

ULTRA-COMPACT GEOLOCATOR

LoggLaw C Series

Ultra-compact geolocators

Ultra-compact geolocators with selectable sensors — depth, temperature, light, salinity, 3-axis acceleration, and 3-axis geomagnetism. A product lineup ideal for behavioral research on marine animals and seabirds.

LoggLaw C7

Shallow / High-resolution

LoggLaw C8

Deep / High-pressure

LoggLaw C7XI

Behavioral analysis

LoggLaw C7XIR

Rechargeable

01 Series Overview & Key Features

LoggLaw C Series

The LoggLaw C Series is a lineup of ultra-compact data loggers that record depth, temperature, light, salinity, and more. Choose between C7, C8, C7XI, and C7XIR depending on your research objectives, target species, and deployment scenario. Models with accelerometer and geomagnetic sensors are also available — ideal for behavioral research on marine animals and seabirds.

01 Ultra-Compact & Lightweight

Weighing only a few grams, the loggers can be attached to small birds and fish without hindering natural behavior.

02 Deep-Sea Rated

Robust housing rated up to 2,000 m water pressure, enabling deep-sea research applications.

03 Rechargeable Models

A rechargeable battery model (C7XIR) is available for repeated deployments — ideal for long-term projects.

04 Diverse Sensor Set

Choose from accelerometer, geomagnetic, temperature, depth, light, and salinity sensors based on your research needs.

05 Waterproof Construction

Fully waterproof for long-term deployment in marine environments, with corrosion-resistant materials throughout.

06 High-Capacity Memory

Up to 512 MB of flash memory supports extended data recording for long-duration studies.

02 Series Comparison

C7 / C8 / C7XI · C7XIR

Compare the concepts of C7, C8, and C7XI at a glance. ★ marks indicate areas where each model particularly excels.

	LoggLaw C7	LoggLaw C8	LoggLaw C7XI / C7XIR
Positioning	High-resolution model for shallow-water species	High-pressure model for deep-water species	C7-based model with behavioral analysis
Target Animals	Seabirds, sea turtles, small-to-medium fish — species in relatively shallow waters	Deep-diving fish (e.g. tuna), large odontocetes, deep-diving pinnipeds — species inhabiting deep waters	Seabirds, pinnipeds, and other shallow-water species when behavioral analysis is required
Depth Rating	1,000 m	★ 2,000 m	1,000 m
Depth Sensor Range	~600 m	★ ~1,400 m	~600 m
Depth Resolution	★ ≤ 1 cm	0.05% FS (≈70 cm @ 1,400 m)	≤ 1 cm
Onboard Sensors	Depth / Int. Temp / Ext. Temp / Light	Depth / Int. Temp / Ext. Temp / Light / Salinity	★ Depth / Int. Temp / Ext. Temp / Light / Salinity / 3-axis Accel / 3-axis Geomag
Stalk (Ext. Temp / Light)	Optional	Optional	Optional (not supported on C7XIR)
Accel / Geomag	—	—	★ Yes (for behavioral analysis)
Weight Range	★ 2.9–4.8 g	3.5–13.0 g	4.4–7.0 g
Memory	8 MB	8–128 MB	★ 512 MB
Rechargeable Model	—	—	★ C7XIR available

SHALLOW WATER · HIGH RESOLUTION

LoggLaw C7

A data logger recording depth, temperature, and light. Equipped with a high-precision clock (max ±95 s/year with automatic temperature compensation), it enables more accurate geolocation. The stalk (housing the external temperature / light sensor) — including its length, presence, and battery size — can be flexibly customized.

