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Greetings,

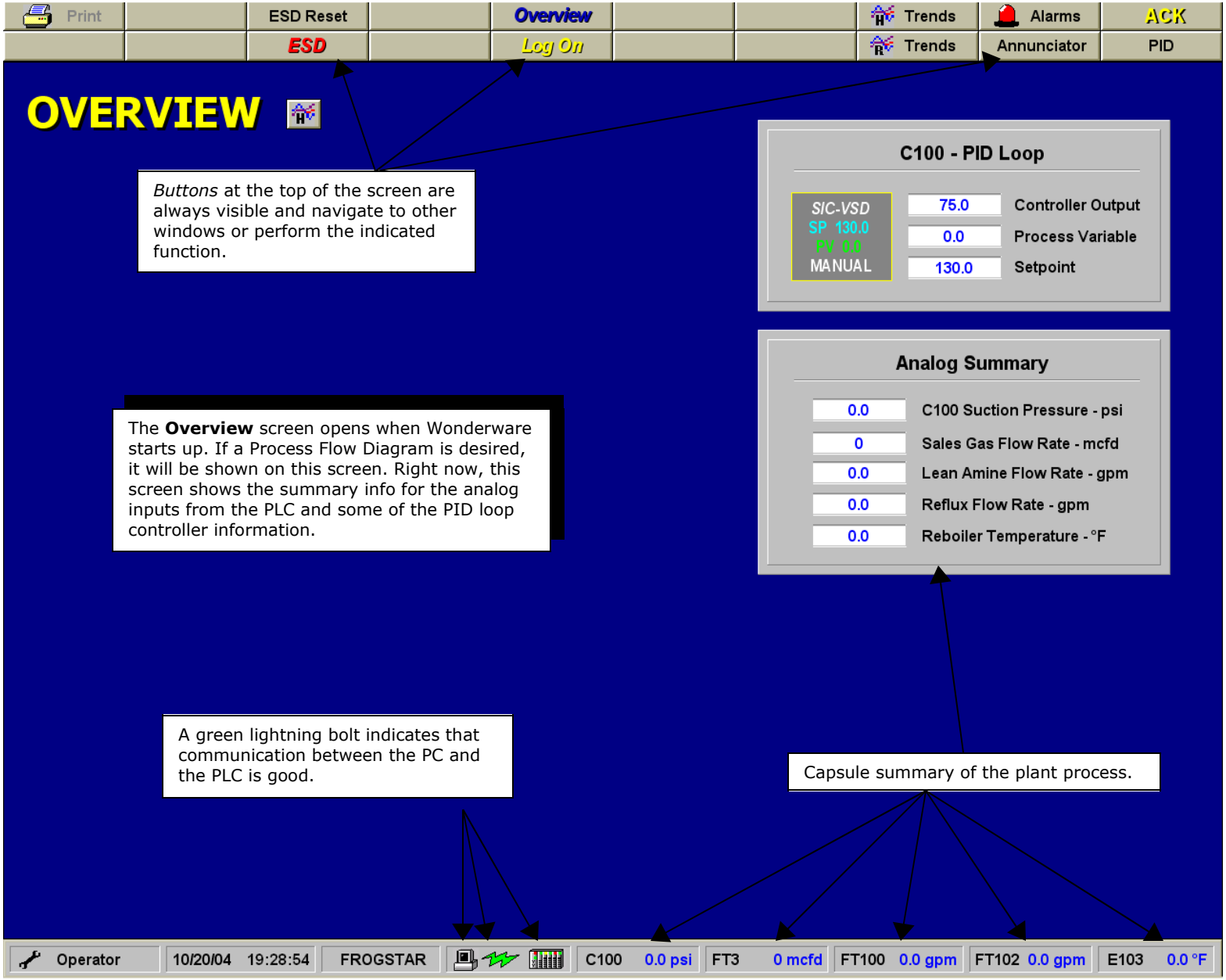
The following pages are screen shots from a Wonderware application in the early stages of development. The core structure of the application has been built, but the actual "process" pages have not yet been added. To see examples of "process" pages, visit our website at:

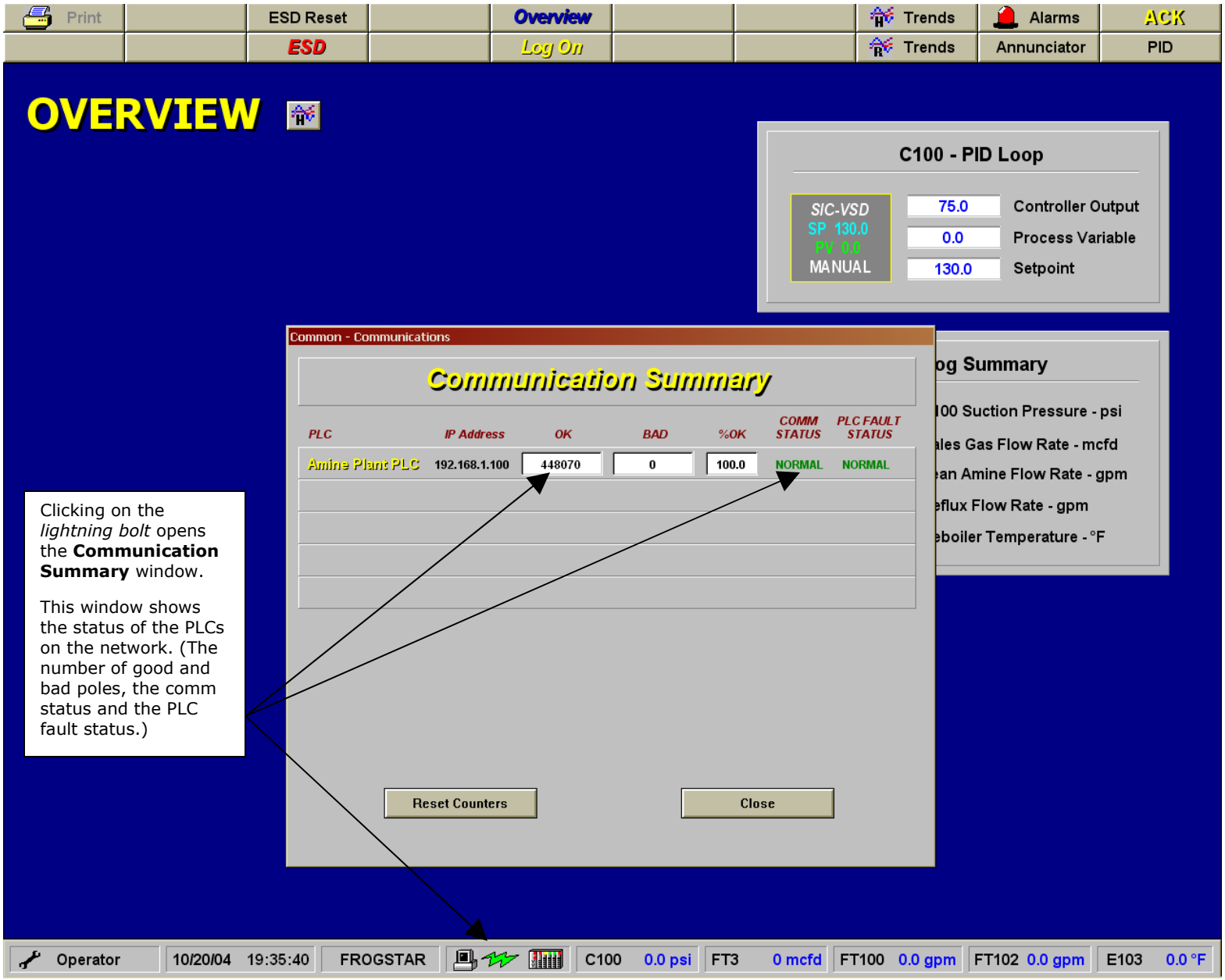
http://www.frogstarenergy.com/processHMIScreenShots.html

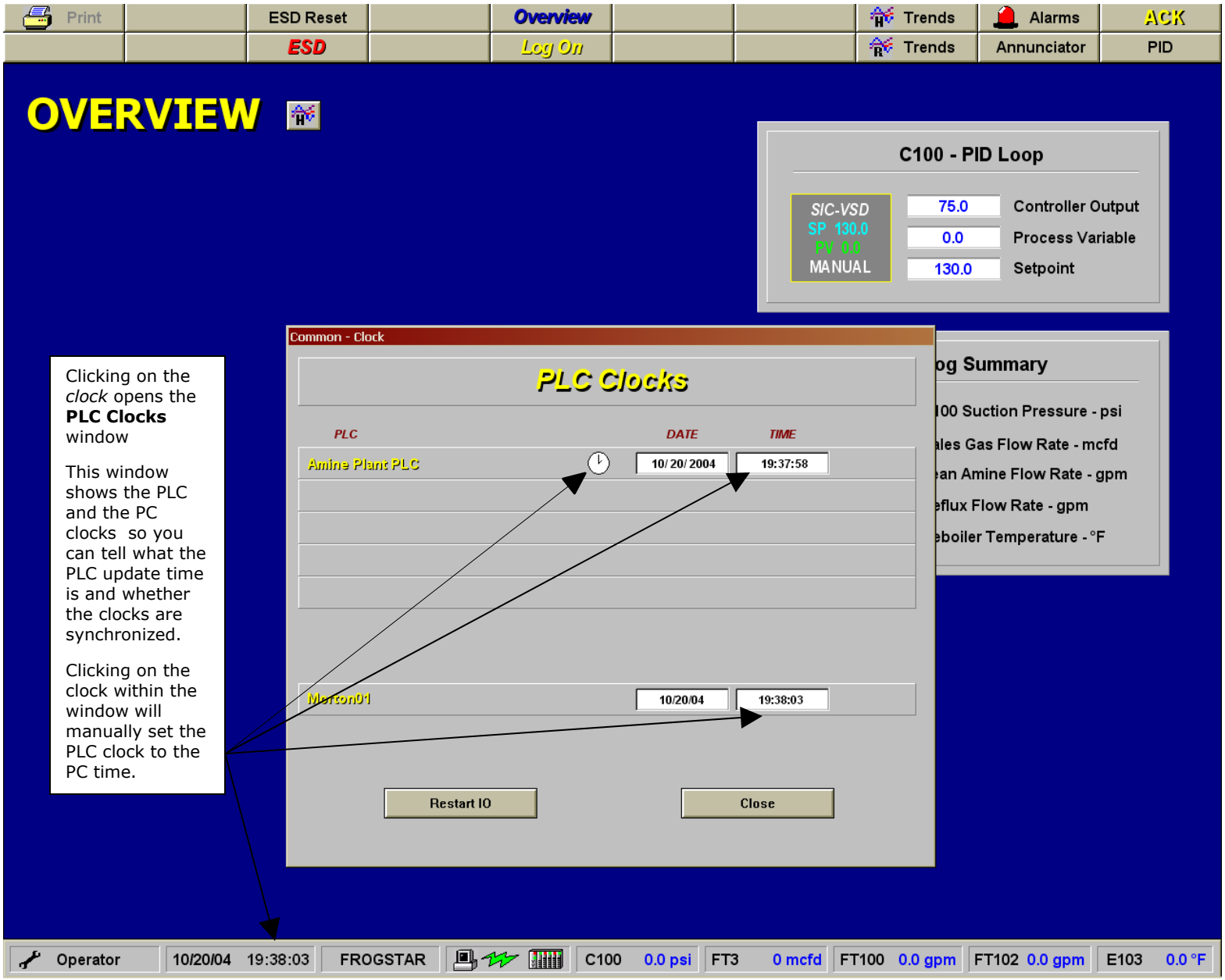
These pages illustrate:

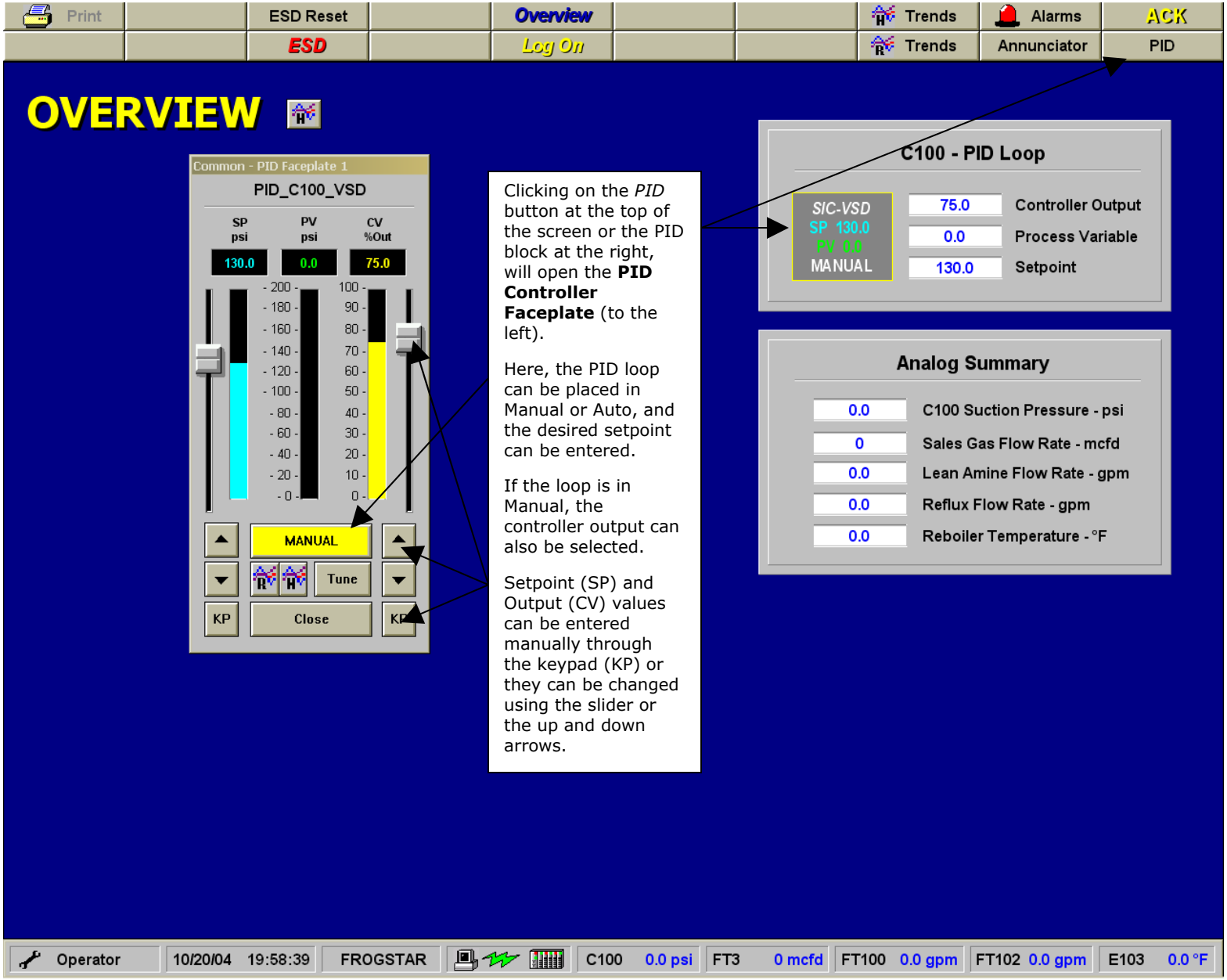
- **Navigation**
- **Process Summary**
- **Communication Status**
  - PLC identification
  - Good polls
  - Bad polls
  - PLC fault status
- **PC and PLC Clock Synchronization**
  - Update speeds
- **PID Loop Tuning, Monitoring and Control**
- **Security**
- **Alarm Notification and Acknowledgement**
- **Real-time Trending**
- **Historical Trending**
- **Alarm Summary**
- **Alarm History**

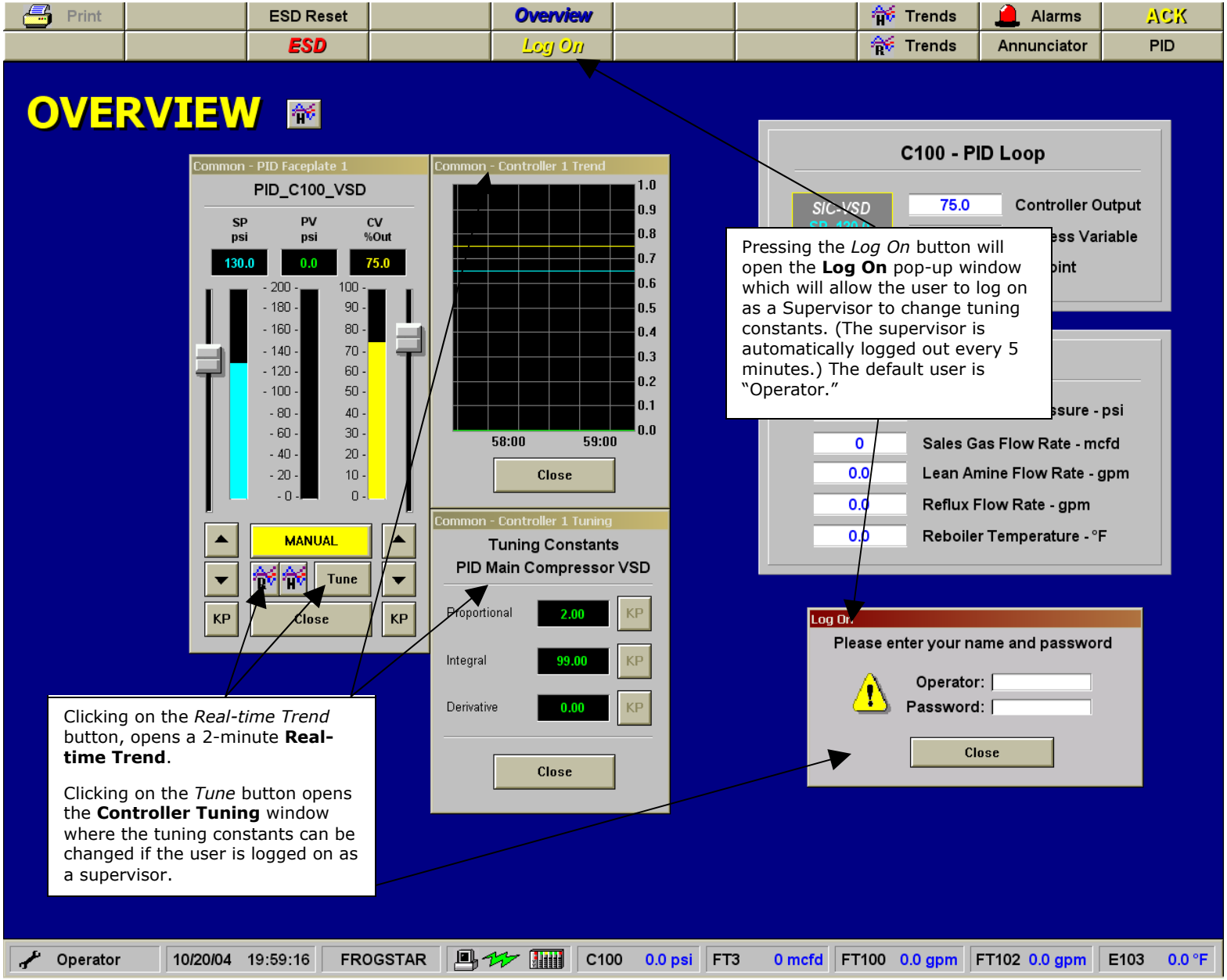
Rick Hurdle
Electrical Solutions Corporation

