BL820v2M1IR

Network bullet camera, 3-9mm motorized zoom, 4MP, H.264/MJPEG, IR

- ✓ 1/3" Progressive scan CMOS imager
- ✓ 3.0 - 9.0 mm Motorised varifocal lens
- ✓ 4MP @ 15 fps frame rate
- ✓ Quad-stream H.264 and MJPEG video
- ✓ 120 dB WDR
- ✓ Day/Night with IR-cut filter
- ✓ Built-in IR illuminator (effective distance: 40 m)
- ✓ IP67 Ingress protection rating
- ✓ IK10
- ✓ 24 Vac / 24 Vdc / 12 Vdc / 802.3af PoE
- ✓ ONVIF Profile S conformant

Description
The BL820v2M1IR is a 4MP HD bullet camera with built-in IR illumination providing clear images under any lighting condition. With its cable-managed bracket, IP67 construction, IK10 vandal resistant housing and motorised lens, installation is fast and easy, and remote adjustment is simple.

Multistream high definition
The camera has quad-stream capability for simultaneous streaming of H.264/H.264 or H.264/MJPEG. Multiple combinations of resolution and frame rate can be configured to satisfy different live viewing and recording scenarios. 4 Mpixel resolution is available at 15 fps, a full-HD 1080p stream at 30fps can be combined with a SXGA stream at 30 fps. Each selected resolution-frame rate combination can be freely set to a stream number.

Open standards
Multiple options are available to easily integrate the BL820v2M1IR to a video management system. In support of open standards, the camera is compliant with the ONVIF Profile S specification.

Image optimalisation
The BL820v2M1IR provides automatic day/night functionality with configurable thresholds and build-in IR illuminator, for use in low-light situations. Backlight compensation enhances image visibility in difficult lighting situations. The BL820v2M1IR provides two modes for wide dynamic range. The first mode uses different gain ratios for different illumined areas to bring details in the darker areas of an image without saturation in the brighter parts. The second mode uses a 2 shutter mechanism which applies two different exposure settings to capture both darker and lighter areas with excellent details. The resulting image is the optimal aggregation of both exposures. The available image optimalisation methods ensure quality pictures at all times.

Power source choices
The BC820v2 can be powered by 12 Vdc, 24 Vdc, 24 Vac, or over the network with 802.3af-compliant PoE sources.

Privacy masks
Privacy masks cover sections of the image. This feature is often requested for such situations as city centre surveillance and point of sale keypads.

BL820v2M1IR

Technical specifications

Camera	
Image sensor	1/3'' Progressive scan CMOS
Effective pixels	2688(H) x 1520(V)
Minimum scene illumination	0.1 lux colour, 0.01 lux (b/w), 0 lux with IR
Shutter speed	1 - 1/10000 s
Lens	3.0 to 9.0 mm, F1.7
Lens type	DC Auto iris, motorised zoom, push-to-focus
Horizontal field of view	109° (W) - 33° (T)

Functions	
Privacy masks	5
Text and picture overlay	Date, time, date & time, 5x subtitle (16 characters each), text string (25 characters), image, image transparency
Video motion detection	On / off / by schedule
Video motion detection alarm	Alarm output, record video clip, send alarm message, upload image
Network failure detection	On / off / by schedule
Network failure detection alarm	Alarm output, record video clip, send alarm message, upload image
Tamper detection	On / off / by schedule
Tamper detection alarm	Alarm output, record video clip, send alarm message, upload image
Periodical event	On/Off
Periodical event action	Upload image
Recording	On / off / by schedule
Recording destination	SD card/ Network share

Image control	
Wide dynamic range	On/Off
- WDR value	>120 dB (in WDR dual shutter mode)
Exposure	Auto (P-iris priority, iris size, max gain and min shutter speed configurable) Manual
White balance	Auto, ATW, Manual, One push
Contrast	Manual
Brightness	Manual
Saturation	Manual
Hue	Manual
Sharpness	Manual
Day/Night function	Auto / night / day / light sensor / LED on / LED off/ Configurable day/night threshold levels/ IR light compensation
Noise reduction	Off, 3DNR (low, medium, high), 2DNR (On/Off), ColorNR (low, medium, high)
Backlight compensation	On/Off
Digital zoom	10x
Image rotation	Normal / Flip / Mirror / 90° (clockwise, counterclockwise) and 180° Rotate

BL820v2M1IR

Technical specifications

Video	
Compression algorithm(s)	H.264 (baseline / main / high profile); MJPEG
Number of compression instances	Quad stream. Any combination of H.264 streams with possibly one MJPEG stream.
Output streams	Any output stream can be freely configured to one of the resolution/frame rate formats.
Supported resolutions	2688x1512 (4MP); 2560x1440; 2304x1296 (3MP); 1920x1080 (1080p); 1280x1024; 1280x720 (720p); 1024x768; 800x600; 720x576 (D1); 640x480; 352x288 (CIF)
Compression capabilities	(indication, other combinations possible)

Resolution format	format 1	format 2	format 3	format 4
H.264 in 15 fps	2688x1512			
H.264 instances in 50/60fps	1280x720	-	-	-
(one can be MJPEG)	1280x720	640x480	-	-
(at lower frame rate higher resolution may be possible)	1280x720	640x480	352x288	-
H.264 instances in 25/30fps	2304x1296	-	-	-
(one can be MJPEG)	2304x1296	800x600	-	-
(at lower frame rate higher resolution may be possible)	1920x1080	1280x1024	-	-
	1920x1080	1280x1024	352x288	-
	1920x1080	1280x720	720x576	352x288
H.264 instances in 25/30fps WDR 2 shutter mode (one can be MJPEG)	1920x1080	-	-	-
	1920x1080	720x576	-	-
(at lower frame rate higher resolution may be possible)	1920x1080	720x576 (15fps)	352x288 (15fps)	-

