

SECTION 12.1 INTEGRINEX STANDARD SETUP

DESCRIPTION

The Integrinex STANDARD level controller is equipped with a pressure transducer, alpha/numeric display, inputs, output relays and terminal strips.

The front panel is equipped with a display and controls for the following functions: (refer to Figure 1)

Alpha/Numeric LCD Display: Displays wet well level, set points, pump status, and setup parameters.

Output Status Colored LED's: P1, P2 and P3
Illuminates Orange when a pump is called to run,
Illuminates Green when a pump is running, flashes
Green when a pump not called for with a running

input, flashes Red when in alarm but not acknowledged and Illuminates Red when in alarm and has been acknowledged. A1 flashes Red when in alarm but not acknowledged and Illuminates Red when in alarm and has been acknowledged.

ENT Button [▶]: Press the [ENT▶] button to enter into each menu and select and save a value.

ESC Button [◀]: Press the [◀ESC] button to back out of each menu and display the Process Display Screen.

Increment/Decrement Button [▼▲]: Changes level set points and setup parameter values.

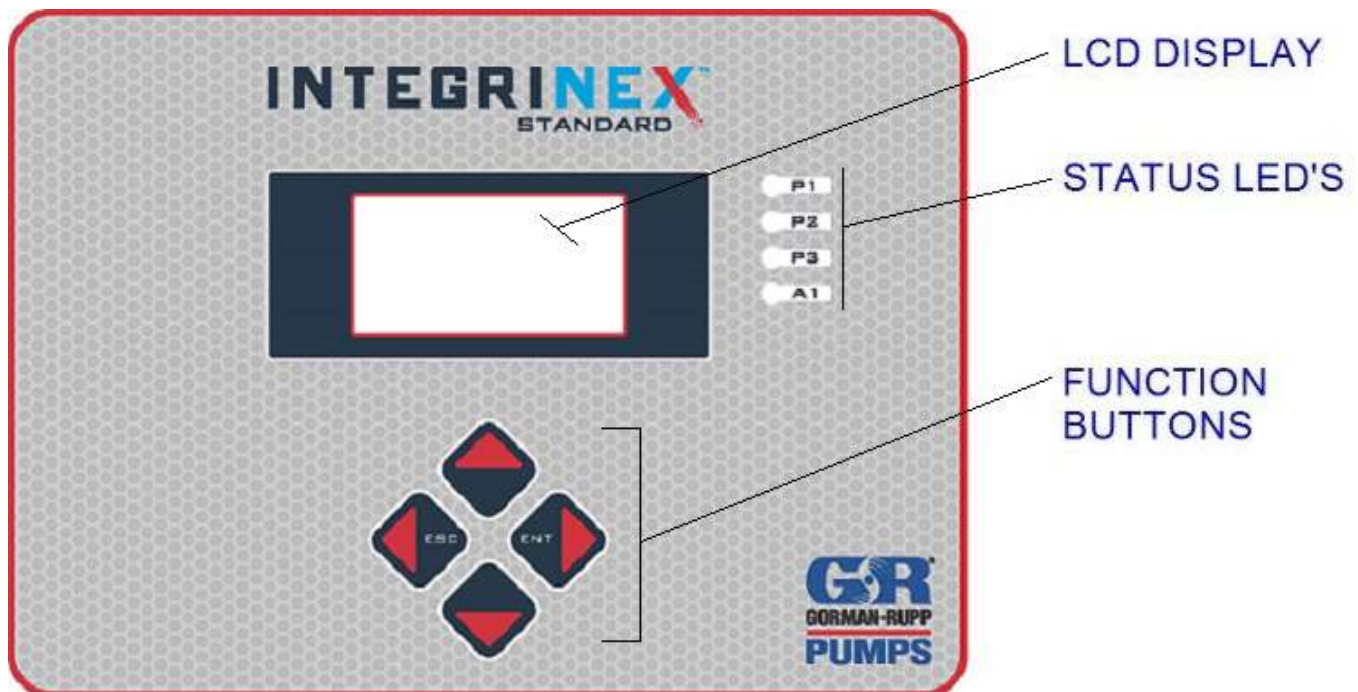


Figure 1, Front Panel

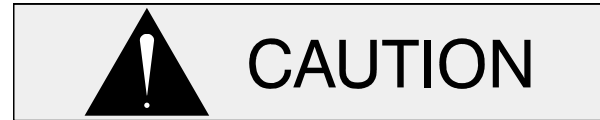
The back of the Integrinex STANDARD includes the following: (refer to Figure 2)

Air Bubbler Transducer Input: Accepts tubing connection from air bubbler line.

