LEVELESE

Levelese*Ó *LevelBest*Ó *Water Well Level Sensor-Transmitter

Introducing the *Levelese*Ó *LevelBest*Ó continuous water well level sensor-monitor and pump control, the simple, price, value and accuracy leader for well water level sensing, display and controlling pumps.

Specified, patented and designed by engineers with half a century's individual experience in level instrumentation, *Levelese*Ó has been designed to operate in the most stringent environments ranging from marine oil storage, acidic material transportation vessels to pure well water. *Levelese*Ó is not affected by turbulence and the actual depth in a deep well.

***Levelese*Ó continuous level monitors are:**

- **Easy to install and maintain**
- **Highly reliable**
- **Without moving parts**
- **Possess wide rangeabilty from 5 in to more than 166 ft**
- **Demonstrate negligible sensing errors**
- **Operate in explosive, corrosive and extreme environments**
- **Independent of product**

HOW IT WORKS

***Using the principal of buoyancy the Levelese*Ó level measuring system weighs an inert chain, secured below the fluid surface and determines the inverse of liquid level and converts it to an analog or digital electronic signal for indication, alarming or continuous or on-demand transmission.**

Applications:

- **Water Well Level**
- **Pollution Plume Tracking**
- **Well Level Pump Control**

Specifications:

- **Level Ranges: 6" to 166'**
- **Ranges:**
  - **0-5 Ft to 0-166 Ft**
  - **Suppressed Zero Ranges (Absolute depth of fluid does not affect the measured range)**
- **Minimum Well Casing ID: 2.0 In**
- **Maximum Cable Length: 5000 ft, display resistance 100W, 24 VDC Transmitter Power**
- **Cable: #26 AWG, 2-twisted pairs, shielded with PVC jacket, standard.(longer cable supplied with large wire gauge)**
- **Materials of construction: Low Copper Aluminum, Stainless steel, HDPE**
- **Response Time: 67% final value to step change input: <200 mS**
- **Accuracy: > ±99.85% FS**
- **Linearity: Better than 0.98% FS**
- **Hysteresis: Better than 0.03% FS**
- **Temperature range: -40 to +65°C**
- **Power required, various for application**
  - **12-24 VDC @22 mA**
  - **117 VAC, 24 VDC w/Displays**
  - **Rechargeable batteries**
  - **Solar**
- **Output/Display**
  - **4-20 mA, 292 Ù Additional Load Resistance with 5,000' cable**
  - **Bargraph w/4 Digit Display**

Accessories:

Cable Drum-Windless
Well Installation Kit
Display
Wireless communications

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Levelese™ Well Level Monitor
Description & Dimensions

Description & Specifying Information

The *Levelese*™ Well Level Sensor may be supplied as a stand-alone sensor with the requisite cable and measuring chain or as a system complete with

1. Sensor
2. Cable Reel for lowering the sensor into the well
3. Bar-Graph-DPM Receiver with provisions for external AC or DC power, two Form A control relays and integral bar graph and 4 digit DPM.
4. Well casing cap with cable retainer for securing the cable to the top of the casing.

The overall length of the sensor is 9 5/8 and the OD is 1.909 in. Cable OD is less than ¼ in.

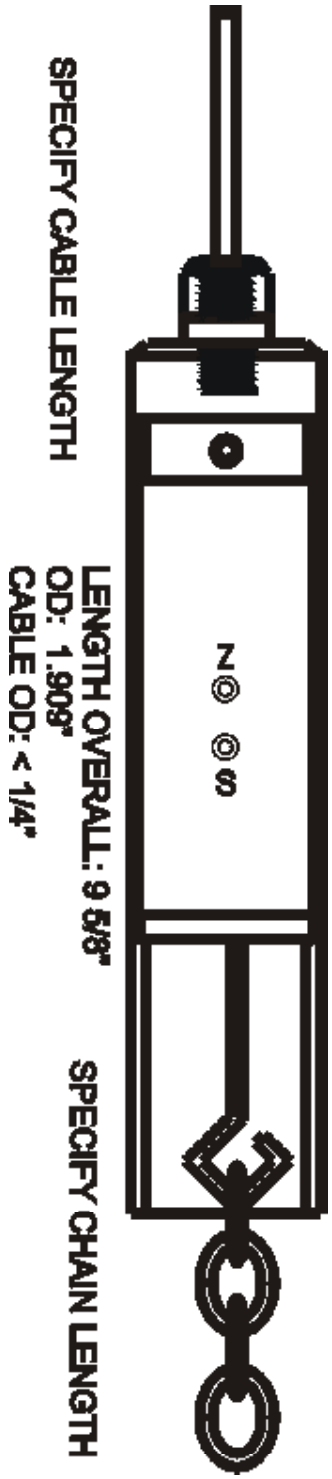
The nominal well depth and water level variation must be specified.

