

LUMIX Digital Camera DMC-FZ1000

Metrics		Dimensions (W x H x D)	136.8 x 98.5 x 130.7 mm
		Dimensions (W x H x D)	(5.39 x 3.88 x 5.15 inch)
		Weight	Approx. 780 g without Battery and SD Memory Card (1.72 lb)
		Weight	Approx. 831 g with Battery and SD Memory Card (1.83 lb)
Optics	Pixels	Camera Effective Pixels	20.1 Megapixels
	Sensor	Sensor Size / Total Pixels / Filter	1-inch High Sensitivity MOS Sensor / Total Pixel Number 20.9 Megapixels / Primary Color Filter
	Lens	Aperture	F2.8 - 4.0 / Multistage Iris Diaphragm (Still Image: F2.8 - 8.0 (W), F4.0 - 8.0 (T), Motion Picture: F2.8 - 11.0 (W), F4.0 - 11.0 (T))
		Optical Zoom	16x
		Focal Length	f = 9.1 - 146mm
		Focal Length	(27 - 432mm in 35mm equiv. in 4:3)
		Focal Length	(25 - 400mm in 35mm equiv. in 3:2)
		Focal Length	(26 - 416mm in 35mm equiv. in 16:9)
		Focal Length	(32 - 512mm in 35mm equiv. in 1:1)
		Focal Length	(26 - 416mm in 35mm equiv. in 16:9 video recording / O.I.S. Off / Level Shot function Off)
		Focal Length	(28 - 448mm in 35mm equiv. in 16:9 video recording / O.I.S. On / Level Shot function Off)
		Focal Length	(31 - 496mm in 35mm equiv. in 16:9 video recording / O.I.S. On / Level Shot function On)
		Focal Length	(37 - 592mm in 35mm equiv. in 4K video recording)
		Extra Optical Zoom (EZ)	22.4x (3:2 / 10M (M)), 32x (3:2 / 5M (S))
		Intelligent Zoom	32x
		Lens	LEICA DC VARIO-ELMARIT
		Lens	15 elements in 11 groups
		Lens	(5 Aspherical Lenses / 8 Aspherical Surfaces / 4 ED Lenses)
		Changing of	5-Speed Zoom

		Zoom Speed	
		Optical Image Stabilizer/Five Axis Correction	HYBRID O.I.S. +* / Yes* * Except for the 4K video recording and high-speed video recording.
		Digital Zoom	Max. 4x
		Conversion Lens Compatibility	-
	Focus	Focusing Area	Normal: Wide 30 cm - infinity / Tele 100 cm - infinity
		Focusing Area	AF Macro / MF / Intelligent Auto / Motion Picture: Wide 3 cm - infinity / Tele 100 cm - infinity
		AF Assist Lamp	Yes (On / Off)
		Focus	AFS (Single) / AFF (Flexible) / AFC (Continuous) / MF
		Focus	Normal / AF Macro / Macro Zoom, Quick AF On / Off (on in Intelligent Auto), Low Light AF, AF/AE Lock Button, AF Area Select, AF Tracking, Eye Sensor AF, Focus Peaking, One Shot AF (Set the Fn button in custom menu to AF-ON)
		AF Metering	Face/Eye Detection / Tracking / 49-area / Custom Multi / 1-area (flexible / scalable) / Pinpoint
	Shutter	Shutter Speed	Still Image:
		Shutter Speed	Approx. 60 - 1/4,000 sec (Mechanical Shutter)
		Shutter Speed	Approx. 1 - 1/16,000 sec (Electronic Shutter)
		Shutter Speed	Bulb (Approx. 120 sec)
		Shutter Speed	Motion Picture:
		Shutter Speed	Approx. 1/25 - 1/16,000 sec
		Shutter Speed	Approx. 1/2 - 1/16,000 sec (Creative Video M Mode / MF Mode)
	Finder	Viewfinder	0.39" OLED LVF (Live View Finder) (2359K dots), Field of View: Approx. 100%,
		Viewfinder	Magnification: Approx. 1.88x / 0.7x (35mm equiv.), Eye Sensor
Recording	File	File Format	Still Image: JPEG (DCF/Exif2.3) / RAW, DPOF
		File Format	Motion Picture: AVCHD, MP4
	Recording Modes	Mode Dial / Mode Button	Intelligent Auto, P, A, S, M, Creative Video, C1 (Custom), C2 (Custom), Scene Guide, Creative Control
		Creative Control mode	Expressive, Retro, Old Days, High Key, Low Key, Sepia, Monochrome, Dynamic Monochrome, Rough Monochrome, Silky Monochrome, Impressive Art, High Dynamic, Cross Process,
		Creative Control mode	Toy Effect, Toy Pop, Bleach Bypass, Miniature Effect, Soft Focus, Fantasy, Star Filter, One Point Color, Sunshine (22 filters)
		Still Image Scene Mode /	Clear Portrait, Silky Skin, Backlit Softness, Clear in Backlight, Relaxing Tone, Sweet Child's Face, Distinct Scenery, Bright Blue Sky, Romantic Sunset Glow, Vivid Sunset Glow, Glistening

