

Clifton Cameras Product Specification

Nikon Z9 Mirrorless Camera

Specifications

Туре	Mirrorless
21	

Lens mount Nikon Z mount

Image sensor FX, CMOS, 35.9 mm x 23.9 mm

Total pixels 52.37 million

Dust-reduction system Image sensor cleaning, Image Dust Off reference data (requires NX Studio)

Effective pixels 45.7 million

Image size (pixels)

[FX (36 x 24)] selected for image area: (L) 8256 x 5504 (45.4 million), (M) 6192 x 4128 (25.6 million), (S) 4128 x 2752 (11.4 million), [DX (24 x 16)] selected for image area: (L) 5392 x 3592 (19.4 million), (M) 4032 x 2688 (10.8 million), (S) 2688 x 1792 (4.8 million), [1:1 (24 x 24)] selected for image area: (L) 5504 x 5504 (30.3 million), (M) 4128 x 4128 (17.0 million), (S) 2752 x 2752 (7.6 million), [16:9 (36 x 20)] selected for image area: (L) 8256 x 4640 (38.3 million), (M) 6192 x 3480 (21.5 million), (S) 4128 x 2320 (9.6 million)

Storage file formats

NEF (RAW): 14 bit; choose from lossless compression, high efficiency (high), and high efficiency options, JPEG: JPEG-Baseline compliant with fine (approx. 1:4), normal (approx. 1:8), or basic (approx. 1:16) compression; size-priority and optimal-quality compression available, NEF (RAW)+JPEG: Single photograph recorded in both NEF (RAW) and JPEG formats

Picture Control System

Auto, Standard, Neutral, Vivid, Monochrome, Portrait, Landscape, Flat, Creative Picture Controls (Dream, Morning, Pop, Sunday, Somber, Dramatic, Silence, Bleached, Melancholic, Pure, Denim, Toy, Sepia, Blue, Red, Pink, Charcoal, Graphite, Binary, Carbon); selected Picture Control can be modified; storage for custom Picture Controls

Storage media	CFexpress XQD
Dual card slot	2 CFexpress cards or XQD cards, The card in Slot 2 can be used for overflow or backup storage, for separate storage of NEF (RAW) and JPEG pictures, or for storage of duplicate JPEG pictures at different sizes and image qualities; pictures can be copied between cards.
File system	DCF 2.0, Exif 2.32
Viewfinder	1.27-cm/0.5-in. approx. 3690k-dot (Quad VGA) OLED electronic viewfinder with color balance and auto and 16-level manual brightness controls
Frame coverage	Approx. 100% horizontal and 100% vertical
Magnification	Approx. 0.8x (50 mm lens at infinity, -1.0 m-1)



