English

Brief instructions
Groundwater datalogger OTT Orpheus Mini

First of all, please make yourself fully familiar with the installation and operation of the OTT Orpheus Mini using operating instructions 55.440.002.B.E. The operating instructions are on the accompanying CD-ROM. Afterwards, you can use these brief instructions for the installation on location. Note: These brief instructions are based on the "Basic operation" of the OTT Orpheus Mini operating program.

Installing the OTT Orpheus Mini [1)]

Required aids

– top cap wrench for a) and b)
– tool for 1" observation well cover for c)
– contact gauge

Preparatory work

1. If you have not already done so, insert the batteries:
   – Slide the pipe casing of the communication unit approximately 30 cm in the direction of the pressure probe cable.
   – Insert 3 batteries (LR6 · AA/FR6 · AA) as shown.
   – Screw the pipe casing back on.
2. Open the top cap/observation well cover.
4. Determine the current depth with a contact gauge and make a note of it.

a) Installing in observation wells with 2", 3", 4", 5" or 6" Ø; top cap with recess [2)]

1. Insert correctly sized adapter plate into top cap.
2. Pass pressure probe through the hole in the adapter plate.
3. **Slowly** and **carefully** lower the pressure probe into the observation well on the pressure probe cable!
5. Pass the communication unit through the hole in the adapter plate until the O-ring sits on the adapter plate.

[1)] up to 100 m system length: follow drawings on the next page!
[2)] e.g. from OTT or HT

b) installing in observation wells from 2" Ø; top cap without a recess

1. Take off the upper part of the top cap.
2. Place the suspension bracket on the screw.
3. Reattach the upper part of the top cap.
4. Pass pressure probe through the holes in the suspension bracket.
5. **Slowly** and **carefully** lower the pressure probe into the observation well on the pressure probe cable!
6. Pass the communication unit through the holes in the suspension bracket until the O-ring sits on the suspension bracket.

c) Installing in observation well with 1" Ø

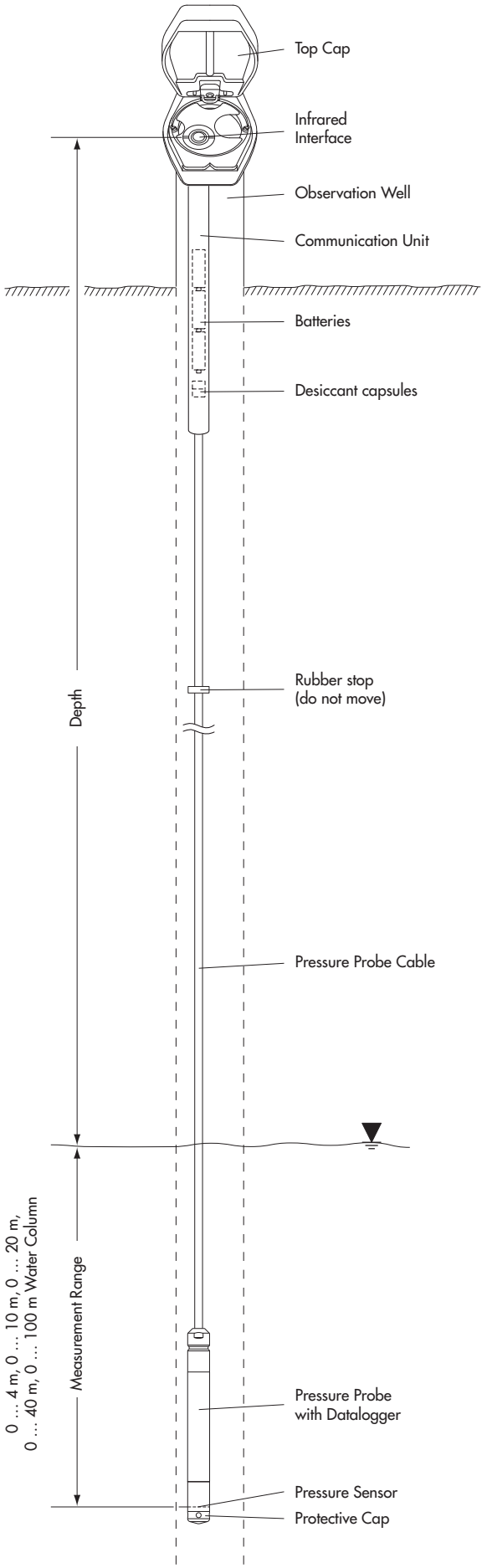
1. Slide O-ring from the communication unit onto the pressure probe cable.
2. Place adapter ring over the pressure probe cable and slide it until it comes to rest against the communication unit.
3. Slide O-ring back onto the communication unit.
4. Feed the pressure probe into the observation well.
5. **Slowly** and **carefully** lower the pressure probe into the observation well on the pressure probe cable!
6. Feed the communication unit into the observation well until the O-ring sits on the observation well.

