

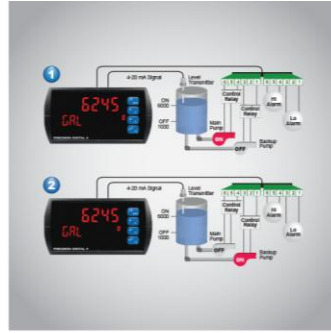


Welcome to the Webinar

A Guide to Level Monitoring



Table of Contents



1

Common Problems in Level Indication

2

Level Indicators and Controllers

3

Level Features

4

Choosing the Right Level Indicator

5

Real Success Stories

1

Common Problems in Level Indication





Climbing Up Tanks is Dangerous and
a Waste of Time

Here is a Level Transmitter with a Display, but.....





Precision Digital Indicators and Controllers Are the Convenient and Safe Solution

- With a properly located remote display, efficiency and safety are never compromised
- Precision Digital's level indicators and controllers provide instant and convenient access to your important processes

2

Level Indicators and Controllers





Solutions

- Feet & inches displays
 - Unique level displays, read and understood clearly in feet and inches
- Multi-pump controllers
 - Great for sump pump applications
 - Provide clear level indication, pump alternation control, and can power the transmitter
- Loop-powered level meters
 - Great for level applications where no other power is available
- Displays for multivariable level transmitters
 - Display level, temperature, and interface



