



**LUMIX S1 (DC-S1)**  
Full-Frame Mirrorless Camera

## TYPE

<b>Type</b>	Digital Single Lens Mirrorless camera
<b>Recording media</b>	XQD Memory Card, SD Memory Card / SDHC Memory Card* / SDXC Memory Card*, CFexpress Card (CFexpress Ver2.0 Type B) (*7) *Compatible with UHS-I/UHS-II UHS Speed Class 3 standard SDHC/SDXC Memory Cards and UHS-II Video Speed Class 90 standard SDXC Memory Cards.
<b>Lens mount</b>	L-Mount

## IMAGE SENSOR

<b>Type</b>	35mm full-frame (35.6mm x 23.8mm) CMOS sensor
<b>Camera effective pixels / Total pixels</b>	24.20 megapixels / 25.28 megapixels
<b>Aspect ratio / Color filter</b>	3:2 / Primary color filter
<b>Dust reduction system</b>	Supersonic wave filter

## LATITUDE

<b>LATITUDE</b>	14+ stops (V-Log) (*5) (*6)
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## STILL IMAGE

<b>Image quality</b>	RAW / RAW+Fine / RAW+Standard / Fine / Standard
<b>Color Space</b>	sRGB, AdobeRGB
<b>Recording file format</b>	<b>Still image</b> JPEG (DCF, Exif 2.31), RAW, HLG Photo (CTA-2072)

	<b>6K PHOTO(*2) / 4K PHOTO(*2)</b>	6K PHOTO: MP4 (H.265/HEVC, Audio format: AAC (2ch)) 4K PHOTO: MP4 (H.264/MPEG-4 AVC, Audio format: AAC (2ch)) Extracted still images: JPEG (DCF, Exif 2.31)
<b>Aspect ratio</b>	<b>Aspect ratio</b>	4:3 / 3:2 / 16:9 / 1:1 / 65:24 / 2:1
<b>File size(Pixels)</b>	<b>When using full-frame lenses / 3:2</b>	6000x4000(L) / 4272x2848(M) / 3024x2016(S) / 12000x8000(XL)* *High Resolution Mode. RAW file. 5184x3456(6K PHOTO) / 3504x2336(4K PHOTO) / 5984x4000(HLG PHOTO, Full-Res.) / 3232x2160(HLG PHOTO, 4K-Res.)
	<b>When using full-frame lenses / 4:3</b>	5328x4000(L) / 3792x2848(M) / 2688x2016(S) / 10656x8000(XL)* *High Resolution Mode. RAW file. 4992x3744(6K PHOTO) / 3328x2496(4K PHOTO) / 5312x3984(HLG PHOTO, Full-Res.) / 2880x2160(HLG PHOTO, 4K-Res.)
	<b>When using full-frame lenses / 16:9</b>	6000x3368(L) / 4272x2400(M) / 3024x1704(S) / 12000x6736(XL)* *High Resolution Mode. RAW file. 3840x2160(4K PHOTO) / 5888x3312(HLG PHOTO, Full-Res.) / 3840x2160(HLG PHOTO, 4K-Res.)
	<b>When using full-frame lenses / 1:1</b>	4000x4000(L) / 2848x2848(M) / 2016x2016(S) / 8000x8000(XL)* *High Resolution Mode. RAW file. 2880x2880(4K PHOTO) / 4000x4000(HLG PHOTO, Full-Res.) / 2144x2144(HLG PHOTO, 4K-Res.)
	<b>When using full-frame lenses / 65:24</b>	6000x2208(L)
	<b>When using full-frame lenses / 2:1</b>	6000x3000(L)
	<b>When using APS-C lenses / 3:2</b>	3984x2656(L) / 2880x1920(M) / 2064x1376(S)
	<b>When using APS-C lenses / 4:3</b>	3536x2656(L) / 2560x1920(M) / 1840x1376(S)
	<b>When using APS-C lenses / 16:9</b>	3984x2240(L) / 2880x1624(M) / 1920x1080(S)
	<b>When using APS-C lenses / 1:1</b>	2656x2656(L) / 1920x1920(M) / 1376x1376(S)