Analog Input Terminal Strip: Accepts analog inputs from various level sensing instruments. (See Figure 4 through 7).

Digital Output Terminal Strip: Connects output relays to motor starters, relays and alarms. Eight mechanical output relays installed. Contacts accept either 120 Vac or a 12 to 24 Vdc.

Digital Input Terminal Strip: Connects pump and alarm inputs to controller for pump and alarm status display and operation.



Refer to the control panel wiring diagram to determine proper output relay voltage.

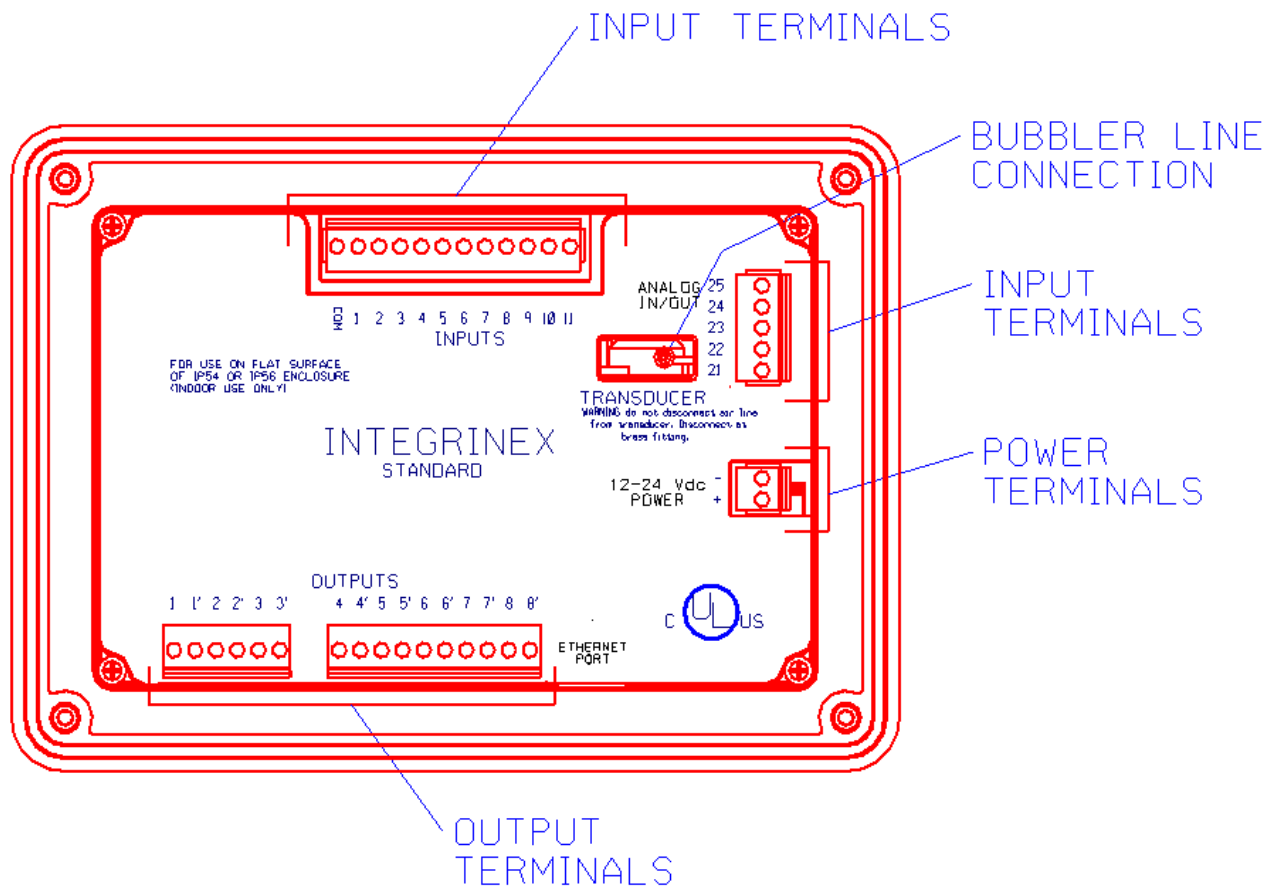


Figure 2, Back Panel

OPERATOR ADJUSTMENTS

Set points

1. Press the [ENT▶] button on the front of the Integrinex Standard controller to access the Main Menu screen. Use the up and down arrow keys (,) to select the SETUP. Press the [ENT▶] button on the front of the Integrinex Standard controller to access SETUP. Enter the Access Code, refer to the Integrinex Setup section in Commissioning.
2. Use the up and down arrow keys (,) to select the LEVEL SETPOINTS. Press the [ENT▶] button on the front of the Integrinex Standard controller to access LEVEL SETPOINTS. Use the up and down arrow keys (,) to select desired ON and OFF set points then press the [ENT▶] button.
3. Use the up and down Arrow keys (,) to adjust the set point levels. Press the [ENT▶] button to save set points.
4. Repeat steps 2, and 3 to set all other set point ON and OFF levels.

NOTE

Pump ON levels should be set at least 0.3 feet or more above the pump OFF levels. Closer settings may cause short cycling of the pumps.

NOTE

The set points are independent and do not interact with other set points. The set point may be adjusted at any time without effecting pump operation. If pumps are operating when set points are changed, pumps need to complete that pumping cycle before new set points take effect.

Main Menu

