








# The BUMA Modular



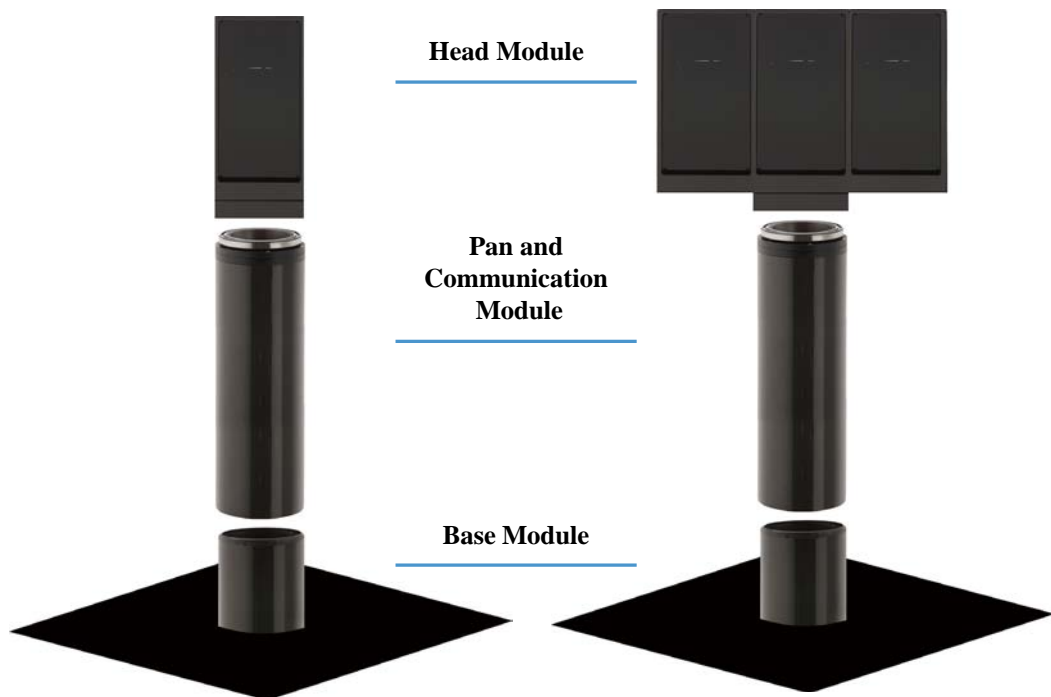
-   
 Maritime Mount
-   
 Smart Technology
-   
 External Vehicle Mount
-   
 Insert Compatible
-   
 Smart Perimeter System Mount
-   
 Portable
-   
 Outdoor

## Available Housing Models:

- BM-Single Frame Housing
- BM-Triple Frame Housing

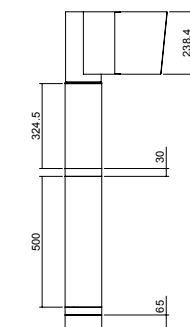
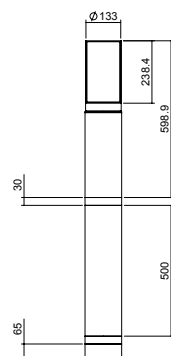
## Available Frame Inserts:

- SD Camera
- HD Camera
- UHD Camera
- Low Light Camera
- EMCCD Camera
- Thermal Imaging
- Audio Broadcast
- Short Range Night Vision
- Long Range Night Vision
- Area Illuminator

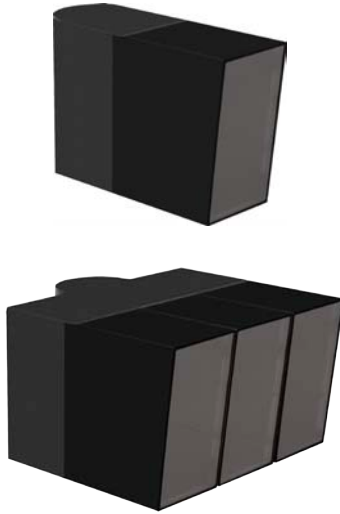


mm

Dimensions are in millimeters



# The BUMA Modular Housing



## Description

To offer our customers a truly customized surveillance solution we present the BUMA Modular series. The patent pending, multiple core design features a single (BM-1) or triple (BM-3) frame housing that optimally attaches to our REKKS Smart Perimeter System for a sturdy and independently powered pole mount. Customers are then able to choose insert modules, depending on the capacity of the selected model, to connect to the housing bracket. In the event a customer wishes to modify or add to the system's capabilities, the insert modules can easily be exchanged without having to replace an entire surveillance system.