## MOTION PICTURE

<b>Recording file format</b>	MOV: H.264/MPEG-4 AVC (Audio format: LPCM (2ch 48kHz/16-bit, 48kHz/24-bit*, 96kHz/24-bit*)) (*5) (*6) *When attaching DMW-XLR1 (sold separately). MP4: H.264/MPEG-4 AVC (Audio format: LPCM (2ch 48kHz/16-bit), AAC (2ch)), MP4 HEVC: H.265/HEVC (Audio format: AAC (2ch)) AVCHD Progressive (Audio format: Dolby Audio (2ch)), AVCHD (Audio format: Dolby Audio (2ch))
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**MOV(\*2) (\*5) [6K] 5952x3968 (3:2)** 23.98p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
**High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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**MOV(\*2) (\*5) [5.4K] 5376x3584 (3:2) High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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29.97p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
25.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.

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**MOV(\*2) (\*5) [5.9K] 5888x3312 High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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29.97p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
25.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
23.98p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.

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**MOV(\*2) (\*5) [C4K] 4096x2160 High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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59.94p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
59.94p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9)  
50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
50.00p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9)  
29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.

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**MOV(\*2) (\*5) [4K] 3840x2160 High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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59.94p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
59.94p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6)  
50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
50.00p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6)  
29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.  
25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.  
23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.

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**MOV(\*2) (\*5) [Anamorphic 4K] 3328x2496 (4:3) High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
50.00p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9)  
29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.  
23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*9) \*HLG is selectable.

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**MOV(\*2) (\*5) [FHD] 1920x1080 High-res audio is selectable only when using the DMW-XLR1 (sold separately).**

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59.94p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.  
50.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.  
29.97p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.  
25.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM, High-Res Audio) (\*6) \*HLG is selectable.

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**MP4(\*2) High speed video \*When Creative Video Mode is selected. [4K] 3840x2160**

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59.94p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)  
50.00p, 150Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)  
29.97p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)  
25.00p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)  
23.98p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)

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**MP4(\*2) High speed video \*When Creative Video Mode is selected. [FHD] 1920x1080**

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59.94p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)  
50.00p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)  
29.97p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)  
25.00p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)

