

Earthing Procedure for Evo+ and Advanced MxPro 5 Control Panels.

The following document details the earthing procedure for the Evo+ and Advanced MxPro 5 control panels. All steps and checks should be performed to minimise the risk of potential differences on the earth screen on each loop.

Loop screen wiring

- Unplug loop out and loop in from panel.
- Disconnect loop-out screen and loop-in screen from panel chassis.
- With a multimeter on resistance (e.g. 1M Ohm range) check screen has no fault to earth.
- There should be no connection between screen-out and chassis earth. Record resistance measured. Ω
- There should be no connection between screen-in and chassis earth. Record resistance measured. Ω
- With a multimeter on continuity (e.g. 100 ohm range) check screen goes all the way :-
- Should be low resistance from screen-out to screen-in. Record resistance measured. Ω

Once this is ok, connect the loop-out screen and loop-in screen back to the chassis.

If this is a multi-loop panel, you need to repeat these steps for each loop.

Loop conductors (Panel off)

- Unplug loop-out and loop-in from panel.
- Check loop-out screen and loop-in screen are conned to panel chassis.
- Check panel chassis is connected to supply earth.
- Leave panel turned off.
- With a multi-meter on continuity (e.g. 100 ohm range) check the loop +ve has continuity.
- Should be low resistance from loop-out +ve to loop-in +ve. Record resistance measured. Ω
- It is difficult to check continuity of -ve conductor with just a meter (isolators at device break the -ve).
- With a multi-meter on resistance (e.g. 1M Ohm range) check for obvious earth faults :-
- Should be no connection between loop-out +ve and chassis earth. Record resistance measured. Ω
- Should be no connection between loop-out -ve and and chassis earth. Record resistance measured..... Ω

That completes the basic multi-meter wiring checks with the panel turned off.

Loop conductors (Panel turned on)

- Unplug all sounder circuits from panel
- Remove any connections to Aux 24V +ve and -ve
- Unplug ALL loops from panel.
- Power up panel.
- Check panel is at level 3 (commissioning)
- Select View/Panel menu
- Scroll down to see the panel earth monitoring voltage.
- Check this reads approx 13.5V
- Connect the detection loop to the panel.
- Check the earth monitor remains at 13.5V
- Select View/Panel menu
- Scroll down and inspect loop Vin.
- Check this reads at least 20V. Record value.DC
- Below 20V there is either an open circuit, or a short circuit between isolators.

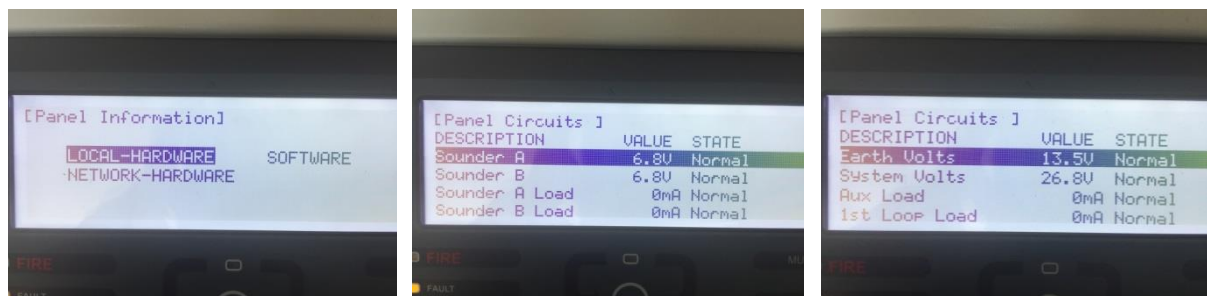
Once past this stage the loop wiring should be clear of the most common wiring faults.
Repeat for each loop.

The earth monitoring voltage can also be checked using the panel metering facility as follows;

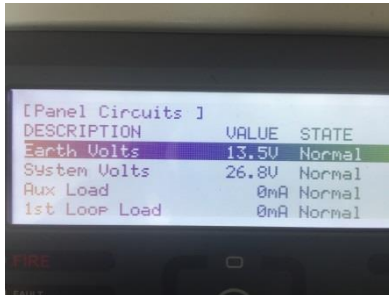
- Unplug all sounder circuits.
- Remove any connections to 24v +ve and -ve.
- Unplug all loop connections.
- Power up the panel & Log-in at Commissioning Level.
- Select "View", from the main menu, then Panel from the View menu 2 options.



- Select "Local-Hardware", to display the Panel metering, then Scroll down and check the Earth Volts reads about 13.5V.



- Reconnect each Loop in turn and check the Earth Volts remain at 13.5V, then scroll down and check "Loop V. In" is greater than 25V.



DESCRIPTION	VALUE	STATE
Earth Volts	13.5V	Normal
System Volts	26.8V	Normal
Aux Load	0mA	Normal
1st Loop Load	0mA	Normal



DESCRIPTION	VALUE	STATE
1st Loop U.In	36.8V	Normal
Main Supply	H	Normal
ESPA Pager	-	Normal
NETWORK GROUND	.0V	RESET

If you need any further guidance please contact Nittan Technical Support:

Email: dwright@nittan.co.uk
Phone: 01483 541174
Mobile: 07511 047039



David Wright
Technical Support Engineer

