



## ZERO AND SPAN SETUP GUIDELINES

ZSS

X10390

### INTRODUCTION

This document is a guide to the setting of the zero and span cermets which are fitted to some models from the United Automation range of phase angle and Burst Firing drivers & controllers.

Normally the drivers & controllers are factory set for a 0-5vDC input signal (also suitable for manual potentiometer control) but they can easily be re-calibrated to match a wide range of Voltage & Current control signals.

### ZERO AND SPAN SETUP

#### **Monitoring Output**

To accurately calibrate the unit, the output level must be monitored in some way. This can be done by measurement of the voltage across a suitable load or current drawn through the load (using a suitable meter). Alternatively, if LED Status indication is provided on the unit, this can be judged visually as the intensity relates to the output to the load.

#### **Calibration procedure for full-range Potentiometer control**

1. Connect a suitable potentiometer (typical values in the range 1K  $\Omega$  to 10K $\Omega$ ) in the following order ;- CCW to terminal 3, W to terminal 4 & CW to terminal 5.
2. Turn main control potentiometer fully clockwise and adjust the SPAN cermet so that the output is 'just' fully ON (100%)
3. Turn main control potentiometer fully anti-clockwise and adjust the ZERO cermet so that the output is 'just' fully OFF (0%)
4. Note that the two cermets are slightly interactive, therefore steps 2 & 3 may need to be repeated a few times to achieve the full 0-100% output range.

#### **Calibration procedure for full-range DC Control Signal**

1. Connect the required DC control signal with 0v to terminal 3 & the +ve signal to terminal 4. Note: for a current signal, a resistor may be required across 3 & 4.
2. Set the maximum DC control signal and adjust the SPAN cermet so that the output is 'just' fully ON (100%)
3. Set the minimum DC control signal and adjust the ZERO cermet so that the output is 'just' fully OFF (0%)
4. Note that the two cermets are slightly interactive, therefore steps 2 & 3 may need to be repeated a few times to achieve the full 0-100% output range

#### **Note**

The zero and span may be single-turn OR multi-turn potentiometers, so sensitivity and adjustment accuracy will vary. The multi-turn (22-turn cermet) being the most accurate.



### **UNITED AUTOMATION LIMITED**

Southport Business Park  
Wight Moss Way  
Southport, PR8 4HQ  
ENGLAND

Tel: 0044 (0) 1704 – 516500  
Fax: 0044 (0) 1704 – 516501  
[enquiries@united-automation.com](mailto:enquiries@united-automation.com)  
[www.united-automation.com](http://www.united-automation.com)

Page No. 2 of 2

Issue: 2

Date: 11/07/05

