

Check out the future of
All Sky Imaging Solutions



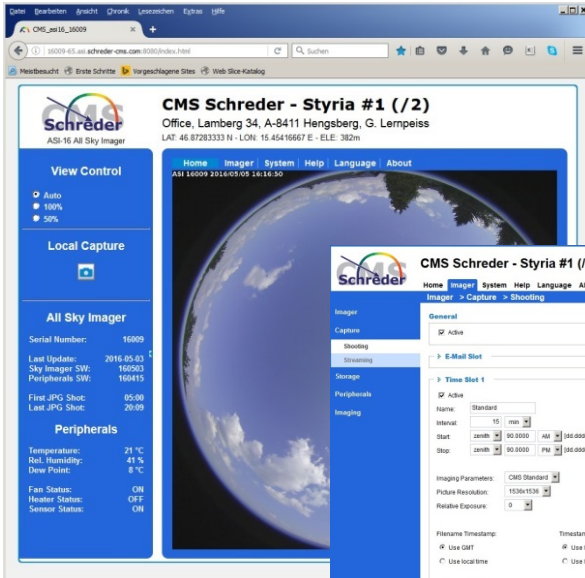
HDR 5MP outdoor qualified imager head
All-sky fisheye lens , tough coated dome
Fully secure http(s) based web user interface
Realtime picture stream, up to 10 frames/sec
Rel. humidity and temperature measurement

Easy-to-align (horizon level, north direction)
Flexible to mount (rod- or arm-mount)
Fully modular and easy to service hardware
Integrated dome ventilation and heating
Data Logger hardware and software



cms ASI-16

All Sky Imaging Solutions



Configuration and monitoring via browser.
Multi-password protected secure access.
Secure (internet) connection via HTTPS.
Easy online and offline software updating.
Open and flexible IP and Port settings.

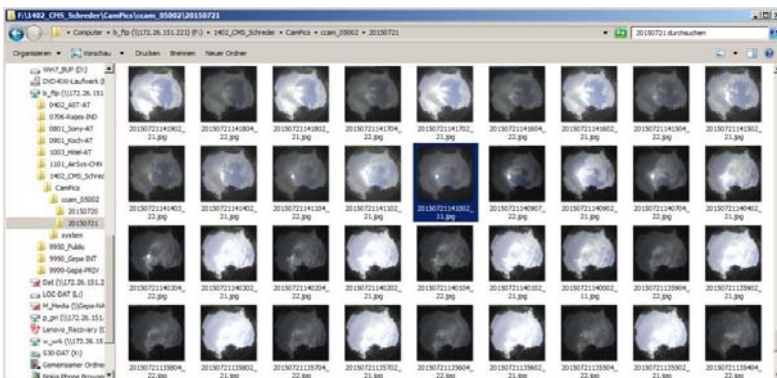
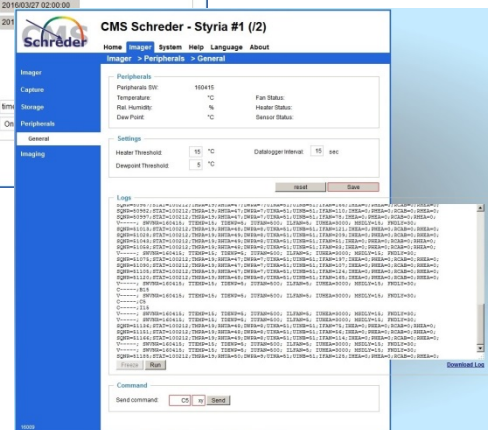
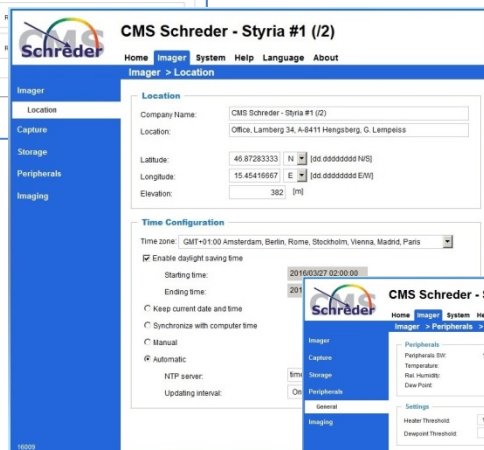
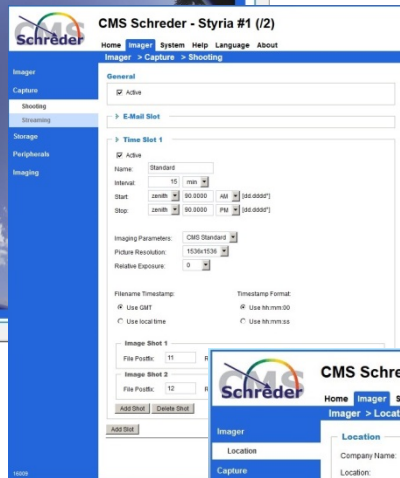
Advanced shooting scheduler.
Zenith angle- and time-controlled.
Multiple pictures per time slot.
Multiple exposures per slot.
Multiple sets of time slots.
Timestamps: GMT / local time.