	Scene Guide	Water, Clear Nightscape, Cool Night Sky, Warm Glowing Nightscape,
	Still Image Scene Mode / Scene Guide	Artistic Nightscape, Glittering Illuminations, Handheld Night Shot, Clear Night Portrait, Soft Image of a Flower, Appetizing Food, Cute Dessert, Freeze Animal Motion, Clear Sports Shot, Monochrome, Panorama
	Continuous Shooting Mode (Approx.)	[AFS] SH: 50 frames/sec*, H: 12 frames/sec, M: 7 frames/sec (with Live View), L: 2 frames/sec (with Live View)
	Continuous Shooting Mode (Approx.)	[AFC] H: 7 frames/sec, M: 7 frames/sec (with Live View), L: 2 frames/sec (with Live View)
	Continuous Shooting Mode (Approx.)	* Electronic shutter only.
Motion Pict Recording (3840 x 2160 pixels, 25p (4K: 100Mbps / MP4) (Sensor Output is 25fps) (AAC)
Recording (HD Video	1920 x 1080 pixels, 50p (FHD: 28Mbps / AVCHD) (Sensor Output is 50fps) (Dolby)
	HD Video	1920 x 1080 pixels, 24p (FHD: 24Mbps / AVCHD) (Sensor Output is 24fps) (Dolby)
	HD Video	1920 x 1080 pixels, 25p (FHD: 24Mbps / AVCHD) (Sensor Output is 25fps) (Dolby)
	HD Video	1920 x 1080 pixels, 50i (FHD: 17Mbps / AVCHD) (Sensor Output is 50fps) (Dolby)
	HD Video	1920 x 1080 pixels, 50p (FHD: 28Mbps / MP4) (Sensor Output is 50fps) (AAC)
	HD Video	1920 x 1080 pixels, 25p (FHD: 20Mbps / MP4) (Sensor Output is 25fps) (AAC)
	HD Video	1280 x 720 pixels, 25p (HD: 10Mbps / MP4) (Sensor Output is 25fps) (AAC)
	STD Video	640 x 480, 25p (VGA: 4Mbps / MP4) (Sensor Output is 25fps) (AAC)
	High Speed Video	1920 x 1080 pixels, 25p (FHD: MP4) (Sensor Output is 100fps)
Continuous recordable	AVCHD	Approx. 130 min (FHD/60p), Approx. 135 min (FHD/60i)
time (motion	n MP4	Approx. 110 min (4K/30p), Approx. 130 min (FHD/60p)
Actual recordable	AVCHD	Approx. 65 min (FHD/60p), Approx. 70 min (FHD/60i)
time (motion	m MP4	Approx. 55 min (4K/30p), Approx. 65 min (FHD/60p)
Exposure Parameters	Exposure	Program AE, Aperture Priority AE, Shutter Priority AE, Manual
1 arameters	Exposure Compensation	1/3 EV step, +/-5 EV (+/-3 EV for motion picture)
	Auto (AE) Bracketing	3, 5, 7 frames in 1/3, 2/3 or 1 EV Step, Max. +/-3 EV
	Light Metering	Intelligent Multiple / Center Weighted / Spot
	ISO Sensitivity	Auto / i.ISO / 80* / 100* / 125 / 200 / 400 / 800 / 1600 / 3200/ 6400 / 12800 / 25600* (* Extended ISO)

		ISO Sensitivity	(Changeable to 1/3 EV step)
Pictu	re Quality	Still Picture Recording	[4:3] 4864x3648 (17.5M) (L) / 3456x2592 (9M) (M) / 2432x1824 (4.5M) (S)
		Still Picture Recording	[3:2] 5472x3648 (20M) (L) / 3888x2592 (10M) (M) / 2736x1824 (5M) (S)
		Still Picture Recording	[16:9]5472x3080 (17M) (L) / 3840x2160 (8M) (M) / 1920x1080 (2M) (S)
		Still Picture Recording	[1:1] 3648x3648 (13.5M) (L) / 2592x2592 (6.5M) (M) / 1824x1824 (3.5M) (S)
		Image Quality	RAW / RAW+Fine / RAW+Standard / Fine / Standard
		White Balance	Auto / Daylight / Cloudy / Shade / Incandescent / Flash / White Set1 / White Set2 / White Set3 / White Set4 / Color Temperature
		White Balance	(2-axis Adjustable)
		Photo Style	Standard, Vivid, Natural, Monochrome, Scenery, Portrait, Custom, Cinelike D*, Cinelike V* * When Creative Video mode is selected.
		Color Mode / Color Effect	-
		Picture Adjustment	Contrast, Sharpness, Noise Reduction, Saturation*, Color Tone**, Filter Effect** * Except for Monochrome mode. ** For Monochrome mode only.
		Aspect Bracketing	-
Other	r	Digital Red Eye Correction (Red-Eye Removal)	Yes (On / Off)
		GPS	-
		Wi-FI	IEEE 802.11b/g/n
		Wi-FI	2412 MHz - 2462 MHz (1-11 ch)
		Wi-FI	WPA / WPA2
		Wi-FI	Infrastracture Mode / WPS / Wi-Fi Direct
		Wi-FI	Wi-Fi Button
		NFC	ISO/IEC 18092, NFC-F (Passive Mode)
		Zoom in Motion Picture	Yes
		Self Timer	2 sec / 10 sec / 10 sec (3 images)
		Self Shot Mode	-

