

## SONO Guide Interfacing Sono View

*Last Updated: April 19, 2018*

### Before Beginning:

#### **Required Equipment and Software:**

- **SONO-VIEW** (M300131) connected to one or more SONO probe(s).
- **SONO-VARIO** (M308070, M308074, M308090) probe(s) powered by a 24 VDC or 12 VDC power supply.
- **SONO cable**, available in 13-foot (4-meter) (M308029) or 25-foot (10-meter (M308032)

#### **Required Actions:**

- Ensure **SONO-VARIO** probe(s) are properly installed according to MESA guide “**SONO Guide\_Installation**”
- Ensure SONO-VARIO probe is properly wired to SONO-VIEW according to MESA guide “**SONO Guide\_Wiring\_Sono View**”
- Identify the analog input that batch panel or PLC accept (4...20 mA or 0...5 VDC or 0...10 VDC = 0...20% moisture)

### Overview:

- Using the SONO-VIEW you will interface to as many as 12-SONO probe(s) using the digital IMPbus.
- You will need to determine a reference moisture value for calibration using a bake-off, oven drying or other method
- Before you can make an offset adjustment the SONO probe should be measuring and the moisture visible on the SONO-VIEW.

*Notes:*

- The SONO-VIEW setup is menu-driven. Use the following keys to select the menu item you want to work with.

The **Circle Arrow NEXT Key** moves you to the **NEXT** step and saves a new setting.

The **Folder Key** moves you **BACK** up the menu.

The **Up and Down Arrow Keys** move you within a menu.

## SONO-VIEW Menu

Up Arrow Keys



Circle Arrow NEXT Key

Down Arrow Keys



Folder Key

## Step-by-step guide:

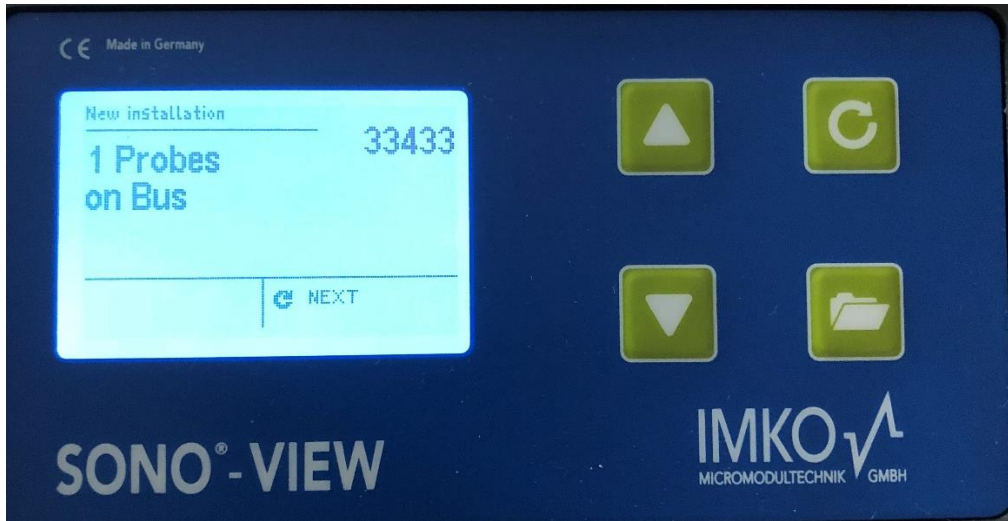
### Part 1: Connecting to SONO-VARIO probe using SONO-VIEW

- 1) Press the **Folder Key**, then use **Up and Down Arrow Keys** to find **NEW Installation**, in the **Setup** menu.



- 2) Press the **Circle Arrow NEXT Key** and wait for all probes on the IMPbus to be found.





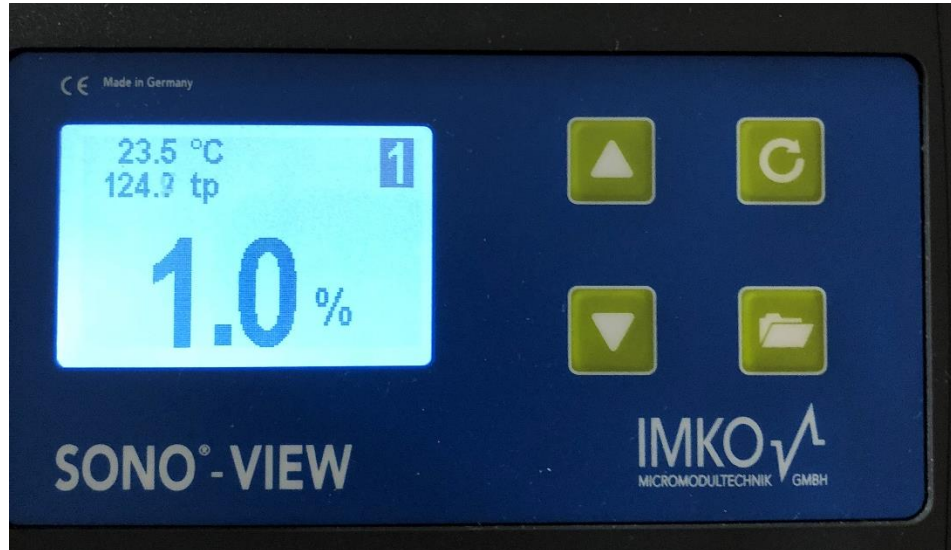
- 3) Assign a number to the probe(s) using the **Circle Arrow NEXT Key**. If you have only one probe connect to the SONO-VIEW, the only number available is "1". If you have more than one probe, you can select a probe to number by serial number by using the **Up and Down Arrow Keys**. To save the number to a probe use the **Circle Arrow NEXT Key**.



4) Press the **Circle Arrow NEXT Key** until the setup is saved and you see **READY**.



- 5) Press the **Folder Key** to see the moisture display.



## Part 2: Establishing a calibration offset with SONO-VIEW

### Overview:

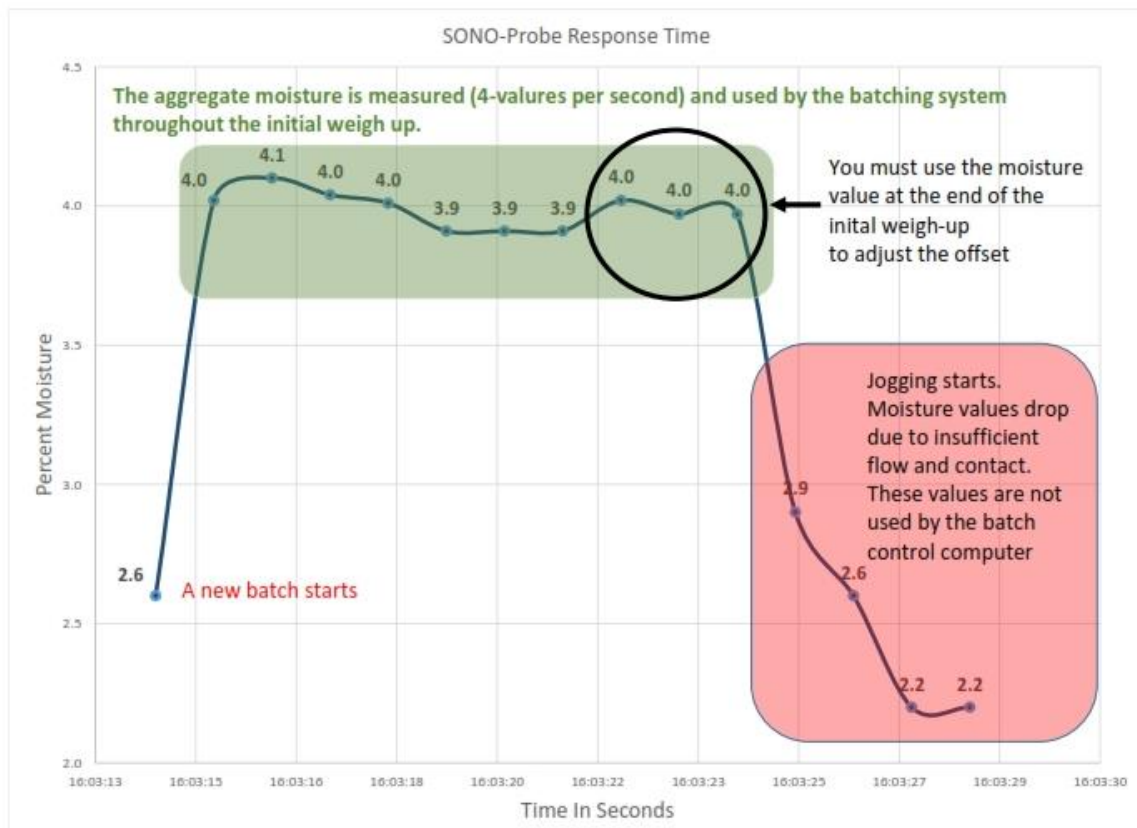
- Enter the **Probe Configuration menu** to adjust (this must be done for each probe) the offset to correspond to the Bake-off (reference) moisture.

### Notes:

- All SONO probes are delivered set to: **#1 Universal-Sand-Mix** calibration. If this probe is to be used to measure the moisture of sand, you need not make a change. If you are working with coarse aggregate 5/32-inch up to 1-1/4-inch you should change the calibration to **#6 Gravel and Grit**.
- You will need a Bake-off moisture value to adjust the offset to correspond to your material
- Before you can make an offset adjustment the SONO probe should be measuring and the moisture visible in the SONO-VIEW display.
- The SONO probe is set up to read the moisture from each batch and to hold the average moisture value at the end of the batch. If the system is jogged the average moisture in the display will go down a few tenths of a percent. Jogged material does not flow across the sensor uniformly. Look at the display during the initial weigh up and you can see the reading to be used to adjust the offset. Some batching control system display this value!

- 1) Note the moisture readings in the SONO-VIEW display, at the time you collect a sample, to bake-off. Write this value Down. **The SONO probe is reading the total moisture percent.**
- 2) Do a bake-off of the sample.
- 3) Determine the total dry weight percent moisture (%M) using the formula:  
 (Wet weight – Dry weight) / Dry Weight = M x 100 = %M. *For example: (950 gram – 915 gram) / 915 gram = 0.038 x 100 = 3.8 %M.*
- 4) Calculate the offset between the SONO probe moisture reading and the bake-off moisture.  
*For example: If the SONO probe display is 3.4% and the bake-off is 3.8% the offset of the SONO probe must be adjusted + 0.4%.*
- 5) Press the **Circle Arrow NEXT Key** to get to the **Probe Configuration** menu for the probe you are adjusting.

The graph below shows how the SONO probe measures during one batch.



- 6) Press the **Circle Arrow NEXT Key** to open the **Offset-balance** window.





- 7) Use the **Up and Down Arrow Keys** to change the offset to **+0.40**. Press **Circle Arrow NEXT Key** to save the new offset.



*Note: A properly installed and angled probe requires only a small adjustment (+/- 1 %). An offset adjustment compensates for the pitch angle of the probe face based and the distance of the probe is below the gate. If you need to make a very large adjustment, you should double check that the mechanical and electrical settings are correct, for your plant and batch control system!*

- 8) Some batching stations require that the SONO probe moisture correspond to the panel display. Check with MESA if you have questions on your batching system's specific requirement for interfacing

For complete technical details visit <http://mesasystemsco.com> for manuals and support documentation.

Additional Questions? Contact MESA at [support@mesasystemsco.com](mailto:support@mesasystemsco.com) or +1 (508) 655-6372.