

TECHNICAL INFORMATION SHEET – NUMBER 163

SERIES 2400 USER CALIBRATION

9/23/97



ISSUED BY THE APPLICATIONS ENGINEERING DEPARTMENT

VERSIONS GREATER THAN OR EQUAL TO 3.05/3.55

Single-point (single offset is applied to entire display range) or two-point (straight line is applied between two selected points) calibration can be selected. Each applies an offset to the permanent factory calibration.

Enable user calibration by setting **UCAL** in the **CAL** configuration list to **YES**.

Single-point calibration

1. Connect calibration source to terminals of input 1 and power up. Set source to desired value.
2. Controller will display present measurement of value. If correct, no further action is necessary.
3. If displayed value is incorrect, select **FULL** access level.
4. Select **CAL** in calibration configuration list, then select **FACt** which reinstates factory calibration and permits single offset.
5. Scroll to **OFS.1** and enter offset value of process variable one. (For example, if the value displayed is 5 degrees higher than actual, enter a value of -5. If value displayed is 7 degrees lower than actual, enter a value of 7.)
6. Scroll to **OFS.2** if process value 2 is configured, and enter offset value.

Two-point calibration

1. Connect calibration source to terminals of input 1 and power up. Set to desired low-point calibration value.
2. While in configuration access level, scroll to **CAL** display and select **USEr**.
3. Select **FULL** access level, then page to **iPList**
4. Scroll to **CAL.S** and select **iP1.L**.
5. Scroll to **ADJ** and set reading to desired value.
6. Set calibration source to desired high-point calibration value.
7. Repeat foregoing procedure to perform high-point calibration, but at **CAL.S** select **iP1.H**, and at **ADJ** set reading to desired high-point calibration.

The points at which user calibration was performed and the value of the offsets can be viewed from the configuration input list.



VERSIONS LESS THAN 3.05/3.55

The user calibration can be activated in configuration mode. If the user calibration is activated, the **AdJ** parameter is set to **YES**. If the user calibration is not activated, the **AdJ** parameter is set to **NO**.

If the user calibration is selected, the user can perform a one- or two-point calibration. A one-point calibration changes only the calibration offset. A one-point calibration uses the **AdJ.L** parameter. A two-point calibration changes both the offset and the slope of the user calibration. The **AdJ.L** and the **AdJ.H** are both used for a two-point calibration.

AdJ.L

1. Connect the PV input to the source of the low point calibration.
2. Scroll to the **CAL.L** parameter. Select **YES**.
3. Scroll to the **AdJ.L** parameter. The display will indicate the PV input value. Adjust this value to the desired calibrated value. The original PV will be saved as **Pnt.L**. The parameters **oFS.L** and **oFS.H** will be recalculated to reflect the new offset.

AdJ.H

1. Connect the PV input to the source of the high point calibration.
2. Scroll to the **CAL.H** parameter. Select **YES**.
3. Scroll to the **AdJ.H** parameter. The display will indicate the PV input value. Adjust this value to the desired calibrated value. The original PV will be saved as **Pnt.H**. The parameter **oFS.H** will be recalculated to reflect the new slope and offset.

ERROR

If an error is made during user calibration, factory calibration can be restored by setting the **CAL** parameter to **FAct**.