

GLOBAL POWERTRONICS

Specialists in Drives and PLC

SOLUTION-1

Deluxe Multi Tank Water Level Controller

(Modbus RS485/Wireless LoRa Link)

Introduction

Microcontroller based, fully automatic Deluxe OMEGA Water Level Controller is designed to sense and control most of the water pumps, including submersible pumps. This device work 24/7/365, to maintain the level of water in water storage tanks at defined levels and to keep the water pumps ON, only when required. All controllers are wall mounted. Outdoor type IP52 enclosures are also available as option.

Multi_Tank Level Control is established using 2 wire RS485 Modbus Protocol between the following

1. Deluxe Pump Controller
2. Deluxe Tank Monitor with optional Motorized Butterfly Valve
3. Deluxe Bore Pump controller
4. Optional Common Alarm Unit

Pump Controller

The Master Pump controller collects data thru Modbus RS485 Link or optional wireless LoRa Link from Slave Tank/Bore Pump Controllers and automatically controls start/stop of Pump. It also broadcasts Sump levels for the use of remotely located Slave Bore Pumps for maintaining Sump level.

The Pump controller collects data from all Tanks/Bore Pumps and Local Sump

The Water Pump is switched ON when any one of the Tank level goes Low and switched OFF when all tank Levels go high or when All Tank valves are closed or when Sump level goes very low or when Pump is not loaded or when Power is not ok. SPP is built-in.

Tank Monitor

The Tank Monitor senses Water levels as Very Low, Low, High and Very High and also actual Water Flow thru sensors. The simple water level sensors are water proof operating with very low voltage and current(mA). Each Tank Monitor has unique Modbus Slave Address and sends data to Master Pump Controller.

The Tank Monitor provides the following data.

1. Tank Level Very Low
2. Tank Level Low
3. Tank Level High
4. Tank Level Very High
5. Water Flow hrs

Bore Pump Controller

The Bore Pump controller as a Modbus Slave gets the following data broadcast by Master Pump Controller.

1. Sump level Very Low
2. Sump level Low
3. Sump level High
4. Sump level Very High

The Bore Pump Controller sends out the following data whenever requested by Master Pump Controller

1. Pump status
2. Power status
3. Dry Run
4. Long Run Stop status
5. Alarm status
6. Total Run hrs
7. Last Run min
8. Restart secs

The Bore Water Pump is switched ON when Remote Sump level goes Low and switched OFF when Sump Level reaches high or dry run or when Power is not ok. SPP is built in. Optionally the Bore Pump can remain ON when Sump level reaches High and divert excess water to another Starving Sump.

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Typical Muti_Tank Setup with Two wire Modbus RS485 link. LoRa Wireless Units can be used as replacement where RS485 Cable laying is difficult.

DELUXE MULTI TANK WATER LEVEL CONTROLS

VHi	VERY HIGH LEVEL SENSOR
Hi	HIGH LEVEL SENSOR
Lo	LOW LEVEL SENSOR
VLo	VERY LOW LEVEL SENSOR
FLo	FLOW SENSOR
FV	FLOAT VALVE
SPS	SAFETY PRESS. SWITCH
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