

Features and Specifications - LUMIX - S series - Model DC-S9

DC-S9K Specifications

Power	
Power source	9.0 V
Power consumption	• 3.9 W (when recording with the monitor) • 3.3 W (when playing back with the monitor) • [When using the interchangeable lens (S-R2060)]: • 4.2 W (when recording with the monitor) • 3.6 W (when playing back with the monitor) • [When using the interchangeable lens (S-R28200)]: • 4.2 W (when recording with the monitor) • 3.6 W (when playing back with the monitor)
Type	
Type	Digital Single Lens Mirrorless camera
Lens mount	Leica Camera AG L-Mount
Recording media	SD memory card / SDHC memory card*1 / SDXC memory card*1 *1 Compliant with UHS-I/UHS-II UHS Speed Class 3, UHS-II Video Speed Class 90
Image sensor	
Image sensor	35 mm full-frame CMOS sensor • Total pixels: approx. 25,300,000 • Effective pixels: approx. 24,200,000
Effective number of pixels of the camera	Approx. 24,200,000 pixels
Latitude	
Latitude	14+ stops ([V-Log])
Recording format for still images	

File format for still images	JPEG (DCF compliant, Exif 3.0 compliant) / RAW
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Picture size (pixels)

- When the aspect ratio setting is [4:3]
 - [L]: 5328×4000 (3536×2656)*2
 - [M]: 3792×2848 (2560×1920)*2
 - [S]: 2688×2016 (1840×1376)*2
 - [XS]: 1712×1280 (1712×1280)*2
 - High Resolution mode ([XL]): 10656×8000
 - High Resolution mode ([LL]): 7552×5664
- When the aspect ratio setting is [3:2]
 - [L]: 6000×4000 (3984×2656)*2
 - [M]: 4272×2848 (2880×1920)*2
 - [S]: 3024×2016 (2064×1376)*2
 - [XS]: 1920×1280 (1920×1280)*2
 - High Resolution mode ([XL]): 12000×8000
 - High Resolution mode ([LL]): 8496×5664
- When the aspect ratio setting is [16:9]
 - [L]: 6000×3368 (3984×2240)*2
 - [M]: 4272×2400 (2880×1624)*2
 - [S]: 3024×1704 (2064×1160)*2
 - [XS]: 1920×1080 (1920×1080)*2
 - High Resolution mode ([XL]): 12000×6736
 - High Resolution mode ([LL]): 8496×4784
- When the aspect ratio setting is [1:1]
 - [L]: 4000×4000 (2656×2656)*2
 - [M]: 2848×2848 (1920×1920)*2
 - [S]: 2016×2016 (1376×1376)*2
 - [XS]: 1280×1280 (1280×1280)*2
 - High Resolution mode ([XL]): 8000×8000
 - High Resolution mode ([LL]): 5664×5664
- When the aspect ratio setting is [65:24]
 - [L]: 6000×2208
- When the aspect ratio setting is [2:1]
 - [L]: 6000×3000

*2 Figures in parentheses are for APS-C lenses

Image quality for pictures	• Fine • Standard • RAW+Fine • RAW+Standard • RAW
Recording format for video	
Video format	• MP4 (H.264/MPEG-4 AVC, H.265/HEVC) • MP4 (Lite) (H.265/HEVC) • MOV (H.264/MPEG-4 AVC, H.265/HEVC)
Audio compression format	• MP4 / MP4 (Lite): AAC (2ch, 48 kHz/16 bit) • MOV: LPCM (2ch, 48 kHz/24 bit, 96 kHz/24 bit)
System frequency	59.94 Hz / 50.00 Hz / 24.00 Hz
Image quality for video	Refer to the "[Rec Quality]" page of your Operating Manual for information about resolution, recording frame rate, and other elements of recording quality.
S&Q (Slow & Quick)	
[System Frequency]	[59.94Hz (NTSC)]
When [Image Area of Video] is set to [FULL]	• [FHD/60p/420/10-L]*3 / [FHD/30p/420/10-L]*3 / [FHD/24p/420/10-L]*3 • Frame rate: 1 fps to 180 fps
When [Image Area of Video] is set to [APS-C]	• [C4K/30p/420/10-L] / [C4K/24p/420/10-L] / [4K/30p/420/10-L] / [4K/24p/420/10-L] • Frame rate: 1 fps to 60 fps • [FHD/60p/420/10-L]*3 / [FHD/30p/420/10-L]*3 / [FHD/24p/420/10-L]*3 • Frame rate: 1 fps to 180 fps
[System Frequency]	[50.00Hz (PAL)]
When [Image Area of Video] is set to [FULL]	• [FHD/50p/420/10-L]*3 / [FHD/25p/420/10-L]*3 • Frame rate: 1 fps to 180 fps
When [Image Area of Video] is set to [APS-C]	• [C4K/25p/420/10-L] / [4K/25p/420/10-L]

