



## LUMIX 20.3 Megapixel, 4K Digital Camera, Touch Enabled 3-inch 180 Degree Flip-front Display, 30X LEICA DC VARIO-ELMAR Lens - Black DC-ZS70K

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- **Metrics**

- **Dimensions (W x H x D)** 112.0 x 67.3 x 41.2 mm
  - **Dimensions (W x H x D)** (4.41 x 2.65 x 1.62 inch)
  - **Weight** Approx. 322 g with Battery and SD Memory Card (0.71 lb)
  - **Weight** Approx. 280 g without Battery and SD Memory Card (0.62 lb)
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- **Optics**

- *Pixels*
- **Camera Effective Pixels** 20.3 Megapixels
- *Sensor*
- **Sensor Size / Total Pixels / Filter** 1/2.3-inch High Sensitivity MOS Sensor / 21.1 Total Megapixels / Primary Color Filter
- *Lens*
- **Aperture** F3.3 - 6.4 / Multistage Iris Diaphragm (F3.3 - 8.0 (W), F6.4 - 8.0 (T))
- **Optical Zoom** 30x
- **Focal Length** f = 4.3 - 129mm
- **Focal Length** (24 - 720mm in 35mm equiv. in 4:3)
- **Focal Length** (25 - 750mm in 35mm equiv. in 3:2)
- **Focal Length** (26 - 780mm in 35mm equiv. in 16:9)
- **Focal Length** (28 - 840mm in 35mm equiv. in 1:1)
- **Focal Length** (35 - 1050mm in 35mm equiv. in 4K PHOTO recording)
- **Focal Length** (35 - 1050mm in 35mm equiv. in 4K video recording)
- **Focal Length** (26 - 780mm in 35mm equiv. in 16:9 video recording / O.I.S. Off / Level Shot function Off)
- **Focal Length** (28 - 840mm in 35mm equiv. in 16:9 video recording / O.I.S. On / Level Shot function Off)
- **Focal Length** (30 - 900mm in 35mm equiv. in 16:9 video recording / O.I.S. On / Level Shot function On)
- **Extra Optical Zoom (EZ)** 41.8x (4:3 / 10M (M)), 59.2x (4:3 / 5M (S))

- Intelligent Zoom 60x
  - Lens LEICA DC VARIO-ELMAR
  - Lens 12 elements in 9 groups
  - Lens (5 Aspherical Lenses / 10 Aspherical surfaces)
  - Optical Image Stabilizer 5-Axis HYBRID O.I.S. +\*
  - Optical Image Stabilizer \* 5-Axis compensation works in video recording except for 4K video or high-spec video recording.
  - Digital Zoom Max. 4x (When Digital Zoom is used simultaneously with Intelligent Zoom, you can only increase the zoom ratio up to 2x.)
  - Conversion Lens Compatibility N/A
  - *Focus*
  - Focusing Area Normal: Wide 50 cm - infinity / Tele 200 cm - infinity
  - Focusing Area AF Macro / MF / Intelligent Auto / Motion Picture: Wide 3 cm - infinity / Tele 200 cm - infinity
  - AF Assist Lamp Yes (On / Off)
  - Focus AF / AF Macro / Macro Zoom \* Each available with AFS (Single) / AFF (Flexible) / AFC (Continuous)
  - Focus Quick AF, Continuous AF (during motion picture recording), Touch AF/AE Function, Touch Shutter Eye Sensor AF, Touch Pad AF, MF Assist, Touch MF Assist, AF+MF, Focus Peaking, One Shot AF (Set the button in custom menu to AF-ON), Low Light AF
  - Post Focus Yes
  - Focus Stacking Yes
  - AF Metering Face/Eye Detection / Tracking / 49-area / Custom Multi / 1-area / Pinpoint
  - AF Metering (Full area touch is available)
  - *Shutter*
  - Shutter Speed [Still Image] Approx. 4 - 1/2,000 sec (Mechanical Shutter)
  - Shutter Speed [Still Image] Approx. 1 - 1/16,000 sec (Electronic Shutter)
  - Shutter Speed [Still Image] Artistic Nightscape (Approx. 30 sec)
  - Shutter Speed [Motion Picture] Approx. 1/30 - 1/16,000 sec
  - Shutter Speed [Motion Picture] Approx. 1/2 - 1/16,000 sec (Creative Video M Mode / MF Mode)
  - *Finder*
  - Viewfinder 0.20" LVF (Live View Finder) (1,166k dots equiv.), Field of View: Approx. 100%, Lens 19.6x
  - Viewfinder Magnification: Approx. 2.59x / 0.46x (35 mm camera equivalent)
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## • Recording