Eyepoint	23 mm (-1.0 m-1; from rearmost surface of viewfinder eyepiece lens)			
Diopter adjustment	-4 - +3 m-1			
Eye sensor	Automatically switches between monitor and viewfinder displays			
Compatible lenses	Z mount NIKKOR lenses F mount NIKKOR lenses (mount adapter required; restrictions may apply)			
Shutter type	Electronic shutter with shutter sound and sensor shield			
Shutter speed	1/32000 to 30 s (choose from step sizes of 1/3, 1/2, and 1 EV, extendable to 900 s in mode M), bulb, time			
Flash sync speed	Flash synchronizes with shutter at speeds of 1/250 or 1/200 s or slower (but note that the guide number drops at speeds of 1/200 to 1/250 s); sync speeds as fast as 1/8000 s are supported with auto FP high-speed sync			
Release mode	S (single frame), CL (continuous low-speed), CH (continuous high-speed), High-speed frame capture, Self-timer			
Frame advance rate	Up to 120 fps, Continuous low-speed: Approx. 1 to 10 fps, Continuous high-speed: Approx. 10 to 20 fps, High-speed frame capture (C30): Approx. 30 fps, High-speed frame capture (C120): Approx. 120 fps			
Self-timer	2 s, 5 s, 10 s, 20 s; 1 to 9 exposures at intervals of 0.5, 1, 2, or 3 s			
Exposure metering	TTL metering using camera image sensor			
Metering method	Matrix metering, Center-weighted metering: Weight of 75% given to 12 or 8 mm circle in center of frame or weighting can be based on average of entire frame, Spot metering: Meters circle with a diameter of approximately 4mm centered on selected focus point, Highlight-weighted metering			
Metering range13	-3 to +17 EV			
Mode	P: programmed auto with flexible program, S: shutter-priority auto, A: aperture-priority auto, M: manual			
Exposure compens	ation -5 to +5 EV (choose from step sizes of 1/3 and 1/2 EV)			
Exposure lock	Luminosity locked at detected value			
ISO sensitivity	ISO 64 to 25600, in steps of 1/3 and 1EV, can also be set to approx. 0.3, 0.7, or 1 EV (ISO 32 equivalent) below ISO 64 or to approx. 0.3, 0.7, 1, or 2 EV (ISO 102400 equivalent) above ISO 25600; auto ISO sensitivity control available (Recommended Exposure Index)			
Active D-Lighting	Auto, Extra high 2, Extra high 1, High, Normal, Low, and Off			
Multiple exposure	Add, average, lighten, darken			
Other options	HDR overlay, photo mode flicker reduction			
Autofocus	Hybrid phase-detection/contrast AF with AF assist			
Detection range14	-6.5 to +19 EV (-8.5 to +19 EV with starlight view)			
Lens servo	Single-servo AF (AF-S), Continuous-servo AF (AF-C), full-time AF (AF-F; available only in video mode); predictive focus tracking, Manual focus (M): Electronic rangefinder can be used			



Focus points15	493				
AF-area mode	Pinpoint (available in photo mode only), single-point, dynamic-area (S, M, and L; available in photo mode only), wide-area (S and L), and auto-area AF, 3D-tracking (available in photo mode only), subject-tracking AF (available in video mode only)				
Focus lock	Focus ca pressing	Focus can be locked by pressing shutter-release button halfway (single-servo AF/AF-S) or by pressing the center of the sub-selector			
Camera VR	5-axis im	age senso	or shift		
Lens VR	Lens shif	t (availabl	e with VR lenses)		
Flash control	TTL: i-TT highlight-	TTL: i-TTL flash control; i-TTL balanced fill-flash is used with matrix, center-weighted, and highlight-weighted metering, standard i-TTL fill-flash with spot metering			
Flash modes	Front-cur sync, off	Front-curtain sync, slow sync, rear-curtain sync, red-eye reduction, red-eye reduction with slow sync, off			
Flash compensatio	n	-3 to +1	EV in steps of 1/3 or 1/2 EV		
Flash-ready indicator Lights wl after flas		Lights wi after flas	nen optional flash unit is fully charged; flashes as underexposure warning h is fired at full output		
Accessory shoe		ISO 518	hot-shoe with sync and data contacts and safety lock		
Nikon Creative Ligł	nting Syste	m	i-TTL flash control, radio-controlled Advanced Wireless Lighting, optical Advanced Wireless Lighting, modeling illumination, FV lock, Color Information Communication, auto FP high-speed sync, unified flash control		
Sync terminal	ISO 519	sync term	inal with locking thread		
White balance	Auto (3 types), natural light auto, direct sunlight, cloudy, shade, incandescent, fluorescent (3 types), flash, choose color temperature (2500 to 10,000 K), preset manual (up to 6 values can be stored), all with fine-tuning				
Bracketing types	Exposure and/or flash, white balance, ADL				
Movie – metering	TTL exposure metering using main image sensor, TTL metering using camera image sensor				
Movie - metering m	nethod	Matrix, c	enter-weighted, or highlight-weighted		
Movie - frame size	(pixels) an	d frame ra	ate16		
7680 x 4320 (8K U 1080: 120p/100p/6	HD): 30p (0p/50p/30p	progressiv b/25p/24p	ve)/25p/24p, 3840 x 2160 (4K UHD): 120p/100p/60p/50p/30p/25p/24p, 1920 x		
Movie - file format MOV, MP4		24			
Movie - video comp	pression	Apple Pr	oRes 422 HQ (10 bit), H.265/HEVC (8 bit/10 bit), H.264/AVC (8 bit)		
Movie - audio recording format		at	Linear PCM (for videos recorded in MOV format), AAC (for videos recorded in MP4 format)		
Movie - audio recording device		е	Built-in stereo or external microphone with attenuator option; sensitivity adjustable		
Movie - exposure compensation		on	-3 to +3 EV (choose from step sizes of 1/3 and 1/2 EV)		