	• Frame rate: 1 fps to 60 fps • [FHD/50p/420/10-L]*3 / [FHD/25p/420/10-L]*3 • Frame rate: 1 fps to 180 fps
[System Frequency]	[24.00Hz (CINEMA)]
When [Image Area of Video] is set to [FULL]	• [FHD/24p/420/10-L]*3 • Frame rate: 1 fps to 180 fps
When [Image Area of Video] is set to [APS-C]	• [C4K/24p/420/10-L] / [4K/24p/420/10-L] • Frame rate: 1 fps to 60 fps • [FHD/24p/420/10-L]*3 • Frame rate: 1 fps to 180 fps

*3 There is cropping for 151 fps or more

Monitor

Type	Aspect ratio 3:2, 3.0 inches, approx. 1,840,000 dots monitor, capacitive touch screen
Field of view ratio	Approx. 100%

Focus

AF type	TTL type based on image detection (image plane phase detection AF/contrast AF)
Focus mode	AFS / AFC / MF
AF mode	• Tracking*4 • Full Area AF*4 • Zone (Horizontal/Vertical)*4 • Zone*4 • 1-Area+Supplementary*4 • 1-Area*4 • Pinpoint *4 Automatic detection (Human, Animal, Car, Motorcycle) can be switched ON/OFF
AF Micro Adjustment	Yes (All / Adjust By Lens)

Exposure Control

Light metering system, Light metering mode	• 1728-zone metering
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	• multi-metering / center-weighted metering / spot metering / highlight-weighted metering
Metering range	EV 0 to EV 18 (F2.0 lens, ISO100 conversion)
Exposure	• Program AE (P) • Aperture-Priority AE (A) • Shutter-Priority AE (S) • Manual Exposure (M)
Exposure compensation	1/3 EV steps, ± 5 EV
ISO sensitivity for still images (standard output sensitivity)	• Normal: • AUTO / 50 $\times 5$ / 100 to 51200 / 102400 $\times 5$ / 204800 $\times 5$ • [V-Log]: • AUTO / 320 $\times 5$ / 640 to 51200 • $\times 5$ When [Extended ISO] is set • Switchable between 1/3 EV and 1 EV steps
ISO sensitivity for video (standard output sensitivity)	• Normal: • AUTO / 50 $\times 6$ / 100 to 51200 / 102400 $\times 6$ / 204800 $\times 6$ • [V-Log]: • AUTO / 320 $\times 6$ / 640 to 51200 • HLG: • AUTO / 400 to 51200 / 102400 $\times 6$ / 204800 $\times 6$ • $\times 6$ When [Extended ISO] is set • Switchable between 1/3 EV and 1 EV steps
Dual Native ISO setting	• Normal: • [AUTO]: Base sensitivity: 100 / 640 (dB display values are based on 100) • AUTO / 50 $\times 7$ / 100 to 51200 / 102400 $\times 7$ / 204800 $\times 7$ • [LOW]: Base sensitivity: 100 • AUTO / 50 $\times 7$ / 100 to 800 • [HIGH]: Base sensitivity: 640 • AUTO / 320 $\times 7$ / 640 to 51200 / 102400 $\times 7$ / 204800 $\times 7$

- [V-Log]:
 - [AUTO]: Base sensitivity: 640 / 4000 (dB display values are based on 640)
 - AUTO / 320 *7 / 640 to 51200
 - [LOW]: Base sensitivity: 640
 - AUTO / 320 *7 / 640 to 5000
 - [HIGH]: Base sensitivity: 4000
 - AUTO / 2000 *7 / 4000 to 51200
- HLG:
 - [AUTO]: Base sensitivity: 400 / 2500 (dB display values are based on 400)
 - AUTO / 400 to 51200 / 102400 *7 / 204800 *7
 - [LOW]: Base sensitivity: 400
 - AUTO / 400 to 3200
 - [HIGH]: Base sensitivity: 2500
 - AUTO / 2500 to 51200 / 102400 *7 / 204800 *7
- Cinelike D2/Cinelike V2:
 - [AUTO]: Base sensitivity: 200 / 1250 (dB display values are based on 200)
 - AUTO / 100 *7 / 200 to 51200 / 102400 *7 / 204800 *7
 - [LOW]: Base sensitivity: 200
 - AUTO / 100 *7 / 200 to 1600
 - [HIGH]: Base sensitivity: 1250
 - AUTO / 640 *7 / 1250 to 51200 / 102400 *7 / 204800 *7
- *7 When [Extended ISO] is set

