ALL SKY IMAGERS

ASI-16 All-Sky Imager
Live video & full hemispheric pictures, whatever the weather

Overview

The ASI-16 and ASI-16 Base All-Sky Imagers are automatic camera systems with a 180° field of view. Designed for cloud coverage and type analysis, with cloud base height (CBH) and cloud motion functions, they deliver clear, reliable, full hemispheric, high-resolution HDR images and video.

With dual-side surge protection and an IR-cutting filter to protect against sensor degradation caused by excess direct exposure to the sun, the ASI-16 features a 5MP sensor and a 'fisheye' lens with an anti-reflective airflow-protected quartz dome. The standard model also includes external temperature and relative humidity sensors, plus integrated ventilation and heating for an operational temperature range of -40°C to +80°C, making the ASI-16 a true ‘all-weather’, ‘all-sky’ imager, suitable for use anywhere in the world. The first-choice sky camera for scientists and researchers who need unbeatable accuracy and reliability.

Features

- **180°**
  - 5MP Fisheye Camera with 180° field of view
- **LIVE**
  - Real-time video & photostream, 2 to 10 f/sec
- **Standard Model with Internal Ventilator, Heater and Data Acquisition Unit**
- **Cloud Cover, Cloud Base Height (CBH) and Cloud Motion Functions**
**Applications**

The ASI-16 is designed for scientific and operational meteorology and has become an essential tool for atmospheric science, climate research and industrial solar energy applications. Deployed as part of a sky camera network, the ASI-16 can even help forecast solar radiation more precisely, further supporting the efficient production of solar energy and grid management.

Commonly used for remote sensing, weather and cloud observations, atmospheric research, supervision systems and aircraft-based observation systems, the ASI-16 is also an effective cloud detector, ideal for cloud coverage and type analysis, with cloud base height (CBH) and cloud motion functions available.

**Software**

Used together with the ‘Find Clouds’ or ‘Cloud Base Height’ (CBH) programmes, ASI-16 images can be used to assess cloud coverage ratios, thick and thin cloud ratios, and average cloud base height. Two ASI-16s combined can be used to calculate cloud movement, direction, relative speed, and sun shadowing forecasts.
Software Options

STANDARD
Set-up and control software
Imager performs all-weather acquisition of high-resolution images with network storage, and video streaming.

OPTIONAL
Find Clouds software
The Find Clouds software allows the calculation of the sun position in the sky and runs cloud detection algorithms.

OPTIONAL Cloud Base Height (CBH) software
Using two ASI-16 imagers and the additional CBH software, a stereoscopic method can be applied to a pair of synchronized images to determine the cloud-base height.

Configuration

The ASI-16 camera transfers .jpg and .csv files to a PC via TCP/IP, FTP, File Share or HTTP protocols.

Related Products

MS-80SH
The MS-80SH adds integrated solid-state dome heating to the already industry-leading features and characteristics of the ‘fast-response’ and ‘spectrally flat’ ISO 9060:2018 Class A MS-80S, making it the fastest and most advanced model in the EKO S-Series family of Pyranometers.

The unprecedented speed, accuracy, all-weather performance and low power consumption of the MS-80SH make it a standout choice, frequently paired with the ASI-16 for fast, high-quality streaming & transfer of sky images and irradiance data.
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