

Installing Model 8920 Cellular Loggers



Items Required for Installation

- **GEOKON Provided**


- ▶ USB cable
- ▶ #3 Philips head screwdriver
- ▶ Small flat head screwdriver

- **Customer Provided**

- ▶ Mounting hardware
- ▶ Materials to create a suitable earth ground

Attach the Antenna

1. Remove the rubber cap from the antenna mount
2. Thread the antenna onto the mount by rotating it clockwise until finger tight

 Do not cross thread the antenna. The O-ring on the antenna must be flush against the enclosure.



Logger Mounting

- Cellular Loggers can be mounted using bolts (A), screws (B), hose clamps (C), U-bolts (D), etc. (Mounting hardware not included)
- Always mount Loggers vertically, with the antenna pointing up
- The space around the antenna should be free of obstructions
- A minimum mounting height of two meters (six-feet) is recommended



Tiltmeter Logger Orientation

- The direction of tilt for the A and B axes is shown on the cover of the unit
- The two axes of the tiltmeter have a calibrated range of $\pm 30^\circ$, based on a starting position of 0° (antenna pointing up)



Grounding the Logger

- Properly grounding Loggers protects against lightning and other large transient voltages
- A 6-foot copper rod and 12 AWG or larger copper wire are recommended
- All Cellular Loggers can be grounded via the mounting bracket (**A**)
- Multi-channel Loggers can also be grounded via the copper ground lug on the bottom of the enclosure (**B**)



Remove the Cover

1. Using a Phillips head screwdriver, loosen the cover screws by turning them counterclockwise
2. Remove the cover



Connecting the Sensor

1. Record the serial number of the sensor and the logger
(For Multi-channel loggers, note the channel each sensor has been wired into)
2. Loosen the cable gland nut and remove white plastic dowel
3. Slide the cable of the sensor through the cable gland (and gland nut) and into the Logger



Connect the Sensor (Continued)

4. Wire each conductor by pressing down on an orange tab, inserting the bare end of the conductor into the terminal block, then releasing the tab

Conductors are wired as follows:

VW Loggers

RED = VW+

BLACK = VW-

WHITE = TH+

GREEN = TH-

BARE = SHLD

Addressable Loggers

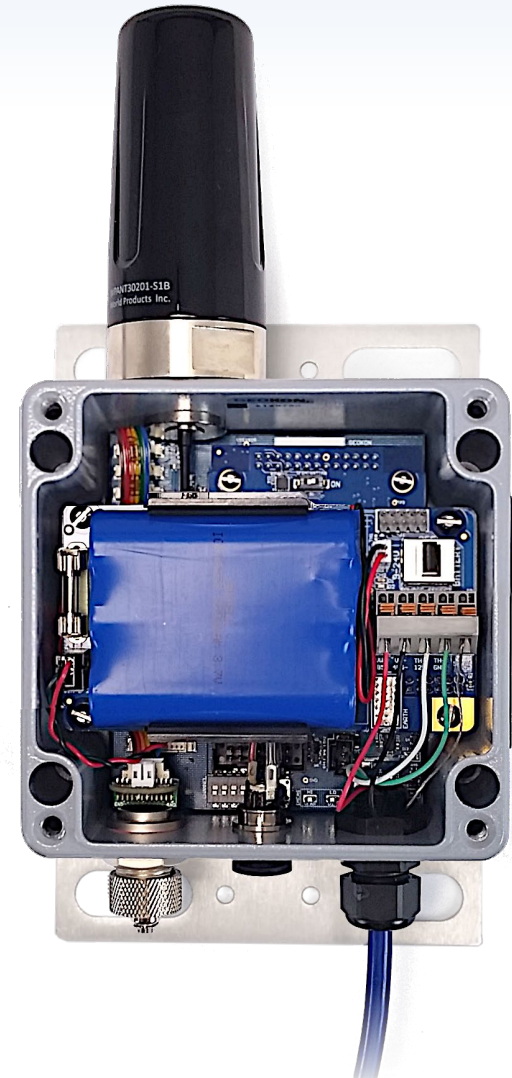
WHITE = 485+

GREEN = 485-


RED = 12V

BLACK = GND

BARE = SHLD



Connect the Sensor (Continued)

-  To prevent possible short circuits, do not allow bare leads to touch each other during or after wiring
- 5. Gently pull on each conductor to make sure it is secure
- 6. Tighten the nut onto the cable gland until the gland firmly grips the outer jacket of the cable

