

## **Tank Gauging, Leak Monitoring and Overfill Prevention**

### **A. Tank Gauging Monitor:**

1. Provide and install one common remote tank gauging and leak detection system for all tanks that can simultaneously monitor product levels, water levels, temperatures, and leaks in up to sixteen tanks. System shall be UL listed and provide intrinsically safe outputs for use in Class 1, Group C & D Hazardous Locations when wired in accordance with manufacturers control drawing. System shall also be Third Party Certified and listed to meet EPA leak detection requirements. Locate monitoring console where shown on project drawings.
2. Central Processing and Indicating Instrument – Controller shall have a backlit 7 inch color touchscreen display and 32 character thermal printer. System must be capable of driving single or multi-tank 12 VDC NEMA 4 X remote audio visual high level alarms and/or remote displays. System must be capable of providing up to three individually programmed isolated relay contacts for any alarm event. System shall also be capable of serving up a web page making current inventory, sensor status and alarms available from a web browser or smart phone.
3. Controller shall be as manufactured by OMNTEC Mfg., Inc. Model No. **OEL8000IIIIXP**. The main console will be preprogrammed by the factory and field adjusted as required. It shall be capable of handling up to 16 MTG probes and 64 BX series leak sensors. Console shall be equipped with (1) RS-232 port, (1) RS-485 port, Ethernet, E-mail and Text capability for communication. Panel shall come equipped with three LED lights for Ok, Warning, and Alarm status. Alarms shall be displayed visually on a 7" color touch screen with wide viewing angle as well as Warning and Alarm lights on face of panel. System shall have an 85dB piezoelectric horn for audible alarm indication.
4. Panel shall be compact in size not to exceed 15.21" (w) 7.73" (h) 8.67" (d) and constructed of powder coated industrial steel for indoor mounting. The complete leak / level gauging system shall include a one year parts warranty and shall be manufactured by OMNTEC Mfg. Inc. Ronkonkoma, NY (631-981-2001) or equal

### **B. The liquid level probe**

1. Shall consist of a 316 grade stainless steel IP68 rated rigid model **MTG** level probes or model MTG-F Kynar flexible level probes where overhead clearance is not available. Probe shall use magnetostrictive technology with 6 temperature sensing devices and an accuracy of .01 inches in inventory mode and .001 inches in leak detection mode. Probe shall simultaneously provide product levels, water levels, and temperature within the storage tanks.
2. The level probe shall be installed in an accessible 4" NPT male riser pipe. Probe shall include a 4" cap with integral cable gland, floats, and installation kit. (2" NPT option available upon request) All splices must use supplied SK-4 splice kits. Field wiring from probe to controller must be OMNTEC **EC-2** or Belden 8761 cable in suitable conduit. Level probes shall be as supplied by OMNTEC Mfg., Inc.

**C. Product Discriminating Smart Leak Sensors**

1. All leak sensors shall be micro processor based and capable of recognizing its unique serial number, part number, and function. Up to 16 sensors shall be capable of being installed on (1) four conductor cable back to the main controller. The sensors principle of operation shall be electro optic for liquid detection and conductivity to discriminate fuel and water. Sensors shall be remotely testable from console via touch screen Test button icon. Sensors shall be capable of detecting liquid at any angle. Float technology will not be accepted. Interstitial sensors shall be model # **BX-PDWS** for steel tank interstitials or **BX-PDWF-\*** (\* denotes tank diameter) for dry double wall fiberglass tanks or **BX-RES** for Brine filled fiberglass tanks. Containment sump sensors shall be part number **BX-PDS**. See project drawings for location and quantities of sensors required. All sensors are to be wired thru rigid conduits using OMNTEC **EC-4** cable or equivalent 22 gauge four conductor twisted, two pair, shielded cable with drain. Do not run OEL8000IIXP intrinsically safe low voltage wiring in the same conduit with any other wiring. All sensors shall be as manufactured by OMNTEC Mfg., Inc.

**D. Non Product Discriminating Smart Leak Sensors**

1. All leak sensors shall be micro processor based and capable of recognizing its unique serial number, part number, and function. Up to 16 sensors shall be capable of being installed on (1) four conductor cable back to the main controller. The sensors principle of operation shall be electro optic for liquid detection only. Sensors shall be remotely testable from console via touch screen Test button icon. Sensors shall be capable of detecting liquid at any angle. Float technology will not be accepted. Interstitial sensors shall be model # **BX-LWS** for steel tank interstitials or **BX-LWF-\*** (\* denotes tank diameter) for dry double wall fiberglass tanks or **BX-RES** for Brine filled fiberglass tanks. Containment sump sensors shall be part number **BX-LS**. See project drawings for location and quantities of sensors required. All sensors are to be wired thru rigid conduits using OMNTEC **EC-4** or equivalent 22 gauge four conductor, twisted, two pair, shielded cable with drain. Do not run OEL8000IIXP intrinsically safe low voltage wiring in the same conduit with any other wiring. All sensors shall be as manufactured by OMNTEC Mfg., Inc.

**E. Overfill Station**

1. Provide near each tank fill terminal as shown on project drawings a low voltage audio/visual NEMA 4X overfill alarm and silencing station. Remote annunciator light shall illuminate and horn shall sound when the liquid level in the tank rises above a pre-programmed high level point. The horn will remain on until the silence button is pressed or can be programmed to time out. Visual light will remain lit until the level in the tank drops below the high level point. Remote annunciator shall be **RAS** series for single or multi-tanks and shall be manufactured by OMNTEC Mfg., Inc.

**F. Communication capabilities**

1. Modbus via RS-232, RS-485 or TCP/IP
2. Up to 32 120 VAC 5 amp dry contact relays using the XB-RB8 relay output board
3. 4-20mA output for level via X232-422-\* (\* denotes number of outputs)
4. BACnet via C232-BAC (must specify TCP/IP or MSTP)

## G. Optional accessories

1. Provide a 7" color touch screen graphic remote display (Part Number **RD7CTS**) as manufactured by OMNTEC Mfg., Inc. Display must utilize industry standard protocol for use with most Automatic Tank Gauge monitoring systems. The remote ATG monitor shall display current tank inventory and leak sensor alarms in up to 8 tanks and shall dynamically switch to the tank that is being delivered to. Display shall come equipped with three LED lights on panel face for Ok, Warning, and Alarm Status.

Alarms shall be displayed visually on a 7" color touch screen with wide viewing angle as well as Warning and Alarm lights on face of panel. System shall have 85dB piezoelectric horn for audible alarm indication. Enclosure shall be powder coated industrial steel for indoor mounting. Must be capable of flush mount or recess mounting as required. Enclosure shall be compact in size, not to exceed (H) 7.63" (W) 8.08" (D) 3.20".

System must operate on 120/240 VAC or 12VDC via hard wired or power cord kit (Part Number **RD-PCK**)

Provide a wireless link that will allow 500' of communication between main ATG and RD7CTS (Part Number **WRS-232**) as manufactured by OMNTEC Mfg., Inc. Contractor shall also supply (2) **WRS-232R** repeaters for distances greater than 500'.