### HMI Control Panel Operation

The main display (HOME) shows the current status of the compressor.



Main Display (HOME)

#### HOURS:



Press this button to view the time remaining on the various filter elements, separators and fluid.

SE Hr8000 FF Hr1000 AF Hr2000 FL Hr8000

SE is the separator element, FF is the fluid filter, AF is the air filter and FL is the fluid.

When any of these times reaches zero (0), a message will be displayed on the main display. Press ENTER to clear the message and reset the counter to the preset values (these are set in the MENU section). Press HOURS, then  $\blacktriangle$  or  $\blacktriangledown$  to display the loaded, unloaded and total running hours of the compressor.



#### ALARM:



Press the ALARM button to access the alarm log which shows the cause of the current shutdown.

MOTOR OVERLOAD TRIP

Press ENTER to remove the alarm once the condition that caused the alarm has been corrected.

### NOTICE!

All shutdown alarms must be cleared before the compressor will load. Press ALARM, then ENTER to clear an alarm.



NO ALARMS ACTIVE indicates that all conditions which would inhibit starting the compressor have been cleared.



Many of the following menus require a password to allow alteration of the values. If the screen shown to the left is displayed, enter password '0000'. Once entered, the password is active, allowing changes to be made without re-entering the password. If no operator input occurs for 2 minutes, the password is released.

#### MODE:

Press the MODE button to access the operating conditions of the compressor. There are six (6) menus

in this section. Press MODE, then  $\blacktriangle$ or  $\mathbf{\nabla}$  to scroll through the menus. To change the values on any of these menus, press ENTER, then  $\blacktriangle$  or  $\triangledown$  to set the value, then ENTER again.

## NOTICE!

If the  $\blacktriangle$  or  $\blacktriangledown$  buttons are pressed and held, the selected value will change very rapidly. If a value is set outside the acceptable range, it will automatically revert to the default setting when ENTER is pressed.



AUTO-DUAL TIME is the time (in minutes) that the compressor will run unloaded before the motor will shutdown. When the motor shuts down, the compressor will be in standby mode and will restart when the pressure falls to the LOAD point.

AUTO RESTART restarts the compressor following a power interruption. A setting of 0.0 turns this feature off. This timer is in seconds and can be set from 60 to 120 seconds.



Use this menu to set the load and unload pressure settings (psig) for auto-dual or continuous run mode. There must be at least 10 psi difference between these pressure settings.



Use this menu to set the load and unload pressure settings (psig) for compressors in network mode. (These values should be 0 if the compressor is not running in network mode.)

The values entered are for the base or lead compressor. The pressure settings for each compressor in the network sequence will be reduced (step down) by the step value. The step value can be set from one (1) to ten (10) psig.



In network mode, use this menu to set the time period for auto-rotation of the compressors. At the end of the selected time period, the current lead compressor will be placed at the end of the operating sequence list.

## I NOTICE!

The accuracy of this timer depends on the accuracy of the PLC's internal clock.

# OPERATING SEQUENCE ABCDEF Edit: A

An operating sequence must be entered for compressors to run properly in network mode. The first compressor ID in the sequence is the BASE load compressor, and the last compressor ID in the sequence is the trim compressor.

Acceptable values for this menu are 'A' to 'F'. If a value less than 'A' is entered, the last letter in the sequence is deleted and 'A' is placed in the edit space. If a value greater than 'F' is entered, 'F' will be placed in the edit location.



There are two operating modes in network mode: LIFO and AutoRotate.

Select zero (0) for LIFO (last in, first out), which is a fixed sequence type. The networked compressors operate in the selected sequence.

Select one (1) for AutoRotate, which activates a rotation timer. When the timer reaches zero (0), the current base compressor is moved to the trim position.

#### MENU:



Press this button to access the setup menus for the compressor. There are MENU 8 menus in this section. These

include the service intervals, sensor calibration etc. Press MENU, then  $\blacktriangle$  or  $\blacktriangledown$ to scroll through the menus. To change the values on any of these menus, press ENTER, then  $\blacktriangle$  or  $\blacktriangledown$  to set the value, then ENTER again.



