Canon

EOS M50 Mark II

Advanced User Guide

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Specifications

Type

Type: Digital single-lens non-reflex AF/AE camera with built-in flash
Lens mount: Canon EF-M mount
Compatible lenses: Canon EF-M lens group
 * Using mount adapter EF-EOS M: Canon EF or EF-S lenses
 * RF mount lenses cannot be used
Lens focal length: Approx. 1.6 times the focal length indicated on the lens

Image sensor

Type: CMOS sensor (Supports Dual Pixel CMOS AF)

Screen size	Approx. 22.3 × 14.9 mm
Effective pixels[1]	Approx. 24.1 megapixels

 * 1: Rounded to the nearest 100,000.

Recording system

Image recording format: Compliant with DCF 2.0 and Exif 2.31*
 * Supports time difference information

Still photo image type and extension

	Extension	Bit depth
JPEG	JPG	8 bit
RAW	CR3	14 bit (14 bit A/D conversion[1]), Canon Original
C-RAW		

 * 1: For continuous shooting and Silent Mode, 12-bit A/D conversion is used.

Still photo recording

Image type in still photo recording

Image quality		Resolution (pixels)
JPEG	⬛L / ⬛L	24.0 megapixels (6000 × 4000)
	⬛M / ⬛M	Approx. 10.6 megapixels (3984 × 2656)
	⬛S1 / ⬛S1	Approx. 5.9 megapixels (2976 × 1984)
	S2	Approx. 3.8 megapixels (2400 × 1600)
RAW/C-RAW	RAW / CRAW	24.0 megapixels (6000 × 4000)

Still photo pixel count

Image quality	Recorded pixels			
	Aspect ratio			
	3:2	4:3	16:9	1:1
⬛L / ⬛L	24.0 megapixels (6000 × 4000)	Approx. 21.3 megapixels* (5328 × 4000)	Approx. 20.2 megapixels* (6000 × 3368)	16.0 megapixels (4000 × 4000)
⬛M / ⬛M	Approx. 10.6 megapixels (3984 × 2656)	Approx. 9.5 megapixels (3552 × 2664)	Approx. 8.9 megapixels* (3984 × 2240)	Approx. 7.1 megapixels (2656 × 2656)
⬛S1 / ⬛S1	Approx. 5.9 megapixels (2976 × 1984)	Approx. 5.3 megapixels (2656 × 1992)	Approx. 5.0 megapixels (2976 × 1680)	Approx. 3.9 megapixels (1984 × 1984)
S2	Approx. 3.8 megapixels (2400 × 1600)	Approx. 3.4 megapixels* (2112 × 1600)	Approx. 3.2 megapixels (2400 × 1344)	Approx. 2.6 megapixels (1600 × 1600)
RAW / CRAW	24.0 megapixels (6000 × 4000)			

* Values for recorded pixels are rounded off to the nearest 100,000th.
* JPEG images are generated in the set aspect ratio.
* RAW/C-RAW images are generated in [**3:2**], and the set aspect ratio is appended.
* Aspect ratios are slightly different than indicated for image sizes marked with an asterisk.
* These aspect ratios and pixel counts also apply to resizing.

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

Image quality	File size (Approx. MB)	Possible shots (Approx.)	Maximum burst (Approx.)
▲L	8.4	3600	36
▄L	4.5	6610	35
▲M	4.6	6480	34
▄M	2.6	11400	34
▲S1	3.1	9690	34
▄S1	1.8	16010	34
S2	1.8	16340	34
RAW	27.2	1120	10
CRAW	15.8	1930	16
RAW + ▲L	35.6	850	10
CRAW + ▲L	24.2	1250	14

* The number of possible shots and maximum burst apply to a UHS-I compliant 32 GB card based on Canon testing standards.
* File size, number of possible shots, and maximum burst vary depending on shooting conditions (including subject, ISO speed, Picture Style, and Custom Function).

