EOS R3

Advanced User Guide

These operating instructions are for the EOS R3 with firmware ver. 1.2.0 or later installed.

E

CT2-D147-C

Specifications

Type

Type: Digital single-lens non-reflex AF/AE camera
Lens mount: Canon RF mount
Compatible lenses: Canon RF lens group
* Using mount adapter EF-EOS R: Canon EF or EF-S lenses (excluding EF-M lenses)
Lens focal length: Same as the focal length indicated on the lens
* Using EF-S lenses: Approx. 1.6 times the indicated focal length

Image sensor

Type: Full-frame back-illuminated stacked CMOS sensor

Effective pixels*1*2	Max. approx. 24.1 megapixels
Total pixels*1	Approx. 26.7 megapixels
Screen size	Approx. 36.0 × 24.0 mm
Dual Pixel CMOS AF	Supported

* 1: Rounded to the nearest 100,000.
* 2: Using RF or EF lenses.
The effective pixel count may be lower with certain lenses and image processing.

Recording system

Image recording format: Compliant to Design rule for Camera File system 2.0 and Exif 2.31*
* Supports time difference information

Image type and extension

Image type		Extension
Still photos	JPEG	JPG
	HEIF	HIF
	RAW	CR3
	C-RAW	
Movies	ALL-I, IPB	MP4
	RAW	CRM

Still photo recording

Still photo pixel count

Image size		Resolution (Pixels)				
		Aspect ratio				
		3:2	1.6× (crop)*1	1:1	4:3	16:9
JPEG/HEIF	L	24.0 megapixels (6000 × 4000)	Approx. 9.3 megapixels (3744 × 2496)	16.0 megapixels (4000 × 4000)	Approx. 21.3 megapixels*2 (5328 × 4000)	Approx. 20.2 megapixels*2 (6000 × 3368)
	M	Approx. 10.6 megapixels (3984 × 2656)		Approx. 7.1 megapixels (2656 × 2656)	Approx. 9.5 megapixels (3552 × 2664)	Approx. 8.9 megapixels*2 (3984 × 2240)
	S1	Approx. 5.9 megapixels (2976 × 1984)		Approx. 3.9 megapixels (1984 × 1984)	Approx. 5.3 megapixels (2656 × 1992)	Approx. 5.0 megapixels*2 (2976 × 1680)
	S2	Approx. 3.8 megapixels (2400 × 1600)	Approx. 3.8 megapixels (2400 × 1600)	Approx. 2.6 megapixels (1600 × 1600)	Approx. 3.4 megapixels*2 (2112 × 1600)	Approx. 3.2 megapixels*2 (2400 × 1344)
RAW	RAW/C RAW	24.0 megapixels (6000 × 4000)	Approx. 9.3 megapixels (3744 × 2496)	24.0 megapixels*2 (6000 × 4000)		

* Values for recorded pixels are rounded off to the nearest 100,000th.
* RAW/C-RAW images are generated in [3:2], and the set aspect ratio is appended.
* JPEG images are generated in the set aspect ratio.
* These aspect ratios (M / S1 / S2) and pixel counts also apply to resizing.
* 1: Angle of view of approx. 1.6 times the focal length.
* 2: Aspect ratios are slightly different for these image sizes.

Still photo file size / Number of shots available / Maximum burst for continuous shooting

When using the electronic shutter

Image quality		File size [Approx. MB]	Available shots [Approx.]*1	Maximum burst [Approx.]		
				CFexpress card*1	SD card*2	SD card*3 [Hi-speed]
JPEG*4	L	8.7	37560	540	410	530
	M	4.7	67860	530	530	530
	S1	3.2	99010	530	530	530
	S2	1.9	163960	530	530	530
HEIF*5	L	8.1	34800	460	420	450
	M	4.7	59400	580	560	560
	S1	3.4	85030	590	560	560
	S2	1.8	143310	590	560	570
RAW*4	RAW	29.3	11860	150	150	150
	CRAW	15.1	24130	420	320	420
RAW+JPEG*4	RAW+L	29.3+8.7	9010	150	140	150
	CRAW+L	15.1+8.7	14690	400	260	330
RAW+HEIF*5	RAW+L	29.1+8.1	7970	150	140	150
	CRAW+L	15.4+8.1	12240	290	290	290

* 1: Number of shots available and maximum burst for CFexpress cards apply to 325 GB CFexpress cards conforming to Canon testing standards.
* 2: Maximum burst for SD cards applies to 32 GB UHS-I SD cards conforming to Canon testing standards.
* 3: Maximum burst for Hi-speed SD cards applies to 32 GB UHS-II SD cards conforming to Canon testing standards.
* 4: When set to [**HDR shooting** HDR PQ: **Disable**].
* 5: When set to [**HDR shooting** HDR PQ: **Enable**].
* Maximum burst as measured under conditions conforming to Canon testing standards (High-speed continuous shooting+ in One-Shot AF mode, JPEG/HEIF image quality of 8, ISO 100, and Standard Picture Style).
* File size, number of shots available, and maximum burst vary depending on shooting conditions (including cropping/aspect ratio, JPEG/HEIF image quality, subject, memory card brand, ISO speed, Picture Style, and Custom Functions).

