

# MICROCAL CALIBRATION

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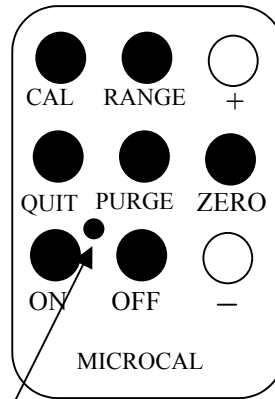
The Microcal is a compact pocket size unit intended for minor adjustments to the calibration of the Gasurveyor range of instruments. It permits quick and simple access to any Gasurveyor in need of calibration adjustment.

## THE MICROCAL

A low cost electronic screw driver for your GASURVEYOR  
Clip on and calibrate

The unit is intended as a direct access device which performs the required tasks simply without the need of a display.

The device runs efficiently on a single PP3 9v battery for up to 18 hrs continuous usage. The battery is housed in a slide door compartment situated at the rear of the unit.

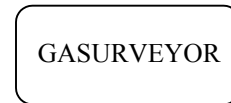


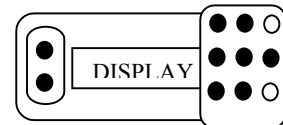
ON INDICATOR

The unit has nine function keys which perform various tasks as indicated in the following table.

FUNCTION KEY	OPERATION
“ON”	Turns unit on.
“+”	Sets instrument in serial comms. Mode.
“CAL”	Sets instrument in the calibration mode.
“RANGE”	Changes the displayed range.
“ZERO”	Zeros the selected range.
“+”	Increments gain of selected range.
“-”	Decrements gain of selected range.
“PURGE”	Sets instrument in purge mode.
“QUIT”	Quits calibrate mode.
“OFF”	Turns unit off.

MICROCAL 

 GASURVEYOR



MICROCAL

Affix Microcal to top right hand of Gasurveyor using slot in instrument and guide on Microcal

The + and – gain keys have a self repeating function which is activated by continuous depression of either switch.

## MICROCAL OPERATING INSTRUCTIONS

The calibration procedures to be followed when using the Microcal are as follows:

1. Fit Microcal into position on Gasurveyors, Switch Microcal ON – red led will illuminate.
2. Switch Gasurveyor ON – during the instrument sign-on, Press + key for two seconds during the period. This will put the instrument into serial communications mode.
3. When the instrument has completed its sign-on press the “CAL” key to enter calibration mode. To ensure you are in calibration mode press the “RANGE” key several times, this should change the range of the instrument. If there is no change press “CAL” again and repeat the above.
4. Once in the calibration mode select the available ranges and zero using the “RANGE” and “ZERO” keys in sequence (i.e. “RANGE” ppm, “ZERO”, “RANGE”, 10% LEL, “ZERO”, “RANGE”, 100% LEL, “ZERO”, “RANGE”, Gas, “ZERO” – the 10% LEL and the 100% LEL ranges have the same zero).
5. CALIBRATION – When calibrating the various Gasurveyor instruments use the following sequence of ranges must be followed – ppm, 10% LEL, 100% LEL and Volume gas.
6. Switch pump on to sample the desired gas concentration and wait for the display to reach its final value. To set the displayed value to the actual concentration the + gain and – gain keys are used. If the displayed concentration is lower than the actual keep the + key depressed until the desired value is achieved. Similarly if the displayed concentration is higher than the actual then keep the – key depressed until the desired value is achieved. Each single shot operation of the + or- key represents approximately 0.1% increment in the appropriate scale, thus 10 successive presses are necessary to achieve 1.0 digit change, depending on range selected, continuous depression of the keys allows the gain to be ramped up or down.
7. The procedure indicated in 6, is repeated on each range.
8. After all ranges have been calibrated in sequence (i.e. ppm, 10% and 100% LEL and volume gas) press “QUIT” key to quit calibration. When “QUIT” is pressed the instrument should return to the 10% LEL range (unless in PURGE MODE).
9. Calibration complete – switch instrument off then on again and check calibration.
10. PURGE FLAG – (GASURVEYOR 3 only)  
The “PURGE” command sets the instrument to read volume gas only. While in the calibration mode when a “PURGE” command is received by the Gasurveyor 3 followed by a “QUIT” command the instrument will read volume gas only. To ensure this flag has been set correctly switch the instrument off then on again. Instrument should be on Volume gas range.  
Should this not be the case re-enter calibrate mode and repeat.

### NOTES

- a. Should the selected range change during a + or – gain sequence of a calibration, then stop and return to the original range by using the “RANGE” key before continuing calibration.
- b. The Purge Mode is only an available option on a Gasurveyor 3.
- c. **The Microcal cannot be used to change the gas type or change the calibration constants to suit another type of gas.**