LEICA M7

Bedienungsanleitung / Instructions


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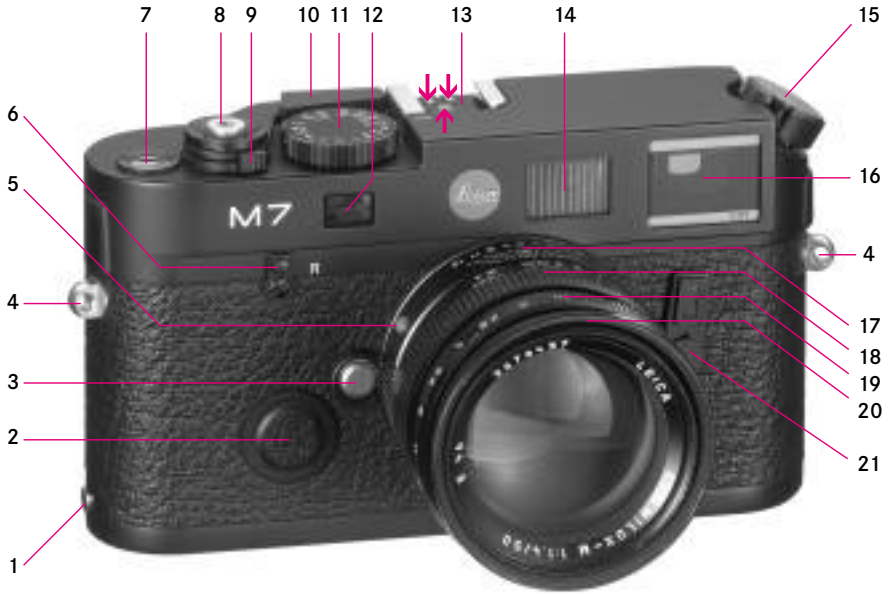
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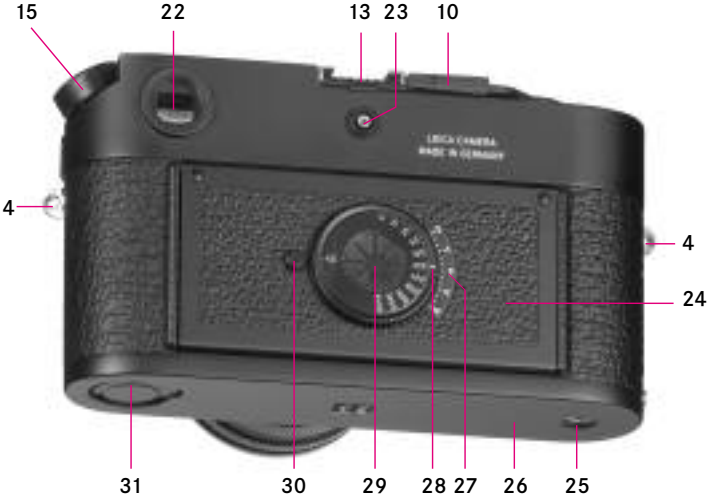
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The CE-Labelling on our products certifies that these products meet the basic requirements of current EU guidelines.

Warning Notice

- Modern electronic equipment is sensitive to electrostatic discharges.

  Electrostatic charges of tens of thousands of volts can be picked up easily, for instance by walking across a synthetic carpet. These electrostatic charges can be discharged when touching your LEICA M7/MP, especially if the camera is on a conductive surface.

  If this discharge only affects the camera body, it is completely harmless to the camera's electronics. Despite the additional built-in protective circuitry, the external contacts, such as those for the battery and the rear contacts, should not be touched if at all possible on safety grounds.

  Should you wish to clean the contacts please do not use (synthetic!) optic microfiber cloths, but rather a cotton or linen cloth. Any possible electrostatic charges can be fully discharged by deliberately touching radiators or water pipes (conductive, earth-connected objects).

  Please avoid soiling and oxidizing the electrical contacts by assuring that your LEICA M7/MP is stored in a dry place with the protective covers in place.

- When a lens is mounted, the shutter must be protected from intensive frontal sunlight, e.g. by attaching the lens cap or by keeping the camera in the shade or in its case. If this is not observed, the lenses' magnifying glass effect, which increases with larger apertures, could cause damage to the shutter curtain. With large apertures, this can happen quickly.

  This context should always be regarded, in spite of the fact that in practice shots with the sun in the frame rarely involve large apertures.

Foreword

Dear Customer,
Congratulations on your decision to purchase the LEICA M7. You have chosen an excellent and unique rangefinder camera.
We wish you many years of pleasure and successful photography with your camera.
We recommend that you read these instructions first in order to derive full benefit from the photographic possibilities offered by your new camera.

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    - "ϟ" for 1/50 s synchronising speed for flash operation
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    - "**AUTO**" for aperture priority automatic exposure mode (with manual aperture pre-selection) with shutter speeds from 32 s to 1/1000 s
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Viewfinder displays

A. Using LEDs (Light Emitting Diodes)
Four-digit seven segment digital display with decimal point and raised point (with automatic brightness control, adjusted to the outside brightness[1]) for:

- Display of the automatically or manually set film speed,
- Reference to any exposure compensation set,
- Display of the automatically controlled shutter speeds in aperture priority mode,
- Reference to the use of exposure memory lock,
- Warning of over or under exposure or being below the measuring range in aperture priority mode
- Run-up of shutter speeds slower than 1 s and
- indication of battery level

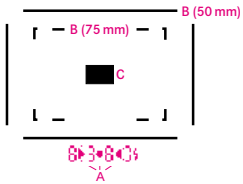
Two triangular and one circular LED:

- Jointly as a light balance for manual exposure adjustment and for
- Warnings when below the metering range.

Flash-shaped LED:

- Flash status

B. Bright-line frame for 50 mm and 75 mm (Example)
C. Metering field for focusing



[1]Earlier Leica M lenses with additional viewfinder optics for adjustment of the image field size cover the outside brightness sensor in the viewfinder window, limiting the automatic control.

Attaching the carrying strap

The power supply

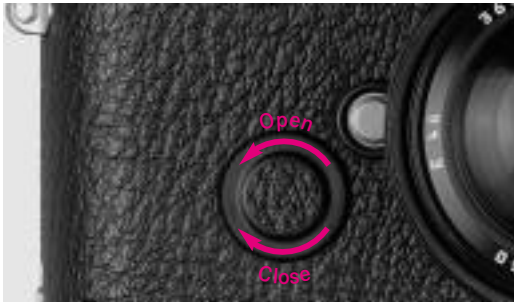
To control the shutter – apart from the two mechanical and therefore permanently available shutter speeds of 1/60 s and 1/125 s – and for exposure metering, the LEICA M7 requires two 3 volt DL 1/3 N type lithium batteries. They are also necessary for the electronical triggering of a connected flash unit.
Lithium batteries can be stored for many years with only a slight loss of power. This is a particular advantage if the camera is often not used for long periods of time.

Compatible batteries

Lithium cells
- Kodak K 58 L
- Ucar 2 L 76
- Duracell DL 1/3 N
- Philips CR 1/3 N
- Varta CR 1/3 N

Loading and replacing the batteries

1. Release the bayonet lock on the battery compartment cover (2) by turning it to the left (approx. 40° anti-clockwise) and remove it.
2. Wipe any oxidation residue from the batteries using a clean cloth.
3. Insert the first battery into the battery compartment with the minus pole pointing upwards (corresponds to the markings in the battery compartment) and push it upwards. Then insert the second battery in the same position in the remaining section of the compartment.



Note: To allow easy removal, the contact spring presses the lower battery slightly towards the cover. The final position of the batteries is only ensured by replacing the cover.

4. Replace the cover against the spring pressure and lock it into place by turning it to the right until you feel it click into place.
5. To remove the batteries, carry out these steps in reverse. The upper battery will slide downwards by itself when the camera body is in a vertical position. To assist this, you can lightly tap the camera on your hand. ▸

At room temperature and measurements of 10 s per exposure, a new set of batteries should last for approximately 65 36-exposure films, or 2340 exposures.

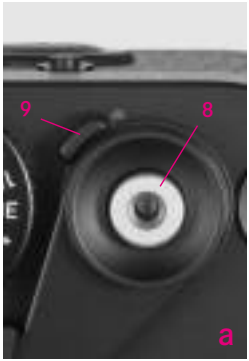
Automatic battery check

If the decimal display LEDs or the light balance flash when exposure metering is activated, the batteries should be replaced. If the batteries do not have sufficient power for the electronically controlled functions of the camera (exposure metering and the electronic shutter speeds), "bc" lights up or the displays disappear altogether.
In these cases, you can continue to use the camera with the two mechanical shutter speeds of 1/60 s and 1/125 s available and exposure metering based on estimation or using an external hand exposure meter.

Note: The electrical circuit can be broken by oxidation of the battery surfaces; this will also cause the LEDs to go out. In this case, remove the batteries and clean them with a clean cloth. If necessary, also clean the contacts inside the camera.

Important!

- New and used batteries, or batteries of different types or from different manufacturers, should not be used together.
- The battery contacts must be kept clean.
- Batteries should not be incinerated, recharged, opened, dismantled or heated.
- Used batteries should be removed as soon as possible and should not be disposed of in normal waste, as they contain substances harmful to the environment.
- To ensure that they are properly recycled, you should take the batteries to a dealer or recycling point.
- Batteries should be stored in a cool dry place.



The main switch

The main switch (9), designed as a click-stop lever, is on the front underneath the shutter release button (8). To turn on the camera, move the lever to the right, to cover the red marking (b). In its idle position, i.e. when it is to the left and the red marking is visible (a), it turns off the camera electronics and, at the same time, mechanically blocks the shutter release to prevent accidental exposures.

If the shutter is cocked when turning on, the exposure meter is also activated. Initially, the film speed is displayed or flashes in the viewfinder for 2 s (depending on the setting, for more details see the section "Film speed displays in the viewfinder" on page 80/81). The display then changes and the the exposure meter results light up for 14 s. If the shutter is not cocked when turning on, there is no display.

In manual mode the shutter can be released immediately after the main switch is turned on; when set to aperture priority mode you must wait approx. 2 s (until the film speed display has gone out).

Note: If the camera is being transported in a bag, for example, or will not be used for a long period, it should be turned off at the main switch.

