AMELEC
SIGNAL CONDITIONING

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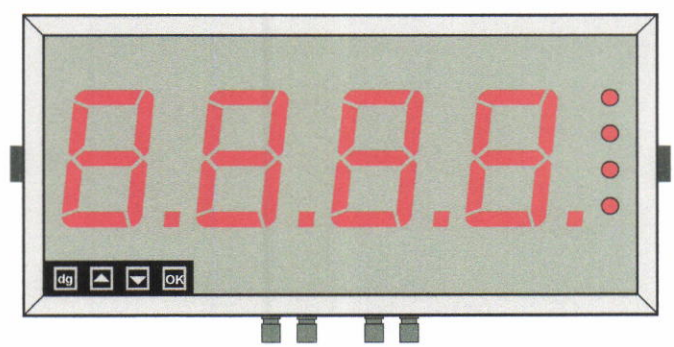
Large digit process signal display

APM489-LD 4 digit version

Installation & Operating Manual



- Easy setup
- Fully scalable
- 24V sensor excitation output
- 10 point linearisation
- Optional Output 4-20mA / 0-10V isolated
- Optional Alarm output = 2 or 4 relays
- Optional Comms Output = RS232 or RS485
- 110-230V AC or 11-30V DC power

Caution: There is a risk of electrical shock if this instrument is not properly installed

Caution: Risk of danger: Read the whole manual before you install this meter

Software version F04.01 Revision 27 23 June 2023

MAINTENANCE & WARRANTY

No routine maintenance is necessary, however it is suggested that the equipment calibration should be checked at twelve monthly intervals.

There are no recommended serviceable parts on these large displays, so it may be advisable to hold spare units on a customer site.

Should the display fail to operate, it is suggested to be returned to our factory for a full investigation. You can contact our technical sales team for initial assistance on Tel: +44 (0)1908 567003.

This product is covered by a Three-year warranty from date of despatch from our factory, unless agreed otherwise in writing. To claim under this warranty, the display should be returned carriage paid to our factory with detailed description of the fault experienced. (See cover page for return address).

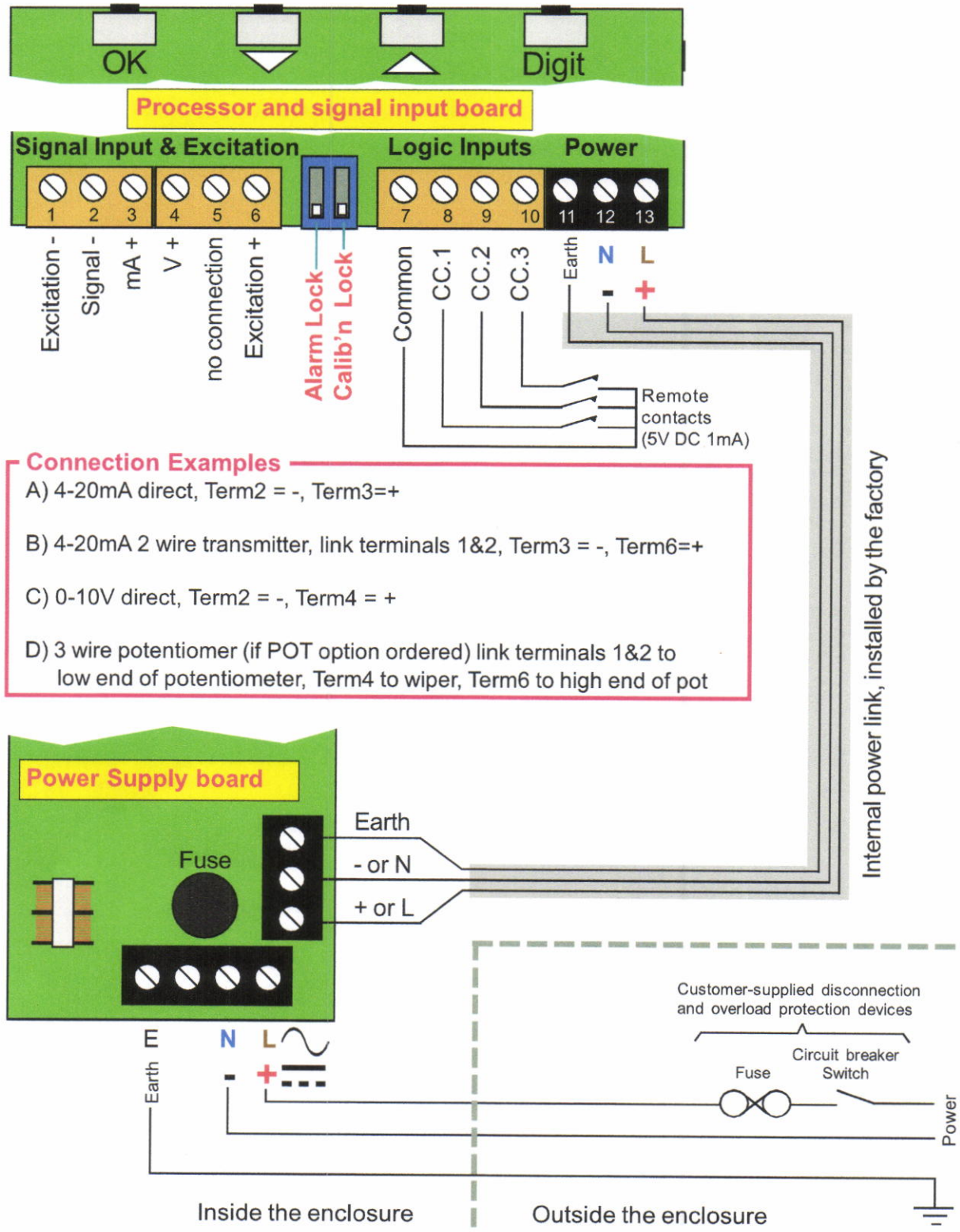
If returned to our factory for investigation, we will repair or replace the product F.O.C if it is found to be faulty through bad workmanship or materials. The warranty shall not cover damage caused by accident or misuse.

