ALL SKY IMAGERS

ASI-16 All-Sky Imager

Live video & full hemispheric pictures, whatever the weather

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

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

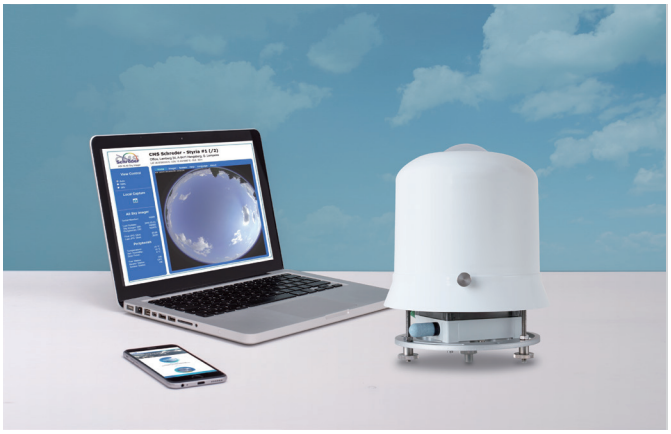
Specifications

	ASI-16 All Sky Imager	ASI-16 Base 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 210	ø200 x 210
Software	Web browser / Trinity for Windows 7 to 10	Web browser / Trinity for Windows 7 to 10
Optional : **Cloud Base Height Software**	2 x ASI-16 required	

Applications

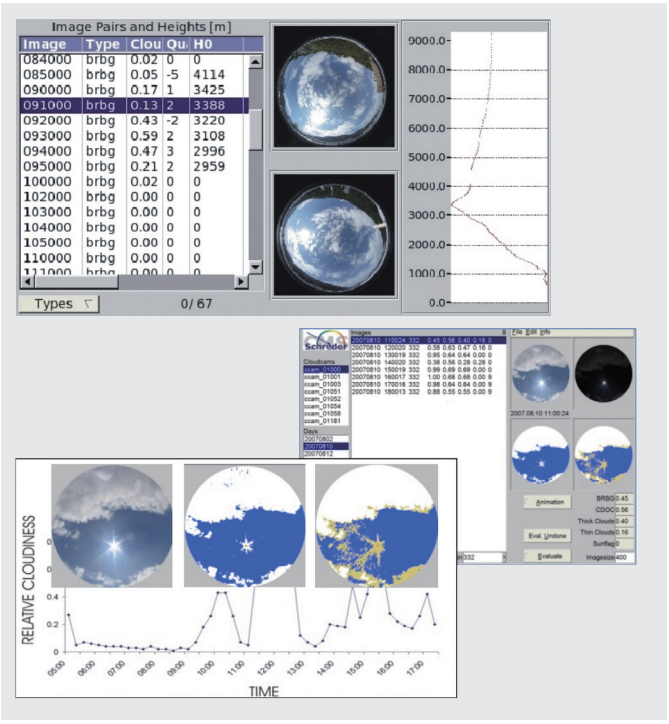
The ASI-16 is designed for scientific and operational meteorology and has become an essential tool for atmospheric science, climate research and industrial solar energy applications. Deployed as part of a sky camera network, the ASI-16 can even help forecast solar radiation more precisely, further supporting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

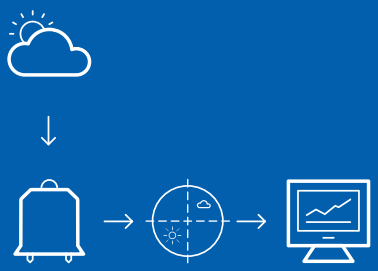
Used together with the 'Find Clouds' or 'Cloud Base Height' (CBH) programmes, ASI-16 images can be used to assess cloud coverage ratios, thick and thin cloud ratios, and average cloud base height. Two ASI-16s combined can be used to calculate cloud movement, direction, relative speed, and sun shadowing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



Software Options

STANDARD
Set-up and control software

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



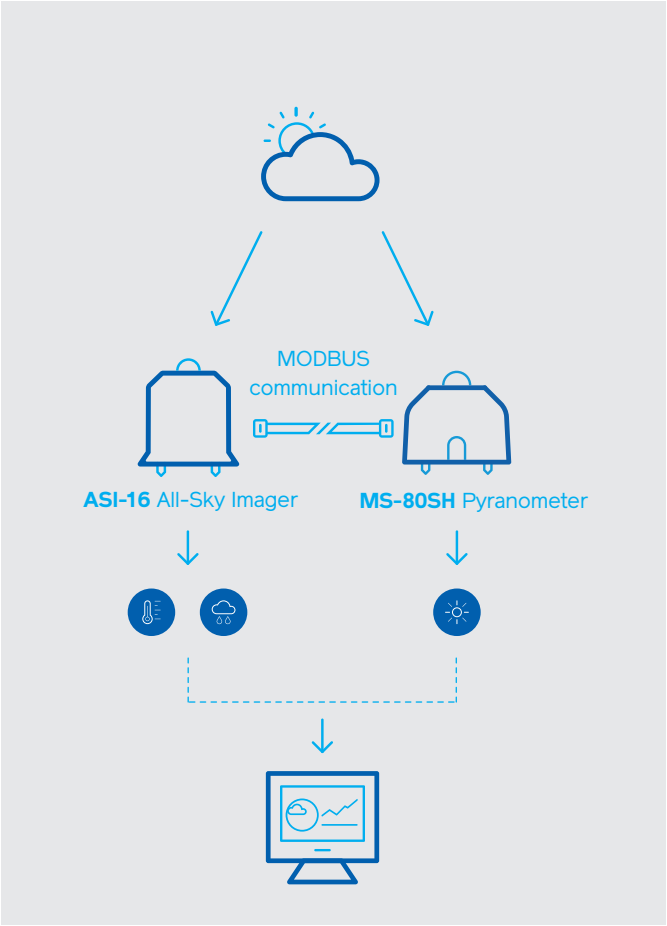
OPTIONAL
Find Clouds software

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.

QR

Use the QR code to visit our website, contact our team, or to find out more about the **ASI-16** all-sky imager, other related products, and the full range of industry-leading EKO sensors and instruments.

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.

- Pyranometers
- Albedometers
- Pyrheliometers
- Spectro-Radiometers
- Sky Imagers
- DNI Sensors
- Pyrgeometers
- I-V Measurement
- Solar Monitoring Stations
- Sun Trackers
- Sensor Signal Converters
- Heat Flux Sensors
- UV Sensors
- Temperature Sensors
- Sky Scanners
- Thermal Cond. Testers

EKO Instruments Co. Ltd
info@eko.co.jp
+81-3-3469-6713

EKO Instruments Europe B.V.
sales-eu@eko-instruments.com
+31-0-703050117

EKO Instruments USA Inc.
sales-usa@eko-instruments.com
+1-408-977-7751

EKO Instruments Sales India
sales-in@eko-instruments.com
+91 9869047721

EKO Instruments Sales China
sales-cn@eko-instruments.com
+81-3-3469-6713

eko-instruments.com