

FILL-RITE®

900CDP Pulser Troubleshooting

Agenda

- General items to check before trying to determine if there is something defective in the FMS, IS barrier, meter, or wiring.
 - DIP Switch Settings in FMS
 - Voltage from FMS
 - Voltages on IS Barrier
- Specific Troubleshooting steps for the:
 - FMS
 - Wiring between the FMS and the IS barrier
 - IS barrier
 - Wiring between the IS barrier and the 900CDP meter
 - 900CDP

DIP Switch Settings in FMS

- If there are DIP switches in the FMS that set the pulser type as active or passive, set the switches for **passive**.
 - Active pulsers supply a voltage to the FMS.
 - Passive pulsers switch the voltage that is provided by the FMS.
- If there are DIP switches in the FMS that set the pulser as electronic or mechanical, set the switches for **electronic**.
 - The mechanical setting typically adds additional filtering to filter out additional pulses caused by reed switch bounce.
- The FMS usually will have DIP switches for both settings listed above. Be sure to set them both.

Voltage from FMS

- The FMS must provide a voltage to the 900CDP IS barrier. The barrier simply acts as a contact closure type pulser.
- The barrier can handle 5 to 170 VAC or VDC. The FMS typically provides around 12 VDC.
- Here is the pulser connection on an OPW K800 FMS. You should see a voltage between pulser common and pulser signal.
- Check the voltage before connecting any wires to the IS barrier.

PULSER COMMON

A

PULSER SIGNAL

B

PULSER POWER

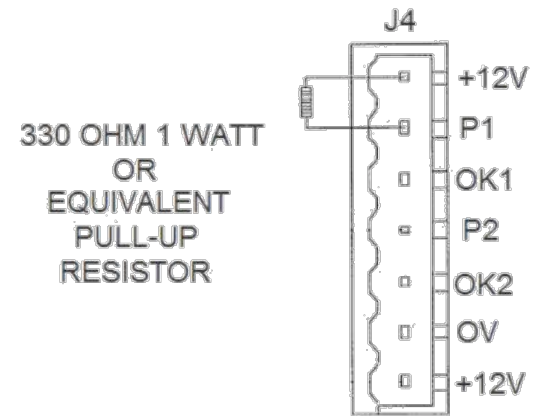
C

EARTH GROUND

D

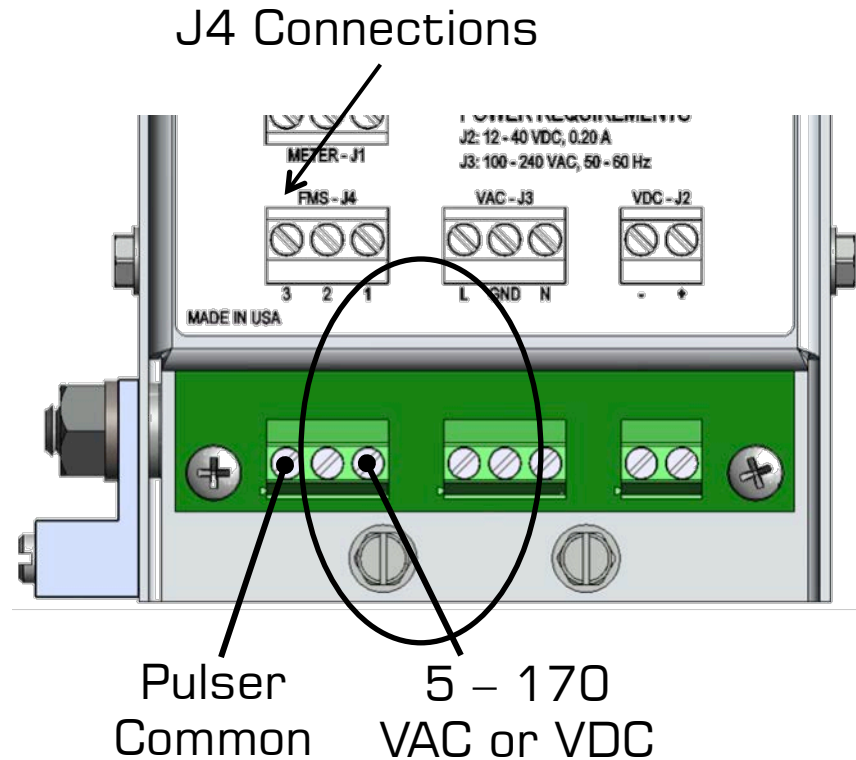
Voltage from FMS

- If there is no voltage available, double check your DIP switch settings.
- Some FMS units do not provide the voltage. In this case, you will need to use a pull-up resistor to supply the voltage as shown in this FuelMaster pulser wiring diagram.
- Here P1 and OV would be wired back to the IS barrier:



