
- **Tank Gauge and Leak-Detection**
  - Accepts Model TG-EL-WF Wire Float
  - Accepts Up To 3 HD-A1 Leak Detectors

- **Major Capabilities**
  - Displays Product Inventory In Actual Gallons and Liquid Depth
  - English Language Alarm Displays
  - Leak Monitoring of Steel and Fiberglass Double Wall Tanks, Double Wall Piping, Tank Piping Connection Manholes, and Vaulted Tank Containment Areas
  - Oil/Water Leak Discrimination Displays
  - Overfill Alarm, Leak Detector and Level Sensor Test Capability
  - Alarm Horn
  - Building Automation System (BAS) Relay Outputs
  - Volumetric 4-20 mA/DC outputs

**Description**

The Model TG-EL-D3 Tank Gauge and Leak Detection System is a remote reading, microprocessor-based tank gauge complete with an integral audible and visual alarm system for leak detection, tank overfill and low liquid level alarm. Designed for use with single wall, double wall and vaulted fuel oil storage tanks and for application to all grades of fuel oil, including No. 6.

The TG-EL-D3 System is Factory Mutual Approved and complies with EPA regulations for leak detection and overfill alarm (Federal Register 9/23/88). The System consists of an Indicating Instrument, Level Sensor and Leak Sensors for up to three leak containment areas.

**Indicating Instrument**

The TG-EL-D3 Indicating Instrument includes a door mounted digital display, alarm horn, “Liquid Depth” display selection pushbutton, “Alarm Silence” pushbutton, “Hole Alarm Recall” pushbutton and “Overfill Alarm Test” pushbutton. The digital display provides product level in either actual gallons or liquid depth, as well as English language alarm messages. Within the cabinet are all electronics and calibration adjustments. All calibrations are at the Indicating Instrument, not at the tank. Enclosure is 8" W x 10½" H x 4½"D die-cast aluminum suitable for flush/surface mounting.

When an alarm is detected, the digital display alternately reads current gallon volume and an English language alarm description, an integral alarm sounds and an isolated set of contacts close for remote leak, overfill and common alarm notification. The integral “Alarm Silence” pushbutton provides manual alarm silencing while the flashing visual display continues until the alarm condition clears.

**Overfill Alarm (High Level)**

Alternately flashes “HI” and current gallon volume. An integral “Overfill Alarm Test” pushbutton verifies overfill alarm circuit. A self-silencing relay contact output is provided for remote overfill audible/visual alarm.

**Low Level Alarm (time to refill)**

Display alternately flashes “LO” and current gallon volume.

**Leak Alarm**

Display alternately flashes “OIL” or “H₂O” and current gallon volume. An isolated set of dedicated contacts close for remote leak notification. Leak alarms take precedence over all other alarms. Door mounted “Hole Alarm Recall” pushbutton displays gallon volume at onset of leak alarm to aid content loss estimation. A dedicated leak alarm relay contact is provided for connection to remote alarms or building automation systems.

**Level Sensors**

The tank mounted assembly utilizes a float type level sensor to position an integral transducer that is wired to the Model TG-EL-D3 Tank Gauge. The use of a float assures measurement accuracy is unaffected by tank fumes or changes in viscosity, conductivity, specific gravity, or other liquid variables. The level sensors are intrinsically safe, sealed against tank contents, and suitable for underground installation. The Model TG-EL-D3 Tank Gauge accepts inputs from Wire Floats.
1. Application
Provide and install for each main storage tank, a remote, microprocessor-based tank gauging, leak monitoring and overfill alarm system per NFPA 30 Flammable and Combustible Liquids Code, NFPA 31 Standard for the Installation of Oil-Burning Equipment, and NFPA 110 Standard for Emergency and Standby Power Systems. The complete system including a microprocessor-based central processing and indicating instrument, liquid level sensor, leak detectors and overfill alarm station shall be supplied by one Original Equipment Manufacturer (OEM). This is to assure the highest standards of product quality and system integration capabilities for the customer. The entire system and all components shall be intrinsically safe as approved by Factory Mutual for Class 1, Div. 1, Group C & D hazardous locations. The system shall be a Preferred Utilities Mfg Corp., Danbury, CT, Model TG-EL-D3-ARF.