MJPEG	One of the above resolution formats in each instance can be MJPEG instead of H.264 if the resolution is lower than or equal to 1920x1080
Compression bit rate control	Constant bit rate (CBR), variable bit rate (VBR)
Output bit rate (per H.264 stream)	Up to 20480 kbit/s
Total H.264 output	26624 kbit/s
Number of video output streams	Up to 20 (RTSP)
Total output data rate (max)	50000 kbit/s
Video frame rate	1 to 60 fps / 1 to 50 fps
Analogue video output	PAL/NTSC
Connector type	BNC (1.0 Vpp in 75 Ω) on breakout cable

Audio	
Two-way audio	line in / line out
Compression	G.711 (µ-law, a-law) / G.726 / AAC / PCM
Bit rate	G.711: 64 Kbps G.726: 16 Kbps, 24 Kbps, 32 Kbps, 40 Kbps AAC: 128 Kbps PCM: 128 Kbps, 256 Kbps, 384 Kbps, 768 Kbps
Sample rate	G.711: 8 KHz / G.726: 8 KHz / AAC: 48 KHz / PCM: 8, 16, 24, 48 KHz
Input level, Output level	Adjustable gain
Connector type	Female phone jack, ø 3.5 mm (2x) on breakout cable

Alarm inputs/output	
Input	2x 0 - 5 V, 10 kΩ pull-up
Output	1x Photo relay output 300 Vdc/ac
Operational modes	Normally open; normally closed
Connector type	5 pin terminal block on breakout cable

BL820v2M1IR

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Storage	
Storage options	Micro SDXC card, 64 GB

Network	
Interface(s)	10/100 Ethernet
Network protocols	IPv4/v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, PPPoE, IGMP, PNAC (IEEE 802.1x), QoS
Connector type	RJ-45 on breakout cable

Management	
Supported browsers	Internet Explorer (6.0+), Chrome, Firefox, Safari
Security	HTTPS, IP Filter, PNAC (IEEE 802.1x)
Protocols	UPnP, SNMP, ONVIF Profile S
Password levels	User and Administrator
User accounts	20

Powering	
Power consumption	
- System	Max. 3.0 W
- IR LED	Max. 4 W
- Heater	Max. 4 W (cold start: 8.5 W)
- Motorised lens	Max. 0.55 W
Power	24 Vac / 24 Vdc / 12 Vdc / 802.3af PoE
Connector type	2-pin terminal block on break-out cable

Environmental	
Start-up temperature	-55 ºC (-67 ºF)
Operating temperature	-50 ºC to +55 ºC (-58 ºF to +131ºF)
Relative humidity	10% to 90%, no condensation

Mechanical	
Dimensions (camera body)	Ø 84 x 175 mm (Ø 3.3 x 6.9 in) with sunshield and mount: Ø 90 x 260 mm (Ø 3.5 x 10.2 in)
Weight	0.84 kg (1.85 lbs)
Colour	RAL 9003 (Signal white)
Built-in IR illuminator	
- Working distance	Up to 40 m
- Wavelength	850 nm
- Number of LEDs	6
Break-out cable length	50 cm
Ingress protection	IP67
Impact rating	IK10 (front glass excluded)

Ordering information	
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Accessories

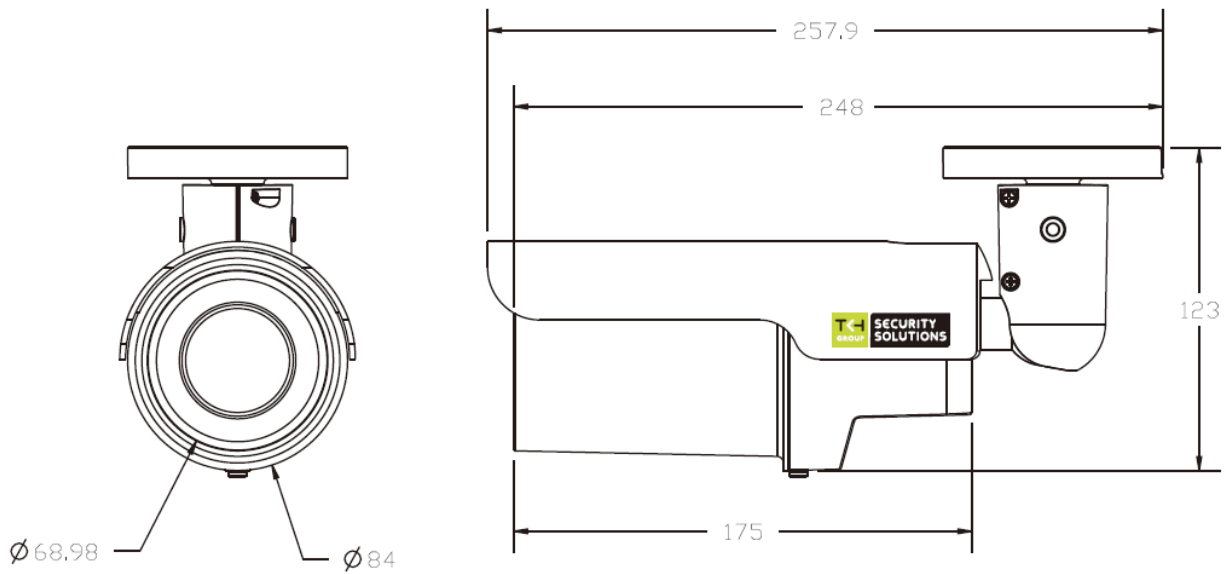|		
JB07/BL		Junction box for BL8xx
PM09B/BL		Pole mount junction box for BL8xx

Dimensions