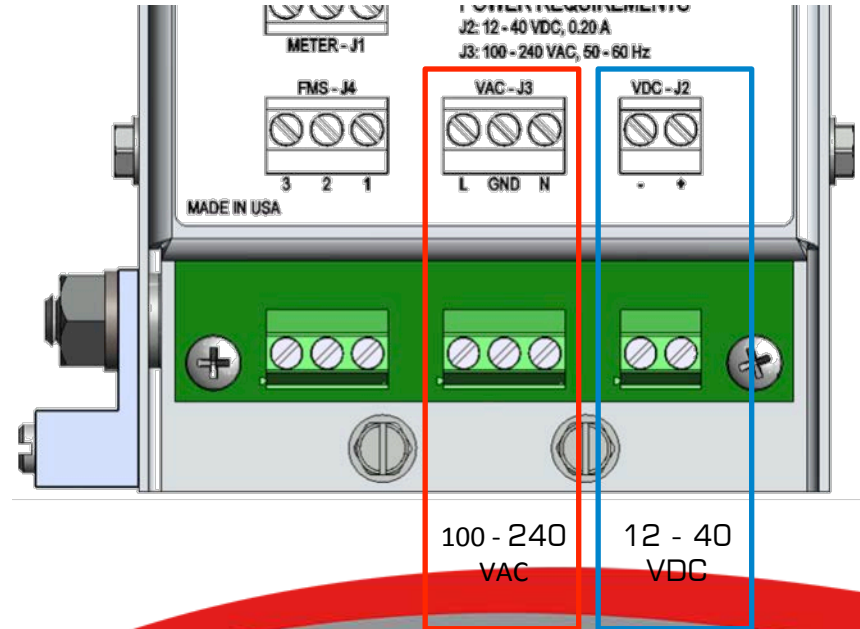
Voltage from FMS

- The voltage from the FMS is connected to J4 on the IS barrier as shown below.
- Be sure that the pulser common and the voltage wires are connected to the IS barrier as shown. If they are reversed, there will be no pulse.



Voltages on IS Barrier

- The IS barrier can be powered by either AC or DC power.
 - **AC power** is connected to terminal J3 as shown on the barrier. While the max voltage is 240 VAC, the barrier ***must*** have a neutral wire connected.
 - **DC power** is connected to terminal J2 as shown on the barrier.
- **DO NOT** power the
- Barrier with both AC *and* DC power. Doing so will damage the IS barrier.



Voltages on IS Barrier

- Voltages on terminal J1 (output to the 900CDP) should be as shown in the table below.