The cable gland must be properly tightened to prevent water entry (Do not over-tighten, which may strip the plastic threads)

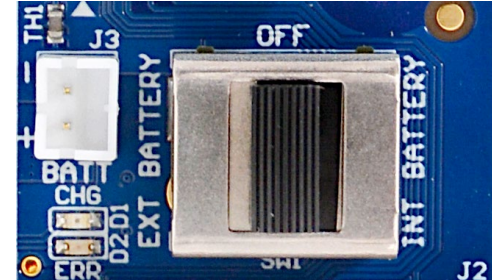
- 7. Gently pull on the sensor cable to make sure it is held in place by the cable gland

Multi-Channel and Addressable Loggers

- On Multi-channel loggers, sensor cables should be inserted into the cable glands in order from left to right and wired in sequence, starting with Channel 1
- Do not wire sensors into the terminal blocks marked "485_IN" and "485_OUT" on a Multi-channel logger
- Multi-channel and addressable loggers stop trying to read empty channels after two attempts; additional attempts occur at the top of every hour
(Reset the logger to initiate an immediate retry)

Powering the Loggers

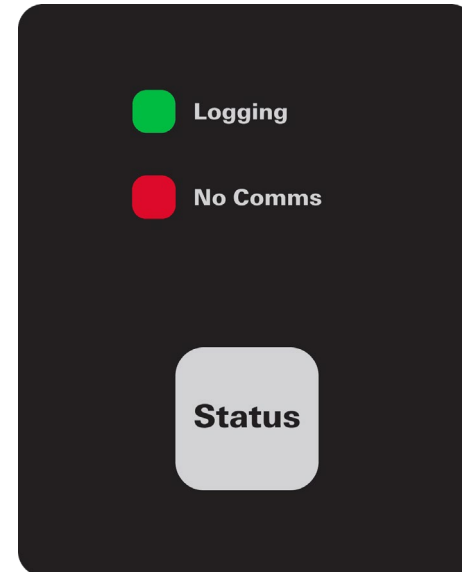
1. Plug the AC adaptor, solar panel, or other external power source, into the 9-24V power jack
2. Move the power switch to the correct position based on the table below



Power Source	Geographical Zone	
	Temperate	Sub Polar
	INT BATTERY	EXT BATTERY
Mains / Solar with External Battery		EXT BATTERY
Solar, NO External Battery		N/A

Verify Connectivity

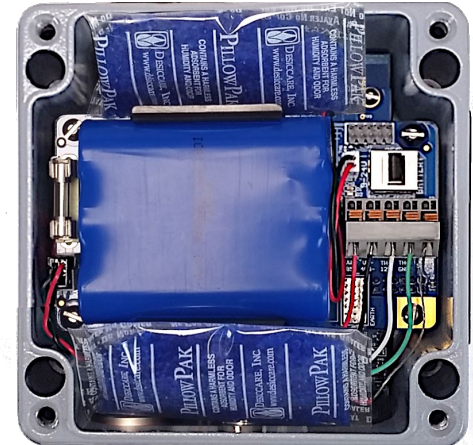
- Press the Status button to display the logger status
- The table below shows the meaning of the LED indications
- If the red LED flashes, wait a few minutes then try again
(If communication cannot be established, refer to the manual for troubleshooting)



'Logging' LED	'Comms' LED	Indication
GREEN		Logging, Good Communications
GREEN	RED	Logging, No Communications
	RED	Not Logging, No Communications

Close the Logger

1. Place the supplied desiccant packs inside the enclosure
2. Make sure the cover gasket and the mating ridge on the enclosure are clean, and that the gasket is properly seated inside the groove
3. Place the cover on the unit, making sure the orientation is correct
4. Tighten the cover screws a little at a time, working in a diagonal pattern
5. Check that the cover has closed tightly and evenly



Logger Commissioning

- Complete the installation *before* commissioning the Logger
- Loggers are commissioned using the GEOKON API portal:
<https://api.geokon.com>
- A tutorial on using the API portal is available at:
<https://www.geokon.com/8900-Tutorials#API>

For more information...

- Consult the Model 8920 instruction manual
- Instruction manuals are available for download at:
www.geokon.com/Manuals
- Please visit <https://www.geokon.com/Tutorials> for more tutorials