Press the [ENT▶] button on the front of the Integrinex Standard controller to access the Main Menu screen. Use the up and down arrow keys (,) to select one of the following screens:

Pump Status
Station Status
Alarms
Level Simulation
Setup

Pump Status

PRESS [ENT▶] The screen will display:

Runtime xxxxxx.x Hrs
H-O-A (Auto)
 High Temp
 Start Fail

An "X" is in the box if condition is Active.

PRESS [ENT▶] Goto Pump 2 Status

PRESS [◀ESC] to exit.

Station Status

PRESS [ENT▶] The screen will display:

Low Water Alarm
 High Water Alarm
 Phase Fault

An "X" is in the box if condition is Active.

PRESS [◀ESC] to exit.

Alarms

PRESS [ENT▶] The screen will display:

View Alarm History
Clear Alarm History
Alarm Light Test

View Alarm History

PRESS [ENT▶] The screen will display the last 16 alarms: PRESS [ENT▶] The screen will display Date and Time alarm occurred and if alarm is active.

Clear Alarm History

PRESS [ENT▶] The screen will display:

Are You Sure?

[◀] = NO YES =[▶]

PRESS [ENT▶] to Clear Alarm History.

PRESS [◀ESC] to Return to active settings.

Alarm Light Test

PRESS [ENT▶] The screen will display:

Are You Sure?

[◀] = NO YES =[▶]

PRESS [ENT▶] to Test Alarm Light.

PRESS [◀ESC] to Return to active settings.

Level Simulation

PRESS [ENT▶] The screen will display:

- High Water Alarm
- Lag Pump
- Lead Pump
- Low Water Alarm

An "X" is in the box if condition is Active.

PRESS [ENT▶] To Start Simulation.

PRESS [ENT▶] To Stop Simulation.

PRESS [◀ESC] to exit.

COMMISSIONING

NOTE

LED indicators should not be active to commission Integrinex STANDARD. Please remove active alarms before commissioning.

Enter Access Code

Press the [ENT▶] button on the front of the Integrinex Standard controller to access the Main Menu screen. Use the up and down arrow keys (,) to access the SETUP. Press the [ENT▶] button on the front of the Integrinex Standard controller to select SETUP. You must enter the access code to unlock setup. The valid access code is 0305.