- *File*
- File Format Still Image: JPEG (DCF/Exif2.3) / RAW, DPOF
- File Format Motion Picture: AVCHD Progressive, AVCHD, MP4
- *Recording Modes*
- Mode Dial Intelligent Auto, P, A, S, M, Creative Video, C (Custom), Panorama Shot, 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, Toy Effect, Toy Pop, Bleach Bypass, Miniature Effect, Soft Focus, Fantasy, Star Filter, One Point Color, Sunsh (22 filters)
- Still Image Scene Guide 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 Water Clear Nightscape, Cool Night Sky, Warm Glowing Nightscape, Artistic Nightscape, Glittering Illumination Handheld Night Shot, Clear Night Portrait, Soft Image of a Flower, Appetizing Food, Cute Dessert, Freeze Animal Motion, Clear Sports Shot, Monochrome
- Continuous Shooting Mode (Approx.) [AFS] H: 10 frames/sec, M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View)
- Continuous Shooting Mode (Approx.) [AFC] H: 5 frames/sec, M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View)
- 4K Photo Mode (\*2) 4K Burst: 30 frames/sec, max. 15 min
- 4K Photo Mode (\*2) 4K Burst (S/S): 30 frames/sec, max. 15 min
- 4K Photo Mode (\*2) 4K Pre-Burst: 30 frames/sec, approx. 2 sec
- 4K Photo Mode (\*2) Exif Information: Yes
- 4K Photo Mode (\*2) Marking Function: Yes (in 4K Burst (S/S) mode)
- *Motion Picture Recording (\*2)*
- 4K Video 3840 x 2160 pixels, 30p (4K: 100Mbps / MP4) (Sensor Output is 30fps) (AAC)
- HD Video 1920 x 1080 pixels, 60p (FHD: 28Mbps / AVCHD) (Sensor Output is 60fps) (Dolby)
- HD Video 1920 x 1080 pixels, 60i (FHD: 24Mbps / AVCHD) (Sensor Output is 30fps) (Dolby)
- HD Video 1920 x 1080 pixels, 60i (FHD: 17Mbps / AVCHD) (Sensor Output is 60fps) (Dolby)
- HD Video 1920 x 1080 pixels, 60p (FHD: 28Mbps / MP4) (Sensor Output is 60fps) (AAC)
- HD Video 1920 x 1080 pixels, 30p (FHD: 20Mbps / MP4) (Sensor Output is 30fps) (AAC)
- HD Video 1280 x 720 pixels, 30p (HD: 10Mbps / MP4) (Sensor Output is 30fps) (AAC)
- High Speed Video 1280 x 720 pixels, 30p (HD: MP4) (Sensor Output is 120fps)
- High Speed Video 640 x 480 pixels, 30p (VGA: MP4) (Sensor Output is 240fps)
- *Continuous Recordable Time (Motion Pictures) (\*2)*
- AVCHD FHD/60p: Approx. 100 min
- AVCHD FHD/60i: Approx. 100 min
- MP4 4K/30p: Approx. 90 min
- MP4 FHD/60p: Approx. 100 min
- *Actual recordable Time (Motion Pictures) (\*2)*
- AVCHD FHD/60p: Approx. 50 min
- AVCHD FHD/60i: Approx. 50 min
- MP4 4K/30p: Approx. 45 min
- MP4 FHD/60p: Approx. 50 min
- *Exposure Parameters*
- Exposure Program AE, Aperture Priority AE, Shutter Priority AE, Manual

- Exposure Compensation 1/3 EV step, +/-5 EV (+/-3 EV for motion picture)
  - Light Metering Intelligent Multiple / Center Weighted / Spot
  - ISO Sensitivity Still Image: Auto / i.ISO / 80 / 100 / 200 / 400 / 800 / 1600 / 3200 / 6400 (Extended ISO)
  - ISO Sensitivity Motion Picture: Auto / 80 / 100 / 200 / 400 / 800 / 1600 / 3200
  - ISO Sensitivity (Changeable to 1/3 EV step)
  - *Picture Quality*
  - Still Picture Recording 5184x3888 (20M) (L) / 3712x2784 (10M) (M) / 2624x1968 (5M) (S)
  - Still Picture Recording 5184x3456 (17M) (L) / 3712x2480 (9M) (M) / 2624x1752 (4.5M) (S)
  - Still Picture Recording 5184x2920 (14.5M) (L) / 3840x2160 (8M) (M) / 1920x1080 (2M) (S)
  - Still Picture Recording 3888x3888 (14.5M) (L) / 2784x2784 (7.5M) (M) / 1968x1968 (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
  - Picture Adjustment Contrast, Sharpness, Noise Reduction, Saturation\*
  - Picture Adjustment \* Except for Monochrome mode.
  - *Bracket*
  - AE Bracket 3, 5, 7 images in 1/3, 2/3 or 1 EV step, Max. +/-3 EV
  - White Balance Bracket 3 exposures in blue/amber axis or in magenta/green axis
  - *Other*
  - 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 Infrastructure Mode / WPS
  - NFC -
  - Zoom in Motion Picture Yes
  - Self Timer 2 sec / 10 sec / 10 sec (3 images)
  - *Self Shot*
  - Self Shot Mode Yes (Single, Self timer: 1, 2, 3 or 4 images, 4K PHOTO, Panorama)
  - Shutter Shutter Button, Touch, Face Shutter, Buddy Shutter
  - Effect Soft Skin: 10 levels, Filter Select: Expressive / Retro / High Key / Monochrome / Toy Effect, Background Control: Defocus / Clear, Slimming Mode: 10 levels
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- **Playback**
  - *Display*
  - Playback Mode All, Picture Only, Video Only, Slideshow (All / Picture Only / Video Only, duration & effect selectable), Calendar
  - Thumbnails / Zoomed Playback 12,30-thumbnails / Yes
  - Set Favorites / Rotate Image Yes / Yes
  - Show Histogram/ Show Highlights Yes / Yes
  - DPOF Print Setting / Set Protection Yes / Yes
  - *Edit*
  - Retouch Beauty Retouch, Clear Retouch
  - RAW Processing Yes
  - Resize/ Cropping Yes / Yes
  - Title Edit / Text Stamp Yes / Yes
  - Video Divide Yes
  - PictBridge Support Single / Multi / All / DPOF / Favorites