Installation

The Well Level Sensor is supplied pre-calibrated for the specified water depth variation. The chain need only be attached and the sensor lowered to the expected well depth to the water level. A simple procedure calls for using a 4-20 mA transmitter simulator with meter or a Levelese™ Bar-Graph-DPM to the upper end of the cable and watching the apparent level until it begins to indicate that the chain is beginning to be immersed; then lowering the sensor the additional amount until the reading is at an expected amount. The cable is then secured to the well head and the signal is sent to the desired I/O or to the Receiver.

This installation process may be eased using an optional reel-windlass system with integral slip rings and break for stopping the descent once the water level has been reached. This is useful for deep wells.

See "How to Order" for specific application information.

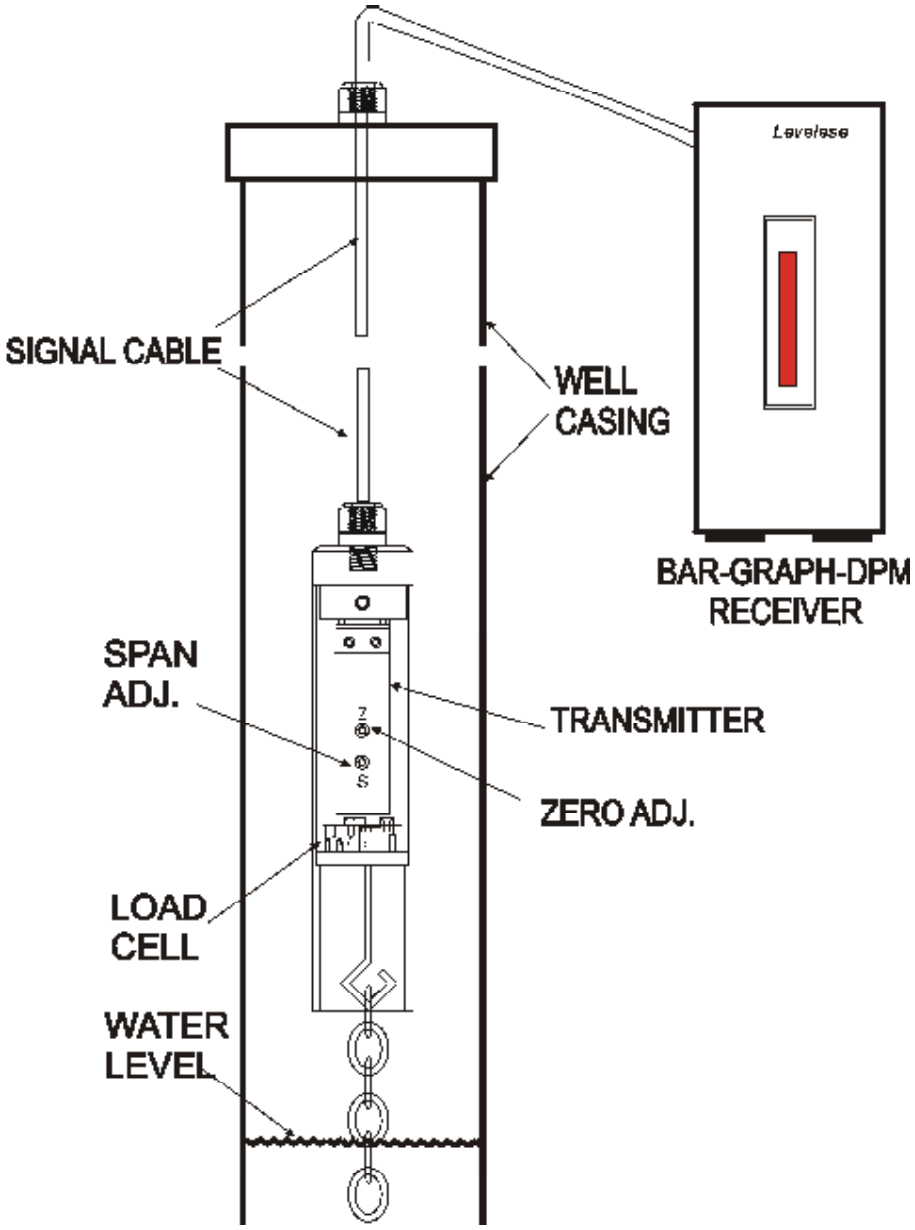


Levelese™ Well Level Monitor
HOW IT WORKS

The Levelese Well Monitor contains

1. a length of plastic sensing chain specified to be more than the expected changes in water level
2. a load cell which constantly weighs the sensing chain
3. a 2-wire 4-20 mA load cell-to-signal current transmitter with zero (Z) and span (S) adjustments
4. all enclosed in an aluminum enclosure
5. connected to the surface by a PVC-jacketed, shielded cable and
6. terminated by a Bar-Graph-DPM with 4 digit display calibrated to 0.01 units.

The sensor is supplied with factory calibration which may be changed in the field for changed variations of level. It may be installed by (1) gauging the well and lowering the sensor to a point above the current water level or (2) by lowering the sensor until the bar-graph-DPM indicates the chain si beginning to be submerged followed by further lowering the sensor until the desired



Levelese Levelbest Well Level Sensor How to Order

	Body	Output	Power	IS	Mounting	Calibration	Display	Well Depth	Water Depth	Accessories	Description