Press [ENT▶] to display:

Access Code:

XXXX

(Digits are only displayed when [▲▼] is depressed)

1. Press [ENT▶] to accept the digit "0". The cursor shifts to the next digit to the right.

XXXX

2. Press [▲] three times to change digit above cursor to a "3".

3. Press [ENT▶] to accept the digit "3" and shift to the next digit to the right.

XXXX

4. Press [ENT▶] to accept the digit "0" and shift to the next digit to the right.

XXXX

5. Press [▲] five times to change digit above cursor to a "5".

6. Press [ENT▶] to accept the digit "5" and the screen will display:

Setup:

Units

Pump Count

Digital Outputs

Digital Inputs

Analog Output

Analog Input

Analog Calibration

Level Setpoints

Pump Sequencer

Timer Setpoints

Set Time/Date

**Supervisor Password
Adjust Pump Runtime
Restore Defaults**

7. After setup adjustments have been made, setup may be password protected. The Integrinex Standard controller will return to the Normal Operation screen automatically after a short delay or immediately by pressing the [◀ESC] button twice.

SETUP ADJUSTMENTS

NOTE

Setup programming that follows is shown as default unless otherwise noted.

Units

PRESS [ENT▶] The screen will display:

**English
Metric**

PRESS [▲▼] to toggle between options. PRESS [ENT▶] to accept change.

Pump Count

PRESS [ENT▶] The screen will display:

**Simplex (1 Pump)
Duplex (2 Pumps)
Triplex (3 Pumps)**

PRESS [▲▼] to toggle between Simplex, Duplex, and Triplex. PRESS [ENT▶] to accept change.

Digital Outputs

PRESS [ENT▶] The screen will display:

**Output 3
Output 4
Output 5
Output 6
Output 7
Output 8**

PRESS [▲▼] to toggle between options and PRESS [ENT▶] The screen will display:

**Not Used
High Level Alarm
Low Level Alarm
All Level Alarms
Pump 1 High Temp
Pump 2 High Temp
All Pump High Temps
Pump 1 Fault
Pump 2 Fault
All Pump Faults
General Alarm Light
General Alarm Horn
Level Trig Output 1
Level Trig Output 2
Level Trig Output 3**

PRESS [▲▼] to toggle between options. PRESS [ENT▶] to accept change.

Digital Inputs

PRESS [ENT▶] The screen will display:

**Input 5
Input 6
Input 7
Input 8
Input 9
Input 10
Input 11**

PRESS [▲▼] to toggle between options and PRESS [ENT▶] The screen will display:

**Not Used
Pump 1 High Temp
Pump 2 High Temp
Pump 1 Fault
Pump 2 Fault
Pump 1 Overload
Pump 2 Overload
Pump 1 VFD Fault
Pump 2 VFD Fault
Pump 1 RVSS Fault
Pump 2 RVSS Fault
Pump 1 Moisture
Pump 2 Moisture
Pump 1 Thermal**

Pump 2 Thermal
Pump 1 Moist/Therm
Pump 2 Moist/Therm
Station Low Temp
Phase Fault

PRESS [▲ ▼] to toggle between options. PRESS [ENT ►] to accept change.

Analog Output

PRESS [ENT ►] The screen will display:

0-5 Volts
0-10 Volts
4-20 mAmps

PRESS [▲ ▼] to toggle between options and PRESS [ENT ►] to accept change. See Figure 8 and 9 for wiring details.

Analog Input

PRESS [ENT ►] The screen will display:

Internal Pressure
External 0-5 V
External 4-20 mA

PRESS [▲ ▼] to toggle between options and PRESS [ENT ►] to accept change. See Figure 3 thru 7 for wiring details.

Analog Calibration

PRESS [ENT ►] The screen will display:

Analog In Zero
Analog In Span
Analog Out Zero
Analog Out Span

PRESS [▲ ▼] to toggle between options. PRESS [ENT ►] The screen will display.

Analog In Zero Value

Zero calibration sets the value displayed when the transducer is exposed to zero water (atmospheric) pressure. To set:

1. Apply zero pressure to the Integrinex STANDARD input. Allow several seconds for the Integrinex STANDARD reading to stabilize.
2. Press [ENT ►] This saves the input value to display 00.0 Ft.

Analog In Span Value

Span calibration sets the value displayed when the transducer is exposed to a known water pressure (depth). To set:

1. Apply a known depth greater than 00.0 Ft to the Integrinex STANDARD input, e.g. 12 feet of water. Allow several seconds for Integrinex STANDARD reading to stabilize. Adjust the display to this same applied level using the [▲ ▼].
2. Press [ENT ►]. This saves the input value to display the span entered. In this example, 12.0 Ft.