Every effort has been taken to ensure the accuracy of this document, however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

Connections

Warning:
Disconnect all power before removing the rear of the display

There is a wide range of possible locations for the input board, output board and power supply board/s. Their locations depend on the height of digits, number of digits, brightness of digits and any installed options. Because the permutation of possible locations is large, we will not describe the location of boards within the display, but simply identify the connectors and their functions on each board, below ...



Connection Examples

A) 4-20mA direct, Term2 = -, Term3=+

B) 4-20mA 2 wire transmitter, link terminals 1&2, Term3 = -, Term6=+

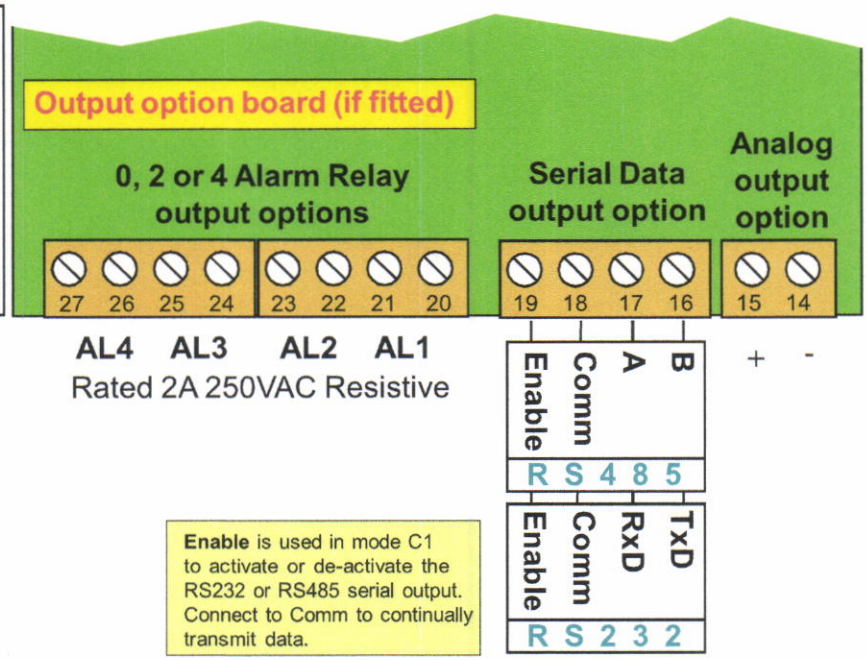
C) 0-10V direct, Term2 = -, Term4 = +

D) 3 wire potentiomer (if POT option ordered) link terminals 1&2 to low end of potentiometer, Term4 to wiper, Term6 to high end of pot

Connections

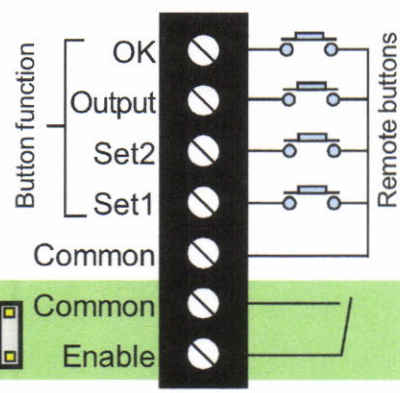
Warning:
Disconnect all power before removing the rear of the display