J1 Connections



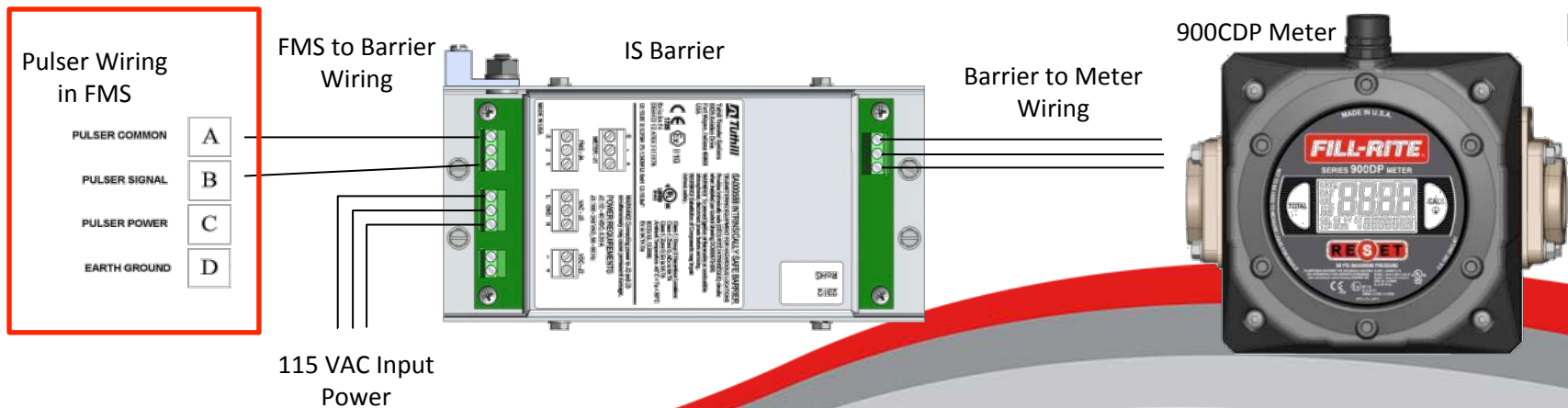
Barrier Power	Voltage Measured Between	
	(+) and (-) Terminals	(S) and (-) Terminals
12 VDC	11 – 12 VDC	9 – 10 VDC
115 VAC	11 – 12 VDC	10 – 11 VDC

Troubleshooting

- Place the FMS in manual mode and leave it in manual mode until you have determined which component or wiring is creating the issue.

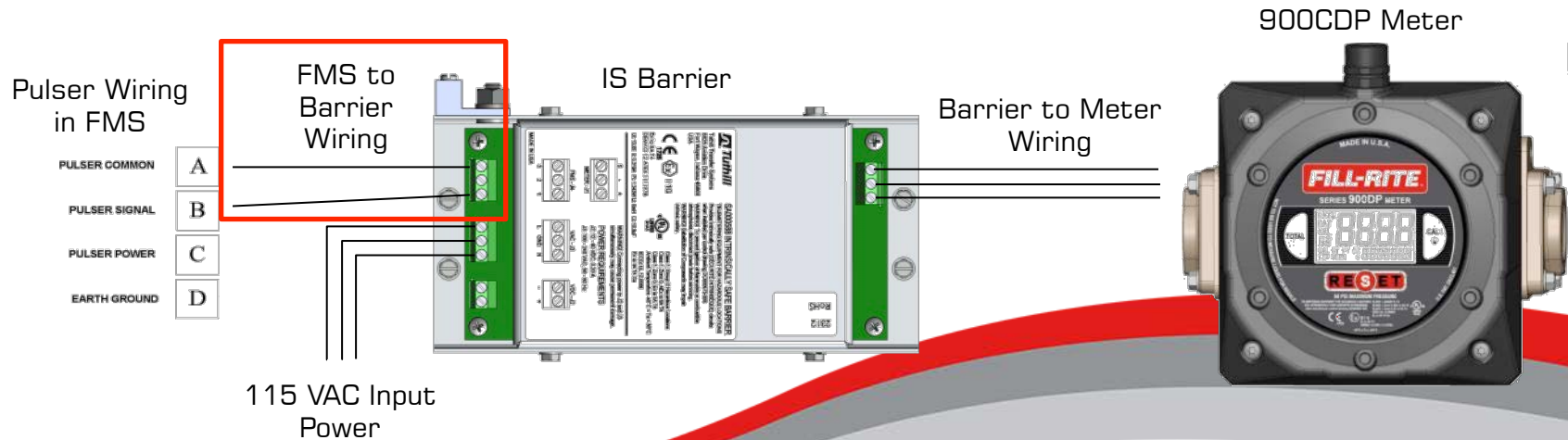
Troubleshooting - FMS

- To check the FMS hardware, disconnect the FMS to barrier wires inside the FMS. Be sure you note where the wires were connected!
- Take a short wire and strip both ends. Connect one end to the Pulser Common terminal in the FMS.
- Manually pulse the other end of the wire to Pulser Signal terminal.
- If the pulser LED flashes in the FMS, the FMS hardware is ok.
- Re-connect the FMS to barrier wires to the same terminals you removed them from.



