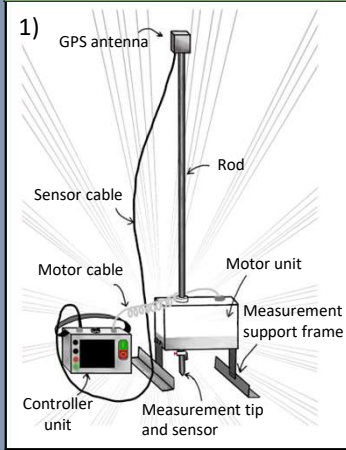


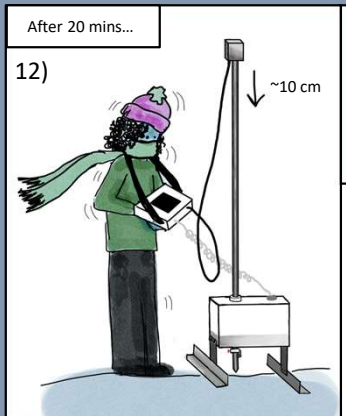
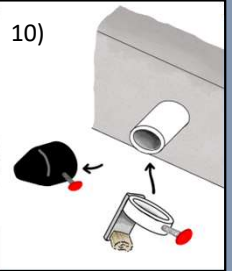
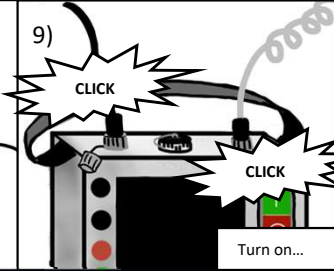
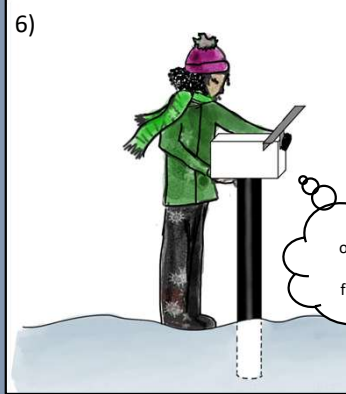
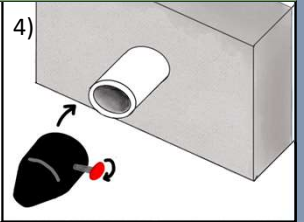
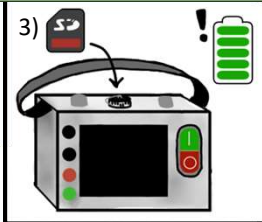
# SMP QUICK STARTER GUIDE



2)

**Packing list**

- SMP motor unit
- SMP controller unit with SD memory card and fully charged battery
- Sensor cable
- Measurement tip and O-ring
- Protective cap for sensor
- Measurement support frame (x4 quick release screws)
- Ski poles
- Brush



11)

13)

14)

Return rod to 'home' Start measurement with green button. There is a 3 second delay....

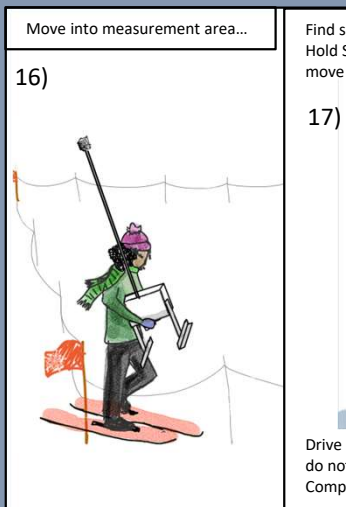
Stop with red button BEFORE touching snow

15)

Conduct:

- 1) Air test
- 2) Finger tip test.

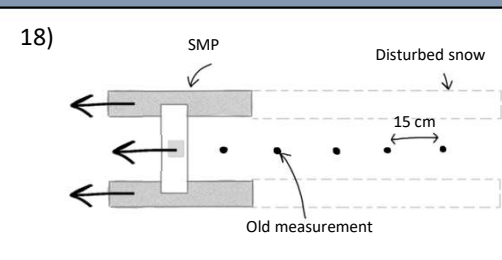
If everything looks okay...