## Suggested Applications

- Bases, Outposts and Checkpoints
- Border and Port Facilities
- Construction Sites and Pipelines
- Educational and Research Facilities
- Energy Infrastructures and Drill Sites
- Governmental Facilities
- Long Range Surveillance
- Nighttime Surveillance
- Remote and Undeveloped Areas
- Traffic and Transportation Infrastructures

## System Features



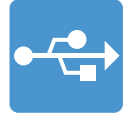
Continuous  
360° Pan



Renewable  
Energy  
Compatible



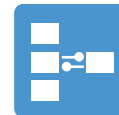
Quick  
Install



Plug and  
Play



Modular  
Freedom



Future  
Proof

## Compatible Housing and Mounts



Outdoor



Portable



Smart  
Perimeter  
System Mount



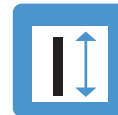
External  
Vehicle  
Mount



Maritime  
Mount



Wall  
Mount



Pole Height  
Extension

## Materials and Finish



Mixed  
Media



Camouflage



Housing  
Color



Glass  
Color

## Certifications



ONVIF



CE  
Certified



FCC  
Certified

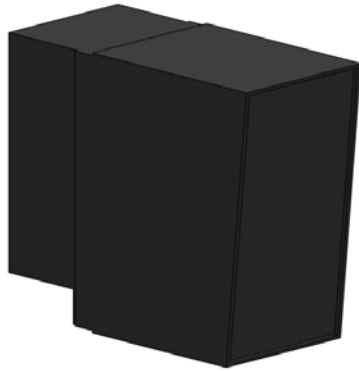


IP Rating



IK Rating

# BM-Camera Inserts



## Description

Several camera inserts are available for both the single and triple frame housing, including all of our BUMA SD and HD cores, our all new UHD core, an EMCCD camera, and a thermal imaging camera.

The BUMA Modular SD offers a cost effective, yet impressively capable outdoor surveillance solution, ideal for large area and long-range surveillance, and is complete with day & night functions for continued operation in most lighting conditions. For projects requiring advanced imaging capabilities, our BUMA HD camera delivers full HD resolution of 1920x1080p at 30 frames per second. Our most advanced camera and latest addition, our UHD camera, provides true 4k surveillance imaging with a resolution of 3840x2160 and is best suited applications requiring precise imaging. Even at high zoom levels the BUMA camera maintains image integrity and delivers crisp images at all light levels. The BUMA HD and UHD are best suited for large surveillance fields where a high, level of detail is required and are easily paired with our off-grid power pole system.

For low light or nighttime applications, our Low Light, EMCCD and thermal imaging cameras are valuable tools. EMCCD technology delivers monochrome video with exceptional image quality, including outstanding target recognition and identification capabilities. Thermal imaging cameras offer image penetration through smoke, dust, and water vapor in addition to providing clear images at near or mid-range distances in full darkness. Our thermal camera has a 384 x 288 pixel uncooled detector and uses an image detail enhancement (IDE) algorithm to enhance low contrast targets in high dynamic range scenes. Please refer to the BUMA Modular Housing page for all complete housing and mount options.