d) Special case: installing in observation wells from 2" Ø; without top cap

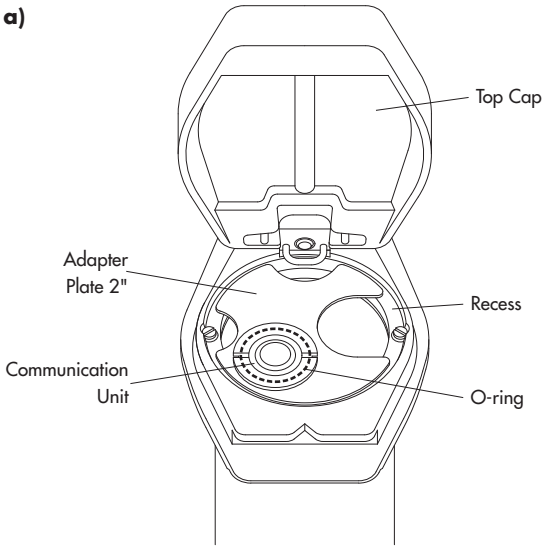
For this installation case, an individual solution to fasten the OTT Orpheus Mini must be found depending on the measurement site. Example: fix a suspension bracket with an M6 (stainless steel) Allen bolt laterally at the upper end of the observation well.

Final work

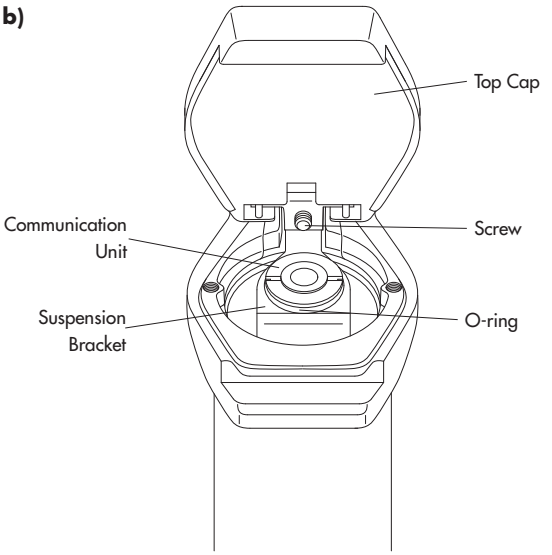
→ Set the operating parameters. See "Adjusting operating parameters".


Top Cap
Infrared Interface
Observation Well
Communication Unit
Batteries
Desiccant capsules
Rubber stop (do not move)
Pressure Probe Cable
Pressure Probe with Datalogger
Pressure Sensor
Protective Cap
Depth
Measurement Range
0 ... 4 m, 0 ... 10 m, 0 ... 20 m,
0 ... 40 m, 0 ... 100 m Water Column

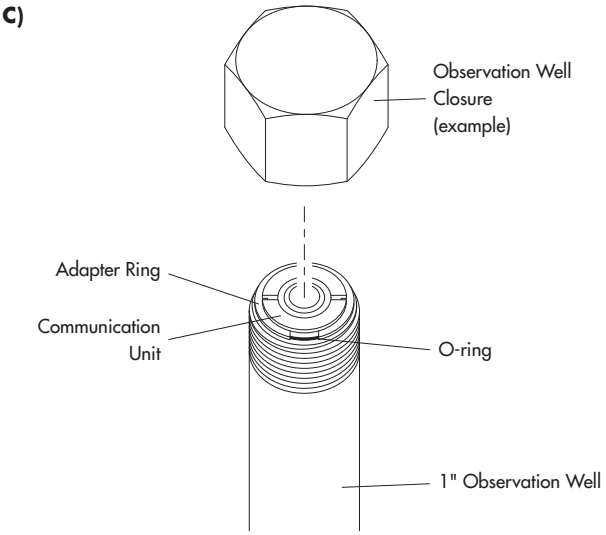
a)


Top Cap
Adapter Plate 2"
Recess
Communication Unit
O-ring

b)


Top Cap
Communication Unit
Screw
Suspension Bracket
O-ring

c)


Observation Well Closure (example)
Adapter Ring
Communication Unit
O-ring
1" Observation Well

Required aids for the following steps

– PC (Notebook) with OTT Orpheus Mini operating program installed
– OTT DuoLink or OTT IrDA-Link USB optical reading head

Adjusting operating parameters

1. Attach OTT DuoLink to the RS-232 interface or the OTT IrDA-Link USB to the USB port of the PC.
2. Place the OTT DuoLink/OTT IrDA-Link USB on the communication unit.
3. Start the OTT Orpheus Mini operating program.
4. Press the "Setup device" button. [1]
5. Press the "Connect" button. [2]
6. Setting operating parameters:
   – Site/Parameter number: site/sensor number (alphanumeric)
   – Site/Parameter name: site/sensor name
   – Select measurement type: water level (depth or water level), pressure
   – Select units
   – Enter measured reference value ☑: enter contact gauge value (see "Installing the OTT Orpheus Mini", "Preparatory work")
   – Sample interval: 1 s … 24 h
   – Storage interval: 1 s … 24 h
7. Setting time: Press "Set date/time" button and set to suggested PC date/time or an individually set date/time. **Caution:** The operating program automatically corrects any summer time PC adjustments.
8. Press "Save to device" → Warning: "Reset OTT Orpheus Mini and delete data memory additionally?" Confirm with "Yes" (recommended for initial installation and reinstallations). **Caution:** All measured values collected until now will be permanently lost!
9. Check the level of the adjusted measured value (pressure sensor). See "Determining instantaneous values".
10. Remove the OTT DuoLink/OTT IrDA-Link USB.
11. Close the top cap/observation well cover.

