

## How much power is getting to your WELD?



### System Resistance—do you have a micro-ohm meter?

Often one of the most ignored measurements in the maintenance of a welder, the system resistance of the secondary circuit directly influences how much voltage is taken up by your welder and all of its components (cables, shunts, gun arms, shanks, electrodes, etc.) and how much actually goes into your work-piece to make your weld. Although constant current weld controllers are very good at maintaining the correct weld current as the system changes over time, variations in the system resistance leads to variations in weld quality and reliability. The addition of a good **micro-ohm meter** (AMS-1070M pictured to the left) to your maintenance tools will ensure you replace your worn out cables and shunts before its too late. Remember, you want the highest resistance to be at your work-piece interface—not in a shunt!

## Improve Weld Quality and Consistency while Saving Money on Maintenance and Utility!

Designed in conjunction with Toyota Motor Co. and Mazda Motor Co. of Japan, this micro-ohm meter uses two simple to use handheld leads to measure both voltage and current and determines a very accurate reading for resistance. Regular maintenance in Japan includes the use of micro-ohm meters to maintain quality and consistency.



### When should cables and shunts be changed?

Over time, the flexing and thermal cycling of the secondary cables and shunts will start to increase their electrical resistance. Even though a cable does not look worn out, it may be much less efficient than you think. Below is an example of some resistance readings of kickless cables when new and when they should be changed. These types of cables are prone to naturally breaking down and do have a limited life. The cost of these cables then requires that we get the most use out of them as possible. Periodic monitoring of the resistance of the cables will allow your process to get the most out of your cables and can tell when something is wrong with the system – **before** it is too late.

Channel	MCM	Length (m)	New Cable (micro-ohm)	Replacement (micro-ohm)
0	300	2.0 / 6.5 ft	260	650
1	300	2.5 / 8.0 ft	325	810
2	300	3.0	390	975
3	400	2.0 / 6.5 ft	195	487
4	400	2.5 / 8.0 ft	240	600
5	400	3.0	290	725



### Easier than Ever to use!

The next generation of micro-ohm meters designed for resistance welding applications are extremely easy to use and give a "go-no-go" indication immediately for simple diagnostics. Resistance limits can be set and customized to match your cable size and length—call Huys for more details.