CIVACON – Portable "Cane" Sensors (Probes)

INSTALLATION / USE INSTRUCTIONS

H50838PA Rev. 7

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CIVACON Portable "Cane" Sensors (Probes) provide for portable overfill detection in cargo tank loading operations where a fixed sensor is not installed or is impractical to use, such as top loading of railcars. When properly used, our Portable "Cane" Sensor, in conjunction with and when connected to a CIVACON compatible Loading Rack Monitor, will help ensures that an impending overfill condition in the railcar or tank is properly detected.

Using CIVACON's optic sensor technology, when the Portable "Cane" Sensor detects liquid (a pending overfill condition), the connected Loading Rack Monitor will signal this, via its relay output contacts changing status to a "non-permissive" state. The Loading Rack Monitor's relay output contacts can be interlocked as the application requires to shut down or prevent the loading of the cargo tanker.

All CIVACON Portable "Cane" Sensors models are intrinsically safe for use in hazardous areas per their individual ratings packaged with each product. ALL are industry standard '5-Wire Optic" signal format (to the Loading Rack Monitor).

This Installation Instruction Covers both Model Series 1300xx-xxxxC (Aluminum Construction with CivaStar Sensor) and Model Series 1400xx-xxxxL (Stainless Steel Construction with Civacon / Liquip Sensor). Both "open dome" clamping style attachment to cargo tanker, as well as "closed loading" cam & groove style attachment to cargo tanker are also covered.

1.0 MODEL DETAILS

1.1 1300HS Series Models (with Aluminum Wetted Materials) – Per Figure 1

Part Numbers 1300HS – x 0 yy C – *Which have an "open dome" clamping style attachment*

- Where the "x" = "0" for a 15-foot (4.6 m), or "3" for a 30-foot (9.2 m) coiled cable
- Where the "yy" = Model Length (available in 20, 36, 48 or 62 inches (50.8, 91.5, 121.9 or 157.5 cm)
    - **Example Model / Part No. 1300HS-0036C (15-foot coiled cable, 36-inch long**
- **Part Numbers 1300KMLS – x 0 yy C –** *Which have a "closed loading" 2-inch cam & groove style connection / attachment*
    - **Example Model / Part No. 1300KMLS-3048C (30-foot coiled cable, 48-inch long**

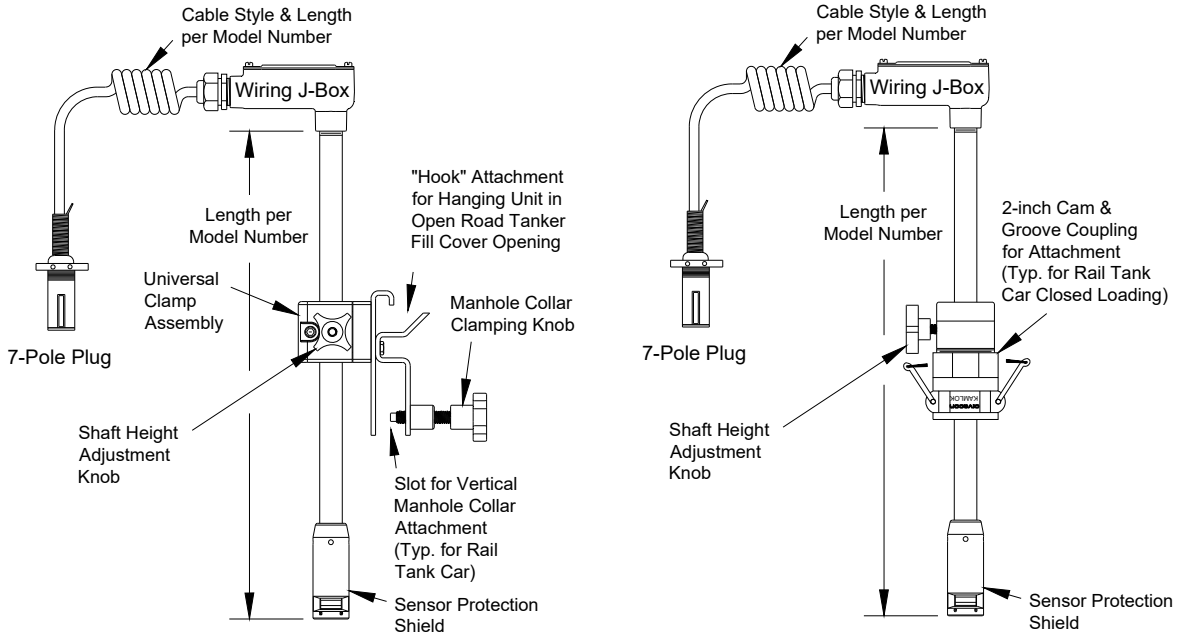

FIGURE 1 – Models 1300HS (left) and 1300KMLS (right) – Aluminum Wetted Materials

1.2 1400RHS Series Models (with Stainless Steel Wetted Materials) – Per Figure 2

Part Numbers 1400RHS – x 0 yy C – *Which have an "open dome" clamping style attachment*