Models

C7-100 / C7-250

Depth Rating

1,000 m

Weight

2.9 / 4.8 g

Resolution

≤ 1 cm

Basic Specifications

	LoggLaw C7-100	LoggLaw C7-250
Weight in Air	2.9 g	4.8 g
Dimensions	φ8 × 26 mm	φ9 × 32 mm
Depth Rating	1,000 m	
Memory	8 MB	
Sensor Options	Depth (pressure) / Int. Temp / Ext. Temp / Light	
Stalk (Ext. Temp / Light sensor)	Optional	
Interval Settings	1 / 5 / 15 / 30 / 60 / 120 / 300 / 600 s	
Time Accuracy	±95 s/yr	
Battery Life [1]	12 months	24 months

Depth Sensor

	LoggLaw C7-100	LoggLaw C7-250
Measurable Depth	~600 m	
Accuracy (temp range: 0–40 °C)	≤±1% (depth 0–600 m)	
Resolution	≤1 cm	

Temperature Sensor

	LoggLaw C7-100	LoggLaw C7-250
Measurement Range	-5 to 35 °C	
Accuracy	±0.2 °C	
Resolution	≤0.05 °C	

[1] Pressure, internal temperature, external temperature, light intensity (60-second interval)

* Specifications are subject to change without notice for product improvements.

DEEP WATER · HIGH PRESSURE RATING

LoggLaw C8

A data logger recording depth, temperature, light, and salinity. Measures down to 1,400 m (housing rated 2,000 m), reaching deeper waters than the C7. Standard models (C8-100 / C8-150) offer up to 24 months on 8 MB memory; high-capacity variants (C8X-250 / C8X-500) feature 128 MB and support 5-second high-resolution sampling. The stalk (housing the external temperature / light sensor) is optional.

Models

C8-100 / C8-150 / C8X-250 / C8X-500

Depth Rating

2,000 m

Depth Sensing

~1,400 m

Memory

8 / 128 MB

Basic Specifications

	C8-100	C8-150	C8X-250	C8X-500
Weight in Air	3.5 g	4.8 g	6.0 g	13.0 g
Dimensions	8.5 x 26 mm ²	φ9 x 32 mm	11 x 38 mm	13 x 44 mm
Depth Rating	2,000 m			
Memory	8 MB	8 MB	128 MB	128 MB
Sensor Options	Depth (pressure) / Int. Temp / Ext. Temp / Light / Salinity			
Stalk (Ext. Temp / Light sensor)	Optional			
Interval Settings	1 / 5 / 15 / 30 / 60 / 120 / 300 / 600 s			
Time Accuracy	±95 s/yr			
Battery Life	12 mo. *1	24 mo. *2	12 mo. *3	12 mo. *4

Depth Sensor

	C8-100	C8-150	C8X-250	C8X-500
Measurable Depth	~1,400 m			
Accuracy (depth 0–1,000 m)	±1% FS			
Resolution	0.05%			

Temperature Sensor

	C8-100	C8-150	C8X-250	C8X-500
Measurement Range	-5 to 35 °C			
Accuracy	±0.2 °C			
Resolution	0.05 °C			

*1: Depth, int. temp., ext. temp., light at 60-sec interval

*2: Depth, int. temp., ext. temp., light at 10-sec interval

*3: Depth, int. temp., ext. temp., light at 5-sec interval

*4: Depth, int. temp., ext. temp., light at 10-sec interval

BEHAVIORAL ANALYSIS · 3-AXIS ACCEL. / GEOMAG.

LoggLaw C7XI / C7XIR

In addition to the depth, temperature, light, and salinity sensors of the C-series, this model carries a 3-axis accelerometer and a 3-axis geomagnetic sensor. Its 512 MB memory supports up to 18 months of recording in Duty Cycle mode, while continuous mode samples acceleration at up to 64 Hz — enabling fine-grained analysis of activity, tail-beat frequency, and behaviors such as feeding and spawning. The stalk (housing the external temperature / light sensor) is optional.

LoggLaw C7XIR The C7XIR is a rechargeable variant of the C7XI, suited to repeated deployments and projects that involve pre-charge workflows. Note: C7XIR does not support a stalk, so external temperature and light cannot be recorded.

