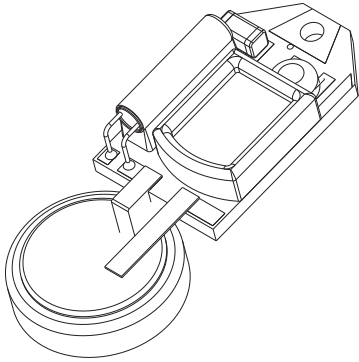


NanoTag Series

Introducing the smallest coded radio transmitter in the world: 1/4 gram NTQ

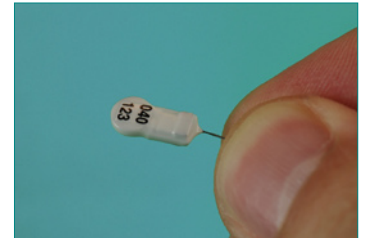


LOTEK NanoTag Series transmitters furnish researchers with a tool to collect previously unavailable data regarding movement of animals in their natural environment.

The NanoTag Series' field-proven, energy efficient design delivers a highly stable signal, while its diminutive size and relatively long operational life enable biologists to collect data on smaller species over longer periods than ever before.

At the heart of the NanoTag Series transmitter lies a technological breakthrough in microcircuitry design. NanoTag brings three distinct technologies - radio, digital processing and infrared - together on a single 2.8mm² ASIC (Application Specific Integrated Circuit). Applying thin-thick film hybrid techniques, the ASIC and advanced surface mount components are then populated on a ceramic substrate.

NanoTag's intended biotelemetry application meets requirements long sought within the field of fisheries research for a small and highly stable coded transmitter with a long operational life.



NTQ-1, side view: 3mm thickness

Infrared Activation

Eliminates need for magnet removal/attachment on the transmitter during field sessions.

Frequency Tolerance

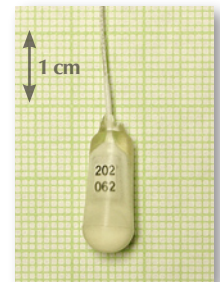
To ± 100Hz. This results in stable output power at the specified frequency throughout the life of the tag.

Operational Range

147MHz to 168MHz

Options

- At 0.1s burst interval increments, for more efficient use of scan times and increased detection probability.
- Programmable for 12 hr. ON/OFF operation, to further extend operational life.
- KMF encapsulation (for NTC-3-1, NTC-3-2)



NTC-3-2 with KMF encapsulation



WIRELESS
FISH & WILDLIFE MONITORING

Innovative solutions for a sustainable future.

- Receivers
- Dataloggers
- Radio transmitters

- Acoustic transmitters
- Archival tags
- GPS systems

- Hydrophones
- Wireless hydrophones
- Physiological transmitters

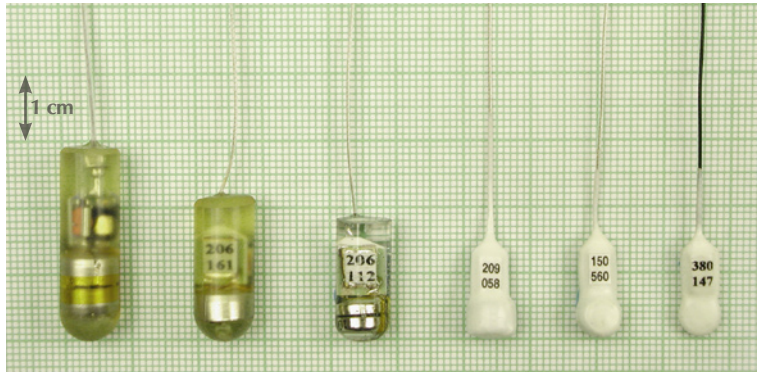
- Depth transmitters
- Accessories
- Consulting

NanoTag Series

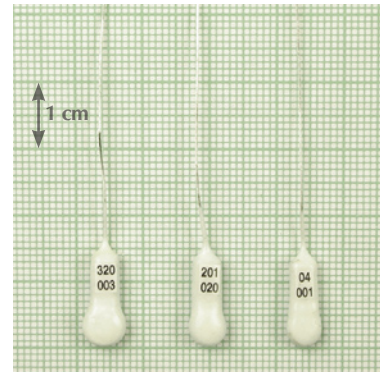
Product Details

NanoTag series radio transmitters are primarily designed for use with Lotek digitally encoded systems. Based upon a proprietary coding scheme, our coded radio telemetry systems allow over 500 transmitters to be assigned on a single frequency, while retaining the ability to identify individual animals. This capability reduces the need for additional frequencies over conventional pulse/beeper systems, with a corresponding reduction in

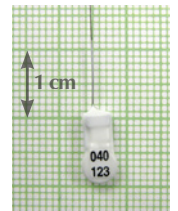
overall scan time. Spatial and temporal resolutions are enhanced accordingly. Burst rate/intervals selected for the NanoTag transmitter can be specified in 0.1 second increments to best meet application and operational life needs. Specifying a daily activity cycle for the transmitter further extends operational life in mobile tracking studies.



NTC-6-2 NTC-6-1 NTC-4-2L NTC-4-2S NTC-3-2 NTC-3-1



NTC-M-3 NTC-M-2 NTC-M-1



NTQ-1

Specifications

NanoTag Model Number	Physical Specifications		Calculated Life (days)*		
	Size (w x h x l) (mm)	Weight*** (air) (gm)	2.0 sec between bursts	5.0 sec between bursts	10 sec between bursts
NTQ - 1	5 x 3 x 10	0.26	10	21	33
NTQ - 2	5 x 3 x 10	0.31	16	33	52
NTC-M-1	5 x 3 x 14	0.37	10	21	33
NTC-M-2	5 x 3 x 14	0.43	16	33	52
NTC-M-3	7 x 4 x 15	0.55	20	41	64
NTC-3-1	6 x 4 x 15	0.80	20	41	64
NTC-3-2	6 x 4 x 16	1.10	39	80	124
NTC-4-2S	8 x 15	1.40	79**	163**	**
NTC-4-2L	8 x 18	2.10	79	162	251
NTC-6-1	9 x 22	2.80	113	232	357
NTC-6-2	9 x 30	4.30	215	441	678

*New
New*

* Calculated Life is typical or average life for given model number. Warranty Life is 80% of Calculated Life.

** Maximum warranty life of model NTC-4-2S is 77 days based upon encapsulation method.

*** Stated weight in air may vary by +/-5%

Specifications based on internal implantation. Weight includes battery pack and standard (18 cm) antenna. Intended for operation within the temperature range 0° and 35° C.



Innovative solutions for a sustainable future.

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