CS9-11 Resistivity Sensor Substitute Instructions

For use with the 900 Series Multi-Parameter Monitor/Controller COND/RES1 and COND/RES2 input channels set to resistivity.

⚠ **WARNING**	Remove power to the instrument's power input and all relays by interrupting them at the main power panel or circuit breakers before servicing the back panel or any of the wiring/connectors. Failure to do so could cause damage to the instrument and be harmful or fatal to personnel. Only qualified personnel should install or service electrical equipment.

NOTE: Calibration using a CS9-11 Resistivity Sensor Substitute does not take the sensor condition or cable into account.
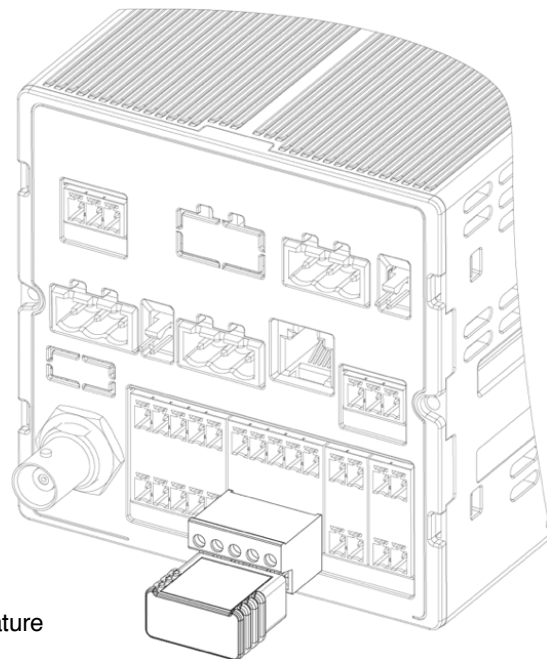
To verify and/or calibrate the resistivity circuitry using a CS9-11 Sensor Substitute:

1. Turn the system's power supply OFF (see WARNING above).
2. Remove the resistivity sensor connector from the back panel.
3. Plug the CS9-11 Sensor Substitute into the desired resistivity terminal block (COND / RES 1 or COND / RES 2).
4. Turn the system's power supply ON.
5. Set the sensor cable length to zero:
    a. From the desired input channel's "Detailed Operating Screen", tap the **ADJUST** button to enter EDIT Mode.
    b. Tap the Input Channel button on the top center of the screen.
    c. Tap the **ACCEPT** button to bypass sensor selection.
    d. Tap the "Cable Length" field.
        i. Record the cable length to reprogram after verification.
    e. Using the keypad, change the cable length to 0.00 then tap "Enter".
6. Set the Cell Constant to 0.0500:
    a. Tap the "Cell Constant" field.
        i. Record the sensor's cell constant to reprogram after verification.
    b. Using the keypad, change the cell constant to 0.0500 then tap "Enter".
    c. Tap the **ACCEPT** button.
7. Perform the verification and/or calibration:
    a. If performing an electronics verification:
        i. Verify the displayed resistivity reading is 20.0 MΩ ±0.1 and the temperature reading is 25.0°C ±0.1.
        NOTE: If there has been any previous adjustment to the resistivity and/or temperature calibration on the selected input channel, those changes will be reflected in the displayed values.
        To see the raw (uncalibrated) values, perform a FAC CAL on both the resistivity and temperature for the selected input channel (erasing any user adjusted calibration).
    b. After verifying the displayed values, skip to line 9.

    – or –

    c. If performing a calibration continue to Line 8.
8. Perform the resistivity calibration:
    a. From the desired input channel's "Detailed Operating Screen", tap the **ADJUST** button to enter EDIT Mode.
    b. Tap the primary measurement value displayed on the screen to enter Calibration Mode.
    c. Using the up/down arrows, adjust the displayed reading to 20.0 MΩ.
    d. Tap the **ACCEPT** button to accept the value and exit Calibration Mode.
9. Turn the system's power supply OFF (see WARNING above).
10. Remove the Sensor Substitute.
11. Reconnect the resistivity sensor.
12. Turn the system's power supply ON.
13. Reprogram the resistivity sensor's cable length:
    a. From the desired input channel's "Detailed Operating Screen", tap the **ADJUST** button to enter EDIT Mode.
    b. Tap the Input Channel button on the top center of the screen.
    c. Tap the **ACCEPT** button to bypass sensor selection.
    d. Tap the "Cable Length" field.
    e. Using the keypad, enter the sensor's cable length, then tap "Enter".
14. Reprogram the Cell Constant:
    a. Tap the "Cell Constant" field.
    b. Using the keypad, enter the sensor's cell constant, then tap "Enter".
    c. Tap the **ACCEPT** button.
15. Tap the gray measurement value to return to normal operating mode.