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<b>MP4 HEVC(*2) [4K] 3840x2160</b>	29.97p, 72Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, AAC, HLG recording) 25.00p, 72Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, AAC, HLG recording) 23.98p, 72Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, AAC, HLG recording)												
<b>AVCHD Progressive(*2) AVCHD(*2) [FHD] 1920x1080</b>	50.00p, 28Mbps (4:2:0 8-bit LongGOP) (Dolby Audio) 50.00i, 24Mbps (4:2:0 8-bit LongGOP) (Dolby Audio) (Sensor output is 25.00fps) 50.00i, 17Mbps (4:2:0 8-bit LongGOP) (Dolby Audio) (Sensor output is 50.00fps) 23.98p, 24Mbps (4:2:0 8-bit LongGOP) (Dolby Audio)												
<b>MP4(*2) High speed video *When Creative Video Mode is selected. [4K] 3840x2160</b>	29.97p (Sensor output is 60fps) 25.00p (Sensor output is 50fps) 23.98p (Sensor output is 48fps)												
<b>MP4(*2) High speed video *When Creative Video Mode is selected. [FHD] 1920x1080</b>	29.97p (Sensor output is 180fps / 150fps) 25.00p (Sensor output is 150fps / 125fps)												
<b>Continuous recordable time (Motion picture)(*2)</b>	Approx. 150 min (rear monitor), 140 min (LVF) in [AVCHD/FHD/60p] *When using S-R24105 and SD Memory Card. Approx. 160 min (rear monitor), 150 min (LVF) in [AVCHD/FHD/60p] *When using S-R2060 and SD Memory Card.												
<b>Actual recordable time (Motion picture)(*2)</b>	Approx. 75 min (rear monitor), 70 min (LVF) in [AVCHD/FHD/60p] *When using S-R24105 and SD Memory Card. Approx. 80 min (rear monitor), 75 min (LVF) in [AVCHD/FHD/60p] *When using S-R2060 and SD Memory Card.												
<b>HDMI RAW DATA OUTPUT (*5)</b>													
<b>Compatible external devices</b>	ATOMOS Ninja V 4K HDR Monitor-Recorder (AtomosOS 10.63 or higher) *Firmware must be updated to version 2.0 or later. Blackmagic Video Assist 5" 12G HDR, Blackmagic Video Assist 7" 12G HDR (version 3.43 or higher)* *Firmware must be updated to version 2.1. *This does not guarantee all of the capabilities that the compatible external recorder may have.												
<b>Rec quality</b>	<table border="1"> <tbody> <tr> <td><b>NTSC (59.94Hz)[5.9K] 5888x3312</b></td> <td>29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)</td> </tr> <tr> <td><b>NTSC (59.94Hz)[4K] 4128x2176 (17:9)</b></td> <td>59.94p, 12-bit (LPCM, High-Res Audio) 29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)</td> </tr> <tr> <td><b>NTSC (59.94Hz)[Anamorphic 3.5K] 3536x2656 (4:3)</b></td> <td>29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)</td> </tr> <tr> <td><b>PAL (50.00Hz)[5.9K] 5888x3312</b></td> <td>25.00p, 12-bit (LPCM, High-Res Audio)</td> </tr> <tr> <td><b>PAL (50.00Hz)[4K] 4128x2176 (17:9)</b></td> <td>50.00p, 12-bit (LPCM, High-Res Audio) 25.00p, 12-bit (LPCM, High-Res Audio)</td> </tr> <tr> <td><b>PAL (50.00Hz)[Anamorphic 3.5K] 3536x2656 (4:3)</b></td> <td>50.00p, 12-bit (LPCM, High-Res Audio) 25.00p, 12-bit (LPCM, High-Res Audio)</td> </tr> </tbody> </table>	<b>NTSC (59.94Hz)[5.9K] 5888x3312</b>	29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)	<b>NTSC (59.94Hz)[4K] 4128x2176 (17:9)</b>	59.94p, 12-bit (LPCM, High-Res Audio) 29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)	<b>NTSC (59.94Hz)[Anamorphic 3.5K] 3536x2656 (4:3)</b>	29.97p, 12-bit (LPCM, High-Res Audio) 23.98p, 12-bit (LPCM, High-Res Audio)	<b>PAL (50.00Hz)[5.9K] 5888x3312</b>	25.00p, 12-bit (LPCM, High-Res Audio)	<b>PAL (50.00Hz)[4K] 4128x2176 (17:9)</b>	50.00p, 12-bit (LPCM, High-Res Audio) 25.00p, 12-bit (LPCM, High-Res Audio)	<b>PAL (50.00Hz)[Anamorphic 3.5K] 3536x2656 (4:3)</b>	50.00p, 12-bit (LPCM, High-Res Audio) 25.00p, 12-bit (LPCM, High-Res Audio)
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<b>PAL (50.00Hz)[Anamorphic 3.5K] 3536x2656 (4:3)</b>	50.00p, 12-bit (LPCM, High-Res Audio) 25.00p, 12-bit (LPCM, High-Res Audio)												
<b>Audio format</b>	LPCM (2ch 48kHz/16-bit, 48kHz/24-bit*, 96kHz/24-bit*) *High-res audio is selectable only when using the DMW-XLR1 (sold separately).												

## VIEWFINDER

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Type	OLED Live View Finder
Pixels	Approx. 5,760k dots
Field of view / Magnification	Approx. 100% / Approx. 0.78x with 50 mm lens at infinity; -1.0 m-1, when the aspect ratio is set to 3:2
Eye point / Diopter adjustment	Approx. 21 mm at infinity; -1.0 m-1 / -4.0 - +2.0 (dpt)
Eye sensor	Yes
Display speed	120fps / 60fps
Display time lag	Approx. 0.005sec

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## REAR MONITOR

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Type	TFT LCD monitor with static touch control
Monitor size	Triaxial tilt, 3.2-inch (8.0cm), 3:2 aspect
Pixels	Approx. 2,100k dots
Field of view	Approx. 100%

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## STATUS LCD

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STATUS LCD	Yes
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## FOCUS

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Type	Contrast AF system
DFD technology	Yes
Focus mode	AFS (Single) / AFC (Continuous) / MF
AF mode	Auto Detection (Face, Eye, Body, Animal) / Tracking / 225-Area / Zone (Vertical/Horizontal) / Zone (Square) / Zone (Oval) / 1-Area+* / 1-Area* / Pinpoint / Custom 1, 2, 3 (Full area touch is available) (Scalable AF frame size and flexible AF position) *Human/Animal Detection AF can be set ON or OFF. (*8)
AF detective range	EV -6 - 18 (F1.4, ISO100 equivalent, AFS)
AF custom setting	AF Sensitivity, AF Area Switching Sensitivity, Moving Object Prediction
AF assist lamp	Yes