Models
C7XI-9D38 / C7XI-9D44 / C7XIR-9D44

Memory
512 MB

Accel.
up to 64 Hz / ±8 g

Rechargeable
C7XIR variant

Basic Specifications

	C7XI-9D38	C7XI-9D44	C7XIR-9D44
Weight in Air	6.0 g (with stalk)	7.0 g (with stalk)	4.4 g (without stalk)
Dimensions	9 × 38 mm	9 × 44 mm	9 × 44 mm
Depth Rating	1,000 m		
Memory	512 MB		
Rechargeable Battery	—	—	Yes
Sensor Options	Depth (pressure) / Int. Temp / Ext. Temp / Light / Salinity / 3- axis Accel / 3-axis Geomag	Depth (pressure) / Int. Temp / Ext. Temp / Light / Salinity / 3- axis Accel / 3-axis Geomag	Depth (pressure) / Int. Temp / Salinity / 3-axis Accel / 3-axis Geomag
Stalk (Ext. Temp / Light sensor)	Optional	Optional	—
Time Accuracy	±95 s/yr		

Depth Sensor / Temperature Sensor

	C7XI-9D38	C7XI-9D44	C7XIR-9D44
Measurable Depth	~600 m (depth sensor)		
Depth Accuracy (0–40 °C)	≤±1% (depth 0–600 m)		
Depth Resolution	≤1 cm		
Temp. Measurement Range	-5 to 35 °C		
Temp. Accuracy	±0.2 °C		
Temp. Resolution	≤0.05 °C		

05 C7XI / C7XIR — Behavioral Specs

Behavioral sensors & battery life

Accelerometer / Geomagnetic Sensor			
	C7XI-9D38	C7XI-9D44	C7XIR-9D44
Sampling Frequency (Accel)	4, 8, 16, 32, 64 Hz		
Measurable Range (Accel)	±8 g		
Sampling Frequency (Geomag)	1, 2, 4, 16 Hz		
Measurable Range (Geomag)	±1200 µT		

Interval Settings / Battery Life			
	C7XI-9D38	C7XI-9D44	C7XIR-9D44
Duty Cycle Mode	Temp / Light / Salinity: 60 s · Depth / Geomag: 1 / 2 / 4 / 8 / 16 Hz · Accel: 8 / 16 / 32 / 64 Hz		
Continuous Mode	Temp / Light / Salinity: 1 / 2 s · Depth / Geomag: 0.5 / 1 / 16 Hz · Accel: 8 / 16 / 32 / 64 Hz		
Battery Life (Duty Cycle) [*1]	12 months	18 months	4.5 months
Battery Life (Continuous) [*2]	3 weeks	2 months	2 weeks

*1: Accelerometer (16 Hz) and geomagnetic (1 Hz) measured for 5 seconds at 60-sec intervals, plus pressure, int. temp., ext. temp., light at 60-sec interval

*2: Depth and geomagnetic at 1 Hz, accelerometer at 16 Hz interval setting

* Specifications are subject to change without notice for product improvements.

06 Sampling Pattern

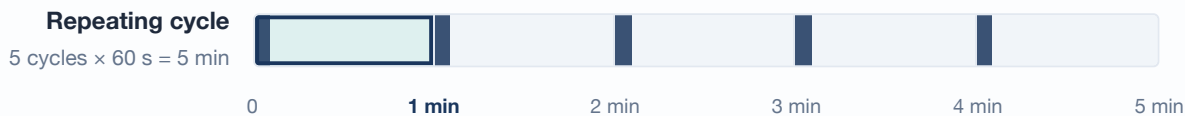
LoggLaw C7XI · Default Setting

Sampling Pattern Default Configuration (C7XI-9D44)