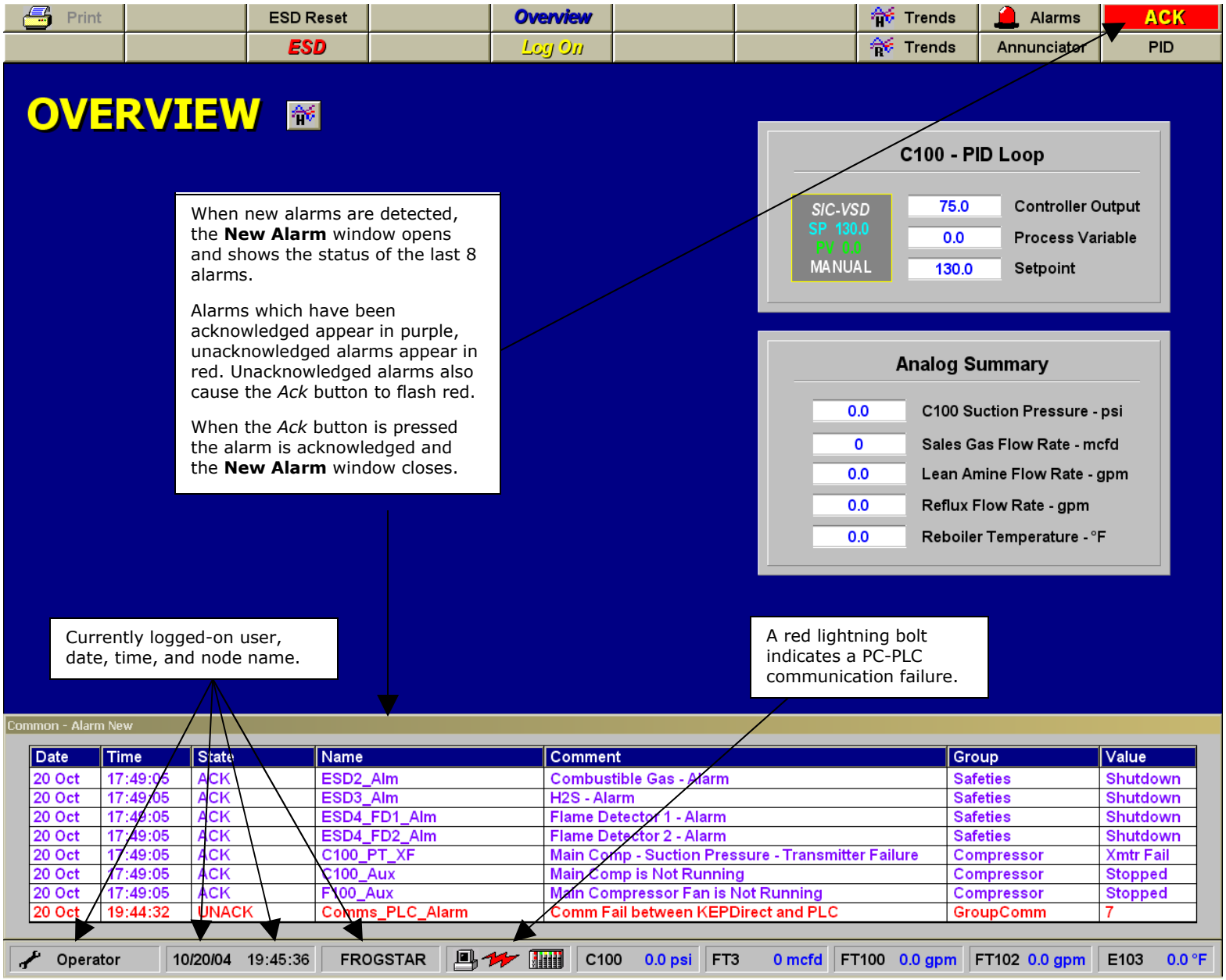

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
Buttons at the top of the screen are always visible and navigate to other windows or perform the indicated function.
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Analog Summary
0.0
C100 Suction Pressure - psi
0
Sales Gas Flow Rate - mcfd
0.0
Lean Amine Flow Rate - gpm
0.0
Reflux Flow Rate - gpm
0.0
Reboiler Temperature - °F
The Overview screen opens when Wonderware starts up. If a Process Flow Diagram is desired, it will be shown on this screen. Right now, this screen shows the summary info for the analog inputs from the PLC and some of the PID loop controller information.
A green lightning bolt indicates that communication between the PC and the PLC is good.
Capsule summary of the plant process.
Operator
10/20/04 19:28:54
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

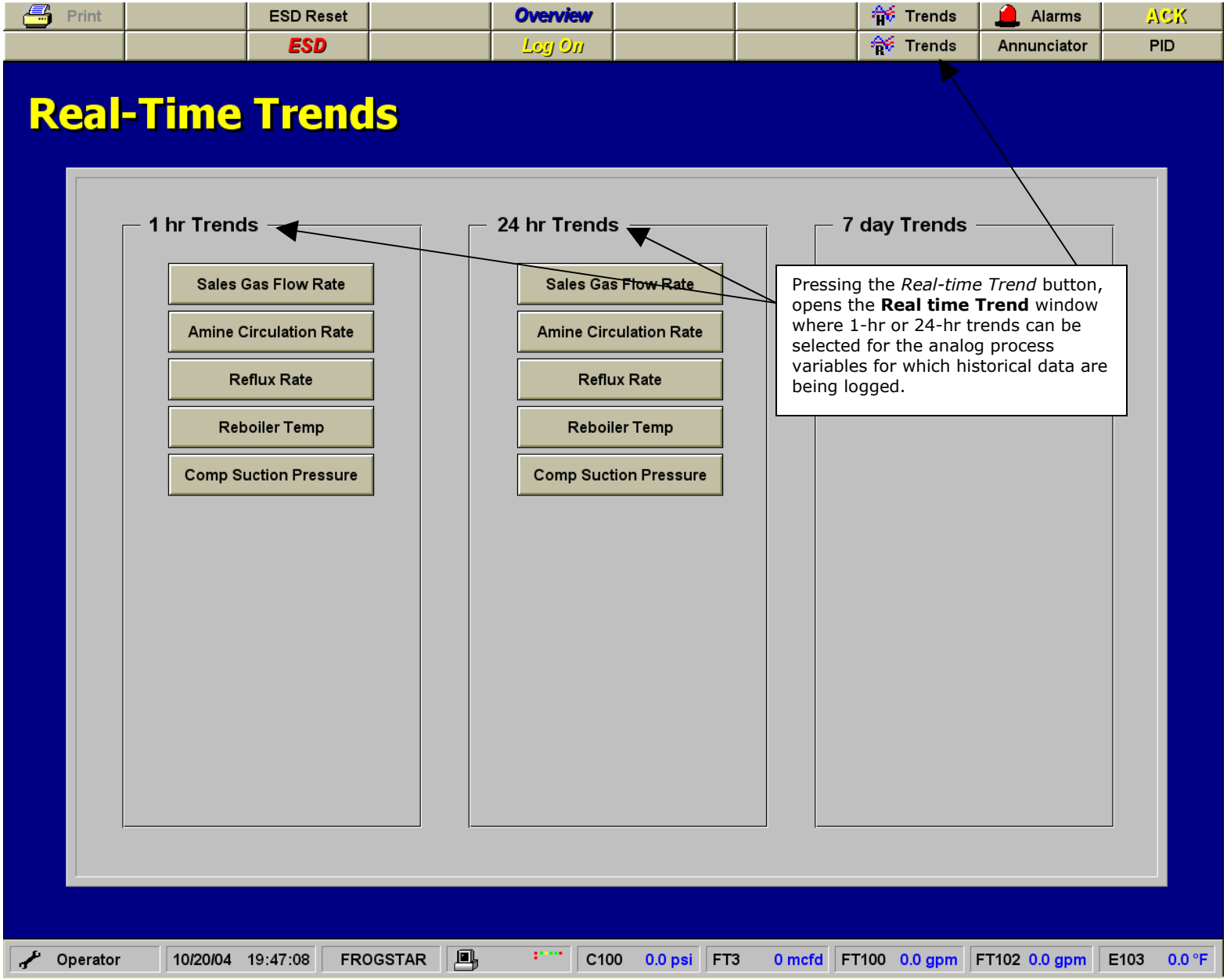

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Common - Communications
Communication Summary
PLC
IP Address
OK
BAD
%OK
COMM STATUS
PLC FAULT STATUS
Amine Plant PLC
192.168.1.100
448070
0
100.0
NORMAL
NORMAL
Reset Counters
Close
Clicking on the *lightning bolt* opens the **Communication Summary** window.
This window shows the status of the PLCs on the network. (The number of good and bad poles, the comm status and the PLC fault status.)
Operator
10/20/04 19:35:40
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

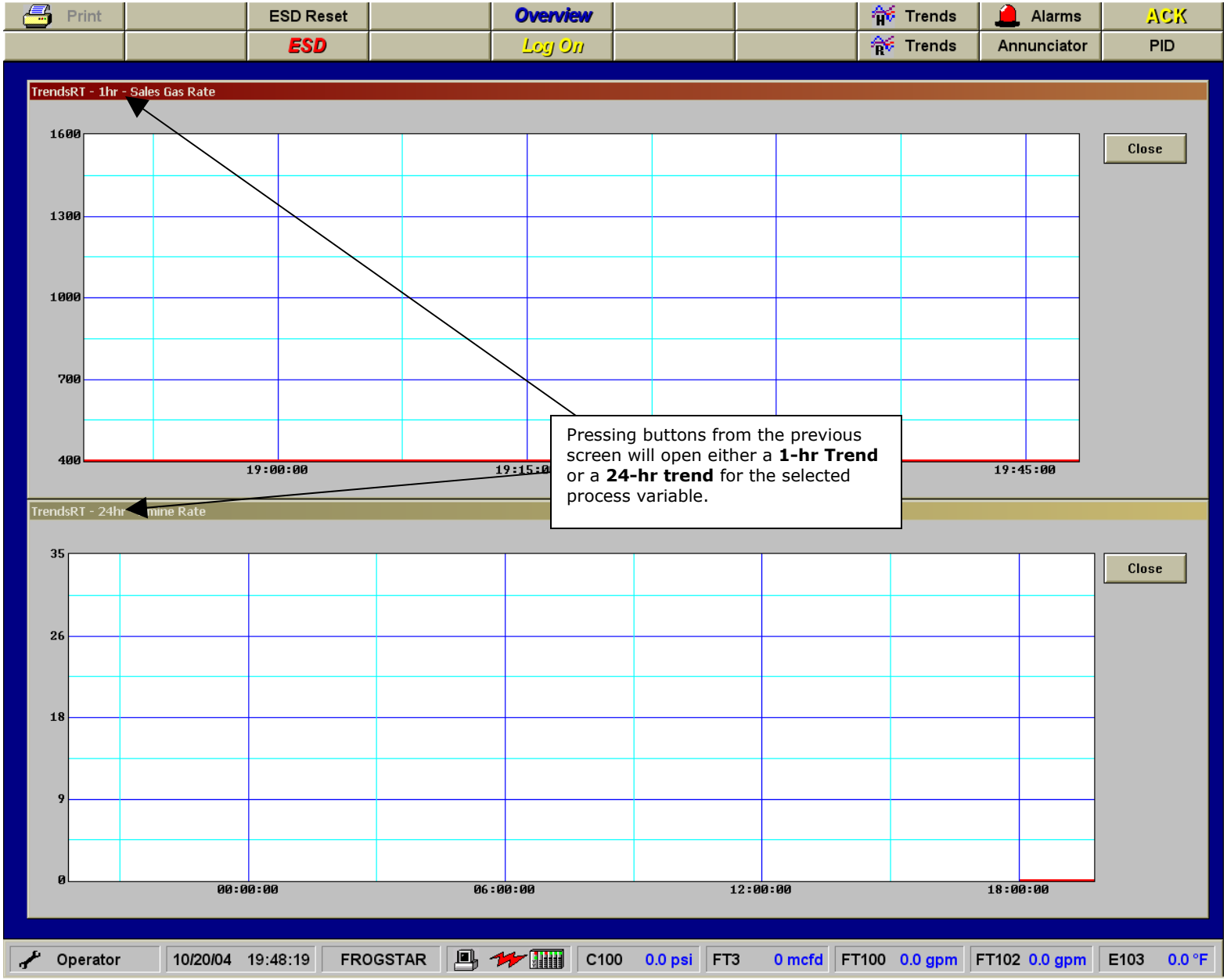

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Clicking on the *clock* opens the **PLC Clocks** window
This window shows the PLC and the PC clocks so you can tell what the PLC update time is and whether the clocks are synchronized.
Clicking on the clock within the window will manually set the PLC clock to the PC time.
Common - Clock
PLC Clocks
PLC
DATE
TIME
Amine Plant PLC
10/20/2004
19:37:58
Micron01
10/20/04
19:38:03
Restart IO
Close
og Summary
00 Suction Pressure - psi
les Gas Flow Rate - mcfd
an Amine Flow Rate - gpm
eflux Flow Rate - gpm
eboiler Temperature - °F
Operator
10/20/04 19:38:03
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

