The BUMA Heavy Duty

m_PAC

Maritime Mount

External Vehicle Mount

Smart Perimeter System Mount

Smart Technology

Outdoor

Available Models:

■ Standard Definition Models
BH-SD18
BH-SD26
BH-SD40

■ High Definition Models
BH-HD12
BH-HD20
BH-HD30

■ Ultra High Definition Models
BH-UHD - Coming Soon

■ Low Light Models
BH-LL
BH-EMCCD

Head Module

Pan and Communication Module

Base Module

mm
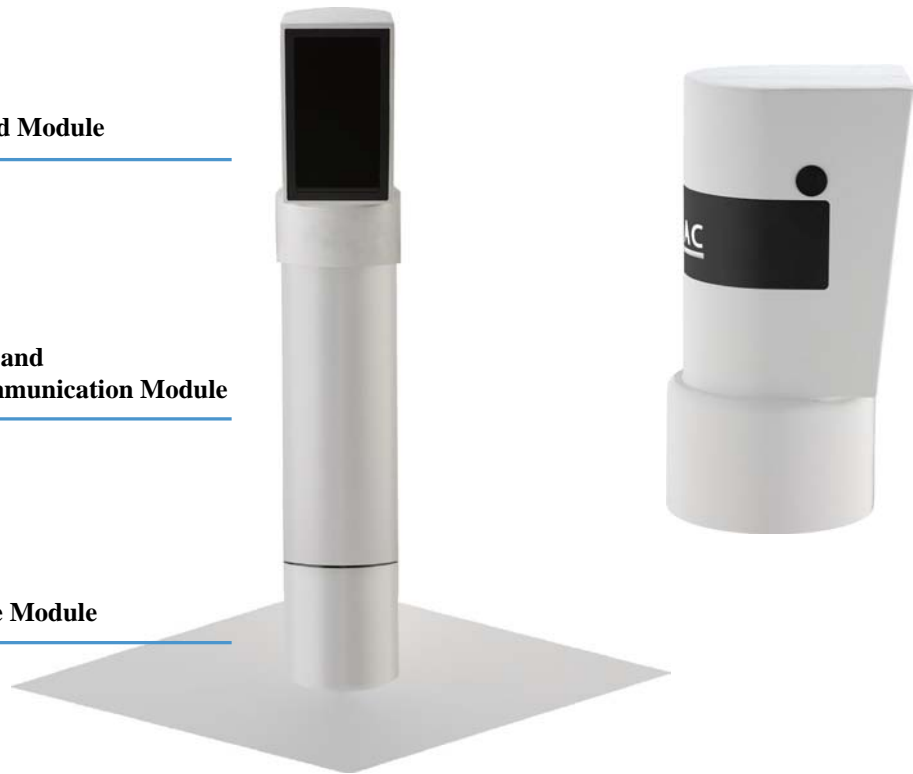
Dimensions are in millimeters

Ø171
660.7
30
500
65

660.7
421
30
500
65

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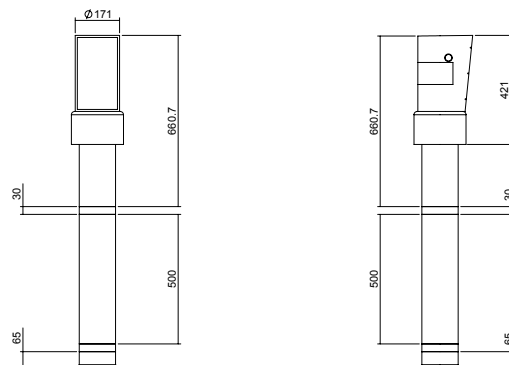
Description

We are proud to offer the BUMA Heavy Duty to further enhance the capabilities of our original BUMA. The BUMA Heavy Duty offers all of the BUMA's core features, including SD, HD and our all new UHD camera cores, H.264 compression stream, advanced DSP technology, WDR, and its distinct tube shaped design.

What truly set the BUMA Heavy Duty apart are its uniquely rugged capabilities. The heavy-duty aluminum housing is approximately twice the size of the standard BUMA, which allows for additional protection and enhanced features to be incorporated directly into the camera head. The heavy-duty head has a built-in rechargeable battery for up to 12 hours of local power independent from additional power system options, a minimum of 512GB internal solid state storage, WiFi hotspot capabilities, and two separate video streams - one that is stored locally and one that transmits to command center encoders. As an added layer of protection in areas of conflict and/or civil unrest, the heavy duty head features composite inlays and specialized glass for a ballistic resistant and explosion proof system. We make it possible to secure the most sensitive targets and the most remote, inhospitable environments.

