MESA Systems Co.

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SONO Guide_Wiring_Sono View

Last Updated: April 19, 2018

Before Beginning:

Required Equipment and Software:

- **SONO-VARIO** (*M308070, M308074, M308090)* probe(s)
- **SONO-VIEW** *(M307012)*
- **Mounting plate and bracket** *(M308037)*
- **SONO cable,** available in 4m *(M308029)* or 10 m *(M308032)*

Notes: Follow "**SONO Guide_Installation"** to properly install Mounting plate and bracket and SONO-VARIO before wiring

Overview:

- SONO-VIEW requires DC power to operate.
- Using the SONO probe cable, the SONO-VARIO probe connects to the PLC or Batch control panel through a local junction box
- The SONO-VIEW communicates to the SONO probes for setup and adjustment of all operating parameters.
- Color-coded leads from the SONO probe cable must be wired for operation.
- If using more than one SONO probe the SONO-VIEW is the best option for interfacing, as the IMP-Bus is simple to wire in series.
    - The SONO-VIEW can display multiple SONO probes via IMP-Bus interface.
- The SONO-VIEW has a menu driven display for setting up and adjusting every probe connected.
    - All measurement values can be shown on the LCD display.
- No computer is needed if the SONO-VIEW is connected.

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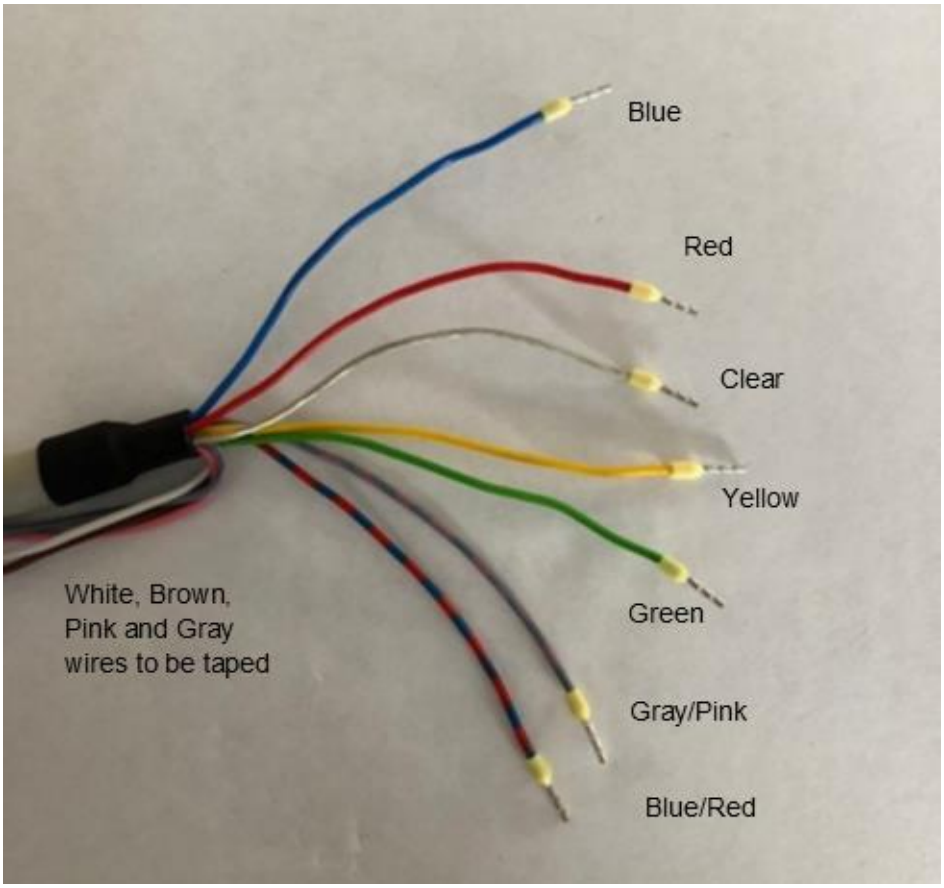
Notes: Not all wires are required to be connected for operation.



SONO Probe Connection to PLC or Control System	**308029 cable wire lead colors**
12 to 24 VDC Power: (200 milliamps needed to power each probe)	Red
0 VDC Power:	Blue
Cable Shield:	Clear
Percent Moisture + : (20 mA, 5 or 10 VDC)	Green
Percent Moisture - : (0/4 mA, 0/1/2 VDC)	Yellow
IMP-Bus RT (for SONO-VIEW only)	Gray/Pink (multicolored)
IMP-Bus COM (for SONO-VIEW only)	Blue/Red (multicolored)
NOTE: The White, Brown, Pink and Gray wires are not used.	

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Step-by-step Guide for new installations:

1) Connect the 13-foot long **SONO probe cable** to the back of the **SONO-VARIO** probe with a MIL-style bayonet connector.

2) Pull the other end of the cable, **having cable tails, to a local junction box (J-Box),** which is supplied by the installation company.

3) Pull the required wires from the **J-Box back to the PLC or Batch control panel**.

4) Wire the Red, Blue, Clear, Green, Yellow, Gray/Pink, and Blue/Red cable leads for operation.

5) Tape off the unused White, Brown, Pink and Gray cable leads. These are not important for this application.

6) In the control room, where the PLC or Batch control panel is located, use the SONO-VIEW module to communicate with the SONO probes.

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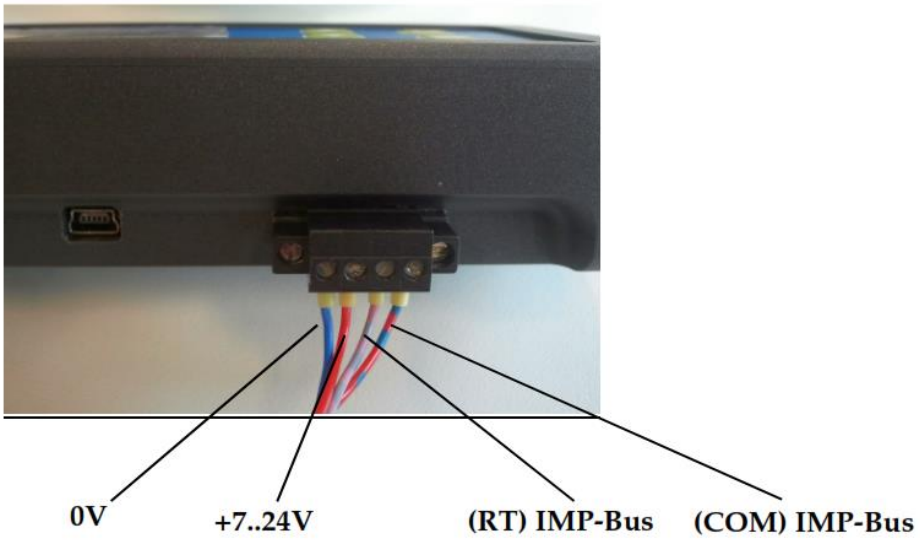
Notes:

- The SONO-VIEW connects to the SONO probes using the two-wire IMP-Bus. The wiring and connectors are detailed in the SONO-VIEW manual.

- The moisture analog output default is = 4…20 mA = 0…20 percent. The percent scale can be changed or rescaled (4…20mA can be changed to 0…20mA) when you want to convert the mA analog output signal to a voltage.

- The 0…20mA output will need the addition of a precision resistor, placed across the input to the PLC or control panel of the batch control system.
  - A 500 ohms resistor will convert the output to 0…10 VDC full scale output.
  - A 250 ohms resistor will supply 0…5 VDC full scale output.

- The SONO-VIEW requires a supply voltage of 7…24V (approx. 80…30mA). A joint ground wire together with the probes is not required. For the connection with the probes, it is sufficient to merely connect the two bus lines “RT” and “COM”.



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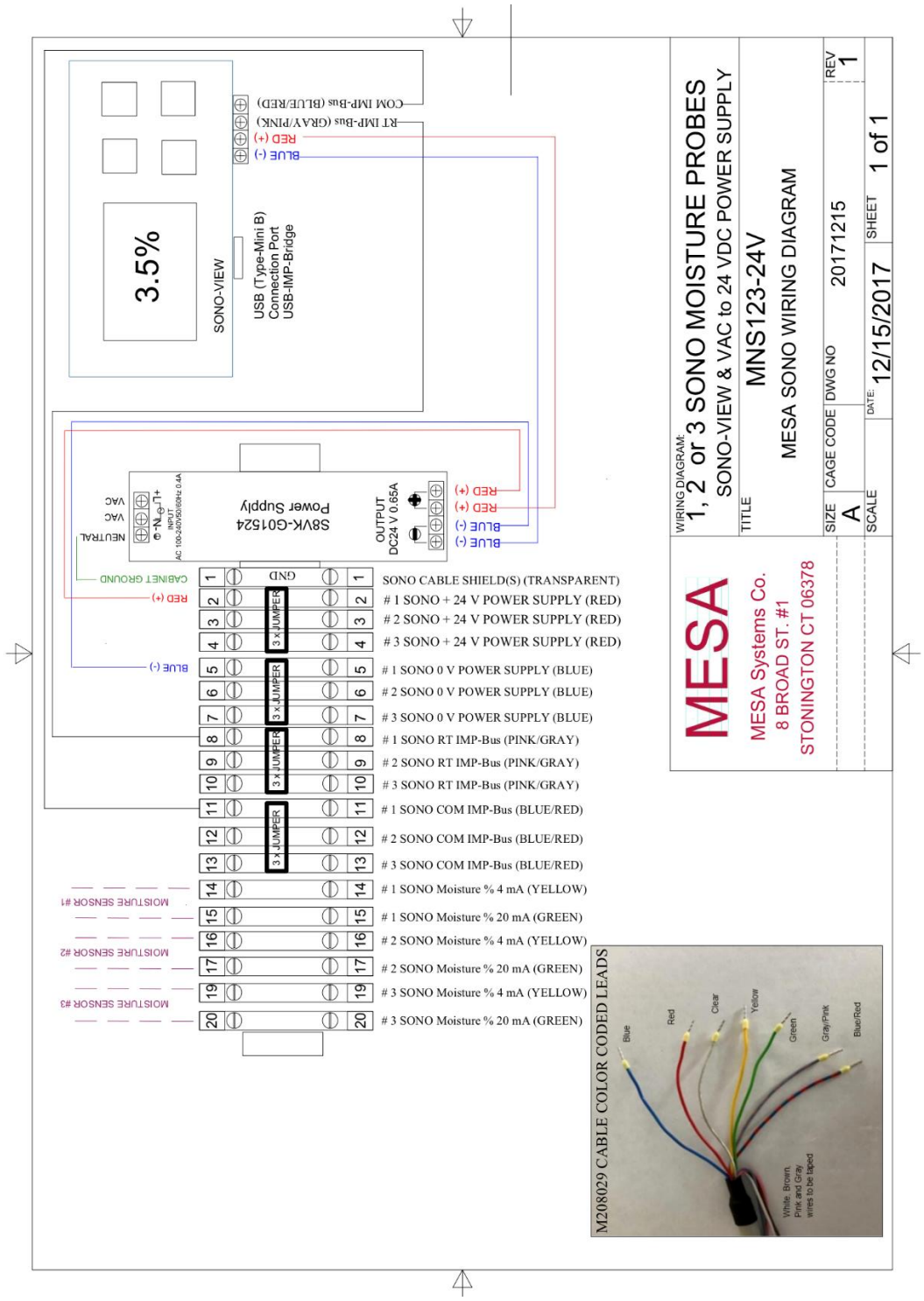

For complete technical details visit http://mesasystemsco.com for manuals and support documentation.

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