

## CALIBRATION INSTRUCTIONS

4005-1

2 OR 3 CHANNEL ADDER/SUBTRACTER

TOP VIEW

BOTTOM VIEW

ADJUSTMENT LOCATIONS

HEADER

CONFIGURATION

**DESCRIPTION**

This module contains internal adjustments for offset and span on each channel. In addition, there is a summer master offset and a loop control on modules providing a current output. Summers having input signals which are zero based may be used with any number of channels as subtractive inputs merely be reversing the input leads to that particular channel. This may also be accomplished with live zero input signals but a re-calibration of that particular channel will be necessary to accommodate the change in sign of the live zero.

**CALIBRATION**

This procedure assumes that all channels are equally weighted. If this is not the case, it will be necessary to derive a table of input vs. output values for the specific situation.

1). If the module output is current, connect a 50 ohm 0.1% shunt across the output pins (+ OUT) and (COMMON) and use the DVM to measure the voltage drop across the shunt. Otherwise, measure the output voltage directly. With 0% into each channel the module output should be 0%. If necessary, adjust only the MASTER OFFSET to achieve this condition. The offset controls on the individual channels should never be adjusted in the field.

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**CALIBRATION CONT.**

2). Apply 100% input to channel A. At this time the module output should be 100% /N where N is the number of active channels. Note that equal weighting is assumed here and that other weighting will require the use of the calibration chart referenced earlier. If this point is in error, adjust the channel SPAN for proper output.

3). Recheck the offset and span points for the channel just calibrated.

4). Repeat the last two steps for each of the remaining channels.

5). If the module provides a current output, the setting of the LOOP control may be checked by inserting extra resistance into the loop and verifying that the loop current does not change. This adjustment is normally performed with 100% signal out from the module. For 4/20mA loops insert an extra 500 ohms for a total of 550 ohms in the loop and for 10/50mA loops insert an extra 200 ohms. If necessary, adjust the LOOP control so that the loop current as monitored across the 50 ohms shunt does not change when the extra resistance is inserted.

6). This completes all adjustments.