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<b>AF lock</b>	Set the Fn button in custom menu to AF lock
<b>Post Focus / Focus Stacking</b>	Yes / Yes
<b>Others</b>	AF-ON, Shutter AF, Half Press Release, Focus/Shutter Priority, Quick AF, Continuous AF (during motion picture recording), Eye Sensor AF, AF-Point Scope Setting, AF+MF, MF Guide, MF Assist, Touch MF Assist, Focus Peaking, Touch AF/AE Function, Touch Pad AF, Touch Shutter, Focus Switching for Vert/Hor, Focus Ring Lock, Show/Hide AF Mode

## EXPOSURE CONTROL

<b>Light metering system</b>	1,728-zone multi-pattern sensing system
<b>Light metering mode</b>	Multiple / Center Weighted / Spot / Highlight Weighted
<b>Metering range</b>	EV0-18 (F2.0 lens, ISO100 equivalent)
<b>Exposure mode</b>	Program AE / Aperture Priority AE / Shutter Priority AE / Manual Exposure
<b>ISO sensitivity (Standard Output Sensitivity)</b>	Auto / 50* / 100 / 200 / 400 / 800 / 1600 / 3200 / 6400 / 12800 / 25600 / 51200 / 102400* / 204800* (Changeable to 1/3 EV step) *Extended ISO
<b>Dual Native ISO (*9)</b>	Auto / Low / High
<b>Exposure compensation</b>	1/3 EV step ±5EV (±3EV for motion picture)
<b>AE lock</b>	Set the Fn button in custom menu to AE lock

## IMAGE STABILIZATION SYSTEM

<b>IMAGE STABILIZATION SYSTEM</b>	<p>Image sensor shift type (5-axis)</p> <p>6.0-stop* * Firmware must be updated to version 1.2 or later. Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=50mm when S-X50 is used.]</p> <p>Dual I.S. (Dual I.S. 2 compatible)</p> <p>6.5-stop* * Firmware must be updated to version 1.2 or later. Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=105mm, when S-R24105 is used.] Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=200mm, when S-R70200 is used.]</p> <p>7.0-stop* * Firmware must be updated to version 1.3 or later. Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=200mm, when S-E70200 is used.]</p>
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## WHITE BALANCE

<b>White balance</b>	AWB / AWBc / AWBw / Daylight / Cloudy / Shade / Incandescent / Flash / White Set 1, 2, 3, 4 / Color temperature setting 1, 2, 3, 4
<b>White balance adjustment</b>	Blue/Amber bias, Magenta/Green bias
<b>Color temperature setting</b>	2500-10000K in 100K

## SHUTTER

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<b>Type</b>	Focal-plane shutter
<b>Shutter speed</b>	Still image: Bulb (Max. 30 minutes), 1/8,000 - 60 Electronic front curtain shutter: Bulb (Max. 30 minutes), 1/2,000 - 60 Electronic shutter: Bulb (Max. 60 sec), 1/8,000 - 60 Motion picture: 1/16,000 - 1/25
<b>Shutter life</b>	Approx. 400,000 images
<b>Self timer</b>	10sec, 3 images / 2sec / 10sec
<b>Remote control</b>	Remote control by DMW-RS2 (sold separately)
<b>Silent mode / Shutter type</b>	Yes / Yes (Auto / Mechanical / Electronic front curtain / Electronic / Electronic+NR)

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## BRACKET

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<b>AE bracket</b>	3, 5, 7 images in 1/3, 2/3 or 1 EV step, max. $\pm 3$ EV, single/burst
<b>Aperture Bracket</b>	3, 5 or all positions in 1 EV step
<b>Focus Bracket</b>	1 to 999 images, focus steps can be set in 10 levels
<b>White balance bracket</b>	3 images in blue/amber axis or in magenta/green axis, color temperature setting

