

MODEL 3748 HAND HELD SIMULATOR

LEVEL METER TEST PROCEDURE

1. With the power to the control panel turned off, open the inner door to gain access to the control circuitry. Using the schematic attached to the inside of the inner door, locate the intrinsically safe barrier (I.S. Barrier). This device will serve as the connection point for all of the test procedures.
2. Record all of the connections to the I.S. barrier, making special note of the wire color code used. Then disconnect the transducer from the output (intrinsically safe) side of the barrier.
3. Connect the red simulator lead to the same terminal that the red level sensor lead was connected to on the I.S. barrier (also see the electrical schematic for the proper terminal identification).
4. Connect the black simulator lead to the same terminal that the black level sensor lead was connected to on the I.S. barrier (also see the electrical schematic for the proper terminal identification).
5. Switch the simulator rocker switch to the LEVEL position and the potentiometer knob to the full counterclockwise position. Turn the power to the panel back on. Gradually turn the potentiometer knob clockwise until the level meter reads the preset value, energizing the pump motor contactor. If this occurs as described the level meter and I.S. barrier are okay. A reading of -34.6 may indicate a defective I.S. barrier or level meter. If there is no display, additional tests will need to be performed to determine the cause.
6. Remove the corresponding transducer level meter wires from the input (non-intrinsically safe) side of the barrier and attach the simulator leads directly to the level meter wires using the alligator clips provided. Perform the same test procedure as described above to determine which electrical component(s) is defective.
7. Replace any defective electrical components. Use the simulator to confirm proper operation and return the panel to its original operating condition by reinstalling any wires that were removed. Use the electrical schematic to determine if all of the wiring has been reinstalled properly before turning the power back on.

NOTE: Some control panels may have multiple level meters and will require testing of each individual meter. The electrical schematic can be used to identify the proper connection points for the simulator leads.

FLOW METER TEST PROCEDURE

1. With the power to the control panel turned off, open the inner door to gain access to the control circuitry. Using the schematic attached to the inside of the inner door, locate the intrinsically safe barrier (I.S. Barrier). This device will serve as the connection point for all of the test procedures.
2. Record all of the connections to the I.S. barrier, making special note of the wire color code used. Then disconnect the paddlewheel from the output (intrinsically safe) side of the barrier.
3. Connect the red simulator lead to the same terminal that the white flow sensor lead was connected to on the I.S. barrier (also see the electrical schematic for the proper terminal identification).
4. Connect the black simulator lead to the I.S. barrier ground buss.
5. Switch the simulator rocker switch to the FLOW position and turn the power to the panel back on. Repeatedly press the PULSE button while watching the flow meter display. The meter will increment the total flow with each depression (approximately 8 pulses per gallon). If this occurs as described the flow meter is okay. No display indicates that additional tests will need to be performed.
6. Remove the corresponding paddlewheel wires from the input (non-intrinsically safe) side of the barrier and attach the red simulator lead directly to the black flow meter lead using the alligator clips provided. Attach the black simulator lead to the I.S. barrier ground buss. Perform the same test procedure as before to determine which electrical component(s) is defective.
7. Replace any defective electrical components. Use the simulator to confirm proper operation and return the panel to its original operating condition by reinstalling any wires that were removed. Use the electrical schematic to determine if all of the wiring has been reinstalled properly before turning the power back on.

NOTE: Some control panels may have multiple flow meters and will require testing of each individual meter. The electrical schematic can be used to identify the proper connection points for the simulator leads.