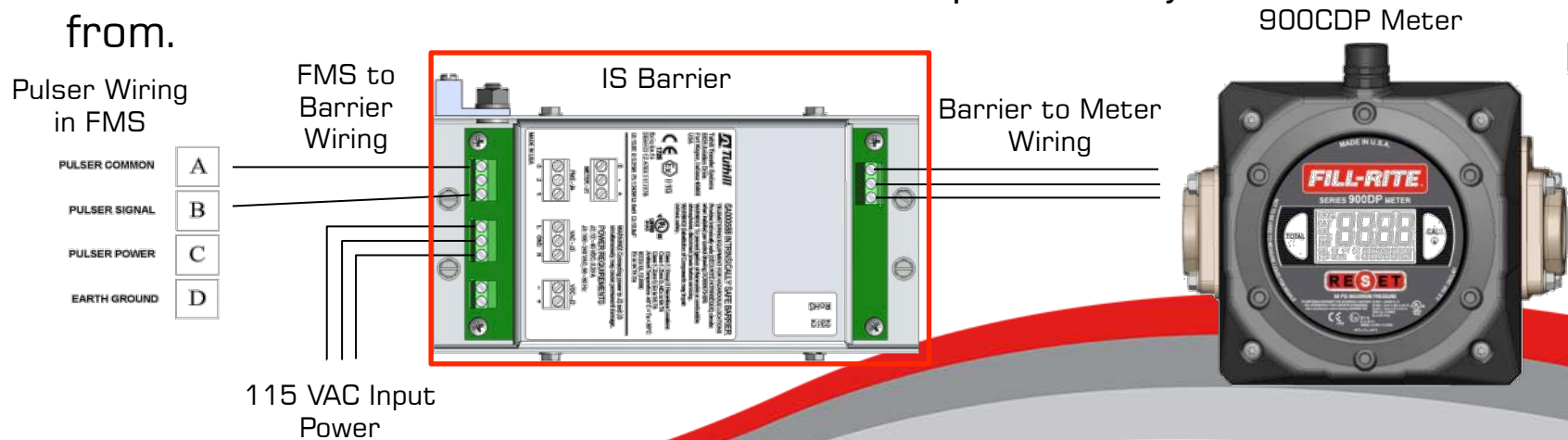
Troubleshooting – FMS to Barrier Wiring

- To check the FMS to barrier wiring, disconnect the wires at terminal J4 on the barrier, again taking note of which wire was on which connector.
- Manually tap the ends of the two wires together.
- If the pulse LED in the FMS flashes each time the wires connect, the wiring between the FMS and the barrier is ok.
- Re-connect the wires to the barrier. Be sure to connect the wires to the correct position on the barrier.



