

MostraLog

Manual calibration boxes

MostraLog is equipped with a high quality humidity probe with good long term stability. The calibration boxes enable you to verify precision of the probes (calibration) or to re-adjust the probes. This is achieved using two calibration salts covering the high respectively the low humidity range.

The procedure is based on the phenomenon, that saturated salt solutions create a well-defined and constant relative humidity (RH) above their surface. A saturated salt solution is a salt solution with at least a small deposit of undissolved salt at its bottom.

Temperature °C	5	10	15	20	25
Magnesium chloride, $\text{MgCl}_2 \cdot 6 \text{H}_2\text{O}$	33,6	33,5	33,3	33,1	32,8
Sodium chloride, NaCl	75,7	75,7	75,6	75,7	75,3

Table 1: constant humidity values (in % RH) of the two calibration salts at various temperatures

Procedure:

1. Position the calibration box on a sturdy table and take out the grid. Pour a bit of magnesium chloride into the box until at least a large part of the bottom is covered. Sparingly add some drops of water until all salt is wet – creating a kind of slurry. Make sure there will be no or little clear liquid above the undissolved salt – this will slow down the creation of the constant humidity level! Wipe off all spilled salt immediately. It is essential to keep everything clean as spilled magnesium chloride will never dry. In case your salt solution has become too liquid you can add some dry salt. Please make sure you're using the same salt! If your salt solution has become too dry you can add some drops of water, until all salt will be wet again.
2. Place the grid back into the calibration box.
3. Make sure the IR-receiver of your MostraLog has been activated. The easiest way will be to use the IR-remote control (see manual MostraLog). If a MostraLog doesn't react to the IR remote control you have to activate the IR-sensor. Activating the IR can be done via the software or by using the paper clip buttons.
4. Place one or more MostraLog on the grid and close the box. Always keep the box horizontally to avoid any spillage of salt.
5. Put the box in a place with constant temperature and read after at least 6 hours.

Important: Constant temperature during calibration is crucial. The best places for calibration are in a cave or in a cupboard, away from direct sunlight, radiators or open windows.

6. Push one of the arrow-buttons on your IR remote control until all MostraLog inside the calibration box react. Using the remote control click through the menu until you reach „CAL“. Select the calibration salt MG ((MgCl_2)) using the buttons „+“ or „-“ and start the readjustment procedure with ▲. MostraLog confirms a successful re-adjustment with „OK“. In case of error MostraLog displays „ERR“. Potential causes for errors are contaminated salt solutions or wrong selection of salt solution (NaCl instead von MgCl_2).
7. Repeat steps 1 – 6 with the second calibration box and sodium chloride. It doesn't matter with which salt you start – you also can start with sodium chloride.

Please note that values only will be adjusted once the calibration process with both salts will be completed!

8. If you want to re-adjust a MostraLog with external probe leave the external probe plugged in and follow the calibration process as for the internal probe. With the external probe plugged in MostraLog will only re-adjust the external probe and not the internal one.
9. After having re-adjusted your sensors successfully you can deactivate the IR-receiver of your MostraLog by using the remote control or via the paper clip buttons. Leaving the IR-sensore active will considerably reduce battery life time.
10. Close the calibration boxes well after use. The salts may remain inside the boxes – they don't alter even after decades and can be re-used at any time. Always keep the boxes horizontally to avoid any contamination on the grids. Spilled salt solution can be washed off with pure water.

Note on safety: Both salts are nontoxic in small quantities. Keep out of reach of children anyhow.