

CPS sonde

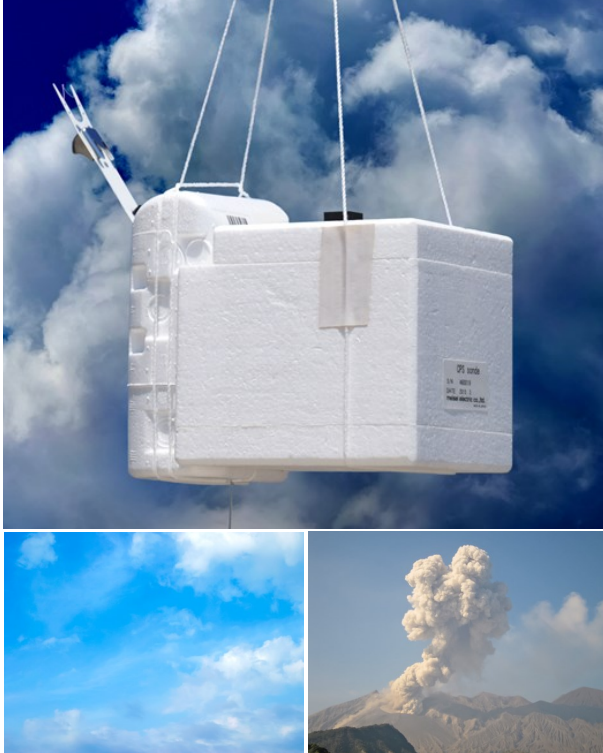
Cloud Particle Sensor

Outline

CPS (Cloud Particle Sensor), combined with GPS radiosonde, provides in-situ cloud measurements including vertical distribution of cloud particles (number density, size, and the phase (water cloud-ice clouds)/shape) in addition to the fundamental meteorological elements (Temperature, Humidity, Height and Wind direction/velocity).

CPS collects ambient air samples through its duct during radiosonde's ascent and measures floating particles with light scattering method by using one linearly polarized light source and two photodiode detectors. One detector directly measures the scattered light from the particle, and the other detects the polarization components of the scattered light.

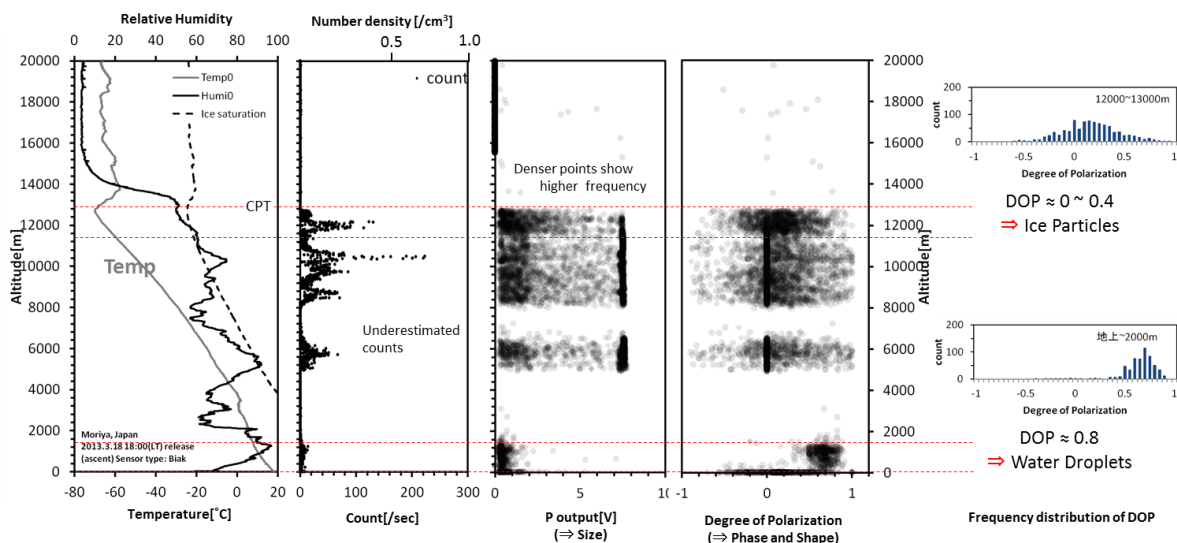
CPS sonde is compatible with MEISEI standard GPS sonde ground system (RD-08AC) and software (MGPS-R). Output data include the number of counts per second, scattered light intensity and degree of polarization, which provide us with number density, particle size and the phase (water cloud-ice clouds)/shape of cloud particles.



