

LINEAR **M**EASUREMENT **I**NSTRUMENTS, Corp.

Research, Development and Manufacturing of Precision Measuring Systems

**CONFIGURATION and MASTERING for the
LMI 241 or LMI 241-B to the LMI 440 or ASI DataMyte 501**



- Required Equipment:**
- 1 LMI 440 or ASI DataMyte 501
 - 2 LMI 241 or 241-B transducer
 - 3 LMI 720 master block
 - 4 LMI 6025 6 pin - 6 pin cable

This instruction will outline:

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LINEAR MEASUREMENT INSTRUMENTS, Corp.

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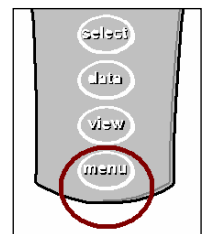
I. GAGE CONFIGURATION

Section I is a one time setup. After a successful gage configuration is finished there should be no need to repeat section I. It is recommended to store a copy of the gage files onto a personal computer or laptop. Consult the collector manual or, if purchased, the TranSend manual for further details.

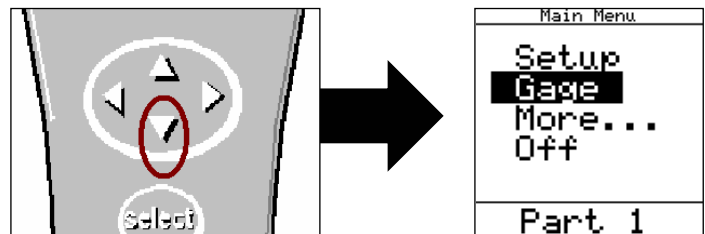
Flush Setup

This configuration will produce a negative value for flush when the tip extends beyond the nominal (master) point. To reverse the values enter -10 in step 10.

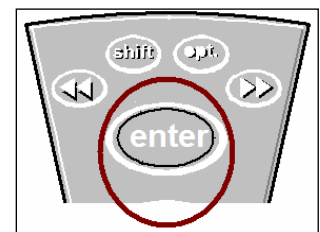
1. Press <menu> to turn on the collector.



2. Press ▼ to highlight "Gage".

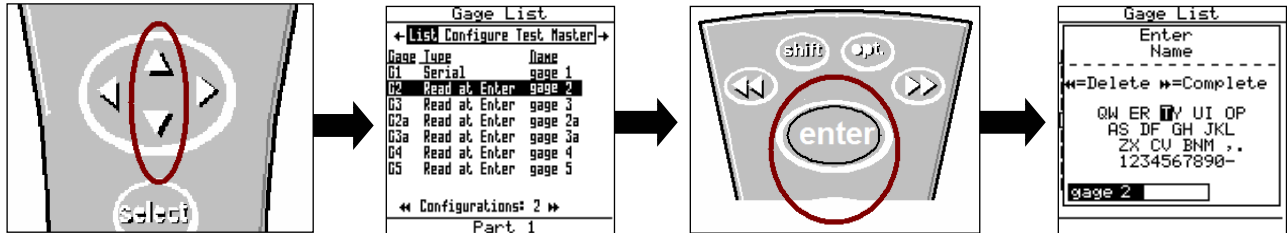


3. Press <enter>.



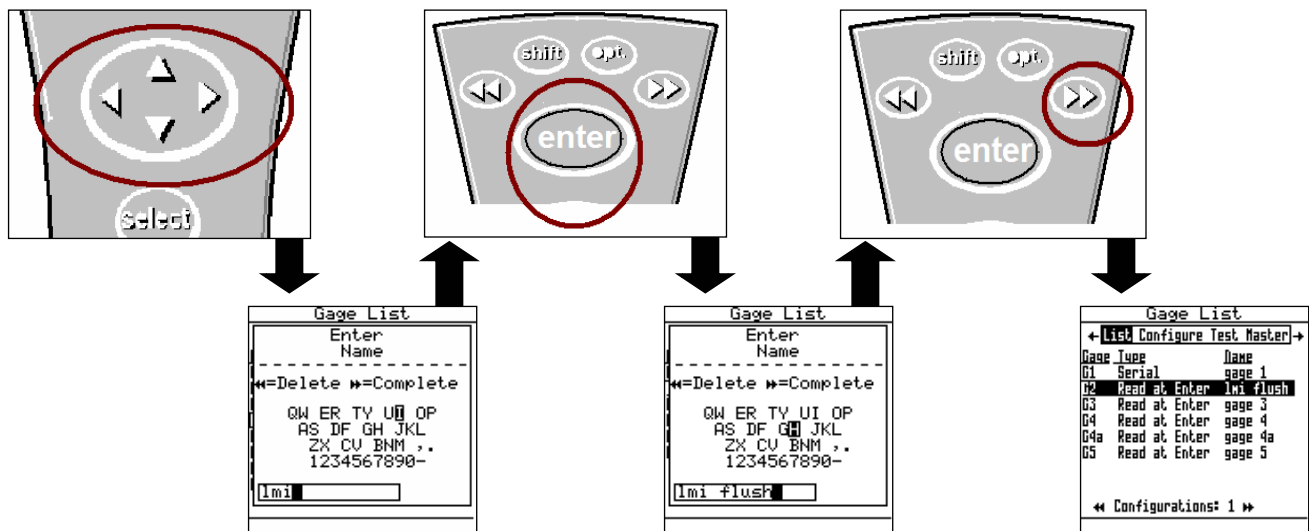
It is recommended to assign simple user name to the gage files such as; flush, margin, etc. This will help to identify different setups.