Movie recording

Movie recording format: MP4

Estimated recording time, movie bit rate, and file size

Movie recording size			Total recording time on each card (approx.)		Movie bit rate (approx.) / File size (approx.)
			32 GB	128 GB	
4K (UHD) 3840 × 2160	23.98 fps 25.00 fps	IPB (Standard)	35 min.	2 hr. 21 min.	120 Mbps 861 MB/min.
Full HD 1920 × 1080	59.94 fps 50.00 fps	IPB (Standard)	1 hr. 10 min.	4 hr. 43 min.	60 Mbps 432 MB/min.
	29.97 fps 23.98 fps 25.00 fps		2 hr. 20 min.	9 hr. 23 min.	30 Mbps 217 MB/min.
HD 1280 × 720	59.94 fps 50.00 fps	IPB (Standard)	2 hr. 42 min.	10 hr. 49 min.	26 Mbps 188 MB/min.
	119.88 fps 100.00 fps		1 hr. 22 min.	5 hr. 28 min.	52 Mbps 372 MB/min.

Movie recording notes
* Bit rate indicates video output only, audio is not included.
* File size and time including video output and audio.
* With [■ : '🎥 Digital IS] set to [**Disable**].
* Movie recording stops automatically when the recording time reaches 29:59 (or 7:29 for HD high frame rate movies).

Card performance requirements (Movie recording)

Movie recording size			Memory cards
4K (UHD) 3840 × 2160	IPB (Standard)	23.98 fps 25.00 fps	UHS-I, UHS Speed Class 3 or higher
Full HD 1920 × 1080	IPB (Standard)	59.94 fps 50.00 fps	SD Speed Class 10 or higher
		29.97 fps 23.98 fps 25.00 fps	SD Speed Class 6 or higher
HD 1280 × 720	IPB (Standard)	59.94 fps 50.00 fps	SD Speed Class 4 or higher
		119.88 fps 100.00 fps	SD Speed Class 10 or higher
Time-lapse movies (4K) 3840 × 2160	ALL-I	29.97 fps 25.00 fps	Card with read speed of 40 MB/s or higher
Time-lapse movies (Full HD) 1920 × 1080	ALL-I	29.97 fps 25.00 fps	Card with read speed of 20 MB/s or higher

* With [■ : '🎥 Digital IS] set to [**Disable**].

Recording microphone

Built-in microphone: Stereo microphones
External microphone terminal: 3.5 mm diameter stereo mini jack

Recording media

Recording media: SD, SDHC, and SDXC memory cards

SD speed class	Supported
UHS speed class	Supported
UHS-I	Supported

Viewfinder (electronic viewfinder)

Type: OLED color electronic viewfinder
Screen size: 0.39 inch
Dot count: Approx. 2,360,000 dots

Specifications

Coverage	Approx. 100% (at L image quality, an aspect ratio of 3:2, and approx. 22 mm eyepoint)
Eyepoint	Approx. 22 mm (at -1 m^{-1} from eyepiece lens end)
Dioptric adjustment	Approx. -3.0 to +1.0 m^{-1} (dpt)

Screen

Type: TFT color, liquid-crystal monitor
Screen size: 3.0-inch (aspect ratio of 3:2)
Dot count: Approx. 1,040,000 dots
Angle of view: Approx. 170° vertically and horizontally

Adjustment features

Screen brightness	Possible (7 levels)
Color tone adjustment	Not supported
Fine-tuning color tone	

Touch-screen panel specifications: Capacitive sensing

HDMI output

HDMI video / audio output: HDMI micro OUT terminal (Type D) / CEC not supported
HDMI resolution: Auto / 1080p