When using the mechanical shutter/electronic first-curtain

Image quality		File size [Approx. MB]	Available shots [Approx.]*1	Maximum burst [Approx.]		
				CFexpress card*1	SD card*2	SD card*3 [Hi-speed]
JPEG*4	L	See "When using the electronic shutter."		1,000 or more	980	1,000 or more
	M			1,000 or more	1,000 or more	1,000 or more
	S1			1,000 or more	1,000 or more	1,000 or more
	S2			1,000 or more	1,000 or more	1,000 or more
HEIF*5	L			1,000 or more	950	1,000 or more
	M			1,000 or more	1,000 or more	1,000 or more
	S1			1,000 or more	1,000 or more	1,000 or more
	S2			1,000 or more	1,000 or more	1,000 or more
RAW*4	RAW			1,000 or more	160	290
	CRAW			1,000 or more	410	1,000 or more
RAW+JPEG*4	RAW+L			1,000 or more	140	140
	CRAW+L			1,000 or more	300	770
RAW+HEIF*5	RAW+L			300	150	170
	CRAW+L			600	310	600

* 1: Number of shots available and maximum burst for CFexpress cards apply to 325 GB CFexpress cards conforming to Canon testing standards.
* 2: Maximum burst for SD cards applies to 32 GB UHS-I SD cards conforming to Canon testing standards.
* 3: Maximum burst for Hi-speed SD cards applies to 32 GB UHS-II SD cards conforming to Canon testing standards.
* 4: When set to [**HDR shooting HDR PQ: Disable**].
* 5: When set to [**HDR shooting HDR PQ: Enable**].
* Maximum burst as measured under conditions conforming to Canon testing standards (High-speed continuous shooting+ in One-Shot AF mode, JPEG/HEIF image quality of 8, ISO 100, and Standard Picture Style).
* File size, number of shots available, and maximum burst vary depending on shooting conditions (including cropping/aspect ratio, JPEG/HEIF image quality, subject, memory card brand, ISO speed, Picture Style, and Custom Functions).

Still photo file size / Number of shots available / Maximum burst for continuous shooting

When using the electronic shutter

Image quality		File size [Approx. MB]	Available shots [Approx.]*1	Maximum burst [Approx.]		
				CFexpress card*1	SD card*2	SD card*3 [Hi-speed]
JPEG*4	L	8.7	37560	540	410	530
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	S2	1.8	143310	590	560	570
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	CRAW+L	15.1+8.7	14690	400	260	330
RAW+HEIF*5	RAW+L	29.1+8.1	7970	150	140	150
	CRAW+L	15.4+8.1	12240	290	290	290

* 1: Number of shots available and maximum burst for CFexpress cards apply to 325 GB CFexpress cards conforming to Canon testing standards.
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* File size, number of shots available, and maximum burst vary depending on shooting conditions (including cropping/aspect ratio, JPEG/HEIF image quality, subject, memory card brand, ISO speed, Picture Style, and Custom Functions).

Movie recording

Movie recording format: MP4, RAW

Estimated recording time, movie bit rate, and file size

Canon Log 3: Off, HDR PQ: Off

Movie recording size			Total recording time (Approx.)			Movie bit rate (Approx. Mbps)	File size (Approx. MB/min.)
			64 GB	256 GB	1 TB		
6K RAW	59.94 fps 50.00 fps	RAW (Standard)	3 min.	13 min.	50 min.	2600	18728
		RAW (Light)	4 min.	18 min.	1 hr. 13 min.	1800	13006
	29.97 fps 25.00 fps	RAW (Standard)	4 min.	16 min.	1 hr. 6 min.	2000	14376
	24.00 fps 23.98 fps	RAW (Standard)	5 min.	21 min.	1 hr. 22 min.	1600	11503
	29.97 fps 25.00 fps	RAW (Light)	9 min.	37 min.	2 hr. 26 min.	900	6508
	24.00 fps 23.98 fps	RAW (Light)	11 min.	46 min.	3 hr. 3 min.	720	5209
4K DCI	59.94 fps 50.00 fps	ALL-I	9 min.	36 min.	2 hr. 21 min.	940	6734
		IPB (Standard)	36 min.	2 hr. 27 min.	9 hr. 35 min.	230	1656
		IPB (Light)	1 hr. 10 min.	4 hr. 40 min.	18 hr. 17 min.	120	869
	29.97 fps 25.00 fps 24.00 fps 23.98 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 42 min.	470	3373
		IPB (Standard)	1 hr. 10 min.	4 hr. 40 min.	18 hr. 17 min.	120	869
		IPB (Light)	2 hr. 18 min.	9 hr. 14 min.	36 hr. 6 min.	60	440
	119.88 fps 100.00 fps	ALL-I	4 min.	18 min.	1 hr. 10 min.	1880	13447

