

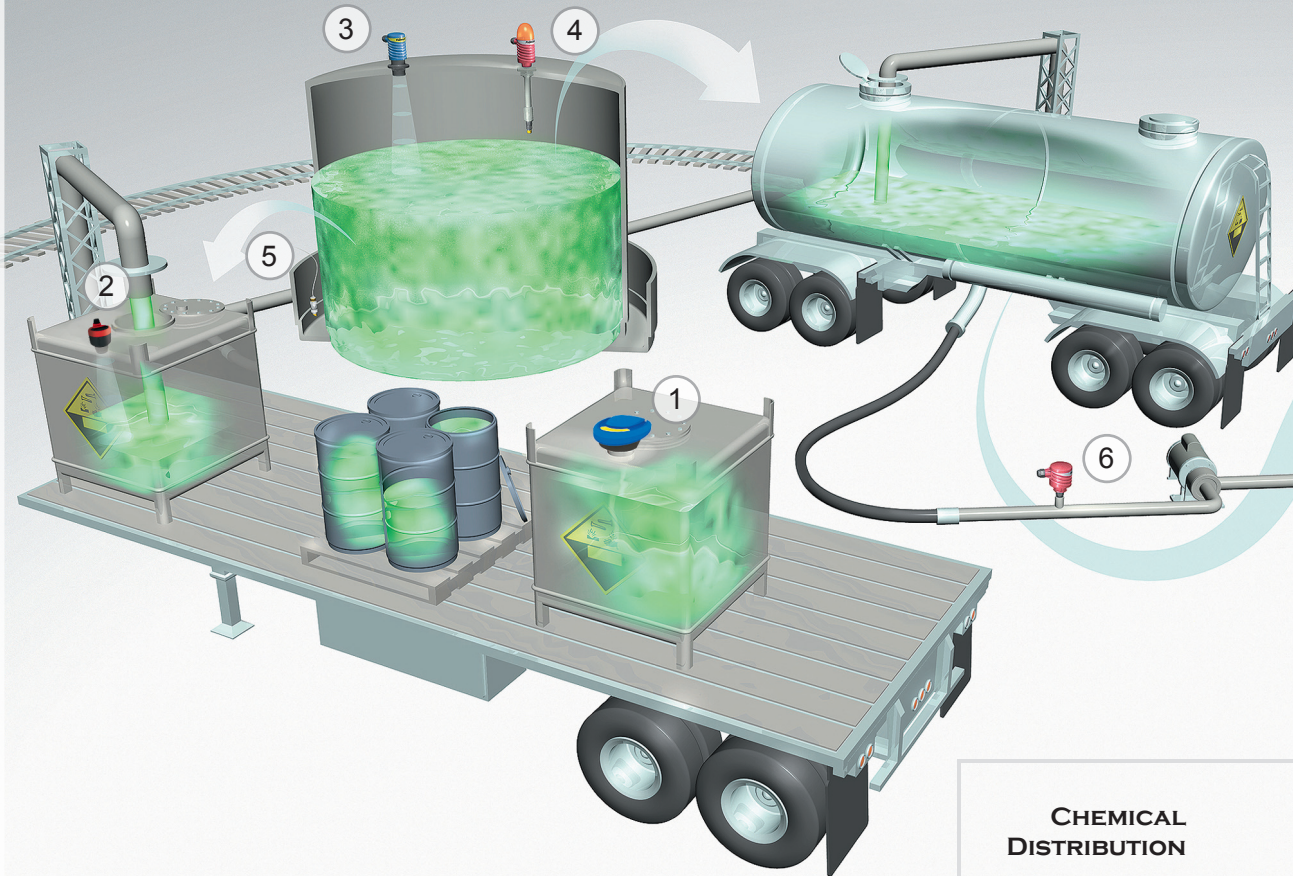
FLOWLINE[®]



