14 Calibration Mode

WARNING:

CALIBRATION IS ONLY REQUIRED FOR INSTRUMENTS IN WHICH CALIBRATION ERRORS HAVE BEEN ENCOUNTERED. REFER TO CALIBRATION CHECK BELOW.

CAUTION:

Calibration must be performed by personnel who are technically competent and authorised to do so.

Calibration is carried out during manufacture and is not normally required again during the lifetime of an instrument.

Equipment Required For Checking or Calibrating the Universal Input

A suitable calibration signal source is required for each input type. To verify the accuracy of the instrument or carry out recalibration, the listed input sources are required, with better than ±0.05% of the reading accuracy:

1. DC linear inputs: 0 to 50mV, 0 to 10VDC and 0 to 20mADC.

2. Thermocouple inputs - complete with 0ºC reference facility, appropriate thermocouple functions and compensating leads (or equivalent).

3. RTD inputs: decade resistance box with connections for three-wire input (or equivalent).

Calibration Check

1. Set the instrument to the required input type.

2. Power up the instrument and connect the correct input leads.
   Leave powered up for at least five minutes for RTD and DC linear inputs, or at least 30 minutes for thermocouple inputs.

3. After the appropriate delay for stabilisation has elapsed, check the calibration by connecting the appropriate input source and checking a number of cardinal points.

4. Repeat the test for all required input types.

Recalibration Procedure

Recalibration is carried out in five phases as shown in the table below, each phase corresponds to an input range of the instrument.

CAUTION:

The 50mV phase MUST be calibrated before the thermocouple range.

Table 36. Input Calibration phases

iP_1	50 mV
iP_2	10 V
iP_3	20 mA
iP_4	RTD input (200 ohm)
iP_5	Thermocouple (K type source at 0ºC required)

To start calibration, apply the required calibration input from the source type list above, using the correct connections,

1. Whilst the instrument is powering up, press ↺ and ▽ together until iP_1 is displayed.

Note:
If a phase has not been previously calibrated the display will flash.

2. Press AUTO MAN to initiate calibration on PID Controllers, or
   Press RESET to initiate calibration on Limit Controllers, or
   Press △ and ▽ together to initiate calibration on Indicators.

3. During calibration the display changes to ---- for a few seconds.

4. If the input is misconnected or an incorrect signal is applied the calibration will be aborted and the display will shown FAiL. The previous calibration value will be retained.

5. If the calibration has succeeded, the pass display is shown iP_1 (non-flashing).

6. Press ↺ to step onto the next phase.

7. Repeat this process for each input type until all the phases are calibrated.

Note:
Switch off the instrument to exit the Calibration Mode.
Calibration Mode automatically exits if there is no button activity for five minutes.