4K UHD		59.94 fps 50.00 fps	ALL-I	9 min.	36 min.	2 hr. 21 min.	940	6734
			IPB (Standard)	36 min.	2 hr. 27 min.	9 hr. 35 min.	230	1656
			IPB (Light)	1 hr. 10 min.	4 hr. 40 min.	18 hr. 17 min.	120	869
		29.97 fps 25.00 fps 23.98 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 42 min.	470	3373
			IPB (Standard)	1 hr. 10 min.	4 hr. 40 min.	18 hr. 17 min.	120	869
			IPB (Light)	2 hr. 18 min.	9 hr. 14 min.	36 hr. 6 min.	60	440
		119.88 fps 100.00 fps	ALL-I	4 min.	18 min.	1 hr. 10 min.	1880	13447
Full HD		59.94 fps 50.00 fps	ALL-I	47 min.	3 hr. 8 min.	12 hr. 14 min.	180	1298
			IPB (Standard)	2 hr. 18 min.	9 hr. 14 min.	36 hr. 6 min.	60	440
			IPB (Light)	3 hr. 53 min.	15 hr. 34 min.	60 hr. 49 min.	35	261
		29.97 fps 25.00 fps 23.98 fps	ALL-I	1 hr. 33 min.	6 hr. 12 min.	24 hr. 16 min.	90	655
			IPB (Standard)	4 hr. 30 min.	18 hr. 2 min.	70 hr. 27 min.	30	226
			IPB (Light)	11 hr. 35 min.	46 hr. 23 min.	181 hr. 13 min.	12	88
		239.76 fps 200.00 fps	ALL-I	12 min.	50 min.	3 hr. 16 min.	680	4864
		119.88 fps 100.00 fps	ALL-I	23 min.	1 hr. 34 min.	6 hr. 10 min.	360	2575
Time-lapse movies	4K UHD	29.97 fps 25.00 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 43 min.	470	3362
	Full HD			1 hr. 34 min.	6 hr. 19 min.	24 hr. 41 min.	90	644

* Bit rate only applies to video output, not audio or metadata.
* The same values apply to 4K DCI, 4K UHD, and Full HD whether [**Movie cropping**] is set to [**Enable**] or [**Disable**].
* Movie recording stops when the maximum recording time per movie is reached.
* Sound is not recorded for approx. the last two frames when the compression method for movie recording quality is IPB or IPB Light (audio: AAC) or [**C.Fn 6 Audio compression**] is set to [**Enable**]. Moreover, the video and sound may be slightly out of sync when movies are played back in Windows.

Canon Log 3: On, or HDR PQ: On

Movie recording size			Total recording time (Approx.)			Movie bit rate (Approx. Mbps)	File size (Approx. MB/min.)
			64 GB	256 GB	1 TB		
6K RAW	59.94 fps 50.00 fps	RAW (Standard)	3 min.	13 min.	50 min.	2600	18728
		RAW (Light)	4 min.	18 min.	1 hr. 13 min.	1800	13006
	29.97 fps 25.00 fps	RAW (Standard)	4 min.	16 min.	1 hr. 6 min.	2000	14376
	24.00 fps 23.98 fps	RAW (Standard)	5 min.	21 min.	1 hr. 22 min.	1600	11503
	29.97 fps 25.00 fps	RAW (Light)	9 min.	37 min.	2 hr. 26 min.	900	6508
	24.00 fps 23.98 fps	RAW (Light)	11 min.	46 min.	3 hr. 3 min.	720	5209
4K DCI	59.94 fps 50.00 fps	ALL-I	8 min.	34 min.	2 hr. 13 min.	1000	7164
		IPB (Standard)	24 min.	1 hr. 39 min.	6 hr. 30 min.	340	2443
		IPB (Light)	49 min.	3 hr. 18 min.	12 hr. 57 min.	170	1227
	29.97 fps 25.00 fps 24.00 fps 23.98 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 42 min.	470	3373
		IPB (Standard)	49 min.	3 hr. 18 min.	12 hr. 57 min.	170	1227
		IPB (Light)	1 hr. 38 min.	6 hr. 34 min.	25 hr. 40 min.	85	619
	119.88 fps 100.00 fps	ALL-I	4 min.	18 min.	1 hr. 10 min.	1880	13447
4K UHD	59.94 fps 50.00 fps	ALL-I	8 min.	34 min.	2 hr. 13 min.	1000	7164
		IPB (Standard)	24 min.	1 hr. 39 min.	6 hr. 30 min.	340	2443
		IPB (Light)	49 min.	3 hr. 18 min.	12 hr. 57 min.	170	1227
	29.97 fps 25.00 fps 23.98 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 42 min.	470	3373
		IPB (Standard)	49 min.	3 hr. 18 min.	12 hr. 57 min.	170	1227
		IPB (Light)	1 hr. 38 min.	6 hr. 34 min.	25 hr. 40 min.	85	619
	119.88 fps 100.00 fps	ALL-I	4 min.	18 min.	1 hr. 10 min.	1880	13447