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## BURST SHOOTING

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<b>Burst speed -Mechanical shutter / Electronic front curtain shutter</b>	AFS/MF: H: 9 frames/sec, M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View) AFC: H: 6 frames/sec (with Live View), M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View)
<b>Burst speed -Electronic shutter</b>	AFS/MF: H: 9 frames/sec, M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View) AFC: H: 5 frames/sec (with Live View), M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View)
<b>Number of recordable images - When using CFexpress Card(*7)</b>	RAW: More than 999 images RAW+JPEG: More than 75 images JPEG: More than 999 images *Using a Panasonic Corporation CFexpress Type B 256GB (RP-CFEX256) Memory Card. Until the burst shooting speed slows. When recording is performed under the test conditions specified by Panasonic.  RAW: More than 450 images RAW+JPEG: More than 75 images JPEG: More than 999 images *Using a SanDisk Corporation CFexpress Type B Extreme PRO 256GB (SDCFE-256G) Memory Card. Until the burst shooting speed slows. When recording is performed under the test conditions specified by Panasonic.
<b>Number of recordable images - When using XQD memory card</b>	RAW: More than 90 images RAW+JPEG: More than 70 images JPEG: More than 999 images *Using a Sony Corporation XQD G Series Memory Card. Until the burst shooting speed slows. When recording is performed under the test conditions specified by Panasonic.

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## 6K PHOTO(\*2) / 4K PHOTO(\*2)

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**Burst speed** 6K PHOTO: 30 frames/sec  
4K PHOTO: 60 frames/sec, 30 frames/sec

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**Exif information** Yes (Each JPEG image cropped out of the 6K/4K burst file complies with EXIF.)

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## FLASH

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**Flash type** TTL External Flash (sold separately)

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**Flash Mode** Auto\* / Auto/Red-eye Reduction\* / Forced On / Forced On/Red-eye Reduction / Slow Sync. / Slow Sync./Red-eye Reduction / Forced Off \*For iA only.

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**Flash synchronization** 1st Curtain Sync, 2nd Curtain Sync.

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**Flash output adjustment** 1/3EV step ±3EV

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**Synchronization speed** Less than 1/320 second \*The guide number decreases at 1/320 second. Only when set to M mode or S mode.

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**Wireless control** Yes (When using DMW-FL200L / FL360L / FL580L (sold separately)), Wireless Channel: 1ch/2ch/3ch/4ch

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**Flash sync socket** Yes

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## EXTRA TELE CONVERSION

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**EXTRA TELE CONVERSION** 2.0x (EX S), 1.4x (EX M) \*Only for still image recording.

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## PHOTO STYLE

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**Photo Style** Standard / Vivid / Natural / L. Classic Neo (Firmware version 2.1)\* / Flat / Landscape / Portrait / Monochrome / L. Monochrome / L. Monochrome D / L. Monochrome S (Firmware version 2.1)\* / Cinelike D / Cinelike V / Like709 / V-Log (Firmware version 1.2 or later)\* (\*5) / Standard (HLG) / Monochrome (HLG) / Like2100 / My Photo Style 1-10 \*Firmware must be updated.

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**Picture adjustment** Contrast / Highlight / Shadow / Saturation / Color Tone / Hue / Filter Effect / Grain Effect / Color Noise\* / Sharpness / Noise Reduction / ISO / WB (Adjustable settings vary depending on the Photo Style mode.)  
\*Firmware must be updated to version 2.1.

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## FILTER

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**FILTER** Expressive / Retro / Old Days / High Key / Low Key / Sepia / Monochrome / Dynamic Monochrome / Rough Monochrome\* / Silky Monochrome\* / Impressive Art / High Dynamic / Cross Process / Toy Effect / Toy Pop / Bleach Bypass / Miniature Effect / Soft Focus\* / Fantasy / Star Filter\* / One Point Color / Sunshine\*  
\*For photos only.

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## MOTION PICTURE FUNCTION

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<b>Vertical Position Information (*9)</b>	ON / Off
<b>Luminance level</b>	8-bit: 0-255 / 16-235 (*5) (*6) / 16-255 10-bit (*5) (*6): 0-1023 / 64-940 / 64-1023
<b>Wave form monitor(*5) (*6)</b>	Yes
<b>LUT display(*5) (*6)</b>	LUT View Assist (Monitor) / LUT View Assist (HDMI)
<b>Anamorphic desqueeze display (*9)</b>	2.0x / 1.8x / 1.5x / 1.33x / 1.30x / OFF
<b>Time code (*5) (*9)</b>	Count Up: Rec Run/Free Run selectable, Time Code Mode: Drop frame/Non-drop frame selectable (When NTSC is selected.)
<b>SS/Gain operation(*8)</b>	Shutter Duration/ISO / Angle/ISO / Shutter Duration/dB

