Temperature-Profiling Drifting Buoys iceTC150/Cone, iceBTC150/Cone

Functionality

Long-term monitoring of vertical temperature distribution within upper ocean layer, ice surface temperature and air pressure with data transmission through satellite. The buoys are equipped with digital temperature-profiling line (thermoline) with profiling depth down to 150 m. The design of buoy is optimized for using in polar and subpolar regions. The buoy can be deployed both in open water and on ice. Durable conical float provides better probability to keep the float at surface without to be involved below ice, when appearance of young ice.

Sensors

Position data (GPS/Glonass)

GNSS receiver	GlobalTop Titan3
Additionally	Doppler effect
	Argos or Iridium

Temperature profile

Range	-20 to +20°C
Accuracy	+/- 0.1°C
Resolution	0.04°C
Number of sensors	16
Profiling depth	150 m

Air pressure (iceBTC150/Cone)

Range	850 to 1050 hPa
Accuracy	+/- 1 hPa
Resolution	0.1 hPa

Measurement interval	hourly
Sensors activation	at round hours

Communication

Satellite system Argos or Iridium

Operation

Environment temperature	-30 to +50°C
Lifetime	18 months at least

Construction

Battery	alkaline
Activation switch	removable magnet

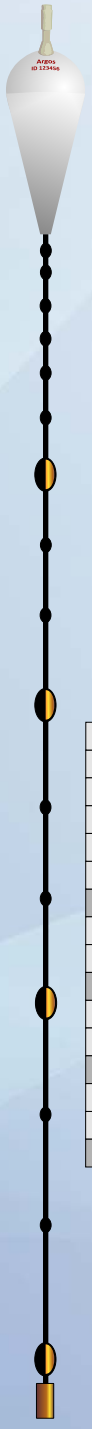
Hull

Body	fiberglass plastic
Colour	white
Diameter	35 cm (max)
Height	110 cm (iceBTC150/Cone)

Thermoline

Deviations monitoring	by measurements of hydrostatic pressure
Diameter	15 mm (line)
	20 mm (temp. sensor)
	60 mm (pres. sensor, ballast)
Ballast weight	3 kg

Deployment	in a drilled hole in the ice
Weight	60 kg



iceBTC150/Cone

Sensors depths (1)

	Temperature	Hydrost.press.
0 m	+	
1 m	+	
2 m	+	
6 m	+	
11 m	+	
17 m	+	
24 m	+	+
33 m	+	
43 m	+	
54 m	+	+
67 m	+	
81 m	+	
96 m	+	+
113 m	+	
130 m	+	
150 m	+	+

Size of shipping crate	150 x 50 x 50 cm
Gross weight	100 kg

(1) The number and location of sensors can be changed by agreement with the customer

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