Suggested Applications

- Bases, Outposts and Checkpoints
- Border and Port Facilities
- Conflict Zones
- Construction Sites and Pipelines
- Critical Infrastructures and Sensitive Targets
- Energy Infrastructures and Drill Sites
- Governmental Facilities
- Remote and Undeveloped Areas

Highlighted Features

SD/HD — Standard & High Definition	ULTRA HD — Ultra High Definition	EMCCD	WiFi Connectivity
WiFi Hotspot	Internal Battery	512 GB Local Storage	Dual Decoder

Housing and Mounts

Outdoor	Portable	Smart Perimeter System Mount	External Vehicle Mount
Maritime Mount	Wall Mount	Pole Height Extension	Ballistic Resistant
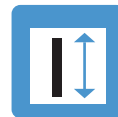
Materials and Finish

Aluminum	Camouflage	Housing Color	Glass Color

Certifications

ONVIF Comformant	CE Certified	FCC Certified	WiFi Certified
IP 67+ — IP Rating	IK 10 — IK Rating		

BH-SD

	BH-SD18	BH-SD26	BH-SD40
Lens			
Image sensor	1/4˝ Ex-view HAD CCD progressive scan	1/4-type Ex-view HAD CCD	1/4-type super HAD CCD II
Angle view	48º wide to 2.8º tele	54.2º wide to 2.2º tele	60.0º wide to 1.6º tele
Lens	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
Minimum illumination	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
Digital zoom	12x (216x with optical zoom)	12x (312x with optical zoom)	12x (480x with optical zoom)
Shutter	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
TV lines	550 TVL	530 TVL	670 TVL
Video			
Compression	H.264 dual stream	H.264 dual stream	H.264 dual stream
Bit rate	16k to 1Mbps controllable	16k to 1Mbps controllable	16k to 1Mbps controllable
Video resolution	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)
Frame rate	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)
Image enhancement	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
Preset points	128	128	128
Audio			
Audio input	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
Audio output	one channel, RCA interface, linear output	one channel, RCA interface, linear output	one channel, RCA interface, linear output
Audio compression	G.726, G.711, ADPCM	G.726, G.711, ADPCM	G.726, G.711, ADPCM
Alarm System Integration			
Alarm input	one channel on/off input NO/NC	one channel on/off input NO/NC	one channel on/off input NO/NC
Alarm output	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
Serial port	RS485 transparent protocol	RS485 transparent protocol	RS485 transparent protocol
Recording	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule
Network and Storage			
Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port
Protocol	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
Web browser	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
Wireless protocols	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)
HD storage	Min. 512 GB	Min. 512 GB	Min. 512 GB
Battery	Rechargeable, Independant, 12 hours minimum	Rechargeable, Independant, 12 hours minimum	Rechargeable, Independant, 12 hours minimum
Operating Conditions			
Operating temp.	-10° C ~ +60° C	-10° C ~ +60° C	-10° C ~ +60° C
Storage temp.	-20° C ~ +80° C	-20° C ~ +80° C	-20° C ~ +80° C
Operating humidity	10% ~ 85%	10% ~ 85%	10% ~ 85%
Weight and Dimensions			
Input voltage	12 VDC	12 VDC	12 VDC
Power consumption	15W	15W	15W
Dimensions (cm)	17.1 x 20 x 42.1 (W x L x H)	17.1 x 20 x 42.1 (W x L x H)	17.1 x 20 x 42.1 (W x L x H)
Weight	16 Kg	16 Kg	16 Kg