- To assign the gage file name, press ▲ or ▼ to highlight “G2”* in the “Gage List” and press <enter> on the collector.

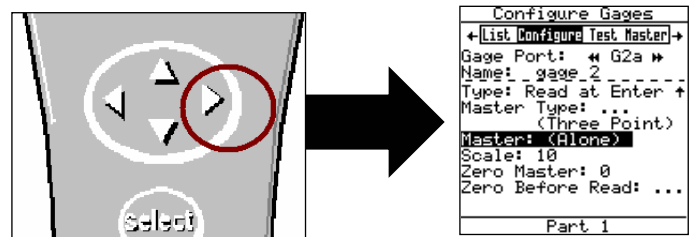


**G2 has the ability to support “sub files”. These are files that allow multiple styles or configurations of gages to be used by the same collector. To create sub files highlight G2 and press ►►, this will create a sub file of G2a. Each press of ►► creates another sub file. The balance of this instruction will be based on G2*

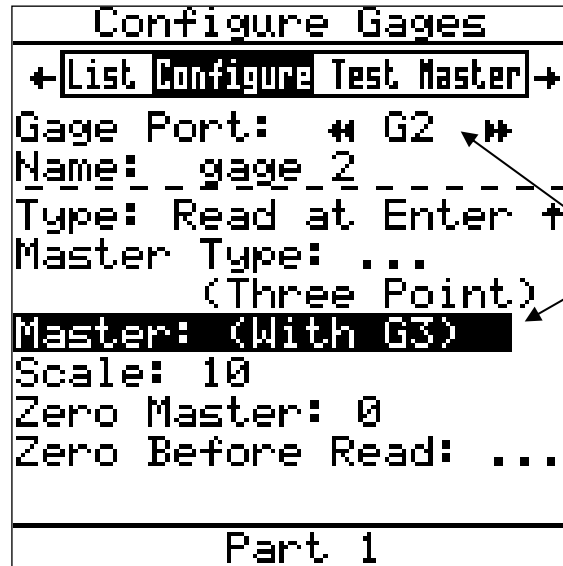
- Use the ▲, ►, ◀, or ▼ to highlight the first character of the new file name then press <enter>, repeat the process until the gage file name is spelled. Then press ►► to accept the new name.



- Press the ► to “Configure”, by default the screen may read as follows.



7. The “Configure Gages” screen needs to be set as follows. Failure to set this screen properly may cause undesired results.

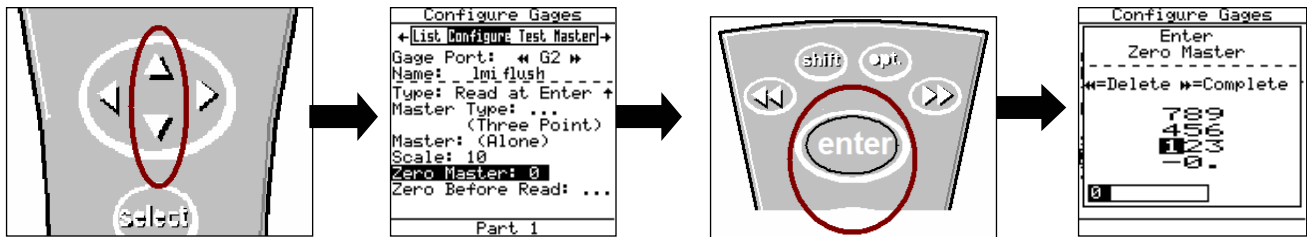


“Gage Port G2” must be matched to “Master with G3” to calibrate both flush and gap at the same time. If the “Gage Port” is set to “G2a” then the “Master” needs to be G3a