The shutter release button

The shutter release button (8) has two pressure levels. Pressing it down lightly to the first pressure point activates exposure metering if the shutter is cocked. After the shutter release button is released, the metering system and the display in the viewfinder remain active for approx. another 14 s (for more details see the sections under "Exposure metering" on page 96).

With the aperture priority mode, pressing down to the 2nd pressure point locks the metered exposure value, i.e. the shutter speed determined by the camera (for more details see the section " Metering memory-lock " on page 98).

Going past the 2nd pressure point releases the shutter. ▸

The shutter release button should be pressed gently – not jerkily – until the shutter opens with a quiet click. The shutter release has a threaded socket to accept standard cable releases.

Note: The second pressure point cannot be detected when using cable releases.

The shutter speed dial

The size and position of the shutter speed dial (11) on the LEICA M7 are ergonomically perfect: on the one hand it is extremely easy to operate even with the camera held to the eye. On the other hand, it is still well-protected against the settings being accidentally changed.

In addition, the direction in which it turns (like that of the aperture ring on the lenses) corresponds to the exposure meter displays in the viewfinder for manual setting: for example, if the left-hand triangular LED lights up, turning the dial in the direction of the arrow, i.e. to the right, leads to the slower shutter speed required.

The LEICA M7's shutter speed dial is used to select the two exposure modes – aperture priority mode by setting it to the "**AUTO**" position marked in orange or red[1], manual mode by selecting one of the shutter speeds from 1/1000 s to 4 s, the sync speed 1/50 s for flash mode in the "⚡" position marked in orange or red[1], or "**B**" for long time exposures. When the dial is set to "**B**", the shutter remains open for as long as the shutter release button is depressed.

In aperture priority mode, the exposure is controlled automatically and continuously, with shutter speeds in the range from 1/1000 s to 32 s. These shutter speeds, like most of those set manually, are created electronically, which means they are only available if there is sufficient power (more information can be found in the section "The power supply" on page 71).

[1] To ensure optimum visibility, these engravings are in orange on black chromium plated cameras and red on silver chromium plated cameras.

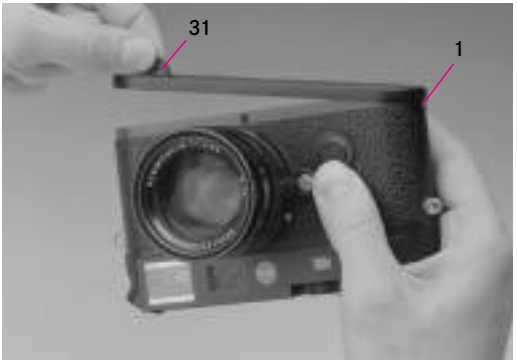
By contrast, the shutter speeds of 1/60 s and 1/125 s, which can be selected in manual mode and are additionally identified by a white line engraved next to the values, are created mechanically and are therefore always available, i.e. even with no power supply.

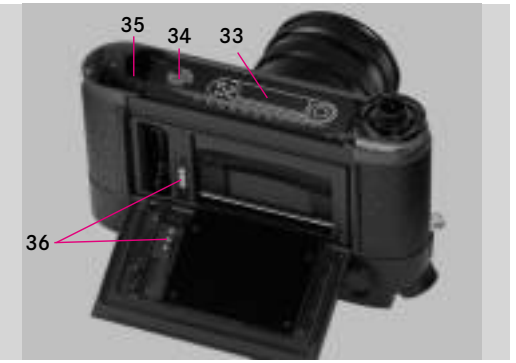
Note: The click-stops for the electronic and mechanical shutter speeds differ distinctively when engaging, i.e. between the "⚡" and 1/60 s or 1/125 s and 1/2150 s positions. This is determined by mechanical adjustment of a lever and is therefore normal.

The LEICA M7 shutter speed dial does not have a stop, i.e. it can be turned in any direction from any position. It engages at all engraved positions; this can be felt particularly at the "**AUTO**" position. This ensures that the settings can easily be detected even without a visual check, e.g. with the eye to the viewfinder, and prevents accidental adjustment. Intermediate speeds cannot be used. Due to the changeover between electronic and mechanical control or vice versa, the distances between the "⚡" position (1/50 s) and 1/60 s or 1/125 s and 1/250 s are slightly greater than those between all other settings.
For more details on setting the correct exposure, see the sections under "Exposure metering" on page 96.

The quick-wind lever

The quick-wind lever (10) is used to advance the film, to cock the shutter and to automatically advance the frame counter. The film can be transported either by moving the lever as far as it will go or by several short strokes. For rapid sequences, you can put the lever into a "ready position" or leave it in that position.





Exchanging the film

Always start by making sure that there is no film already in the camera by turning the rewind crank (15) gently in the direction of the arrow. If there is any resistance, proceed as described on page 78. Hold the camera in your right hand with the base plate pointing upwards

Opening the camera

1. Raise the latch (31) on the base plate (26),
2. turn it to the left,
3. remove the base plate, and
4. fold the back (24) out towards the rear.

Note: With the back of the camera open, three contacts (36) for transmission of the set film speed to the camera's controls can be seen on the back and inside the camera housing. These contacts are gold-plated and are therefore corrosion free and, as far as possible, insensitive to dirt and dust. Special care of these contacts is not required.

However, when loading a film, you should ensure that soiling or direct exposure to rainwater etc. is prevented.

This also applies to the DX contacts (32) in the film cartridge chamber.

Loading the film

5. Hold the film cartridge in the right hand and insert it about half-way into the empty chamber

Note: The cartridge is pushed past the spring-loaded DX contacts during loading. The principle of this means that you will feel slight resistance.

6. Take the film leader and pull it until it is in the take up spool (35) as shown in the schematic diagram (33) on the inside of the camera housing, and
7. carefully press the film cartridge and the film leader into the camera with your fingertips.

Notes:

- The film leader must be trimmed as is the case with all ready to use films.
- If the film leader is pulled so far out that it protrudes slightly from one of the slits on the opposite side of the take up spool; this does no affect the functioning of the camera. It is only in frosty conditions that the film must be inserted exactly as shown in the schematic drawing, i.e. the film leader may only be taken up by one slit on the take up spool so that the protruding end of the film cannot be broken off.

Important! Correct film transportation should not be checked with the camera open, as the base plate is designed in such a way that replacing it on the camera guides the film into the correct position.

Closing the camera

8. Replace the camera back,
9. hook the base plate onto the retaining pin on the side of the camera (1),
10. return the base plate to its normal position, ensuring that the camera back is completely pressed against it so that it is enclosed by the base plate, and
11. lock using the latch.

Advancing the film to the first frame

12. Advance the film to the next frame by means of the quick-wind lever (10), and release the shutter.
13. Pull the film taut by carefully turning the rewind crank (15) in the direction of the arrow. The film is being properly transported if the rewind crank turns in the opposite direction to the arrow when the quick wind lever is operated again.
14. Finally, release the shutter again and cock the shutter for a third time. The frame counter (7) now shows "1" and, after checking or setting the film speed (29), the camera is ready to use.

Rewinding and removing the film

When the last frame has been exposed, the quick-wind lever can no longer be operated. Before the film can be removed, it must be wound back into the cartridge. To do this:

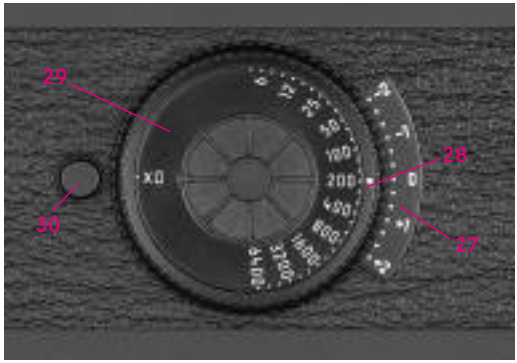
1. Turn the rewind release lever (6) to "**R**",
2. swing out the rewind crank, and
3. turn the crank clockwise (in the direction of the arrow) until you feel slight resistance and the film is then freed from the take up spool.
4. Now open the base plate,
5. open the camera back, and
6. remove the film cartridge.

Note: Because of the spring-loaded DX contacts, which press onto the film cartridge, you will feel slight resistance when removing the cartridge from the camera. If necessary, you can lightly tap the camera on your hand to assist you.

If a film is not correctly attached to the cartridge reel, e.g. when using bulk film, the end of the film may become separated and have to be detached from the take-up spool.

To do this:

1. Remove the base plate of the camera in a completely dark room,
2. hold the camera with the base plate open and facing downwards, and
3. slowly operate the quick-wind lever several times until the film protrudes far enough to be grasped and pulled out. If necessary, gently tap the camera against the palm of your hand.



Setting the film speed

The dial (29) is used to select the desired type of film speed setting – automatically in the DX position or manually by setting one of the values on the scale between ISO 6/9° and 6400/39°. In the DX position, the film speed is automatically scanned from the film cartridge in the range ISO 25/15° to 5000/38°. (ISO is the international designation for film speeds).
To set the speed, the locking dial is turned so that the desired setting – DX or the desired value – is opposite the white index dot on the exposure compensation dial (28).

The following settings are possible

The section with a grey background represents the speeds that can be set automatically by DX code.

Scale	Film speed
6/9°	6/9°
-	8/10°
-	10/11°
12/12°	12/12°
-	16/13°
-	20/14°
25/15°	25/15°
-	32/16°
-	40/17°
50/18°	50/18°
-	64/19°
-	80/20°
100/21°	100/21°
-	125/22°
-	160/23°

Scale	Film speed
200/24°	200/24°
-	250/25°
-	320/26°
400/27°	400/27°
-	500/28°
-	640/29°
800/30°	800/30°
-	1000/31°
-	1250/32°
1600/33°	1600/33°
-	2000/34°
-	2500/35°
3200/36°	3200/36°
-	4000/37°
-	5000/38°
6400/39°	6400/39°

Film speed displays in the viewfinder

Depending on the film loaded, the film speed setting and the exposure correction setting, different displays light up or flash in the viewfinder for 2 s each time the camera is turned on with the main switch, before the normal exposure meter displays then appear.

If the camera electronics detect an incorrect setting, the following display flashes to warn you: For example, if the dial is set to "DX" but no DX-coded film is loaded or a film with damaged or unreadable identification, "100" flashes as an indication that the exposure control is assuming a film speed of ISO 100/21°. By contrast, if the dial is set to an invalid position between "DX" and the manual values, "ASA" flashes for the entire display duration of 16 s, i.e. the exposure metering is not displayed. In this case, exposure is once again as for ISO 100/21°.