There are three operating modes available: auto-dual, continuous run and network mode. Select zero (0) for auto-dual mode, one (1) for continuous run mode, or two (2) for network mode.

Service hours are preset to default values but can be changed here, if desired.



These are count down timers and are used as service reminders. A message will be displayed on the main running menu when any of these timers reaches zero.



The pressure transducer range is 0 to 300 psi. To calibrate the pressure transducer, disconnect the pressure line to the sensor, and vent to atmosphere to zero (the number on the screen has no effect on the calibration; it is just a dummy value. Press ENTER to set the zero).

# SCALE HIGH 300

The standard temperature scale is 0 to 300°F.



To calibrate the temperature, press ENTER, then  $\blacktriangle$  or  $\blacktriangledown$  to match the temperature at the probe.

Shutdown temperature is a preset value. During start-up, the compressor will automatically raise this setting to 250° for 2 minutes to handle overshoots.



The shutdown temperature can be altered at this menu, however, this should only be done as a last resort.

The Y/D time is the time (in seconds) that the motor remains in reduced voltage start mode before transitioning to run mode. Too large a value can cause the motor to bog-down on start. A correct value, will give a fairly smooth transition to run mode.



Each compressor in the network must have a compressor ID (a unique letter of 'A' to 'F') to run in network mode.

The HP setting, along with other compressor data, is transmitted to other compressors on the network.

#### HOME:



Press the HOME button to return to the main display from any screen.

#### LOG:



Press the LOG button, then  $\blacktriangle$  or  $\blacktriangledown$ to view a log of recent faults or messages. This log records up to eight messages/faults with the most recent being 1 and the oldest 8.

NO FAULT/EMPTY

OVERLOAD TRIP

04/17/06 14:08

#### Advanced Operations

ESC:



Use the ESC button to access the control panel setup menus. These ESCAPE menus allow adjusting the time clock and other parameters that affect the

control panel operation.

MES

From this screen, press ESC again to access the internal menus. ENTER will return to the main screen (HOME).



Once at this screen, use  $\blacktriangle$ ,  $\triangledown$  and ENTER to navigate through these menus. (ESC will return to the previous menu.)

Use the OPERATOR MENU to set the control panel clock and the display language (English or Spanish).



Communication parameters are set in the DIAGNOSTIC MENU, with respect to the PLC. If the PLC of the control panel is changed, the settings need to agree in order for them to communicate.



Press ENTER to go to the DIAGNOSTIC MENU, then ENTER again at TD 200 SETUP.



Press  $\mathbf{\nabla}$ , then ENTER to access the BAUD RATE section.



The BAUD Rate should be 187K, for communications with the PLC.

BAUD	RATE	
		187

## **NOTICE!**

If a new control panel is being installed, the default BAUD RATE may not match and will need to be set. The keypad layout is 'soft', so the keys on the new control panel are not in the same locations as shown on page 20. Use the keypad overlay that comes with the replacement control panel to assist in the setup. Once communication is established with the PLC, the keypad will match the proper key locations.

#### **Network Connections**

Be sure to set the compressor ID (page 23) for each compressor in the network before connecting the compressors with a network cable.

Next, verify the time and date settings. If they needs to be changed, follow the instructions on page 24. If operating in a network, the time and date must be set on each compressor. Time and date are only used to date stamp errors for the shutdown logs.

## R NOTICE!

If power is removed from the PLC for more than 120 days, verify the time and date settings, and reset if lost. No other data will be lost due to periods of inactivity, as they are stored in EEPROM. Once each compressor in the network has been configured, the PROFIBUS cable may be connected. The maximum recommended cable length is 150 feet. That distance may be extended only if the compressor's PLC's are 'bonded' with an eqi-potential wire in addition to the networking cable (the 'M' terminals of the PLC's should be connected to balance the DC connections).

Greater lengths may be connected using isolated repeaters. Network connection can be extended up to 3000' with their use.

All network parameters should be entered through the 'A' compressor. This will be the main 'master'. For communications, the PLC's take the 'master' position briefly to send data to the others, then relinquish the network, giving the appearance of a multimaster system.