Full HD		59.94 fps 50.00 fps	ALL-I	36 min.	2 hr. 27 min.	9 hr. 35 min.	230	1656
			IPB (Standard)	1 hr. 33 min.	6 hr. 12 min.	24 hr. 16 min.	90	655
			IPB (Light)	2 hr. 45 min.	11 hr. 2 min.	43 hr. 7 min.	50	369
		29.97 fps 25.00 fps 23.98 fps	ALL-I	1 hr. 2 min.	4 hr. 9 min.	16 hr. 16 min.	135	977
			IPB (Standard)	3 hr. 3 min.	12 hr. 13 min.	47 hr. 45 min.	45	333
			IPB (Light)	5 hr. 1 min.	20 hr. 7 min.	78 hr. 37 min.	28	202
		239.76 fps 200.00 fps	ALL-I	9 min.	36 min.	2 hr. 21 min.	940	6723
		119.88 fps 100.00 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 43 min.	470	3362
Time-lapse movies	4K UHD	29.97 fps 25.00 fps	ALL-I	18 min.	1 hr. 12 min.	4 hr. 43 min.	470	3362
	Full HD			1 hr. 3 min.	4 hr. 12 min.	16 hr. 27 min.	135	966

* Bit rate only applies to video output, not audio or metadata.
* The same values apply to 4K DCI, 4K UHD, and Full HD whether [**Movie cropping**] is set to [**Enable**] or [**Disable**].
* Movie recording stops when the maximum recording time per movie is reached.
* Sound is not recorded for approx. the last two frames when the compression method for movie recording quality is IPB or IPB Light (audio: AAC) or [**C.Fn 6 Audio compression**] is set to [**Enable**]. Moreover, the video and sound may be slightly out of sync when movies are played back in Windows.

Card performance requirements (Movie recording) [Write/Read speed]

<table>
<tr><th colspan="4" rowspan="2">Movie recording size</th><th>CFexpress card</th><th colspan="2">SD card</th></tr>
<tr><th>8 bit / 10 bit</th><th>8 bit</th><th>10 bit</th></tr>
<tr><td rowspan="8">6K RAW</td><td rowspan="2">59.94 fps
50.00 fps</td><td>RAW (Standard)</td><td rowspan="4">CFexpress 2.0 Type-B [400 MB/s or higher]</td><td></td><td></td></tr>
<tr><td>RAW (Light)</td><td></td><td></td></tr>
<tr><td>29.97 fps
25.00 fps</td><td>RAW (Standard)</td><td></td><td></td></tr>
<tr><td>24.00 fps
23.98 fps</td><td>RAW (Standard)</td><td></td><td></td></tr>
<tr><td>29.97 fps
25.00 fps</td><td>RAW (Light)</td><td rowspan="3">CFexpress 2.0 Type-B [200 MB/s or higher]</td><td></td><td></td></tr>
<tr><td>24.00 fps
23.98 fps</td><td>RAW (Light)</td><td></td><td></td></tr>
<tr><td rowspan="6">4K</td><td rowspan="3">59.94 fps
50.00 fps</td><td>ALL-I</td><td></td><td></td></tr>
<tr><td>IPB (Standard)</td><td rowspan="5">CFexpress 2.0</td><td rowspan="2">UHS Speed Class 3 or higher</td><td rowspan="2">Video Speed Class V60 or higher</td></tr>
<tr><td>IPB (Light)</td></tr>
<tr><td rowspan="3">29.97 fps
25.00 fps
24.00 fps
23.98 fps</td><td>ALL-I</td><td colspan="2">Video Speed Class V60 or higher</td></tr>
<tr><td>IPB (Standard)</td><td colspan="2" rowspan="2">UHS Speed Class 3 or higher</td></tr>
<tr><td>IPB (Light)</td></tr>
<tr><td>119.88 fps
100.00 fps</td><td>ALL-I</td><td>CFexpress 2.0 Type-B [400 MB/s or higher]</td><td></td><td></td></tr>
<tr><td rowspan="8">Full HD</td><td rowspan="3">59.94 fps
50.00 fps</td><td>ALL-I</td><td rowspan="6">CFexpress 2.0</td><td colspan="2">UHS Speed Class 3 or higher</td></tr>
<tr><td>IPB (Standard)</td><td>SD Speed Class 10 or higher</td><td>UHS Speed Class 3 or higher</td></tr>
<tr><td>IPB (Light)</td><td colspan="2" rowspan="2">SD Speed Class 6 or higher</td></tr>
<tr><td rowspan="3">29.97 fps
25.00 fps
23.98 fps</td><td>ALL-I</td></tr>
<tr><td>IPB (Standard)</td><td colspan="2">UHS Speed Class 3 or higher</td></tr>
<tr><td>IPB (Light)</td><td colspan="2">SD Speed Class 4 or higher</td></tr>
<tr><td>239.76 fps
200.00 fps</td><td>ALL-I</td><td>CFexpress 2.0 Type-B [200MB/ or higher]</td><td>Video Speed Class V90 or higher</td><td></td></tr>
<tr><td>119.88 fps
100.00 fps</td><td>ALL-I</td><td>CFexpress 2.0</td><td colspan="2">Video Speed Class V60 or higher</td></tr>
<tr><td rowspan="2">Time-lapse movies</td><td>4K UHD</td><td rowspan="2">29.97 fps
25.00 fps</td><td rowspan="2">ALL-I</td><td rowspan="2">CFexpress 2.0</td><td>Video Speed Class V60 or higher</td><td>Video Speed Class V60 or higher</td></tr>
<tr><td>Full HD</td><td>UHS Speed Class 3 or higher</td><td>UHS Speed Class 3 or higher</td></tr>
</table>