Applications



TANK LEVEL
GAUGING



MULTI-PUMP
CONTROL



SUMP LEVEL
INDICATION



LIFT & PUMP
STATION
CONTROL



SILO HEIGHT
DISPLAYS



ROUND
HORIZONTAL
TANK
MONITORING

PD6801 & PD6701 Loop-Powered Feet & Inches Level Indicators

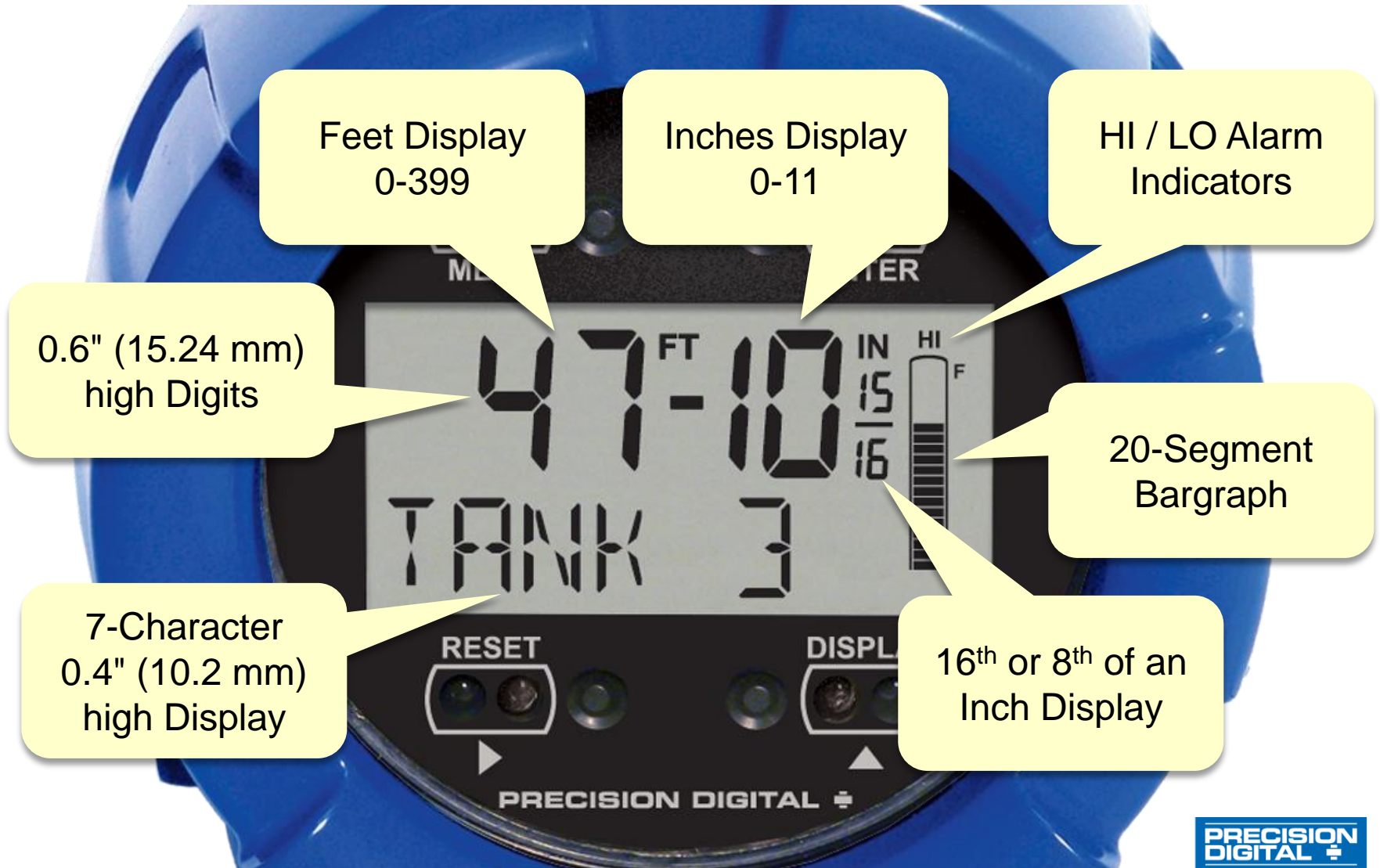


- Display level in feet and inches
- Works with any 4-20 mA level transmitter
- Big display with wide viewing angle
- 20-segment tank height bargraph
- 32-point linearization
- Open collector Hi or Lo alarm
- Configure meter using SafeTouch® through-window buttons
- Ex-proof or NEMA 4X field mount



PD6801 & PD6701

Feet & Inches Level Indicators Display Features



Level Indicators and Controllers

PD6801 & PD6701

How the Feet & Inches Displays Work



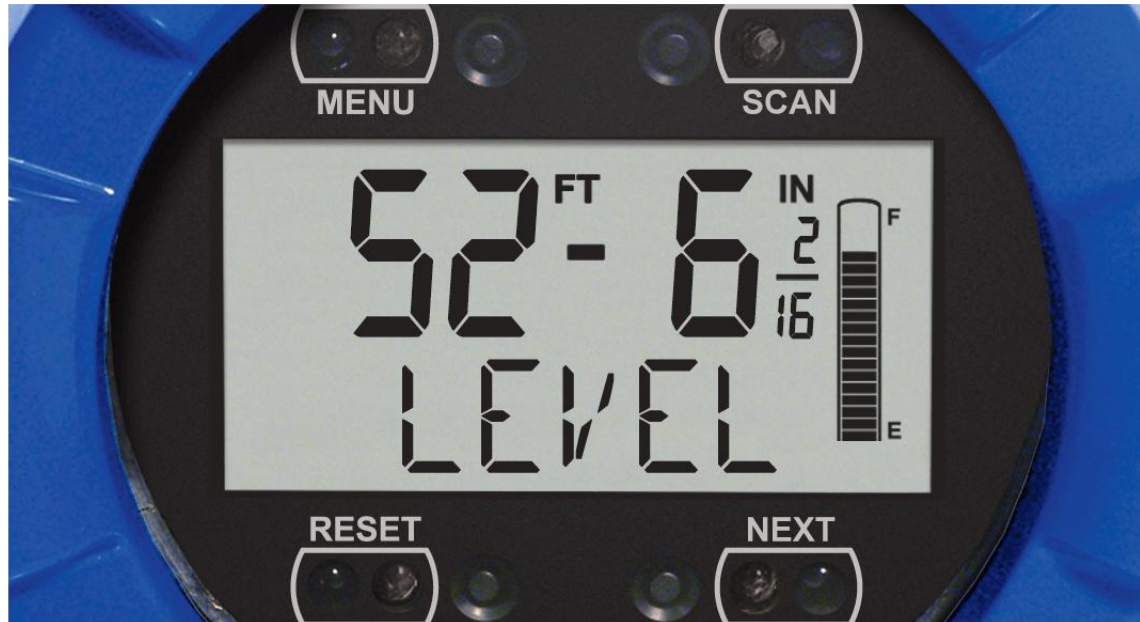


PD6830X & PD6730X Feet & Inches Modbus Scanners

- Great for multi-variable Modbus[®] level transmitters or for multiple tanks
- Display up to 16 Modbus registers
- Display level in feet and inches
- Display level, temp, interface & more
- Master, slave, or snooper mode
- 32-point linearization
- Configure & monitor from PC
- Two open collector alarm outputs
- Field configuration using SafeTouch[®] through-window buttons
- Ex-proof or NEMA 4X field mount
- Available in 5 digit version also

