



# Product Sheet

## Multispectral Imaging System

### MSIS-BIO-1-A



MSIS-BIO-1-A  
Preliminary – specifications subject to change  
Revised July 21, 2020

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# 1. Description

The MSIS-BIO-1-A is a multispectral imaging system incorporating an MSC-BIO-1-A snapshot multispectral camera or an MSC-M42-1-A monochrome camera and a 4-channel LED illuminator into a single water-resistant housing. The LED illuminator contains 16 high power LEDs arranged in a ring pattern surrounding the lens of the camera. The LEDs are arranged into 4 channels. The four LED channels are matched to the spectral transmission characteristics of the MSC-BIO-1-A. Alternatively, if the MSC-M42-1-A is ordered, then the system can capture 4.2MP images at each band by sequencing the LEDs. Each LED channel is controlled with a strobe circuit capable of overdriving the LEDs to achieve high light output. The system is shipped with an external control box that houses the strobe controller and embedded computer system. (Customer must supply keyboard, mouse, and monitor.) Control of the system is through a Windows graphical desktop application. The housing provides an adjustable mount enabling the system to be pointed in increments of 4.5° around a central axis. The camera and LEDs are protected by a 5 mm thick polycarbonate window. The system is CNC machined from 6061 aluminum with black anodization and laser etching.

## 2. Specifications

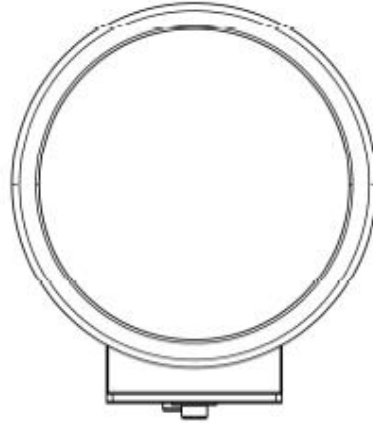
Camera	MSC-BIO-1-A <ul style="list-style-type: none"> <li>• 512x512 pixels per band 1-inch sensor</li> <li>• 735 nm, 800 nm, 865 nm, 930 nm</li> <li>• 94 FPS</li> </ul> MSC-M42-1-A (optional) <ul style="list-style-type: none"> <li>• 4.2MP 1-inch monochrome sensor</li> <li>• 94 FPS (1 channel only), 23.5 FPS with 4 channel sequence</li> </ul>
Lens	User selects focal length (6.5 mm – 75 mm), c-mount Manual iris, manual focus (electronic focus available)
Number of LED channels	4
Number of LEDs per channel	4 at 40W per channel, capable of overdrive
LED control	Each channel controllable manually through front panel Strobe output from camera flashes all 4 LED channels simultaneously or in sequence.
LED channels	735 nm, 800 nm, 865 nm, 930 nm
Camera Triggering	Internal: dependent on exposure time. External: 5-24 Vdc signal, rising or falling edge, pre-wired to LED controller
Network	Wifi (IEEE 802.11ac) and 1Gb Ethernet (RJ45)
Operating System	Microsoft Windows 10
Software	2ndLook multicamera acquisition software for Windows 10
External construction	6061 aluminum, polycarbonate, 316 stainless steel hardware, and glass-filled polymer
Surface finish	Camera head: black anodization, laser etch
Power Requirement	100 - 240 VAC (250 W) Supplied with 10 foot power cord
Dimensions	Camera head: 200 mm diameter x 170 mm deep Control box: 356 mm x 305 mm x 180 mm (HxWxD)
Weight	Camera head: 2.5 kg Control box: 6 kg

### 3. Drawing: Camera Head

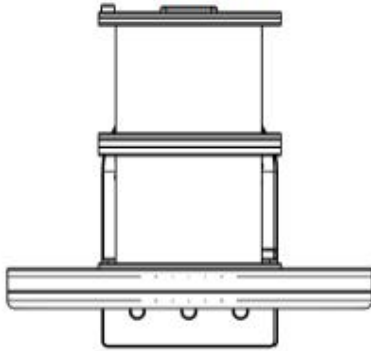
RENDERED VIEW



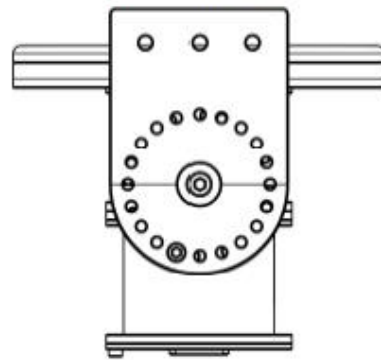
FRONT VIEW



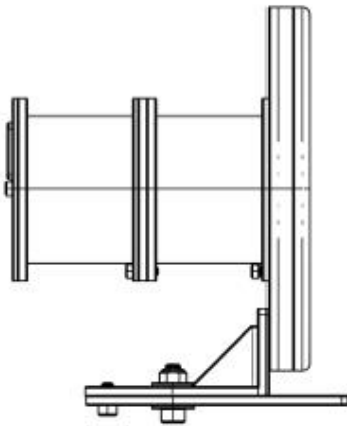
TOP VIEW



BOTTOM VIEW



SIDE VIEW



BACK VIEW

