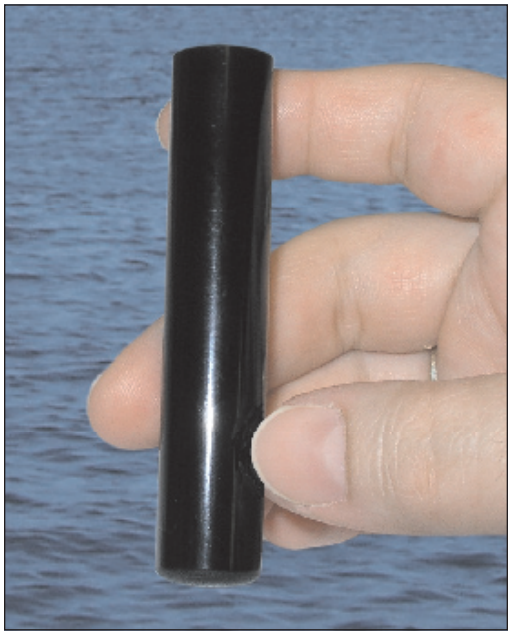
TRANSMITTERS

V16 Continuous Transmitter

A division of AMIRIX

Multi-purpose transmitter for medium and large species

The V16 continuous transmitter is a multi-purpose, 16 mm diameter tag. Developed for real-time tracking, it can function as a simple pinger giving location only, or for more detailed research programs, it can also be equipped with a depth and/or temperature sensor. Depending on the battery size and ping period, the tag will last several days to multiple years and give a transmission range in excess of one kilometer (this varies significantly with environmental conditions). Given its size, the V16 is best suited for studies involving medium to large species. Continuous V16 tags are typically used with the VR100 field receiver and VH110 directional hydrophone, and the VR28 and VRAP positioning system.



V16 transmitter.

Continuous Mode

In continuous transmission mode, the acoustic ping is transmitted after a fixed period interval that is factory pre-set and typically between one and two seconds. This mode is ideal for real-time tracking studies. V16 continuous pingers and continuous data telemetry (temperature and depth) transmitters are available in several frequencies: 51.0, 54.0, 57.0, 60.0, 63.0, 75.0, 78.0, 81, 84 kHz.

Physical Specifications

The physical measurements of the V16 vary with battery option and whether temperature or pressure sensors are included. Specifications are shown in the table below.

V16 Continuous Tag Options

For research requiring temperature and depth information, V16 tags can be equipped with temperature (V16T), depth (V16P), or both temperature and depth sensors (V16TP). V16P pressure tags are available in several full scale pressure options: 17, 34, 68, 136, 204, 340, and 680 meters. V16T temperature tags are available in four temperature ranges: -5 to 35°C, -4 to 20°C, 0 to 40°C and 10 to 40°C.

	Battery Option:	Silver Oxide				Lithium					
		1L	1H	3L	3H	4L	4H	5L	5H	6L	6H
V16/V16T	Length (mm)	54	54	64	64	68	68	95	95	95	95
V16P/ V16TP	Length (mm)	54	54	64	64	71	71	98	98	98	98
All V16s	Power Output (dB re 1uPa @1m)	150	159	157	165	152	158	157	165	153	160
	Weight in water (g)	9		12		11		16		16	
	Weight in air (g)	20		25		25		36		36	

Stated tag length, weight and output power are nominal. Small manufacturing variations can be expected.

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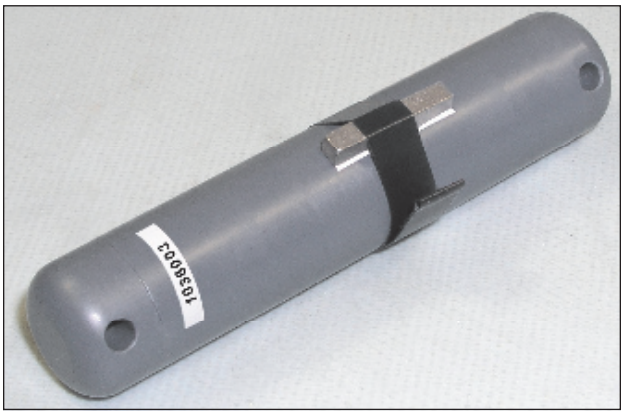
Temperature Sensor		
Range	**Accuracy**	**Resolution**
-5 to 35 °C	±0.5 °C	0.15 °C
-4 to 20 °C	±0.5 °C	0.1 °C
0 to 40 °C	±0.5 °C	0.15 °C
10 to 40 °C	±0.5 °C	0.12 °C