Movie - ISO sensitivity

Mode M: Manual selection (ISO 64 to 25600; choose from step sizes of 1/3 and 1 EV); with additional options available equivalent to approximately 0.3, 0.7, 1, or 2 EV (ISO 102400 equivalent) above ISO 25600; auto ISO sensitivity control (ISO 64 to Hi 2.0) available with selectable upper limit, Modes P, S, A: Auto ISO sensitivity control (ISO 64 to Hi 2.0) with selectable upper limit (Recommended Exposure Index)

Movie - Active D-Lighting		Extra high, High, No	ormal, Low, and Off		
Movie - Other options Time-lapse video HDR (HLG) video		Time-lapse video re HDR (HLG) video	cording, electronic vibration reduction, time codes, N-Log and		
Monitor	8-cm (3.2–in.) diagonal; vertically and horizontally tilting TFT touch-sensitive LCD with 170° viewing angle, approximately 100% frame coverage, and color balance and 11-level manual brightness controls; Approx. 2100k-dot				
Playback	Full-frame zoom cro display, a informatio	⁻ ull-frame and thumbnail (up to 4, 9, or 72 pictures) playback with playback zoom, playback zoom cropping, video playback, histogram display, highlights, photo information, location data display, auto picture rotation, picture rating, voice memo input and playback, and IPTC nformation embedding and display			
USB	Type C U	ype C USB connector (SuperSpeed USB); connection to built-in USB port is recommended			
HDMI output	Type A HDMI connector				
Audio input	Stereo mini-pin jack (3.5 mm diameter; plug-in power supported)				
Audio output	Stereo mini-pin jack (3.5 mm diameter)				
Ten-pin remote tern	ninal	Built-in (can be used accessories)	d with MC-30A/MC-36A remote cords and other optional		
Ethernet	RJ-45 coi 802.3 (10 T/100BAS	45 connector Standards: IEEE 802.3ab (1000BASE-T), IEEE 802.3u (100BASE-TX), IEEE .3 (10BASE-T) Data rates17: 1000/100/10 Mbps with auto detect, Port: 1000BASE- 00BASE-TX/10BASE-T (AUTO-MDIX)			
Wi-Fi (Wireless LAN) standards		ds	IEEE 802.11b/g/n/a/ac		
Wi-Fi (Wireless LAN) operating frequency		g frequency	2412 to 2462 MHz (channel 11) and 5180 to 5320 MHz		
Wi-Fi (Wireless LAN) maximum output power		m output power	2.4 GHz band: 8.4 dBm 5 GHz band: 9.0 dBm		
Wi-Fi (Wireless LAN) security			Open system, WPA2-PSK, WPA3-SAE		
Bluetooth standards Energy: 2402 to 2 Range (line of sig		Bluetooth Specificat Energy: 2402 to 248 Range (line of sight	tion version 5.0, Bluetooth: 2402 to 2480 MHz, Bluetooth Low 80 MHz, Bluetooth: 2.9 dBm, Bluetooth Low Energy: 1.4 dBm,): approximately 10 m (32 ft)18		
Supported GNS systems GPS (USA), GLOI		GPS (USA), GLON	ASS (Russia), QZSS (Japan)		
Data acquired Latitude, longitude		Latitude, longitude,	altitude, UTC (Universal Coordinated Time)		
Clock synchronization Camera clock		Camera clock can b	be set to time acquired via GNSS		
Track logs NME		IMEA-compliant			
Log interval 1		15 s, 30 s, 1 min., 2 min., 5 min.			
Maximum log recording time 6, 12,		6, 12, or 24 hours			



