Differential Level Transmitter
with Non-Contacting Sensors

for Mechanical Barscreens

Greyline DLT 2.0

Displays, Transmits and Controls Differential Level and more...

Simple 5-key Calibration
Three 4-20mA Outputs
Two Control Relays
Level <u>and</u> Flume Calibration
Displays Up and Downstream Level
Measures Open Channel Flow
Monitors Parshall Flume Submergence

GREYLINE
instruments inc.

Differential Level and Control
<u>plus</u> Open Channel Flow Monitoring
with Two Non-Contacting Ultrasonic Sensors

Versatile, Easy to Use

Install one Sensor on each side of a barscreen to continuously monitor, transmit and control level. Use the built-in control relays or 4-20mA outputs to automatically activate the barscreen rake at preset levels.

**One Instrument Does the Work of Three**

The DLT 2.0 is a simple solution for barscreen level control at wastewater treatment plant headworks, pump stations and combined sewer systems. It includes two non-contacting ultrasonic sensors to measure level. With sensors positioned above a channel, up and downstream from the barscreen, the DLT 2.0 can display and transmit differential level. The downstream sensor can also be installed above a flume or weir to measure and totalize open channel flow.

Three 4-20mA outputs are configured to transmit upstream level, downstream level (or flow) and differential level. Built-in relays can be calibrated for level control, differential level control or open channel flow.

Multi-function Level Transmitter
## Does Two or Three things at once... so You don't have to

→ 4-20mA Upstream Level
→ 4-20mA Differential Level
→ 4-20mA Open Channel Flow
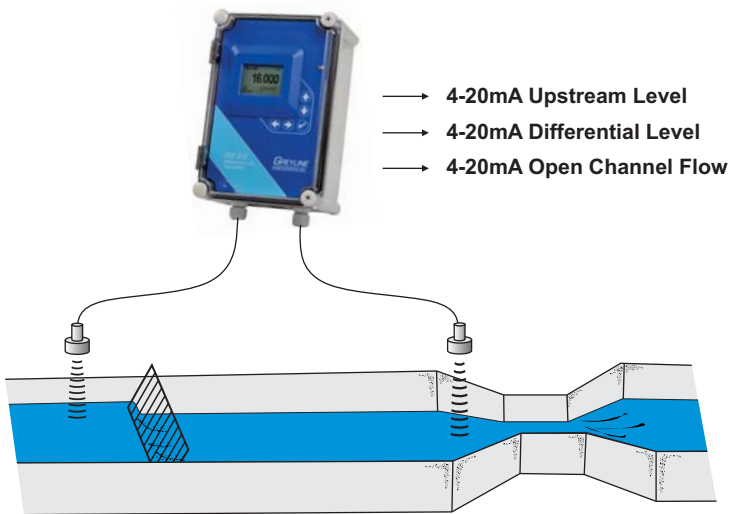
Barscreen Differential plus Open Channel Flow

Reduce costs and simplify instrumentation at treatment plant headworks. With a barscreen upstream from a flume, the DLT2.0 can measure both differential level and flow through the flume with just two ultrasonic sensors and one electronics enclosure.

The DLT 2.0 includes three 4-20mA outputs. It displays flow rate and total flow through the flume, plus upstream level and differential level.

→ 4-20mA Upstream Level
→ 4-20mA Downstream Level
→ 4-20mA Differential Level
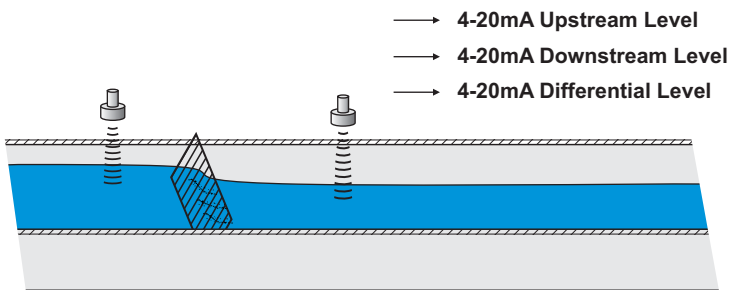
Barscreen Differential