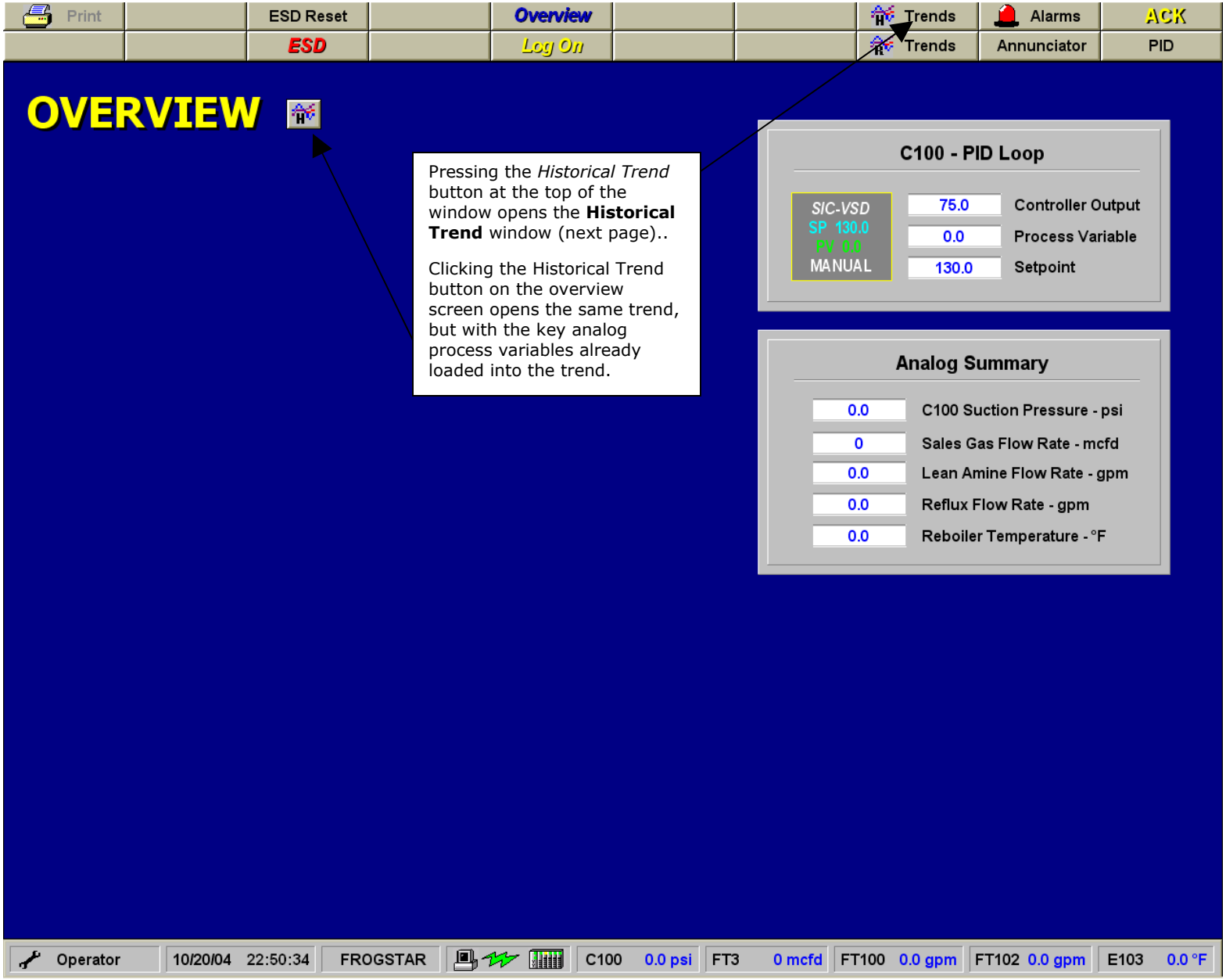

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
Common - PID Faceplate 1
PID_C100_VSD
SP psi
PV psi
CV %Out
130.0
0.0
75.0
MANUAL
Tune
KP
Close
Clicking on the *PID* button at the top of the screen or the PID block at the right, will open the **PID Controller Faceplate** (to the left).
Here, the PID loop can be placed in Manual or Auto, and the desired setpoint can be entered.
If the loop is in Manual, the controller output can also be selected.
Setpoint (SP) and Output (CV) values can be entered manually through the keypad (KP) or they can be changed using the slider or the up and down arrows.
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Analog Summary
0.0
C100 Suction Pressure - psi
0
Sales Gas Flow Rate - mcfd
0.0
Lean Amine Flow Rate - gpm
0.0
Reflux Flow Rate - gpm
0.0
Reboiler Temperature - °F
Operator
10/20/04 19:58:39
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

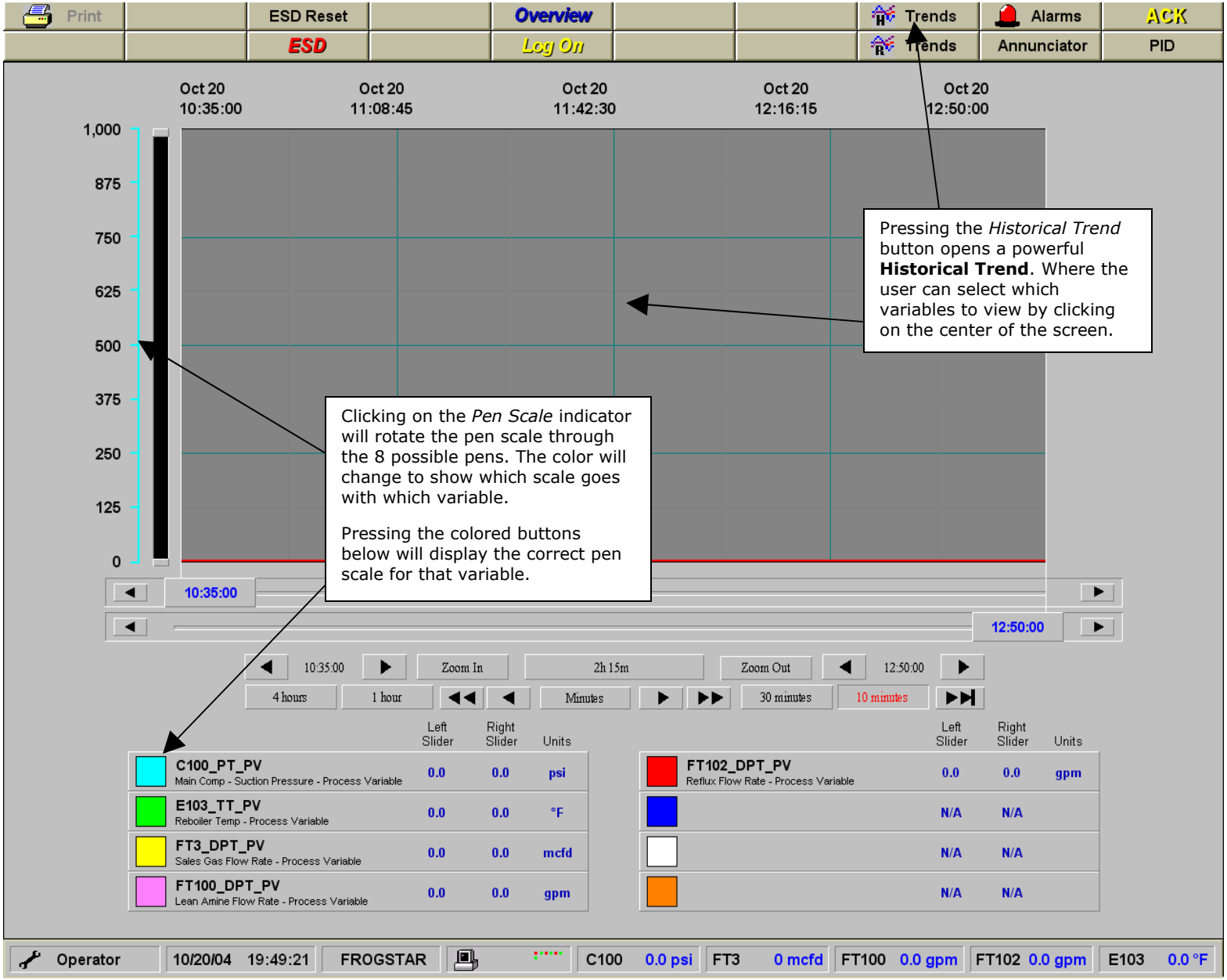

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
Common - PID Faceplate 1
PID_C100_VSD
SP psi
PV psi
CV %Out
130.0
0.0
75.0
MANUAL
Tune
KP
Close
KP
Common - Controller 1 Trend
58:00
59:00
Close
Common - Controller 1 Tuning
Tuning Constants
PID Main Compressor VSD
Proportional
2.00
Integral
99.00
Derivative
0.00
KP
Close
C100 - PID Loop
75.0
Controller Output
0
Sales Gas Flow Rate - mcfd
0.0
Lean Amine Flow Rate - gpm
0.0
Reflux Flow Rate - gpm
0.0
Reboiler Temperature - °F
Please enter your name and password
Operator:
Password:
Close
Pressing the Log On button will open the Log On pop-up window which will allow the user to log on as a Supervisor to change tuning constants. (The supervisor is automatically logged out every 5 minutes.) The default user is "Operator."
Clicking on the Real-time Trend button, opens a 2-minute Real-time Trend.
Clicking on the Tune button opens the Controller Tuning window where the tuning constants can be changed if the user is logged on as a supervisor.
Operator
10/20/04 19:59:16
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

