

SECTION 2.1 LEVEL CONTROL SYSTEM (Integrinex – Submerged Transducer)

DESCRIPTION

The liquid level control system operates on AC power and controls the pump motors to maintain the desired liquid level in the wet well. The system automatically starts and stops the motor.

This level control system consists of a model Basic or Standard Integrinex solid state liquid level controller and a submerged transducer.

The Integrinex Basic or Standard level controller contains an alpha/numeric display, up to eight output relays, and output status LED's. The Integrinex Basic or Standard level controller monitors and maintains the liquid level in the wet well.

The submerged transducer is immersed in the liquid in the wet well. Rising liquid level in the wet well increases pressure on the transducer sensing element, which in turn provides a proportional electrical signal to the Integrinex Basic or Standard. The Integrinex Basic or Standard turns the outputs on and off in response to wet well level changes.

OPERATION

1. Turn both pump mode selectors to OFF. Turn on control power.
2. Refer to **Adjustments** and adjust the OFF and ON set points for each pump and alarm.
3. After the set point adjustments have been made, close the pump motor branch circuit breakers and set the pump mode selectors for automatic operation. (See Section 3).
4. The operation of the pump motors is now under control of the Integrinex Basic or Standard liquid level controller. The pump motors will start and run as required by the wet well level.

ADJUSTMENTS

Before adjusting the set points, consult the plans and specifications. Wet well design and system characteristics will determine the levels at which the control must be set.

Level set points can be adjusted through the front panel maneuvering to the SETUP menu and selecting LEVEL SETPOINTS.

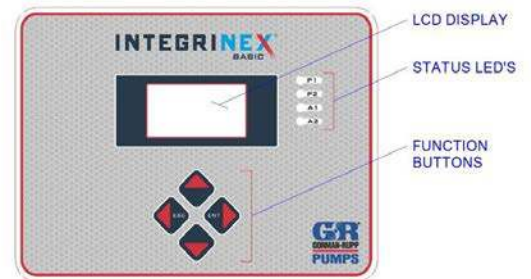


Figure 1, Front Panel

To adjust the levels refer to the following text.

1. Open the motor branch circuits and turn the pump mode selector switches off. Apply control power to the Integrinex Basic or Standard liquid level controller.
2. Press the ENT▶ button on the front of the Integrinex Basic controller to access the login screen. Enter the Access Code, refer to the Integrinex Setup in section 12.1. If using Integrinex Standard Controller press ENT▶ and scroll down to SETUP then ENT▶ to enter Access Code.
3. Use the up and down arrow keys (,) to access the LEVEL SETPOINTS. Press the ENT▶ button on the front of the Integrinex Basic or Standard controller to select LEVEL SETPOINTS. Use the up and down arrow keys (,) to select desired ON and OFF set points.
4. Use the Set Point Adjust Arrow keys (,) to adjust the set point levels Press the ENT▶ button to save set points.

5. Repeat steps 3 and 4 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.

The Integrinex Basic or Standard will return to the Process Display screen automatically after a short delay or immediately by pressing the ◀ESC button twice.

TROUBLESHOOTING

If the Integrinex Basic or Standard liquid level control system fails to function, make certain that the control circuit is energized, that all switches and circuit breakers are closed, and that all fuses are good.

If the pumps and alarm fail to respond at the desired level, check the ON and OFF settings by selecting the LEVEL SETPOINTS in the SETUP menu.

Detailed control assembly troubleshooting is provided in Section 11.1. Also refer to section 12.1 Integrinex Basic or Standard Setup.

SCHEDULED MAINTENANCE

The components of the Integrinex Basic or Standard controller are solid state requiring no scheduled maintenance. Refer to Section 10.3 for general control maintenance.

REPAIR

WARNING

The level control system is under automatic control and may be energized at any time. De-energize the electrical circuit to the control system before disconnecting electrical leads; otherwise severe electrical shock resulting in injury or death may occur.

1. The components of the Integrinex Basic or Standard liquid level controller are not repairable. Please contact your Gorman-Rupp Representative for replacement.