4K Pan Tilt Zoom camera with 1.0-type Exmor R CMOS sensor

KEY FEATURES

- B9-418

- 1 Inch CMOS sensor, Total Effective pixel: 14.4 Megapixels
- Zeiss Vario-Sonnar T lens with 18X zoom range
- Video Resolution: Up to 4K 2160p29.97, 1080i59.94, 1080p60
- IP Video Resolution: Up to 2160p30, 1080p60
- Video Output: Simultaneous 3G-SDI, 4K HDMI, 4K IP
- HDBaseT, Optical video output via optional video card.
- Black Level, Color Matrix, Image Stabilizer
- HTML5 Cross Browser compatibility
- RTMP, SRT supported
- Power: DC 12V, PoE++, HDBaseT POH

4K VISCA **Onvif** **PELCO** **HDBT**™ **H.265 HEVC** **SRT** READY **SD II P** TRUE Dual Output

OVERVIEW

Ideal for Broadcast TV, Videoconferencing, House of worship, Live sports and events, Educational environment, Corporate training, Large auditoriums. Distance learning, Courtrooms, sports stadiums and Telemedicine applications.

9 Series is Bolin's first 4K PTZ camera equipped with a full 1-inch CMOS sensor offering brilliant broadcast-quality Super-High-Resolution color image in 4K30 with excellent low-light sensitivity and full HD footage can also be captured at up to 1080p60, which is optimal for capturing fast, spontaneous action.

TRUE Dual Output PTZ camera provides simultaneous 3G-SDI and remote 4K IP video streaming and control. It is a TRUE Dual Output PTZ where SDI and IP formats can be set independently.

Comprehensive image parameter settings (Black Level, Color Matrix and Trace Memory) and Tally lights for Broadcast-friendly use and Pro AV applications.

Extremely quiet and smooth operation for Pan/Tilt movements combined with enhanced adaptive variable and super slow speed control provides accurate and effective operation experiences.

Uncompromising 4K images

Equipped with Sony large, back-illuminated 1.0-type Exmor R CMOS sensor which delivers an uncompromised broadcast quality color pictures in detail-packed 4K/30p. The footage can also be captured in Full HD 60p for fast-moving action applications. Excellent low light sensitivity brings low noise color video images in low light levels as low as 0.5lx, making it an ideal choice for low light environment like live hall and theater.

FEATURES

Image Stabilizer
Bolin camera's built-in image stabilizer function eliminates the effect of blurred, shaky images caused by low-frequency vibration.

Versatile Video Outputs
Flexibility in professional broadcast and AV environments with multiple choices of video outputs:
* Main 4k HDMI and Dual Link 3G-SDI (x2) or 6G-SDIx2 (Optional)
* Optional HDBaseT and Optical video outputs.
* 4K IP streaming and RTMP live streaming, HTML5 Cross Browser compatibility

Video Format
The camera video format meets the requirements for any Pro Av application and broadcast use by supporting:
* HDMIformat up to 4K 2160p29.97, 1080i59.94, 1080p60
* SDI up to 3G-SDI, optional 6G-SDI upgradeable
* IP video format up to 2160p30, 1080p60.
* Supports cinematic 23.98/24p pictures

SRT Ready
Delivery of high-quality and secure, low-latency video across the public Internet. SRT optimizes streaming performance across unpredictable networks with secure streams and easy firewall traversal, bringing the best quality live video over unstable networks.

Control Capability
The camera provides multiple methods of controlling, which gives you capabilities of local control and remote control without distance limitations.
* RS232, RS422/485, IP, HDBaseT, IR remote controller.
* Protocol supported: VISCA, VISCA-Over-IP, PELCO D, IP Onvif, HDBaseT one cable control + video.

HDBaseT Video
Output Card (Optional)

SDI Optical Video
Output Card (Optional)

Flexible Installation
Installation is simplified in a wide range of environments via:
* RJ45 RS232/422 control port provides the convience of wiring.
* PoE+ and POH (Power over HDBaseT) to reduce cabling requirements.
* Standard and ceiling mount and tripod with E-Flip function.

Always Up to Date
Always up to date, Download the latest Firmware upgrade via USB and IP interface which constantly improves the camera features and performance, even for customized function upgrades.