PD6830X & PD6730X

Scanning 3 Registers on a Multivariable Level Transmitter



Level

PD6800 & PD6700 Level Meters



- Display level in volume (i.e. gallons, liters) or height (metric with decimal)
- Loop-powered. Great for level applications where no other power is available
- Dual-line display
- 7-digit alphanumeric tag names on lower display
- 32-point linearization for non-linear tanks
- Configure meter using SafeTouch[®] through-window buttons
- Ex-proof or NEMA 4X field mount

PD6000 & PD8-6000 Pump Controllers

- Great for sump pump applications
- Multi-pump alternation control for up to 8 pumps
- Display the measured input in two scales (i.e. gallons & percent / height)
- 24 VDC @ 200 mA power supply available to power the level transmitter
- 2 or 4 form C internal relays
- 4-relay expansion module available
- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- Configure meter using SafeTouch[®] through-glass buttons (PD8)
- Ex-Proof or 1/8 DIN panel mount



PD765 & PD8-765 Pump Controllers

- Very popular in sump pump applications
- Pump alternation control for up to 2 pumps
- 24 VDC power supply available to power the level transmitter
- Configure meter using SafeTouch[®] through-glass buttons (PD8)
- Huge, easy-to-read display
- Maximum/minimum display
- Ex-Proof or 1/8 DIN panel mount



PD6081

Feet & Inches Modbus Scanner

- Perfect for monitoring level in multiple tanks
- Scans 16 Modbus variables
- Accepts two 4-20 mA inputs
- Display level in feet and inches
- Great for multi-variable transmitters
- Display level, interface, temperature
- Master, slave, or snoop mode
- 4-20 mA analog output option (up to 3)
- Isolated 24 VDC @ 200 mA transmitter power supply
- 2 or 4 form C internal relays
- **Forget Modbus; use it as a 4-20 mA input feet and inches meter!**



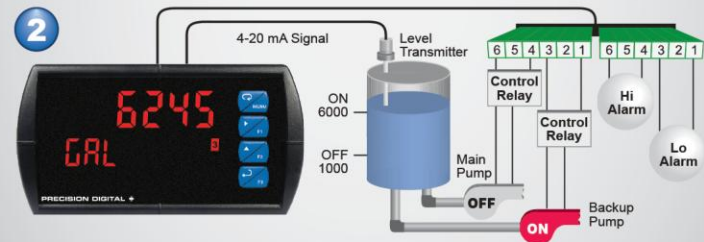
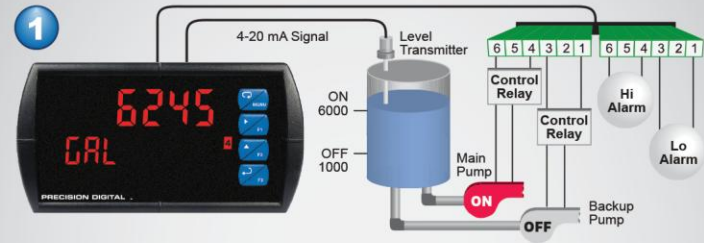
PD6089 & PD8-6081 Feet & Inches Modbus Scanners

- Perfect for level monitoring of multiple tanks
- Display level in feet and inches
- Great for multi-variable transmitters
- Display level and volume
- On-board RS-485 Modbus Comm.
- Master, slave, or snoop mode
- Up to 3 4-20 output option (PD6089)
- Isolated 24 VDC @ 200 mA transmitter power supply
- 2 or 4 form C internal relays
- Configure meter using SafeTouch® through-glass buttons (PD8)



3

Level Features





Volume & Percent

Dual-Scale Feature

- The PD6000 and PD8-6000 can display the 4-20 mA signal in two scales
- Great for displaying level in two ways (i.e. volume & percent)
- Both displays are independently scaled and are based on the 4-20 mA input signal.