Chemical, Water, Wastewater & Energy

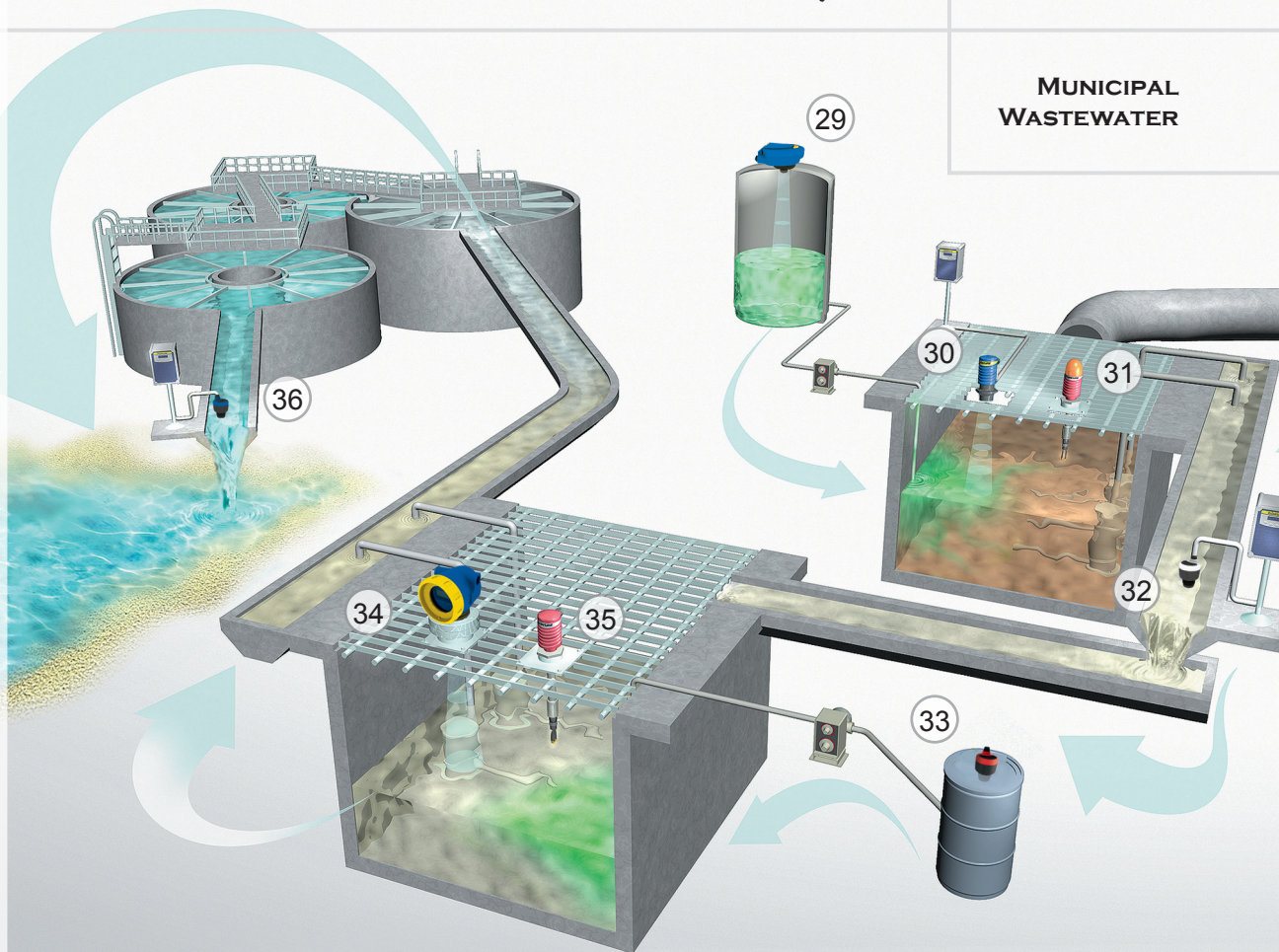
We Do Your Level Best[™]