Autofocus

Item	Still photo shooting	Movie recording
Focusing method	Dual Pixel CMOS AF	Dual Pixel CMOS AF (Contrast detection method at 4K[*1])
Focusing operation	(1) Autofocus • One-Shot AF • Servo AF (2) Manual focus	(1) Autofocus • Movie Servo AF • One-Shot AF (2) Manual focus
AF zone	Horizontal: approx. 88% × Vertical: approx. 100%, or Horizontal: approx. 80% × Vertical: approx. 80% * Automatic switching based on lens	Horizontal: approx. 88% × Vertical: approx. 100%, or Horizontal: approx. 80% × Vertical: approx. 95% * Automatic switching based on lens
Number of AF zones available for automatic selection	Max. 143 zones * May vary depending on settings.	Max. 117 zones * May vary depending on settings.
Selectable positions for AF point	Max. 3975 positions * Aspect ratio 3:2 * At Horizontal: approx. 88% × Vertical: approx. 100% * When selecting with up, down, left and right buttons	Max. 3375 positions * Full HD * At Horizontal: approx. 88% × Vertical: approx. 100% * When selecting with up, down, left and right buttons
Eye detection	Supported * When set to [⌊⏌+Tracking] * Except for Fish-eye effect and Miniature effect	Supported * When set to [⌊⏌+Tracking] * Except for Miniature effect movie
Focusing brightness range	EV -4 to 18 * With an f/1.4 lens, center AF point, One-Shot AF, at room temperature, ISO 100	EV -2 to 18 * With an f/1.4 lens, center AF point, One-Shot AF, at room temperature, ISO 100 * Full HD at 29.97 fps / 23.98 fps / 25.00 fps

* 1: When recording 4K movies with Contrast AF, focusing may take longer compared to full HD and HD movie recording, and it may be difficult to focus with certain lenses.

Exposure control

Metering functions under various shooting conditions

Item	Still photo shooting	Movie recording
Metering mode	384-zone (24 × 16) metering using the image sensor	
Evaluative metering	Supported	When faces are detected with [ʘ+Tracking] automatically set
Partial metering	Supported: approx. 5.8% of the screen	–
Spot metering	Supported: approx. 2.9% of the screen	–
Center-weighted average	Supported	Automatically set for [1-point AF], [Zone AF], and when face recognition is not performed with [ʘ+Tracking]
Metering brightness range * At room temperature, ISO 100	EV -2 to 20	EV 0 to 20

ISO speed (Recommended exposure index) in still photo shooting

Normal ISO speed, expanded ISO speed (Still photo shooting)

Normal ISO speed	ISO 100–25600
Expanded ISO speed	H (51200) equivalent

* When manually set
* May vary depending on shooting mode and settings

ISO speed range when set manually (Still photo shooting)

		Highlight tone priority	
		Disable	Enable
ISO expansion	Disable	ISO 100–25600	ISO 200–25600
	Enable	ISO 100–H (51200) equivalent	ISO 200–25600

* The normal ISO speed range can be set in 1/3-stop increments

ISO Auto range setting (Still photo shooting)

Maximum setting*1	Maximum 400–25600 (in 1-stop increments)

* 1: The default setting is [Max for Auto: 6400]

ISO Auto details (Still photo shooting)

Shooting mode		ISO Auto range	
		No flash	Flash on
Creative Zone	**P**	ISO 100 to ISO Auto maximum setting value	ISO 100–1600
	Tv		
	Av		
	M*1		
Basic Zone	Scene Intelligent Auto < Ａ⁺ >	ISO 100–6400	Using built-in flash ISO 100–3200 Using external flash ISO 100–1600
	Special scene < **SCN** >	Depends on the shooting mode	
	Creative filters	ISO 100–6400	ISO 100–1600

* 1: ISO 400 when BULB is set

Movie recording ISO speed (Recommended exposure index)

Normal ISO speed, expanded ISO speed (Movie recording)

	Full HD / HD	4K
Normal ISO speed	ISO 100–12800	ISO 100–6400
Expanded ISO speed	H (25600) equivalent	–

* When manually set
* May vary depending on settings

ISO speed range when set manually (Movie recording)

