

## **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 optional leak alarms. System shall be UL and CSA listed and provide intrinsically safe outputs for use in Class 1, Group C & D Hazardous Locations when wired/installed in accordance with manufacturers control drawing.
2. Central Processing and Indicating Instrument – Controller shall have a backlit 7-inch color touchscreen display and Optional 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 DataCheck Model No. **OEL8000IIIX-W**. It shall be capable of handling up to 44 DataStik probes and 64 FillCheck 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. Wireless Receiver**

1. Provide Wireless DataCheck Receiver to capture tank data from DataCheck sensor and probes. Housed in Nema 4X non-metallic enclosure is to be mounted line of site on exterior of building and must not be mounted on a metal surface. Receiver shall be hard wired inside building using manufacturers' supplied cable for connection to OEL8000IIIX-W controller. Model No. **DC-RX-SR-O-S3**

### **C. The liquid level probe**

1. Shall be DataStik series probes consisting of a 316 grade stainless steel **DS-1S / DS-2S** level probes or model **DS-1K / DS-2K** Kynar flexible level probes. Probe shall use magnetostrictive technology with single or five temperature sensing devices and a resolution of .01 inches. Probe shall come with DC-TX-S3-55 transmitter and

simultaneously provide product levels, water levels, and temperature within the storage tanks.

2. Floats for 2" and 4" applications shall be added. Model **SSF-2** for 2" openings and **BNF-4** or **SSF-4** for 4" openings.
3. For tanks requiring more precise water detection closer to the bottom of the tank, use **DS-2K-VB** style fixed bottom probes with **W6-VBH** hollowed out weight, **SSF-1-2W-VB** water float, **SSF-1-2** or **BNF-1-4** product float and **SFS** spacer float.
4. The level probe shall be installed in an accessible 2", 4" openings (or 6" for FB fixed bottom probes). Recommend using **U-JBK-1** Universal Junction box kits for protection of level probe cable.

### D. Overfill Sensors

1. Shall be FillCheck series sensors consisting of 316 stainless steel stem and floats, 2" NPT, Junction box, and mounting bracket. For Non floating roof tanks, use Model No. **FI-NM-MONO-D** for single point hi level sensors or Model No. **FI-NM-DC-D** for dual point hi/caution level sensors For Internal floating roof, use Model No. **FI-NM-V2-M-160"**. FI-NM model sensors must come with Mag Lift Checking mechanism. For External floating roof tanks, use Model No. **8160102FP** single level overfill sensor.
2. Provide each FillCheck sensor with wireless transmitter Model No. **DC-TX-S3-55** for transmission up to ¼ mile.
3. Recommend using Model No. **U-JBK-1** Universal Junction box kits for protection of overfill sensor cable
4. Level Sensors shall be installed in an accessible minimum 2" opening.

### E. Optional Overfill Station

1. Provide near each tank fill terminal (as required) a hardwired 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 overfill sensor 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. Optional 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 using X232-422-\* (\* denotes number of outputs)
4. BACnet using C232-BAC, C485-BAC, or CTCP/IP-BAC (must specify TCP/IP or MSTP output)

### G. Optional Remote display

1. If required, 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 alarms 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**)

If necessary, provide a wireless link that will allow communication between main ATG and RD7CTS (Part Number **WRS-232**) as manufactured by OMNTEC Mfg., Inc. Contractor shall supply **WRS-232R** repeaters as needed for distances greater than 500' or **WRS-232XR** for distances up to one mile.