- Where the "x" = "0" for a 15-foot (4.6 m), or "3" for a 30-foot (9.2 m) coiled cable
- Where the "yy" = Model Length (available in 20, 36, 48 or 60 inches (50.8, 91.5, 121.9 or 152.4 cm)
    - **Example Model / Part No. 1400RHS-0036C (15-foot coiled cable, 36-inch long**
- **Part Numbers 1400KMLS – x 0 yy C –** *Which have a "closed loading" 2-inch cam & groove style connection / attachment*
    - **Example Model / Part No. 1400RKMLS-3048C (30-foot coiled cable, 48-inch long**

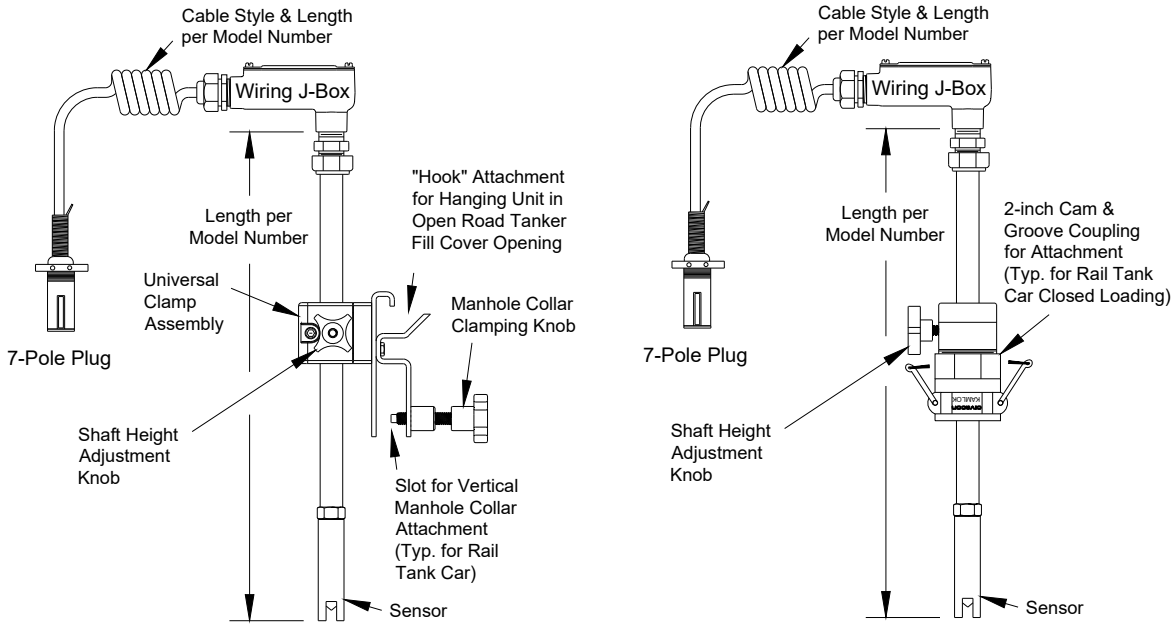

FIGURE 2 – Models 1400RHS (left) and 1400RKMLS (right) – Stainless Steel Wetted Materials

2.0 INSTALLATION INTO TANKER APPLICATION

2.1 1300HS *or* 1400RHS Series Models (for Open Loading)

The 1300HS **and** 1400RHS Series both feature a "Universal" Clamp style of attachment that is meant for use "clipped into" an open fill cover opening of a typical over-the-road cargo tanker or "slid onto" the upright manhole collar of an open manhole on a typical general service rail tank car. The Manhole Collar Clamping Knob can be tightened to secure the Sensor upright in the rail tank car's opening. Once secured, the smaller Shaft Height Adjustment Knob can be loosened, and the Sensor's Shaft slid up or down to the desired shut off depth. Tighten this knob securely after height adjustment.

2.1 1300KMLS *or* 1400KMLS Series Models (for Closed Loading with Vapor Recovery)

The 1300KMLS **and** 1400RKMLS Series "Kamlok" models both feature an industry standard 2" Cam & Groove Coupler style of attachment that is meant to be "coupled onto"' a mating Adaptor on the over-the-road cargo tanker or general service rail tank car. Once secured, the smaller Shaft Height Adjustment Knob can be loosened, and the Sensor's Shaft slid up or down to the desired shut off depth. Tighten this knob securely after height adjustment.