17)

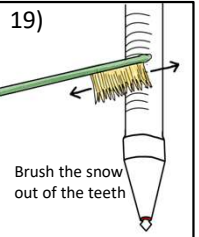
Find stable position, push SMP down. Hold SMP in the stable position and do not move!

Drive rod back whilst making sure the cables do not get stuck... Complete 2 cool down measurements.

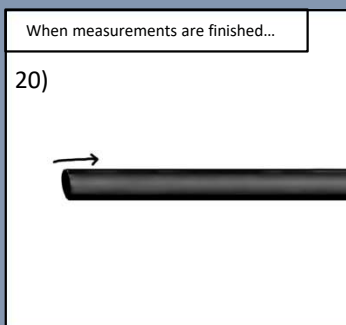


The measurement is finished when:

- a) A defined measurement depth is reached
- b) Overload force is reached
- c) Operator stopped measurement with red button



**If the SMP starts to lift the operator or sink into the snow during the measurement... STOP the measurement with the red button! Never adjust the applied force! Discard this measurement.**

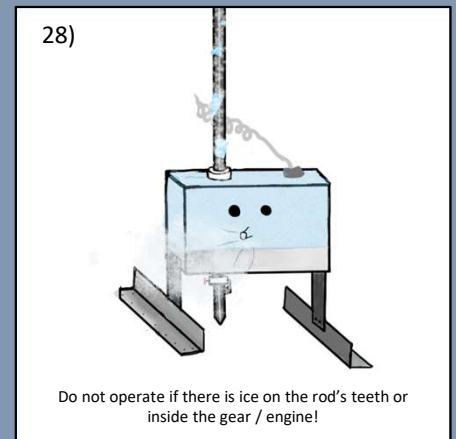
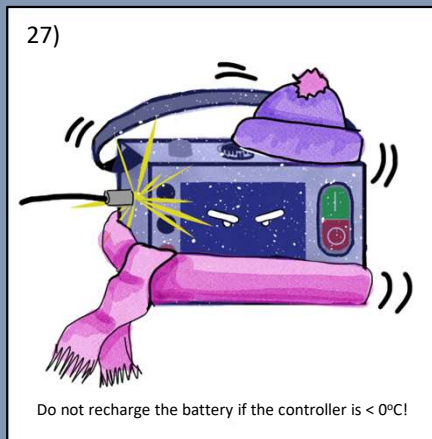
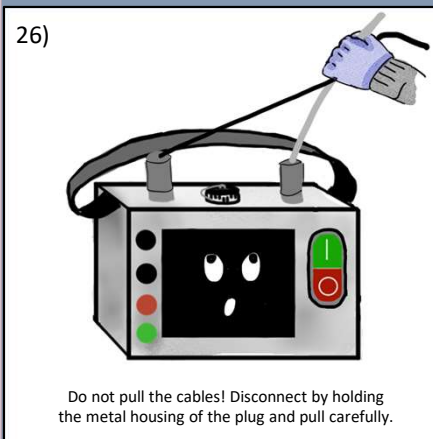
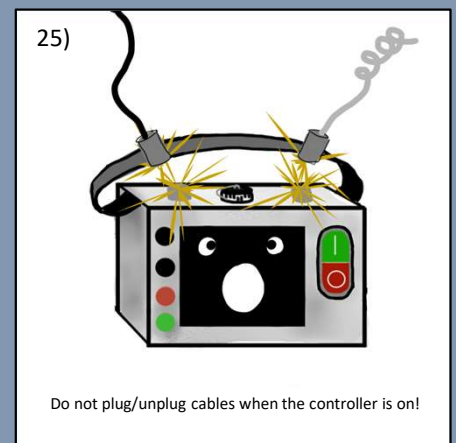
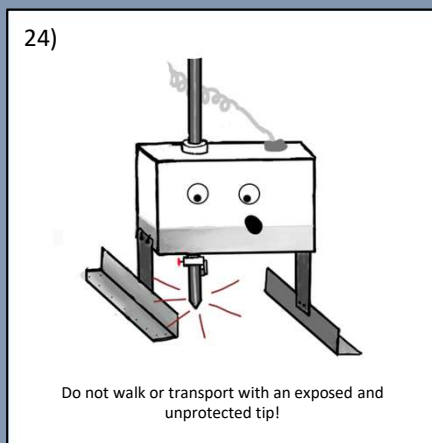
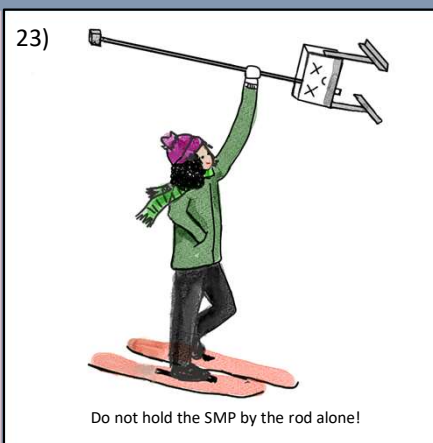


