

## 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.

## ACHIEVE YOUR VISION

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
Adaptive Optics Option	AO-X with StarChaser SC-3
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-/p/s @ -20°C
Exposure	0.001-3600 s
Filter Size	50mm square preferred Some telescope optics may permit 36mm round filters.
Full Frame Download	0.1 s
Full Well Capacity	45,000 e-
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- in 2-CMS Readout Mode, 1.6 e- Regular Mode
Self-Guiding In Front of Filters	Yes with SBIG StarChaser SC-3-SHORT
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

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### OPTIONAL ACCESSORIES

Filter Wheels: with 7-, 10-, 12- position carousels

Mechanical adapters: 3-inch threaded, 2-inch nosepiece, or custom

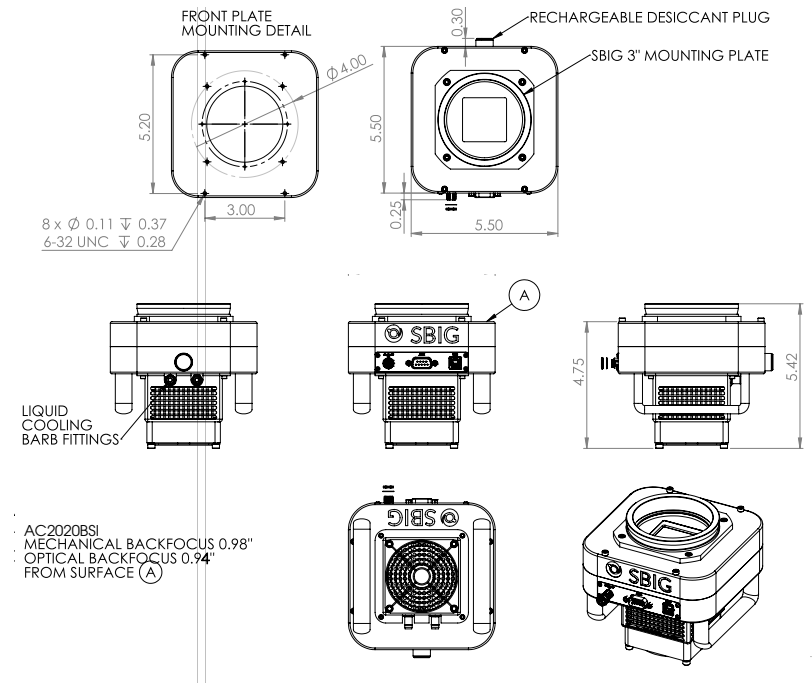
Optical filters: 50mm Square, 2mm thick. 36mm Round on some telescopes

SBIG AO-X Adaptive Optics

SBIG StarChaser Off-Axis Guider Cameras

Spare molecular desiccant cartridge: DESICCANT-STX-STL

STX/STXL/ALUMA AC Adapter Plates



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ORDER THE SBIG SCIENTIFIC CAMERA OF YOUR DREAMS THIS YEAR FROM OUR WORLDWIDE NETWORK OF DEALERS

Specifications subject to change without notice – December 2022

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