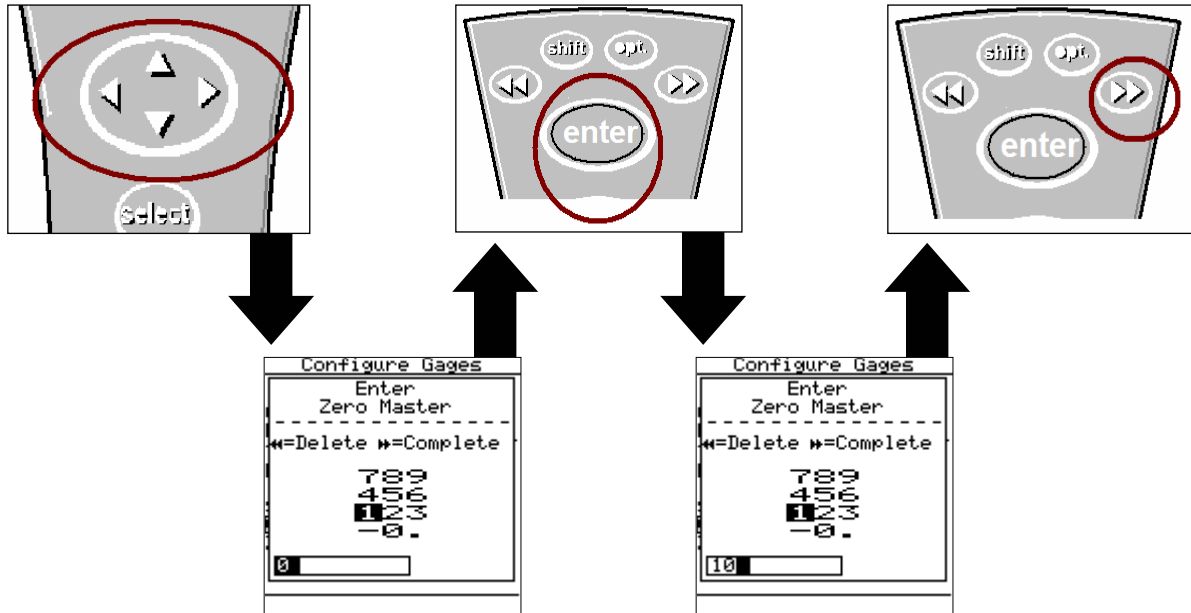
8. If changes to this screen are needed, press ▲ or ▼ to highlight either “Type”, “Master Type”, “Master With”, or “Zero Before Read” then press <enter> to toggle the different choices.



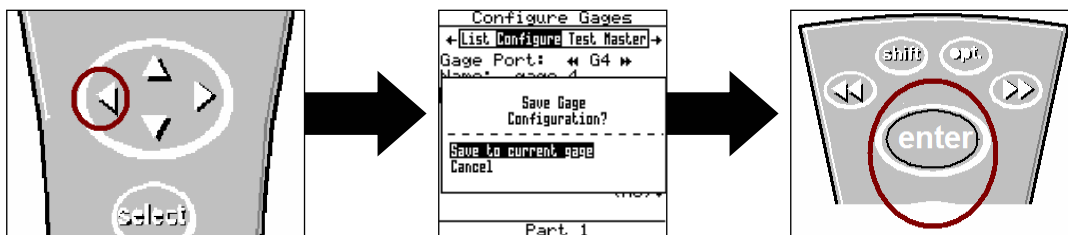
9. To make changes to the “Scale” or “Zero Master” press ▲ or ▼ to highlight “Scale” or “Zero Master” and press <enter>. This will bring up the numeric keypad. Key in the new value and press ►► to accept.



10. Key in the desired value by using the ▲, ▼, ►, or ◀ to highlight the first number, press <enter>. Repeat until the number is completed and press ►► to accept the new value.



11. Once the "Configure Gages" screen is set press ◀ and a pop up will appear if any changes were made. Highlight "Save to current gage" and press <enter> if the changes were intentional. If a setting was changed by mistake or you were not done in "Configure Gages" highlight "Cancel" and press <enter>.