HDBaseT Receiver (Optional)

Optional Video Output Module
* HDBaseT video output module: supported to carry 4K video, audio, control, and power via a single CAT6 cable up to 80-100 meters for easy installation and management.
* Fiber Optical video output module: 6G-SDI

BL-BR4K-1 Back

Other Features
* Picture Profile Preset- Image parameter setting restore with presets and quick access operation.
* Genlock simplifies integration with other systems.
* Optional 6G-SDI upgradeable via software

BL-BR4K-1 Front

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Product Specification

Model No.	B9-418
Camera	**18X 4K**
Image Sensor	1.0-type back-illuminated Exmor R CMOS sensor
Number of effective pixels	14.2 Megapixels
Picture elements	3840 x 2160, 8.29 Megapixels
Lens	Zeiss Vario-Sonnar T lens, 18X(4K), 24X(FHD)
Horizontal Angle of View	64.6˚ (Wide) - 6.1˚ (Tele),
Focal Length	f=9.3 to 111.6mm, F2.8(Wide) ,F4.5(Tele)
Min. object distance	80mm (Wide), 1000mm (Tele)
Aperture	F2.8 Constant (W)~(T), 16 Steps
Min. Illumination	0.5 lx (1/30 sec, 50%, High Sensitivity mode On)
Shutter Speed	1/10000s to 1/8 (59.94/29.97)
Focus	Auto Focus(Trigger/Interval), Manual Focus(Variable Speed), One Push Trigger, Near Limit,
White Balance	AUTO, ATW, Indoor, Outdoor, One Push WB, Manual WB, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto)
Exposure	Full Auto, Gain, Shutter Priority, Iris Priority, Manual, Bright
Features	High Sensitivity, Backlight Compensation, HLC, E-FLIP, Mirror, Day/Night
WDR	YES(130dB), Shown as VISIBILITY ENHANCER in OSD
ND Filter	YES
Image Stabilizer	YES
Color Gain	Yes (15 step)
Color Hue	Yes (15 step)
Gamma	Standard/Straight/Pattern
Gamma Level	Yes (15 step)
Black Level	Yes (97 step)
Black Gamma	Yes (15 step)
Color Matrix	Off/Standard/High Saturation/FL light
Noise Reduction	On/Off (level 5 to 1 / Off, 6 steps), 2D/3D
S/N Ratio	≥50db
Mechanical	
Pan Movement	Horizontal:±175 degrees continuous pan (Zoom Adaptive Speed Range: 0.05°〜100°/S)
Tilt Movement	Vertical:+90 degrees to -30 degrees (Zoom Adaptive Speed Range: 0.05°〜50°/S)
Preset Position	128 (Speed adjustable: Up to 150°/S, 6 presets on remote controller.)
Preset Speed	0~5 Level Adjustable, Motionless preset
Preset Memory	YES, (Picture Profile Preset-Preset Memory for image parameters, like: Backlight Compensation, White Balance, R-Gain/B-Gain, Auto Exposure, Bright, Iris, Shutter, Gain, Aperture, Effect, Noise Reduction, Mirror, Gamma, Ex-COMP, Color Hue, Contrast etc.)
PTZ Trace Memory	12 (Supported via IP interface)
PTZ Motion Sync	-
Quietness	49db
Home Position	Support
Environmental	Indoor
Interface	
Video Output	3G-SDIX2, HDMI(1.4)X1, IP, HDBaseT(Module Optional), Optical(Module Optional)
4K Video Output	Main 4K HDMI 1.4a Type-A X1 3G-SDIX2 or Dual Link 3G-SDI(2SI only) x2 4K IP H.265/264
HD Video Output	Main HD HDMIX1 3G-SDI x2 Sub HD HDMIX1 (Not available, for future AI Auto Tracking video output)
Color Precision	10bit(SDI), 8bit(HDMI), YCbCr, 4:2:2
Color Space	YUV
IP Video Stream	Up to 4K/30 and 1080p60
Camera Control Interface	RJ45X2-RS232/RS422, RJ45X1-IP Control, RJ45X1-HDBaseT, IR Remote Control
Control Protocol	VISCA, VISCA Over IP, Pelco D, IP Onvif
LAN	RJ45X1(1000Mb), 4K IP video streaming, System upgrade, POE(IEEE802.3bt)
Synchronization	Internal synchronization
External Sync. Input	BNCX1, 75Ω, BBS (Black Burst Sync), tri-level sync supported
Audio I/O	Audio input x1, Audio output x1, 3.5mm audio jack
Audio Output	Embedded with main HDMI, 24bit Stereo, Embedded with SDI, 24bit Stereo
Edge Storage (Beta)	Micro SD, Class 10, FAT32 format, Up to 128GB
Tally Light	Two sets of lamps, Red Color, Front and Back
Dip Switch	Back Panel: 8 PIN x 1; Video Resolution Dip X1
System Firmware Upgrade	Upgrade for camera system and FPGA Via USB2.0 (for FW upgrade only),via IP(for encoder and FPGA)
Power Connector Type	IEC60130-10 (JEITA standard RC-5320A) TYPE4 RJ45: PoE+ (IEEE802.3bt) RJ45: POH(Power Over HDBaseT), HDBaseT Card Optional
Optional Card Slots	YES, HDBaseT Video Card / Optical 6G-SDI Video Card.