Volume & Height

Dual-Scale Feature (More Uses)

- Great for displaying level in two ways (i.e. volume & height)

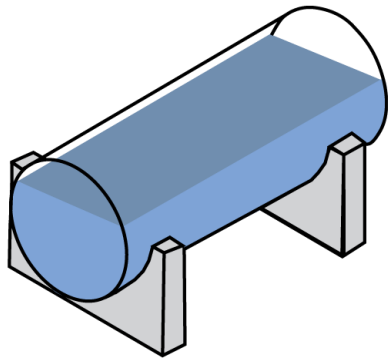


Ch A Value & Ch B Value

Dual-Input Meter PD6060 & PD8-6060

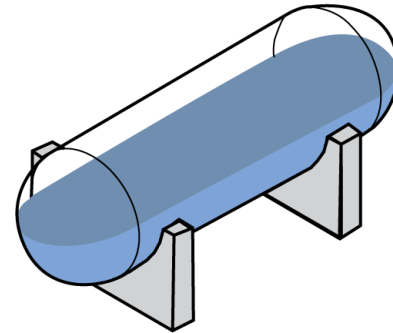
- Display two 4-20 mA signals on one meter
- Both inputs can have independent tags
- Control up to four internal relays and four external relays
- Up to three 4-20 mA outputs

Volume Measurement in Non-linear Tanks



Round Horizontal Tank Feature

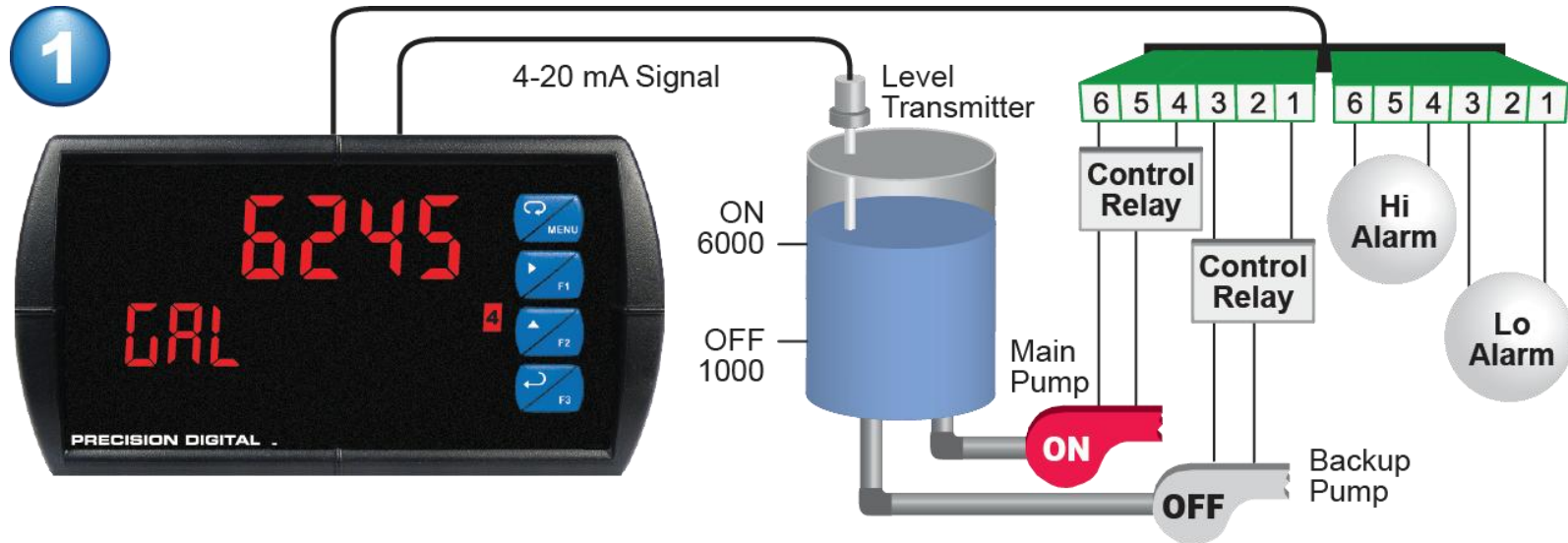
- Can be easily set up using MeterView Pro software
- Select RHT function from Select Menu
- Enter tank diameter and length in cm or inches



