

Automatic Hybrid Pump Station Level Controller with Non-Contacting Ultrasonic Sensor

PSL 5.0

Pump Station Level Controller

6 Control Relays
Programmable Pump Alternation
Relay Run Time Reports
Redundant Sensor Input
Isolated 4-20mA Output
Large Backlit Display

**New and
Improved!**



Pump Station Level Control, Monitoring and Reporting

Ideal for Level Control

Designed for pump stations, wet wells and tank level control – the new Greyline PSL 5.0 Pump Station Level Controller has six independently programmable control relays for pump or valve control, level alarms, autodialers, temperature or fault alarms.

No contact, No maintenance

Mount the non-contacting, ultrasonic sensor in the tank or wet well and install the watertight electronics in the control room or any location within 500 ft / 150 m. Use the simple menu system and built-in keypad to set up measurement range, relay set points and pump alternation sequence. A relay/pump run time report is updated and stored automatically for viewing on the instrument's backlit LCD display.

New Dual-Technology Sensor Feature Redundant Level Sensing

Connect a submersible pressure sensor or other 4-20mA level transmitter to the PSL 5.0 for fail-safe hybrid sensing. The PSL 5.0 will auto-calibrate the redundant sensor and if signal is lost to the ultrasonic sensor, the redundant sensor will seamlessly take over monitoring until signal resumes from the ultrasonic. The redundant sensor is continuously monitored to ensure availability during primary sensor failure.

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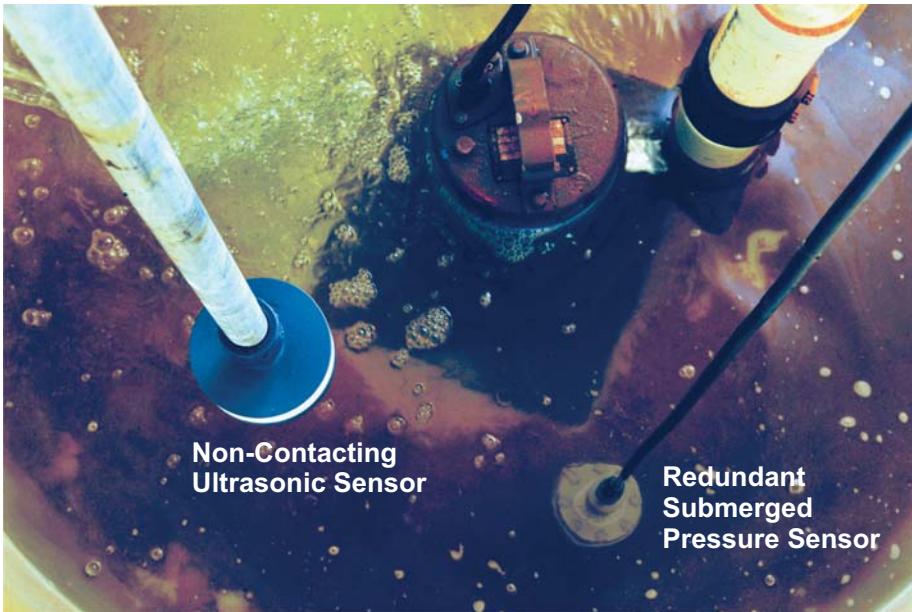
RELIABLE MEASUREMENT AND CONTROL

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Specify Greyline PSL 5.0 for Pump Stations or Tank Level Control

Easy to Install with Non-Contacting Sensor

The PSL 5.0 Pump Station Level Controller is designed for Pump Station and Tank Level Control applications. Mount the non-contacting ultrasonic sensor above the well or at the top of a tank. Use the built-in keypad to calibrate measurement span, relay set-points, pump alternation sequence and level alarms. Assign the six built-in control relays for ON/OFF pump control, Hi or Lo level alarms, autodialer activation, air temperature alarm or sensor echo loss alarm. Connect the isolated 4-20mA output to your SCADA system, PLC's or recorders.



Animated Icons Indicate Active Sensors



Redundant Sensor Level Control

The PSL 5.0 sets a new level of reliability. It operates with an ultrasonic level transducer as its primary sensor but also accepts connections from 4-20mA level sensors for redundancy. If the ultrasonic transducer loses signal from foam on the water surface for example, the redundant sensor will take over reading instantly. As soon as the ultrasonic sensor receives new echoes, it will resume function as the primary sensor.