Monitor, transmit and control barscreen level with one instrument. Ultrasonic sensors mount up and downstream from a barscreen. Use the isolated 4-20mA outputs or control relays to activate the screen's cleaning rake at preset levels or differential level.
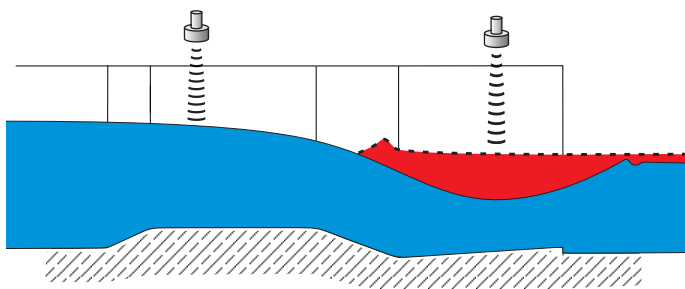
→ 4-20mA Tank 1 - Level/Volume
→ 4-20mA Tank 2 - Level/Volume
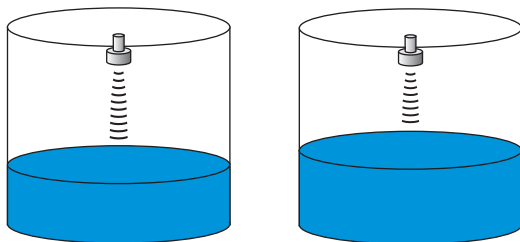
Two-Tank Inventory

Monitor level in two tanks with one instrument. The DLT 2.0 will alternate display of level in both tanks plus transmit 4-20mA outputs. Use the built-in relays to activate alarms or level controls.

Calibration is easy with the DLT's built-in keypad and menu system.

Submerged Flow Alarm

Parshall flumes can provide accurate flow measurement with the discharge submerged up to 70% (depending on flume size). Use the DLT 2.0 to measure flow through the flume and to activate an alarm when discharge level reaches critical submergence level.

DLT 2.0 Specifications

General Specifications

Greyline DLT 2.0 Differential Level Transmitter

Electronics Enclosure:	Watertight and dust tight NEMA4X (IP 66) polycarbonate with clear, shatterproof cover
Accuracy:	±0.25% of Range or 2 mm (0.08") whichever is greater, Repeatability and Linearity: ±0.1%
Display:	White, backlit matrix - displays upstream, downstream and differential level, open channel flow and totalizer, relay states, operating mode and calibration menu
Programming:	built-in 5-key calibrator with English, French or Spanish language selection
Power Input:	100-240VAC 50-60Hz (see Options), 3 Watts maximum (with standard features)
Outputs:	Three Isolated 4-20mA (upstream and downstream level (or open channel flow) and differential level, 1000 ohm load maximum.
Control Relays:	Qty 2, rated 5 amp SPDT, programmable for level control, differential control, or flow proportional pulse
Electrical Surge Protection:	Sensor, 4-20mA outputs and AC power input
Operating Temp. (electronics):	-5° to 140°F (-20° to 60°C)
Approximate Shipping Weight:	15 lbs. (6.8 kg)

Sensor Specifications
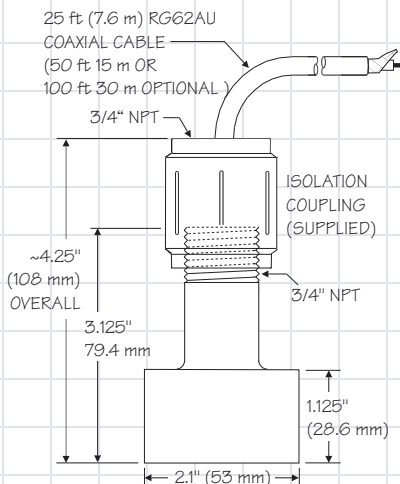
Includes Two PZ15 Ultrasonic Sensors

