InnovaSonic 203

Quick Install Guide

This Quick Install Guide is Applicable for the InnovaSonic® 203.

A copy of this Quick Install Guide and the 203 product instruction manual are included on the product information CD included in your shipment. The information is also available for download.

Keypad Functions

The InnovaSonic 203 keypad offers 16 tactile keys with 12 dual-function keys for easy operation of the menu system and setup. The quick-key functions are enabled by pressing directly on the related key. You do not need to press the Menu key to enable quick-key functions. For example, pressing rate 1 will show maximum flow rate and pressing total 2 will show totalized flow. See the 203 Instruction Manual, Chapter 2 for detailed explainations of all they keys.

Figure 1. 16 Tactile Keys With 12 Dual-Function Keys

Follow these guidelines when using the InnovaSonic 203 menu system:

- Keys zero 0 to signal 9 are the menu codes to input information required for flow measurement.
- Push diag. < to backspace or delete characters to the left.
- Use ^/+ and v\- to return to the previous menu or to open the next menu. These keys act as "+" and "-" functions when entering numbers.
- Menu is used to select two digit numbers from the menu. To enter a selected menu, press Menu key first then press your selected digit numbers. Hit enter to save the selected menu. For example, to input a pipe outside diameter, press Menu rate 1 rate 1 keys, where "11" is the window ID to display the parameter for pipe outside diameter.

Installation Steps

1. Open the hinged top cover of the electronics (See Figure 2). Make the minimum connection which is the DC power, downstream transducer, and upstream transducer. Figure 2 also shows the relay, OCT, 4-20 mA output and RS-485 (standard option) communication connections. Note: On the meter, the upstream transducer cable is coded red and the downstream is blue.

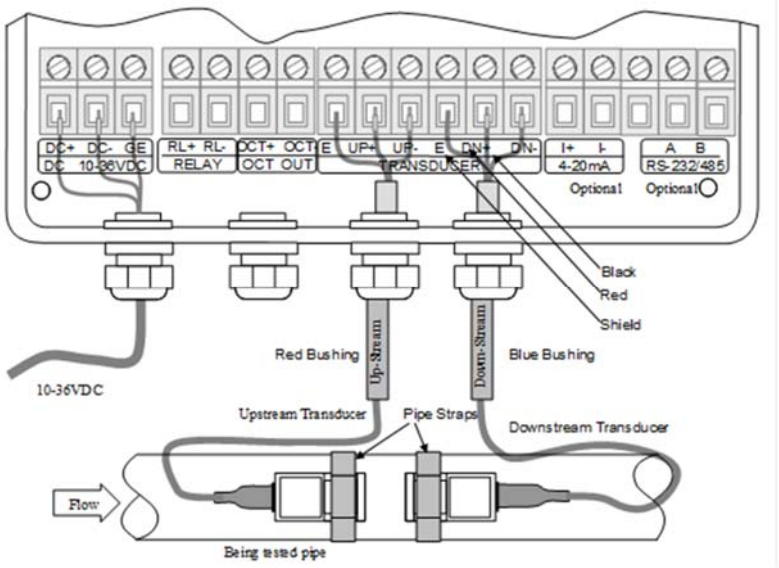
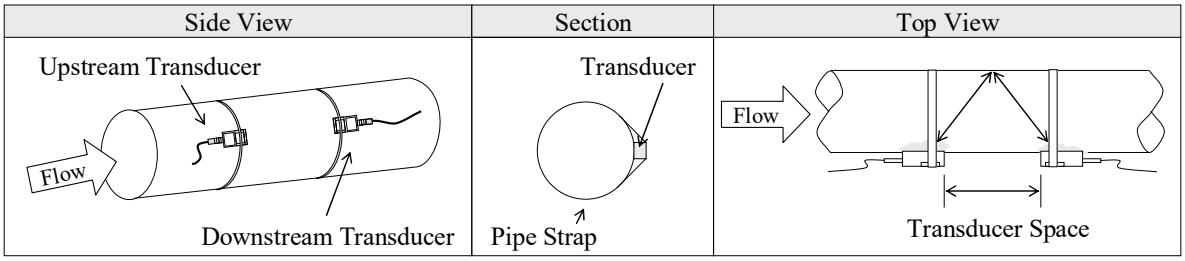
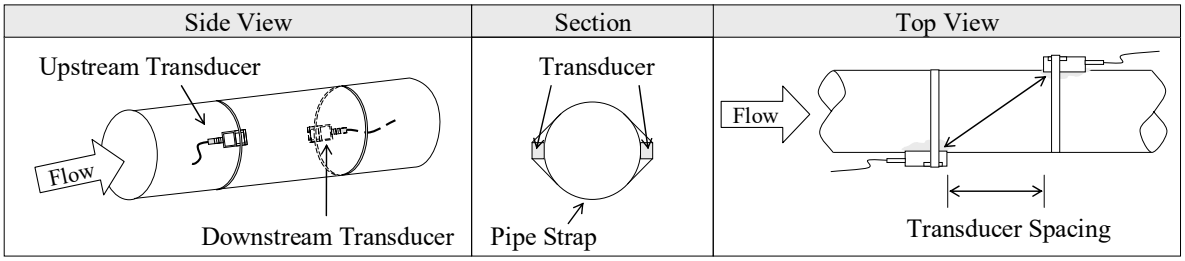