NOTE

Zero and span calibrations are only necessary to calibrate a new Integrinex Standard, or when replacing the transducer. Once calibrated, settings are stored in non-volatile memory.

Analog Out Zero Value

PRESS [▲ ▼] to select xx.x ft for zero value and PRESS [ENT ►] to accept change.

Analog Out Span Value

PRESS [▲ ▼] to select xx.x ft for span value and PRESS [ENT ►] to accept change.

Level Setpoints

Each set point can be assigned for Pump, Alarm, Level Trig or not used. To set levels:

PRESS [ENT▶] The screen will display:

Lead Pump
Lag Pump
High Water Alarm
Low Water Alarm

PRESS [▲▼] to toggle between options and
PRESS [ENT▶] The screen will display:

Stop = 2.0
Start = 4.0

1. Use the up and down Arrow keys [▲▼] to adjust the set point levels. Press [ENT▶] to save set points.
2. Repeat steps to set all other set point ON and OFF levels.

Pump Sequencer

PRESS [ENT▶] The screen will display:

None
Tabular
Least Time
Pump 1 Lead
Pump 2 Lead

PRESS [▲▼] to toggle between options and
PRESS [ENT▶] to accept change.

Timer Setpoints

PRESS [ENT▶] The screen will display:

Pump Start Delay
Pump Stop Delay
Start Fail Delay
Alarm Input Delay
Antiseptic Timer
Alternation Interval

PRESS [▲▼] to toggle between options and
PRESS [ENT▶] The screen will display:

??? Delay = 5 Sec

1. Use the up and down Arrow keys [▲▼] to adjust the delay. Press [ENT▶] to save.
2. Repeat steps to set all other time delays.

Set Time/Date

PRESS [ENT▶] The screen will display:

Year = 2014
Month = 1
Day = 5
Hour = 3pm
Minute = 50

PRESS [▲▼] to toggle between options and
PRESS [ENT▶] to accept change.

Supervisor Password

PRESS [ENT▶] The screen will display

0305

PRESS [▲▼] to toggle between numbers to make changes to the desired password. PRESS [ENT▶] to accept first digit change. Repeat steps to make all changes and PRESS [ENT▶] to accept new password.

Adjust Pump Runtime

PRESS [ENT▶] The screen will display:

Pump 1 Runtime
Pump 2 Runtime

PRESS [▲▼] to toggle between options and
PRESS [ENT▶] The screen will display:

XXXXXX.X Hrs

1. Use the up and down Arrow keys [▲▼] to adjust the runtime. Press [ENT▶] to save.
2. Repeat steps to set all other runtime digits.

Restore Defaults

PRESS [ENT▶] The screen will display:

Are You Sure?

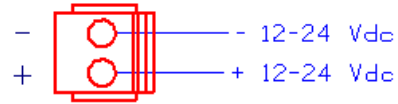
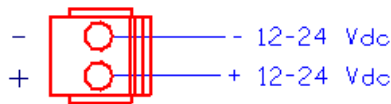
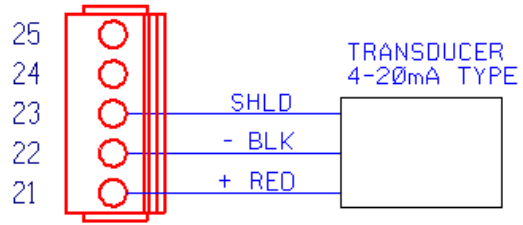
[◀] = NO YES =[▶]

PRESS [ENT▶] to Restore to factory defaults.

PRESS [◀ESC] to Return to active settings.



When setup values are changed, they are temporarily stored in volatile memory. To save these new settings to non-volatile memory, it is important to press [ENT▶] then [◀ESC] to return to the Process Display Screen.