The table on the next page lists the different operating statuses in detail.

The set, displayed and used film speed

Film type[1] loaded	Film speed setting	Exposure compensation set	Viewfinder displays		Value used for exposure metering
			first 2 s	remaining 14 s[2]	
DX	DX	No	DX value	exp. met. display	DX value
		Yes	DX value flashes	exp. met. display, lower pt. flashes	result. value (DX+ exp. comp. value)
DX	manual, equal to DX value	No	DX value	exp. met. display,	DX value
		Yes	DX value flashes	exp. met. display, lower pt. flashes	result. value (ISO–+ exp. comp. value)
DX	manual, not equal to DX value	No/Yes	DX value flashes[3]	exp. met. display, lower pt. flashes	set / result. value (ISO –+ exp. comp. value
non-DX	manual	No	set value	exp. met. display, lower pt. flashes	set value
		Yes	result. value[4]	exp. met. display, lower pt. flashes	result. value (ISO–+ exp. comp. value)
non-DX	DX	No/Yes	"100" flashes	exp. met. display, lower pt. flashes	ISO 100 / result. value (100 + exp. comp. value
DX or non-DX	incorrect, between the sections	Yes/No	"ASA" flashes	"ASA" flashes	ISO 100

[1] Non-DX also applies to DX-coded films, for which the camera cannot read the DX identification, e.g. due to damage or soiling.

[2] Different displays at low battery power (see also the section "Automatic battery check" on p. 72 for details).

[3] Does not flash if set ISO-speed plus compensation value equals DX-value.

[4] High speed values along with the compensations may result in effective ISO values greater than 8 000 (e.g. ISO 6 400/39° + 2/3 EV => ISO 10000/41°), i.e. five-digit values, that cannot be shown by the four-digit display. In such cases, the first four digits of the resulting value are shown, with the right zero flashing to show that there is a "missing" zero, e.g. for the above example "1000".

Setting an exposure compensation

Exposure meters are calibrated to an average grey (18% reflection), which corresponds to the brightness of a normal, i.e. average, photographic subject (for more details see the section "General information on exposure metering" on p. 106). If the relevant subject details do not meet these requirements, a corresponding exposure compensation can be carried out.

Particularly for several shots one after the other, e.g. if a series of shots with a slightly lower or higher exposure is deliberately required for a particular reason, exposure compensation is a very useful function. In contrast to metering memory-lock, once set it remains effective until it is (deliberately) reset (more details of metering memory-lock can be found in the appropriate section on page 98).

With the LEICA M7, exposure compensations can be set at $^1/_3$ EV intervals in the range ± 2 EV.

To do this:

1. Hold down the release button (30), and
2. then turn the locking dial (28) so that its white index dot is opposite the desired compensation value on the scale (27).

The whole range of possible compensations of ± 2 EV can be used for all engraved film speeds. Overall, the resulting extended setting range makes it possible to use speeds from ISO 1.5/3° to ISO 25000/45°.

Any exposure compensation set is indicated in the camera's viewfinder, see the table on page 81 for details.

Note: Any exposure compensation set on the camera influences both the metering of the available light and the TTL flash exposure metering.

Example of a compensation to plus

For very bright subjects, e.g. snow or a beach, the exposure meter will give a relatively short exposure time due to the high level of brightness. This reproduces the snow as a mid-grey and any people in the scene are too dark: this is under-exposure! To remedy this, the exposure time must be extended or the aperture opened, i.e. with a setting of e.g. +1.5.

Example of a compensation to minus

For very dark subjects, which do not reflect much light, the exposure meter will give an exposure time that is too long. A black car will turn grey: this is over-exposure! The exposure time must be shortened, i.e. with a setting of e.g. –1.

Attaching a lens

1. Hold the lens by the fixed ring (17),
2. align the red lens alignment button (5) with the lens release button (3) on the camera body,
3. attach the lens in this position, ensuring that it is perpendicular to the front of the camera, and
4. turn the lens slightly to the right to lock it audibly and perceptibly into place.

Removing a lens

1. Hold the lens by the fixed ring (17),
2. depress the lens release button (3) on the camera,
3. turn the lens to the left until the lens alignment button (5) lines up with the lens release button, and
4. remove the lens, keeping it perpendicular to the camera body.

Note: When the camera is loaded with film, change the lens in the shade of your body, as direct sunlight may otherwise penetrate the shutter.

Leica M lens design

The Leica M lenses are equipped with a fixed ring with an index for setting the distance, an alignment button for changing the lens and the depth of field scale (17), a rotating focusing ring (18) and an aperture setting ring (19) with associated white index point (20).

The focusing ring

The focusing ring (18) shows the distance set and, in conjunction with the scale (17), the depth of field range. For details on focusing, see the "The rangefinder" section on page 94.

The aperture ring

The aperture values are standarised world-wide. They are selected such that the amount of light reaching the film is always halved when the lens is stopped down between two successive apertures (stops) One stop corresponds to one value on the shutter speed dial (11).

As for the shutter speeds for manual setting, the aperture ring (19) engages perceptibly at each full stop (and on most lenses also at half stops). With a little practice, you will also be able to set the apertures in the dark.

The direction in which the aperture ring turns (like that of the shutter speed dial) corresponds to the exposure meter displays in the viewfinder for manual setting.

For example, if the left-hand triangular LED lights up, turning the dial in the direction of the arrow, i.e. to the right, leads to the slower shutter speed required.

For more details on setting the correct exposure, see the section: "Exposure metering” on page 96.

The depth-of-field scale

The plane which is rendered sharpest is the plane, parallel to the film, upon which the lens is focused. The optimum sharpness decreases progressively in front of and behind this plane so that a certain range exists within which the image is, to the eye, rendered sharply.

This range is termed the depth-of-field. It is dependent on the focus setting, the focal length of the lens (the two values together determine the reproduction ratio) and the aperture. Stopping down, i.e. selection of a larger f-number, increases depth-of-field, while opening the aperture, i.e. selection of a smaller f-number, decreases it.

The depth-of-field scale in conjunction with the focusing ring indicates the range of sharpness at the set focus distance.

For example, using the LEICA SUMMILUX-M 50 mm f/1.4 lens focused at 5 meters, the depth of field at f/4 ranges from approximately 4 to 8 meters. Stopping down to f/11 at the same focusing distance, however, increases the range to 3-20 meters.

Lens hoods

Each Leica M lens is supplied with a lens hood the design of which is geared to the lens. Several lenses have built-in telescopic lens hoods. The lens hoods should always be used as they provide both shade from stray light and glare and protection against raindrops or fingerprints.

Use of older Leica M lenses

All Leica M lenses can be used. However, the exposure metering system does not function with the following types:

Hologon 15 mm f/8
Super-Angulon-M 21 mm f/4
Super-Angulon-M 21 mm f/3.4
Elmarit-M 28 mm f/2.8
up to Serial No. 2 314 921.

The following lens must be set to infinity during fitting/removal:
Summicron 50 mm f/2 with close focusing.

How to hold the camera correctly

In order to achieve sharp, well-focused photographs, the camera must be held as steadily and comfortably as possible. Hold the LEICA M7 in a suitable, safe "three-point holding position" as follows: hold the camera with your right hand with your index finger on the release button and with your thumb pushed behind the quick-wind lever in its operating, standby position. Press the camera against your forehead and cheek to give it further stability.

For vertical pictures, turn the LEICA M7 to the left and keep your hands in the same position as for horizontal shots. You can however also rotate the camera to the right. In this case, it may be advantageous to release the shutter using your thumb

Note: We recommend the practical Handgrip M (accessory) to enable you to hold the LEICA M7 and to carry it securely while keeping your hands free (order No. 14405).

The bright-line viewfinder

The bright-line viewfinder of the LEICA M7 comprises not only a high-quality, large, bright and high-contrast viewfinder showing every detail which will appear on the final picture, but also a highly accurate lens-coupled rangefinder.
The size of the frame corresponds to an image field of 23 x 35 mm (slide format) at the closest focusing distance for each lens. At longer distances, the image will contain a somewhat larger subject field than that shown within the bright-line frame.
The frames are coupled to the focusing mechanism such that parallax errors (the distance between lens and viewfinder axes) are automatically compensated for as the lens is focused, and the bright-line frame is the same as the film image in the entire range from 0.7 m to ∞.
Three LEICA M7 models are available with different versions of this viewfinder; the only difference is in their magnification:
When lenses with focal lengths of 28 (Elmarit from serial No. 2411001 onwards), 35, 50, 75, 90 and 135 mm are used on the LEICA M7 with 0.72x viewfinder magnification, the corresponding bright-line frame is automatically reflected into the viewfinder in the combinations 28 + 90 mm, 35 + 135 mm and 50 + 75 mm.
When the LEICA M7 is used with the higher 0.85x viewfinder magnification, five frames are reflected into the viewfinder for the focal lengths from 35 mm upwards (90 mm, 35 + 135 mm, 50 + 75 mm).
In the LEICA M7 0.58 five bright-line frames for the focal lengths up to 90 mm (28 + 90 mm, 35 mm, 50 + 75 mm) are projected into the viewfinder.
The center of the viewfinder contains a somewhat brighter rectangle: this is the rangefinder. All lenses with focal lengths from 21 to 135 mm couple to the rangefinder when attached to the LEICA M7.
With the exposure meter switched on, the lower edge of the viewfinder also displays the LEDs of the exposure meter or the LED flash symbol.
For more details on distance and exposure metering and flash modes, refer to the corresponding sections on pages 94/96/108.

Note: On the LEICA M7 0.85, the central section of the lower 50 mm bright-line frame is covered by the display.