Built-in and external microphones

Built-in microphone: Monaural microphone
External microphone: Connected to the multi-function shoe or 3.5 mm diameter stereo mini jack

Recording media

Recording media:
CFexpress memory card
* Type B
* VPG400 support
SD memory card
* Compatible with UHS-II

Autofocus

Focusing method: Dual Pixel CMOS AF

Focusing operation

	Still photo shooting	Movie recording
AF operation	One-Shot AF Servo AF	One-Shot AF Movie Servo AF
Manual focus (MF)	Supported	Supported

Lens compatibility based on AF area: Refer to the Canon website ( )

Number of AF area available for automatic selection

AF area		Horizontal: Approx. 100%, Vertical: Approx. 100%
Number of AF zones	Still photos	Max. 1053 zones (39 × 27)
	Movies	Max. 819 zones (39 × 21)

* May vary depending on settings.

Selectable positions for AF point

AF area		Horizontal: Approx. 90%, Vertical: Approx. 100%
Numbers of positions	Still photos	Max. 4779 positions (81 × 59)
	Movies	Max. 3969 positions (81 × 49)

* When set to [1-point AF] and selected using the Multi-controller.

Focusing brightness range (still photos): EV –7.5 to 20 (with an f/1.2 lens,* center AF point, and One-Shot AF, at room temperature, and ISO 100)
* Except RF lenses with a Defocus Smoothing (DS) coating

Focusing brightness range (movies): EV –4.5 to 20 (with an f/1.2 lens,* center AF point, and One-Shot AF, at room temperature, ISO 100, and 29.97 fps)
* Except RF lenses with a Defocus Smoothing (DS) coating

Eye control

The feature can be used in still photo shooting but not movie recording.

Detection type: Line-of-sight detection using corneal reflections (Purkinje images) acquired using infrared LEDs and an image of the user's pupil

Viewfinder

Type: OLED color electronic viewfinder
Screen size: Approx. 12.7 mm (0.5 inch)
Dot count: Approx. 5,760,000 dots
Magnification / angle of view: Approx. 0.76× / Approx. 35.7° (with 50 mm lens at infinity, $-1\ m^{-1}$)
Coverage: Approx. 100% (at L image size, an aspect ratio of 3:2, and approx. 23 mm eyepoint)
Eyepoint: Approx. 23 mm (at $-1\ m^{-1}$ from eyepiece lens end)
Dioptric adjustment: Approx. –4.0 to +2.0 m^{-1} (dpt)

Screen

Type: TFT color, liquid-crystal monitor
Screen size: Approx. 80.1 mm (3.2 inch) (aspect ratio of 3:2)
Dot count: Approx. 4,150,000 dots
Angle of view: Approx. 170° vertically and horizontally
Coverage: Approx. 100% vertically and horizontally (at L image size and an aspect ratio of 3:2)
Touch-screen: Capacitive sensing

LCD panel

Type: Reflective memory LCD
Display format: Dot-matrix display
Dot count: 128 × 128 dots

HDMI output

HDMI video / audio output: HDMI micro OUT terminal (Type D)
* HDMI CEC not supported

HDMI resolution: Auto / 1080p

Exposure control

Metering functions under various shooting conditions

Item		Still photo shooting	Movie recording
Metering sensor		384-zone (24×16) metering using image sensor output signals*1	
Shooting mode		Fv / P / Tv / Av / M / BULB / C1 / C2 / C3	P / Tv / Av / M / C1 / C2 / C3
Metering mode	Evaluative metering	○	○ * When faces are detected
	Partial metering	○ * Approx. 5.9% in the center of the screen	
	Spot metering	○ * Approx. 2.9% in the center of the screen	
	Center-weighted average metering	○	○ * When no faces are detected * When set to Canon Log 3
Metering brightness range (at room temperature, ISO 100)		EV –3 to 20	EV –1 to 20

* 1: Same applies when set to [**1.6x (crop)**].