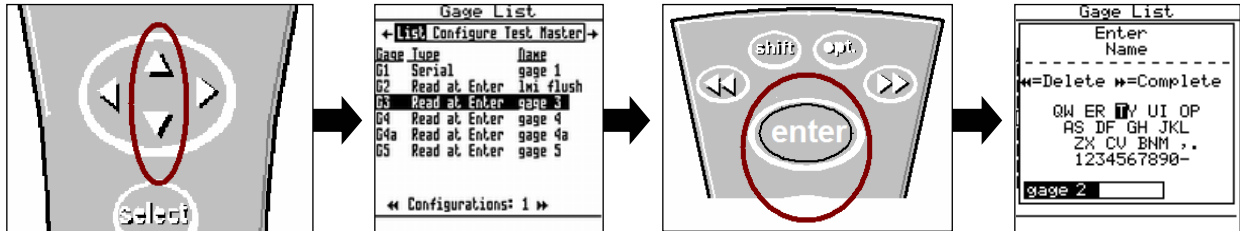


Flush configuration is complete.

Gap Setup

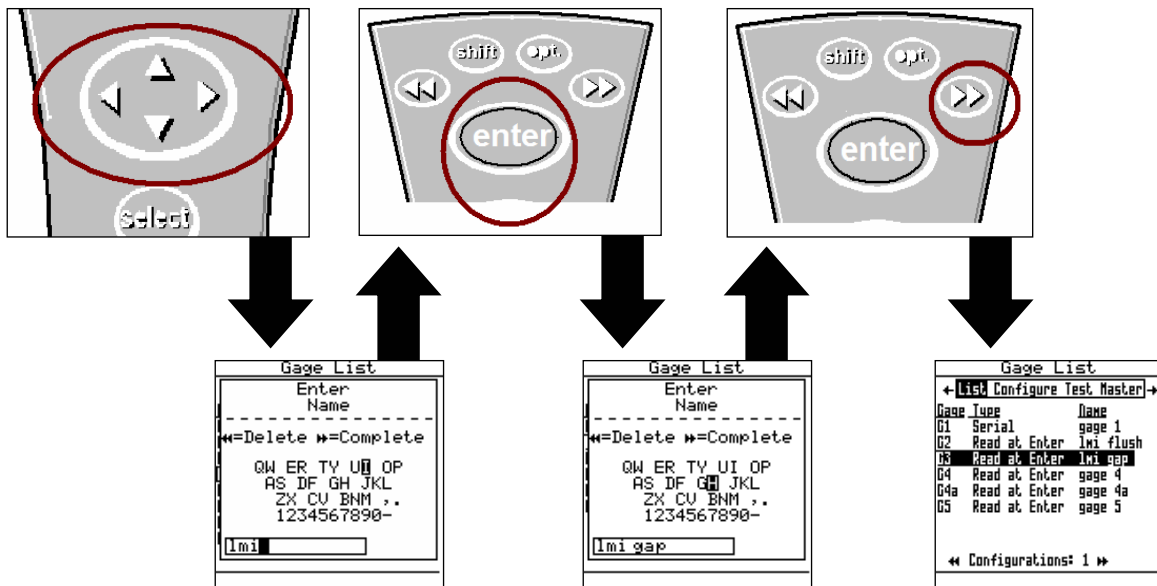
This configuration will produce a negative value for flush when the tip extends beyond the nominal (master) point. To reverse the values enter -10 in step 10.

11. To assign the gage file name, press ▲ or ▼ to highlight “G3”* in the “Gage List” and press <enter> on the collector.

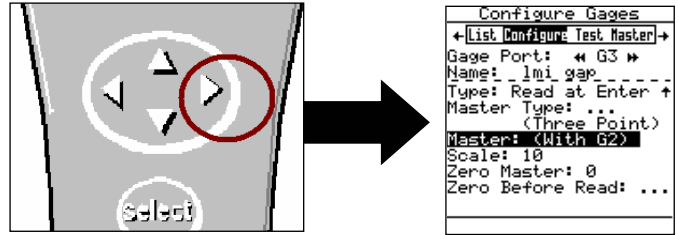


**G3 has the ability to support “sub files”. These are files that allow multiple styles of gages to be used by the same collector. To create sub files highlight G2 and press ►►, this will create a sub file of G3a. Each press of ►► creates another sub file. The balance of this instruction will be based on G3*

12. Use the ▲,►,◀, or ▼ to highlight the first character of the new file name then press <enter>, repeat the process until the gage file name is spelled. Then press ►► to accept the new name.



