CIVACON CANE-PROBES

INSTALLATION AND WIRING INSTRUCTIONS

PART NUMBER

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1 PRODUCT DESCRIPTION

The CIVACON cane-probe sensors allow CIVACON's optic sensor and thermistor probe technology to be implemented in top-loading railcars and over-the-road tankers. The cane-probe optic or thermistor sensor, when connected to a CIVACON rack monitor, ensures that the railcar or tank is not allowed to be overfilled. When the sensor detects a pending overfill, the monitor causes the loading valves to be shut down electronically.

All sensor/probe models are intrinsically safe for Class. I, Division 1, Group D environments.

CAUTION!: *DO NOT apply power to the sensor/probe without thoroughly reading this manual and checking all connections.*

1.1 KAMLOK VERSION (1300KMLS)

This version of the cane-probe mounts on top-loading railcars and over-the-road tankers that have a **two-inch Kamlok** as the loading connection. It features CIVACON's optic sensor, which has a recessed prism to avoid damage. The sensor is normally 62 inches long, and is connected to a monitors' junction box through a 15-foot coiled and quick-release 7-pin connector. The sensing level can be adjusted by loosening the pronged knob and moving the probe up and down inside the Kamlok fitting.

1.2 CLAMP VERSION (1300HS)

This version of the cane-probe mounts on top-loading railcars and over-the-road tankers that do not have a two-inch Kamlok as the loading connection. The clamp is mounted on the side of the manhole. It features CIVACON's optic sensor, which has a recessed prism to avoid damage. The sensor is normally 62 inches long, and is connected to a monitors' junction box through a 15-foot coiled cord and quick-release 7-pin connector. The sensing level can be adjusted by loosening the pronged knob holding the probe in place and moving the probe up and down inside the clamp.

1.3 CLAMP VERSION (1551HS)

This version of the cane-probe mounts on top-loading railcars and over-the-road tankers that do not have a two-inch Kamlok as the loading connection. The clamp is mounted on the side of the manhole. It features CIVACON's Two-Wire optic sensor,that conforms to the Quick Start Black and White wire signal format and has a recessed prism to avoid damage. The sensor is normally 62 inches long, and is connected to a monitors' junction box through a 15-foot coiled cord and quick-release 7-pin connector. The sensing level can be adjusted by loosening the pronged knob holding the probe in place and moving the probe up and down inside the clamp.

1.4 VAPOR MOUNT VERSION (1600HTS)

This version of the cane-probe mounts on top-loading railcars and over-the-road tankers that have a one-inch NPT type female fitting for use as the loading connection. It features CIVACON's SST thermistor probe, which has a recessed thermistor bead to avoid damage. The sensor is normally 60 inches long, and is connected to a monitors' junction box through a 15-foot coiled cord and quick-release 7-pin connector. The sensing level can be adjusted by loosening the pronged knob holding the probe in place and moving the probe up and down inside the thread-on fitting.

Other sizes are available; please contact the factory for additional information.

2 INSTALLATION INSTRUCTIONS

After each sensor/probe is secured using the following directions, the adjustment knob may be loosened so as to reposition the sensor/probe in the clamp or nut to increase/decrease the fluid level to be detected. The seven-pin plug at the end of the coiled cord should them be plugged into the junction box for connection to the monitoring system.

2.1 KAMLOK VERSION (1300KMLS)

The 1300KMLS (Kamlok version) is connected to the railcar or the tanker by connecting the female-threaded Kamlok (CIVACON 633D) Coupling to the two-inch Kamlok (CIVACON 633A) Adapter fitting (or equivalent) installed on the tank.

2.2 CLAMP VERSION (1300HS or 1551HS)

The 1300HS (clamp version) contains two threaded stud knobs. The knob with the three-inch stud should be screwed into the lip of the manhole such that the clamp does not move. The knob with the smaller stud is used for adjusting the height of the sensor/probe.

2.3 VAPOR VERSION (1600HTS)

The 1600HTS (vapor version) is connected to the railcar or tanker by threading the one inch NPT hex fitting into the appropriate one inch male fitting. The vapor return line may be connected to the one inch NPT female opening on the side of the tee fitting.

Use Teflon® sealant tape or PST type sealant on ALL threaded fittings to ensure vapor tightness.

3 WIRING INSTRUCTIONS

Wire the circuit as shown in the following schematic drawings. Correct wire connections are important. Please adhere to the color convention shown. All connections in the junction box are screw terminals. Strip back the wires approximately one-quarter inch, insert into the terminal strip, and tighten the screws with a flathead screwdriver. The connections inside the rack monitor are normally made through crimp-on quick-connect terminals. Refer to the appropriate rack monitor installation manual for additional details. If these crimp-on terminals are not available, then the connections at the rack monitor may be made by loosening the screw terminals, placing a stripped wire under the appropriate connection plate, and tightening the screw terminal.

