

# SBIG® ALUMA® AC2020BSI

AFFORDABLE SCIENTIFIC CMOS DETECTOR



The SBIG AC2020BSI research-grade camera is ideal for mid-focal length telescopes from 0.2m to over 0.4m in size. The SBIG ALUMA AC2020BSI features a high performance 2048x2048 sCMOS image sensor with 6.5µm square pixels, in a 13.3mm x 13.3mm array. It has a peak quantum efficiency (QE) of >91% for outstanding sensitivity. VIS-NIR or UV-VIS window options are available.

The SBIG ALUMA AC Series represents the state-of-the-art in Advanced Scientific CMOS cameras for astronomical imaging systems. Featuring extraordinary 91% peak quantum efficiency, The ALUMA AC2020BSI uses the Gpixel GSENSE2020BSI-H CMOS sensor with 4 million pixels at 6.5 microns in a 2048 x 2048 array. The sensor measures just over 13.3mm square. The ALUMA AC series has powerful two stage cooling and supports optional water cooling. ALUMA AC cameras can be operated directly from a 12VDC 8A power supply.

SBIG StackPro™ in-camera image stacking combines high-gain sub-exposures into long duration images, emulating CCD behavior and reducing glow from logic on-sensor. This saves disk storage, reduces data transfer, and simplifies the calibration process. You are in control, and optimize operation for your science objectives.



## The AC2020BSI camera features:

### Monochrome advanced scientific CMOS sensor

Large size low noise state-of-the-art sCMOS device

### Electromechanical dark shutter

Convenient dark frames, ideal, ideal for robotic automation

### Sub-zero thermoelectric cooling

40°C below ambient without cryogenics using SBIG pin-based heatsink. Liquid cooling ports are included, although not necessary.

### USB 3.0 interface and USB 2.0 compatible for longer cables

Works with standard PCs, no specialized interface cards

### High dynamic range - Dual gain ADC

12-bit low gain plus 12-bit high gain for maximum dynamic range

### Auxiliary control port

External trigger and control of optional filter wheel

### ASCOM Standard and DL Imaging drivers and Software Development Kit available

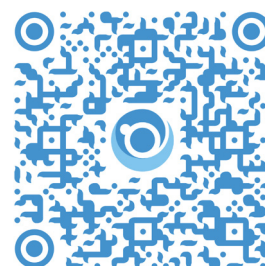
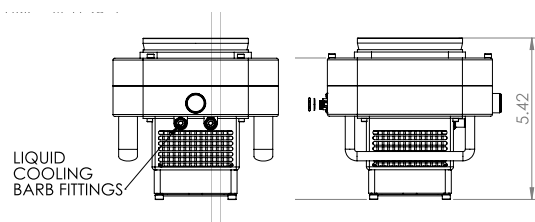
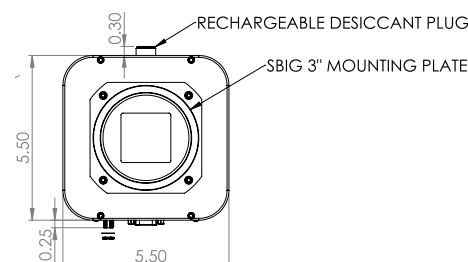
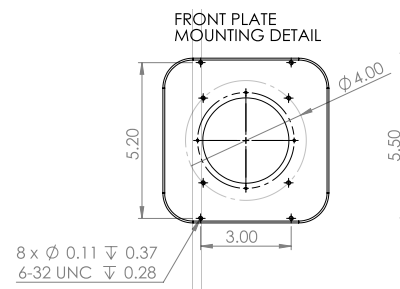
Windows 10 and 11 compatible. ASCOM driver included for Windows. Contact us for other platforms.

### TECHNICAL SPECIFICATIONS

A/D Converter	Dual 12 bit with HDR capability
Chamber Window	VIS-NIR, UV-VIS options
Computer Interface	USB 3.0, compatible with USB 2.0
Cooling Delta	~ 40°C typical, water cooling option included
Dark Current	0.16 e <sup>-</sup> /p/s @ -20°C
Exposure	0.001–3600 s
Filter Size	50mm round or square, 36mm round
Full Frame Download	0.1 s
Full Well Capacity	55,000 e <sup>-</sup>
Imaging / Pixel Array	2048 x 2048
Imaging Sensor	Gpixel GSENSE2020BSI
Peak Quantum Efficiency	91% at 560–600nm
Pixel Size	6.5 µm
Power	12 VDC 8A
Read Noise	1.2 e <sup>-</sup> in 2-CMS Readout Mode, 1.6 e <sup>-</sup> Regular Mode
Self-Guiding In Front of Filters	Yes with SBIG StarChaser SC-4
Sensor Size	13.3 mm x 13.3 mm
Shutter	Rolling electronic, Mechanical dark shutter
Total Pixels	4 million
Weight	3.5 lbs / 1.6 kg

### OPTIONAL ACCESSORIES

Model	Description
AFW-16-36R	16-position filter wheel (36mm round)
AFW-12-50R	12-position filter wheel (50mm round)
AFW-10-50SQ	10-position filter wheel (50mm square)
SC-4	StarChaser SC-4 off-axis guide camera
DESICCANT-STX-STL	Molecular desiccant cartridge
ACC09	Nosepiece for 3-inch draw tube
ACC06	Nosepiece for 2-inch draw tube
10018	Adapter for 3-inch x 24tpi thread



www.diffractionlimited.com/product/sbig-aluma-ac2020bsi/

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