## Insert Features



Standard & High Definition



Ultra High Definition



EMCCD



Thermal Imaging Camera



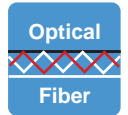
Image Stabilization



External Optics



PTZ Capability



Integrated Optical Fiber

## Compatible Housing and Mounts



BM Housing

## Materials and Finish



Mixed Media



Camouflage



Housing Color



Glass Color

## Certifications



ONVIF



CE Certified



FCC Certified



IP Rating



IK Rating

# BM-SD Insert



	BM-SD18	BM-SD26	BM-SD40
<b>Lens</b>			
<b>Image sensor</b>	1/4 Ex-view HAD CCD progressive scan	1/4-type Ex-view HAD CCD	1/4-type super HAD CCD II
<b>Angle view</b>	48° wide to 2.8° tele	54.2° wide to 2.2° tele	60.0° wide to 1.6° tele
<b>Lens</b>	18x optical zoom f=4.1mm wide to 73.8mm tele, f1.4 to f3.0	26x optical zoom f = 3.5 to 91mm (F1.6 to F3.8)	40x optical zoom f=3.06mm wide to 122.4mm tele, F1.6 to F4.6
<b>Minimum illumination</b>	0.7 lux at 1/50 s (f1.4, 50 IRE) 0.01 lux at 1/4 s ICR - on	0.7 lux (typical)	0.6 lux at 1/60 s 0.1 lux at 1/4 s ICR - on
<b>Digital zoom</b>	12x (216x with optical zoom)	12x (312x with optical zoom)	12x (480x with optical zoom)
<b>Shutter</b>	1/1 s ~ 1/10,000 s, 22 steps	1/1 s ~ 1/10,000 s, 22 steps	1/1 s ~ 1/10,000 s, 22 steps
<b>TV lines</b>	550 TVL	530 TVL	670 TVL
<b>Video</b>			
<b>Compression</b>	H.264 dual stream	H.264 dual stream	H.264 dual stream
<b>Bit rate</b>	16k to 1Mbps controllable	16k to 1Mbps controllable	16k to 1Mbps controllable
<b>Video resolution</b>	NTSC CIF (352x240), QCIF (176x120), full D1 (720x480) PAL CIF (352x288), QCIF (176x144), full D1 (720x576)	NTSC CIF (352x240), QCIF (176x120), full D1 (720x480) PAL CIF (352x288), QCIF (176x144), full D1 (720x576)	NTSC CIF (352x240), QCIF (176x120), full D1 (720x480) PAL CIF (352x288), QCIF (176x144), full D1 (720x576)
<b>Frame rate</b>	25 fps at full D1 (PAL) , 30 fps at full D1 (NTSC)	25 fps at full D1 (PAL) , 30 fps at full D1 (NTSC)	25 fps at full D1 (PAL) , 30 fps at full D1 (NTSC)
<b>Image enhancement</b>	auto white balance, AGC, backlight compensation, auto exposure	auto white balance, AGC, backlight compensation, auto exposure, 2D/3D noise reduction, auto WDR	auto white balance, AGC, backlight compensation, auto exposure, 2D/3D noise reduction, auto WDR, digital image stabilizer
<b>Preset points</b>	128	128	128
<b>Audio</b>			
<b>Audio input</b>	one channel MIC in or line input unbalanced 1.4 Vp-p	one channel MIC in or line input unbalanced 1.4 Vp-p	one channel MIC in or line input unbalanced 1.4 Vp-p
<b>Audio output</b>	one channel, RCA interface, linear output	one channel, RCA interface, linear output	one channel, RCA interface, linear output
<b>Audio compression</b>	G.726, G.711, ADPCM	G.726, G.711, ADPCM	G.726, G.711, ADPCM
<b>Alarm System Integration</b>			
<b>Alarm input</b>	one channel on/off input NO/NC	one channel on/off input NO/NC	one channel on/off input NO/NC
<b>Alarm output</b>	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A
<b>Serial port</b>	RS485 transparent protocol	RS485 transparent protocol	RS485 transparent protocol
<b>Recording</b>	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule
<b>Network and Storage</b>			
<b>Ethernet port</b>	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port
<b>Protocol</b>	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
<b>Web browser</b>	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
<b>Wireless protocols</b>	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)
<b>SD storage</b>	up to 32GB	up to 32GB	up to 32GB
<b>Operating Conditions</b>			
<b>Operating temp.</b>	-10° C ~ +60° C	-10° C ~ +60° C	-10° C ~ +60° C
<b>Storage temp.</b>	-20° C ~ +80° C	-20° C ~ +80° C	-20° C ~ +80° C
<b>Operating humidity</b>	10% ~ 85%	10% ~ 85%	10% ~ 85%
<b>Weight and Dimensions</b>			
<b>Input voltage</b>	12 VDC	12 VDC	12 VDC
<b>Power consumption</b>	15W	15W	15W
<b>Dimensions (cm)</b>	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)
<b>Weight</b>	BM-1: 8 Kg BM-3: 17 Kg	BM-1: 8 Kg BM-3: 17 Kg	BM-1: 8 Kg BM-3: 17 Kg