Pressure Sensors (at room temperature)		
Max Depth	**Accuracy**	**Resolution**
17 m	±1.7 m	0.08 m
34 m	±1.7 m	0.15 m
68 m	±3.4 m	0.3 m
136 m	±6.8 m	0.6 m
204 m	±10 m	0.9 m
340 m	±17 m	1.5 m
680 m	±34 m	4.1 m

Expected Battery Life

The life span of the V16 transmitter will vary significantly with battery size [1, 3, 4, 5 or 6], power output [H or L], ping period and the presence/absence of a data sensor. Life span for each option in days is listed in the table below.

External Case



	V16 Continuous Tags Battery Life (Days)									
	V16 Pingers									
Period	**V16-1L**	**V16-1H**	**V16-3L**	**V16-3H**	**V16-4L**	**V16-4H**	**V16-5L**	**V16-5H**	**V16-6L**	**V16-6H**
1000 ms	52	16	29	9	390	112	212	64	752	218
2000 ms	97	32	56	18	728	220	403	126	1389	426
	V16 Sensor Transmitters									
	V16TP-1L	**V16TP-1H**	**V16TP-3L**	**V16TP-3H**	**V16TP-4L**	**V16TP-4H**	**V16TP-5L**	**V16TP-5H**	**V16TP-6L**	**V16TP-6H**
1000 ms	32 (22)	14 (9)	22 (15)	8 (6)	235 (161)	97 (66)	158 (108)	60 (41)	454 (312)	189 (128)
	V16P-1L	**V16P-1H**	**V16P-3L**	**V16P-3H**	**V16P-4L**	**V16P-4H**	**V16P-5L**	**V16P-5H**	**V16P-6L**	**V16P-6H**
1000 ms	17 (8)	10 (5)	13 (7)	7 (3)	123 (61)	69 (34)	97 (48)	47 (23)	239 (119)	134 (66)
2000 ms	33 (21)	19 (12)	26 (16)	13 (8)	241 (151)	137 (85)	190 (119)	94 (58)	466 (294)	265 (165)
	V16T-1L	**V16T-1H**	**V16T-3L**	**V16T-3H**	**V16T-4L**	**V16T-4H**	**V16T-5L**	**V16T-5H**	**V16T-6L**	**V16T-6H**
1000 ms	49 (25)	16 (8)	28 (14)	9 (4)	368 (187)	110 (55)	205 (103)	64 (31)	709 (362)	214 (106)
2000 ms	92 (59)	31 (19)	54 (35)	17 (11)	688 (447)	216 (136)	392 (251)	125 (78)	1315 (859)	419 (263)

Notes: The projected battery life is an estimate and users will experience a decrease in battery life if their tags are operating in extreme warm or extreme cold temperatures.

VEMCO transmitters are programmed to stop transmitting when they reach their stated battery life. This ensures that tags will operate at published specifications until expiration.

VEMCO tags are warranted to be free from defects in material and workmanship for one year from date of delivery.

V16 tags with sensors will ping at varying rates depending on the sensor readings and therefore battery life will vary depending on the behaviour of the animal. The two battery lives shown for sensor tags are the extremes. Consult your VEMCO representative to determine the expected battery life for your study and for additional information regarding battery life.

How to Order V16 Continuous Transmitters

When ordering V16 continuous transmitters, please specify the following:

[1] Battery size [1,3,4,5 or 6]
[2] Power Output [H or L]
[3] Frequency [kHz]
[4] Ping period [milliseconds]
[5] If a depth sensor [V16P] is required, what is the operating range? Will it be used with the VRAP buoy system?
[6] If a temperature sensor is required [V16T], what is the operating range?
[7] Will the tags be implanted or externally attached?

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