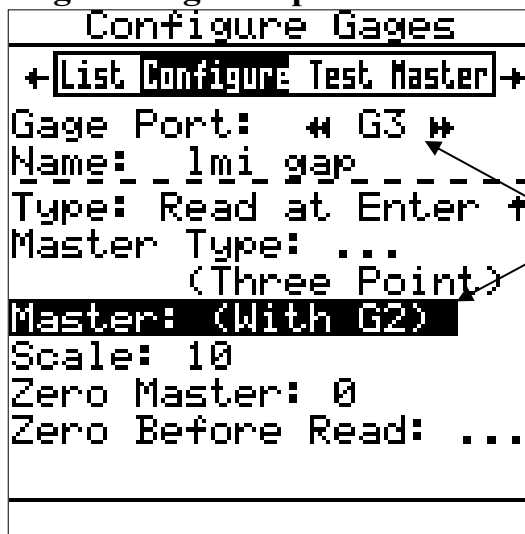
13. Press the ► to “Configure”, by default the screen should read as follows.



14. The “Configure Gages” screen needs to be set as follows. Failure to set this screen properly may cause undesired results. The top screen shows a standard LMI 241 configuration, the bottom screen shows a standard 241-B configuration.

Configure Gage setup for LMI 241 gap

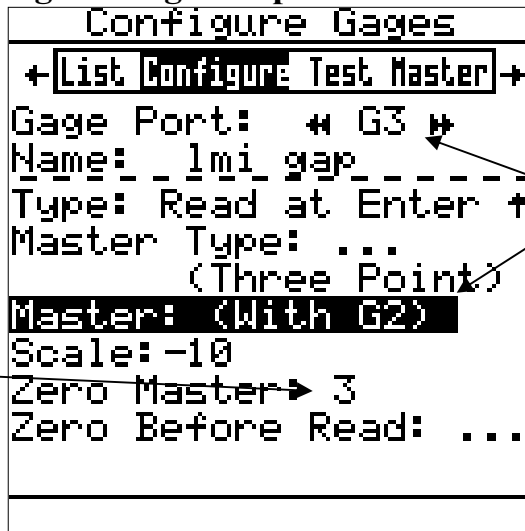
This configuration will produce a negative value when the LMI 241 is extended from the master point (nominal). To make the LMI 241 read positive when extended from the nominal change the scale to “-10”



“Gage Port G3” must be matched to “Master with G2” to calibrate both flush and gap at the same time.

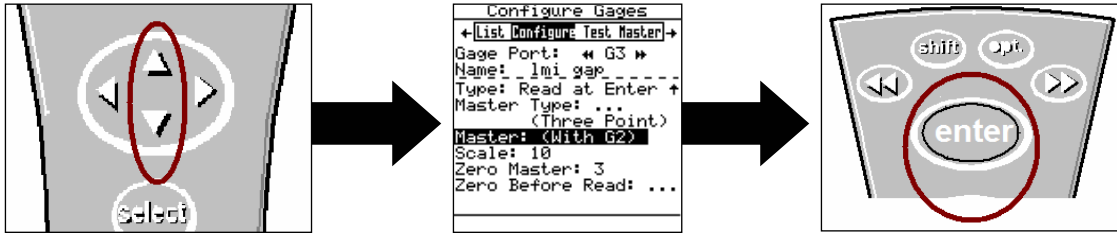
Configure Gage setup for LMI 241-B gap

This configuration will produce a 3mm value when the LMI 241 is at the master point (nominal).

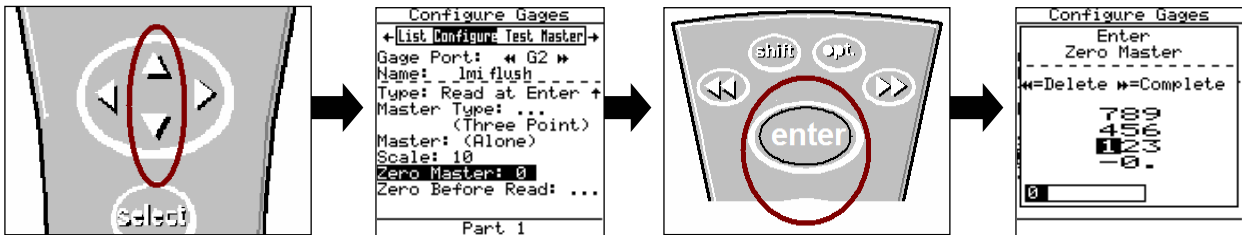


“Gage Port G3” must be matched to “Master with G2” to calibrate both flush and gap at the same time.

