

Hydrolab Series 4/4a Battery Life



Q: How long will the batteries in my Series 4a Hydrolab instrument last? ⁽¹⁾

A: It depends on the model (Datasonde, MiniSonde and Surveyor 4/4a) and how you use it (continuous duty with Circulator). The following guidelines are the expected battery life for continuous operation at 25°C ⁽²⁾; if your data collection mission is critical, consider shorter deployments and test your assumptions.

DataSonde 4a[®] Multiprobe (Circulator Activated)

Battery Life (days)

The DataSonde 4a *internal* battery pack (or IBP) requires eight size C alkaline batteries that are user-replaceable, but not rechargeable. The DataSonde 4 *external* battery pack is the Hydrolab Rechargeable Battery Pack (RBP-7AH) ⁽³⁾. The sensor configuration for the table below is: temp, pH, reference, ORP, Cond, DO, nitrates, and depth.

Interval (min)	Warm-up (min)	DS4-IBP <i>internal</i> battery (days)	RBP-7AH <i>rechargeable</i> battery (days)
continuous	n/a	8	9
15	2.0	62	68
15	0.5	232	255
30	2.0	121	133
30	0.5	425	466
60	2.0	232	255
60	0.5	726	797
120	2.0	425	466
120	0.5	1125	1234

MiniSonde 4a[®] Multiprobe (Circulator Activated)

Battery Life (days)

The MiniSonde 4a *internal* battery pack (or IBP) requires four size AA alkaline batteries; the optional *internal extended deployment* battery pack (or EBP) requires eight size AA alkaline batteries. The AA alkaline batteries are user-replaceable, but not rechargeable. The MiniSonde *external* battery pack is the Hydrolab Rechargeable Battery Pack (RBP-7AH) (3). The sensor configuration for the table below is: temp, pH, reference, ORP, Cond, DO, nitrates and depth.

Interval (min)	Warm-up (min)	MS-IBP <i>internal</i> 4" AA battery (days)	MS-IBP <i>internal</i> 8" AA battery (days)	RBP-7AH <i>external rechargeable</i> battery (days)
continuous	n/a	1	3	9
15	2.0	9	22	68
15	0.5	36	84	255
30	2.0	19	44	133
30	0.5	66	155	466
60	2.0	36	84	255
60	0.5	113	265	797
120	2.0	66	155	466
120	0.5	175	411	1234



Surveyor 4a Display

Battery Life (hours)

The Surveyor 4 Internal battery pack is a rechargeable nickel metal hydride battery. The configurations for the table below are composed of a Surveyor 4 and a multiprobe with temp, DO, Cond, pH, and a Circulator.

Continuous display on, backlight off:

12 hours of continuous operation

Display energy saver on (50% use), backlight off:

16 hours of continuous operation

Continuous display on, backlight on:

8 hours of continuous operation

Notes:

(1) Hydrolab uses Duracell® alkaline batteries at 25°C for its battery test and estimates, including the above calculations and results. With a different name brand and/or type and a lower operating temperature, results may vary and battery life may be reduced.

(2) RBP-7AH: reduce rating by 20% if operating at -5°C; DS4-IBP and MS-IBP: reduce rating by 25% if operating at 0°C; S4-IBP: reduce rating by 10% if operating at 0°C and 20% if operating at -20°C.

(3) The Hydrolab Rechargeable Battery Pack (RBP-7AH) is rated at 12 volts DC, 7 amp-hours.
Other 12 volt batteries may be used