Realtime stream:
1-2 frame/second.

Client and Location Data Config's.
Locale data stored with pic's.
Pic's upload: FTP, HTTP, NAS, ...
Temporary local storage in case of server or network problems.
Adjustable storage policies.

Auto-created server directory (.../Camera/Day/)
Ready for all CMS cloud analysis software.

Up to 6 slots,
(6-12 images)
per minute.



Above: Data Logger Screen.
See data , set parameters.

Left: Series of pictures with variations in exposure level.



cms ASI-16

All Sky Imaging Solutions

One Imager - One Software
Multiple HW Configurations



/10 - Basic (on demand)
 HDR 4MP IP Camera Head
 Standard PoE Power Supply
 3D Mounting System



/50 - Advanced
 10/ 45/ 70 Watt vent & heating
 48V/ CMS-HPoE/ Power Supply
 Environmental Measurements
 Integrated Data Logger HW/SW

The fully modular mechanical, electrical and electronics design, and just 3 screws to access the interior ensures most easy maintenance and allows later upgrades.

Sensor Technology	1/2.5" Progressive CMOS	Network Protocols	IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, SNMP, 802.1X, UDP, ICMP
Sensor Resolution	2560 x 1920, 5 Megapixel		
Useable Resolution	1920 x 1920		
Lens Type	Fixed-focal, fisheye		
Field of View	180°		
WDR Technology	WDR Enhanced	Connections	8P-X 12mm / 4P-8mm
Minimum Illumination	0.03 Lux @ Color 0.001 Lux @ B/W	Power input	PoE / cms-PoE / 48V
JPG file upload	HTTP, SMTP, FTP, NAS server	Power consumption	6W/ 70W
Realtime video stream	H.264, MJPEG & MPEG-4	Forced heating	--- / 45 W/ 70 W
CPU	Multimedia SoC	Operating temperature	-40°C (-25°C) to +50°C
Backup Storage	MicroSD card, 4 GB	Mounting	Rod, arm, platform
Environmental Data	---/ Temp., Rel. Humidity	Dimensions:	DM= 200 mm, H= 80/ 210mm

Specifications and visual designs in this paper are preliminary and for general information purpose, only.

