Cloud Cover Observation Instrument

ASC200



Applications

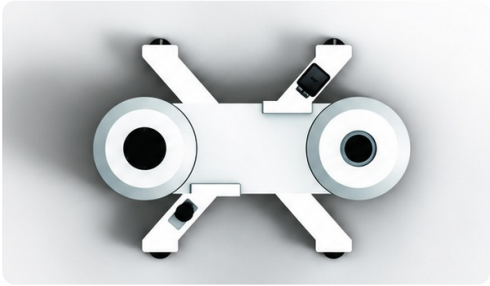
Automated real-time cloud cover observation for meteorological and climate services; solar energy forecasting and photovoltaic performance evaluation; meteorological science, remote sensing and solar resource research; high-demand aviation and marine meteorological observation.

Key Features

- Advanced image restoration reduces the effect of solar halo and overexposure for more accurate cloud cover observation.
- Advanced infrared imaging captures wide-field all-sky infrared cloud images.
- An embedded shutter-type sun shield leaves the all-sky image unaffected and effectively prevents solar damage to the sensor.
- Built-in hardware image processing; no external computer or workstation required.
- Low power consumption; waterproof, dustproof and condensation-resistant.

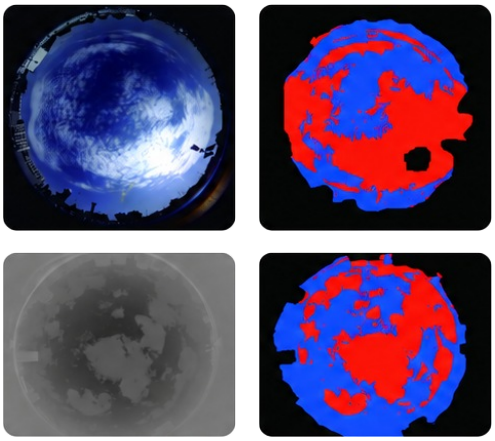
Demonstrations

China Meteorological Administration, China Radiometric Calibration Sites (Dunhuang / Qinghai Lake), Shouxian National Climate Observatory, and meteorological bureaus in Beijing and other regions. Used as the cloud cover instrument in the National Key R&D Program project “Research and Experiment on Vertical Integrated Meteorological Observation Technology for Megacities”.



Technical Parameters

Observation	Visible, infrared and combined cloud cover; cloud type, cloud base height estimation
Infrared band	8–14 μm
Field of view	Visible 180°, infrared 160°
Image resolution	Visible ≥ 2592 × 1944, infrared ≥ 640 × 512
Sampling period	5 or 10 minutes
Data storage	30 days
Software	Web-based device management; TCP/IP communication and FTP/SFTP file transfer
Protection	IP65
Operating temperature	–45 °C to 55 °C
Interfaces	Ethernet, serial
Size and weight	30 × 30 × 40 cm, 30 kg
Power supply	AC 220 V / 50 Hz



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