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- **Setup**
  - OSD language Japanese, English, German, French, Italian, Spanish, Polish, Chinese (Traditional)

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- **Others**
  - *Monitor*
  - LCD Monitor 3.0" (7.5cm) TFT Screen LCD Display (1040k dots), Tilttable monitor
  - LCD Monitor Static Touch Control
  - LCD Monitor Field of View: Approx. 100%, Wide Viewing-angle, AF Coating
  - *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 0.6 - 5.6m (Wide / ISO Auto), 2.0 - 2.9m (Tele / ISO Auto)
  - *Media*
  - Recording Media SD Memory Card, SDHC Memory Card, SDXC Memory Card
  - Recording Media (Compatible with UHS-I UHS Speed Class 3 standard SDHC / SDXC Memory Cards)
  - Built-in- Memory -
  - *Audio*
  - Microphone / Speaker Stereo / Mono
  - *Interface*
  - Interface microHDMI typeD (\*3), USB2.0 Micro-B
  - *Power*
  - Power Li-ion Battery Pack (7.2V, 1025mAh, 7.4 Wh) (Included)
  - Power USB Power Charging
  - Battery life (Approx.) Approx. 380 images (rear monitor), 250 images (LVF) (\*1)

- *Standard Package*
  - **Included Software** • The software to process RAW file on PC is not bundled with this camera. To do this, SILKYPIX Developer Studio is available for download at Ichikawa Soft Laboratory's website using PC connected to the Internet.
  - **Included Software** • The Operating Instructions for advanced features is available for downloaded at Panasonic LUMIX Customer Support Site using PC, smartphone or tablet connected to the Internet.
  - **Included Software** • The software for PC is not bundled with this camera. Please use the software pre-installed to the PC or other general image viewing software to browse pictures.
  - **Standard Accessories** Battery Pack, AC Adaptor, USB Cable, Hand Strap
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## • NOTES

- **NOTE \*1**
- **NOTE** Recording conditions by CIPA standard
- **NOTE** - Temperature: 23 °C (73.4 °F) / Humidity: 50%RH when monitor is on.
- **NOTE** - Using a Panasonic SDHC Memory Card
- **NOTE** - Using the supplied battery.
- **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**
- **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 picture [MP4] in [4K] or [4K PHOTO]. (SD speed class is the speed standard regarding continuous writing.)
- **NOTE** - Recording stops when the continuous recording time exceeds 29 minutes and 59 seconds with [AV] in [FHD/60p] [FHD/60i].
- **NOTE** - Recording stops when the continuous recording time exceeds 15 minutes with [MP4] in [4K].
- **NOTE** - When using an SDHC memory card: You can continue recording without interruption even if the size exceeds 4 GB, but the motion picture file will be divided and recorded/played back separately.
- **NOTE** - When using an SDXC memory card: You can record a motion picture in a single file.
- **NOTE** - Recording stops when the continuous recording time exceeds 29 minutes and 59 seconds with [MI] [FHD/60p] and High Speed motion pictures. 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.
- **NOTE** - MP4 motion pictures with [MP4] in [FHD/30p] [HD]: 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.
- **NOTE** - These are standard times taken at a temperature of 23 °C (73.4 °F) 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 power supply [ON] / [OFF], starting/stopping recording, zoom operation etc.**
  - **NOTE \*3**
  - **NOTE For [4K] video output, use an HDMI cable that has the HDMI logo on it, and that is described as "4 compatible".**
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- ○ **UPC885170315785**
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