Bright-line frame 35 mm
Bright-line frame 135 mm
Metering field for focusing
LEDs for shutter/aperture balance
LED for flash operation

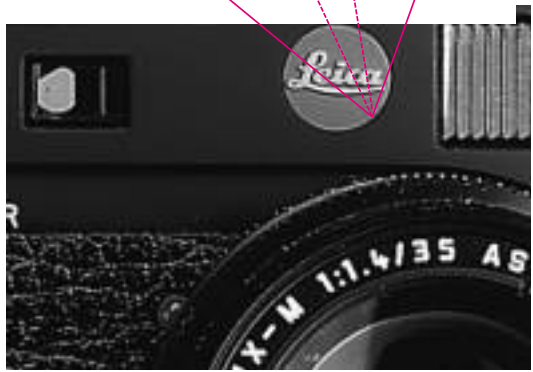
The frame selector

The frame selector lever (21) extends the possibilities of the LEICA M7 viewfinder. Using this integrated universal viewfinder, you can view frames which do not correspond to the lens which is actually fitted. Thus, you can test whether the composition would be better served by a different focal length. When the lever is pointing outwards, i.e. away from the lens, the frames for the 35 and 135 mm focal lengths are displayed (the bright-line frame for the 135 mm focal length is not included in the viewfinder of the LEICA M7 0.58).

When the lever is in its vertical, central position, the frames for the 50 and 75 mm focal lengths are shown.

When the lever is pointing inwards, i.e. towards the lens, the LEICA M7 viewfinder displays the frames for the 28 and 90 mm focal lengths (the 0.85 x magnification viewfinder only shows the bright-line frame for the 90 mm focal length).

35 mm +
135 mm*



* not for LEICA M7 0.58

50 mm + 75 mm

28 mm * +
90 mm

* not for LEICA M7 0.85

The rangefinder

Thanks to its high effective base width, the rangefinder of the three LEICA M7 models permit very precise control. This is particularly advantageous when wide-angle lenses, which provide a relatively large depth of field, are used. The larger magnification of the 0.85 x viewfinder with its longer base width leads to even higher accuracy:

	Mechanical base width (distance between the optical axes of the viewfinder and the rangefinder window)	x Viewfinder magnification	= Effective base width
LEICA M6 TTL with 0.72x viewfinder	69.25 mm	x 0.72	approx. = 49.9 mm
LEICA M6 TTL with 0.85x viewfinder	69.25 mm	x 0.85	approx. = 58.9 mm
LEICA M6 TTL with 0.58x viewfinder	69.25 mm	x 0.58	approx. = 40.2 mm

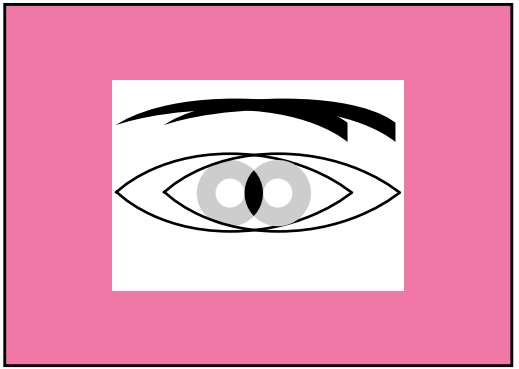
The rangefinder field is the bright rectangle in the center of the viewfinder field. If you cover up the large viewfinder window (16), only the bright-line frames and the rangefinder field remain visible. The bright, sharply defined rangefinder field permits the use of either coincidence or split-image rangefinder focusing.

Coincidence (double image) focusing

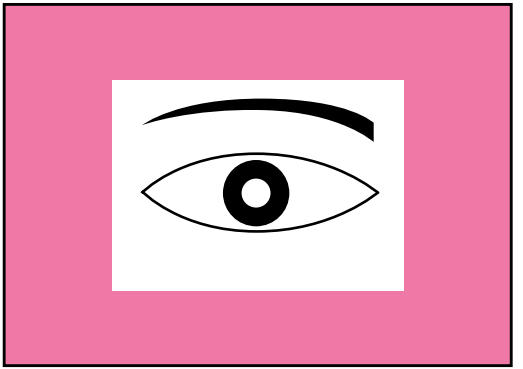
For a portrait, for example, align the eye with the rangefinder field and turn the focusing ring of the lens until the contours in the rangefinder field merge. You can now determine the subject composition.

Split-image focusing

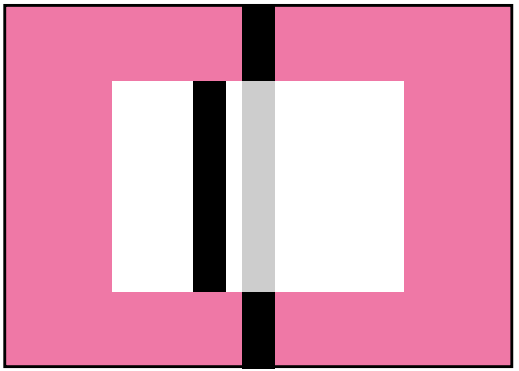
For photographs of architecture or other subjects with straight vertical lines, align those vertical lines with the rangefinder field and turn the focusing ring of the lens until the contours form a continuous line at the limits of the rangefinder field. You can now determine the subject composition.
In practice, there is rarely a clear distinction between the two methods. It can be very effective to use a combination of the two.



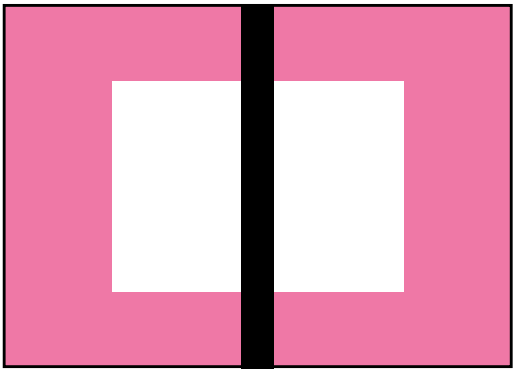
Double image = out of focus



Coincident image = in focus



Interrupted line = out of focus



Continous line = in focus

Exposure metering

On the LEICA M7 exposure metering uses the available ambient light selectively through the lens at the working aperture. The reading uses light reflected from a bright metering field onto a photo diode (arrow). This diode is located behind a collecting lens to the left of and above the shutter. The metering field (diameter: 12 mm, i.e. approx. 13% of the negative's size) is situated in the center of the first shutter curtain. The unevenness of the white is not a result of poor manufacturing tolerances, but is due to the fact that a thick, complete coating cannot be applied to the rubberised cloth shutter curtain without the shutter performance being impaired.

The irregular structure of the metering field in no ways affects the meter reading.

The viewfinder displays show or help to determine the appropriate speed/aperture combination for correct exposure: When using the aperture priority mode, the aperture is selected manually, while the camera automatically calculates the appropriate shutter speed. In this mode, a digital LED display provides information on the resulting shutter speed (e.g. 1000).

For manual setting of both values, a light balance consisting of three red LEDs (▸●◂) is used to balance the exposure. When the setting is correct, only the central, circular LED is lit.

Switching on the exposure meter

The exposure meter is turned on by lightly pressing the shutter release button (9) to its first pressure point, assuming that the camera is turned on with the main switch (8), the shutter is fully cocked and the shutter speed dial (12) is not set to "B".

Constant illumination of one of the displays in the viewfinder indicates that the exposure meter is ready for use:

- the digital shutter speed LED display for aperture priority mode
- one of the two triangular LEDs, possibly combined with the central circular LED, for manual setting.

If the finger is released without the shutter being depressed, the exposure meter remains switched on for approx. 14 s and the corresponding LED (s) remain on. When the shutter is activated, the meter switches off and the LEDs in the viewfinder go out.
If the main switch is not turned on (i.e. the camera is turned off) and/or the shutter is not cocked and/or the shutter speed dial is set to "**B**", the exposure meter is turned off.

Notes: If the shutter is not cocked or the displays have gone out, the camera is in "Standby " mode. At very low levels of luminance, i.e. at the threshhold of the light metering range, the LEDs may take approx. 0.2 s to appear.
If it is not possible in the aperture priority mode to create the correct exposure with the available shutter speeds, the shutter speed display flashes as a warning (for more details see the section "The aperture priority automatic exposure mode" on the right).
If manual setting at very low luminance goes below the measuring range of the exposure meter, the left-hand triangular LED flashes as a warning. For the aperture priority mode, the shutter speed continues to be shown. If the necessary shutter speed falls below the slowest possible speed of 32 s, this display also flashes.

The exposure modes

The LEICA M7 offers photographers two exposure modes: aperture priority mode or manual setting. Depending on the subject, the situation and individual preferences, you can choose between the somewhat faster and more convenient aperture priority mode or the fixed setting of the shutter speed and aperture familiar from other Leica M models.

The aperture priority automatic exposure mode

With the shutter speed dial (11) set to the "**AUTO**" position, which engages particularly firmly, the camera electronics automatically generate the appropriate shutter speed continuously in the range from 1/1000 s to 32 s, depending on the film speed, either read via DX code or set manually, the measured brightness and the manually selected aperture.
As a result the aperture priority mode is particularly well suited for shots for which you prefer to make less settings and where the depth of field has to be set according to composition needs. The automatically generated shutter speed can, if necessary, be changed by adjustment of the aperture, e.g. to create certain "wiping effects" with slower shutter speeds or to "freeze" movements with faster shutter speeds. ▸

The shutter speed calculated is displayed digitally in the camera's viewfinder, in half steps to give a better overview.
For shutter speeds of 2 s and slower, the remaining exposure time is counted down in the display after the shutter is released. However, the exposure time actually calculated and continuously controlled can deviate from the half-step value shown. If, for example, "16" (as the nearest value) is shown in the display before the shutter is released, but the calculated exposure time is longer, the countdown after release could also start from "19".
Under extreme light conditions, after calculating all the parameters, the exposure meter can arrive at shutter speeds outside its working range, i.e. brightness values, which would require exposures shorter than 1/1000 s or longer than 32 s. In such cases, the minimum or maximum shutter speed mentioned is used and the value flashes as a warning.

Metering memory-lock

It is often the case that, for composition reasons, important parts of the subject should be off-center and these important parts of the subject are sometimes brighter or darker than average. However, as described in the sections "Exposure metering" on page 96 and "General information on exposure metering" on page 106, the selective metering of the LEICA M7 deals exclusively with the center of the image and is calibrated to an average grey.
The aperture priority mode provides an easy way of dealing with this kind of subject and situation with metering memory-lock.

To do this:

1. Focus the metering field on the important part of the subject, in the first case, and on another detail of average brightness in the second case, by moving the camera (see also the illustrations for aligning the metering field in the viewfinder on pages 104/105),
2. and then press the shutter release button (8) to its second pressure point to measure and lock the value. As long as the pressure is maintained, a red point appears in the viewfinder at the top of the numerical line as confirmation and the speed value does not change, even if the brightness conditions do so.