Playback	Display	Playback Mode	All, Slideshow, Filtering Play (Picture Only, Video Only, Category Selection, Favorite), Calendar
		Thumbnails / Zoomed Playback	12,30-thumbnails / Yes
		Calendar Display / Dual- Image Playback	Yes / No
		Set Favorites / Rotate Image	Yes / Yes
		Show Histogram	Yes
		Show Highlights	Yes
		DPOF Print Setting / Set Protection	Yes / Yes
	Edit	Retouch	No
		RAW Processing	Yes
		Resize / Cropping / Aspect Conv. / Leveling	Yes / Yes / No / No
		Copy / Title Edit / Text Stamp	No / Yes / Yes
		Cut Animation	Yes
		Video Divide	Yes
		PictBridge Support	Single / Multi / All / DPOF / Favorites
Setup		OSD language	Japanese, English, German, French, Italian, Spanish, Chinese (Traditional), Chinese (Simplified)
Others	Monitor	LCD Monitor	3.0" (7.5cm) Free-Angle TFT Screen LCD Display (921K dots), AR Coating
		LCD Monitor	Field of View: Approx. 100%, Wide Viewing-angle
	Flash	Built- in- Flash	Auto*, Auto/Red-eye Reduction*, Forced On, Forced On/Red-eye Reduction, Slow Sync., Slow Sync./Red-eye Reduction, Forced Off * For iA, iA+ mode only.
		Built- in- Flash	Flash Synchro: 1st / 2nd Slow Sync.
		Built- in- Flash	Synchronization for flash dimming and exposure compensation
		Built- in- Flash	0.3 - 13.5m (Wide / ISO Auto), 1.0 - 9.5m (Tele / ISO Auto)
	Media	Recording Media	SD Memory Card, SDHC Memory Card, SDXC Memory Card (Compatible with UHS-I standard)

		Built- in- Memory	-
	Audio	Microphone / Speaker	Stereo / Mono
	Interface	Interface	microHDMI, AV Output (PAL / NTSC), USB (AV/USB Multi)
		Remote Input	φ2.5mm for Remote
		External Microphone Input	φ3.5mm for External Microphone
	Power	Power	Li-ion Battery Pack (7.2V, 1200mAh, 8.7 Wh) (Included)
		Power	AC Adaptor (Input: 110 - 240V AC)
		Battery life (approx.)	360 pictures (CIPA Standard)*1
	Standard Package	Included Software	PHOTOfunSTUDIO 9.5PE
		Included Software	SILKYPIX Developer Studio
		Included Software	LoiLoScope (trial version)
		Included Software	Adobe Reader
		Standard Accessories	Battery Charger, Battery Pack, USB Cable, AC Cable, Lens Hood, Lens Cap, Hot Shoe Cover, DVD
NOTE			*1. Recording conditions by CIPA standard
NOTE			- Temperature: 23 oC (73.4 oF) / Humidity: 50%RH when LCD monitor is on.
NOTE			- Using a Panasonic SDHC Memory Card
NOTE			- Using the supplied battery.
NOTE	NOTE		- Starting recording 30 seconds after the camera is turned on. (When the optical image stabilizer function is set to [ON].)
NOTE			- Recording once every 30 seconds with full flash every second recording.
NOTE			- Rotating the zoom lever from Tele to Wide or vice versa in every recording.
NOTE			- The number of recordable pictures varies depending on the recording interval time.
NOTE			- If the recording interval time becomes longer, the number of recordable pictures decreases.
NOTE			- CIPA is an abbreviation of [Camera & Imaging Products Association].
NOTE			*2 These are standard times taken at a temperature of 23 oC (73.4 oF) and a humidity of 50%RH.

NOTE	- The time available for recording varies depending on the environment, the interval between recordings, and the manner of use.
NOTE	- Actual recordable time is the time available for recording when repeating actions such as switching the power supply [ON] / [OFF], starting/stopping recording, zoom operation etc.
NOTE	- Use a card with SD Speed Class with "Class 4" or higher when recording motion pictures.
NOTE	- Use a card with SD Speed Class with "UHS-I Speed Class 3 (U3)" when recording motion pictures with [MP4] in [4K].
NOTE	(SD speed class is the speed standard regarding continuous writing.)
NOTE	- Maximum time to record motion pictures continuously with [AVCHD] is 29 minutes 59 seconds.
NOTE	- Maximum time to record motion pictures continuously with [MP4] in [4K] is 29 minutes 59 seconds.
NOTE	- Maximum time to record motion pictures continuously with [MP4] in [FHD] [HD] [VGA] is 29 minutes 59 seconds or up to 4 GB.
NOTE	- Maximum time to record High Speed motion pictures continuously is 7 minutes 59 seconds.

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