CMS Ing. Dr. Schreder GmbH - The Calibration Measurement Software Company
 Lofererstrasse 32, A-6322 Kirchbichl | +43 5332 77056 | info@schreder-cms.com | www.schreder-cms.com

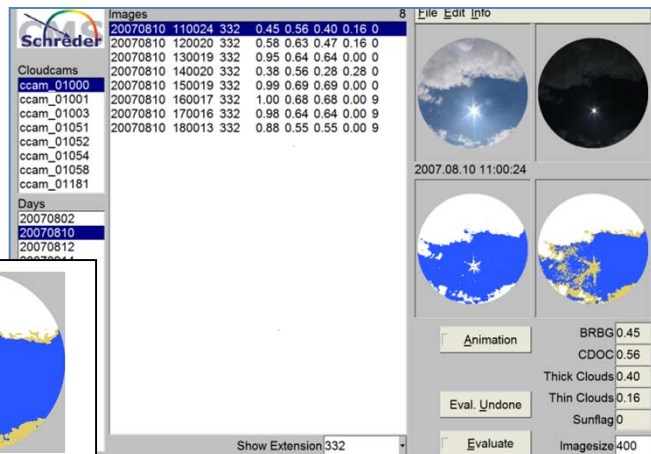
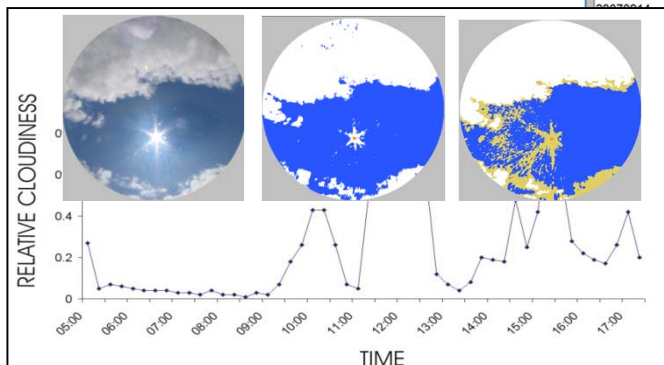


- Calibration of instruments for radiation measurements
- Measurement of radiation from UV to IR
- Software for special requirements

The Austrian
Calibration Measurement Software Company

Cloud Detection & Cloud Base Height & Cloud Motion DNI Forecast

To classifying the clear sky, total hemispheric cloud cover, optically thick and thin clouds, cloud cover of the free horizon and/or cloud cover above an artificial horizon.



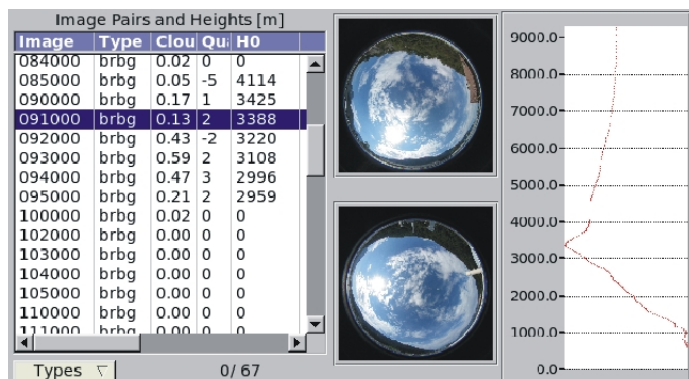
If the natural horizon is not known, an easy-to-use tool allows to define it by drag-and-drop. The presence of direct sun is detected. - All analyzed data are stored, including false color pictures for additional analysis and investigations.

Cloud Base Height & Cloud Motion

Software offers the possibility to evaluate cloud heights in real time with stereoscopic methods. It uses the time synchronized images of two sky imagers and the locale data (lat., long., elevation) stored with each individual CMS ASI image file.

DNI Forecast

Software is under development. It will provide DNI maps with ASI-16 imagers with a time horizon of 0 (nowcasting) up to 30 minutes.



CMS Ing. Dr. Schreder GmbH - The Calibration Measurement Software Company

Lofererstrasse 32, A-6322 Kirchbichl | +43 5332 77056 | info@schreder-cms.com | www.schreder-cms.com

Version V05 - 2016-0608 - © CMS Ing. Dr. Schreder GmbH. - All rights reserved.