



my point of view

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LEICA SF 24 D

Anleitung, Instructions
Notice d'utilisation, Gebruiksaanwijzing
Istruzioni, Instrucciones

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Introduction

Dear Customer,

Leica would like to thank you for purchasing the LEICA SF 24D system flashgun and congratulate you on your choice. With this flashgun you have made the best choice for your LEICA camera. We wish you much pleasure and success with your new flashgun.

The LEICA SF 24D was specifically developed for the LEICA CM which controls flash exposures on the basis of guide number calculations, as well as for the LEICA R8/R9 and LEICA M6TTL/M7 models fitted with Through-The-Lens flash exposure metering.

In conjunction with the corresponding contacts in the foot of the LEICA SF 24D, the additional contacts in the camera's flash shoe not only permit camera-controlled flash illumination, but also automatic transmission of a number of data and settings between the camera and the flashgun for the convenience of the user.

40

Examples of transmitted data:

- Film speed (ISO value)
- The manually or automatically set aperture (only LEICA CM / LEICA R8 / LEICA R9)
- Flash readiness indication
- Correct flash exposure confirmation
- Possibly, given ambient light or flash exposure corrections

Obviously, the LEICA SF 24D can also be used with other Leica R and M models, as well as with the LEICA minilux zoom. For this purpose it is fitted with its own sensor and automatic control with six selectable aperture settings, plus manual mode.

The use of the LEICA SF 24D with cameras from other manufacturers is only recommended with reservation.

For instance, although the contacts may be positioned in a similar manner in the flash shoe of other system cameras, other assigned electrical values will not only make a connection incompatible, but even affect the camera and flashgun detrimentally.

41

Consequently, Leica excludes any liability, particularly for damage that did not arise directly on the flashgun.

Please read these instructions carefully so that you can make full use of the potential of your LEICA SF 24D.

These instructions have been printed on 100% non-chlorinated paper that has been produced by an elaborate process to prevent water and, therefore, our environment from being polluted.

Safety instructions

- NEVER shoot flash pictures of bus, train and car drivers or cyclists as they can be blinded by the light and thereby cause an accident. When shooting such subjects, ensure that the flashgun is either switched off or that the flash cannot be fired.
- NEVER fire flashes directly into the eyes of people or animals from a short distance as this can damage the retina, causing severe sight disorders and even blindness.
- Do not trigger the flashgun if something is in direct contact with the diffuser.
- Do not touch the diffuser after firing several flashes in succession as it can become very hot.

- Do not touch the contacts in the foot of the flashgun.
- NEVER fire a flash in the vicinity of inflammable gases and liquids (petrol, solvents, etc.) as this could cause an explosion or ignite a fire.
- NEVER touch interior parts should they become exposed due to extensive damage to the flashgun's body. The batteries should be carefully removed in such an instance.
- The flashgun incorporates a high-voltage circuit that can cause power shocks, burns or other injuries, even after the batteries have been removed. Consequently, proceed with the utmost care.
- This applies particularly if water or other liquids, metallic or inflammable objects have penetrated the flashgun's interior.
- For the same reasons the flashgun should not be exposed to moisture, nor should it be touched with wet hands. Never try to disassemble, repair or convert the flashgun.
- Exhausted batteries should be removed as leaking lye will damage the flashgun.
- NEVER try to recharge lithium batteries!
- Batteries must not be exposed to excessive heat such as direct sunlight, fire, etc.

Brief description

The LEICA SF 24D is a compact, medium-capacity flashgun that is simple to use. Its special features include:

- Guide number 20/65 (in meter/feet) at a film speed of ISO 100/21° (GN 14/46, and 24/78 with 24 mm and 85 mm diffuser)
- Integrated flash foot with additional control and signal contacts for fully automatic control with the LEICA CM, LEICA R8/R9 and LEICA M6TTL/M7 models
- Integrated sensor for automatic flash exposure control with other Leica R and M cameras; six selectable aperture settings
- In the TTL/GNC flashgun setting, the LEICA CM, LEICA R8/R9 and LEICA M6TTL/M7 models take over flash control, i.e. control of light emission.