Multi-point Linearization

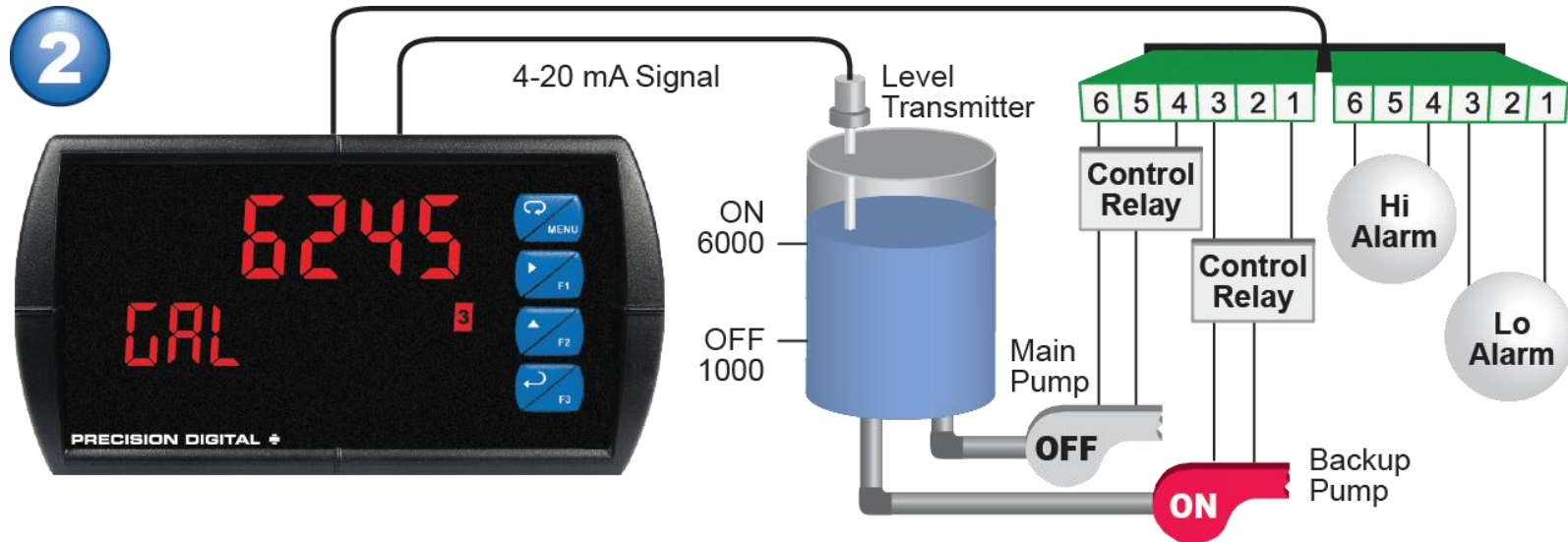
- Up to 32 linearization points available in most meters
- Easily enter points using MeterView Pro software (ProVu and ProtEX-MAX models)
 - Import from or export to Excel spreadsheet

