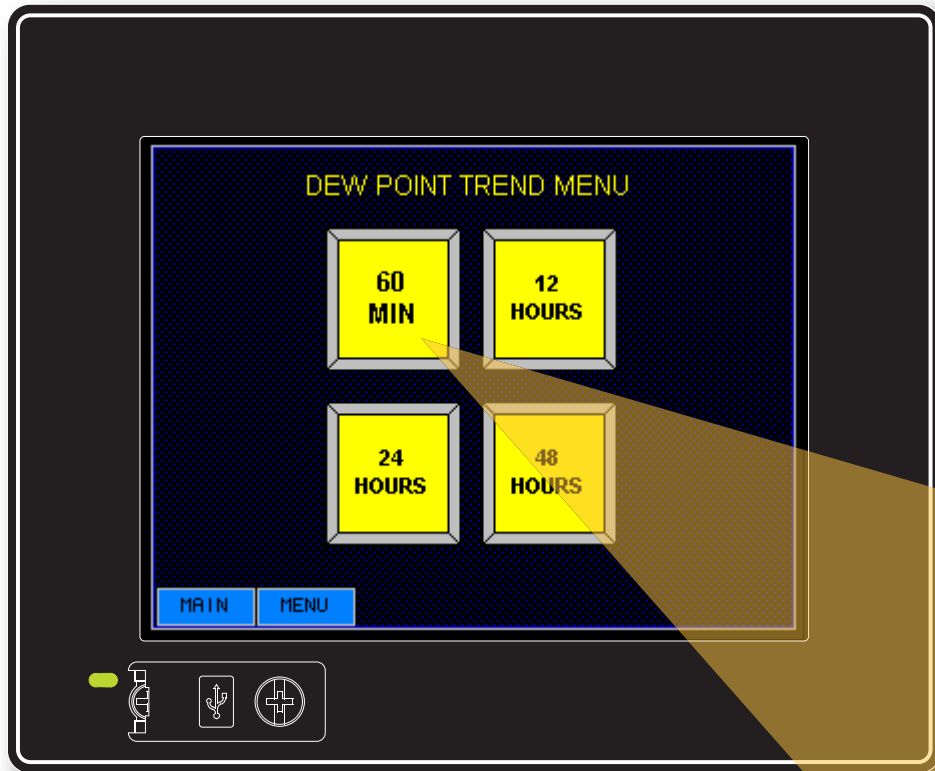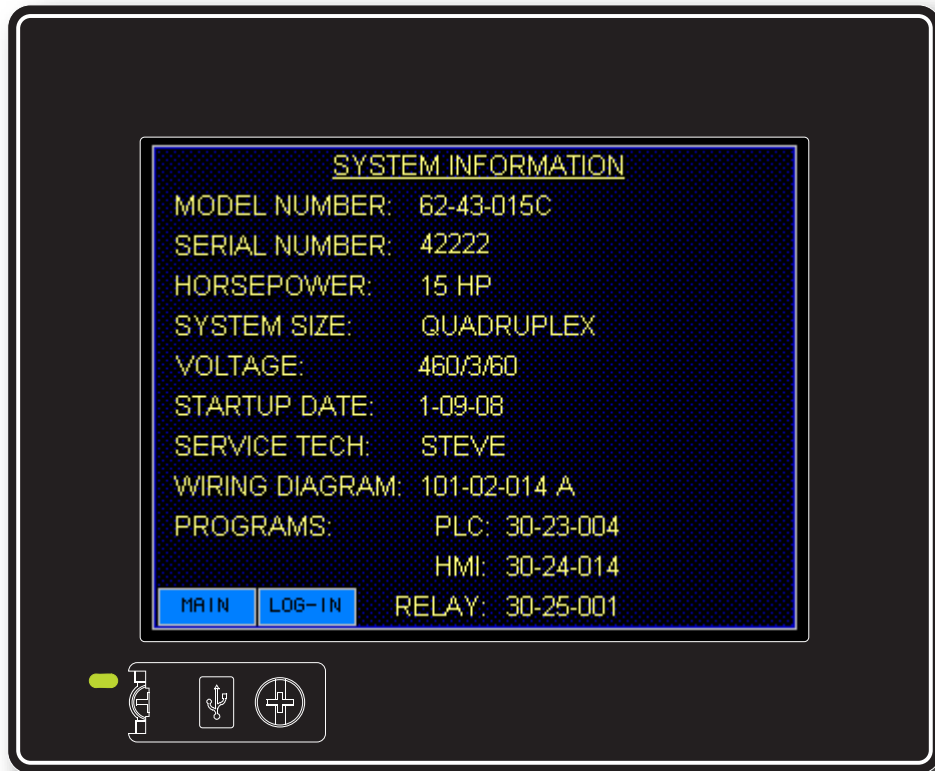
TREND SYSTEM PRESSURE SCREEN

The **"TREND SYSTEM PRESSURE"** screen allows the operator to view graphically the system pressure levels in the air receiver over 5 different time spans.

SYSTEM INFO SCREEN

The **"SYSTEM INFO"** button displays all the system information required when scheduling maintenance or purchasing spare parts from Patton's Medical. The information includes model number, serial number, horsepower, system voltage and unit start up date. This information will be programmed into the HMI at startup by a Patton's Medical authorized technician.

Contact your local Patton's Medical representative to get more information on specifying HMI controls on your Medical Air system.

Or give us a call at
1-866-960-0087

How may we help you?