Levelese Well Level Sensor	0										LeveleseTM LevelBestTM liquid level instrument, complete with 1-1/2" HDPE chain, 2" minimum casing diameter, Low Copper Aluminum Body, Electronic 2-Wire Transmitter w/Adjustable Zero & Span. Suppleid with 100' PVC jacketed 2 pair shielded cable and 10' c
											Accuracy: Better than +/-0.15% FS
											Linearity: Better than 0.98% FS
											Hysteresis: Better than 0.03% FS
											Temperature Range: -0 to +65 Deg C
											Specify Well Depth & Water Level Range
	2										Other Materials or Pressure Ratings
	3										316 Stainless Steel Body & Parts,
		0									2-Wire 4-20 Integral LevelBestTM, 4-20 mA Transmitter, 12-26 VDC
		6									Other Output Options
			0								12-24 VDC Regulated Power Supply (by Others)
			1								117 VAC Power Supply, External, for 6 Sensors
			2								Rechargeable batteries in Enclosure, Surface Mount
			3								Solar Rechargeable batteries with Enclosure
				0							Standard Integrally Mounted Single Compartment Enclosure
					0						Standard for Well Caseing of 2" ID Or Greater
						0					2 Point Level Standard Calibration in Water
						1					3 Point Level Calibration in Water
						2					5 Point Level Calibration in Water
						3					Other Calibration
							0				None
							1				Bargraph-4-Digit DPM Display, 1/16 DIN, 117 VAC Prime Power, Integral Transmitter Power, Calbrated 0-100% … per Sensor
							2				Desk Top Enclosure for up to 8 wells, power cord, and terminal blocks for terminating level signals…
							3				Other
								0			Well depth less than 100'
								N			Number of 100; increments of well depth…. per 100'
									0		Water depth change 10' or less
									N		Water Depth Number of 10' increments of water depth to 160 ft….ADD per 10 ft
										0	Supplied complete with sensor, chain, and cable
										1	Complete with cable mounted on supported reel
										2	Complete with cable mounted on supported reel with, slip rings & break