Log deletion	Supported			
Battery	One EN-EL18d rechargeable Li-ion battery, EN-EL18c, EN-EL18b, EN-EL18a, and EN-EL18 batteries can also be used. Note, however, that fewer pictures can be taken on a single charge than with the EN-EL18d. The EH-7P charging AC adapter can be used to charge EN-EL18d, EN-EL18c, and EN-EL18b batteries only.			
AC adapter	EH-7P charging AC adapter; EH-6d; requires EP-6a power connector (available separately)			
Tripod socket	0.635 cm (1/4 in., ISO 1222)			
Dimensions (W x H	x D) Approx. 149 x 149.5 x 90.5 mm (5.9 x 5.9 x 3.6 in.)			
Weight	Approx. 1340 g (2 lb. 15.3 oz.), with battery and memory card but without body cap and accessory shoe cover; approx. 1160 g/2 lb. 9 oz. (camera body only)			
Operating environment – temperature -10 °C to 40 °C (+14 °F to 104 °F)				
Operating environm	ent – humidity 85% or less (no condensation)			

Supplied accessories

BF-N1 Body Cap, EN-EL18d Rechargeable Li-ion Battery with Terminal Cover, MH-33 Battery Charger, EH-7P Charging AC Adapter (supplied with a plug adapter attached in countries or regions where required; shape depends on country of sale), HDMI/USB Cable Clip, AN-DC24 Strap, UC-E24 USB Cable, BS-1 Accessory Shoe Cover (comes attached to camera)

¹ You can shoot at C120 (120 fps, 11 MP, JPEG normal/small) in FX format only. You can shoot at C30 (30 fps, 45MP, JPEG normal/large) and at 20 fps (RAW and JPEG) in FX or DX format. Full AF/AE tracking is available for all frame rates and file sizes.

² 1000 full-resolution images at 20 fps (RAW and JPEG) in FX or DX format in one burst can be achieved when using ProGrade Digital Cobalt CFexpress cards (as per October 2021).

³ Among full-frame mirrorless cameras as of October 2021. Based on Nikon research.

⁴ Working remotely with a single Z 9 tethered to a smartphone requires use of Nikon's NX MobileAir software application. Working remotely with multiple cameras via a tethered 4G/5G network requires use of the NX Field software application.

⁵ The Z 9 can record 8K/30p video for up to 125 minutes at a time.

⁶ A firmware update (available spring 2022) is required to enable in-camera 8K/60p video recording.

- ⁷ Recording in N-RAW is only possible following a firmware update (available spring 2022).
- ⁸ Recording in ProRes RAW HQ is only possible following a firmware update (available spring 2022).

⁹ 4K UHD video oversampled from 8K is possible when recording in 30p/25p/24p. A firmware update (available spring 2022) is required to oversample from 8K when recording in 50p/60p footage.

¹⁰ 8K still frames are saved as JPEG files at the [frame size/frame rate] dimensions selected in the video recording menu when the video was recorded.

¹¹ Based on CIPA standards.

¹² Maximum frame advance rate as measured by in-house tests.



 13 Figures are for ISO 100 and f/2.0 lens at 20 °C/68 °F.

¹⁴ Measured in photo mode at ISO 100 and a temperature of 20 °C/68 °F using single-servo AF (AF-S) and a lens with a maximum aperture of f/1.2.

¹⁵ Number of focus points available in photo mode with single-point AF selected for AF-area mode and FX selected for image area.

 16 Actual frame rates for 120p, 100p, 60p, 50p, 30p, 25p, and 24p are 119.88, 100, 59.94, 50, 29.97, 25, and 23.976 fps respectively.

¹⁷ Maximum logical data rates according to IEEE standard; actual rates may differ.

¹⁸ Without interference. Range may vary with signal strength and presence or absence of obstacles.

Unless otherwise stated, all measurements are performed in conformity with Camera and Imaging Products Association (CIPA) standards or guidelines.

All figures are for a camera with a fully-charged battery.

The sample images displayed on the camera and the images and illustrations in these specifications are for expository purposes only.

Nikon reserves the right to change the appearance and specifications of the hardware and software described in this document at any time and without prior notice. Nikon will not be held liable for damages that may result from any mistakes that these specifications may contain.