2. Central Processing and Indicating Instrument
The instrument shall have a die-cast aluminum (0.2" thick min.) housing containing all calibration adjustments. The system shall provide a 4-20 mADC output proportional to tank content in gallons and isolated alarm relay contacts for leak detection, automatically silenced overfill alarm and common alarm (leak, overfill, and low level). The control panel shall also have the following features: LED display shall have the capability to display (without scrolling) up to 99,990 gallons of inventory. It shall display the tank content continuously. Additionally it shall display all alarms in English language. Dedicated pushbutton for instantaneous display of the height of liquid in tank in inches. Common audible alarm with associated alarm silence pushbutton. Data recall pushbutton shall provide instantaneous display of tank content at the time of leak alarm condition. Overfill alarm circuit test pushbutton to provide instantaneous proving of audible and visual alarm circuitry associated with instrument overfill alarm contact. The central processing and indicating unit shall be Preferred Utilities Mfg Corp., Danbury, CT, Model TG-EL-D3-ARF.

Specifications

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<tr>
<th>Specification</th>
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<tr>
<td>Input Power</td>
<td>120 VAC (+15 - 20%) 30 VA</td>
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<tr>
<td>Ambient Temperature</td>
<td>32° to 125° F</td>
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<tr>
<td>Instrument Housing</td>
<td>8&quot; W 10⅜&quot; H 4⅞&quot; D die cast aluminum 0.2&quot; thick</td>
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<tr>
<td>Display</td>
<td>+/- 0.2% FS for model WF-12</td>
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<tr>
<td>Accuracy</td>
<td>+/- 0.3% FS for model WF-7</td>
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<tr>
<td>Audible Alarm</td>
<td>+/-1.3% FS for model LF</td>
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<tr>
<td>Pushbuttons</td>
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<td>Overfill Alarm System Test</td>
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<td>Liquid Depth in Inches</td>
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<td>Hole Alarm Recall</td>
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<tr>
<td>Alarms</td>
<td>Leak, and adjustable Low &amp; High Level</td>
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<tr>
<td>Analog Output</td>
<td>Volumetric output, 4-20 mADC, max load 550 ohm</td>
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<tr>
<td>Relay Outputs</td>
<td>Adjustable, pushbutton setpoint recall, 120 VAC @ 5 A resistive, SPDT</td>
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<tr>
<td></td>
<td>(4) Standard Relays:</td>
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<td></td>
<td>High Level</td>
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<td>Overfill</td>
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Approvals

Factory Mutual
Intrinsically safe sensor wiring allows sensors to be safely located in Class I, Div. I, Group C&D hazardous locations.
TANK GAUGE and LEAK DETECTION SYSTEM
Model TG-EL-D3

Ordering Information
Specify Tank Monitoring System Catalog Number TG-EL-D3

Additional Ordering Information
1) Specify Level Sensor Model TG-EL-WF Wire Float
2) Specify Leak Detector Model HD-A1, up to 3 leak detectors
3) Caution Sign Model FA-S
4) Monitor Access Manhole Model TG-MH-18
5) Specify FA-AV-[1,2, or 3 (number of tanks)]-D3 Audible/Visual Overfill Alarm
6) Remote Weatherproof Bell 10" (catalog number 16276), or 6" (catalog number SDA-B6)
7) Specify extra splice kits (catalog number 190271)
8) Specify connecting cable: (catalog number 21655), three wire shielded cable for each leak or level sensor in 10' increments (800' maximum wire run per sensor)

Tank Information Required When Ordering

PLEASE NOTE: Tank gauges are manufactured in accordance with specifications furnished with the order and are not suitable for operation with different tank configurations or installation plans. Complete specifications must be provided and should include a tank print.

1) Specify number of tanks
2) Provide tank print or description. It should include:
   - Type of construction (single or double wall, fiberglass or steel)
   - Manufacturer name and model number
   - Fluid capacity
   - Inside dimensions of tank including diameter and length (if dished heads, show length of both shell and overall)
   - Important dimension: from the inside bottom of tank to the top of the tank entrance fitting, and the type and pipe size of fitting
3) Provide fluid description:
   - Grade of fuel oil
   - Other fluids type and specific gravity
   - For corrosive fluids, buyer must approve wetted parts material
4) Specify destination: to satisfy local codes, specify destination so that the proper local governing authority information packages are included.

General arrangement shown, refer to instruction manual for installation details.