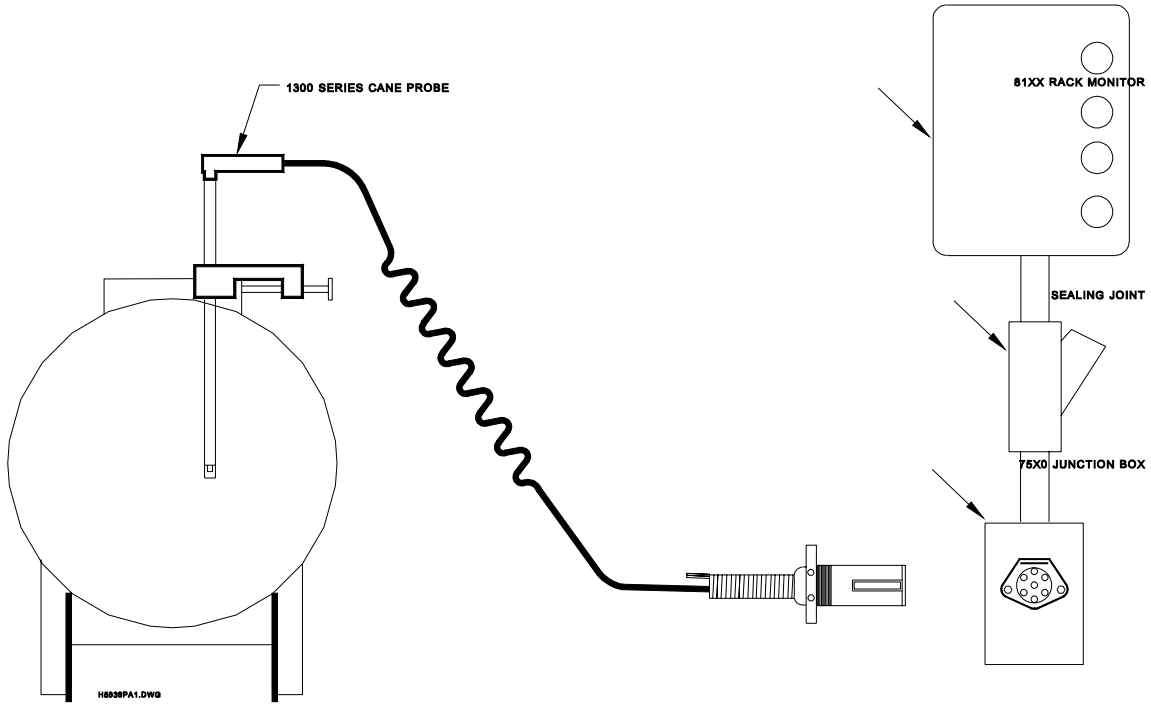

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FIGURE 1 - TYPICAL OVERALL CONFIGURATION, RAILCAR

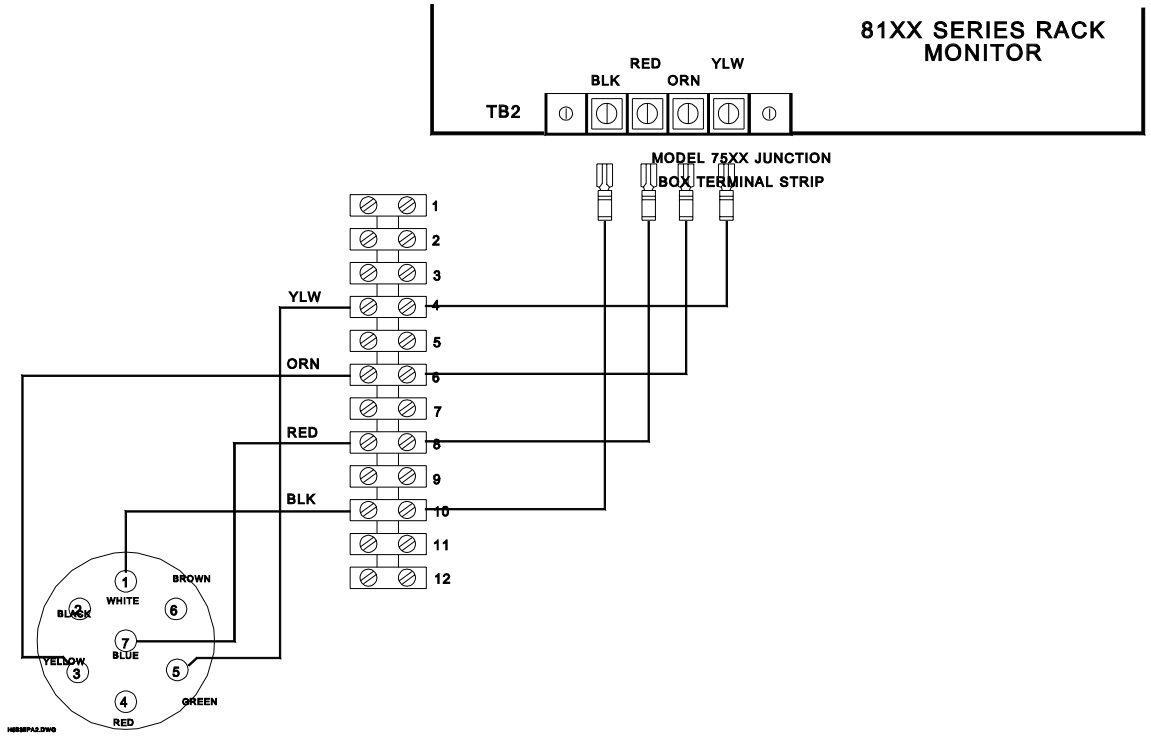

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FIGURE 2 - WIRING SCHEMATIC, OPTIC SYSTEM(1300)