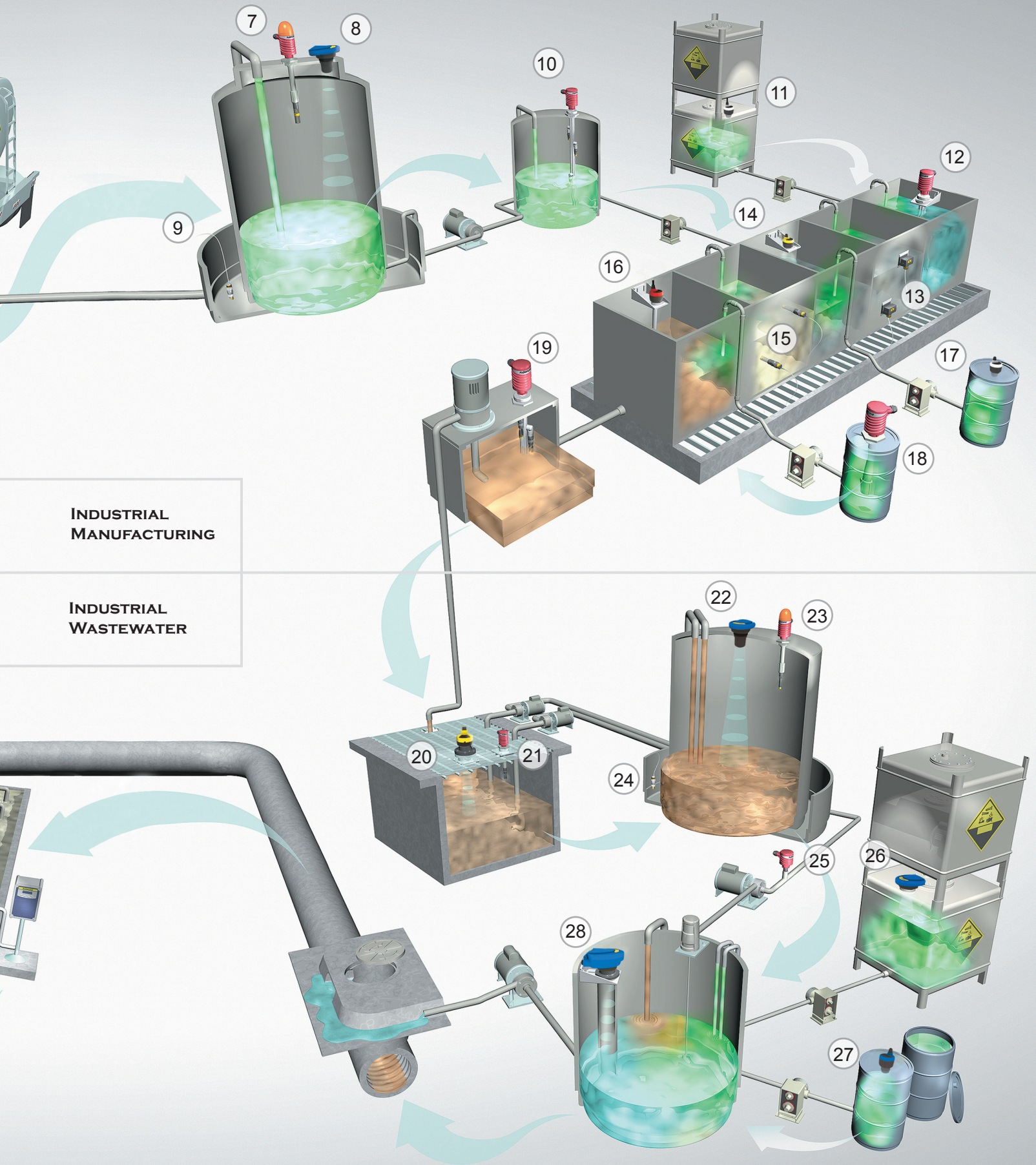
1. Tote Inventory Monitoring
EchoSonic II LU27 | Pages 32-35
2. Tote High Level Alarm
EchoPod DS14 | Page 17
3. Bulk Inventory Monitoring
EchoTouch LU20 | Pages 24-25
4. Bulk Overflow Protection
Switch-Pak AU13 | Pages 56-57
5. Containment Leak Detection
Optic LO10 | Page 66
6. Pump Run Dry Protection
Thermo-Flo AT12 | Page 82
7. Bulk Overflow Protection
Switch-Pak AV13 | Pages 56-57
8. Bulk Inventory Monitoring
EchoSonic II LU29 | Pages 32-35
9. Containment Leak Detection
Optic LO10 | Page 66
10. Day Tank Automatic Fill
Smart Trak AV23 | Pages 50-51
11. Tote Inventory Monitoring
EchoPod DL10 | Page 18
12. Process Automatic Fill
Smart Trak AU23 | Pages 50-51
13. Process High & Low Alarm
Capacitance LP50 | Page 68
14. Process Level Monitoring
EchoPod DL14 | Page 14
15. Process High & Low Alarm
Vibration LZ12 | Page 64
16. Process Automatic Fill
EchoPod DS14 | Page 17
17. Drum Inventory Monitoring
EchoPod DL10 | Page 18
18. Drum Low Level Alarm
Switch-Pak AU13 | Pages 56-57
19. Sump Automatic Empty
Smart Trak AZ23 | Pages 50-51
20. Pump Station Monitoring
EchoPod DL24 | Page 15
21. Pump Station High Alarm
Switch-Pak AU13 | Pages 56-57
22. Bulk Inventory Monitoring
EchoSonic II LU28 | Pages 32-35
23. Bulk Overflow Protection
Switch-Pak AZ13 | Pages 56-57
24. Containment Leak Detection
Optic LO10 | Page 66
25. Pump Run Dry Protection
Thermo-Flo AT12 | Page 82
26. Tote Inventory Monitoring
EchoSonic II LU27 | Pages 32-35
27. Drum Inventory Monitoring
EchoPod DX10 | Page 19
28. Waste Treatment Monitoring
EchoSpan LU83 | Pages 36-37
29. Day Tank Monitoring
EchoSpan LU80 | Pages 36-37
30. Pump Station Monitoring
EchoTouch LU20 | Pages 24-25
31. Pump Station High Alarm
Switch-Pak AZ13 | Pages 56-57
32. Channel Flow Measurement
EchoPod DL10 | Page 18
33. Drum Low Level Alarm
EchoPod DS14 | Page 17
34. Pump Station Monitoring
EchoSafe XP88 | Pages 26-27
35. Pump Station High Alarm
Switch-Pak AU13 | Pages 56-57
36. Channel Flow Measurement
EchoPod DX10 | Page 19