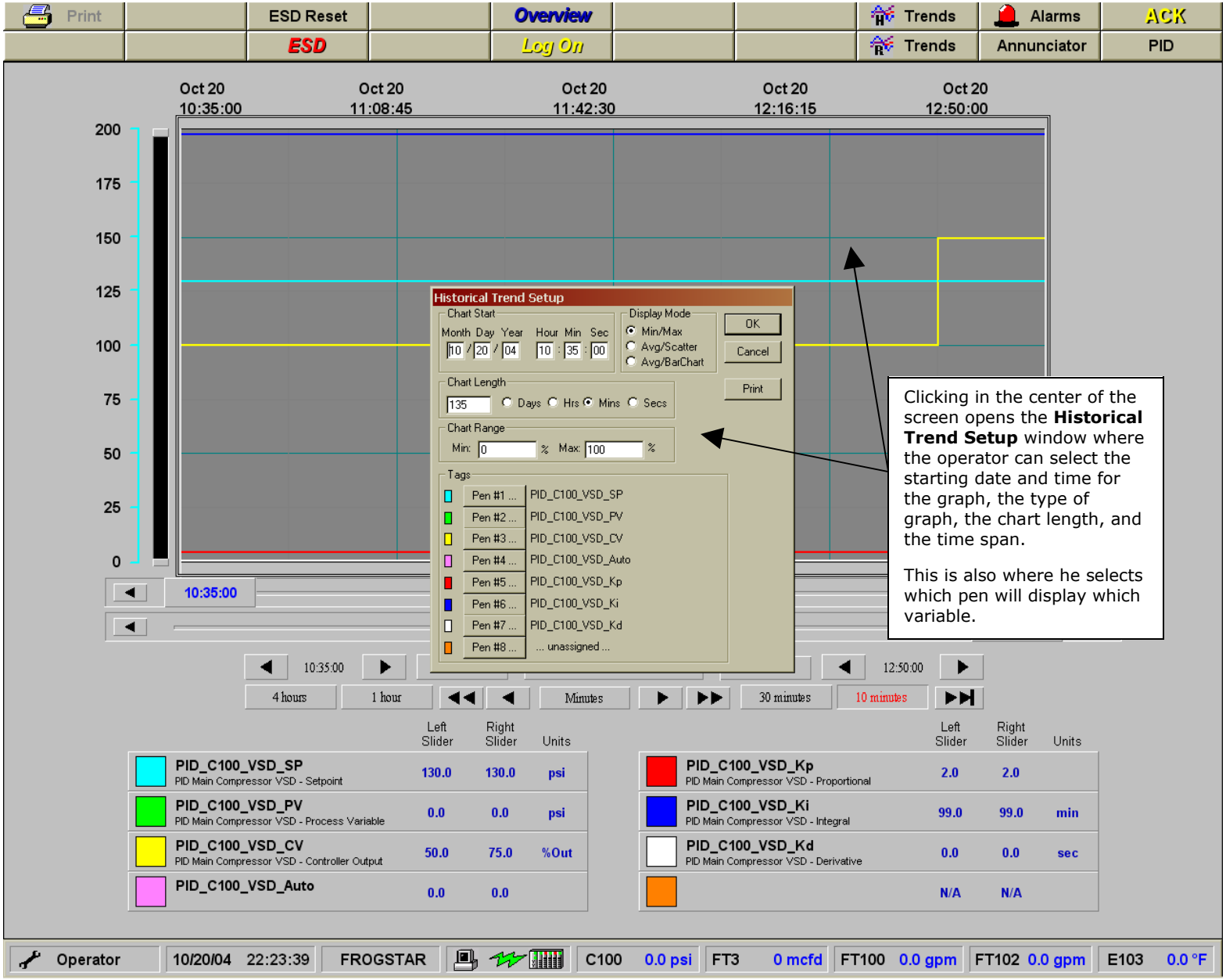

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
When new alarms are detected, the **New Alarm** window opens and shows the status of the last 8 alarms.
Alarms which have been acknowledged appear in purple, unacknowledged alarms appear in red. Unacknowledged alarms also cause the *Ack* button to flash red.
When the *Ack* button is pressed the alarm is acknowledged and the **New Alarm** window closes.
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Analog Summary
0.0
C100 Suction Pressure - psi
0
Sales Gas Flow Rate - mcfd
0.0
Lean Amine Flow Rate - gpm
0.0
Reflux Flow Rate - gpm
0.0
Reboiler Temperature - °F
Currently logged-on user, date, time, and node name.
A red lightning bolt indicates a PC-PLC communication failure.
Common - Alarm New
Date
Time
State
Name
Comment
Group
Value
20 Oct 17:49:05 ACK ESD2_Alm Combustible Gas - Alarm Safeties Shutdown
20 Oct 17:49:05 ACK ESD3_Alm H2S - Alarm Safeties Shutdown
20 Oct 17:49:05 ACK ESD4_FD1_Alm Flame Detector 1 - Alarm Safeties Shutdown
20 Oct 17:49:05 ACK ESD4_FD2_Alm Flame Detector 2 - Alarm Safeties Shutdown
20 Oct 17:49:05 ACK C100_PT_XF Main Comp - Suction Pressure - Transmitter Failure Compressor Xmtr Fail
20 Oct 17:49:05 ACK C100_Aux Main Comp is Not Running Compressor Stopped
20 Oct 17:49:05 ACK F100_Aux Main Compressor Fan is Not Running Compressor Stopped
20 Oct 19:44:32 UNACK Comms_PLC_Alarm Comm Fail between KEPDirect and PLC GroupComm 7
Operator
10/20/04 19:45:36
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
Real-Time Trends
1 hr Trends
Sales Gas Flow Rate
Amine Circulation Rate
Reflux Rate
Reboiler Temp
Comp Suction Pressure
24 hr Trends
Sales Gas Flow Rate
Amine Circulation Rate
Reflux Rate
Reboiler Temp
Comp Suction Pressure
7 day Trends
Pressing the Real-time Trend button, opens the Real time Trend window where 1-hr or 24-hr trends can be selected for the analog process variables for which historical data are being logged.
Operator
10/20/04 19:47:08
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
TrendsRT - 1hr - Sales Gas Rate
1600
1300
1000
700
400
19:00:00
19:15:00
19:45:00
Close
Pressing buttons from the previous screen will open either a 1-hr Trend or a 24-hr trend for the selected process variable.
TrendsRT - 24hr - Sales Gas Rate
35
26
18
9
0
00:00:00
06:00:00
12:00:00
18:00:00
Close
Operator
10/20/04 19:48:19
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

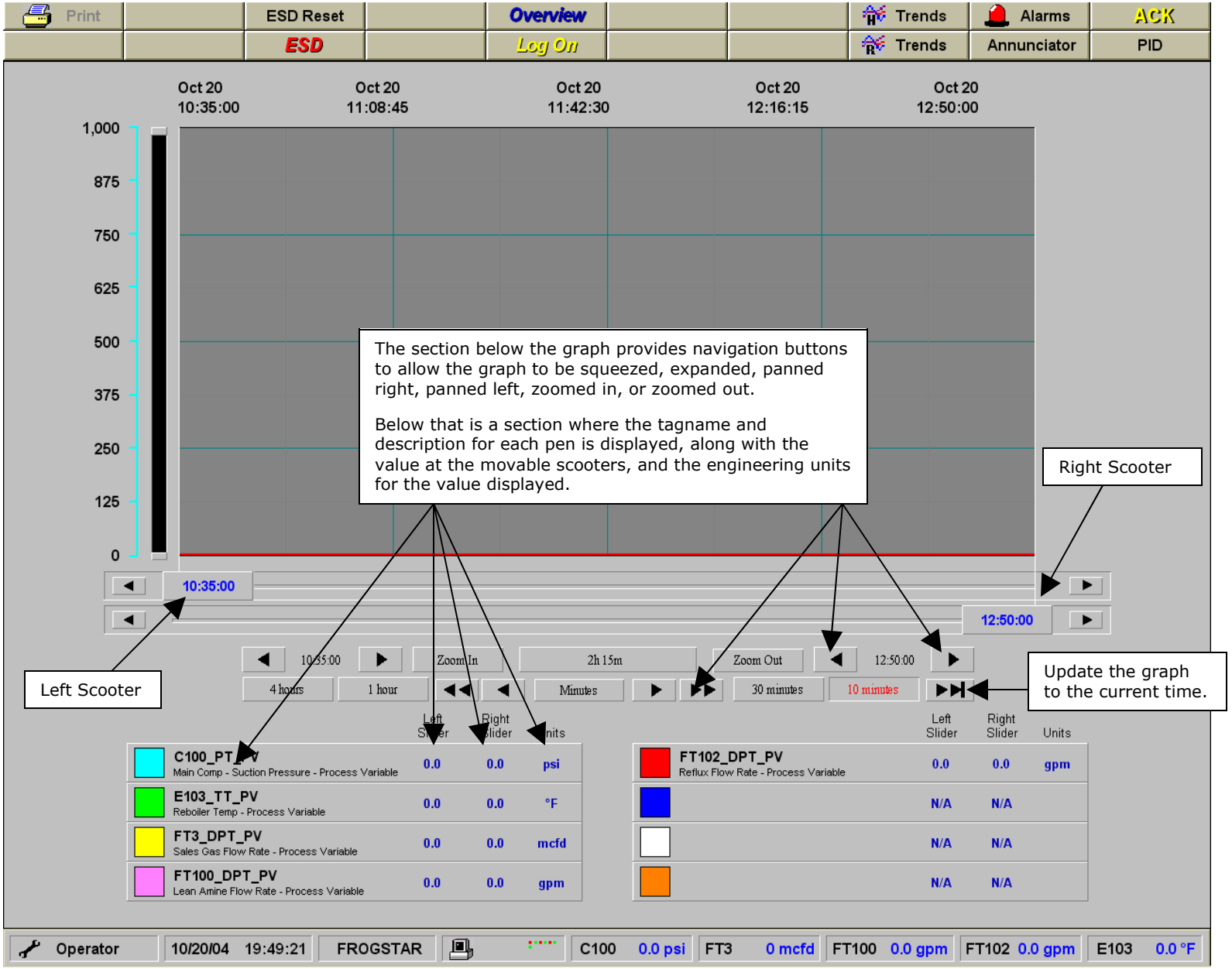

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
Pressing the *Historical Trend* button at the top of the window opens the **Historical Trend** window (next page)..
Clicking the Historical Trend button on the overview screen opens the same trend, but with the key analog process variables already loaded into the trend.
C100 - PID Loop
SIC-VSD
SP 130.0
PV 0.0
MANUAL
75.0
Controller Output
0.0
Process Variable
130.0
Setpoint
Analog Summary
0.0
C100 Suction Pressure - psi
0
Sales Gas Flow Rate - mcfd
0.0
Lean Amine Flow Rate - gpm
0.0
Reflux Flow Rate - gpm
0.0
Reboiler Temperature - °F
Operator
10/20/04 22:50:34
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

