

Small Water Level Observation Buoy



- Quick: Water level observation at the landslide dam can be started quickly by transportation and installation of the unit using a helicopter or drone.
- Safe: Secondary disasters are avoided as no ground work is required near the landslide dam.
- Stability: Ability to install the unit at the center of the landslide dam reduces risks of device breakage and wash-away.



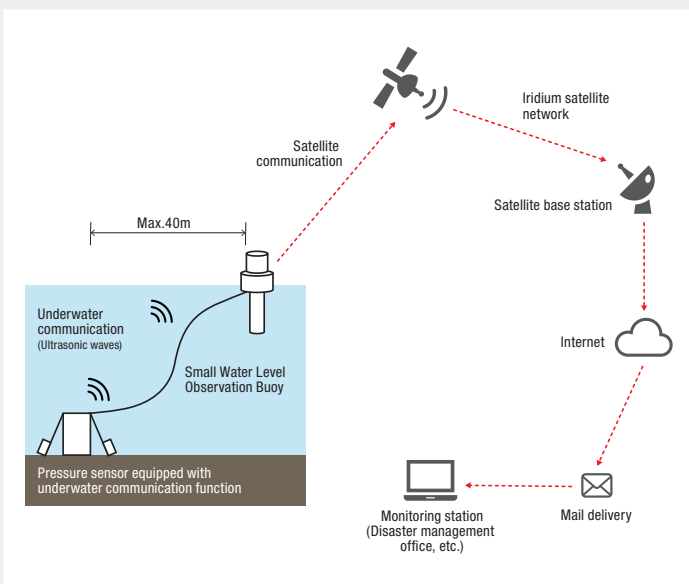
To measure the water level, this device is designed for transportation and installation using a helicopter or drone. when accessing a target landslide dam is difficult due to, for example, disruptions of road caused by a natural disaster. The device consists of a buoy floating on the water surface and an anchor cage fixed on the river bed. The pressure sensor, equipped with an underwater communication function, on the anchor cage collects the water level data. The captured water level data is transmitted to the buoy via underwater acoustic communication (ultrasonic waves), then transferred to the monitoring station through an Iridium satellite.

Specifications

Small water level observation buoy

Model	BCPS-40R-H	
Buoy	1)Shape	Cylindrical
	2)Dimensions	φ250×1002mm
	3)Weight	14kg or less
	4)Total buoyancy	154N(about 16 kgf)
	5)Material	Hood Polycarbonate resin Body Aluminum alloy Float Polystyrene (With a full surface coating of urethane resin)
Anchor cage	1)Dimensions	296W×412H×296D mm (Arms and protrusions are not included)
	2)Weight	21kg or less(Helicopter transport configuration) 14kg or less(Drone transport configuration)
	*Maximum mass with the sensor mounted on the anchor cage	
Communication function (satellite/cellular communication)	3)Material	Stainless steel
	1)Communication method	Short Burst Data (SBD)communication using Iridium satellites.
	2)Communication direction	Two-way (buoy to monitoring station)
	3)Send data	Format ASCII format Time year, month, day, hour, minute Location latitude, longitude Water level ○○. ○○m Voltage ○○. ○V
	4)Communication terminal	Iridium satellite communication
Communication function (Underwater)	1)Communication method	Underwater acoustic communication (ultrasound)
	2)Communication direction	One-way reception(water level gauge → buoy)
Power supply (Communication unit)	1)Method	Dedicated lithium battery
	2)Nominal voltage	DC12V
	3)Rated capacity	45Ah
	4)Operational period(estimate)	When observation interval is set to 60 minutes 3months When observation interval is set to 10 minutes 1month (Varied depending on the initial voltage and ambient temperature when used)
Underwater communication pressure sensor	1)Method	Pressure type
	2)Measurement range	0 to 40m
	3)Accuracy	±0.2%FS
	*According to our regulations(ambient temperature 20°C pneumatic test)	
	4)Communication method	Underwater acoustic communication (ultrasound)
	5)Communication interval	1minute or 5minutes
	6)Power supply	Dedicated lithium battery (DC6V,10Ah)
	7)Material	SUS316L + POM
	8)Dimensions	φ60×450mm
	9)Weight	2.5kg or less
Overall dimensions	Anchor cage lower frame height	296×296mm (Excluding arm and cage support brackets)
	Height	1006mm(Helicopter transport configuration) 1004mm(Drone transport configuration)
	*Protruding parts are not included	
Total weight	35kg or less(Helicopter transport configuration)	
	28kg or less(Drone transport configuration)	
	*Maximum mass with the sensor mounted on the anchor cage	
Monitoring software	Function control command submission, Graphing, listing	

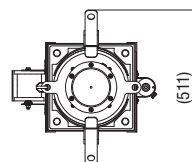
Configuration diagram



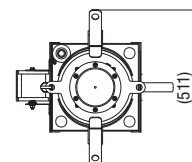
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[BOTTOM VIEW]

With weight
(Helicopter transport configuration)



Without weight
(Drone transport configuration)



[SIDE VIEW]

