

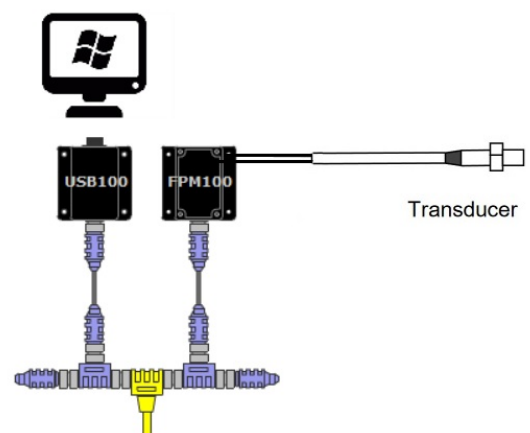
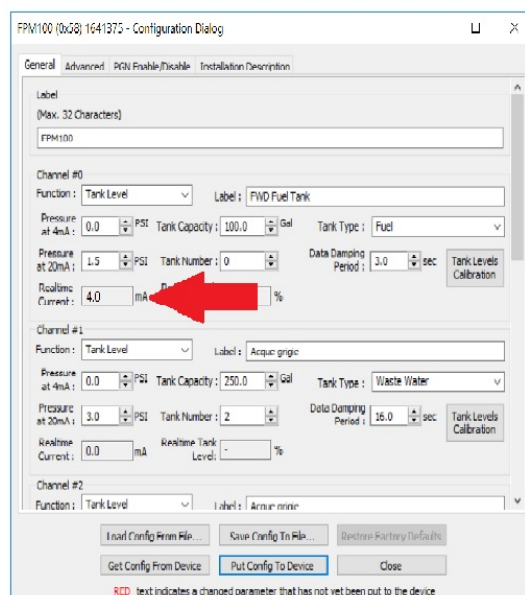
# Testing a 4-20mA Transducer

Testing a 4-20mA Transducer both Maretron and 3rd party.

Please keep in mind of all safety procedures while performing any troubleshooting.

## Testing transducer while still connected to NMEA2000® via Maretron FPM100 or CLM100

- Components required
  - PC running N2KAnalyzer
  - NMEA2000® gateway – USB100 or IPG100
  - Maretron FPM100 or CLM100
  - 4-20mA transducer



- Interface your connections to a single channel on either the Maretron FPM100 or CLM100 being attentive to positive and negative polarity.
- Connect your PC via N2KAnalyzer to the NMEA2000® network
- Locate the appropriate FPM100 or CLM100 you have connected your 4-20mA transducer to and select **Configure Device**
- Review the **real time current** being detected by the system, this value should be within the range of 4-20mA
- If feasible, remove/disconnect the transducer from the tank or device that is being monitored and identify whether a change in value has occurred.
  - Typically, this should result in the atmospheric pressure reading and output roughly a 4mA reading on most units
  - Additionally, after reviewing the results, migrate the leads to another open channel on the FPM100 or CLM100 and again review the measured real time current which should be within the 4-20mA range.

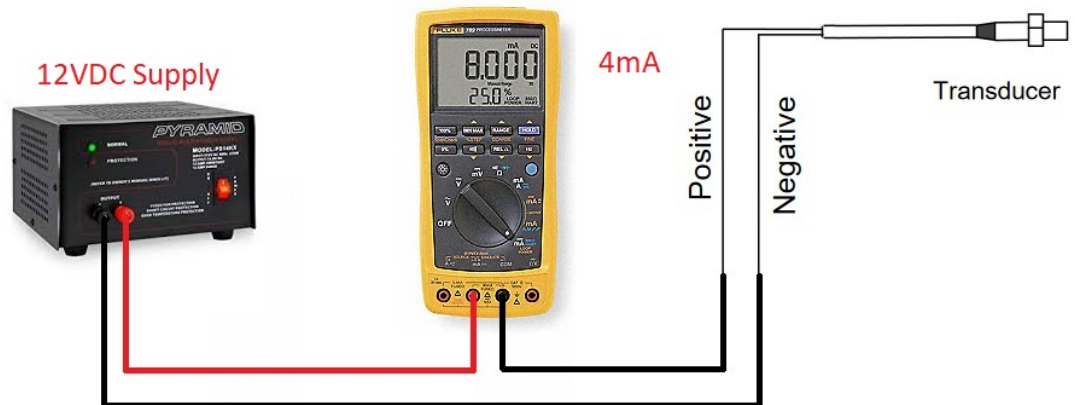
\* Take note \*

This testing procedure is still relying on the principle that the Maretron FPM100 or CLM100 is free from any defect. A transducer may indeed still be operating within its design specs but an internal issue within the Maretron FPM100 or CLM100 may not be converting this measured value appropriately or an incorrect voltage is being supplied to the circuit. The issues listed should affect the entire Maretron component across all channels, it is less likely that a single channel may be at fault.

### Testing transducer completely isolated

- Components required

- 12VDC bench power supply, preferably controlled output
- Digital multimeter with ability to read amperage in the mA range
- 4-20mA transducer



- Within power disabled, connect your components as illustrated in the diagram.
  - Connection leads may need to be positioned differently on digital multimeter when measuring current instead of voltage.
    - Please review manufacture's documentation for your model multimeter if this is unclear
  - Connection leads and color code designations may differ depending on manufacture and generation
    - Please review manufacture's documentation for your model transducer if this is unclear
- Energize the circuit with the 12VDC supply and review the detected results.
- With the transducer exposed to open air/atmospheric pressure the readings should be roughly 4mA.
- If feasible, you can introduce a slight volume of air (blow on it) or movement to the item depending on the class of sensor to review in the

current value changes.

- Please keep in mind the measured values should still maintain between 4-20mA in value.
- If the readings maintain a 4-20mA reading, review the interface component that the unit is associated with; Maretron FPM100 or CLM100.

If you have any additional questions, please contact Maretron technical support at **(866) 550-9100**.

Online URL:

<https://www.maretron.com/wp-content/phpkbv96/article.php?id=703>