# BM-HD Insert



	BM-HD12	BM-HD20	BM-HD30
<b>Lens</b>			
<b>Image sensor</b>	1/4-Type CMOS	1/2.8" Exmor CMOS	1/2.8" Exmor CMOS
<b>Angle view</b>	53.4° (wide end) to 2.9° (tele end)	55.4° (wide end) to 2.9° (tele end)	54.1° (wide end) to 2.9° (tele end)
<b>Lens</b>	12x optical zoom f=3.7mm wide to 44.4mm tele, f1.6 to f2.5	20x optical zoom f=4.7mm wide to 94.0mm tele, f1.6 to f3.5	30x optical zoom f=4.6 mm wide to 138.0mm tele, f1.8 to f4.7
<b>Minimum illumination</b>	0.3 lux (f1.6, ICR off) / 0.06 lux (f1.6, ICR on)	0.5 lux (f1.6, ICR off) / 0.095 lux (f1.6 ICR on)	0.5 lux (f1.6, ICR off) / 0.095 lux (f1.6, ICR – on)
<b>Digital zoom</b>	12x (144x with optical zoom)	12x (240x with optical zoom)	12x (360x with optical zoom)
<b>Shutter</b>	1/1 s ~ 1/10,000 s, 22 steps	1/1 s ~ 1/10,000 s, 22 steps	1/2 s ~ 1/10,000 s, 21 steps
<b>Effective pixels</b>	1.43 megapixels	3 megapixels	3 megapixels

	BM-HD12	BM-HD20	BM-HD30
<b>Video</b>			
<b>Compression</b>	H.264 / M-JPEG support dual stream/ MPEG4/ ASP/ MxPEG	H.264 / M-JPEG support dual stream/ MPEG4/ ASP/ MxPEG	H.264 / M-JPEG support dual stream/ MPEG4/ ASP/ MxPEG
<b>Bit rate</b>	32Kbps to 8Mbps	32Kbps to 8Mbps	32Kbps to 8Mbps
<b>Video resolution</b>	1920 (H) x 1080 (V) / 1280 (H) x 720 (V) / 720 (H) x 576 (V) / 352 (H) x 288 (V)	1920 (H) x 1080 (V) / 1280 (H) x 720 (V) / 720 (H) x 480 (V) / 720 (H) x 576 (V)	1920 (H) x 1080 (V) / 1280 (H) x 720 (V) / 720 (H) x 576 (V) / 352 (H) x 288 (V)
<b>Signal system</b>	1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 720p/50, 720p/29.97, 720p/25	1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 720p/50, 720p/29.97, 720p/25	1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 720p/50, 720p/29.97, 720p/25
<b>Frame rate</b>	25 fps at full D1 (PAL), 30 fps at full D1 (NTSC)	25 fps at full D1 (PAL), 30 fps at full D1 (NTSC)	25 fps at full D1 (PAL), 30 fps at full D1 (NTSC)
<b>Image enhancement</b>	auto white balance, AGC, backlight compensation, auto exposure, WDR, tour recording, guard tour, auto track, iris control, on-screen display	auto white balance, AGC, backlight compensation, auto exposure, WDR, tour recording, guard tour, auto track, iris control, on-screen display	auto white balance, AGC, backlight compensation, auto exposure, WDR, tour recording, guard tour, auto track, iris control, on-screen display
<b>Preset points</b>	128	128	128