3. Continuing to hold down the shutter release button, move the camera to the final picture detail,
4. and then you can release the shutter with the original exposure calculated.

Changing the aperture setting after the measured value is locked does not result in adjustment of the shutter speed, i.e. it would lead to incorrect exposure.
Memory-lock ends when the finger is removed from the pressure point of the shutter release button.

Note: When using the camera with a motorised drive, e.g. LEICA MOTOR M, metering memory-lock can only be used for individual exposures, not for a series of exposures.

Setting the exposure manually

To set the exposure completely manually, the shutter speed dial (11) must be set to one of the engraved shutter speeds.

Then:

1. Turn on the exposure meter,
2. turn the shutter speed dial and /or the aperture ring on the lens in the direction indicated by the flashing LED until only the round LED comes on.

In addition to the direction of rotation of both shutter speed dial and lens aperture ring required for correct exposure, the three LEDs of the light balance also indicate over-, under- and correct exposure as follows:

- ▸ Underexposure by at least one f-stop; turn clockwise.
- ▸● Underexposure by half an f-stop; turn clockwise.
- ● Correct exposure
- ●◂ Overexposure by half an f-stop; turn anticlockwise.
- ◂ Overexposure by at least one f- stop; turn anticlockwise.

Note: For shutter speeds slower than 2 s, the remaining exposure time is counted down in the display after the shutter is released.

The "B" setting

The "**B**" setting, at which the shutter remains open for as long as the shutter release button is depressed, allows exposures of any length.
The exposure meter remains turned off, however the digital numerical display counts the expired exposure time in seconds after the shutter is released. To preserve the batteries, the maximum count and display is "999". After this, the display goes out, but the shutter can nevertheless remain open for as long as required.

Note: With the "**B**" function, batteries are still required to open and close the shutter. However, for the entire duration of the exposure, the open shutter does not consume any power, only a small amount of battery power is required for the camera control.

Meter sensitivity

At room temperature, normal humidity and an aperture of 1.0, the measuring range is from 0.03 to 125000 cd/m^2. For ISO 100/21° this corresponds to EV-2 to 20 or f/1.0 and 4 s to f/ 32 and 1/1000 s (see also diagram on page 103).

Light levels below the measuring range

If manual setting at very low luminance goes below the measuring range of the exposure meter, the left-hand triangular LED flashes as a warning. For the aperture priority mode, the shutter speed continues to be shown. If the necessary shutter speed falls below the slowest possible speed of 32 s, this display also flashes.
Since the meter uses the working aperture, the LEDs may also flash when the lens is stopped down.
The exposure meter remains on for approximately 14 seconds after finger pressure is removed from the shutter release button, even if the light level is below the threshold sensitivity level. If the light level improves during this time (e.g. if the composition is changed or the diaphragm opened), the LEDs stop flashing and come on permanently.

Switching off the exposure meter

If the camera will not be used for a long period, or is stored in a bag, it should always be turned off at the main switch. This stops any power consumption, including the slight consumption that continues in Standby mode after the exposure meter has turned off automatically and the displays have gone out. This also prevents accidental exposures.

Metering diagram (see also p. 103)

The metering diagram applies to both exposure modes, aperture priority mode and manual setting.
Details of the measuring range of the exposure meter can be found on the right-hand side of the diagram, while details of the working range of the focal plane shutter can be seen on the left. The exposure values (EV) are shown in the middle.
The metering range of the exposure meter is indicated on the right-hand side of the diagram, in cd/m^2 (candela per square meter).
The ISO film speed values (Sv) are shown at the top of the diagram.
The different exposure speeds in seconds (Tv= Time value) are shown on the left-hand side of the diagram.

The working range of the LEICA M7 focal plane shutter is represented schematically by the shaded area in the adjacent column. With the "**B**" setting, the upper section is unrestricted.

The aperture values (Av) are shown on the lower left-hand side.
Example A shows the correlation between the film speed, luminance (brightness), exposure and aperture.
First follow the vertical line from the film speed (ISO 100/21°) down to the intersection on the horizontal line representing the corresponding luminance.
In example A, this is 4000 cd/m^2, i.e. a typical value for bright sunlight. The line now runs diagonally to the vertical line indicating the aperture (11), and from there horizontally to the required speed (1/250 s). In the course of this diagonal line, the exposure value (15) can also be found.
Example B shows that in candlelight and with a film speed of ISO 400/27° (cd/m^2), photographs should be taken with an aperture of f/1.4 and a shutter speed of 1/15 s. An aperture of f/11, for example, can no longer be used as the corresponding shutter speed of 4 s is not available ▸

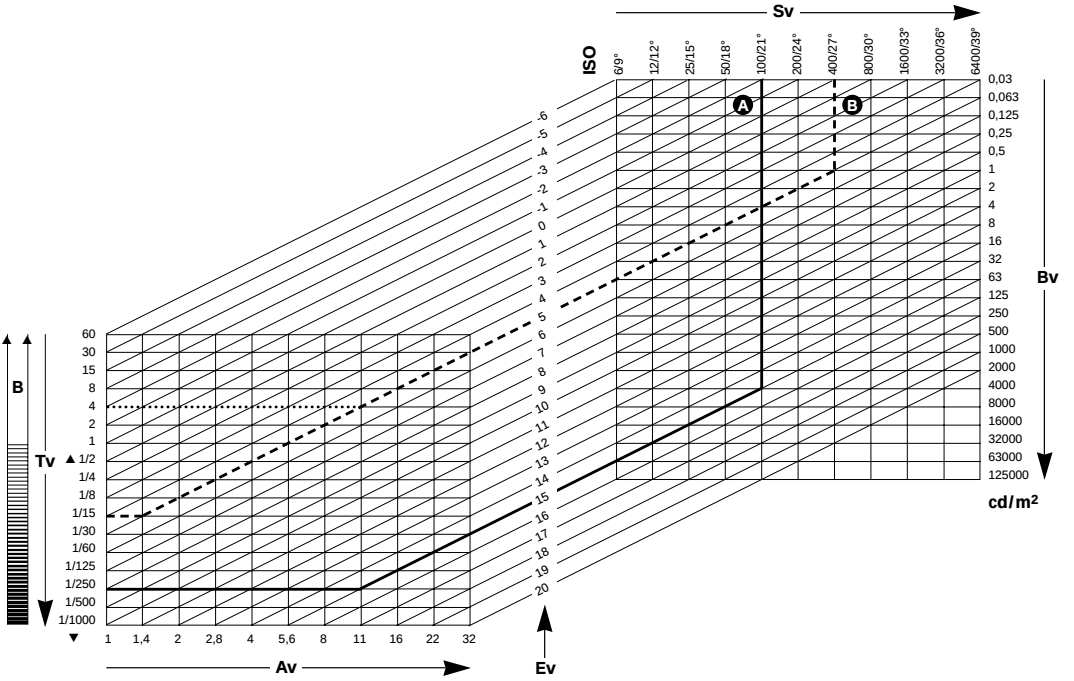
on the shutter speed dial. As the slowest shutter speed available on the dial is only 1 s, exact metering is also no longer possible. The correct shutter speed can therefore be obtained only by conversion or from this diagram.
By contrast, with the aperture priority mode, the LEICA M7 automatically calculates shutter speeds up to 32 s, so that in the example highlighted, every aperture of the lens could be used.

Metering fields in the viewfinder

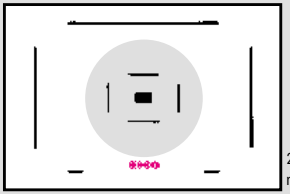
(see also pp. 104/105)

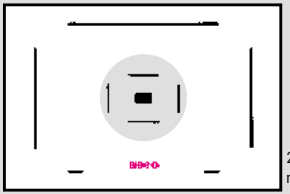
The metering field covers approx. 23 % of the viewfinder image for the lens being used.
However, the following reference value applies to all lens focal lengths:
The diameter of the circular metering field is approx. 2/3 of the short side of the applicable bright-line frame. This also applies to lenses with viewfinder attachments, such as the LEICA ELMARIT-M 135 mm f/2.8.