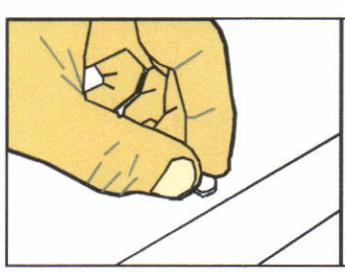
Connectors and options
Connectors may be present even if output options are not installed. Refer to rating label to see installed options.



Remote programming button connector
On one of the display boards, you will find a 7 way connector, to which you can wire remote programming buttons, to allow adjustment of the display's settings when the display is inaccessible.

You can also enable or disable the display's front panel buttons, either by a remote contact closure, or by an on-board push-on jumper switch, which is located near to the remote button connector. When the contact is closed, or the push-on switch fitted, the front buttons are enabled.





Rear case screws - please note

The rear panel is held in place with finger-screws, which only need to be gently tightened.
Do not use tools to tighten or loosen the screws, as this could cause damage to the internal threads.

Meter Calibration Modes

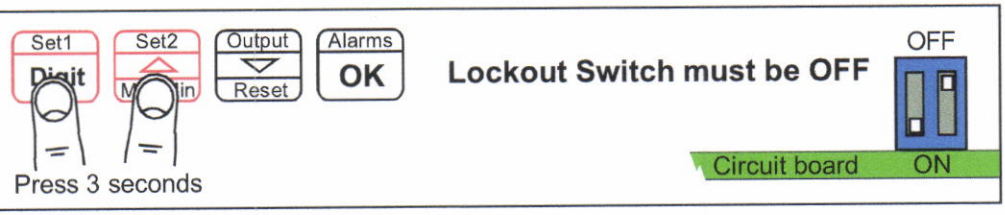
You can choose from two main calibration methods.

1. Direct Calibration - this is when you connect the meter to your system and make the meter read what you want it to, at 2 different points. *This is the preferred calibration method, because it allows you to calibrate the system as a whole.*

2. Theoretical Calibration - this is when you type in the sensor's theoretical signal level at the bottom and top of its range and then type in the value the display should show, for each signal level.

How to choose a calibration method:-

1



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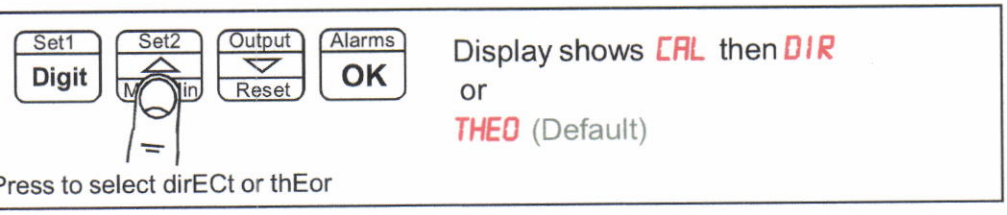

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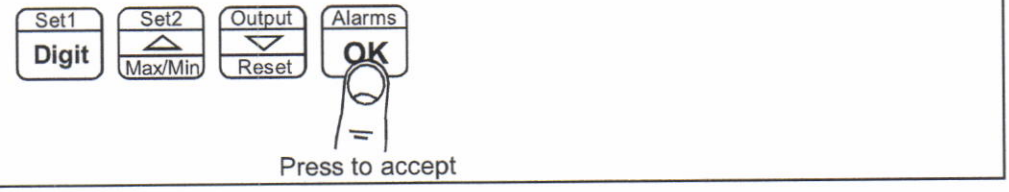
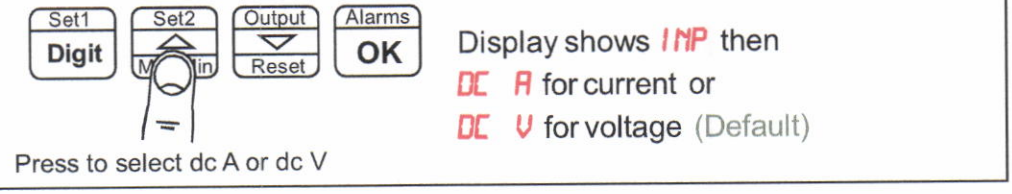