[1] Button not visible? → activate the check box "Advanced operation ..." in the "Options" function in the "File" menu.
[2] If required: Change the setting for the reading head (IrDA – OTT …; COMX)

Downloading saved measured values

1. Open the top cap/observation well cover.
2. Attach OTT DuoLink to the RS-232 interface or the OTT IrDA-Link USB to the USB port of the PC.
3. Place the OTT DuoLink/OTT IrDA-Link USB on the communication unit.
4. Start the OTT Orpheus Mini operating program.
5. Press the "Download data" button → the operating program shows the sensors available and the possible read period. If values are not visible: Press the "Connect" button [1].
6. Select the required sensors or "All sensors".
7. Select the required read period or "All".
8. Press the "Download data" button → the operating program copies the measured values from the OTT Orpheus Mini to the PC.
9. Remove the OTT DuoLink/OTT IrDA-Link USB.
10. Close the top cap/observation well cover.

[1] If required: Change the setting for the reading head (IrDA – OTT …; COMX)

Determining instantaneous values

1. Open the top cap/observation well cover.
2. Attach OTT DuoLink to the RS-232 interface or the OTT IrDA-Link USB to the USB port of the PC.
3. Place the OTT DuoLink/OTT IrDA-Link USB on the communication unit.
4. Start the OTT Orpheus Mini operating program.
5. Press the "Setup device" [1] button and select the "View instantaneous values" function in the "OTT Orpheus Mini" menu [2] → the "Observer" window shows the instantaneous values (and date/time and battery voltage). [3]
6. Press the "Exit" button.
7. Remove the OTT DuoLink/OTT IrDA-Link USB.
8. Close the top cap/observation well cover.

[1] Button not visible? → activate the check box "Advanced operation ..." in the "Options" function in the "File" menu.
[2] If required: Change the setting for the reading head (IrDA – OTT …; COMX)
[3] With the "Suppress display of instantaneous value before input" setting ("File" menu, "Options" function), a manually determined check value of the water level must be entered first.

Carrying out maintenance work

a) Checking batteries

1. Determine the current battery voltage. See "Determining instantaneous values". A battery voltage lower than approx. 3.5 to 3.6 volt → replace batteries.

Note on the use of alkaline batteries: Be aware of variations in environmental temperatures at different times of year! Due to their design, at 0 °C, batteries of this type drop to 50 % of their original 20 °C capacity, and at –10 °C they drop to approximately 35 %.

b) Replacing batteries

1. Open the top cap/observation well cover.
2. Pull the communication unit approximately 80 cm out of the observation well and hold (a second person would be useful).
3. Slide the pipe casing of the communication unit approximately 30 cm in the direction of the pressure probe cable.
4. Remove discharged batteries. [1]
5. Insert 3 batteries (LR6 · AA/FR6 · AA) as shown within 10 minutes.
6. Screw the pipe casing back on.
7. Slowly and carefully replace the communication unit into the observation well. See "Installing the OTT Orpheus Mini".
8. Close the top cap/observation well cover.

[1] Properly dispose of discharged batteries! Do not put in household waste!

c) Replacing the desiccant capsules

Recommended replacement interval: Depending on the level of humidity at the point of installation, every 1 to 2 years and when replacing the batteries.

1. Open the top cap/observation well cover.
2. Pull the communication unit approximately 80 cm out of the observation well and hold (a second person would be useful).
3. Slide the pipe casing of the communication unit approximately 30 cm in the direction of the pressure probe cable.
4. Remove used desiccant capsules.
5. Install 2 new desiccant capsules.
6. Screw the pipe casing back on.
7. **Slowly** and **carefully** replace the communication unit into the observation well. See Installing the OTT Orpheus Mini.
8. Close the top cap/observation well cover.

d) Cleaning the pressure probe measuring cell

1. Open the top cap/observation well cover.
2. Determine the instantaneous value and note it down. See "Determining instantaneous values".
3. Completely remove the OTT Orpheus Mini from the observation well.
4. Remove the black protective cap.
5. Carefully clean the measuring cell with a brush. Lime scale deposits can be removed using a common household scale remover. Make sure to follow the use and safety instructions of the scale remover!
6. Rinse the pressure probe **thoroughly** with clear water!
7. Reattach the black protective cap.
8. Reinstall the OTT Orpheus Mini. See "Installing the OTT Orpheus Mini".
9. Determine the instantaneous value and compare to the instantaneous value from step 2 and correct as necessary. See "Setting operating parameters".
10. Close the top cap/observation well cover.

Document number
55.440.002.K.E 02-0311

OTT Hydromet GmbH

Ludwigstrasse 16
87437 Kempten · Germany
Phone +49 831 5617-0
Fax +49 831 5617-209

info@ott.com · www.ott.com