3.0 ELECTRICAL CONNECTION TO LOADING RACK MONITOR

Most Models of CIVACON Portable Cane Sensors come pre-wired with an industry standard SAE J-560, 7-Pole Plug for quick, easy, and secure connection to the Loading Rack Monitor. Civacon offers the proper Junction Box, with a pre-wired mating 7-Pin Socket to accept the Sensor's Plug. Details of typical mating Model Series 7540 Junction Box installation and interconnections are shown below in Figure 3.

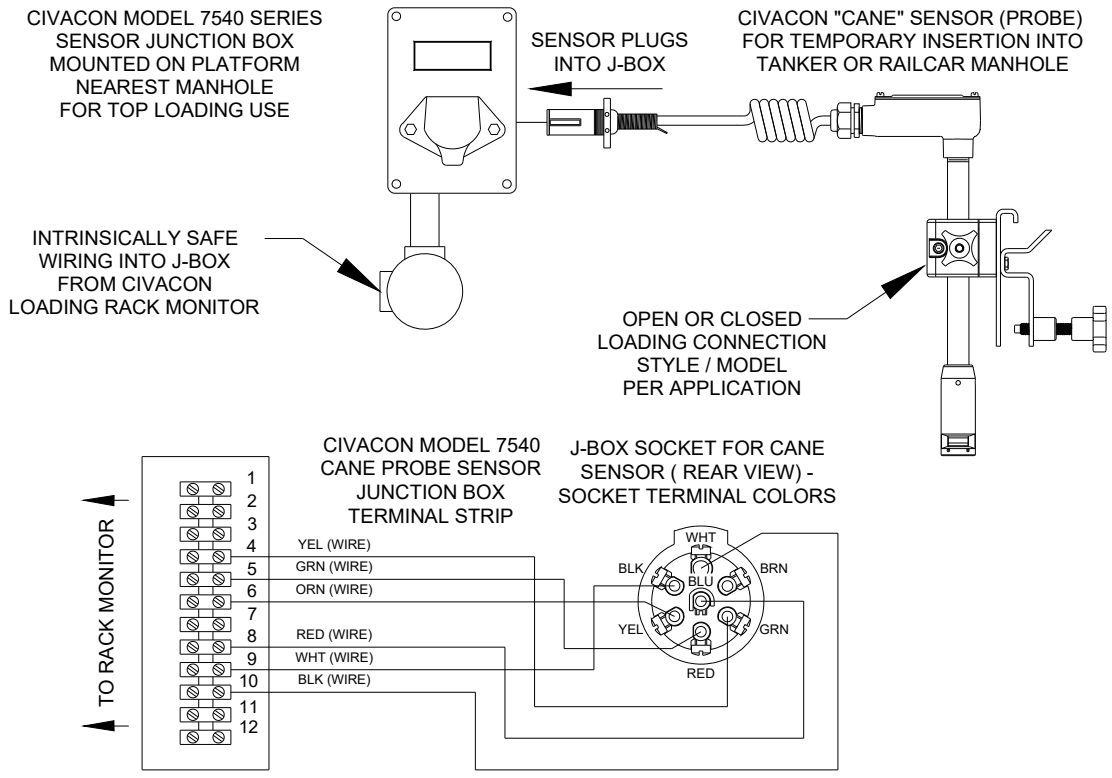

FIGURE 3 – Installation & Interconnection of Sensor Junction Box

The wire colors shown above are as per Civacon factory pre-wiring between the 7-pole cover socket and the Junction Box's internal terminal strip. The (not shown) wiring between the Civacon Model Series 7540 Junction Box's internal terminal strip and the Civacon Loading Rack Monitor will vary, depending upon specific model of Rack Monitor being used. Refer to specific and proper interconnection details in each Rack Monitor's installation instructions. The CIVACON Portable Cane Sensors simply plugs into the mating Socket on the face of the Junction Box.

4.0 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 more than 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 installed and 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.

5.0 TECHNICAL ASSISTANCE

Technical Assistance in the U.S.A.

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

OPW/CIVACON – ELECTRONICS TECHNICAL ASSISTANCE LINE:
In the U.S.A., Call 1-800-5 CIVACON. (800-524-8226)

OPW/CIVACON – CUSTOMER SERVICE DEPARTMENT:
In the U.S.A., Call 1-888-526-5657

IN ALL OTHER COUNTRIES: Contact your local OPW/CIVACON agent.