If you chose Theoretical, you will now be asked whether your input signal will be DC Current or DC voltage ... the display will show INP followed by DC A or DC V

4



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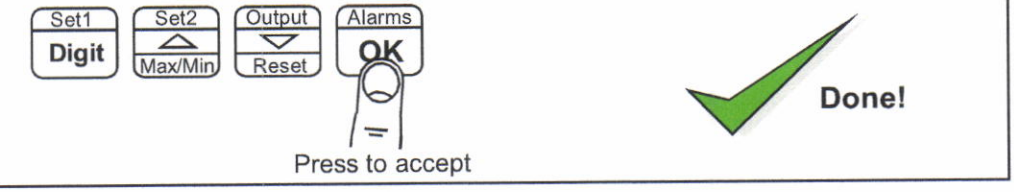


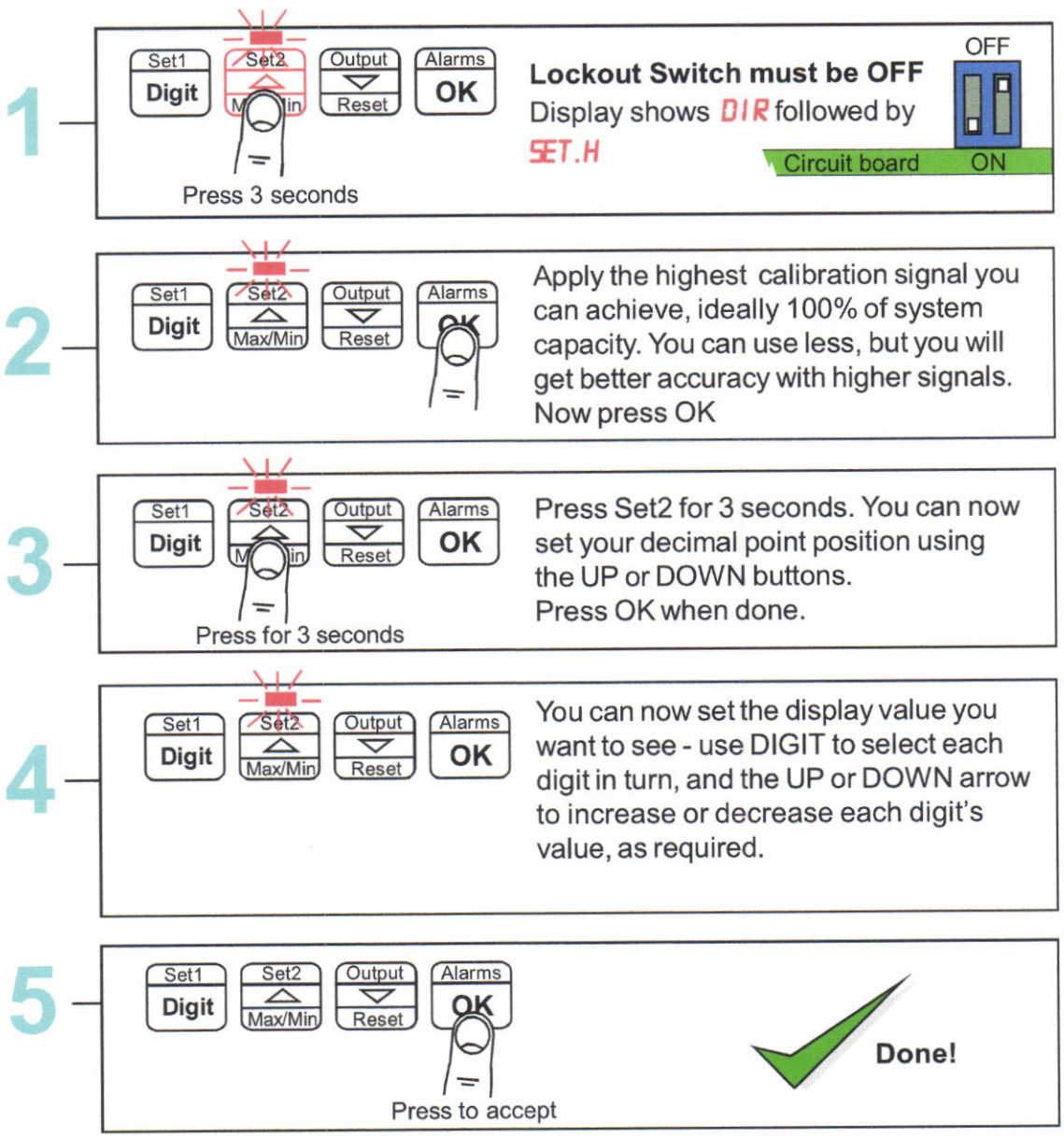
Direct Calibration - Full Scale Setting

This is when you connect the meter to your system and make the meter read what you want it to, at 2 different points. *This is the preferred calibration method, because it allows you to calibrate the system as a whole.*