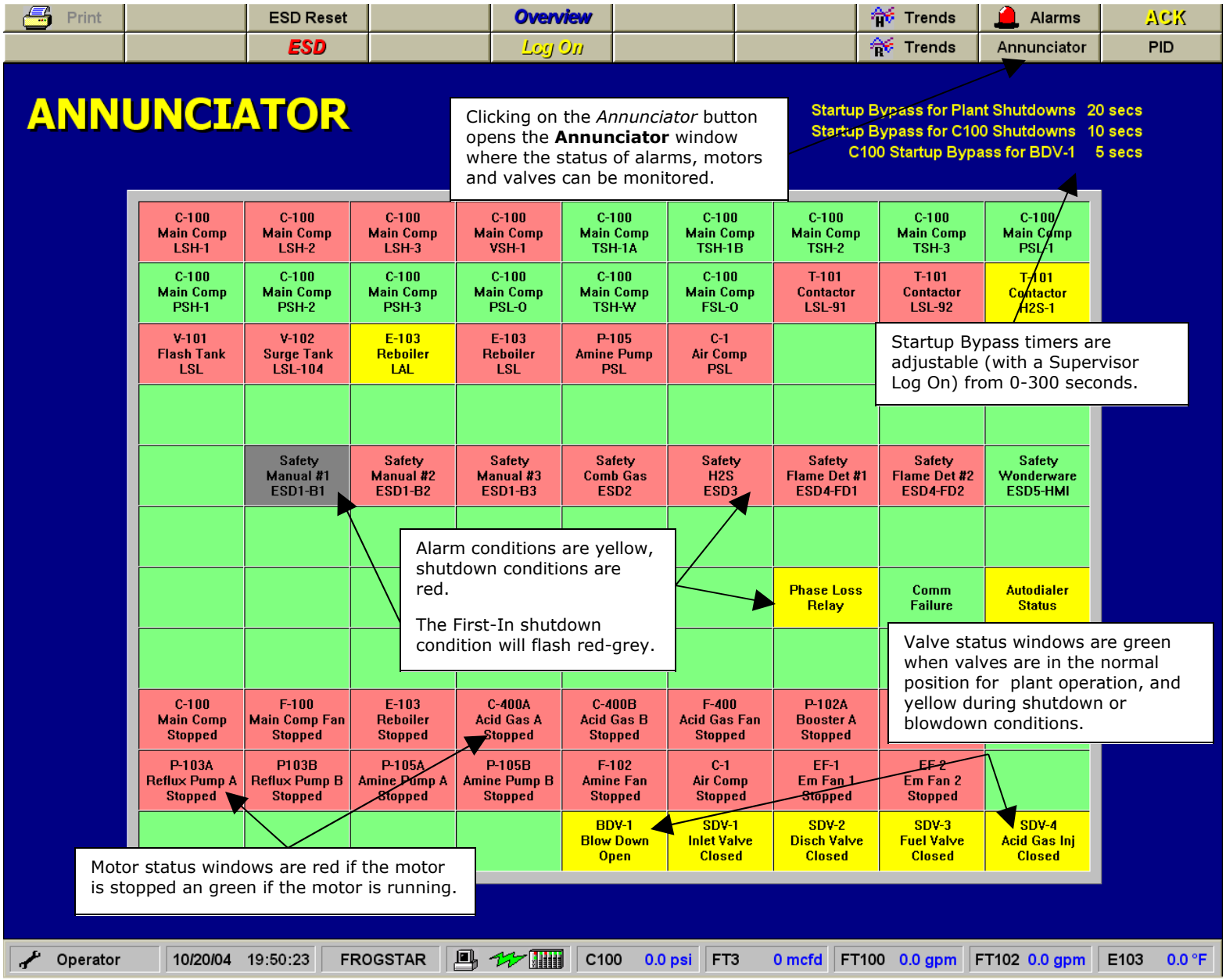

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
Oct 20 10:35:00
Oct 20 11:08:45
Oct 20 11:42:30
Oct 20 12:16:15
Oct 20 12:50:00
1,000
875
750
625
500
375
250
125
0
Pressing the *Historical Trend* button opens a powerful **Historical Trend**. Where the user can select which variables to view by clicking on the center of the screen.
Clicking on the *Pen Scale* indicator will rotate the pen scale through the 8 possible pens. The color will change to show which scale goes with which variable.
Pressing the colored buttons below will display the correct pen scale for that variable.
10:35:00
12:50:00
Zoom In
2h 15m
Zoom Out
4 hours
1 hour
Minutes
30 minutes
10 minutes
Left Slider
Right Slider
Units
C100_PT_PV
Main Comp - Suction Pressure - Process Variable
E103_TT_PV
Reboiler Temp - Process Variable
FT3_DPT_PV
Sales Gas Flow Rate - Process Variable
FT100_DPT_PV
Lean Amine Flow Rate - Process Variable
FT102_DPT_PV
Reflux Flow Rate - Process Variable
N/A
Operator
10/20/04 19:49:21
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F