	BM-HD12	BM-HD20	BM-HD30
<b>Audio</b>			
<b>Audio input</b>	one channel MIC in or line input unbalanced 1.4 Vp-p	one channel MIC in or line input unbalanced 1.4 Vp-p	one channel MIC in or line input unbalanced 1.4 Vp-p
<b>Audio output</b>	one channel, RCA interface, linear output	one channel, RCA interface, linear output	one channel, RCA interface, linear output
<b>Audio compression</b>	G.726, G.711, ADPCM	G.726, G.711, ADPCM	G.726, G.711, ADPCM

	BM-HD12	BM-HD20	BM-HD30
<b>Alarm System Integration</b>			
<b>Alarm input</b>	one channel on/off input NO/NC	one channel on/off input NO/NC	one channel on/off input NO/NC
<b>Alarm output</b>	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A
<b>Serial port</b>	RS485 transparent protocol	RS485 transparent protocol	RS485 transparent protocol
<b>Recording</b>	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule

	BM-HD12	BM-HD20	BM-HD30
<b>Network and Storage</b>			
<b>Ethernet port</b>	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port
<b>Protocol</b>	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
<b>Web browser</b>	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
<b>Wireless protocols</b>	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)
<b>SD storage</b>	up to 32GB	up to 32GB	up to 32GB

	BM-HD12	BM-HD20	BM-HD30
<b>Operating Conditions</b>			
<b>Operating temp.</b>	-10° C ~ +60° C	-10° C ~ +60° C	-10° C ~ +60° C
<b>Storage temp.</b>	-20° C ~ +80° C	-20° C ~ +80° C	-20° C ~ +80° C
<b>Operating humidity</b>	10% ~ 85%	10% ~ 85%	10% ~ 85%

	BM-HD12	BM-HD20	BM-HD30
<b>Weight and Dimensions</b>			
<b>Input voltage</b>	12 VDC	12 VDC	12 VDC
<b>Power consumption</b>	15W	15W	15W
<b>Dimensions (cm)</b>	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)
<b>Weight</b>	BM-1: 8 Kg BM-3: 17 Kg	BM-1: 8 Kg BM-3: 17 Kg	BM-1: 8 Kg BM-3: 17 Kg

# BM-UHD Insert



## Lens

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<b>Image sensor</b>	Global Shutter CMOS
<b>Sensor Size</b>	Super 35 (22.53 x 11.88mm)
<b>Resolution</b>	4096x2160 or 3840x2160 (4x full HD)
<b>Dynamic Range</b>	12 stops
<b>Minimum illumination</b>	0,3 lux

## Video

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<b>Compression</b>	H.264 / M_JPEG support dual stream/ MPEG4/ ASP/ MxPEG
<b>Bit rate</b>	32Kbps to 8Mbps
<b>Video output</b>	4x 3G/HD-SDI (4x BNC)
<b>Quad Link Output Formats</b>	10-bit 4:4:4 quad link (UHD and 4K:23.98, 24, 25, 29.97, 30) 10-bit 4:2:2 or RAW quad link (UHD: 23.98, 24, 25, 29.97, 30, 50, 59.94, 60), (4K: UHD and 4K:23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60) progressive scan
<b>Frame rate</b>	NTSC / PAL
<b>Image enhancement</b>	manual and auto white balance, 1-Shot auto, matrix adjustment and saturation correction, backlight compensation, auto exposure, WDR, integrated IR-cut filter and OLPF, iris control, on-screen display
<b>Preset points</b>	128
<b>Sensitivity Adjustment</b>	ISO control; up to 4x digital gain

## Audio

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<b>Audio input</b>	one channel MIC in or line input unbalanced 1.4 Vp-p
<b>Audio output</b>	one channel, RCA interface, linear output
<b>Audio compression</b>	G.726, G.711, ADPCM