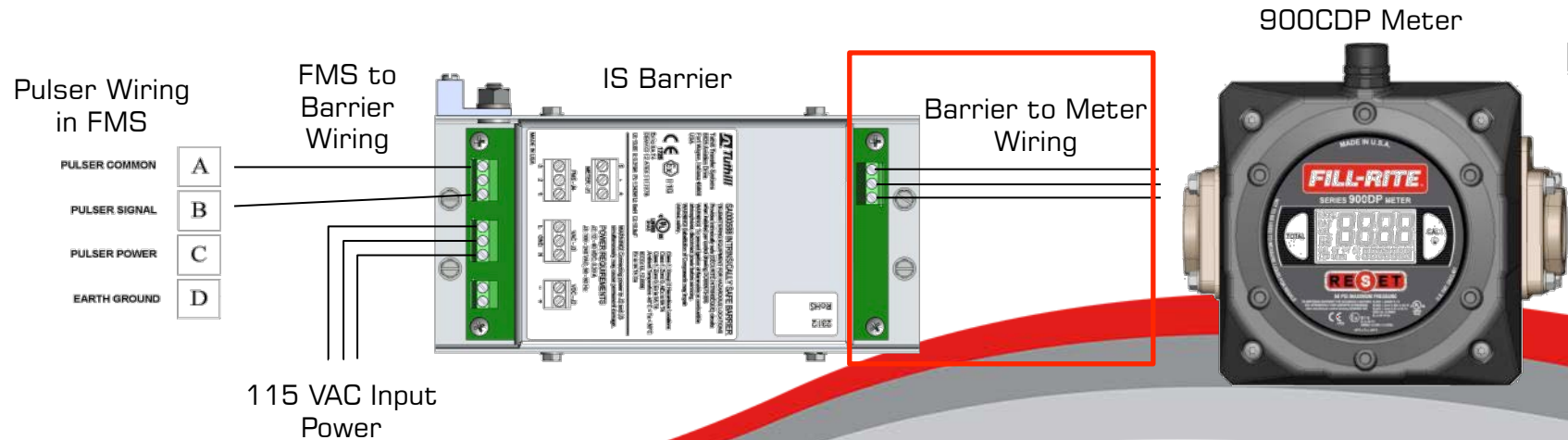
Troubleshooting – IS Barrier

- To check the barrier, disconnect the barrier to meter wiring at terminal J1 on the barrier. Note where the wires are terminated on J1.
- Using the short wire with the ends stripped, secure one end to the (-) connection on terminal J1.
- Manually tap the other end of the wire to the (S) connection.
- If the pulse LED in the FMS flashes each time you tap the (S) connection, the barrier is ok.
- Re-connect the wires to J1 in the same positions you removed them from.



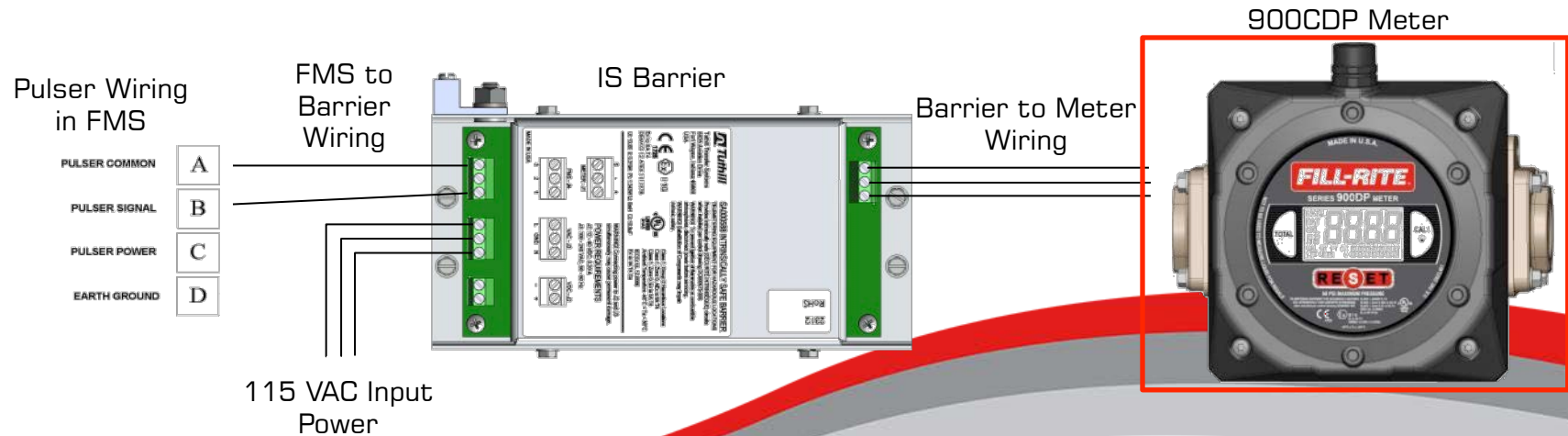
Troubleshooting – Barrier to Meter Wiring

- To check the barrier to meter wiring, disconnect the (S) and (-) wires at the meter (under the faceplate of the meter), again taking note of which wire was on which connector.
- Manually tap the ends of the two wires together.
- If the pulse LED in the FMS flashes each time the wires connect, the wiring between the barrier and the meter is ok.
- Re-connect the wires to the meter. Be sure to connect the wires to the correct position on the barrier.



Troubleshooting – 900CDP Meter

- On the 900CDP meter, be aware that if you have the units set to pints, ounces, or user defined, there will be no pulse output.
- If everything from the FMS through the barrier to meter wiring checks ok, replace the meter.



Revisions

- October 14, 2014
 - Changed model number: New C series with 8 bolts.