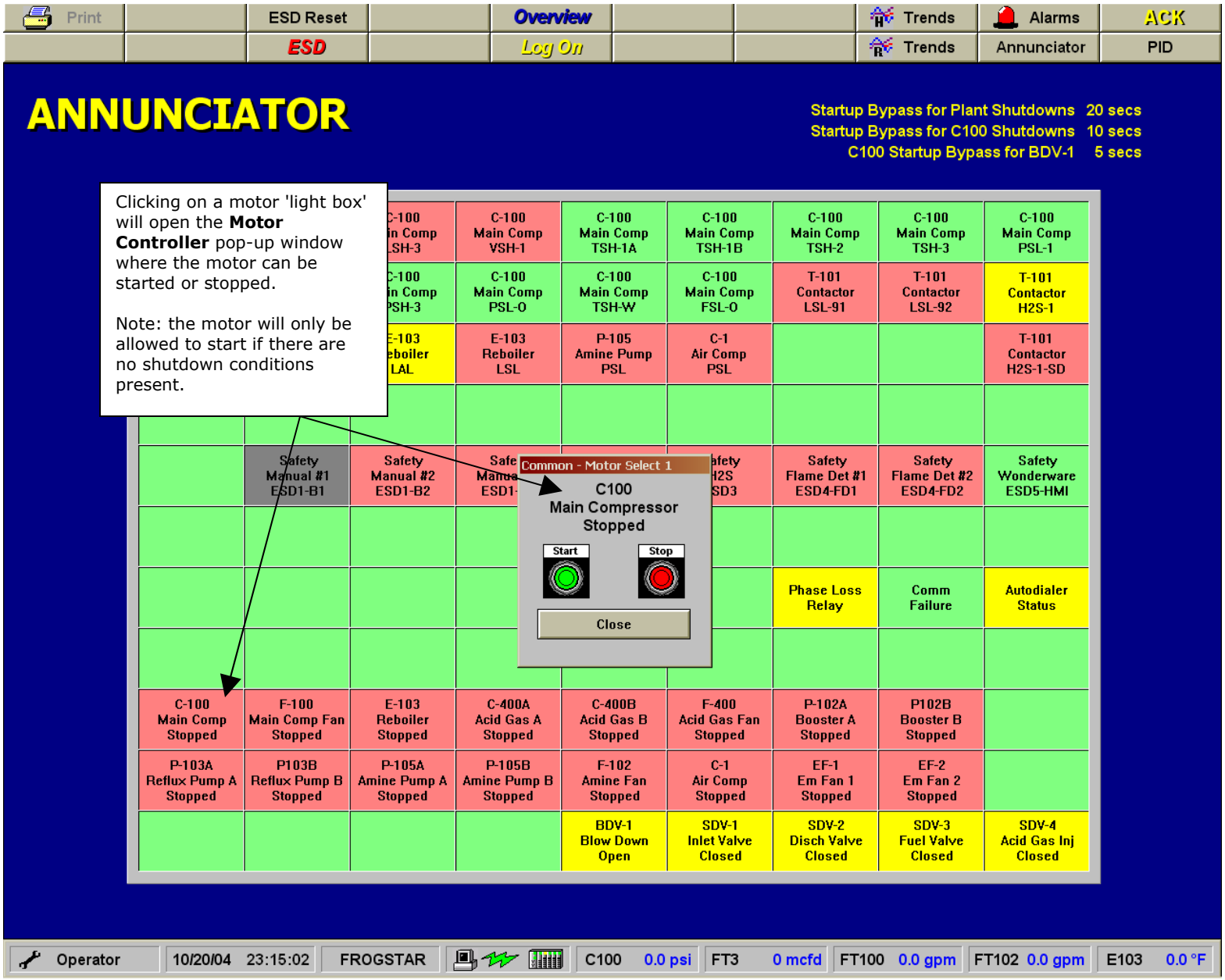


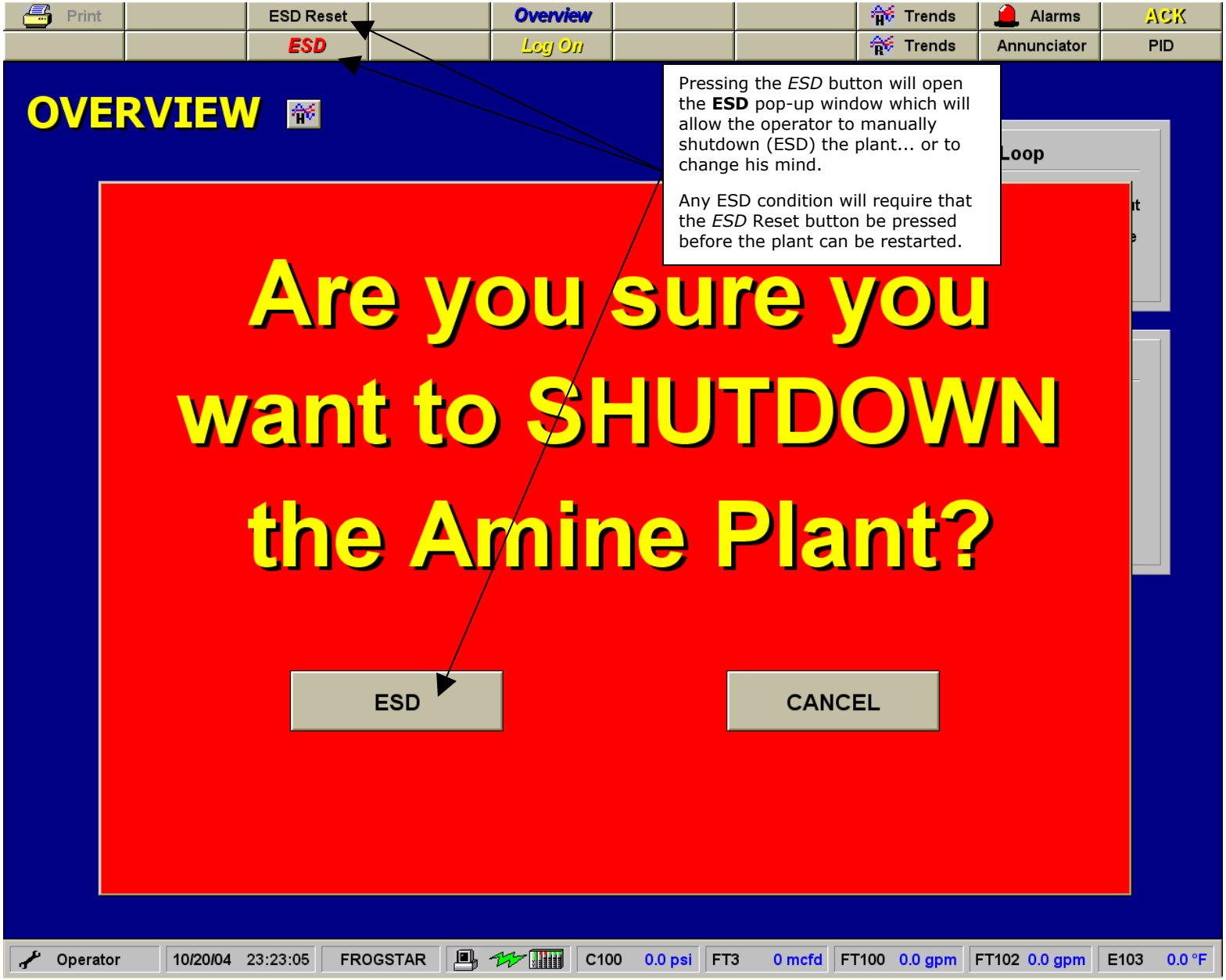
Clicking in the center of the screen opens the **Historical Trend Setup** window where the operator can select the starting date and time for the graph, the type of graph, the chart length, and the time span.

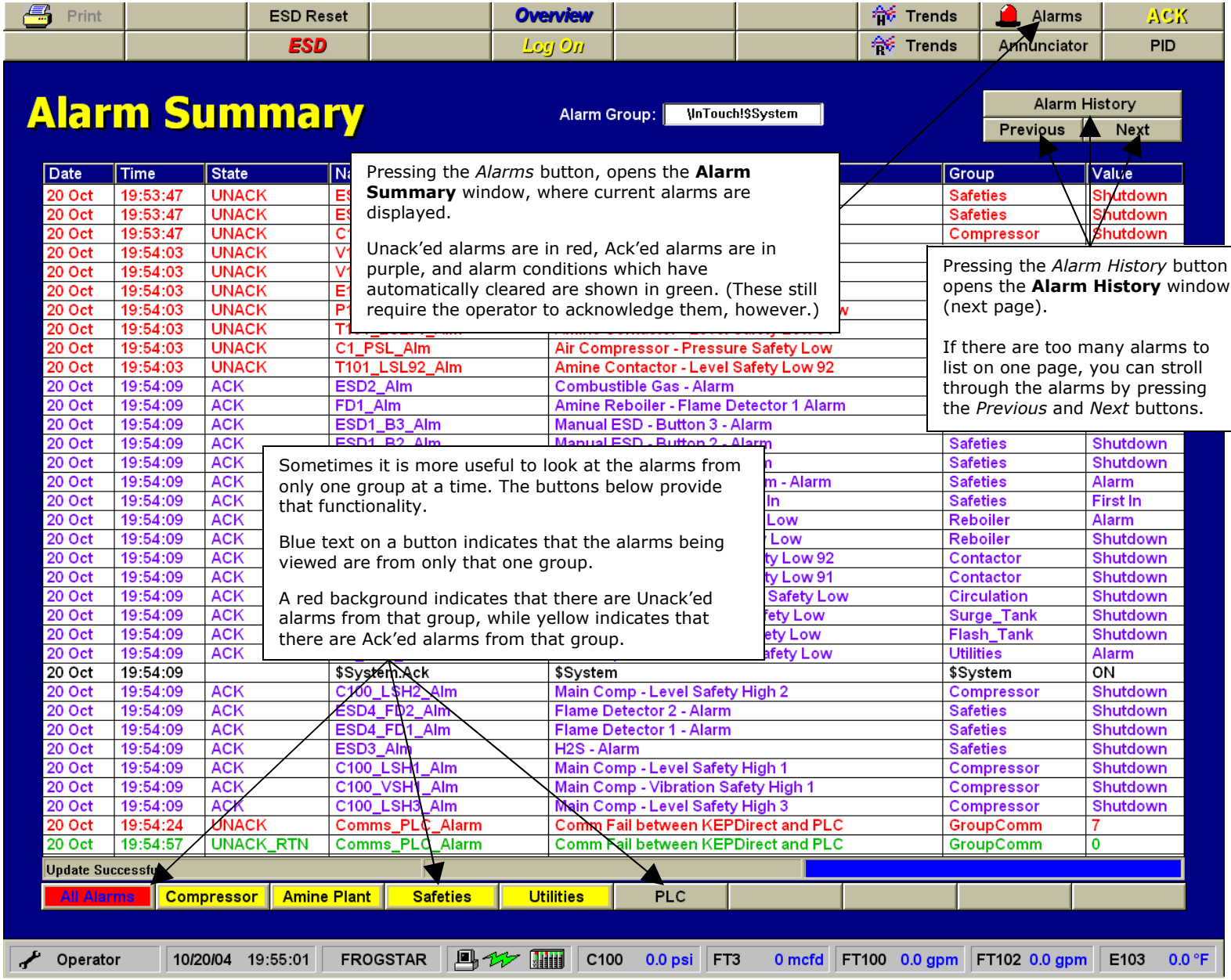
This is also where he selects which pen will display which variable.