How to do direct calibration:-

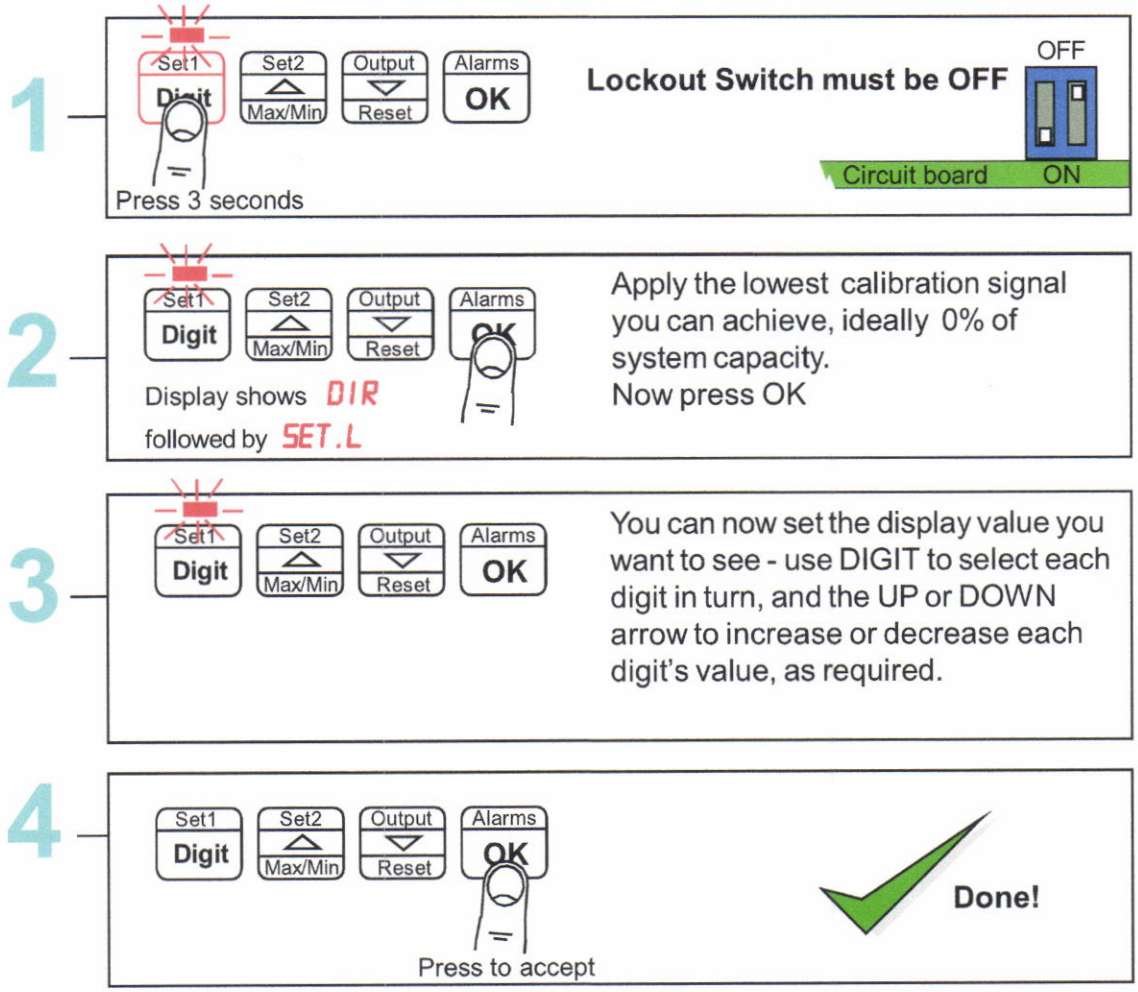
If you have not done so before, please select Direct Calibration mode from the previous page.

First we recommend you set the **FULL SCALE** calibration ...



Direct Calibration - Zero Setting

How to calibrate the **ZERO** point.



You can set Zero first, if you prefer, but you will not be able to change the decimal point position in the ZERO calibration step.

This will not be an issue if your zero calibration reading is 0, but may become confusing otherwise.

When you have finished your calibration, please remember to put the calibration lockout switch in its ON position, to protect your settings.