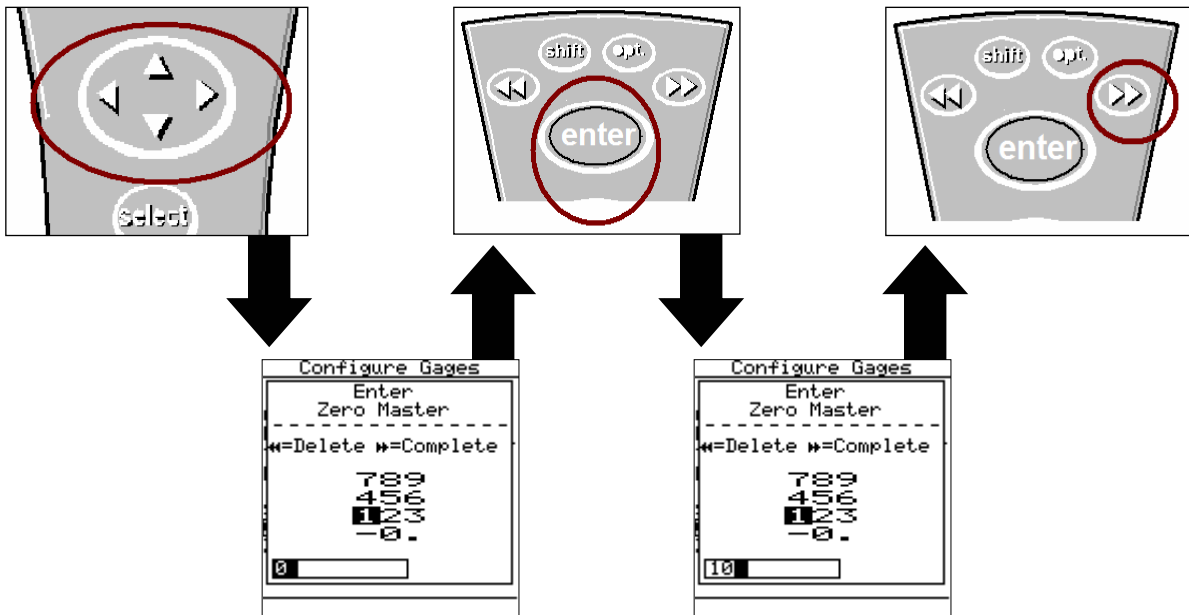
15. If changes to this screen are needed, press ▲ or ▼ to highlight either “Type”, “Master Type”, “Master With”, or “Zero Before Read” then press <enter> to toggle the different choices.



16. To make changes to the “Scale” or “Zero Master” press ▲ or ▼ to highlight “Scale” or “Zero Master” and press <enter>. This will bring up the numeric keypad. Key in the new value and press ►► to accept.

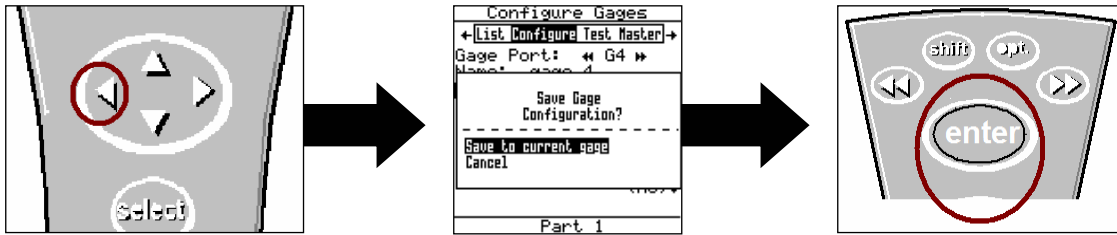


17. Key in the desired value by using the ▲, ▼, ►, or ◀ to highlight the first number, press <enter>. Repeat until the number is completed and press ►► to accept the new value.



18. Once the “Configure Gages” screen is set press ► and a pop up will appear if any changes were made. Highlight “Save to current gage” and press <enter> if the changes were

intentional. If a setting was changed by mistake or you were not done in “Configure Gages” highlight “Cancel” and press <enter>.



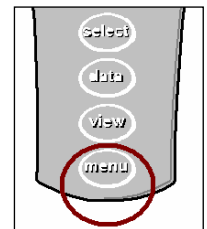
Configuration of the LMI 440 or ASIDataMyte 501 is complete.

II. MASTERING INSTRUCTIONS

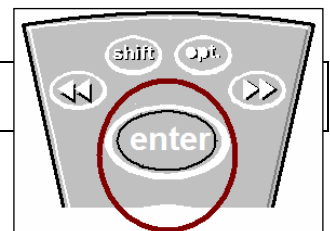
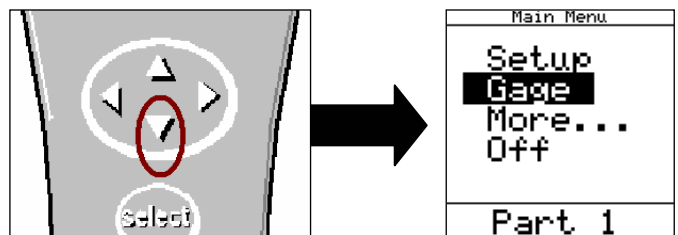
1. Connect the transducer to Gage Port 2/3 of the data collector.



2. Press <Menu> to turn on the collector.



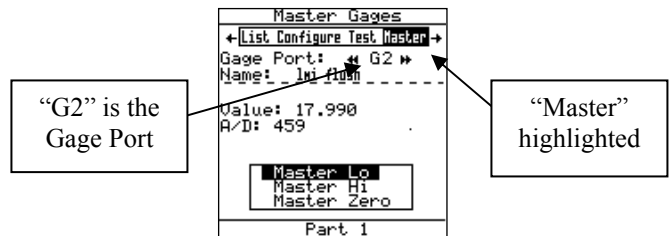
3. Press ▼ to highlight “Gage”.>.



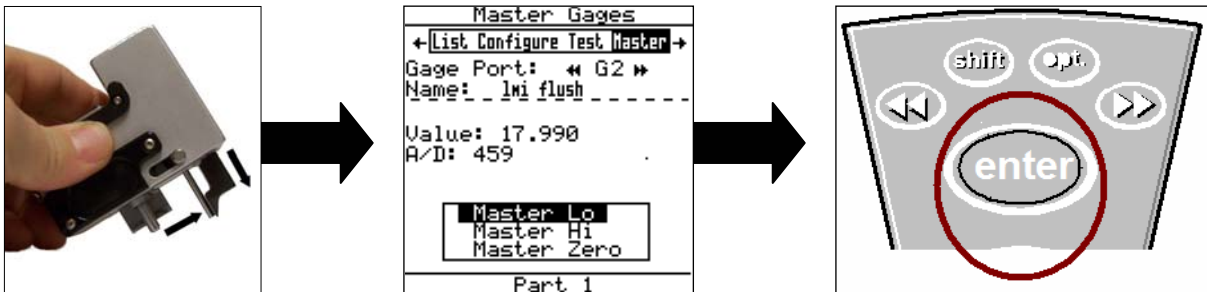
4. Press <enter>.
5. From the gage list use the ▲ or ▼ keys on the data collector to choose gage file G2 and press ◀ on the collector.



6. "Master" will be highlighted in screen header and "G2" is identified as "Gage Port". If G2 is not the Gage Port press the ▶▶ or ◀◀ until G2 appears.



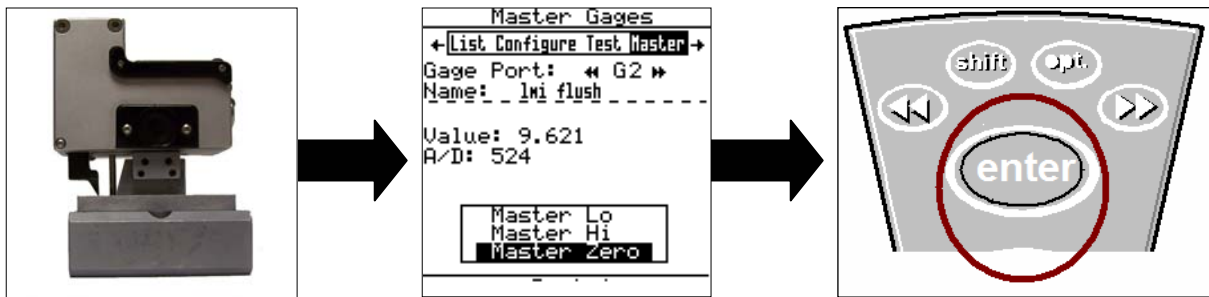
7. Extend the flush tip and gap peg of the LMI 241 or 241-B. With "Master Low" highlighted on the collector, press <enter>.



8. Fully compress the flush tip and gap peg of the LMI 241 or 241-B. With "Master Hi" highlighted on the collector press <enter>.



9. Place the gage in the LMI 720 master block, retract the gap peg so it will insert into the gap slot. With "Master Zero" highlighted on the collector press <enter>.



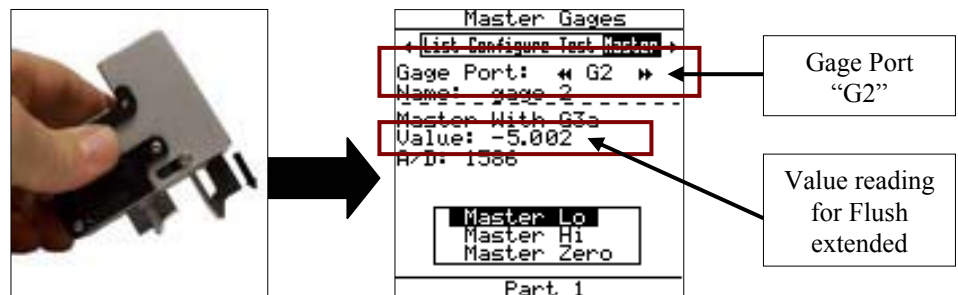
Mastering for the 241-BW series is complete.

III. Verification of the Mastering

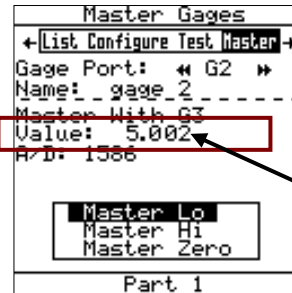
This process can be performed to verify the mastering of the LMI 241 or 241-B after being mastered.

Flush Verification

1. With the flush tip extended, observe the value in the "Master Gages" screen of "Gage Port G2" in the collector.



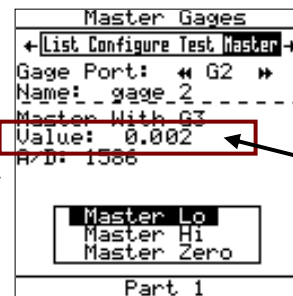
2. Retract the flush tip, Observe the value in the "Master Gages" screen of "Gage Port G2 in the collector.



Value reading for Flush extended

3. Add the results of step 1 and step 2 together (disregard the minus sign), the result must be 10.00mm +/- 0.04mm. This example step 1 is -5.002 and step 2 is 5.002, added together without the minus sign equals 10.004mm.

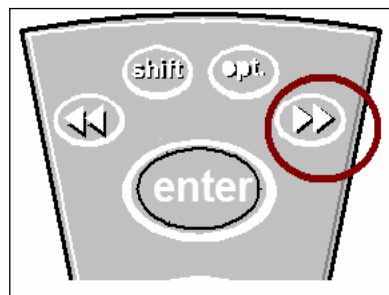
4. Insert the gage into the master block and observe the value in the "Master Gages" screen of "Gage Port G2 in the collector.



Value reading for flush in the master position

Gap Verification


5. Press >>> on the keypad of the collector to change the display from G2 to G3.




Gage port "G3"

6. With the gap peg extended, observe the value in the “Master Gages” screen of “Gage Port G3” in the collector.

LMI 241 reading



LMI 241-B reading




Value reading for Gap extended

Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_3
Master With G2
Value: -4.502
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1


Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_2
Master With G2
Value: 7.502
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1

7. Retract the gap peg, observe the value in the “Master Gages” screen of “Gage Port G3” in the collector.

LMI 241 reading



LMI 241-B reading



Value reading for Gap retracted


Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_3
Master With G2
Value: 5.502
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1

Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_2
Master With G2
Value: -2.502
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1


8. Add the results of step 6 and step 7 together (disregard the minus sign), the result must be 10.00mm +/- 0.04mm. This example step 6 is -4.502 and step 7 is 5.502, added together without the minus sign equals 10.004mm.

9. Insert the gage into the master block and observe the value in the “Master Gages” screen of “Gage Port G2 in the collector.

LMI 241 reading



LMI 241-B reading



Value reading for gap in the master position

Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_3
Master With G2
Value: 0.002
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1

Master Gages
←List Configure Test Master→
Gage Port: ← G3 →
Name: _gage_2
Master With G2
Value: 3.002
A/D: 1586
Master Lo
Master Hi
Master Zero
Part 1

Verification Complete