## FUNCTION BUTTON

**REC** Exposure Comp. / Dual Native ISO Setting (\*9) / Sensitivity / White Balance / Photo Style / Metering Mode / Aspect Ratio / Picture Quality / Picture Size / HLG Photo / High Resolution Mode / 1 Shot Spot Metering / Long Exposure NR / Min. Shutter Speed / 1 Shot RAW+JPG / i.Dynamic Range / Filter Effect / One Push AE / Touch AE / Exposure Mode / AF Mode/MF / AF Custom Setting(Photo) / AF Custom Setting(Video) / Focus Peaking / Focus Peaking Sensitivity / 1-Area AF Moving Speed / Focus Ring Lock / AE LOCK / AF LOCK / AF/AE LOCK / AF-ON / AF-ON: Near Shift (\*6) / AF-ON: Far Shift (\*6) / AF-Point Scope / Focus Area Set / Flash Mode / Flash Adjust. / Wireless Flash Setup / Drive Mode / 1 Shot "6K/4K PHOTO" / Bracketing / Silent Mode / Image Stabilizer / Shutter Type / Ex. Tele Conv. / Flicker Decrease (Photo) / Post-Focus / Motion Pic. Rec Format / Motion Pic. Rec Quality / Time Code Display (\*5) (\*9) / Sound Rec Level Disp. / Sound Rec Level Adj. / XLR Mic Adaptor Setting (\*5) (\*9) / Mic. Directivity Adjust / Image Stabilizer / E-Stabilization (Video) / Boost I.S. (Video) / Q.MENU / Rec / Playback Switch / Video Record / LVF/Monitor Switch / LVF Magnification / Dial Operation Switch / Preview / Preview Aperture Effect (\*7) / Constant Preview / Level Gauge / Histogram / Photo Grid Line / Live View Boost / Monochrome Live View / Night Mode / LVF/Monitor Disp. Style / Photo/Video Preview / Zebra Pattern / LUT View Assist (Monitor) (\*5) (\*6) / LUT View Assist (HDMI) (\*5) (\*6) / HLG View Assist(Monitor) / HLG View Assist (HDMI) / Sheer Overlay / I.S. Status Scope / WFM (\*5) (\*6) / Anamorphic Desqueeze Display (\*5) (\*9) / Focus Ring Control/ Zoom Control / Destination Card Slot / Wi-Fi / No Setting / Off (Disable Press and Hold) (\*7) / Restore to Default

**PLAY** Magnify from AF Point / HLG View Assist(Monitor) / Anamorphic Desqueeze Display (\*5) (\*9) / RAW Processing / 6K/4K PHOTO Bulk Saving / Delete Single / Protect / Rating 1, 2, 3, 4, 5 / Copy / Rec/Playback Switch / LVF/Monitor Switch / Video Record / Night Mode / Card Slot Change / Wi-Fi / Send Image (Smartphone) / HLG View Assist (HDMI) / LUT View Assist (HDMI) (\*5) (\*6) / HLG View Assist (HDMI) (\*5) (\*6) / 6K/4K Photo Play / No Setting / Off (Disable Press and Hold) (\*7) / Restore to Default

## FN LEVER

**FN LEVER** AF Mode / Photo Style / Picture Quality / Long Exposure NR / Focus Peaking / Bracketing / Silent Mode / Image Stabilizer / Shutter Type / 6K/4K PHOTO (Pre-Burst) / Focus Ring Lock / Touch Screen / Touch Pad AF / Auto Review (Photo) / Live View Boost / Night Mode / Sheer Overlay / Front/Rear/Control Dial Lock / No Setting / Restore to Default

## LEVEL GAUGE

LEVEL GAUGE Yes

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## OSD LANGUAGE

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OSD LANGUAGE Japanese, English, German, French, Italian, Spanish, Polish, Czech, Hungarian, Romanian, Netherlandic, Turkish, Portuguese, Finnish, Danish, Swedish, Greek, Russian

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## PRINT

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PRINT PictBridge compatible

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## INTERFACE

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USB SuperSpeed USB 3.1 Gen1 Type-C

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HDMI\*\*\* Monitor-through MP4: 4:2:2 8bit (Except for [4K/60p]/[4K/50p]) / 4:2:0 8bit  
MOV: 4:2:2 10bit (\*5) (\*6) (When [4K/60p]/[4K/50p] mode is selected in [Rec Quality], it is not possible to record motion picture or still picture on the memory card in the camera unit.)