		Highlight tone priority	
		Disable	Enable
ISO expansion	Disable	ISO 100–12800	ISO 200–12800 (in 1/3-stop increments)
	Enable	ISO 100–H (25600) equivalent	

* The normal ISO speed range can be set in 1/3-stop increments
* Maximum ISO 6400 for 4K video (no expansion)
* Maximum ISO 6400 with [📷: **Digital zoom**] set to an option other than [**Disable**]

ISO Auto range setting (Movie recording)

Maximum setting*1	Maximum 6400 / 12800 / when expanded: H (25600) equivalent

* 1: The default setting is [**Max for Auto**: **12800**]

Shutter

Still photo shooting

Type	Electronically controlled focal-plane shutter * Electronic 1st / mechanical 2nd curtain * Except when Silent Mode is set Rolling shutter, using the image sensor * Electronic shutter * When Silent Mode is set
Shutter speed	Creative Zone: 1/4000–30 sec., Bulb*¹ Basic Zone: 1/4000–1 sec.*² Maximum flash sync speed: 1/200 sec.

* 1: Shooting mode: In manual recording mode only
* 2: Varies depending on shooting mode.

Movie recording

Type	Rolling shutter, using the image sensor * Electronic shutter
Shutter speed	Movie recording with auto exposure: 1/4000–1/25*¹ sec. Movies with manual exposure recording: 1/4000–1/8 sec. In time-lapse movie recording: 1/4000–1/30 sec. (NTSC), or 1/25 sec. (PAL)

* 1: Varies by frame rate.

Built-in flash

Type: Retractable manual pop-up flash
Retraction method: Manual
Guide number: G. No.: Approx. 5 (ISO 100, m) / 16.4 (ISO 100, feet)
Flash range (examples)

ISO speed	Lens: EF-M15-45mm f/3.5-6.3 IS STM			
	Wide-angle end: f/3.5		Telephoto end: f/6.3	
	Approx. meters	Approx. feet	Approx. meters	Approx. feet
100	0.5–1.0	1.6–3.3	0.5–0.6	1.6–2.0
1600	1.3–4.0	4.3–13.1	0.7–2.5	2.3–8.2
25600	5.1–15.8	16.7–51.8	2.6–10.1	8.5–33.1

* Rounded to the second decimal place
* Suitable exposure may not be obtained when shooting distant subjects at high ISO speeds, because pre-firing metering limits may be exceeded

External flash

Sync contacts: Hot shoe: X-sync contact
* Maximum flash sync speed: 1/200 sec.
* No PC terminal provided
Flash mode: E-TTL II metering

Drive

Drive mode and continuous shooting speed

Single shooting		○
High-speed continuous shooting*3	One-Shot AF	Max. approx. 10 shots/sec.*1
	Servo AF	Max. approx. 7.4 shots/sec.*1
Low-speed continuous shooting*3	One-Shot AF	Max. approx. 4.0 shots/sec.*1
	Servo AF	Max. approx. 4.0 shots/sec.*1
Self-timer:10 sec. / remote control*2		○
Self-timer:2 sec. / remote control*2		○
Self-timer: Continuous		○ (2–10 shots)

* 1: With a fully charged Battery Pack LP-E12, 1/1000 sec. or faster shutter speed, open aperture, room temperature (23°C/73°F)
* 2: BR-E1: Supported / RC-6: Not supported
* 3: RAW / C-RAW is processed with 12-bit A/D conversion

Playback

Item	Still photos	Movies
Magnify zoom display	1.5×–10× * Can be activated by double-tapping	–
AF point display	○	–
Highlight alert	○ * Detailed information display only	
Ratings	OFF / ★ to ★★★★★ Select images / Select range / All images in folder / All images on card	
Image search	Search conditions: Rating / Date / Folder / Protect / Type of file	
Protect	Select images / Select range / All images in folder / Unprotect all images in folder / All images on card / Unprotect all images on card	
Resizing	○	–
Cropping	○	–