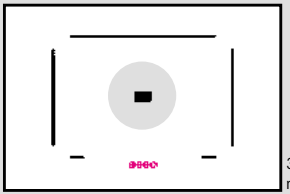
Metering diagram

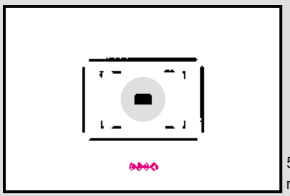


LEICA M7
Viewfinder magnification 0.58x

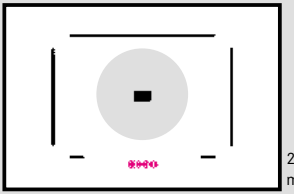

21 mm

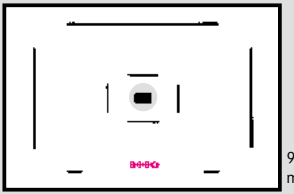

28 mm

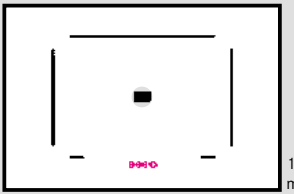

35 mm

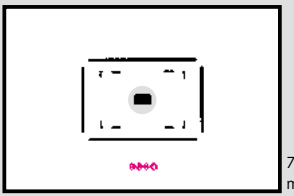

50 mm

LEICA M7
Viewfinder magnification 0.58x

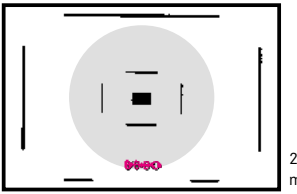

24 mm

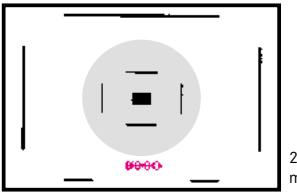

90 mm

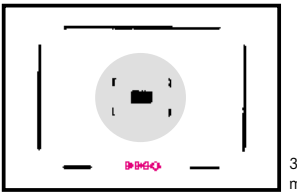

135 mm

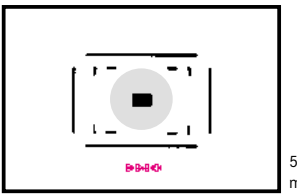

75 mm

LEICA M7
Viewfinder magnification 0.72x

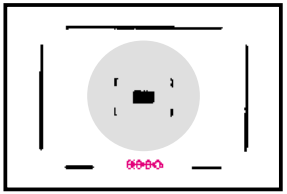

21 mm

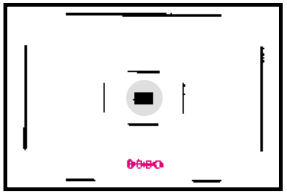

28 mm

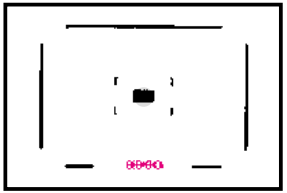

35 mm

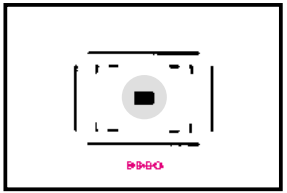

50 mm

LEICA M7
Viewfinder magnification 0.72x

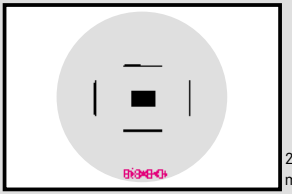

24 mm

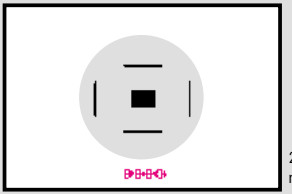

90 mm

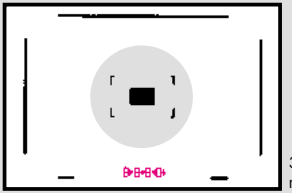

135 mm

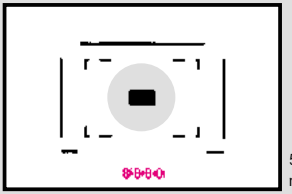

75 mm

LEICA M7
Viewfinder magnification 0.85x

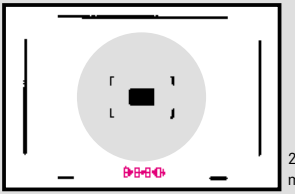

21 mm

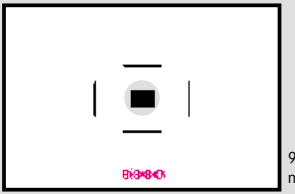

28 mm

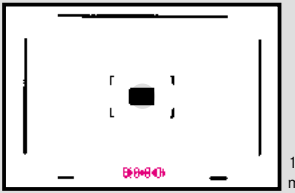

35 mm

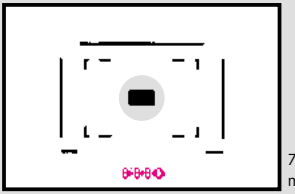

50 mm

LEICA M7
Viewfinder magnification 0.85x


24 mm


90 mm


135 mm


75 mm

General information on exposure metering

Most scenes contain an even distribution of bright and dark subject details and reflect an average of 18% of the light falling on them. This value of 18% corresponds to an average grey tone to which exposure meters are calibrated. Very bright subjects, such as snow-laden winter scenes, sandy beaches, whitewashed walls or a white wedding gown, reflect more light toward the exposure meter, tending to result in underexposure.

Predominantly dark subjects such as a black steam locomotive, dark grey slate roofs, and navy-blue uniforms reflect much less light, and meters tend to overexpose.

This is the case unless a corresponding exposure compensation has been set in advance or the exposure has been measured selectively using a section of the subject containing a representative distribution of light and dark details (for more information see the section " Setting an exposure compensation ” on page 82).

You would for example meter on the bride’s face and not on her white gown. A landscape shot with a wide-angle lens should be metered with the LEICA M7 pointing downward to exclude the bright sky. Metering memory-lock allows this technique to be used conveniently even when using the aperture priority mode (for more details see the section "The aperture priority automatic exposure mode" on page 97).

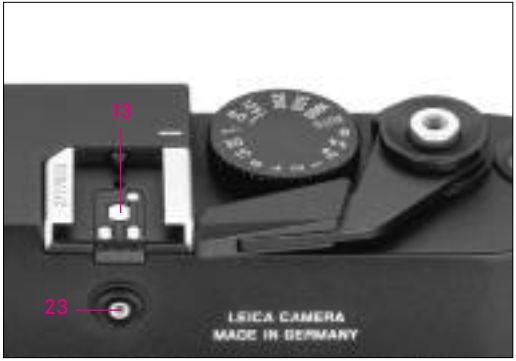
If there is no suitable section of the subject for metering when setting the exposure manually, a compensation factor must be used, i.e. the exposure time is extended by 2 to 4x or the aperture can be opened by one or two f-stops.

White snow under a clear sky with bright sunlight often calls for an exposure increase of 4x, i.e. instead of the specified shutter speed of 1/1000s and f/8, use 1/250s and f/8 or 1/1000s and f/4. When photographing less bright subjects such as a sandy beach, a compensation factor of 2 is sufficient.

The reverse is the case for dark subjects.

If there is considerable contrast between light and dark parts of the image, the exposure latitude of the films ceases to be sufficient to register the full tonal range of the subject in both the "light" and the "shade". The photographer must decide where he wishes to retain the greatest detail. For example, a person can appear as a black silhouette (underexposed) in front of a correctly exposed landscape, or correctly exposed in front of a "burnt-out" background (overexposed). A reading from "light" and "shadow" and the resulting average exposure usually leads to unsatisfactory results because delicate differences in brightness are lost in both the light and the dark areas.

Deliberate over- or underexposure often enhances the character of a picture and can be used as a good compositional aid.



Flash photography

In addition to the photocell for ambient light, the LEICA M7 is equipped with a second photocell for flash (arrow). This silicon photocell, located on the right below the shutter, enables the camera to measure the light emitted by the flash through the lens, at the working aperture. The Through The Lens flash metering system on the LEICA M7 is center-weighted.

The LEICA M7 can meter and automatically control the flash with

- the LEICA SF24D system flash unit specially developed for the LEICA M6TTL/M7 and LEICA R8/R9) (Order nos. 14444, silver or 14448, black) or
- Flash units that meet the technical requirements of System-Camera-Adaption (SCA) for the 3000 system and have the SCA-3502/3501 adapter.

If the flash unit used has the appropriate functions[1], the LEICA M7 also allows other, more interesting compositional flash techniques to be used, such as synchronisation of the flash to the 2nd shutter curtain rather than the 1st as is normal, use of the flash with faster shutter speeds than the synchronising speed of 1/50s and strobe flash (for more details see the appropriate sections below).

[1] For flash operation on the 2nd shutter curtain and high speed synchronised flash, the SCA 3502 adapter is required. Strobe flash, on the other hand, is possible with the SCA 3501.

The TTL-controlled flash exposure metering and control can be used with both exposure modes.

Important!
In order to trigger and control the flash units connected by means of the accessory shoe or the coaxial contact (23), the LEICA M7 must be loaded with batteries and the exposure meter must be switched on by lightly pressing the shutter release button, i.e. the display must have been switched to shutter speed values or the light balance.

Compatible flash units

Thanks to its compact dimensions and its dedicated design, the LEICA SF 20/SF 24D is particularly suitable for use with the LEICA M7. It is very simple to use, as it is equipped with an integrated adapter foot with additional control and signal contacts for automatic transfer of a range of data and settings. It also provides a number of interesting additional functions.
You can also fit any other standard flash units with standard connecting plugs or on-camera flash units with standard adapter foot to the LEICA M7, and trigger them using the center contact (X contact, 13). We recommend the use of modern thyristor-controlled electronic flash units.

Attaching and connecting the flash unit

When mounting a flash unit on the hotshoe of the LEICA M7, ensure that the adapter foot of the flash unit is fully inserted and firmly secured by means of the tightening nut, if available. This is especially important in the case of flash units with additional control and signal contacts, as movements of the flash unit within the adapter foot may lead to the contact being broken and consequently to malfunctions.

The coaxial contact for connecting flash units with cord connection is located below the accessory shoe at the back of the camera.

Note: The camera and flash unit must both be switched off before the flash is attached.

TTL flash mode

On the LEICA M7, this mode is available with both exposure modes, aperture priority mode and manual setting and can be used with the LEICA SF 20/SF 24 D and any other SCA-3000 flash units equipped with an SCA 3502/3501 adapter. As soon as the required quantity of light has been emitted, the camera electronics of the LEICA M7 transmit a "stop" signal to the flash unit, which immediately interrupts light output. This flash mode offers the advantage that all factors influencing exposure of the film (e.g. filters and aperture changes) are automatically taken into account.
The LEICA M7 also transmits the film speed to the flash unit.
If the flash unit is equipped with the appropriate displays and if the aperture selected on the lens is manually entered on the flash unit, it can automatically adjust its range settings accordingly. The flash unit cannot be used to influence the film speed setting.

Note: Since the aperture selected on the LEICA M7 is not transferred to the flash, it must be set manually on the flash unit to enable the range to be read off on the latter, if the flash has such a display.

Settings for TTL flash mode

After turning on the flash unit and setting it to "TTL" mode, proceed as follows on the LEICA M7:

1. Before each flash exposure, first of all turn on the exposure meter by lightly pressing the shutter release button, i.e. the display must have switched to shutter speed values or the light balance. If the shutter release button is pressed too quickly and completely and the exposure meter remains turned off, the flash unit may not be triggered.
2. Set the shutter speed dial to "**AUTO**", the flash synchronising speed "⚡" (1/50 s) or, for special effects, a slower shutter speed (or "**B**"). In aperture priority mode, the camera automatically switches to the flash synchronising speed 1/50 s.
3. Set the desired aperture or that required for the appropriate distance between camera and subject.

Flash exposure displays in the viewfinder with the SF 20/SF 24 D or compatible flash units with SCA 3502/3501 adapter

In the LEICA M7 viewfinder, an LED in the shape of a flash (A) is used for acknowledgement and to indicate the different modes. This LED appears together with the displays described in the corresponding sections for exposure metering using the available light.

Displays in TTL and automatic flash mode

- ⚡ is not displayed even though the flash unit is turned on and ready to use:
  A shutter speed faster than 1/50 s is manually set on the camera, but the flash unit is not set to the "High speed synchronised flash" function. In such cases, the LEICA M7 does not trigger the flash unit even if it is turned on and ready to use.

Note: High speed synchronised flash is only possible in the flash unit's manual mode, not for computer or TTL mode.