Figure 2. Transmitter Connections

2. Select the mounting location and method depending on the pipe diameter.



V Method: Pipes 50mm to 400mm (2 inches to 16 inches)…signal bounces off pipe wall



Z Method Pipes: 400mm to 1200mm (16 inches to 48 inches)…signal is directly transmitted

3. Select the measurement site on a straight section of pipe with 10D (10 pipe diameters) upstream and 5D downstream (See Figure 3). The transducers are usually installed at the 3 o'clock and 9 o'clock positions on the pipe. Avoid installation at 6 o'clock and 12 o'clock positions (See Figure 4).

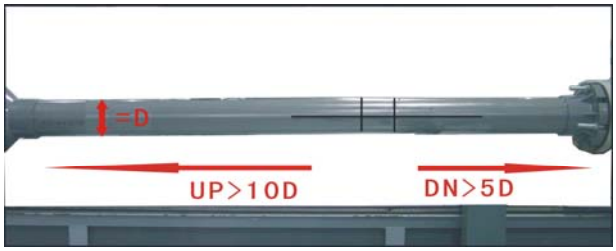


Figure 3. Upstream and Downstream Pipe Diameter Example

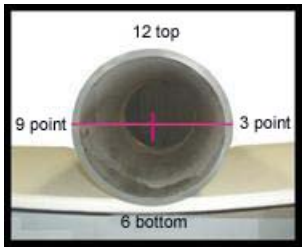


Figure 4. Optimal Transducer Installation Location

4. Power up the electronics with DC power.

5. Enter the pipe set up parameters.
   Note:
   a) The distance (spacing) between the upstream and downstream transducers is calculated using the pipe parameters you enter.
   b) The meter accuracy is only as good as the parameters you enter.
   c) Metric or English measuring units are selected in Menu 30.

Step 1. Pipe Outer Diameter

Press Menu rate 1 rate 1 , then Enter to enter the pipe outside diameter. Press Enter to accept the changes.

Step 2. Pipe Wall Thickness

Press Menu rate 1 total 2 , then Enter to enter the pipe wall thickness. Press Enter to accept the changes.

Step 3. Pipe Material

Press Menu rate 1 cool cap. 4 then Enter . Use the ^/+ or v\- keys to select pipe material from the drop-down list, and then press the Enter key to accept.

Step 4. Transducer Mounting Methods

Press Menu total 2 cool cap. 4 then Enter. Use the ^/+ or v\- keys to select transducer-mounting method from the drop-down menu, and then press the Enter key to accept.

Step 5. Transducer Spacing

Press Menu total 2 heat cap. 5 to see the calculated transducer spacing. Accurately install the transducer according to the displayed transducer mounting spacing and the selected mounting method.

6. Use the calculated Transducer Spacing for transducer spacing during installation.

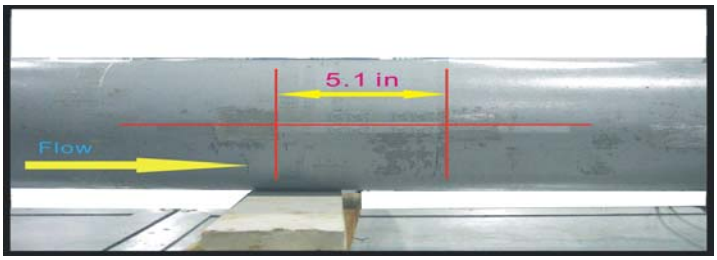


Figure 3. Pipe Orientation and Preparation (Cleaning)