Print order (DPOF)

System: Compliant with DPOF Version 1.1

External interface

Digital terminal

Terminal type	USB Micro-B
Transmission	Hi-Speed USB (USB 2.0) equivalent
Applications	For PC communication For printer connection

HDMI output terminal: Type D (Resolution switches automatically)
* CEC not supported
* [**For NTSC**] / [**For PAL**] settings are required to match the video format of the TV you are connecting to

External microphone input terminal: Compatible with the 3.5 mm diameter stereo mini plug

Power source

Battery: Battery Pack LP-E12 × 1
* Can be AC-driven using AC Adapter CA-PS700 and DC Coupler DR-E12

Number of still photos that can be taken

Shooting method	Temperature	Shooting conditions	
		AE: 100% (Flash off)	Flash: 50%
Viewfinder shooting	23°C / 73°F	Approx. 275 shots	Approx. 250 shots[1]
	0°C / 32°F	Approx. 245 shots	Approx. 230 shots
On-screen shooting	23°C / 73°F	Approx. 320 shots	Approx. 305 shots[1]
	0°C / 32°F	Approx. 305 shots	Approx. 280 shots

* With a fully charged LP-E12

* With [🄰: **Disp. performance**] set to [**Power saving**] (default)
* 1: CIPA testing standards compliant.

Available operating time

Shooting method			Temperature	Available operating time
Time available for bulb exposure			23°C / 73°F	Approx. 3 hr. 15 min.
Time available for movie recording (continuous recording)*[1]	4K 23.98 fps	On-screen shooting	23°C / 73°F	Approx. 1 hr. 35 min.
	Full HD 29.97 fps	On-screen shooting	23°C / 73°F	Approx. 2 hr. 10 min.
			0°C / 32°F	Approx. 2 hr. 10 min.
Time available for time-lapse movie recording	Full HD recording interval 5 sec.	Screen on	23°C / 73°F	Approx. 2 hr. 25 min.
		Screen off	23°C / 73°F	Approx. 3 hr. 35 min.
Time available for continuous playback	Movies (Normal playback)		23°C / 73°F	Approx. 3 hr. 45 min.

* With a fully charged LP-E12

* 1: With [🔲: **Movie Servo AF**] set to [**Disable**], and automatically stopping/resuming after the time per recording is reached

Battery check: Automatic battery check with 3-level display when the power switch is set to ON

Battery information: You can check the remaining capacity (3 levels)

Wi-Fi

Wi-Fi standards

Wi-Fi standards	Transmission method
IEEE802.11b	DS-SS modulation
IEEE802.11g	OFDM modulation
IEEE802.11n	

Transmission frequency (central frequency)

Frequency	2412–2462 MHz
Channels	1–11 channels

Connection, authentication, and data encryption methods

Connection method	Authentication	Encryption
Camera access point	WPA2-PSK	AES
	Open	Disable
Infrastructure	Open	WEP
		Disable
	Shared key	WEP
	WPA-PSK	TKIP
	WPA2-PSK	AES

Bluetooth

Standards compliance: Bluetooth Specification Version 4.2 compliant (Bluetooth Low Energy technology)
Transmission method: GFSK modulation

Dimensions and weight

Dimensions: Approx. 116.3 (W) × 88.1 (H) × 58.7 (D) mm
Approx. 4.58 (W) × 3.47 (H) × 2.31 (D) in.

Weight

	Exterior color	Weight
Body (including battery and memory card)*[1]	Black	Approx. 387 g Approx. 13.65 oz.
	White	Approx. 388 g Approx. 13.69 oz.
Body only	Black	Approx. 350 g Approx. 12.35 oz.
	White	Approx. 351 g Approx. 12.38 oz.

* Without body cap

Operating environment

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

● 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 the exterior are subject to change without notice.
● If a problem occurs with a non-Canon lens attached to the camera, consult the respective lens manufacturer.

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