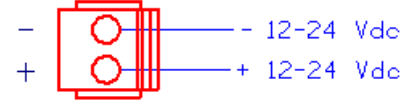
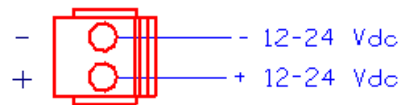
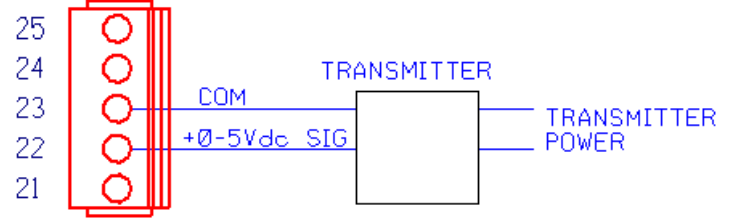
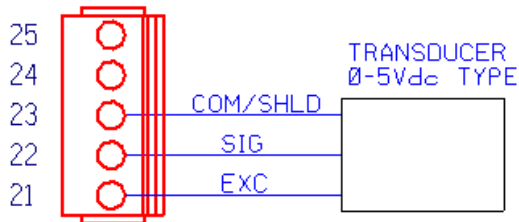


CONFIGURE ANALOG IN
"INTERNAL TRANSDUCER"

CONFIGURE ANALOG IN
"EXTERNAL 4-20mA"

**Figure 3, Air Bubbler Input,
Power by Integrinx**

**Figure 4, 4-20 mA Input,
Power by Integrinx**

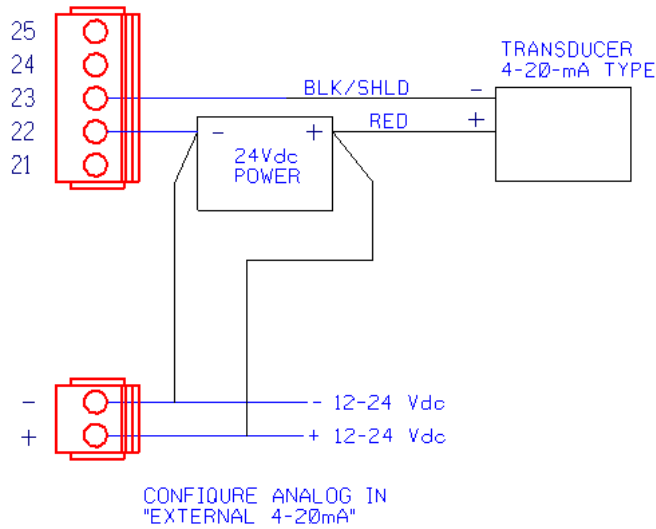


CONFIGURE ANALOG IN
"EXTERNAL 0-5Vdc"

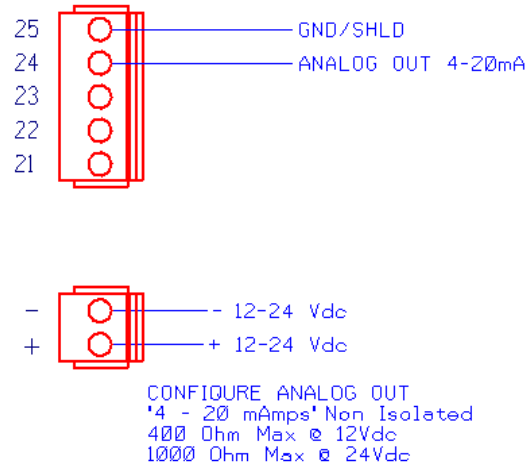
CONFIGURE ANALOG IN
"EXTERNAL 0-5Vdc"

**Figure 5, 0-5 Vdc Input,
Power by Integrinx**

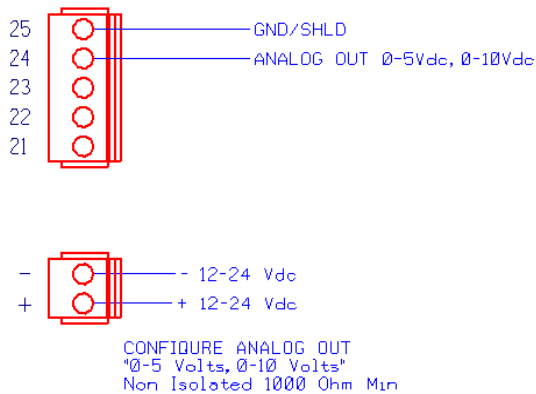
**Figure 6, 0-5 Vdc Input,
4-Wire Transmitter**



**Figure 7, 4-20 mA Input,
Powered Externally**



**Figure 8, 4-20 mA Output,
Powered by Integrinex**



**Figure 9, 0-5 Vdc, 0-10Vdc
Output, Powered by Integrinex**

Notes: