



TECHNICAL BULLETIN

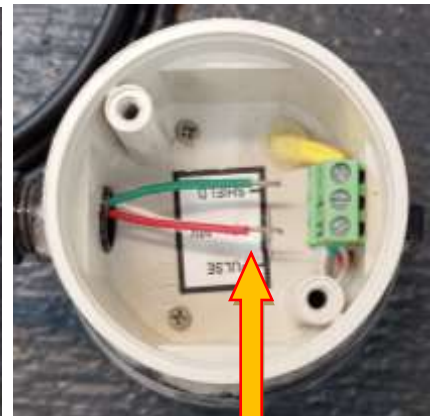
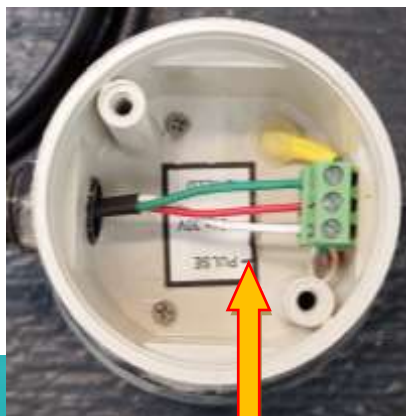
Ref# TB21-3

ME2000 / ME2008 / ME995 - WARNING

ManuFlo is warning field technicians to be mindfull of the following conditions when installing or servicing the equipment;

- ✘ **When installing or servicing any MES admix flowmeters, RPFS-P or any other Flowmeters; make sure the power supply to the flowmeters supplied from the ME2000 / ME2008 / ME995 instruments or other external **power supply is turned OFF** at the OFF/ON power switch.**

Failure to following this simple (but sometimes overlooked) procedure can result in short **circuited the electronic pulsehead(s)** and other devices if accidentally touching the **+VDC and O.V. - (Sh.)** pulse signal cable lines while terminating/connecting/disconnecting wires.



Connected Wires

Floating Wires

When measuring the newer style DSP and DSP-OC with volt meter;

ME2008 / ME995 power ON provides +12VDC to flowmeters

+ and - = +12VDC

P and - = +11.9VDC (Pulse always remains onstate -high)

P and - = +VDC (you might see 0.1V this is OK)

So when the unit is operating transmitting pulses they drop + to -.

(Too fast to see with a Voltmeter, only a ManuFlo UMT8 or Multimeter with frequency oscilloscope).

ME2008 / ME995 power OFF provides +0 VDC to flowmeters

+ and - = +0 VDC., P and - = +0 VDC., P and - = +0 VDC

(Note: The older Pulseheads have an opto light interrupter so the pulse can be on or off state at dormant mode).

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✗ Bad field Wiring practices -connecting the ME2008 input/outputs/commands to the external PLC/computer devices.

ManuFlo has become aware of wiring practices when wiring it's equipment, that are not to an acceptable industry standard.

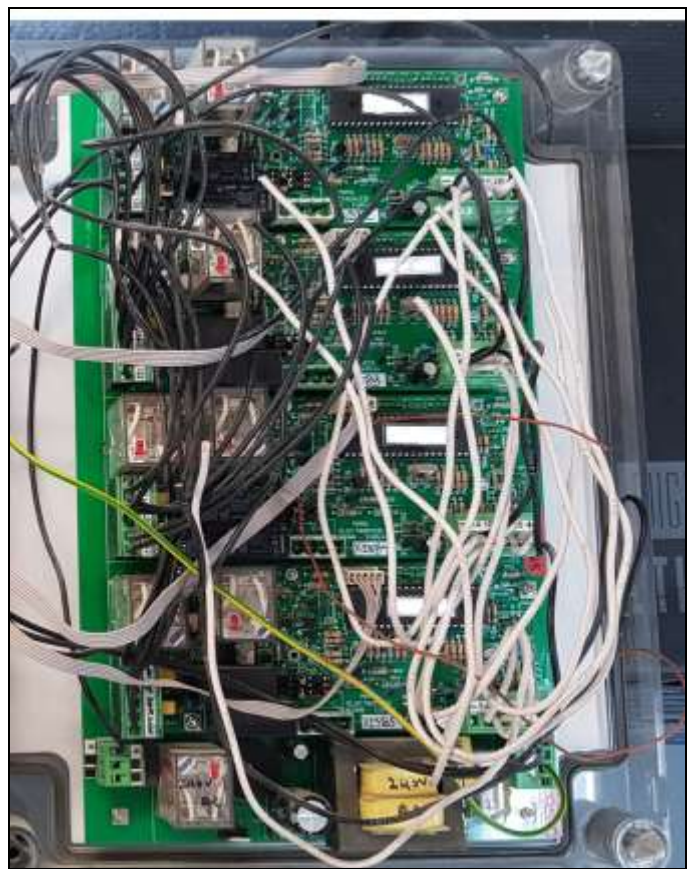
This can compromise the integrity, stability and long term safe operation of its equipment.