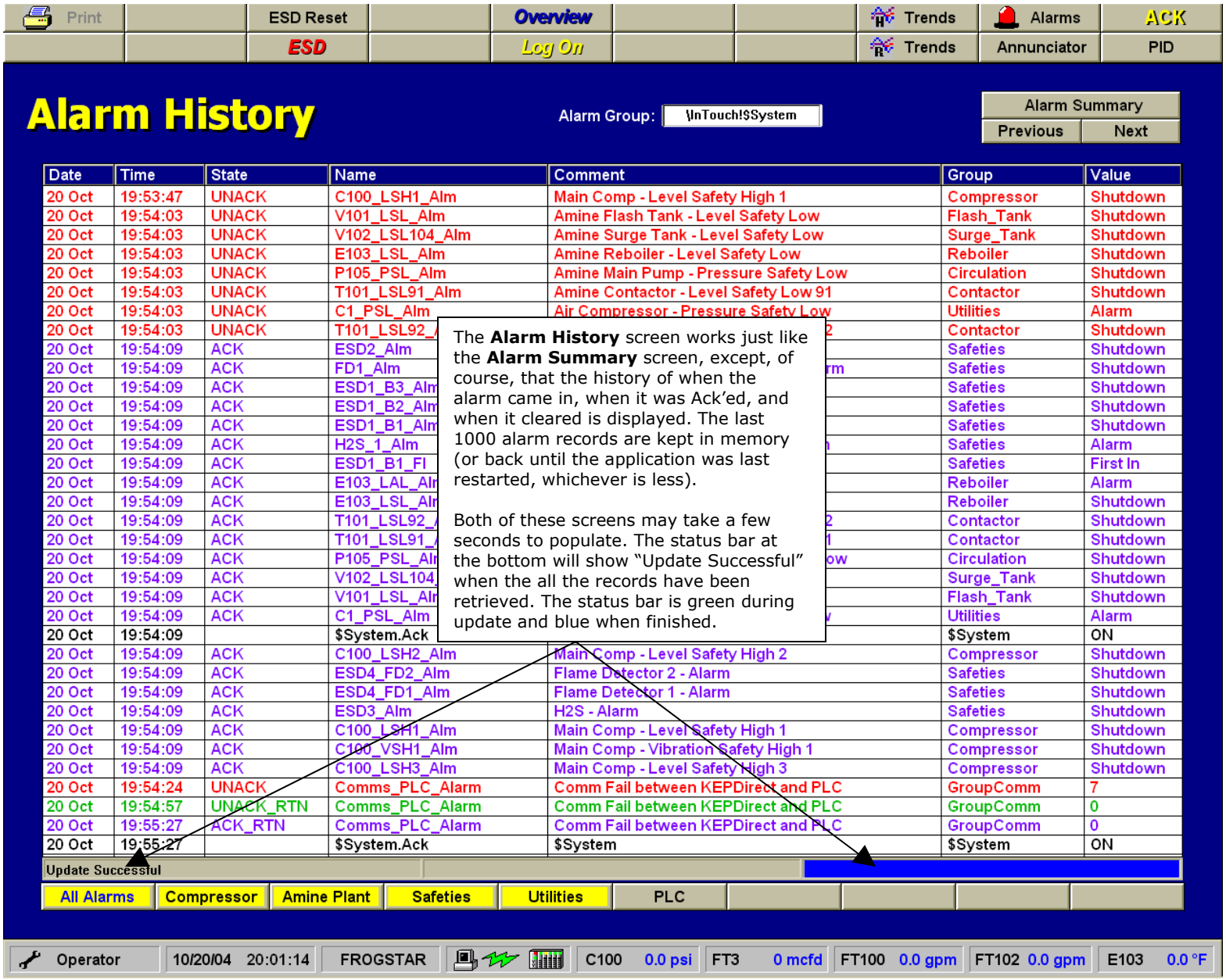

Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
Oct 20 10:35:00
Oct 20 11:08:45
Oct 20 11:42:30
Oct 20 12:16:15
Oct 20 12:50:00
1,000
875
750
625
500
375
250
125
0
The section below the graph provides navigation buttons to allow the graph to be squeezed, expanded, panned right, panned left, zoomed in, or zoomed out.
Below that is a section where the tagname and description for each pen is displayed, along with the value at the movable scooters, and the engineering units for the value displayed.
Right Scooter
10:35:00
12:50:00
Left Scooter
Zoom In
2h 15m
Zoom Out
4 hours
1 hour
Minutes
30 minutes
10 minutes
Update the graph to the current time.
Left Slider
Right Slider
Units
C100_PT_PV
Main Comp - Suction Pressure - Process Variable
0.0
0.0
psi
E103_TT_PV
Reboiler Temp - Process Variable
0.0
0.0
°F
FT3_DPT_PV
Sales Gas Flow Rate - Process Variable
0.0
0.0
mcfd
FT100_DPT_PV
Lean Amine Flow Rate - Process Variable
0.0
0.0
gpm
FT102_DPT_PV
Reflux Flow Rate - Process Variable
0.0
0.0
gpm
N/A
N/A
N/A
N/A
N/A
N/A
Operator
10/20/04 19:49:21
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
ANNUNCIATOR
Clicking on the *Annunciator* button opens the **Annunciator** window where the status of alarms, motors and valves can be monitored.
Startup Bypass for Plant Shutdowns 20 secs
Startup Bypass for C100 Shutdowns 10 secs
C100 Startup Bypass for BDV-1 5 secs
C-100 Main Comp LSH-1
C-100 Main Comp LSH-2
C-100 Main Comp LSH-3
C-100 Main Comp VSH-1
C-100 Main Comp TSH-1A
C-100 Main Comp TSH-1B
C-100 Main Comp TSH-2
C-100 Main Comp TSH-3
C-100 Main Comp PSL-1
C-100 Main Comp PSH-1
C-100 Main Comp PSH-2
C-100 Main Comp PSH-3
C-100 Main Comp PSL-O
C-100 Main Comp TSH-W
C-100 Main Comp FSL-O
T-101 Contactor LSL-91
T-101 Contactor LSL-92
T-101 Contactor H2S-1
V-101 Flash Tank LSL
V-102 Surge Tank LSL-104
E-103 Reboiler LAL
E-103 Reboiler LSL
P-105 Amine Pump PSL
C-1 Air Comp PSL
Startup Bypass timers are adjustable (with a Supervisor Log On) from 0-300 seconds.
Safety Manual #1 ESD1-B1
Safety Manual #2 ESD1-B2
Safety Manual #3 ESD1-B3
Safety Comb Gas ESD2
Safety H2S ESD3
Safety Flame Det #1 ESD4-FD1
Safety Flame Det #2 ESD4-FD2
Safety Wonderware ESD5-HMI
Alarm conditions are yellow, shutdown conditions are red.
The First-In shutdown condition will flash red-grey.
Phase Loss Relay
Comm Failure
Autodialer Status
Valve status windows are green when valves are in the normal position for plant operation, and yellow during shutdown or blowdown conditions.
C-100 Main Comp Stopped
F-100 Main Comp Fan Stopped
E-103 Reboiler Stopped
C-400A Acid Gas A Stopped
C-400B Acid Gas B Stopped
F-400 Acid Gas Fan Stopped
P-102A Booster A Stopped
P-103A Reflux Pump A Stopped
P103B Reflux Pump B Stopped
P-105A Amine Pump A Stopped
P-105B Amine Pump B Stopped
F-102 Amine Fan Stopped
C-1 Air Comp Stopped
EF-1 Em Fan 1 Stopped
EF-2 Em Fan 2 Stopped
BDV-1 Blow Down Open
SDV-1 Inlet Valve Closed
SDV-2 Disch Valve Closed
SDV-3 Fuel Valve Closed
SDV-4 Acid Gas Inj Closed
Motor status windows are red if the motor is stopped an green if the motor is running.
Operator
10/20/04 19:50:23
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
ANNUNCIATOR
Startup Bypass for Plant Shutdowns 20 secs
Startup Bypass for C100 Shutdowns 10 secs
C100 Startup Bypass for BDV-1 5 secs
Clicking on a motor 'light box' will open the Motor Controller pop-up window where the motor can be started or stopped.
Note: the motor will only be allowed to start if there are no shutdown conditions present.
C-100 Main Comp VSH-1
C-100 Main Comp TSH-1A
C-100 Main Comp TSH-1B
C-100 Main Comp TSH-2
C-100 Main Comp TSH-3
C-100 Main Comp PSL-1
C-100 Main Comp PSL-O
C-100 Main Comp TSH-W
C-100 Main Comp FSL-O
T-101 Contactor LSL-91
T-101 Contactor LSL-92
T-101 Contactor H2S-1
E-103 Reboiler LSL
P-105 Amine Pump PSL
C-1 Air Comp PSL
T-101 Contactor H2S-1-SD
Safety Manual #1 ESD1-B1
Safety Manual #2 ESD1-B2
Safety Flame Det #1 ESD4-FD1
Safety Flame Det #2 ESD4-FD2
Safety Wonderware ESD5-HMI
Common - Motor Select 1
C100
Main Compressor
Stopped
Start
Stop
Close
Phase Loss Relay
Comm Failure
Autodialer Status
C-100 Main Comp Stopped
F-100 Main Comp Fan Stopped
E-103 Reboiler Stopped
C-400A Acid Gas A Stopped
C-400B Acid Gas B Stopped
F-400 Acid Gas Fan Stopped
P-102A Booster A Stopped
P102B Booster B Stopped
P-103A Reflux Pump A Stopped
P103B Reflux Pump B Stopped
P-105A Amine Pump A Stopped
P-105B Amine Pump B Stopped
F-102 Amine Fan Stopped
C-1 Air Comp Stopped
EF-1 Em Fan 1 Stopped
EF-2 Em Fan 2 Stopped
BDV-1 Blow Down Open
SDV-1 Inlet Valve Closed
SDV-2 Disch Valve Closed
SDV-3 Fuel Valve Closed
SDV-4 Acid Gas Inj Closed
Operator
10/20/04 23:15:02
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
OVERVIEW
Pressing the *ESD* button will open the **ESD** pop-up window which will allow the operator to manually shutdown (ESD) the plant... or to change his mind.
Any ESD condition will require that the *ESD* Reset button be pressed before the plant can be restarted.
Loop
Are you sure you want to SHUTDOWN the Amine Plant?
ESD
CANCEL
Operator
10/20/04 23:23:05
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F


Print
ESD Reset
Overview
Trends
Alarms
ACK
ESD
Log On
Trends
Annunciator
PID
Alarm Summary
Alarm Group: \InTouch!$System
Alarm History
Previous
Next
Pressing the *Alarms* button, opens the **Alarm Summary** window, where current alarms are displayed.
Unack'ed alarms are in red, Ack'ed alarms are in purple, and alarm conditions which have automatically cleared are shown in green. (These still require the operator to acknowledge them, however.)
Pressing the *Alarm History* button opens the **Alarm History** window (next page).
If there are too many alarms to list on one page, you can stroll through the alarms by pressing the *Previous* and *Next* buttons.
Sometimes it is more useful to look at the alarms from only one group at a time. The buttons below provide that functionality.
Blue text on a button indicates that the alarms being viewed are from only that one group.
A red background indicates that there are Unack'ed alarms from that group, while yellow indicates that there are Ack'ed alarms from that group.
Date Time State Name Group Value
20 Oct 19:53:47 UNACK Safeties Shutdown
20 Oct 19:53:47 UNACK Safeties Shutdown
20 Oct 19:53:47 UNACK Compressor Shutdown
20 Oct 19:54:03 UNACK
20 Oct 19:54:03 UNACK
20 Oct 19:54:03 UNACK
20 Oct 19:54:03 UNACK
20 Oct 19:54:03 UNACK
20 Oct 19:54:03 UNACK C1_PSL_Alm Air Compressor - Pressure Safety Low
20 Oct 19:54:03 UNACK T101_LSL92_Alm Amine Contactor - Level Safety Low 92
20 Oct 19:54:09 ACK ESD2_Alm Combustible Gas - Alarm
20 Oct 19:54:09 ACK FD1_Alm Amine Reboiler - Flame Detector 1 Alarm
20 Oct 19:54:09 ACK ESD1_B3_Alm Manual ESD - Button 3 - Alarm
20 Oct 19:54:09 ACK Safeties Shutdown
20 Oct 19:54:09 ACK Safeties Shutdown
20 Oct 19:54:09 ACK Safeties Alarm
20 Oct 19:54:09 ACK Safeties First In
20 Oct 19:54:09 ACK Reboiler Alarm
20 Oct 19:54:09 ACK Reboiler Shutdown
20 Oct 19:54:09 ACK Contactor Shutdown
20 Oct 19:54:09 ACK Contactor Shutdown
20 Oct 19:54:09 ACK Circulation Shutdown
20 Oct 19:54:09 ACK Surge_Tank Shutdown
20 Oct 19:54:09 ACK Flash_Tank Shutdown
20 Oct 19:54:09 ACK Utilities Alarm
20 Oct 19:54:09 $System:Ack $System $System ON
20 Oct 19:54:09 ACK C100_LSH2_Alm Main Comp - Level Safety High 2 Compressor Shutdown
20 Oct 19:54:09 ACK ESD4_FD2_Alm Flame Detector 2 - Alarm Safeties Shutdown
20 Oct 19:54:09 ACK ESD4_FD1_Alm Flame Detector 1 - Alarm Safeties Shutdown
20 Oct 19:54:09 ACK ESD3_Alm H2S - Alarm Safeties Shutdown
20 Oct 19:54:09 ACK C100_LSH1_Alm Main Comp - Level Safety High 1 Compressor Shutdown
20 Oct 19:54:09 ACK C100_VSH1_Alm Main Comp - Vibration Safety High 1 Compressor Shutdown
20 Oct 19:54:09 ACK C100_LSH3_Alm Main Comp - Level Safety High 3 Compressor Shutdown
20 Oct 19:54:24 UNACK Comms_PLC_Alarm Comm Fail between KEPDirect and PLC GroupComm 7
20 Oct 19:54:57 UNACK_RTN Comms_PLC_Alarm Comm Fail between KEPDirect and PLC GroupComm 0
Update Successful
All Alarms
Compressor
Amine Plant
Safeties
Utilities
PLC
Operator
10/20/04 19:55:01
FROGSTAR
C100 0.0 psi
FT3 0 mcfd
FT100 0.0 gpm
FT102 0.0 gpm
E103 0.0 °F



The **Alarm History** screen works just like the **Alarm Summary** screen, except, of course, that the history of when the alarm came in, when it was Ack'ed, and when it cleared is displayed. The last 1000 alarm records are kept in memory (or back until the application was last restarted, whichever is less).

Both of these screens may take a few seconds to populate. The status bar at the bottom will show "Update Successful" when the all the records have been retrieved. The status bar is green during update and blue when finished.