

# ASI-16 All-Sky Imager

Live video & full hemispheric pictures, whatever the weather



Left: ASI-16 All Sky Imager, Right: ASI-16 Basic All Sky Imager

## Overview

The ASI-16 and ASI-16 Basic 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.

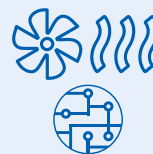
## Features



5MP Fisheye  
Camera with 180°  
field of view



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

|                                         | ASI-16 All Sky Imager                     | ASI-16 Basic All Sky Imager               |
|-----------------------------------------|-------------------------------------------|-------------------------------------------|
| Integrated Ventilation & Heating        | Yes                                       | No                                        |
| Camera                                  | 5MP CMOS / 1 x 1.8"                       | 5MP CMOS / 1 x 1.8"                       |
| Operation                               | Daytime                                   | Daytime                                   |
| Field of View                           | 180°                                      | 180°                                      |
| Images                                  | HDR JPG                                   | HDR JPG                                   |
| Operating temperature range             | -40 to 80°C                               | -25 to 50°C                               |
| Power supply                            | PoE 48V                                   | PoE 48V                                   |
| Power consumption                       | 25 to 80 W                                | 15 W                                      |
| Cable length                            | 15 m                                      | 10 m                                      |
| Dimensions mm                           | ø200 x 350                                | ø180 x 200                                |
| Software                                | Web browser / Trinity for Windows 7 to 10 | Web browser / Trinity for Windows 7 to 10 |
| Optional:<br>Cloud Base Height Software | 2 x ASI-16 required                       |                                           |

## Applications

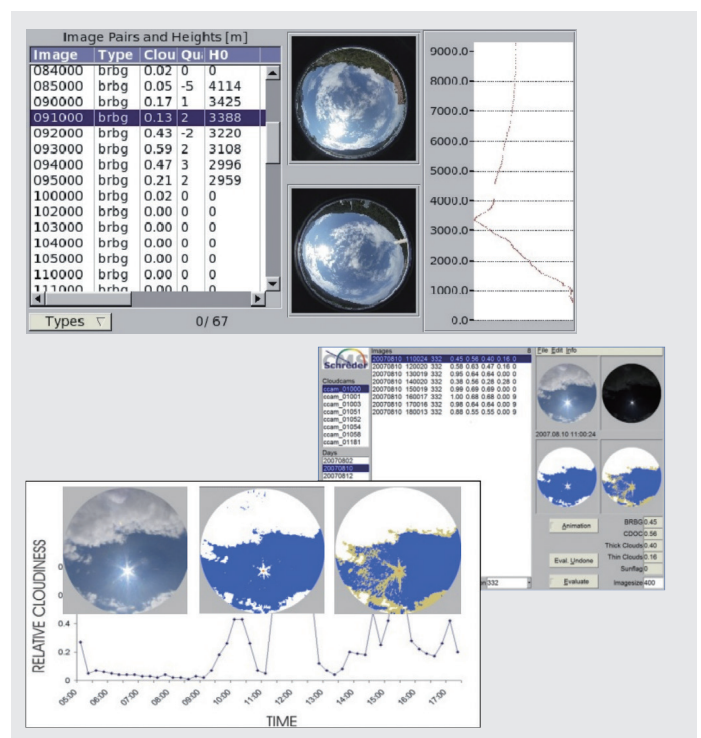
The ASI-16 is designed for scientific and operational meteorology and has become an essential tool for atmospheric science, climate research and industrial solar energy applications. Deployed as part of a sky camera network, the ASI-16 can even help forecast solar radiation more precisely, further supporting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

