

MPR2/XR6/XR12 Technical Service Bulletin

Issue Description: The ohmic probe system is overly sensitive to consumable fouling with Hypertherm Powermax and Hypertherm Powermax Sync plasma units.

Issue Resolution: Fixed through change to machine internal wiring.

Fix Description:

The ohmic probe connections between the isolation relay module, the workpiece, and the plasma shield cap must be reversed. See the relevant section below for directions for repairing the affected table type.

Resolution Details:

The Hypertherm Powermax units use an internal electrical switch to disconnect the nozzle from the workpiece when the unit is idle and the ohmic probe system is active. There is a built-in diode across that switch with polarity aligned in the same direction as the positive voltage of the ohmic probing system. When the nozzle is fouled with a piece of conductive material, this diode allows the ohmic sensing current to flow and a false probe is detected.

Reversing the polarity of the ohmic system causes the internal diode to block ohmic current, and a probe is only sensed when the shield touches the workpiece as expected.

All Machines:

There are two wire connections to be reversed at the ohmic probe relay board shown in the image below. Swap the **Green and Yellow** wire with the **Black** wire. The **Black** wire will be in the center position, and the **Green and Yellow** wire will be in the outside position. Wires can be disconnected by pulling vertically. Connection is made by pushing the wire connector over the exposed spade terminal in the module.

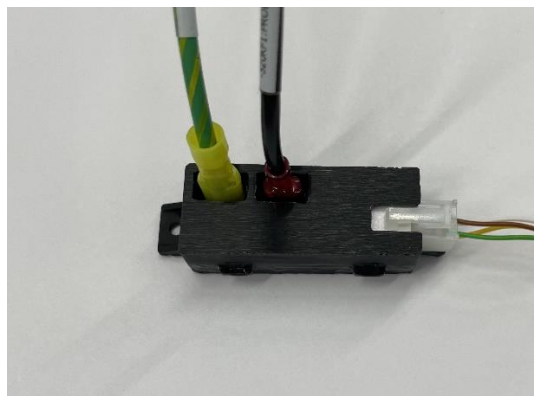


Figure 1: Corrected ohmic wire connections

XR6/XR12:

The probe module is in the X-Carriage support plate under the red cover behind the Z-Axis of the machine. It is mounted near the torch lead bracket. It is possible to swap the wires without removing the red cover, but it is easier to remove the wires without the cover installed.

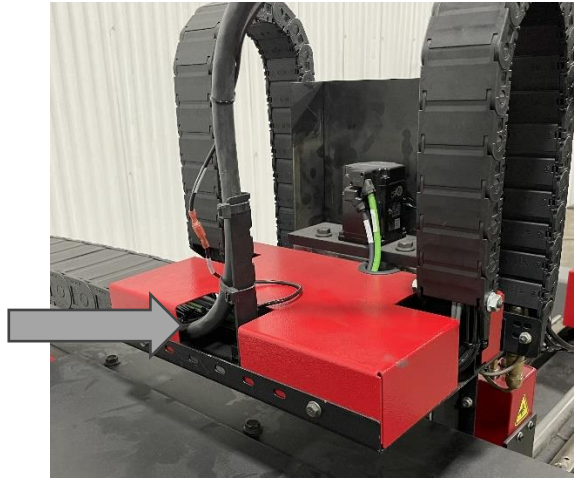


Figure 2: XR6 Probe Relay Location

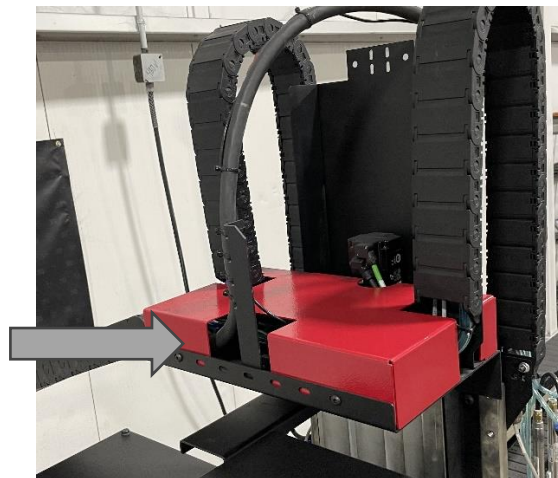


Figure 3: XR12 Probe Relay Location

MPR2:

The probe module is in the X-Carriage support plate under the red cover behind the Z-Axis of the machine. It is mounted near the X-axis cable chain entrance. You must remove the red cover before swapping the wire locations.