ISO speed (recommended exposure index) in still photo shooting

Manual ISO speed setting for still photos

	ISO speed
Normal ISO speed	ISO 100–102400 (in 1/3 or 1-stop increments)
Expanded ISO speed	L (equivalent to ISO 50), H (equivalent to ISO 204800)

* When set to [**Highlight tone priority**], the available manual setting range is ISO 200–102400.
* Expanded ISO speeds cannot be set in HDR mode or for HDR shooting (HDR PQ).

Manual ISO speed setting range for still photos

ISO speed range	ISO speed
Minimum	L (equivalent to ISO 50) to ISO 102400 (in 1-stop increments)
Maximum	ISO 100 to H (equivalent to ISO 204800, in 1-stop increments)

ISO Auto setting range for still photos

Auto range	ISO speed
Minimum	ISO 100–51200 (in 1-stop increments)
Maximum	ISO 200–102400 (in 1-stop increments)

ISO Auto details for still photos

Shooting mode	No flash	Using flash
P	ISO 100[*1, *2]–102400[*2]	ISO 100[*1, *2]–6400[*2, *3]
Tv		
Av		
M		
BULB	ISO 400[*4]	ISO 400[*4]

* 1: ISO 200 when set to [**Highlight tone priority**: **Enable**/**Enhanced**].
* 2: Varies depending on the [**Maximum**] and [**Minimum**] settings for [**Auto range**].
* 3: ISO 1600 when using a lens that is not compatible with "Variable control of maximum ISO Auto limit for E-TTL".
* 4: If outside the setting range, changed to the value most close to ISO 400.

Variable control of maximum ISO Auto limit for E-TTL: Supported

ISO speed (recommended exposure index) in movie recording

Manual ISO speed setting for movies (in M mode)

	Canon Log 3	ISO speed
Normal ISO speed	Off	ISO 100–25600 (in 1/3 or 1-stop increments)
	On	ISO 800–25600 (in 1/3 or 1-stop increments)
Expanded ISO speed	Off	H (equivalent to ISO 32000, 40000, 51200, 64000, 80000, or 102400)
	On	L (equivalent to ISO 100, 125, 160, 200, 250, 320, 400, 500, or 640) H (equivalent to ISO 32000, 40000, 51200, 64000, 80000, or 102400)

* Maximum ISO speed when set manually corresponds to the [**ISO speed range**] setting.
* When set to [**Highlight tone priority**], the setting range is ISO 200–25600.
* Expanded ISO speeds are not available in HDR PQ, HDR, RAW or High-frame rate movie recording.
* H expansion is not available when set to RAW movie recording with Canon Log 3, but L expansion is available.
* The default setting range when set to Canon Log 3 is L and ISO 800–25600.

Automatic ISO speed setting for movies (in P / Tv / Av mode, and in M mode with ISO Auto)

	Canon Log 3	ISO speed
Normal ISO speed	Off	ISO 100–25600 (in 1/3 or 1-stop increments)
	On	ISO 800–25600 (in 1/3 or 1-stop increments)
Expanded ISO speed	Off	H (equivalent to ISO 32000, 40000, 51200, 64000, 80000, or 102400)
	On	

* Maximum ISO speed when set automatically corresponds to the [**Max for Auto**] setting.
* When set to [**Highlight tone priority**], the setting range is ISO 200–25600.
* Expanded ISO speeds are not available in HDR PQ, HDR, RAW or High-frame rate movie recording.

Manual ISO speed setting range for movies

ISO speed range	ISO speed
Minimum	ISO 100–25600 or H (equivalent to ISO 51200, in 1-stop increments)
Maximum	ISO 200–25600 or H (equivalent to ISO 51200 or 102400, in 1-stop increments)

Maximum ISO Auto setting for movies

	ISO speed
Max for Auto	ISO 6400–25600 or H (equivalent to ISO 51200 or 102400, in 1-stop increments)
Max for Auto for [**Time-lapse movie**]	ISO 400-25600

Shutter

Still photo shooting

Type:
Rolling shutter, using the image sensor
Electronically controlled focal-plane shutter

Shutter mode: Mechanical shutter / Electronic 1st-curtain / Electronic shutter

Shutter speed

Mechanical shutter / Electronic 1st-curtain	1/8000 to 30 sec. (in 1/3 or 1/2-stop increments), bulb exposures
Electronic shutter	1/64000 sec., 1/32000 sec., 1/16000 sec., 1/12800 sec., 1/10000 sec., or 1/8000 sec. to 30 sec. (in 1/3 or 1/2-stop increments), bulb exposures

