



# Temperature-Profiling Drifting Buoys

## iceTC60/40, iceBTC60/40

### Functionality

Monitoring of under ice 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 60 m. The design of buoy is optimized for using in polar and subpolar regions. Operation in open water is possible.

### 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 17  
 Profiling depth 60 m

#### Air pressure (iceBTC60/40)

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 24 months at least

### Construction

Battery alkaline  
 Activation switch removable magnet

#### Hull

Body fiberglass plastic  
 Diameter 41 cm  
 Colour white

#### Thermoline

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

Ballast weight 1.2 kg

#### Deployment

in a drilled hole in the ice

#### Weight

30 kg



iceBTC60/40

	Sensors depths <sup>(1)</sup>	
	Temperature	Hydrost. press.
0 m	+	
2.5 m	+	
5 m	+	
7.5 m	+	
10 m	+	
12.5 m	+	
15 m	+	
17.5 m	+	
20 m	+	+
25 m	+	
30 m	+	
35 m	+	
40 m	+	+
45 m	+	
50 m	+	
55 m	+	
60 m	+	+

Size of shipping crate 100 x 90 x 60 cm  
 Gross weight 58 kg

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