Contents	Page
Introduction	40
Safety instructions	42
Brief description	43
Designation of the parts	45
Displays in the data field	46
Suitable batteries	47
Loading and exchanging batteries	47
Battery disposal	47
Attaching / connecting the flashgun to the camera	48
Attaching the wide-angle/telephoto diffusers	49
Switching the flashgun ON and OFF / Checking the batteries / Automatic switch-off	50
Details indicated in the data field	51
Switching on the data field light	53
Setting m or ft for the display of distance ranges	53
Setting the film speed	54
Setting the working aperture	55
Selecting the flash mode	57
Maximum flash range	57

The guide number controlled flash mode (GNC) with the LEICA CM	56
Settings for GNC flash mode	56
The TTL mode of the LEICA R8/R9 and M6TTL/M7 models	56
Settings for TTL flash mode	56
The A mode with other Leica cameras	56
Settings for A flash mode	56
Tip: Using test flashes	56
Flash exposure corrections	56
The M mode	56
Settings for the M flash mode	56
Using partial light output levels	56
Faults and remedies	56
Tips for LEICA SF 24D care	56
Technical data	56
Leica Academy	56
Leica on the Internet	56
Leica Information service	56
Leica Customer Service	56

Designation of the parts

- 1.1. Diffuser of the reflector
- 1.2. Sensor
- 1.3. Battery compartment cover
- 1.4. Firing button with green light-emitting diode (LED) to indicate flash readiness
- 1.5. Plus and minus buttons for manual input of the film speed, aperture, flash correction value, partial light output level, changeover of flash range indication from meter to feet, and switching on the LCD illumination
- 1.6. LCD data field (**L**iquid **C**rystal **D**isplay)
- 1.7. Main switch
- 1.8. Red light-emitting diode (LED) to confirm adequate flash exposure
- 1.9. Operating mode selector with three lock-in positions:
 - a. **TLUGNC** for automatic flash exposure control by the LEICA CM, LEICA R8/R9 and LEICA M6TTL/M7 models

- b. **A**(utomatic) for automatic flash exposure control by the flashgun (for other Leica R and M models) with six apertures for individual, fine adaptation to the distance range and depth-of-field requirements
- c. **M**(anual) for constant light emission, either full or diminished, depending on the setting
- 1.10. Button for activation of manual film speed setting
- 1.11. Button for activation of manual aperture setting
- 1.12. Button to activate the manual setting of flash exposure corrections or partial light output levels
- 1.13. Standard flash shoe with
- 1.14. Clamping nut with

- 1.15. Contacts:
 - a. Data contact
 - b. Clock contact
 - c. Hot shoe contact
 - d. Additional contact, and
- 1.16. Securing pin
- 1.17. Wide-angle/telephoto diffusers

Displays in the data field

- 2.1. Digital display for
 - a. Distance range (in meter **-m** or feet **-ft**; with corresponding value), and
 - b. **A** indicating to set the flashgun to A mode when using non-system compatible cameras
 - c. Warning indicating that flash coverage is insufficient (**24, 35, 85**)
- 2.2. ▶ Warning indicating that display range has been exceeded

- 2.3. **Exposure V** value to indicate the entry of flash-exposure corrections and partial light output settings
- 2.4. **ISO** to indicate automatic transmission or manual input of film speed
- 2.5. Digital display for
 - a. Aperture
 - b. Flash exposure correction values
 - c. ISO film speed
 - d. Partial light output levels (additionally identified by **P** [for power])
- 2.6. ± sign for flash exposure correction/ partial light output level
- 2.7. ⚠ Symbol for flash exposure correction

Suitable batteries

The LEICA SF 24D is powered by two 3V lithium batteries, e.g. DL 123A or CR 123A. These batteries can be stored for many years with almost no loss of power.

A fresh set of batteries is sufficient for approx. 370 full-power flashes (according to Leica test standards).

Loading and exchanging batteries

1. Turn off the flashgun with the main switch (1.7).
2. Push the battery compartment cover (1.3.) in the direction of the arrow until the stop point is reached and then fold open. The cover is secured to the flashgun so that it cannot be lost.
3. Insert the batteries, ensuring that the contacts (+ and - poles) correspond with those indicated in the battery compartment, and then re-close the cover.

Important:

- Old and new batteries, as well as batteries from different manufacturers, must not be used together.
- The battery contacts must be kept clean. Batteries must not be thrown onto a fire, re-charged, broken open, dissected or heated up.
- Spent batteries should be removed as soon as possible.
- The batteries should also be removed if the flashgun is not going to be used for a prolonged period.

