

Micro Control Systems

APPLICATION NOTE
APP-049

Setting the Brownout Point for a MCS-MAGNUM

Revision History

Date	Author	Description
02/12/2009	RBA	Create initial version

Introduction

One of the unique features of the Magnum is its ability to determine when the main ac line voltage falls below a safe value for the unit it is controlling to operate safely. Although the Magnum itself can operate at much lower power line voltages than normal, low voltages can cause premature failure to motors. To protect loads such as these the Magnum will turn off all relay outputs when the line voltage falls below a certain preset point, referred to as the “brownout” point.

The Magnum is not the only MCS product to incorporate this feature. All MCS expansion boards, such as the MCS-RO8, MCS-SI16 and MCS-I/O board have this feature as well.

The brownout point is preset during testing here at MCS and normally does not need to be adjusted in the field. However, it has been found that in some cases where a site uses a Magnum board along with one or more expansion boards (such as a MCS-RO8, MCS-SI16 or MCS-I/O), the Magnum may momentarily lose communication with an expansion board when the line voltage falls and then returns to normal. This is because one of the expansion boards might “brownout” sooner than the Magnum, or the expansion board might come out of brownout sooner than the Magnum. This may cause lost I/O communication alarms, possibly resulting in a unit lockout.

To ensure that the Magnum is always the first board to go into brownout when the power drops and is the first to come out of brownout when the power returns to normal, we have made a change to the brownout point on the Magnum board only. Magnum Rev 6 boards with a hardware revision of 6.2 or higher and Magnum Rev 5 boards with a hardware revision of 5.3 or higher already have this change made. The purpose of this application note is to walk you through the simple process of making the adjustment yourself on older Magnum boards.

Making the Adjustment

To make the adjustment, first make sure that the you have a Magnum Rev 6 board with a hardware revision 6.1 or lower, or a Magnum Rev 5 board with a hardware revision 5.2 or lower. Next, refer to the picture on the next page and you will see the grayish rectangular potentiometer (VR1) that is used for the adjustment. The potentiometer has a small adjustment screw at the top that has been sealed with a white sealant. Using a thin-tipped flat screwdriver, **turn the adjustment screw exactly 2-1/2 complete turns counterclockwise** as shown. The sealant will easily break and allow you to turn the adjustment screw. You can make this adjustment with or without power to the Magnum. You do not need to re-seal the screw after making the adjustment.