* In electronic shutter shooting, shutter speeds of 1/10000 sec. or faster are only available in Tv or M mode (up to 1/8000 sec. in Fv, P, or Av mode).
* Adjustments by the camera when the shutter speed is set to 1/64000 or 1/32000 sec. in electronic shutter shooting may involve the aperture value or ISO speed in some shooting conditions, because exposure cannot be controlled in 1/3 or 1/2-stop increments.
* Maximum shutter speed is 1/8000 sec. in HDR mode or with focus bracketing or high-speed sync, or when set to maintain the same exposure when the aperture value changes.

X-sync speed

Mechanical shutter	1/200 sec.
Electronic 1st curtain	1/250 sec.
Electronic shutter	1/180 sec.

Movie recording

Type: Rolling shutter, using the image sensor

Shutter speed: 1/4000–1/25* sec.
* Varies by frame rate; for details, see Shutter Speed.

Movies in Tv or M mode: 1/4000–1/8* sec.
* Varies by shooting mode and frame rate.
* Minimum speed is 1/125 sec. (NTSC) or 1/100 sec. (PAL) when set to [**High Frame Rate**: **Enable**].

Shutter Speed

Available shutter speeds in [P Tv] and [M] mode vary depending on the frame rate of your specified movie recording quality.

Frame Rate	Shutter Speed (Sec.)		
	Normal Movie Recording	High Frame Rate Movie Recording	HDR Movie Recording
119.9P	–	1/4000–1/125	–
100.0P		1/4000–1/100	
59.94P	1/4000–1/8	–	
50.00P			
29.97P			[P Tv] 1/4000–1/60 [M] 1/1000–1/60
25.00P			[P Tv] 1/4000–1/50 [M] 1/1000–1/50
24.00P			–
23.98P			

Image stabilization (IS mode): Provided

Drive

Drive mode and continuous shooting speed

Drive modes	AF operation	Mechanical shutter	Electronic 1st curtain	Electronic shutter
Single shooting		○	○	○
High-speed continuous shooting+	One-Shot AF	Max. approx. 12 shots/sec.	Max. approx. 12 shots/sec.	Max. approx. 30 shots/sec.
	Servo AF			
High-speed continuous shooting	One-Shot AF	Max. approx. 6.0 shots/sec.	Max. approx. 8.0 shots/sec.	Max. approx. 15 shots/sec.
	Servo AF			
Low-speed continuous shooting	One-Shot AF	Max. approx. 3.0 shots/sec.	Max. approx. 3.0 shots/sec.	Max. approx. 3.0 shots/sec.
	Servo AF			
Custom high speed continuous shooting	One-Shot AF			Max. approx. 195 shots/sec.
	Servo AF			
Self-timer: 10 sec. / remote control		○	○	○
Self-timer: 2 sec. / remote control		○	○	○

External flash

Accessory shoe contacts: 21 pins for accessories compatible with the multi-function shoe, 5 pins for X-sync and communication

Playback

Item	Still photo	Movie
AF point display	○	
Playback grid	Off / 3×3 / 6×4 / 3×3+diag	
Magnified view	1.5×–10× (15 levels)	
Setting image search conditions	Search conditions Rating / Date / Folder / Protection / Type of file (1) / Type of file (2)	
Ratings	OFF / ★ to ★★★★★ Select images / Select range / All images in folder / All images on card / All found images	
Protect images	Select images / Select range / All images in folder / Unprotect all images in folder / All images on card / Unprotect all images on card / All found images / Unprotect all found images	
In-camera RAW image processing	Supported	
Resizing	Supported	
Cropping	Supported	

Frame grab from 4K movies

Individual frames in 4K movies recorded with the camera can be saved as JPEG or HEIF still photos.

4K	DCI	Approx. 8.8 megapixels (4096 × 2160)
	UHD	Approx. 8.3 megapixels (3840 × 2160)

* Frame grab is not available for RAW movies or Canon Log 3 movies.
* From normal movies, still photos are saved as JPEGs, and from HDR PQ movies, as HEIF images.
* Frame grabbing from 4K ALL-I, IPB (Std), and IPB (Light) is supported.
* In-camera resizing or cropping is not supported for extracted still photos.