Pump Alternation Control



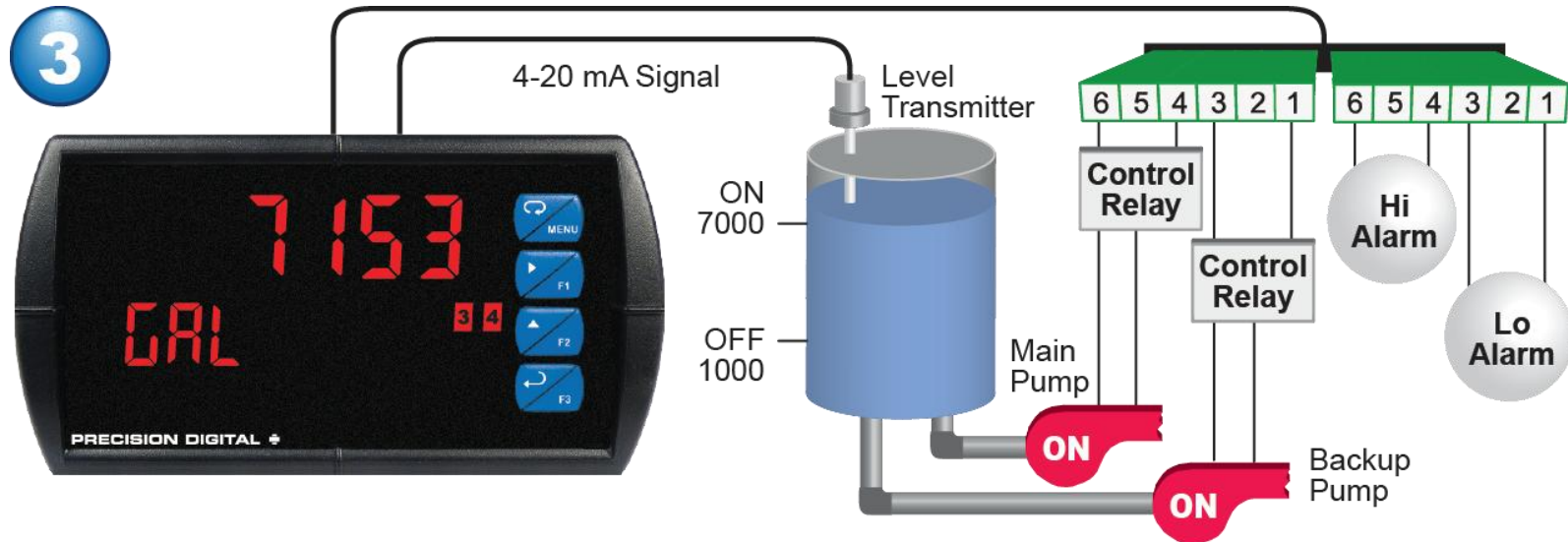
Relay #4 turns the main pump on at 6000 gallons and turns it off at 1000 gallons.

Pump Alternation Control



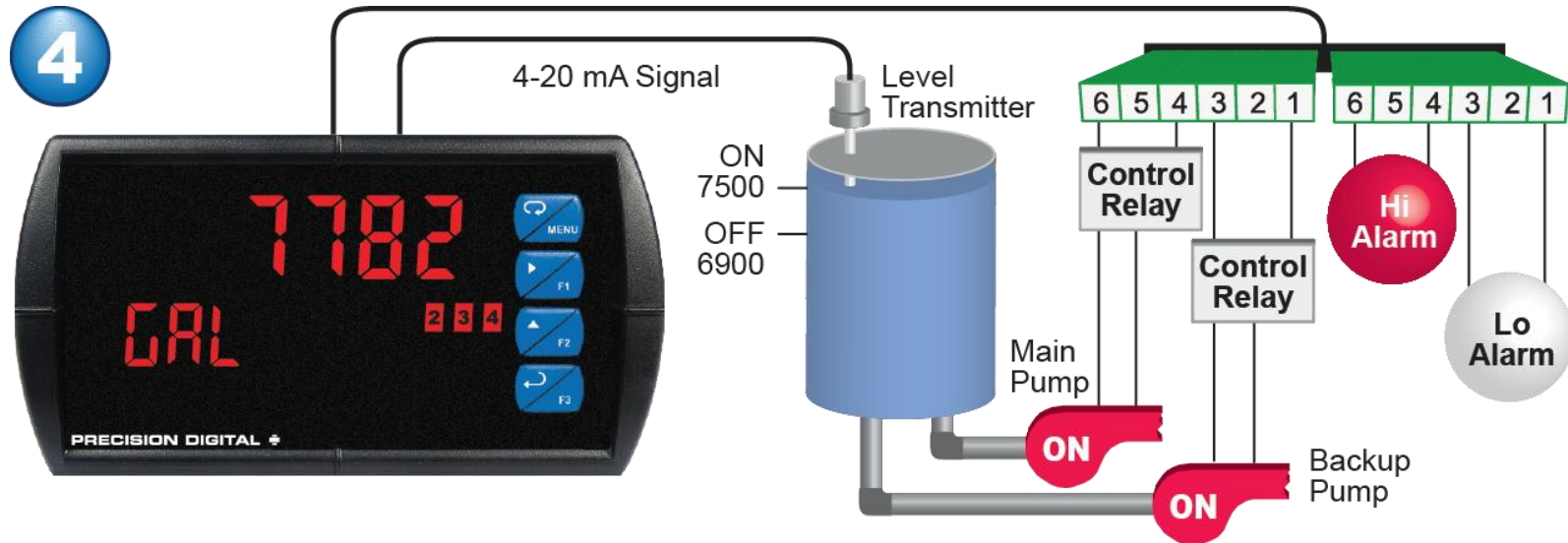
With the Pump Alternation feature activated, the next time the level reaches 6000 gallons, relay #3 transfers and starts the backup pump.