**CHEMICAL
DISTRIBUTION**

**MUNICIPAL
WASTEWATER**





EchoPod | DL24 & DL34 | Pages 15 - 16



Expanded EchoPod Measurement Ranges

The typical level application requires the ability to determine liquid level, control a tank filling or emptying operation and signal an alarm condition. Most level products are single function with any additional features provided through external devices. EchoPod provides all three functions in a single product with

newly extended measurement ranges up to 5.5m (18.0'). The EchoPod DL24 and DL34 feature a two-wire, 4-20 mA signal output with (4) SPST relays that can be configured on a single set point alarm or latched on two set points for automatic fill or empty control functions with selectable hysteresis and fail-safe logic.

EchoPod | DS14, DL10 & DX10 | Pages 17 - 19



Expanded EchoPod Signal Outputs

Having the right sensor output is just as important as the right measurement technology and price. Flowline has released three new variations of EchoPod with four different outputs to meet your specific application requirements. The DL10 series has a two-wire, 4-20 mA signal for use with PLC analog inputs. The DS14 has (4) SPST relay outputs for use

with PLC discreet inputs or external ice cube relays utilizing the integral control functions. The DX10 has a selectable voltage or frequency output. Select the 0-5 or 0-10 voltage output for use with PLC analog inputs. Select the 976-2k Hz. frequency output for use with a PLC discreet input, which saves the additional cost of an analog input card.

DeltaSpan IS | LD31-IS & LD32-IS | Pages 28 - 29



Intrinsically Safe Level Measurement

Pressure transmitters are the ideal compliment to ultrasonic transmitters because they're unaffected by surface foam or vapor above the liquid level. The new DeltaSpan transmitters are intrinsically safe for use in Class I, Div 1, Groups A, B, C and D; Class II, Div 1, Groups E, F and G and Class III environments. These submersible

sensors are perfect for municipal storm water, wastewater and water treatment applications that require intrinsic safety due to the presence of hazardous methane gas. The LD31 series is used in clean water and diluted chemicals. The LD32 series is used in pump lift stations and clarifiers with more challenging dirty, coating or scaling liquids.

Switch-Tek | LH29 | Page 71



Leak Detection Switching

Requirements for leak detection have grown steadily due to increased environmental regulations, the rising cost of insurance and associated liability. To maximize safety and minimize cost, the early detection of leaks is critical. The new LH29 series float leak detection switch is designed for placement in the

hard to reach interstitial space of secondary containment tanks or sumps. In the event of a leak, the non-powered float switch will signal an alarm condition. Check with your insurance company to see if you qualify for a premium reduction through the use of secondary containment leak detection switches.

Float-Point | AV17 | Page 62



55-Gallon Drum Alarming

55-gallon drums are the mainstay of small tank chemical transportation and storage with millions of drums in service worldwide. Once empty, used drums are replaced with full drums. While flexible, this rotation creates special challenges when attempting to monitor drum levels using traditional line powered sensors. The Float-Point 55-gallon drum alarm is a

portable, battery powered solution. In the event of an alarm condition, the battery powered LED will actuate to indicate the problem. Alarm enclosures are available in both compact and remote mount types for optimal user placement. The drum alarm is offered in high, low or high and low configurations.