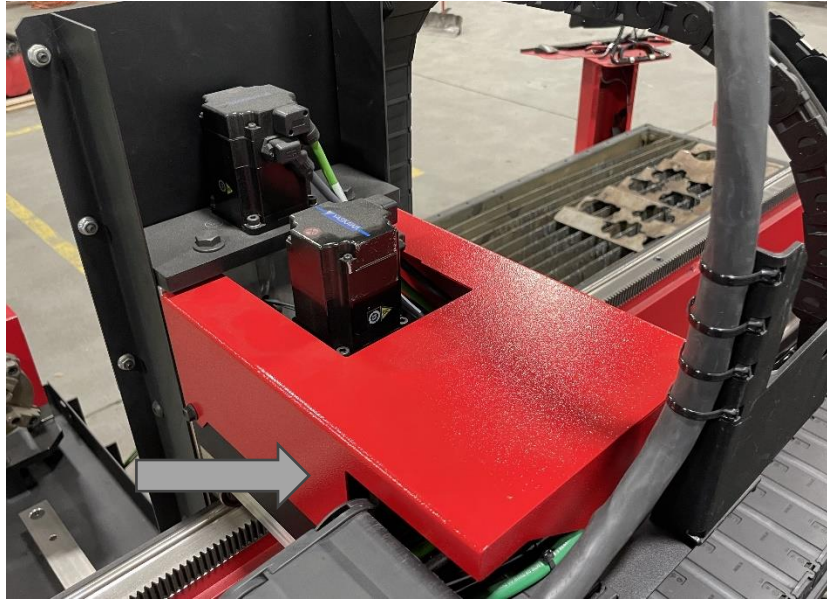


Figure 4: MPR2 Probe Relay Location

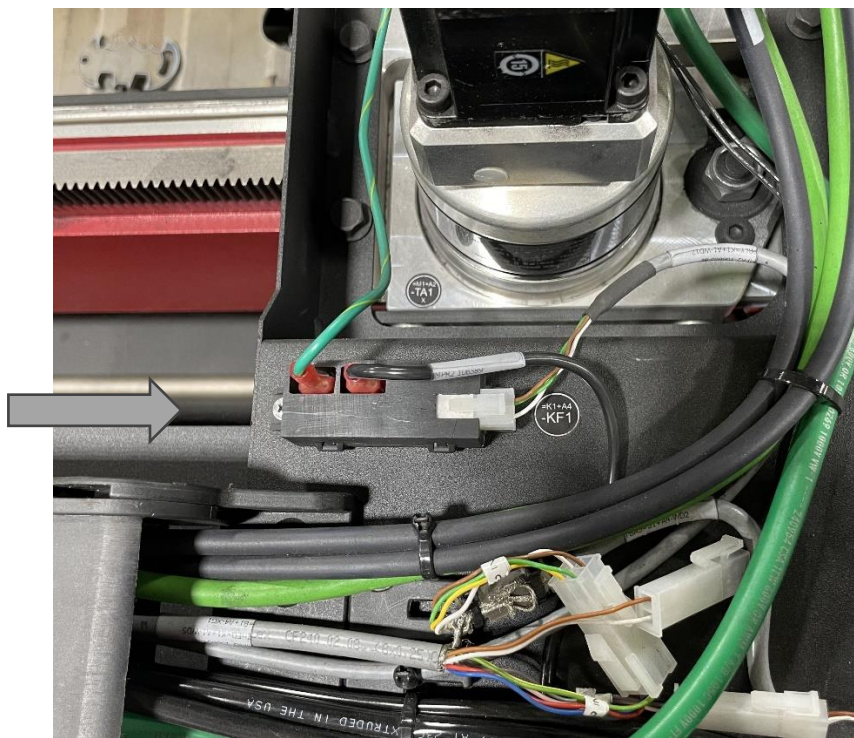


Figure 5: MPR2 Probe Relay Module

If you have any questions about this technical bulletin, please contact us by email at support@jd2.com or by phone at (423) 979-0309.