Battery disposal

Spent batteries should not be thrown away with the domestic waste because they contain environment-polluting substances. They should be returned to a local stockist, or collected at special points for recycling.

Attaching / connecting the flashgun to the camera

LEICA SF 24D can be mounted on and operated with any camera featuring a flash shoe with hot shoe contact (for certain limitations see "Brief description").

Customary commercial adapters can be used to connect the flashgun to cameras that only have a synchronising socket.

Note:

Both the camera and the flashgun must be switched off before mounting or removing.

Important:

After the flashgun has been mounted on the camera by sliding it into the flash shoe, it must be secured against accidentally falling off by tightening the clamping nut (1.14.). This pushes the securing pin (1.16.) into a corresponding hole on the flash shoe. A tight lock is necessary to ensure that changes in the flashgun's position do not interrupt the electrical contacts in the flash shoe, thereby causing malfunctions.

Attaching the wide-angle/telephoto diffusers

The supplied wide-angle and telephoto diffusers (1.17.) change the light-emitting angle of the LEICA SF 24D. The wide-angle diffuser widens the angle to 84° ¹⁾ to ensure that pictures shot with a lens of 24 mm focal length are uniformly illuminated over the entire area, while the telephoto diffuser concentrates the light down to 28.5° ¹⁾ to match a focal length of 85 mm, thereby increasing the maximum flash range.

The attachments are simply clipped onto the flashgun's fixed diffuser where they become locked in, and are removed in the same manner.

¹⁾ Coverage angle for the given format diagonal.

The guide number is reduced to 14/46 when the wide-angle diffuser is used, while the telephoto diffuser increases it to 24/78 (meters/feet, respectively). The flashgun recognises the attached diffuser so that the corresponding ranges are indicated on the data field (1.6.), or

distances (2.1.a) are automatically converted, i.e. reduced by the factor 1.4 or increased by the factor 1.2.

Please note:

If the flashgun is used in conjunction with LEICA R8/R9 and lenses with ROM facilities (see corresponding camera instruction), then the coverage angle of the flashgun or the attached diffuser will be smaller than the angular field of the used focal length; a corresponding warning signal (2.1.c) will then be displayed in the data field (1.6.):

Flashgun without diffuser and lenses/
focal lengths
of 28 mm and shorter: **35**

Flashgun with wide-angle diffuser and lenses/
focal lengths
of 21 mm and shorter: **24**

Flashgun with telephoto diffuser and lenses/
focal lengths
of 70 mm and shorter: **85**

**Switching the flashgun ON and OFF /
Checking the batteries / Automatic
switch-off**

The LEICA SF 24D is turned on and off with its mains switch (1.7). Push the switch upwards to switch on the flashgun.

Charging is associated with a soft, high-pitched sound, indicating that the batteries have sufficient power. The flash readiness indicator (1.4.) will light up after approx. 5 seconds. The proper performance of the flashgun can be checked by depressing the indicator which simultaneously functions as firing button. Recycling should be completed after approx. 0.5-3.5 sec.

If the flash readiness indicator lights up much later or not at all, then the batteries are exhausted and must be exchanged with new ones. If there is still no reaction, then this can indicate that the battery contacts, or the contacts in the flashgun are dirty. In such an event they must be cleaned with a clean, dry, non-fluffing cloth.

The flashgun automatically switches over to "Standby" mode if, approx. 3 minutes after flash readiness has been established, no switch or button on the flashgun is actuated, the camera is not switched on or the shutter not tripped. To save battery power, the flashgun is not being charged.

For renewed operation it is only necessary to lightly touch the camera's shutter release or to press the plus or minus buttons (1.5.) on the flashgun.

Please note:

- On the LEICA CM, LEICA R8/R9 and LEICA M6TTL/M7 models flash readiness is also indicated on their displays.
- If there is (still) no flash readiness, the LEICA R8/R9 will automatically changeover and operate in the mode adjusted on the camera as if there was no flashgun.