Pump Alternation Control



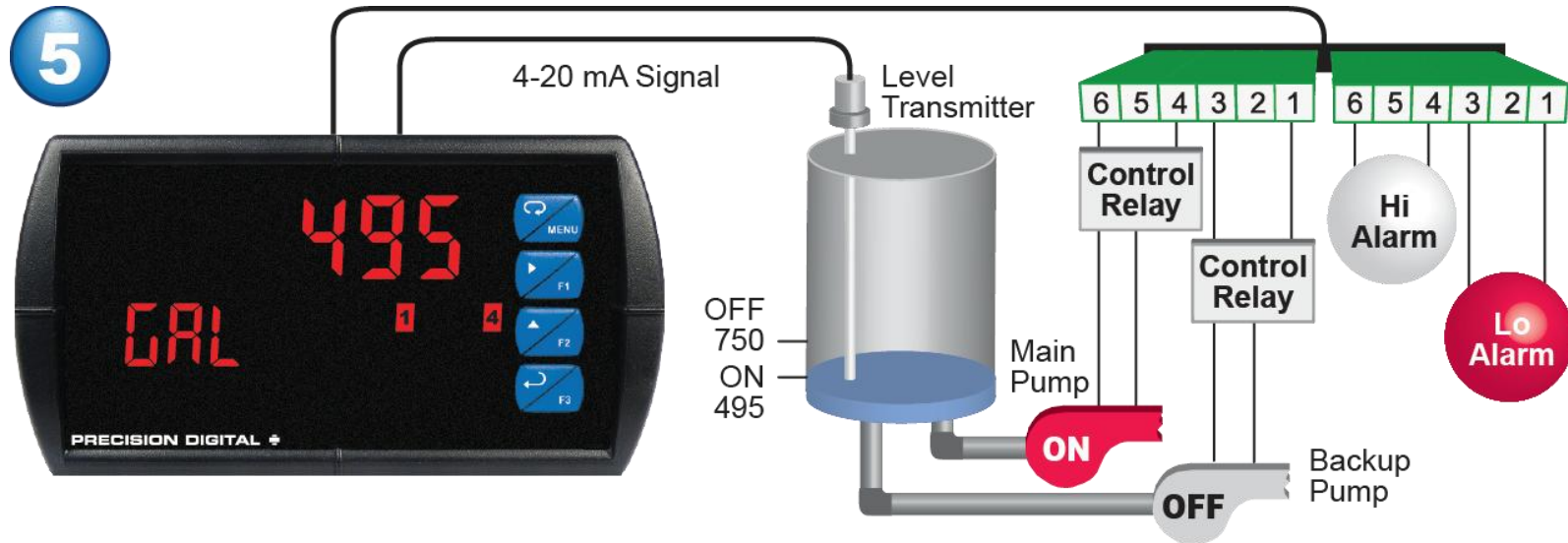
If the backup pump is not able to keep up, and the level reaches 7000 gallons, relay #4 transfers and starts the main pump as well.

Pump Alternation Control



Relay #2 trips the High Level Alarm at 7500 gallons and resets at 6900 gallons.

Pump Alternation Control



Relay #1 trips the Low Level Alarm at 495 gallons and resets at 750 gallons.

Feet & Inches Level Displays

Is this the most beautiful display for level applications?

Yes!



4

Choosing the Right Level Indicator



1.

Display the Right Information

- Consider what is most useful to operators such as displaying 0-100%, feet & inches readings, metric readings, volume, height or large digits.
- Then choose a display accordingly
 - Dual-line display
 - Feet & inches display
 - Large display
 - Number of digits



2.

Plan Your Mounting Method

- A useful level indicator must be located somewhere accessible to the operator
- It should also be easy to install
- Level Indicators are available for:
 - Panel mounting
 - Field mounting
 - Wall or pipe mounting
 - Hazardous locations



3. Look for Convenient Power

- Tanks, silos, sumps, wells, and other common level measurement sites are often isolated
- Running power to these locations can be costly and time consuming
- Consider what power source your remote level display will use based on what power may already be available
- Level indicators are available with:
 - 85-265 VAC or VDC power
 - 9-36 VDC or VAC power
 - 4-20 mA loop power



4.