## Alarm System Integration

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<b>Alarm input</b>	one channel on/off input NO/NC
<b>Alarm output</b>	one channel on/off output 120 VAC 1A / 24 VDC 1A
<b>Serial port</b>	RS485 transparent protocol
<b>Recording</b>	motion trigger, alarm trigger, manual or schedule

## Network and Storage

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<b>Ethernet port</b>	10/100M Base-t self-adapting Ethernet port
<b>Protocol</b>	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
<b>Web browser</b>	Internet Explorer 9.0 or above
<b>Wireless protocols</b>	802.11b/g supports WEP, WPA, WPA2 (optional)
<b>SD storage</b>	up to 32GB

## Operating Conditions

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<b>Operating temp.</b>	-10° C ~ +60° C
<b>Storage temp.</b>	-20° C ~ +80° C
<b>Operating humidity</b>	10% ~ 85%

## Weight and Dimensions

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<b>Input voltage</b>	12 VDC
<b>Power consumption</b>	15W
<b>Dimensions (cm)</b>	20 x 14.1 x 26.7 (W x L x H)
<b>Weight</b>	5 Kg
<b>Colors</b>	white, black, camouflage wrap

# BM-Low Light Insert



## BUMA-LL

## BUMA-EMCCD

### Core

<b>Sensor type</b>	1/2" Exview HAD CCD II	1/2" Frame Interline Transfer (FIT) impactron
<b>Active pixel</b>	752 x 582	658 x 496
<b>Pixel size</b>	8.6µm x 8.3µm	10µm x 10µm
<b>Active area</b>	6.47mm x 6.83mm	6.58mm x 4.96mm
<b>Dynamic range</b>	>60dB	55dB
<b>Spectral response</b>	350-1100nm	350-1100nm
<b>Minimum illumination</b>	< 1µlux	< 200µlux
<b>Resolution</b>	480 TV lines	450 TV lines
<b>Cooling</b>	active, no fan	active, no fan
<b>Antiblooming protection</b>	-	yes (>500:1)
<b>Exposure time</b>	-	500µs to 1/50s (CCIR) or 1/60 (EIA)
<b>Frame rate</b>	25Hz (CCIR), 30Hz (EIA/NTSC)	25Hz (CCIR), 30Hz (EIA)
<b>Readout mode</b>	progressive scan	progressive scan

### Alarm System Integration

<b>Alarm input</b>	one channel on/off input NO/NC	one channel on/off input NO/NC
<b>Alarm output</b>	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A
<b>Serial port</b>	RS485 transparent protocol	RS485 transparent protocol
<b>Recording</b>	manual or schedule	manual or schedule

### Network and Storage

<b>Ethernet port</b>	10/100M Base-t self- adapting Ethernet port	10/100M Base-t self- adapting Ethernet port
<b>Protocol</b>	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
<b>Web browser</b>	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
<b>Wireless protocols</b>	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)

### Operating Conditions

<b>Operating temp.</b>	-10° C ~ +60° C	-10° C ~ +60° C
<b>Storage temp.</b>	-20° C ~ +80° C	-20° C ~ +80° C
<b>Operating humidity</b>	10% ~ 85%	10% ~ 85%

### Weight and Dimensions

<b>Input voltage</b>	12 VDC	12 VDC
<b>Power consumption</b>	14W	15W
<b>Dimensions (cm)</b>	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)
<b>Weight</b>	BM-1: 8 Kg BM-3: 17 Kg	BM-1: 8 Kg BM-3: 17 Kg
<b>Colors</b>	white, black, camouflage wrap	white, black, camouflage wrap

# BM-Thermal Insert



## Core

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<b>Sensor Type</b>	Uncooled
<b>Material</b>	Polysilicon
<b>Thermal response time</b>	7ms
<b>Resolution</b>	384x288
<b>Pixel size</b>	35umx35um
<b>Spectral range</b>	8-14um
<b>Fill factor</b>	>80%
<b>Brightness, Gain Control</b>	Auto / Manual
<b>NETD</b>	<100mk@30° C
<b>Start-up time</b>	≤25s (25° C normal operating)