Picture-A is an example of an endorsed properly terminated, labelled and harnessed connections.

Picture-B clearly shows unacceptable wiring practices, which can lead to potential future problems. This can lead to short circuits due to untidy wiring, especially when opening or closing the M2008 front panel. Further, it can be difficult to trace wires for any future service work.



Picture A



Picture B

- ✗** If available , **Make sure the Computer/PLC pulse-INPUT has missing pulse detection activated.** This will allow the PLC to stop start drives to ME2008 in case of Opto output/input failures at both ends of the ManuFlo or PLC/computer .

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✘ When supplying power to ME2000 / ME2008 / ME995 +24VDC powered units, make sure the dedicated power supplies are:

Pure regulated +DC Power supplies to the +24VDC ME2008 / ME995 models which then in turn supply normally +12VDC to the field flowmeters (namely MES20, MES20DSP, MES20DSP-OC). The DC supply must be powering the equipment with a **proper flat line voltage with no ripple.** (Fig.1)

To test, connect the '+' and '-' supply lines (feeding power to the ME2008) to a multi-meter with an oscilloscope facility. If there is a ripple wave (as per Fig.2) then make sure to connect an earthing wire from the '-' connection to a master earth.

This will assist with any non-grounded power supplies and can assist to avoid external voltage spikes which may cause damage to the external field equipment flowmeters (or other devices). *If in doubt connect as a course of standard practice, as the ManuFlo Flowmeters must be grounded at one end only to provide proper shielding.*

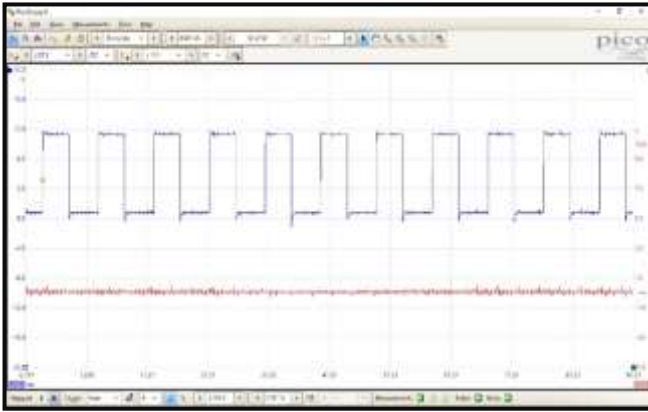


Fig. 1

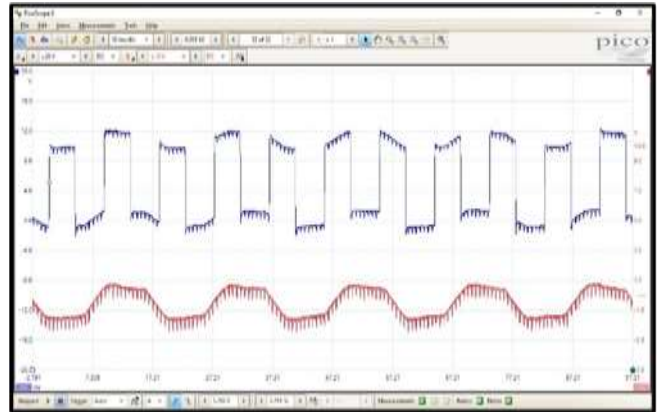


Fig. 2

FIG. Descriptions:

Blue line shows the incoming flowmeter pulse signals.
Red line shows the correct required voltage supply line.

The above is a fundamental industry principle, this can be overlooked in modern times with newer type switch-mode type power supplies which are not properly grounded nor supplying pure flat line regulated DC.

Technical Note:

With AC powered ManuFlo Devices the "-" (o.v.) master shield of the field flowmeters are internally inter-connected to the AC master earth of our devices. Thus achieving a proper grounding and shield when connected to the AC (A/N/E) power supply line..

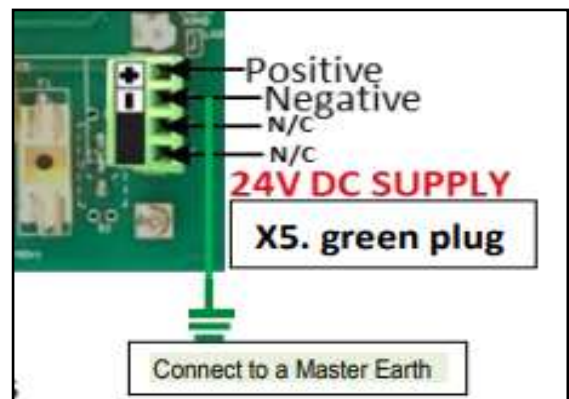


Fig. 3. Rear view ME2008 DC powered motherboard connection Master Earth wire connection.

Please contact the ManuFlo engineering team for any further advice.

ATM