Print order (DPOF)

Compliant with DPOF Version 1.1

External interface

Digital terminal
Terminal type: USB Type-C™
Transmission: SuperSpeed Plus USB (USB 3.2 Gen 2) equivalent
Applications:
For computer communication / smartphone communication
For in-camera charging with USB Power Adapter PD-E1
* Powering the camera while using PD-E1 is not supported.
Ethernet terminal: RJ-45 terminal
HDMI output terminal: HDMI micro OUT terminal (Type D)
External microphone input terminal: Compatible with 3.5 mm stereo mini plugs, plug-in power
Headphone terminal: Compatible with 3.5 mm stereo mini plugs
Remote control terminal: N3 type terminal

Power source

Battery

Compatible battery packs	LP-E19
Quantity used	1

USB charging: Using USB Power Adapter PD-E1

AC power source

AC adapter	AC-E19
DC coupler	DR-E19

Number of shots available

Shooting method	Temperature	Available shots (Approx.)	
		Power saving	Smooth
Viewfinder	+23°C / 73°F	620	440
Screen		860	760

* Using a new, fully charged LP-E19 and recording to an SD card, based on CIPA guidelines.

Available operating time

Conditions of use			Temperature	Available operating time
Time available for bulb exposure			+23°C / 73°F	Approx. 8 hr. 30 min.
Time available for Live View shooting * Using the screen			+23°C / 73°F	Approx. 5 hr. 40 min.
Time available for movie recording * Movie Servo AF: Disable	6K RAW movies (29.97 fps)		+23°C / 73°F	Approx. 3 hr. 10 min.
			0°C / 32°F	Approx. 3 hr.
	4K DCI	• IPB (Standard) • 29.97 fps / 25.00 fps • Without movie cropping	+23°C / 73°F	Approx. 3 hr. 20 min.
			0°C / 32°F	Approx. 3 hr. 10 min.
	Full HD		+23°C / 73°F	Approx. 5 hr. 20 min.
			0°C / 32°F	Approx. 5 hr.
Time available for continuous playback	Movies (normal playback)		+23°C / 73°F	Approx. 6 hr. 20 min.

* Using a fully charged LP-E19 and recording to a CFexpress card.

Battery information

Remaining capacity	In 1% increments 5-level indicator
Number of shots	Supported
Recharge performance	3 levels

Dimensions and weight

Dimensions

(W) × (H) × (D)	Approx. 150.0 × 142.6 × 87.2 mm
(W) × (H) × (D)	Approx. 5.91 × 5.61 × 3.43 in.

* Based on CIPA guidelines.

Weight

Body (including battery and CFexpress card) * Based on CIPA guidelines.	Approx. 1015 g	Approx. 35.80 oz.
Body only	Approx. 822 g	Approx. 29.00 oz.

* Not including body cap, eyecup, or multi-function shoe cover.

Operating environment

Operating temperature: 0–40°C / 32–104°F
Operating humidity: 85% or less

GPS

Position data	Latitude, longitude, elevation, and Coordinated Universal Time (UTC)
Position update interval	Every sec. / Every 5 sec. / Every 10 sec. / Every 15 sec. / Every 30 sec. / Every min. / Every 2 min. / Every 5 min.
Supported GPS signals	Supports the following GPS signals • American GPS satellites • Russian GLONASS satellites • Japanese MICHIBIKI Quasi-Zenith Satellites * Error correction functions using multiple MICHIBIKI satellites are not supported.
Log data	NMEA format One file is generated every 24 hours in the time zone set in the date and time. Users can copy log data to a computer and view the shooting locations and route traveled on a map shown on the computer.
Position data retention	10 min. / 30 min. / 1 hour / 3 hours / 6 hours / Unlimited

Wi-Fi (Wireless LAN) communication

Supporting standards (Equivalent to IEEE 802.11b/g/n/a/ac standards)

Wi-Fi standard	Transmission method	Maximum link speed
IEEE 802.11b	DS-SS modulation	11 Mbps
IEEE 802.11g	OFDM modulation	54 Mbps
IEEE 802.11n		72.2 Mbps
IEEE 802.11a		54 Mbps
IEEE 802.11ac		86.7 / 200 / 433.3 Mbps

Transmission frequency (Center frequency)

2.4 GHz band

Frequency	2412 to 2462 MHz
Channels	1 to 11 ch

5 GHz band

Frequency	5180 to 5825 MHz
Channels	36 to 165 ch

* Specifications vary by country/region.

Authentication and data encryption methods

Connection method	Authentication	Encryption
Camera access point	WPA2/WPA3-Personal	AES
	Open	Disable
Infrastructure	Open	WEP
		Disable
	Shared key	WEP
	WPA/WPA2/WPA3-Personal	TKIP AES
	WPA/WPA2/WPA3-Enterprise	

Bluetooth

Standards compliance: Bluetooth Specification Version 5.0 compliant (Bluetooth Low Energy technology)
Transmission method: GFSK modulation

- All data above is based on Canon testing standards and CIPA (Camera & Imaging Products Association) testing standards and guidelines.
- Dimensions and weight listed above are based on CIPA Guidelines (except weight for camera body only).
- Product specifications and appearance are subject to change without notice.
- If a problem occurs with a non-Canon lens attached to the camera, contact the respective lens manufacturer.