- If the SF 24D has not been mounted on the LEICA CM, LEICA R8/R9 or one of the LEICA M6TTL/M7 models, or if the listed cameras have not been switched on so that no power is flowing, then the flashgun's readiness indicator (1.4.) will only light up in the **A** or **M** position of the operating mode selector (1.9.).
- Even "fresh" batteries can also differ significantly in their capacity and service life.
- If the batteries have become partly discharged, then renewed flash readiness indication can take somewhat longer following a quick succession of several flashes. The batteries will recover after a short interval so that, usually, normal flash photography can be resumed.
- Low temperatures reduce battery performance. Consequently, keep the LEICA SF 24D close to the body in cold weather and work with fresh batteries.

Details indicated on the data field

The LEICA SF 24D has a liquid crystal display (LCD) as a data field (1.6.) to indicate all the details that are important for the exposure and for setting the different functions.

A (2.1.b) flashes in the data field if, after the LEICA SF 24D has been mounted, the camera's shutter has not been tripped. In conjunction with other cameras than the LEICA CM, LEICA R8/R9 and the LEICA M6TTL/M7 models, this indicates to the user that the operating mode selector (1.9.) must be set at A.

After the camera's shutter release has been lightly touched - and if the required aperture has been set on the flashgun when a LEICA M6TTL/M7 model is used - "Normal" mode will appear on the data field, i.e. if none of the available special functions have been activated and a setting is not being adjusted, then - for reasons of convenience - only the distance range (2.1.a) and the automatically or manually set aperture (2.5.a) will be displayed.

In conjunction with the LEICA M6TTL/M7 models, the aperture is only indicated if it has been set on the flashgun (see "Setting the working aperture" p. 55). However, correct exposure in TTL mode (see "The TTL mode of the LEICA R8/R9 and LEICA M6TTL/M7 models"; p. 60) is guaranteed, irrespective of this setting.

In conjunction with the LEICA CM, LEICA R8/R9 and the LEICA M6TTL/M7 models, data exchange between camera and flashgun ensures automatic transmission of different values. Consequently, the distance range (2.1.a) is adapted to the used or adjusted film speed and, possibly, to the attached diffuser (see "Attaching the wide-angle/telephoto diffusers"; p. 49). With the LEICA CM and LEICA R8/R9 even the automatically or manually set aperture is transmitted and taken into account for determining the distance range.

Please note:

All elements can be jointly indicated to check the data field. For this purpose simultaneously press the plus and minus buttons (1.5.), as well as the button to activate manual adjustment of flash exposure corrections (1.12.), while the flashgun is switched on. The display returns to normal mode after approx. 5 sec.

Switching on the data field light

The data field (1.6.) can be illuminated to improve readability in the dark:

Setting procedure	Display
Press the plus and minus buttons (1.5.) simultaneously when the flashgun is switched on.	The data field will be illuminated for approx. 10 s. Afterwards, or after renewed actuation of the two buttons, the illumination is automatically switched off.

Setting m or ft for the display of distance ranges

The unit of measurement for the display of distance ranges on the data field can be adjusted to meters or feet:

Setting procedure	Display
Press the plus and minus buttons (1.5.) while simultaneously switching on the flashgun.	Either m or ft (2.1.a) will then be displayed behind the values.

Note:

The distances given on the data field are rounded-off values.



Setting the film speed

With the LEICA CM, LEICA R8/R9 and the LEICA M6TTL/M7 models, the film speed scanned by the cameras with the DX code, or the manually set film speed, is automatically transmitted to the LEICA SF 24D.

With other cameras, however, the film speed must be manually adjusted on the flashgun:

Setting procedure	Display
1. Briefly press the ISO button (1.10.).	ISO (2.4.) appears together with the previously set value flashing alongside to the left (2.5.c).
2. As long as the value flashes (4 s), it can be set with the plus and minus buttons (1.5.) within the range of 12 to 3200 (i.e. from ISO 12/12° to 3200/36°).	The flashing value changes accordingly.
3. Press the ISO button once again to confirm the entry.	Both displays disappear.

Note:

- Alternatively, to confirm the entry and simultaneously change the display to the desired form, press the buttons  (1.11.) or  /P (1.12.).
- 4 s after the last setting, the setting mode automatically switches itself off, and the last value is stored.

Please note:

- The film speed cannot be influenced by the flashgun with the above cameras. If the **ISO** button is nevertheless depressed, then the automatically adjusted value will light up for 4 sec. Both the automatically and manually set film speed can be checked at any time with this function.
- The flashing film speed display disappears after 4 sec. - even if a manual film speed setting operation on the LEICA R8/R9 has not yet been completed within this period.