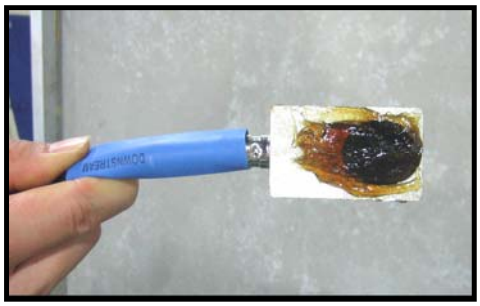


Figure 4. Applying Coupling Grease to Transducers

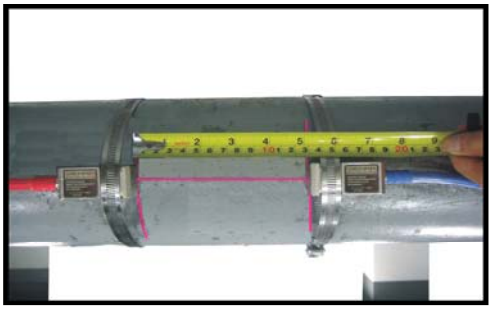
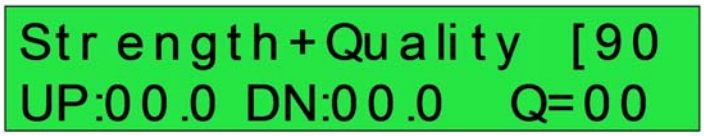


Figure 5. Mounting Transducers

7. Verify the transducers mounting and signals. The pipe must be 100% full of fluid before proceeding.

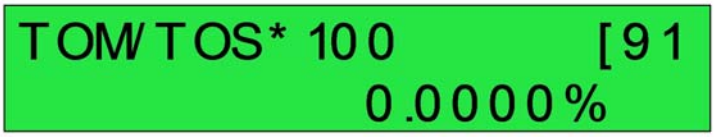
Step 1. Signal Strength & Quality

Press signal 9 or Menu signal 9 zero 0 for the signal strength and quality of the installed transducers. Acceptable signals would be UP and DN signal strength of at least 60 and the signal quality (Q) of at least 50.



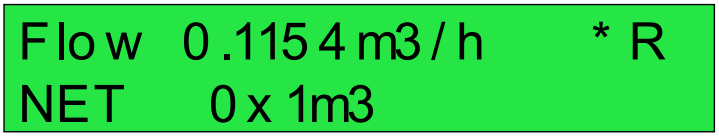
Step 2. TOM/TOS

Press Menu signal 9 rate 1 to displays the TOM/TOS. This is the ratio of the measured transit time over the calculated transit-time. An acceptable ratio is 100±3%. If this is out range, check the spacing, pipe parameters, and fluid sound velocity. Flow measurements may not be accurate if this is out range.



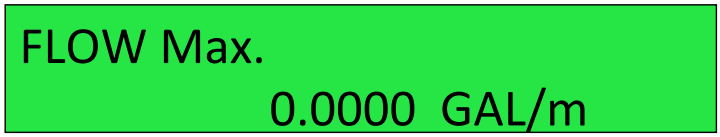
Step 3. Flow Rate Display

To read the flow rate, press Menu zero 0 zero 0. You should see the flow rate, the flow units, *R (Normal Operation code), and the Net Totalizer count. If you do not see the R* code, go back and check the signal strength, Q, and TOM/TOS. Other codes are explained in the 203 Instruction Manual, Chapter 2.

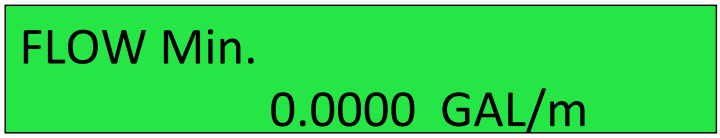


8. Press the rate 1 to show various flow information. See below examples.

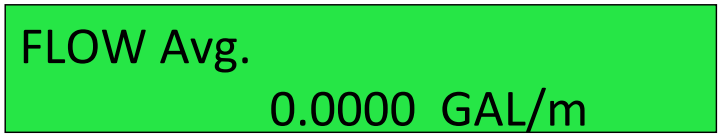
Press rate 1 key once to show the maximum flow rate.



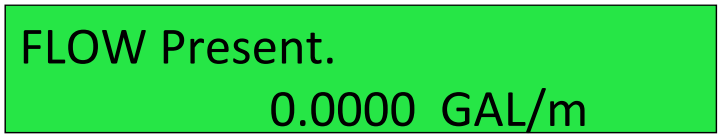
Pressing the rate 1 key a second time will show the minimum flow rate.



Press the rate 1 key a third time to view the average flow rate.



Press rate 1 a fourth time to view the current flow rate.



Limited Warranty Policy – Register Online

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NOTE: The information presented is for a quick start-up for the InnovaSonic 203. Other parameters are referenced in the 203 Instruction Manual.

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