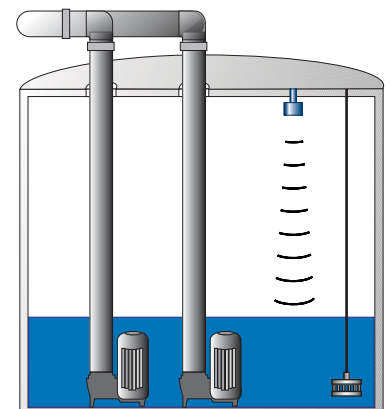
An animated icon on the PSL 5.0 digital display indicates that the ultrasonic sensor is active. The icon indicates if the system automatically switches to the redundant sensor.

Calibration of the Redundant Sensor is Totally Automatic

You can use hydrostatic pressure sensors, radar, or any 4-20mA transmitter for redundant level sensing. The PSL 5.0 automatically scales and calibrates the redundant sensor during each pump cycle. Once the PSL has operated through at least one pump cycle, the redundant sensor will be calibrated and ready to function.

PSL 5.0 Pump Station Level Controller

- ✓ **Non-Contacting Ultrasonic Sensor**
- ✓ **Accepts Pressure Sensor Input for Redundant Monitoring**
- ✓ **6 Control Relays with Programmable Pump Alternation**
- ✓ **Automatically Logs and Reports Relay Run Times for Pump Performance Evaluation**
- ✓ **Plug and Play Optional Data Logger**
- ✓ **Isolated 4-20mA Output**



PSL 5.0 Specifications

General Specifications: Greyline Pump Station Level Controller

Accuracy:	±0.25% of Range or 2 mm (0.08") whichever is greater
Electronics Enclosure:	Watertight, dust tight NEMA4X (IP 66) polycarbonate with a clear, shatter-proof face
Operating Temperature:	Electronics: -5 to 140°F (-20 to 60°C)
Power Input:	100-240VAC 50-60Hz (see Options), 3 Watts maximum (with standard features)
Surge Protection:	AC power, 4-20mA and ultrasonic sensor
Outputs:	Isolated 4-20mA (1000 ohm)
Control Relays:	6 form 'C' dry contact Relays rated 5 amp SPDT; programmable level alarm and/or pump control modes, pump alternation/sequencing, failsafe/echo-loss, air temperature alarm
Display:	White, backlit matrix - displays calibration menu, relay status, runtime reports and sensor status
Calibration:	Level or Range mode in selectable units
Programming:	Built-in, 5-button keypad, password-protected

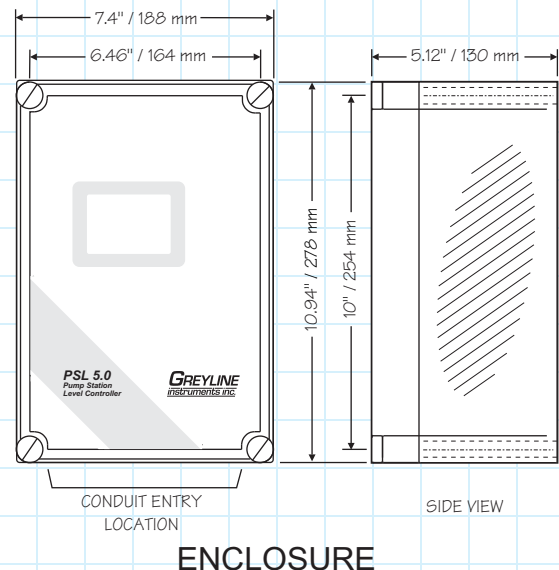
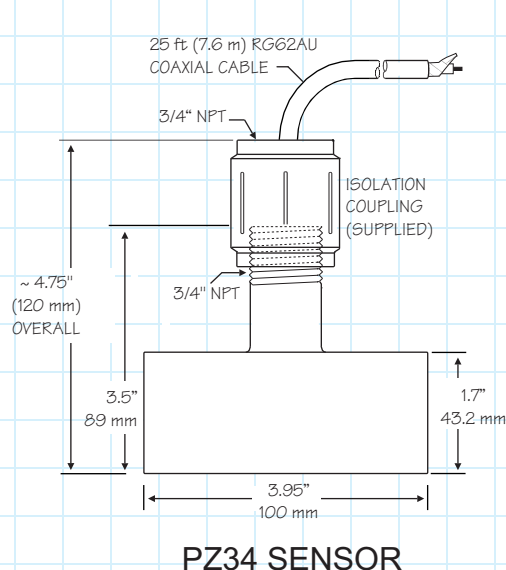
PZ34 Sensor:

Maximum Range:	32 ft (10 m) - optional sensors for longer ranges
Deadband (blanking):	Programmable, minimum 16" (406.4 mm)
Beam Angle:	8°, Locate 1 ft (300 mm) from wetwell sidewall for every 10 ft (3 m) depth
Operating Frequency:	46 kHz
Exposed Materials:	PVC
Operating Temperature:	-40 to 150°F (-40 to 65°C)
Operating Pressure:	0-20 psi (0-1.35 bar)
Sensor Cable:	RG62AU coaxial, 25 ft (7.6 m) standard length - see Options

Options:

Sensors:	Long and short range models / all Teflon construction / Intrinsically safe / Pressure
Sensor Cable:	50 ft (15 m) or 100 ft (30 m) RG62AU coaxial continuous from ultrasonic sensor, or splice up to 500 ft (150 m)
Sensor Cable Junction Box:	watertight NEMA4 steel with terminal connection strip
Power Input:	9-32 VDC
Data Logger:	20 million point Data Logger with output to USB flash drive. Windows software.
Enclosure Heater:	Thermostatically controlled - recommended for temperatures below 32°F (0°C)
Enclosure Panel Mount:	Flange and bracket assembly mounts enclosure in panel face
Hazardous Locations:	Intrinsic Safety Barrier for ultrasonic Sensor mounting in hazardous areas. NEMA7 explosion proof enclosure for electronics mounting in hazardous locations.

Dimensions



PSL 5.0 Pump Station Level Controller

Control and Sequence up to 6 Pumps and Level Alarms

- ✓ **Sewage Lift Stations**
- ✓ **Water Storage Tanks**
- ✓ **Level Process Control**



Relay Run Time Reports



Plug and Play 20-million point Data Logger

Ideal for Water, Wastewater and Process Automation

Use the PSL 5.0 Pump Station Level Controller for pump or level control and for automatic pump alternation/sequencing. It is designed for the harsh operating conditions in wet well or tank level control applications. The non-contacting ultrasonic Sensor mounts at the top of a wet well or tank, and you can connect a redundant 4-20mA level sensor for added reliability in challenging pump station applications.

Relay Run Time Reporting System

View the PSL 5.0 relay run time report directly on the backlit digital display. You can identify "lazy" pumps *before* pump failures occur and plan pump maintenance to reduce call-outs and down-time. If a redundant level sensor is connected its operation time is also indicated.

Reliable, Accurate, Simple Calibration:

- Built-in, 5-button keypad
- Easy calibration with 6 control relays for simplex pump stations, duplex, triplex, quadruplex or more...
- Non-Contacting, no-maintenance ultrasonic sensor
- Redundant level sensor connection – use any 4-20mA transmitter for fail-safe level sensing
- Independently programmable Pump Up and Pump Down modes
- Programmable "forced alternation" to prevent pump damage
- Isolated 4-20mA output for connection to Variable Speed Drives, SCADA systems, PLC's or Recorders
- Plug and Play options including a 20-million point data logger

How to Order

Contact a Greyline sales representative in your area or phone one of our sales engineers. Describe your requirements and receive our prompt quotation.

Applications Support

Take advantage of Greyline's applications experience. Phone toll free 1-888-473-9546 for advice and information on applications, installation or service for Greyline instruments.

No Risk Appraisal

The Greyline PSL 5.0 must meet your requirements. Discuss your application with a Greyline representative to arrange a 30-day trial.

The Greyline Guarantee

Quality of Materials and Workmanship - Each instrument manufactured by Greyline is warranted against defects in materials and workmanship for a period of one year from date of purchase. Refer to our limited warranty included with each product.

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