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HDMI\*\*\* Playback HDMI TypeA / VIERA Link  
Video: Auto / 4K/50p / 4K/25p / 1080p / 1080i / 720p / 576p  
Audio: Stereo

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Audio video output No

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Remote input  $\phi$ 2.5mm

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External microphone / external audio device input  $\phi$ 3.5mm for external microphone / external audio device  
MIC (Plug-in Power) / MIC / LINE is selectable.  
Stereo/Lens Auto/Shotgun/Super Shotgun/Manual is selectable when attaching DMW-MS2 (sold separately).

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Headphone output  $\phi$ 3.5mm

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Microphone Stereo, Wind Noise Canceller: OFF / Low\* / Standard / High \*When attaching DMW-MS2 (sold separately).

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Speaker Monaural

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Card slot Slot 1: XQD Memory Card, CFexpress Card (CFexpress Ver2.0 Type B) (\*7)  
Slot 2: SD Memory Card, SDHC Memory Card\*, SDXC Memory Card\*  
\*Compatible with UHS-I/UHS-II UHS Speed Class 3 standard SDHC/SDXC Memory Cards and UHS-II Video Speed Class 90 standard SDXC Memory Cards.

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## WIRELESS

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Wi-Fi 2.4GHz bands (STA/AP) (IEEE802.11b/g/n)  
5GHz bands (STA) (IEEE 802.11a/n/ac) \*5GHz Wi-Fi is not available in some countries.  
Please refer to "Wi-Fi" Sheet

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Bluetooth Bluetooth® v4.2 (Bluetooth Low Energy (BLE))

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## DUST AND SPLASH RESISTANT

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**DUST AND SPLASH RESISTANT\*** Yes.

\*Dust and Splash Resistant does not guarantee that damage will not occur if this camera is subjected to direct contact with dust and water.

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## POWER

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**Battery** Li-ion Battery Pack (7.4V, 3050mAh, 23Wh) (bundled)  
USB power supply, USB power charging

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**Battery life (CIPA standard)/  
When using CFexpress Card** Approx. 380 images (rear monitor), 360 images (LVF), 1,100 images (Power Save LVF mode\*) with S-R24105  
Approx. 400 images (rear monitor), 380 images (LVF), 1,150 images (Power Save LVF mode\*) with S-R2060  
\*Under the test conditions specified by Panasonic based on CIPA standard. When the time to get in the sleep mode is set to 1 sec.

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**Battery life (CIPA standard)/  
When using XQD memory card** Approx. 380 images (rear monitor), 360 images (LVF), 1,100 images (Power Save LVF mode\*) with S-R24105  
Approx. 400 images (rear monitor), 380 images (LVF), 1,150 images (Power Save LVF mode\*) with S-R2060  
\*Under the test conditions specified by Panasonic based on CIPA standard. When the time to get in the sleep mode is set to 1 sec.

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**Battery life (CIPA standard)/  
When using SD memory card** Approx. 400 images (rear monitor), 380 images (LVF), 1,150 images (Power Save LVF mode\*) with S-R24105  
Approx. 420 images (rear monitor), 400 images (LVF), 1,200 images (Power Save LVF mode\*) with S-R2060  
\*Under the test conditions specified by Panasonic based on CIPA standard. When the time to get in the sleep mode is set to 1 sec.

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**Battery grip** DMW-BGS1 (sold separately)

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## DIMENSIONS / WEIGHT

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**Dimensions (W x H x D)** Approx. 148.9 x 110.0 x 96.7 mm / 5.86 x 4.33 x 3.81 inch (excluding protrusions)

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**Weight** Approx. 1,021g / 2.25 lb (XQD Memory Card x 1, Battery, Body)  
Approx. 1,017g / 2.24 lb (SD Memory Card x 1, Battery, Body)  
Approx. 899g / 1.98 lb (Body only)

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## OPERATING ENVIRONMENT

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**Operating temperature\*\*\*\*** -10oC to 40oC (14oF to 104oF)

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**Operating humidity** 10%RH to 80%RH

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## STANDARD ACCESSORIES

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**Software- Recording** LUMIX Tether

- This software is used to control a Panasonic digital camera from a PC. It allows you to change various settings of the camera, perform remote recording, and save remotely recorded images to the PC. Check the site below to download and install the software.  
[http://panasonic.jp/support/global/cs/soft/download/d\\_lumixtether.html](http://panasonic.jp/support/global/cs/soft/download/d_lumixtether.html) (For Windows / Mac)

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**Software- Playback / Editing**

PHOTOfunSTUDIO 10.1PE is available for download at Panasonic website using computer connected to the Internet.