Features:

- Measurement of accurate vertical distribution of cloud and ash, etc. simultaneous with the fundamental meteorological elements
- Easy to handle/launch without special preparation because of its compact size and lightweight (approximately 320g).
- Compatible with GPS sonde ground system RD-08AC and sounding software MGPS-R.

Example in Moriya, Japan at 18th March 2013 18LT



Specifications

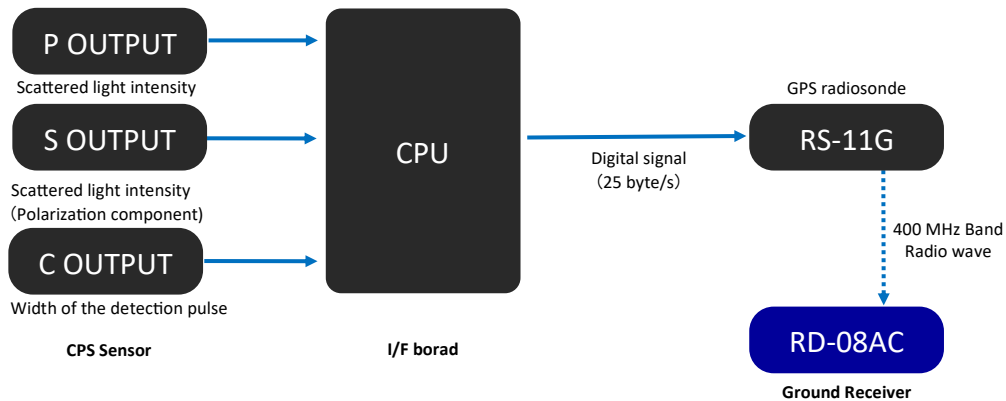
Sensor	Cloud particle sensor CPS ** ^a	SHINYEI Technology Co., LTD.	Operation Environment	Temperature -70°C~+40°C
Measuring Range	Number density	<1/cm ³ * ^b The presence/absence of particle can be detected even >1/cm ³	Power Source	Humidity 0%~100%
	Particle size	15 μm (>2 μm can be detected) * ^c		Pressure 1050 hPa~5 hPa
	Output signal voltage	0—8 V	Size & Weight	Voltage 9 VDC (CPS), 3 VDC (RS-11G)
	Sampling rate	1 sec		Model Lithium battery (CR123) × 3 (CPS) Lithium battery (CR123) × 1 (RS-11G)
			Dimensions 188 (W) × 113 (D) × 123 (H) mm	Weight 320 g (with RS-11G)

*a) When using in day time observation, inlet tube is required to prevent light penetration from the influence of solar radiation.

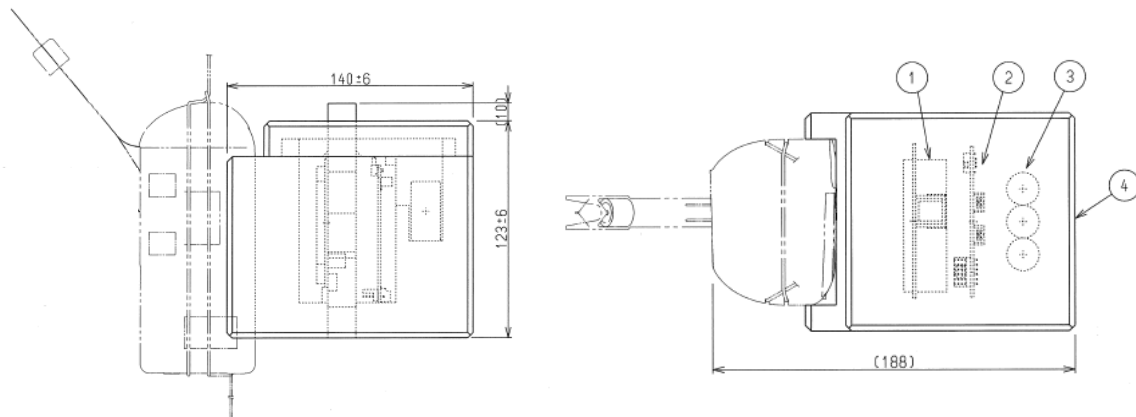
*b) Number density is calculated on the assumption that particle's fall velocity in the CPS is equal to ascent rate of sonde itself.

*c) Please contact us for more details.

Block Diagram



Outline View



⚠ Cautions

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