EchoSonic II | LU23, LU27, LU28 & LU29 | Pages 34 - 35



General Purpose Level Measurement

Most general purpose level transmitters are cost burdened with push button display hardware that's used once during configuration. To eliminate this cost, six years ago Flowline introduced the EchoSonic II ultrasonic level transmitter that's PC configured via our free Web-Cal software. Offered in a submersible, Type 6P enclosure with cable interface,

EchoSonic II has since become a best seller. Now we're offering the same great product in a water tight, NEMA 4X enclosure with conduit interface. Additionally, we've added a 5.5m (18.0') measurement range because you asked for it. Your favorite ultrasonic level transmitter just got better.

Application Matrix

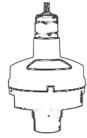
Continuous

Point

Industrial	Measurement	Indication / Control	Hi / Low Alarm
Bulk storage	X		X
Day tank		X	X
IBC & drum		X	X
Process vessel			X
Waste sump	X		X
Wastewater treatment		X	X

Automation Machine, Tool & Skid	Measurement	Indication / Control	Hi / Low Alarm
Dispensing	X		X
Plating	X		X
Mixing		X	X
Printing	X	X	X
Washers		X	X
Semi-conductor	X		X
Wet bench	X		X
Life science	X		X
Water remediation		X	X
Process make-up water	X		X
Wastewater neutralization	X		X
Pharmaceutical process	X	X	X
Dialysis	X	X	X
Bio-waste	X	X	X
Disinfecting	X	X	X
Commercial laundry	X		X
Commercial fountains		X	X
HVAC chemical feed		X	X
Boiler chemical feed		X	X

Process Control	Measurement	Indication / Control	Hi / Low Alarm
Wastewater treatment	X		X
Power generation	X		X
Energy	X		X
Gas & oil	X	X	X
Mining	X	X	X
Marine		X	X
Food & beverage	X		X
Commercial pools	X		X
Water parks	X		X
Paints & coatings		X	X
Parts cleaners			X
Municipalities	X		X
Deionized water	X		X
Cosmetics	X		X
Agriculture		X	X



Sensor Only



DataView™ LI55

Page 43



DataLoop™ LI25

Pages 31, 42



Commander™ LI90

Page 44



FluidWell™ 300400

Page 30

EchoPod® DL24 Page 15					
EchoPod® DL14 Page 14					
EchoPod® DS14 Page 17					
EchoPod® DL10 Page 18					
EchoPod® DX10 Page 19					
EchoSonic® II LU2X Pages 32-35					
EchoSpan® LU8X Pages 36-37					
EchoSwitch® II LU7X Pages 48-49					
EchoTouch™ LU20/30 Pages 24-25, 40					
EchoSafe® XP88/89 Pages 26-27					

EchoPod® Ultrasonic Level Sensors

EchoPod is an innovative level sensor family that replaces float, conductance and pressure sensors that fail due to contact with dirty, sticking and scaling media in small ($\leq 49.2''$) to medium ($\leq 216.5''$) capacity tanks. Applied in skid, machine, tool and process applications, the general purpose sensors are available with single and multi-function capabilities including measurement, switching and control.

Measurement outputs include current, voltage and frequency. Up to four relays can be configured on a single set point alarm or latched on two set points for automatic fill or empty functions using the embedded level controller. PC configuration is simple with our free WebCal software.

This year, Flowline is proud to introduce a new member to the EchoPod family. The DL34 ultrasonic level transmitter, switch and controller provides multi-function level solutions for larger capacity tanks. With continuous level measurement up to 18.0' and four programmable relays, it's our smallest and most powerful transmitter yet. Select the DL34 for bulk storage and day tank applications that require integral level measurement and control. Big transmitters now come in small packages.

General Purpose Measurement, Switching & Control

Measurement, Switching & Control

Switching

Measurement



	DL34	DL24	DL14	DS14	DL10	DX10
Type	Ultrasonic					
Class	GP					
Range	216.5" (5.5m)	118.1" (3m)		49.2" (1.25m)		
Output	4-20 mA			- - -	0-10V, 978-200Hz	4-20 mA
Install	Top Wall					
Mounting	2" NPT / G	1" NPT / G				
Relays	(4) SPST				No Relay	
Configuration	WebCal Software					
Temperature	140° F (60° C)					
Pressure	30 PSI (2 bar)					
Material	PVDF					