- ⚡ flashes slowly (at 2 Hz) before the shutter is released:
  The flash unit is not operational yet.
- ⚡ lights up continuously before the exposure: The flash unit is operational. ▸

- ϟ continues to flash after exposure, however the remaining displays go out:
  Flash exposure was correct, flash remains operational.

- ϟ flashes rapidly after exposure, however the remaining displays go out:
  Flash exposure was correct, however the flash is no longer operational.

- ϟ goes out along with the remaining displays after exposure:
  Underexposure, for example due to an aperture too small for the subject. If the flash unit has an output reduction mode, a chosen lower output can mean that the unit is still ready to use although the flash LED has gone out.

Displays in manual flash mode

- ϟ is not displayed even though the flash unit is turned on and ready to use:
  A shutter speed faster than 1/50 s is manually set on the camera, but the flash unit is not set to the "High speed synchronised flash" function. In such cases, the LEICA M7 does not trigger the flash unit even if it is turned on and ready to use.

Note: High speed synchronised flash is only possible in the flash unit's manual mode, not for computer or TTL mode.

- ϟ flashes slowly (at 2 Hz) before the shutter is released:
  The flash unit is not operational yet.

- ϟ lights up continuously before the exposure:
  The flash unit is operational.

Synchronisation on the 2nd shutter curtain

If the attached flash unit has the corresponding function and an SCA-3502 adapter is being used, the LEICA M7 allows the flash to be triggered on either the 1st or the 2nd shutter curtain. This makes it possible to have the – very short – flash exposure either at the beginning or the end of the – relatively longer – exposure with the available light.

Particularly with subjects in dark surroundings, which themselves emit or reflect light, e.g. vehicles, synchronisation with the 2nd shutter curtain often gives a more natural effect.

The function is available for all camera and flash unit settings, for both aperture priority mode and manual shutter speed selection, for TTL and automatic or manual flash mode, the displays are the same in all cases.

The synchronisation is selected on the flash units with the corresponding features. For more details, refer to the relevant instructions.

Important!
For synchronisation on the 2nd shutter curtain, for high speed synchronisation, and strobe flash techniques, the camera must be activated before exposure, i.e. the exposure metering results must be displayed. This ensures that the necessary exchange of data between the camera and the flash unit can take place. It is not enough to simply place the camera in standby mode with the main switch. If the camera was not activated, these flash modes can function incorrectly (e.g. no triggering or full flash instead of strobe function).
For the same reason, these flash modes should not be used in conjunction with rapid sequences of shots in series exposures with motor drives/ winders.

High Speed Synchronisation flash mode

If the attached flash unit has the corresponding function and an SCA-3502 adapter is being used, the LEICA M7 allows faster shutter speeds of 1/250 s, 1/500 s and 1/1000 s to be used for flash exposures. This high speed synchronisation flash technique significantly expands the creative freedom offered for flash exposures. This is particularly useful for daylight fill-flashes for moving subjects, where the desired shallow depth-of-field requires large apertures and, at the same time, the high ambient brightness requires fast shutter speeds.

With standard flash techniques, focal plane shutters like those in the LEICA M7 can only be synchronised with shutter speeds at which the camera's shutter window is completely open at a particular point in time. For the LEICA M7, that means all shutter speeds up to 1/50 s. At faster speeds, a section of either the 1st or the 2nd shutter curtain is always in the shutter window, which means that a flash can never illuminate the entire image.

However, some modern flash units have "High Speed Synchronisation – HSS", which emits flashes of lower power at very short intervals for a short period of time. As these flashes are emitted throughout the entire duration of the operation of the two shutter curtains, and have the effect of a continuous light source during this time, with this technique the actual shutter speed is no longer so critical.

To use the "High Speed Synchronisation flash" technique, one of the three possible shutter speeds 1/250 s, 1/500 s or 1/1000 s must be set manually on the LEICA M7. The light emission from the flash unit is also manual, therefore the setting must be made using the flash unit's aperture calculation function. The displays correspond to those for normal manual flash mode, as described above.

For more details, refer to the relevant instructions.

Strobe flash mode

If the attached flash unit has the corresponding function and an SCA-3501/3502 adapter is being used, the LEICA M7 allows movements to be captured in single stages using stroboscopic flashes on one image. Using this technique, several flashes are emitted one after another with the shutter open, which "freezes" the subject, which should preferably be only weakly lit, in motion. The camera automatically calculates the required shutter speed, which is the product of the number of single flashes selected on the flash unit and the flash frequency selected.
With the aperture priority mode, this shutter speed is used independently of the prevailing lighting conditions. The fastest possible shutter speed is once again 1/50 s.
If the selected aperture means that there is a risk of overexposure, the shutter speed display flashes as a warning. On the other hand, there is no warning if you are below the metering range.
If the exposure is set manually, the shutter speed set is used. The camera/flash unit combination responds differently depending on whether this speed is faster or slower than the calculated, required speed:
If the set shutter speed is faster than required, i.e. the desired stroboscope exposure cannot be carried out, the flash is not triggered and the flash symbol does not appear. The light balance continues to work as normal.
If the set shutter speed is sufficient for or slower than that required for the desired strobe exposure, the flash is triggered and the flash symbol appears. The light balance continues to work as normal.
For "**B**", the flash is also triggered, but only the flash LED lights up before exposure. After exposure, the flash LED goes out and the digital display counts the expired seconds.

Flash LED displays in strobe mode

- ϟ appears even though the flash unit is turned on and ready to use:
  The shutter speed set on the camera is too fast for the number of flashes set on the flash unit.

- ϟ flashes slowly (at 2 Hz) before the shutter is released:
  The flash unit is not operational yet.

- ϟ lights up continuously before the exposure:
  The flash unit is operational.

System accessories for the LEICA M7

Interchangeable lenses

The Leica M system is ideal for fast and candid photography. The range of lenses comprises focal lengths from 21 to 135 mm and widest apertures of f/1.

Filters

In black and white photography, filters are used for controlled rendition of tonal values, for example in order to achieve a natural reproduction of different colors in grey tones, or in order to improve the appearance of the sky or clouds on the picture. In color photography, filters can be used to adjust color rendition to the wishes of the user or to the spectral sensitivity of the film employed.
A range of different filters, equipped with standard filter thread sizes, are available for the current Leica M lenses, including a circular polarising filter.
When the exposure is metered through the lens, any reduction in the quantity of light by the filter is automatically taken into account. However, films have different sensitivities in the individual spectral ranges; consequently denser, more extreme filters may cause deviations from the correct exposure. For example, orange filters generally require one stop more exposure; red on average two stops more. A universally valid correction factor is not possible as the red sensitivity of black and white films varies considerably.

Viewfinder

The LEICA Viewfinder for 21/24/28 mm lenses makes it possible to set the framing for the three wide-angle focal lengths, for which there are no bright line frames in the camera viewfinder. The three settings can be selected using a knurled ring that engages audibly and perceptibly.
The optical performance corresponds to the high level of the LEICA M7 viewfinder, is also suitable for wearers of eyeglasses and offers extremely high magnification and therefore good recognition of detail. If the viewfinder is used without eyeglasses, eye defects can be corrected using the screw-on Leica M camera corrective lenses. The eyepiece has a rubber coating to protect eyeglasses.
The viewfinder's robust aluminium body is available in black or silver to match the designs of the camera body.

Viewfinder Magnifier

The LEICA M 1.25x Viewfinder Magnifier makes composition significantly easier when using focal lengths above 50 mm. It can be used on all Leica M models and magnifies the central area of the viewfinder image by a quarter: The 0.58x viewfinder becomes 0.72x, the 0.72x becomes a 0.9x and the 0.85x becomes a 1.06x viewfinder, which actually means a slight magnification compared to viewing with the naked eye.

The latter combination therefore also allows the subject to be comfortably viewed with both eyes. Particularly with the Leica M system telephoto lenses from 75 to 135 mm, the significantly larger visible viewfinder image results in clearly better recognition of subject details within the appropriate image field frame. At the same time, the 25% increase in the effective base value results in a corresponding increase in the setting accuracy.

A retaining chain with clips prevents loss and can be used to hang the viewfinder on the fixing ring of the carrying strap.

The viewfinder magnifier is supplied in a leather bag. A strap on the bag allows the viewfinder magnifier to be stored on the camera's carrying strap securely and ready to use.

Eyesight correction lenses

For optimal matching of the viewfinder to the eye, correction lenses in the following strengths are available (dioptres, spherical): 0,5/1/1,5/2/3.

LEICA MOTOR M

The LEICA MOTOR M can be attached to the LEICA M7 and allows automatic shutter cocking and film advancing for single shots or series at rates of either up to 1,5 or 3 fps. It is attached to the underside of the camera housing in place of the base plate.

The Motor M is suitable for all shutter speeds in aperture priority mode and manual setting, i.e. from 32 s to 1/1000 s including "**B**". When the Motor M is turned off or if the batteries are dead, the film can be advanced and the shutter cocked manually. Remote release is possible via the cable release connection.

Bags and cases

For the LEICA M7 with lenses from 21 to 50 mm (except M 50 mm f/1) an everready case with a detachable small front is available. For larger lenses (e.g. Noctilux-M/Tri-Elmar-M) and for lenses from 21 to 50 mm with hood attached, an everready case with a large front is available. In addition, the classic combination bag is available for a camera plus up to three lenses, and the hold-all bag accommodates a camera with up to five lenses.

Tips on maintenance of your Leica camera and lenses

If your Leica is to be stored for a longer period of time, please remove the batteries and make sure the camera as well as the accessories are kept in a dry, well-ventilated place. Photo cases that have got wet should be emptied, to ensure that your equipment is not damaged by moisture and any leather tanning agent residue. To prevent fungal growth during use in hot and humid tropical climates, the camera equipment should be exposed to as much sun and ventilation as possible. Storage in airtight containers is only recommended if an additional dessicant, such as silica gel, is used. As any dirt is also a breeding ground for micro-organisms, care should be taken to keep the equipment clean.

All the mechanically operating bearings and gliding surfaces in your LEICA have been lubricated. Please remember this when the camera is not in use for a longer period of time: To prevent the lubricating points from becoming tacky, the camera should be cocked with no film loaded every three months and released at all shutter speeds. Repeated adjustment and use of all other operating elements, such as the frame selector, is also recommended. The focusing and aperture setting rings for the lenses should also be moved from time to time.