Image stabilizer

Image stabilizer type

- Compliant with Image sensor shift type, 5-axis stabilizer, Dual I.S.2

Image stabilizer effect

- In-body image stabilizer: 5.0 stops
- [Focal length f=60 mm, using an interchangeable lens (S-R2060)]
- Dual I.S.2: 6.5 stops
- [Focal length f=200 mm, using an interchangeable lens (S-E70200)]
- (Based on the CIPA standard, Yaw/Pitch direction)

White balance

White balance mode

- AWB / AWBc / AWBw / Daylight / Cloudy / Shade / Incandescent lights / Set mode 1, 2, 3, 4 / Color temperature 1, 2, 3, 4

AWB lock supported

Supported

Shutter

System

Electronic shutter

Shutter speed

- Pictures:
 - Time (max. approx. 60 seconds *8), 60 *8 seconds to 1/8000 of a second
 - *8 When the ISO sensitivity is higher than 1600, the shutter speed will be faster than 60 seconds.
- Videos:
 - 1/25 *9 of a second to 1/16000 of a second
 - *9 When [Exposure Mode] is set to [M] in Creative Video mode and focus mode is set to [MF], this can be set up to 1/2 of a second.

Burst recording

Electronic shutter

- [SH] / [SH PRE]: 30 frames/second ([AFS], [AFC], [MF])
- High speed: 9 frames/second ([AFS], [MF]) / 8 frames/second ([AFC])
- Medium speed: 5 frames/second ([AFS], [AFC], [MF])
- Low speed: 2 frames/second ([AFS], [AFC], [MF])

Maximum number of frames recordable (SH burst recording)

- [FINE] / [STD.] / [RAW+FINE] / [RAW+STD.] / [RAW]: 36 frames

Maximum number of frames recordable (High speed, medium speed, low speed)

- High speed:
 - [FINE] / [STD.]: 120 frames or more
 - [RAW+FINE] / [RAW+STD.]: 35 frames or more
 - [RAW]: 55 frames or more

	• Medium speed: • [FINE] / [STD.]: 200 frames or more • [RAW+FINE] / [RAW+STD.]: 50 frames or more • [RAW]: 200 frames or more • Low speed: • [FINE] / [STD.]: 200 frames or more • [RAW+FINE] / [RAW+STD.]: 200 frames or more • [RAW]: 200 frames or more
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Using a Nextorage SDXC memory card compliant with UHS-II UHS Speed Class 3 (When recording is performed under the test conditions specified by Panasonic)

Zoom

Hybrid Zoom (Photo)/Crop Zoom (Photo)	• Max. Approx. 3x ([Minimum Image Size]: when [XS] is selected)
Hybrid Zoom (Video)/Crop Zoom (Video)	• Max. Approx. 3x *10 ([Rec Quality]: when FHD video is selected) • *10 Max. Approx. 2x when using APS-C lenses

Microphone / Speaker

Microphone	Stereo
Speaker	Monaural

Interface

USB	USB Type-C®, USB 10Gbps
HDMI	HDMI Type D
[MIC]	3.5 mm stereo mini jack
Mic Input (Plug-in Power) / Mic Input / Line Input (Operate the menu to switch between these inputs)	Standard input level: -55 dBV (Mic Input) / -10 dBV (Line Input)

Splash Resistant

Splash Resistant	No
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External dimensions / Mass (Weight)

External dimensions	Approx. 126.0 mm (W)×73.9 mm (H)×46.7 mm (D) (4.96" (W)×2.91" (H)×1.84" (D)) (excluding the projecting parts)
Mass (Weight)	• Approx. 486 g/1.08 lb (camera body, with battery and card) • Approx. 403 g/0.89 lb (only camera body)
Operating environment	
Recommended operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Permissible relative humidity	10 %RH to 80 %RH
Wi-Fi	
Compliance standard	IEEE 802.11a/b/g/n/ac (standard wireless LAN protocol)
Frequency range used (central frequency)	Specifications vary depending on the country or area where the camera was purchased. Refer to the "Operating Instructions / Owner's Manual <Quick Start Guide>" (supplied) for details.
Encryption method	Wi-Fi compliant WPA™ / WPA2™ / WPA3™
Access method	Infrastructure mode
Bluetooth	
Compliance standard	Bluetooth v5.0, Bluetooth Low Energy (BLE)
Frequency range used (central frequency)	2402 MHz to 2480 MHz