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Video signal System

Video Format	3840 x 2160/29.97p (HDMI, 2 / Dual Link 3G-SDI (2SI)) 3840 x 2160/25p (HDMI, 2 / Dual Link 3G-SDI (2SI)) 3840 x 2160/23.98p (HDMI, 2 / Dual Link 3G-SDI (2SI)) 3840 x 2160/24p (HDMI, 2 / Dual Link 3G-SDI (2SI)) 1920 x 1080/59.94p/60p (HDMI, SDI) 1920 x 1080/59.94i/60i (HDMI, SDI) 1920 x 1080/50p (HDMI, SDI) 1920 x 1080/50i (HDMI, SDI) 1920 x 1080/29.97p/30p (HDMI, SDI) 1920 x 1080/25p (HDMI, SDI) 1920 x 1080/23.98p/24p (HDMI, SDI) 1280 x 720/59.94p/60p (HDMI, SDI) 1280 x 720/50p (HDMI, SDI)
Standard	SMPTE 292(1.5Gb/s), SMPTE 424, SMPTE 425-A(3Gb/s), SMPTE 2081 With SMPTE352 SDI Metadata Supported
6G-SDI	Original 3G-SDI can be upgraded to 6G-SDI via software, optional, purchase seperately

Network

Video Compression	MJPEG,H.264/H.265
IP Video Format	True Dual Output : IP format can be set independently of SDI video format 3840x2160p30/25/24, 1920x1080p60/50/30/25/24, 1280x720p60/50
Protocols	TCP/IP, ICMP, ARP, RTP, SIP, UDP, HTTP, DNS, DHCP, FTP, NTP, RTMP, RTSP, SRT
Multi-stream	3 data stream function will satisfy various bandwidth, frame rates and storage requirements in real time
Audio Compression	AAC-LC Broadband Audio Encoding(Duplex Communicate Supported, Audio/Video synchronization)
OSD	Customized OSD
Compatible Integration	ONVIF2.4 (Profile S), VISCA Over IP
Browser Support	Cross Browser Compatibility - HTML5 support for Microsoft Edge, Google Chrome, Firefox, and Safari browsers without plugin

Video Module Card

Optional (Sold Separately)

HDBaseT Module	Detachable slot, 1XRJ45-HDBaseT(4K), With HDBaseT video output transmission distance up to 80-100 meters
Fiber Optic SDI Module	Detachable slot, Connector: Duplex LC Laser Unit: Single-mode 1,310nm DFB-LD transmitter and PIN receiver Complaint with MSA SFP+ Specification SFF-8402.

General

Body Color	Black, White
Mount	Ceiling mount, Wall mount, Tripot
Size of Screw Hole for Tripod	1/4-20UNC x2
Operating Temperature	-10 to +40 (°C), 32 to 104 (°F)
Operating Humidity	≤80% Suitable for Use
Power Input	12VDC, POE++(IEEE 802.3bt, Type 4, class 8 required), POH(Power Over HDBAaseT, IEEE 802.3bt)
Power Consumption	Min: 25W(Static state with no movement); Max: 45Watts (Fully loaded operation)
Dimension	165x196x247mm
Weight	3.3kg (Net weight)
Body Color	Black, White

HDBaseT Receiver

* Optional, Sold Separately

Model No.	BL-BR4K-1
Input	1XRJ45-HDBaseT
Output	1XHDMI Type A - HDMI 1.4b, 1XRJ45- IP Pass-Thru (100Mbps,extend connection only, not IP encoder)
Power Input	DC54V, 2.77A
Power Output	POH(Power Over HDBaseT), Power over one CAT6 network cable
Power Comsumption	Up to 97W
Control Interface	2XRJ45-RS232/ RJ45-RS422/RS485, IR Control Sensor
IR IN Control Interface	3.5mm 3.5-5v TTL
Audio Output	3.5mm Jack
Dimension	164x118x33mm
Weight	0.52KG

ORDER INFORMATION

- B9-418 (Black)
- B9-418 /W (White)
- BL-BR4K-1 (HDBaseT Receiver, Not included with the camera)
- BL-PP97 (Bolin 97W High Power POE Injector)

- VCC-WM (Wall Mount)   • VCC-CM (Ceiling Mount)
- BC-9-VC-B (HDBaseT Card)
- BC-9-VC-OS6 (6G-SDI Optical Card)
- BC-9-VC-SFPM (Laser Module)

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