A lens works like a burning glass when bright sunlight shines on the front of the camera. The camera should never, therefore, be put aside without protection against strong sunlight.
Damage to the interior of the camera can be prevented by using the lens cover and keeping the camera in the shade (or directly in the case).

To remove stains and fingerprints, the camera and lens are wiped with a clean, lint-free cloth. We recommend microfiber cloths, that are stored in a protective container. They can be washed in temperatures up to 40°C (without fabric softener, never iron!). Rougher dirt in hard-to-reach corners of the camera body can be removed with a small brush.
Please do not use any liquid cleaning agents to clean the camera housing. Dust and lint inside the camera (e.g. on the film guide) is best removed carefully using a softhair brush, which has been repeatedly cleaned with ether and then dried. Care must be taken not to damage the shutter curtain, with the handle of the brush, for example.

Normally a soft-hair brush is sufficient for the removal of dust from the outer lens elements. In case of more stubborn dirt, a very clean, soft cloth that is completely free of foreign matter can be used, wiping carefully in circular motion from the inside to the outside. Eyeglass cleaning cloths, that are impregnated with chemicals, should not be used since they may damage the lens elements.

Optimum front-lens protection under unfavorable conditions (for example sand, salt-water spray) can be achieved with colorless Uva filters.
However, you should bear in mind that in certain backlight situations and with large contrasts, these can cause undesirable reflections like all filters. It is recommended to use the lens hood since it also protects the lens against fingerprints and rain.

Note the serial number of your LEICA M7 (engraved on the accessory shoe!) and lenses, as they are extremely important in case of loss.

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Technical data

Type of camera Compact 35 mm rangefinder system camera with electronically controlled shutter and 2 mechanically controlled shutter speeds.
Lens mount Leica M-bayonet.
Lens system Leica M-lenses from 21 – 135 mm.
Exposure metering Exposure metering through the lens (TTL), selectively with working aperture. Center-weighted integral TTL metering for flash exposure using system-compatible SCA 3000 standard flash units.
Metering principle The light reflected from a measuring field in the center of the 1st shutter curtain is measured. The measuring field has a diameter of 12 mm and is therefore equal to approx. 13% of the total negative format or in the viewfinder to approx. 2/3 of the short side of the valid viewfinder frame.
Metering range (at ISO 100/21°) From 0.03 cd/m^2 to 125 000 cd/m^2 at room temperature, normal humidity and aperture 1.0. For ISO 100/21° this corresponds to EV -2 to 20 or f/1.0 and 4 s to f/ 32 and 1/1000 s. Flashing of the left-hand triangular LED in the viewfinder indicates working in conditions of low light.
Photocell for ambient light (continuous light metering) Silicon photodiode with condensor lens to the top left behind the camera bayonet.
Film speed setting range Optionally automatic setting for DX-coded films from ISO 25/15° to ISO 5000/38° or manual setting from ISO 6/9° to ISO 6400/39°. Additional setting of an exposure compensation (± 2 EV) makes it possible to use films with speeds from ISO 1.5/3° to ISO 25000/45°.
Exposure mode Optionally automatic control of shutter speed – with corresponding digital display – with manual aperture selection (aperture priority mode), or manual setting of shutter speed and aperture and compensation using LED light balance.

Flash exposure control
Flash unit socket Accessory shoe with central- and control contacts or standard flash connection socket.

Synchronisation Optionally with the 1st or 2nd shutter curtain (with appropriate flash unit and SCA-3502 adapter).
Flash synchronising speed ⚡=1/50 s; automatic setting with "**AUTO**"; slower shutter speeds can be used with manual setting; faster shutter speeds (1/250 s, 1/500 s, 1/1000 s) can be used with manual setting if attached flash unit has the "High Speed Synchronisation" function and an SCA-3502 adapter is used.
Flash exposure metering (with SCA-3501/3502 adapter or SCA-3000 standard flash unit, e.g. LEICA SF 20):
TTL control with center-weighted integral metering.
Flash photocell Silicon photodiode with condensor lens to the bottom right behind the camera bayonet.
Film speed range for TTL flash exposure metering ISO 12/12° to 3200/36°
Flash exposure compensation ± 3 1/3 EV in 1/3 EV steps can be set on SCA-3501/3502 adapter. On the LEICA SF 20/SF 24D, ± 3 EV in 1/3 EV steps can be set or from 0 to – 3 EV in 1 EV steps with computer control.
Displays in flash mode
Ready to use Constant illumination of flash symbol LED in the viewfinder.
Success check Continued illumination or temporary rapid flashing of the LED after exposure, underexposure shown by the LED temporarily going out.

Viewfinder

Viewfinder principle Large, bright-line viewfinder with automatic parallax compensation.

Eyepiece Set for –0.5 dptr. Corrective lenses from –3 to +3 dptr. available

Framing Projection of pairs of bright-line frames: For 28 and 90 mm (90 mm frame only on LEICA M7 0.85) or for 35 and 135 mm (35 mm frame only on LEICA M7 0.58) or for 50 and 75 mm. Automatic projection with the lens fitted. The desired frame can be projected using the frame selector.

Parallax compensation Automatic compensation of horizontal and vertical viewfinder/lens parallax according to the focusing setting, i.e. the viewfinder bright-line frame aligns automatically with the subject in the lens.

Correspondence of image in viewfinder and on film The bright-line frame corresponds to a 23 x 35 mm image for each focal length set to its shortest distance. At infinity, the film frame, depending on the focal length covers approx. 9% (28 mm) to 20% (135 mm) more than shown in the corresponding bright-line frame.

Magnification (for all lenses) LEICA M7 0.58: 0.58x, LEICA M7 0.72: 0.72x, LEICA M7 0.85: 0.85x.

Wide-base rangefinder Bright split-image and double-image rangefinder in center of viewfinder image.

Effective base width LEICA M7 0.58: 40.2 mm (mechanical base width 69.25 mm x viewfinder magnification 0.58x), LEICA M7 0.72: 49.9 mm (mechanical base width 69.25 mm x viewfinder magnification 0.72x), LEICA M7 0.85: 58.9 mm (mechanical base width 69.25 mm x viewfinder magnification 0.85x).

Displays

In the viewfinder (lower edge) LED symbol for flash status. Four-digit, seven segment digital LED display, display brightness adjusted to outside brightness, with decimal point and raised dot for giving film speeds, warning for exposure compensations, automatically calculated shutter speed in aperture priority mode, indication of the use of metering memory-lock, warning for working above or below the measuring range in aperture priority mode and course of shutter speeds slower than 2 s. LED light balance with two triangular and one central circular LED for manual exposure setting. Triangular LEDs show the required direction of rotation for both the aperture setting ring and the shutter speed dial.

On top plate Frame counter.

On rear Dial with DX positions for automatic reading of film speeds or manual setting of film speed and exposure compensation.

Shutter and release mechanism

Shutter Rubberised-cloth horizontal-run, focal plane shutter; extremely low-noise operation. Electronically controlled, with 2 mechanically controlled shutter speeds of 1/60 s and 1/125 s.

Shutter speeds With aperture priority mode ("**AUTO**"), continuous from 32 s to 1/1000 s. With manual setting 4 s to 1/1000 s in whole steps, "**B**" for long exposures of any duration, ϟ (1/50 s) for flash synchronisation.

Shutter release Three-step: Power – Metering memory-lock (for aperture priority mode) – Release. Integrated standard thread for cable release.

Film transport
Loading Manual loading after opening the base plate and folding out the rear of the camera.
Advancing Manually with quick wind lever or motorised using MOTOR-M, LEICA WINDER-M, LEICA WINDER M4-P or LEICA WINDER M4-2 (from serial No. 10350).
Rewinding Manually with rewind crank after turning the lever on the front of the camera to "**R**".
Frame counter On the top of the camera. Resets automatically on removal of base plate.

Camera body
Material Enclosed all-metal body with foldable rear panel. Brass top plate and base plate, both chromium plated in black or silver.
Frame selector Allows the bright line frame pairs to be manually projected at any time (e.g. to compare framing).
Tripod thread A 1/4 (1/4") DIN in base plate.
Rear panel / equipment Dial for film speed selection – either automatically by reading of DX-coded films or manually. Dial for exposure correction.
Operating voltage 6V
Power supply 2 lithium cells, type "DL 1/3 N". Battery check shown by flashing of the LEDs in the digital display or the light balance or by illumination of the display "bc" or the LEDs going out.
Dimensions (Length x Depth x Height) 138 mm x 38 mm x 79,5 mm
Weight 610 g (without battery)

Other Leica products

Projectors

For your slides, there is a comprehensive range of versatile, easy-to-use projectors, with a large choice of options. The professional Pradovit-RT versions with round trays and the Pradovit P150, Pradovit P300 and Pradovit PC models offer total user convenience and a versatile range of optional accessories. Superb optical performance in combination with traditional Leica precision mechanics are the common denominator of all Leica projectors and projection lenses.

Binoculars and spotting scopes

Superb optics are the most outstanding feature of all Trinovid binoculars, laser rangefinders and Televid spotting scopes. They are made of the same high-grade optical glass as the world-famous Leica lenses. Their excellent optical performance, exceptional resolution and superb brightness ensure a vivid three-dimensional image even in poor light.

Leica Academy

Leica not only manufactures high-performance products for everything from observation to reproduction: it offers a special service in the form of the Leica Academy. For many years, this internationally famous facility has taught photographic expertise in practical seminars and training courses. It meets the needs of keen photographers, both beginners and advanced students, for special training in demanding areas of 35 mm photography, projection, and enlargement.
Up-to-date, well-equipped seminar rooms are available at our Solms headquarters and at the nearby "Gut Altenberg" for these courses, which are held by experienced instructors, the content of which ranges from general photography to specialised fields of interest. They provide a wealth of practical suggestions, help, and advice. More information and the current program of seminars, including photographic excursions, are available from:

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Leica on the Internet

Current information about products, news, events and the Leica company is available on our homepage on the Internet at:

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Leica info service

The Leica information service can provide you with answers to technical questions regarding the complete Leica range either by telephone, or in writing, by fax or e-mail.

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Leica Customer Service

For maintenance of your Leica equipment, or in case of damage, Leica AG's Customer Service center, or the repair service of the Leica national offices, is available to assist you (see your guarantee card for address list). Please contact your nearest authorised Leica dealer.

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my point of view

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