BH-HD

	BH-HD12	BH-HD20	BH-HD30
Lens			
Image sensor	1/4-Type CMOS	1/2.8" Exmor CMOS	1/2.8" Exmor CMOS
Angle view	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)
Lens	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
Minimum illumination	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)
Digital zoom	12x (144x with optical zoom)	12x (240x with optical zoom)	12x (360x with optical zoom)
Shutter	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
Effective pixels	1.43 megapixels	3 megapixels	3 megapixels
Video			
Compression	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
Bit rate	32Kbps to 8Mbps	32Kbps to 8Mbps	32Kbps to 8Mbps
Video resolution	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)
Signal system	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
Frame rate	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)
Image enhancement	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
Preset points	128	128	128
Audio			
Audio input	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
Audio output	one channel, RCA interface, linear output	one channel, RCA interface, linear output	one channel, RCA interface, linear output
Audio compression	G.726, G.711, ADPCM	G.726, G.711, ADPCM	G.726, G.711, ADPCM
Alarm System Integration			
Alarm input	one channel on/off input NO/NC	one channel on/off input NO/NC	one channel on/off input NO/NC
Alarm output	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
Serial port	RS485 transparent protocol	RS485 transparent protocol	RS485 transparent protocol
Recording	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule	motion trigger, alarm trigger, manual or schedule
Network and Storage			
Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port	10/100M Base-t self-adapting Ethernet port
Protocol	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
Web browser	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
Wireless protocols	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)
HD storage	Min. 512 GB	Min. 512 GB	Min. 512 GB
Battery	Rechargeable, Independant, 12 hours minimum	Rechargeable, Independant, 12 hours minimum	Rechargeable, Independant, 12 hours minimum
Operating Conditions			
Operating temp.	-10° C ~ +60° C	-10° C ~ +60° C	-10° C ~ +60° C
Storage temp.	-20° C ~ +80° C	-20° C ~ +80° C	-20° C ~ +80° C
Operating humidity	10% ~ 85%	10% ~ 85%	10% ~ 85%
Weight and Dimensions			
Input voltage	12 VDC	12 VDC	12 VDC
Power consumption	15W	15W	15W
Dimensions (cm)	17.1 x 20 x 42.1 (W x L x H)	17.1 x 20 x 42.1 (W x L x H)	17.1 x 20 x 42.1 (W x L x H)
Weight	16 Kg	16 Kg	16 Kg

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BH-UHD

Lens

Image sensor	Global Shutter CMOS
Sensor Size	Super 35 (22.53 x 11.88mm)
Resolution	4096x2160 or 3840x2160 (4x full HD)
Dynamic Range	12 stops
Minimum illumination	0.3 lux

Video

Compression	H.264 / M_JPEG support dual stream/ MPEG4/ ASP/ MxPEG
Bit rate	32Kbps to 8Mbps
Video output	4x 3G/HD-SDI (4x BNC)
Quad Link Output Formats	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
Frame rate	NTSC / PAL
Image enhancement	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
Preset points	128
Sensitivity Adjustment	ISO control; up to 4x digital gain

Audio

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

Alarm System Integration

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

Network and Storage

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

Operating Conditions

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

Weight and Dimensions

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

BH-Low Light

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	BUMA-LL	BUMA-EMCCD
Core		
Sensor type	1/2" Exview HAD CCD II	1/2" Frame Interline Transfer (FIT) impactron
Active pixel	752 x 582	658 x 496
Pixel size	8.6µm x 8.3µm	10µm x 10µm
Active area	6.47mm x 6.83mm	6.58mm x 4.96mm
Dynamic range	>60dB	55dB
Spectral response	350-1100nm	350-1100nm
Minimum illumination	< 1µlux	< 200µlux
Resolution	480 TV lines	450 TV lines
Cooling	active, no fan	active, no fan
Antiblooming protection	-	yes (>500:1)
Exposure time	-	500µs to 1/50s (CCIR) or 1/60 (EIA)
Frame rate	25Hz (CCIR), 30Hz (EIA/NTSC)	25Hz (CCIR), 30Hz (EIA)
Readout mode	progressive scan	progressive scan
Alarm System Integration		
Alarm input	one channel on/off input NO/NC	one channel on/off input NO/NC
Alarm output	one channel on/off output 120 VAC 1A / 24 VDC 1A	one channel on/off output 120 VAC 1A / 24 VDC 1A
Serial port	RS485 transparent protocol	RS485 transparent protocol
Recording	manual or schedule	manual or schedule
Network and Storage		
Ethernet port	10/100M Base-t self- adapting Ethernet port	10/100M Base-t self- adapting Ethernet port
Protocol	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
Web browser	Internet Explorer 9.0 or above	Internet Explorer 9.0 or above
Wireless protocols	802.11b/g supports WEP, WPA, WPA2 (optional)	802.11b/g supports WEP, WPA, WPA2 (optional)
Operating Conditions		
Operating temp.	-10° C ~ +60° C	-10° C ~ +60° C
Storage temp.	-20° C ~ +80° C	-20° C ~ +80° C
Operating humidity	10% ~ 85%	10% ~ 85%
Weight and Dimensions		
Input voltage	12 VDC	12 VDC
Power consumption	14W	15W
Dimensions (cm)	17.1 x 20 x 42.1 (W x L x H)	17.1 x 20 x 42.1 (W x L x H)
Weight	16 Kg	16 Kg
Colors	white, black, camouflage wrape	white, black, camouflage wrape

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