Setting the working aperture

In **TTL/GNC, A** (Automatic) and **M** (Manual) modes of the LEICA SF 24D the aperture required in conjunction with the LEICA CM can only be set with the corresponding lever, while on the LEICA R8/R9 this can only be effected on the lens, i.e. presetting on the flashgun with these cameras is not possible.

Please note:

If the flashgun (in **A** mode) will not work with the automatically or manually set aperture, or with the aperture set by the camera (see "The A mode with other Leica cameras, p. 62), then the corresponding value (e.g. **13, 16, 19** or **22**) will flash on the aperture display (2.5.a).
With all other cameras, including the LEICA M6TTL/M7 models, the aperture set on the flashgun must be manually adjusted on the lens.

In all instances, the resulting distance range (2.1.a) can be read off the flashgun's data field (1.6.) so that this facility can also be used as an "aperture calculator" to establish the aperture and distance values.

Setting procedure	Display
<p>1. Briefly press the  button (1.11.) (provided that the aperture display was previously visible on the data field; otherwise 2x briefly).</p>	<p>The aperture value (2.5.a) starts to flash.</p> <p>Please note: On the LEICA CM and LEICA R8/R9 the aperture does not flash to indicate that, in the given combination, it can only be changed on the camera or the lens.</p>
<p>2. The value can be set with the plus and minus buttons (1.5.) as long as it flashes (4 s):</p> <p>a. With A (Automatic) mode of the flashgun in whole aperture values from 2²¹ to 11.</p> <p>b. With M (Manual) mode in half aperture values from 1 to 45.</p> <p>²¹ With ISO 800 from 2.8 - 11, see Table on p. 58</p>	<p>The flashing value changes accordingly.</p>
<p>3. Press the  button once again to confirm the entry.</p> <p>Please note: a. Alternatively, the buttons ISO (1.10.) or  /P (1.12.) can be pressed to confirm the entry and simultaneously switch over the display to the required form.</p>	<p>The aperture stops flashing.</p>

b. The setting mode is switched off 4 s after the last setting and the current value is stored.

Selecting the flash mode

The operating mode selector (1.9.) of the LEICA SF 24D has three settings:

TTL/GNC For LEICA CM, LEICA R8/R9 and the LEICA M6TTL/M7 models. Flash exposure is controlled by these cameras. The flash exposure can be corrected in 1/3 EV increments up to maximum ±3EV.

A (Automatic) Especially for other Leica cameras. The flashgun controls the light emission according to the preset aperture. Irrespective of the film speed setting, the following six apertures are available: 2/2.8/4/5.6/8/11. Flash exposure can be corrected in 1EV increments up to maximum ±3EV.

M (Manual) The flashgun emits always the same amount of light, depending on the pre-selected light output setting. Light output can be reduced by 1/3EV increments down to maximum -5EV.

Maximum flash range

The subsequent table lists the maximum flash ranges for all the adjustable apertures and ISO film speeds (ISO in-between values can also be set).

The complete setting range is available in the **TTL/GNC** and **M** modes of the LEICA SF 24D. In these modes also in-between f-stops can be set (with **M**) or used (with **TTL/GNC**).


Values in the grey-highlighted zone are available when the flashgun is in **A** mode.

An example for ISO 100/21° is **highlighted** in the graph.

Please note:

- The distance ranges in the Table must be regarded as maximum distances up to which a correct exposure is obtained when the flashgun is in **TTL/GNC** and **A** mode. In **M** mode correct exposure is only possible with exactly the given distance.

Maximum distance ranges

ISO \ 	1	1.4	2	2.8	4	5.6	8	11	16	22	32	45
12/12°	7	5	3,5	2.5	1.7	1.2	0.8	0.6	0.4	0.3	.. ³⁾	.. ³⁾
25/15°	10	7	5	3.5	2.5	1.7	1.2	0.8	0.6	0.4	0.3	.. ³⁾
50/18°	14	10	7	5	3.5	2.5	1.7	1.2	0.8	0.6	0.4	0.3
100/21°	20	14	10	7	5	3.5	2.5	1.7	1.2	0.8	0.6	0.4
200/24°	28	20	14	10	7	5	3.5	2.5	1.7	1.2	0.8	0.6
400/27°	40	28	20	14	10	7	5	3.5	2.5	1.7	1.2	0.8
800/30°	65	40	28	20	14	10	10	5	3.5	2.5	1.7	1.2
1600/33°	80	56	40	28	20	14	14	10	5	3.5	2.5	1.7
3200/36°	.. ³⁾	80	56	40	28	20	14	14	7	5	3.5	2.5

Distance in m

³⁾ Setting combinations are outside the working range of exposure control (0.3 - 99 m).