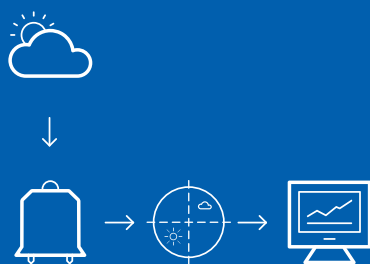
Used together with the 'Find Clouds' or 'Cloud Base Height' (CBH) programmes, ASI-16 images can be used to assess cloud coverage ratios, thick and thin cloud ratios, and average cloud base height. Two ASI-16s combined can be used to calculate cloud movement, direction, relative speed, and sun shadowing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





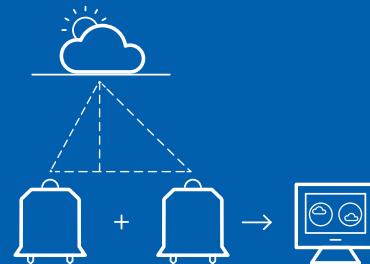
**STANDARD  
Set-up and control software**

Imager performs all-weather acquisition of high-resolution images with network storage, and video streaming.



**OPTIONAL  
Find Clouds software**

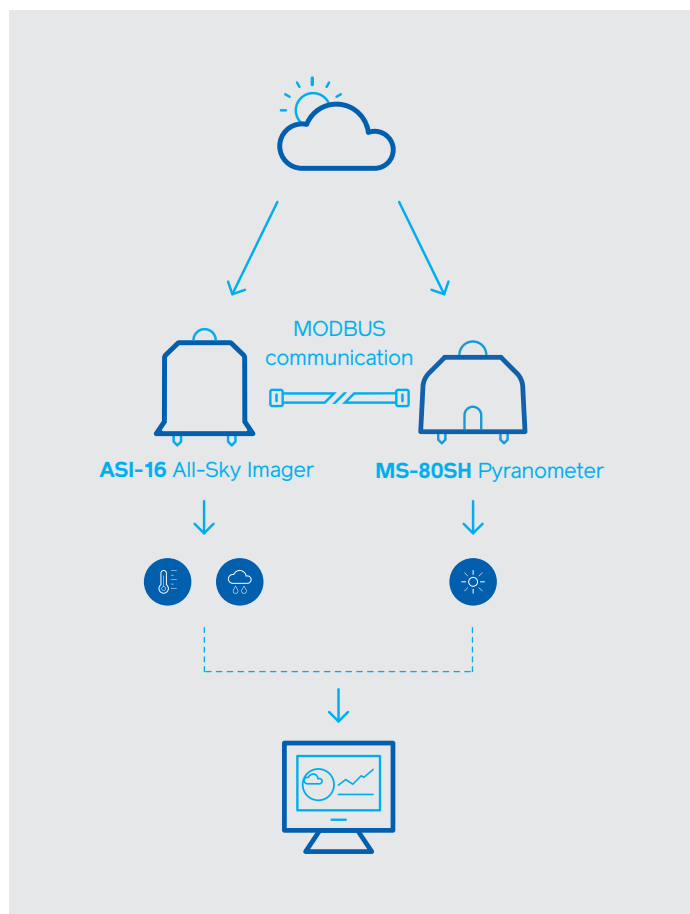
The Find Clouds software allows the calculation of the sun position in the sky and runs cloud detection algorithms.



**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.

## Learn More

Visit our website, contact our team, to find out more about the **ASI-16** all-sky imager, related products, and the full range of Class and industry-leading products from EKO.

## Explore EKO

Made in Japan for over 90 years, EKO solar energy sensors and environmental instruments are built on a legacy of innovation, an uncompromising commitment to quality, and industry-leading accuracy.

With a range of products and services to suit every project or application requirement, explore EKO now, or get in touch to find out how EKO Instruments can help you.



Albedometers



Pyranometers



Pyrheliometers



Spectro-Radiometers



Sky Imagers



DNI Sensors



Pyrgometers



Thermal Cond. Testers



Solar Monitoring Stations



Sun Trackers



Sensor Signal Converters



Heat Flux



UV Sensors



Temperature Sensors



Sky Scanners

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