[https://panasonic.jp/support/global/cs/soft/download/d\\_pfs1001pe.html](https://panasonic.jp/support/global/cs/soft/download/d_pfs1001pe.html)(For Windows)

SILKYPIX Developer Studio is available for download at Ichikawa Soft Laboratory's website using computer connected to the Internet.

<http://www.isl.co.jp/SILKYPIX/english/p/> (For Windows / Mac)

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**Standard accessories**

DC-S1 Kit

Body Cap, Hot Shoe Cover, Eye Cup, Flash Synchro Socket Cap, Cover for the Battery Grip Connector, Shoulder Strap, Battery Pack, Battery Charger, AC Adaptor, AC Mains Lead, USB Connection Cable (C-C), USB Connection Cable (A-C), Cable Holder

Additional accessories are available for download at Panasonic LUMIX Customer Support Site using PC, smartphone or tablet connected to the Internet.

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**NOTE****NOTE**

(\*2) About motion picture recording / 6K PHOTO/4K PHOTO recording

- 6K PHOTO is a high speed burst shooting function that cuts a still image out of a 4:3 or 3:2 video footage with approx. 18-megapixel (approx. 6000 x 3000 effective pixel count) that the 6K image manages.

- Use an SD memory card with SD Speed Class with "Class 4" or higher when recording motion pictures in [AVCHD].

- Use an XQD or SD memory card with SD Speed Class with "Class 4" or higher when recording motion pictures in [MP4(under 28Mbps)].

- Use an XQD or SD memory card with SD Speed Class with "UHS-I / UHS-II UHS Speed Class 3 (U3)" when recording motion pictures with [MP4] in [4K] [High Speed Video], [MOV] or [6K PHOTO/4K PHOTO].

(SD speed class is the speed standard regarding continuous writing.)

- Recording stops when the continuous recording time exceeds 10 minutes with [6K PHOTO].

- Recording stops when the continuous recording time exceeds 15 minutes with [6K], [5.9K], [5.4K], [High Speed Video] or [4K PHOTO].

- Recording stops when the continuous recording time exceeds 29 minutes and 59 seconds with [C4K/60p], [C4K/50p], [4K/60p], [4K/50p] or [4K-A 50p].

- Motion pictures with [MP4] in [4K] or [MOV]:

- When using an XQD memory card of 32 GB or less, or an SDHC memory card: You can continue recording without interruption even if the file size exceeds 4 GB, but the motion picture file will be divided and recorded/played back separately.

- When using an XQD memory card over 32 GB, or an SDXC memory card: You can continue recording without interruption even if the file size exceeds 96 GB or 3 hours 4 minutes in length, but the motion picture file will be divided and recorded/played back separately.

- Motion pictures with [MP4] in [FHD]:

- You can continue recording without interruption even if the file size exceeds 4 GB or 30 minutes in length, but the motion picture file will be divided and recorded/played back separately.

- When the ambient temperature is high or continuous recording is performed, the camera may stop the recording to protect itself. Wait until the camera cools down.

- XQD is a registered trademark of Sony Corporation.

(\*3) For [4K/60p] [4K/50p] video output, use an HDMI2.0 cable that has the HDMI logo on it, and that is described as "4K compatible".

(\*4) The camera may stop recording when used in lower or higher than recommended operating temperature: -10 to 40 degrees.

(\*5) Upgrade Software Key (DMW-SFU2) is required.

(\*6) Firmware must be updated to version 1.2 or later.

(\*7) Firmware must be updated to version 1.3 or later.

(\*8) Firmware must be updated to version 1.5 or later.

(\*9) Firmware must be updated to version 1.6 or later.

(\*10) Firmware must be updated to version 2.0 or later.

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All specifications are subject to change without notice.

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