**Issue Date: April 15, 2022**

**Franklin Fueling Systems**

**Franklin Fueling Systems EVO200, EVO400, EVO600 and EVO6000 with FMP-DDS-U Discriminating Dispenser Sump Sensor and FMP-DTS-U Discriminating Turbine Sump Sensor**

## INTERSTITIAL DETECTOR (LIQUID-PHASE)

**Detector:**

| | |
|---|---|
| **Output type:** | qualitative |
| **Sampling frequency:** | continuous |
| **Operating principle:** | float switch |

**Test Results:**

| | unleaded gasoline | diesel | E85 | water/E85 20%/80% upper/lower | water/E85 80%/20% upper/lower | water/E85 30%/70% upper/lower | Water/E85 70%/30% upper/lower |
|---|---|---|---|---|---|---|---|
| **FMP-DDS-U /DTS-U** | | | | | | | |
| Detection time (min) | 6.5 | 54.3 | 7.7 | 6.0 | 16.2 | 5.8 | 6.7 |
| Fall time (min) | <20 | <60 | <20 | <20 | <20 | <20 | <20 |
| Lower Detection Limit(in) | 0.125 | 0.125 | 0.125 | 0.125 | 0.125 | 0.125 | 0.125 |

| | water |
|---|---|
| **FMP-DDS-U** | |
| Detection time (min) | <1 |
| Fall time (min) | <1 |
| Threshold Level | |
| Low level (in) | 1.0759 |
| High level (in) | 7.4706 |
| **FMP-DTS-U** | |
| Detection time (min) | <1 |
| Fall time (min) | <1 |
| Threshold Level (in) | |
| Low level (in) | 1.0678 |
| High level (in) | 10.9636 |

**Applicability:**

**California Code of Regulations require a written statement of compatibility for systems containing products other than those used in this evaluation.**

**Comments:**
California requires annual certification of all leak detection equipment. The certification of discriminating sensors should include functional testing of both water and product detection capabilities. Sensors can only respond to liquid directly in contact with the detection element, and are unable to detect a product release floating on an existing pool of water whose height exceeds the level of the detection element.

Sensors can be removed, cleaned, and reinstalled if an alarm is triggered or if the sensor is periodically tested. The DDS-U and DTS-U sensors contain an identical product sensitive strip that triggers a product alarm when exposed to any type of fuel. The top and bottom floats of both types of sensors detect the presence of liquid and an alarm will be generated if the liquid rises above the threshold of either float. When the product sensitive strip was tested in each of the three mixtures of water/E85, the DDS-U and DTS-U sensors went into alarm when subjected to the top and lower layers of water/E85. For the upper layer containing hydrocarbon, the DDS-U sensor indicated a product alarm as designed for each of the 20%, 30% and 70% of the water/E85 mixture. For the lower layer of each of the 20%, 30% and 70% of the water/E85 mixtures, the 20% mixture indicated a product alarm after a short period of time, while the 30% and 70% mixtures indicated a water alarm when the threshold of the bottom float was exceeded but did not detect the presence of product after a period of 24 hours.

Franklin Fueling Systems
3760 Marsh Road
Madison, WI 53718
Tel: (800) 225-9787
email: info@franklinfueling.com
URL: www.franklinfueling.com

Evaluator: Ken Wilcox Associates
Tel: (816) 443-2494
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