## Alarm System Integration

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<b>Alarm input</b>	one channel on/off input NO/NC
<b>Alarm output</b>	one channel on/off output 120 VAC 1A / 24 VDC 1A
<b>Serial port</b>	RS485 transparent protocol
<b>Recording</b>	manual or schedule

## Network and Storage

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<b>Ethernet port</b>	10/100M Base-t self-adapting Ethernet port
<b>Protocol</b>	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
<b>Web browser</b>	Internet Explorer 9.0 or above
<b>Wireless protocols</b>	802.11b/g supports WEP, WPA, WPA2 (optional)

## Operating Conditions

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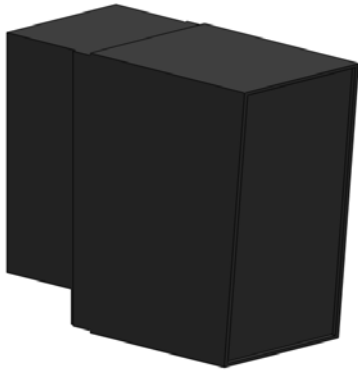
<b>Operating temperature</b>	-10° C ~ +60° C
<b>Storage temperature</b>	-20° C ~ +80° C
<b>Operating humidity</b>	10% ~ 85%

## Weight and Dimensions

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<b>Input voltage</b>	12 VDC
<b>Power consumption</b>	4.5W
<b>Dimensions (cm)</b>	BM-1: 39 x 39.9 x 26.8 ( W x L x H) BM-3: 39 x 13.3 x 26.8 ( W x L x H)
<b>Weight</b>	BM-1: 8 Kg BM-3: 17 Kg





## Description

To be used alone or in conjunction with the BUMA Modular Camera Inserts, we offer several other insert options for both the single and triple frame housings. To further enhance nighttime surveillance capabilities, we offer IR and laser illuminator modules. For low-light applications, power to the IR and illuminator modules is activated by a built-in light sensor. They are optimally paired with our standard camera core modules for a complete visual surveillance solution.

A speaker module provides a way to remotely deliver announcements to the surveillance field. This module can also be used to provide sirens, alerts or signals to notify bystanders of impending threats or dangers. The speaker has an efficient, compact design, yet offers premium sound quality with heat-resistant capabilities. This ensures continued operations and message delivery through volatile, high-heat environments.

Another valuable insert option for the BUMA Modular is a spotlight for ground illumination. We offer a spotlight module that can be activated when ground or area illumination is needed. The compact light features highly efficient LED lights that provide up to 900 lumens at over 90 lumens/watt, with a 120-degree beam pattern.

## Insert Features



Audio /  
Alarm  
Broadcast



Short  
Range  
Night Vision



Long Range  
Night Vision



Area  
Illuminator

## Compatible Housing and Mounts



BM  
Housing

## Materials and Finish



Mixed  
Media



Camouflage



Housing  
Color



Glass  
Color

## Certifications



ONVIF



CE  
Certified



FCC  
Certified



IP Rating



IK Rating

# BM-Additional Inserts



## Audio Broadcast

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**Volume:** 43.9 dBM

**Effective range:** 1 Km minimum

**Power:** 12 VDC

**Power handling:** 25 Watt

**Output:** voice, Siren.

## Short Range Night Vision

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**Wavelength:** 850nm

**Horizontal field-of-view:** 45 degrees

**Vertical field-of-view:** 45 degrees

**Distance:** up to 100 m

## Long Range Night Vision

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**Rang:** 3.2 Km Min

**Wavelength:** 830 nm

**Output Power (max.):** 600 mW

**Illuminator Divergence:** 4°

**Laser Class:** 1 EyeSafe

**Environmental Rating:** IP-67 (waterproof)

**Working Ranges:** Human detection 1500m, Vehicle detection 3000m

## Area Illumination

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**Power source:** 12 VDC

**Body colour:** black

**Power consumption:** 20w

**Lumens output:** 1200lm

**Beam angle:** 120 degrees

**Light colour:** 4500k