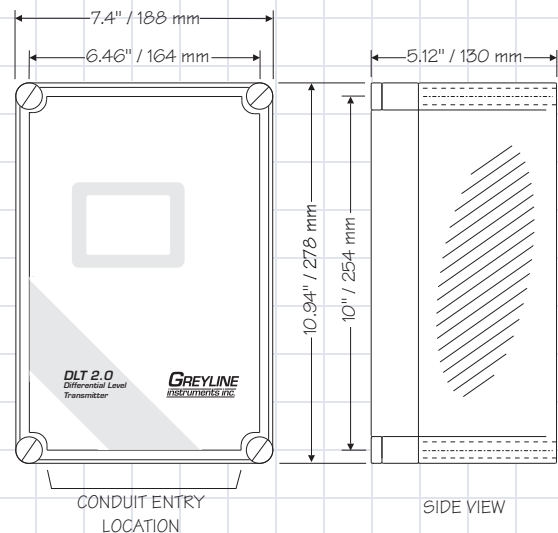|	
Maximum Range:	15 ft (4.57 m) with standard PZ15 sensor
Deadband (Blanking):	Programmable, Minimum 8 in (203.2 mm)
Beam Angle:	8°
Operating Frequency:	92 Khz
Exposed Materials:	PVC
Operating Temperature:	-40° to 150°F (-40° to 65°C)
Temperature Compensation:	Temperature probe inside level sensor for high accuracy in changing temperatures
Sensor Cable:	RG62AU coaxial, 25 ft (7.6 m) standard length (See Options)

Options

Sensors:	32 ft. (10 m) measurement range / Intrinsically Safe models
Sensor Cable:	50 ft. (15 m) or 100 ft (30 m) RG62AU coaxial continuous from Sensor, or splice up to 500 ft (150 m) with optional JB Watertight NEMA4 steel with connection terminal strip
Power Input:	9-32 VDC
Extra Control Relays:	4 additional (6 total) rated 5 ampere SPDT
Data Logger:	2 million point logger with USB output and Windows software – 3 channel logging (A & B sensors plus Differential or Open Channel flow
Enclosure Heater:	Thermostatically controlled - recommended for temperatures below 32°F (0°C)
Intrinsic Safety Barriers:	For Sensor mounting in Class I,II,III, Div. I,II, Groups C,D,E,F,G hazardous locations
Sensor Mounting Stand:	Adjustable, includes galvanized steel pipe, flanges, fittings and hardware
Sunscreens:	Sensor sunscreen and enclosure sunscreen for outdoor installations

Dimensions

PZ15 SENSOR

25 ft (7.6 m) RG62AU COAXIAL CABLE (50 ft 15 m OR 100 ft 30 m OPTIONAL)

3/4" NPT

ISOLATION COUPLING (SUPPLIED)

~4.25" (108 mm) OVERALL

3/4" NPT

3.125" 79.4 mm

1.125" (28.6 mm)

2.1" (53 mm)

ENCLOSURE

7.4" / 188 mm

6.46" / 164 mm

5.12" / 130 mm

10.94" / 278 mm

10" / 254 mm

DLT 2.0 Differential Level Transmitter

GREYLINE instruments inc.

CONDUIT ENTRY LOCATION

SIDE VIEW

New - Greyline DLT 2.0 Differential Level Transmitter

- ◆ **Measures Level, Differential Level and Open Channel Flow**
- ◆ **Includes Two Non-Contacting Ultrasonic Sensors**

Transmits 4-20mA Output in proportion to Level Differential plus Open Channel Flow

Barscreen control applications and sewage treatment plant headworks that used to require several instruments can all be monitored now by one ultrasonic level indicating transmitter.

Install one sensor on each side of a barscreen (or any other flow obstruction) to continuously monitor and transmit differential level. Or mount the downstream sensor in a flume to measure differential level plus open channel flow.

The DLT 2.0 Differential Level Transmitter uses non-contacting ultrasonic sensors to monitor two independent levels. It can be programmed to display and transmit 4-20mA output including differential level, upstream level, downstream level or open channel flow. Two programmable relays are included for level alarm, differential control, flow control, flow pulse, flume submergence alarm, pump control or echo loss alarm. Four additional relays (six total) are optional.

The DLT 2.0 is ideal for automated barscreen monitoring and control. The instrument is accurate and easy to operate with its built-in keypad calibration system. The sensors are non-contacting so it requires no maintenance. Level/Flow readings are displayed on the large, backlit LCD display.

Options include Intrinsically Safe sensors for hazardous rated locations, extra control relays, enclosure heater, data logger and sensor cable up to 500 ft (150 m) length.

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 1-888-473-9546 for advice and information on applications, installation or service for Greyline instruments.
No Risk Appraisal	The Greyline DLT 2.0 Differential Level Transmitter 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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RELIABLE MEASUREMENT AND CONTROL