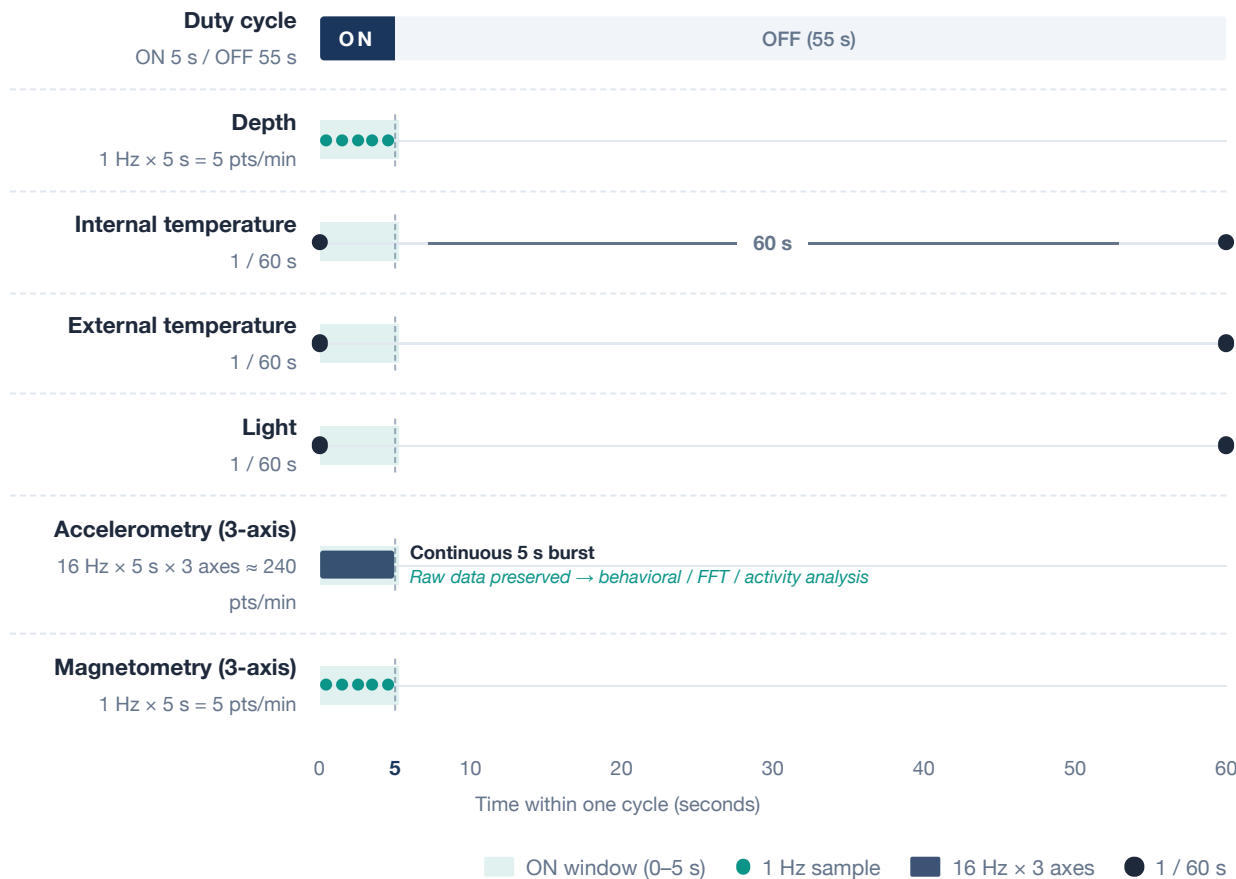
Simultaneous 6-channel recording with duty cycle ON 5 s / OFF 55 s

5-minute view — duty cycle repeats every 60 s

Highlighted cycle expanded below



↓ ZOOM INTO 1 CYCLE (60 S)



* This is the default configuration of C7XI-9D44. Duty cycle, sampling frequencies, and sensor combinations can be selected from a range of preset options to suit your research needs.

07 Contact Us

Inquiries & Consultation

Inquire About the LoggLaw C Series

For detailed product information, pricing, and case studies, please feel free to reach out. Our expert staff will propose the best solution tailored to your research needs.

www.biologging-solutions.com/en/contact

COMPANY

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PRODUCTS

LoggLaw C / C7 / C8 / C7XI / C7XIR
LoggLaw G / G2C / G2S / CAM

CATALOG

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