Consider it More than Just a Display

- Consider what other features your remote display has and how they can enhance your application
- Alarm monitoring can be done with relays or open collector outputs with hi/lo alarming
- Pump control can be done with meters featuring pump alternation control
- Multivariable Modbus level displays can indicate interface level and temperature



5

Real Success Stories





PD8-6000 - Oil Tank Level Indication



PD8-6000 – Crude Oil Holding Tank Level Monitoring



PD8-765 – Remote Oil Tank Level Monitoring



PD8-765 – Level Indication & Pump Control at Oil Refinery



PD6801 – Level Indication at Chemical Plant

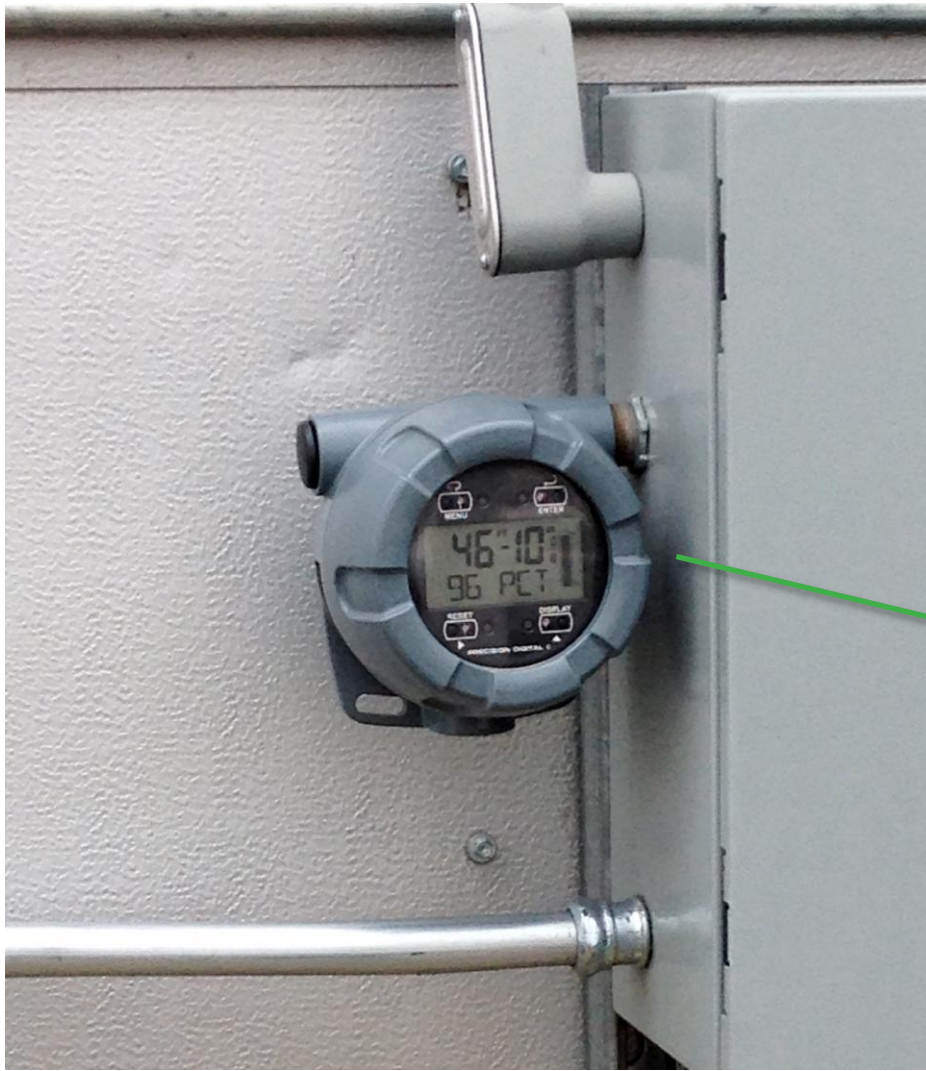


PD6801 - Oil Refinery Level Indication in Feet & Inches

Real Success Stories



PD765 X2 – Salt Water Tank Level at Truck Loading Stations



PD6701– Commercial Asphalt Storage Tank Level Monitoring



Thanks for Attending this Webinar

Tank Side Level Monitoring

