



# SensorRAE 4R+ User's Guide

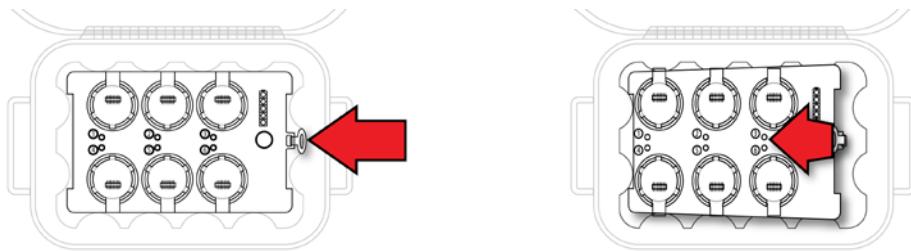
The SensorRAE 4R+ is a storage case for non-EC (electrochemical) sensors and a warm-up station for EC sensors that keeps them in a ready-for-use state. The water-resistant (IP-67) case accommodates six sensors and when used to warm up sensors, its four AAA batteries typically last for six months.

## Inserting/Replacing Batteries

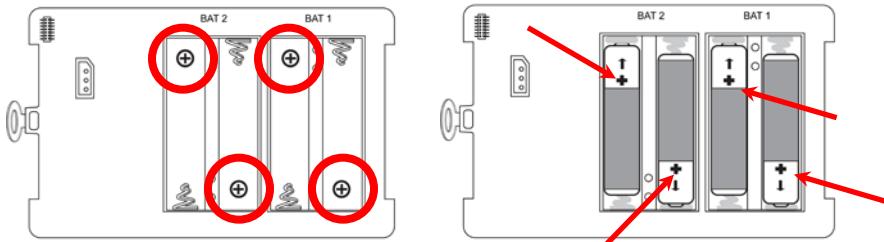
**CAUTION!** Never change batteries or sensors in an area known to be hazardous.

The SensorRAE 4R+ uses four AAA alkaline batteries (Duracell MN2400) to warm up sensors requiring it. If you are using the SensorRAE 4R+ to carry sensors that do not require warming up, then there is no need for batteries.

The batteries are installed on the bottom of the interior unit. Grip the small tab at one end of the unit and then pull up to lift the unit out of the SensorRAE 4R+'s compartment.



If batteries are already installed and require replacement, remove them. Then install new ones, being careful to match the batteries' direction to the polarities indicated by "+" in the battery holders.



## Testing The Batteries

Press the button on the right side of the panel. The 5-segment LED ladder indicates the batteries' strength.

Red LEDs on	Remaining capacity	
5	80% to 100%	
4	60% to 80%	
3	40% to 60%	
2	20% to 40%	
1	0% to 20%	

When the batteries are almost depleted, the bottom red LED flashes once per second. Any sensors undergoing conditioning are still powered on. (Press the button to check the sensor state.)

When the batteries are completely depleted, all five red LEDs flash once per second, in sequence from top to bottom. Any sensors undergoing warm-up are powered off. Therefore, those sensors will require warm-up time after the batteries are changed.

## Inserting Sensors

**Important!** Always make sure your hands are clean and dry before handling sensors.

Place a sensor into a socket, aligning it with the matching keyways and the multi-pin connector at the bottom. Once a sensor is plugged in, its corresponding green LED flashes once and if it requires warm-up, then warm-up begins. Below are approximate times for sensor warm-up.

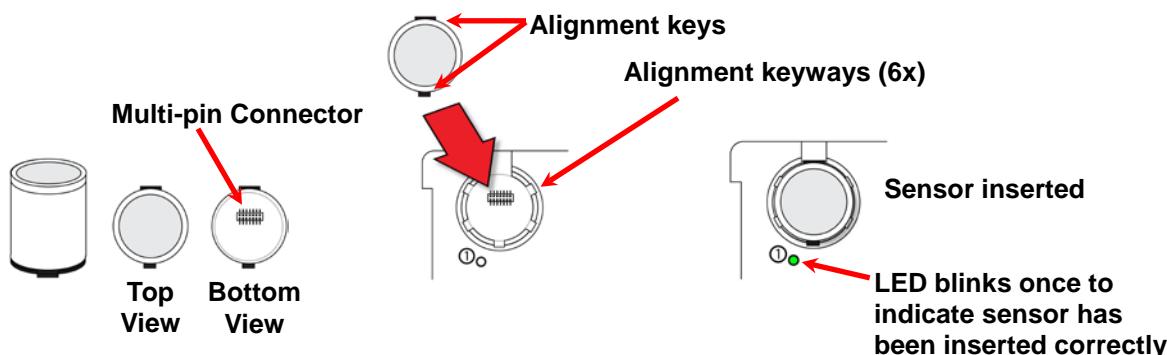
**Non-EC sensor:** 0 hours (no warm-up required)

**Non-biased EC sensor:** 6 hours

**Biased EC sensor:** 24 hours

If the green LED does not blink, the sensor is not inserted properly.

**Note:** If the sensor is properly seated and you remove it at any time during its warm-up, it must be returned to its socket within 20 seconds, or the SensorRAE 4R+ will restart the warm-up cycle from the beginning.



## Removing Sensors

Always lift sensors out with your fingers, gripping around the sides.

## Checking Sensor Status

You can check the status of a sensor being warmed up by pressing the power button. If the green LED next to the sensor glows, it is fully conditioned and ready for use.