20)

- Take inside to > 20 °C to dry the rod.
- Drive the rod out and remove the tip.
- Wipe the rod with a towel to remove water, dirt and salt.



# DON'T'S



## Legend:

- 1) Check, that the components of the SMP are complete, dry, and clean
- 2) Properly pack the SMP and all its components into the transportation box according to the packing list
- 3) Make sure, that the "config.txt" file is on the SD memory card, that there is enough free memory and the battery is fully charged
- 4) The measurement tip and O-ring are correctly inserted and protected with the black protective cap
- 5) Bring the SMP safely to the site where you want to measure
- 6) Holding the instrument upside-down in front of you and mount either the measurement support frame or the ski poles
- 7) Turn the device. Remove the black protective tube so that the rod is free and can adapt to the ambient temperature
- 8) Check, that all the plugs are free of snow. The controller unit must be switched OFF. Then, connect the cables
- 9) The connectors are push-pull type. If you hear a gentle "click", the plug is correctly connected to the socket. Then, switch the controller unit ON
- 10) Remove the protection cap of the sensor and fix the ring brush
- 11) Navigate to the "drive rod" menu
- 12) Drive the rod manually out of the home position unless you can see and access the measurement tip (~10 cm)
- 13) Check if the position of the O-ring on the measurement tip is correct
- 14) Simple system check: conduct a finger dipp measurement
- 15) Judge from the force-distance graph on the display whether the SMP works fine or needs further investigations
- 16) Bring the SMP to place where you want to measure. The controller is still connected with the motor unit and is switched ON.
- 17) Bring the SMP in a good measuring position whereas the rod is perpendicular to the snow surface. Put your bodyweight onto the motor unit, so that a stable position can be ensured during the measurement. Release from the motor unit and trigger a measurement on the controller unit within the measure menu. The measurement, or the starting of the rod, will be shortly delayed to give the operator the chance from operating the controller unit to go back into the holding position of the motor unit. Do not move as long as the rod is moving down
- 18) When the measurement has been finished the rod will immediately start to home. Then, release the holding force and make sure that any cables do not get stuck somewhere. When the rod is homed, move to the next measurement position
- 19) While the rod is homing, try to support the ring brush with additionally cleaning off the teeth of the rod with the provided hand brush
- 20) After the measurements are done, switch of the controller unit, disassemble the device and protect the rod and the sensor
- 21) Take the SD memory card out of the controller and connect it with your computer to download the files
- 22) Use pyngui from the snowmicropyn python package to evaluate your data
- 23) Never hold and carry around the SMP on the rod. Hold it on the motor unit as well
- 24) Do not walk or move the SMP, when the rod is not in its home position. As soon as the measurement tip is "visible", it is kind of "unprotected" and the force sensor could break in case of an unexpected force impact. Use always the black protective cap when moving the SMP.
- 25) Do not connect or disconnect the plug when the controller is on
- 26) For disconnection the cables, pull on the metal housing of the plug. Do not pull at the cable itself
- 27) Never recharge the battery when the controller is at cold temperatures ( $< 0^{\circ}\text{C}$ )
- 28) If the rod is not moving despite of a triggered measurement, do not force the rod moving. Ice on the rod or in the gear can damage the engine