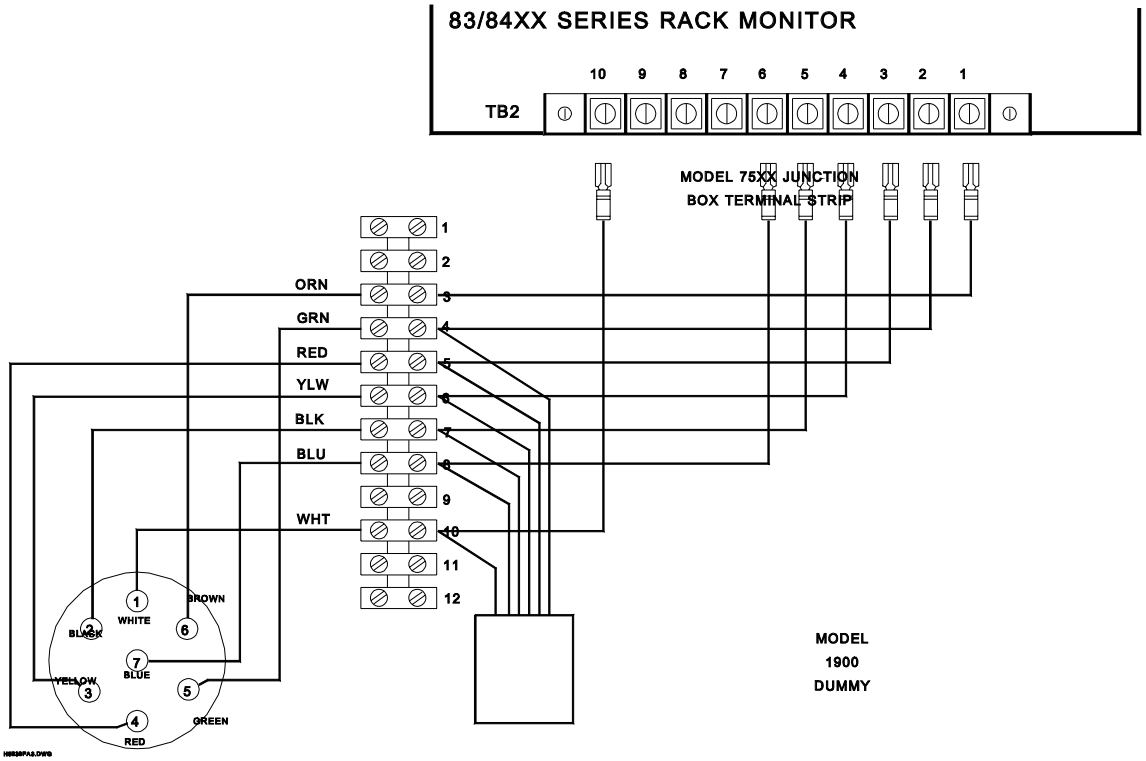

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FIGURE 3 - WIRING SCHEMATIC, THERMISTOR OR QUICK START SYSTEM 1551 or 1600

Connect the Model 1900 Dummy Unit to the terminal strip inside the Model 75xx Junction Box using the same color code as the wires going to the socket on the cover to the junction box. The above configuration depicts a SINGLE channel sensor/probe connection. Contact the factory for additional application information concerning multiple channels.

4 WARRANTY

All parts and products are thoroughly inspected and tested from the time raw material is received at our plant, until the product is completed. We guarantee that all products are free from defects in materials and workmanship for a period of one year from the date of shipment. Any product that may prove defective within said one year period will, at our option, be promptly repaired, or replaced, or credit given for future orders. This warranty shall not apply to any product which has been altered in any way, which has been repaired by any party other than an authorized service representative, or when such a failure is due to misuse or conditions of use. We shall have no liability for labor costs, freight costs, or any other cost or charges in excess of the amount of invoice for the products.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

WARNING:

CIVACON products should be used in compliance with applicable federal, state, and local laws and regulations. Product selection should be based on physical specifications and limitations, compatibility with the environment, and the material to be handled.

CIVACON MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE.

5 TECHNICAL ASSISTANCE

If at any time during the installation a question arises that is not covered in this Installation Instruction, or with any other applicable documents referenced, feel free to call the **CIVACON TECHNICAL ASSISTANCE LINE** :

In the U.S.A., Call 1-800-5 CIVACON (800-524-8226)

For the **CUSTOMER SERVICE DEPARTMENT**, call:
In the U.S.A., Call 1-800-526-5657 ; In other countries, call your local agent.

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