- The distances in the Table are related to the LEICA R8/R9 and LEICA M6TTL/M7 models with TTL control for average subjects, i.e. with normal reflective properties. Significantly darker or lighter subjects are rendered by these cameras either too dark or too light, respectively, without the corresponding flash exposure corrections (see corresponding Section on p. 65). The guide number controlled light output of the LEICA CM, however, will automatically provide correct exposure of such subjects within the specified distances.

- The distances in the Table are related to applications without one of the two additional diffusers. The values must be reduced by the factor 1.4 for the wide-angle diffuser, and increased by the factor 1.2 for the telephoto diffuser (see "Attaching the wide-angle/telephoto diffusers", p. 49).

- The distances in the Table are related to colour reversal films. If negative films (for photos) are used, where minor "under-exposure" is less critical on account of the wide

exposure latitude, the range can be readily extended by the factor 1.4.

- Subjects staggered over a wide distance to the back may not be optimally illuminated by the flash. The values are related to the zone of the subject covered by the sensor and are therefore only guide values.
- All values are rounded values.

The guide number controlled flash mode (GNC) with the LEICA CM

In this operating mode flash exposure is controlled by the camera on the basis of guide number computation. Accordingly, prior to exposure, the light output is calculated on the basis of the manually or automatically set aperture and the distance established by the camera's AF system.

The advantage of this control is its complete independence from the reflective properties of the subject, i.e. extremely dark or bright objects are automatically rendered correctly.

Settings for GNC flash mode

1. Switch on the flashgun by pushing the main switch (1.7.) upwards to **ON**.
2. Set the operating mode selector (1.9.) at **TTL/GNC**.
3. Set the required operating mode/aperture with the camera's selector lever and lightly touch the shutter release.

For further information regarding the different operating modes and correct exposure indications in the camera viewfinder please refer to the operating instructions of the camera concerned.

The TTL mode of the LEICA R8/R9 and LEICA M6 TTL/M7 models

In this mode the flash exposure measurement is carried out by the corresponding sensor inside the camera. This photo diode measures the light reaching the film through the lens. When the right amount of light has been reached for a correct exposure, the camera's electronic circuit transmits a stop signal to the flashgun which then instantly stops the emission of light.

The advantage of this flash mode is that all factors which can influence the film exposure (e.g. filter, change of aperture or focal length with zoom lenses, close-up exposure increase etc.) are automatically taken into account.

However, under- and over-exposures are possible with above-average bright or dark subjects. In such cases it is advisable to set a flash

exposure correction. Please refer to the corresponding Section on p. 65.

Settings for TTL flash mode

1. Turn on the flashgun by pushing the main switch (1.7.) upwards to **ON**.
2. Set the operating mode selector switch (1.9.) at **TTL/GNC**.

With the LEICA R8 / LEICA R9:

3. Set the camera's operating mode selector at **m, A, P** or **T**, touch the shutter release lightly, or keep it depressed if the shutter is not cocked.

With the LEICA M6 TTL models:

3. Set the shutter-speed dial to flash synch speed \downarrow (1/50 s) or a slower shutter speed, touch the shutter release lightly, or keep it depressed if the shutter is not cocked.

To indicate the given distance range in the data field, the aperture set on the lens of Leica M models must be manually entered in the flashgun (see "Setting the working aperture", p. 55).

With the LEICA M7 models:

3. Set the required operating mode; if you have not selected **A**, set the shutter-speed dial to flash synch speed \downarrow (1/50 s), or a slower shutter speed, and then touch the shutter release lightly, or keep it depressed if the shutter is not cocked.

To indicate the given distance range in the data field, the aperture set on the lens of Leica M models must be manually entered in the flashgun (see "Setting the working aperture", p. 55).

For further information regarding the different operating modes and correct exposure indications in the camera viewfinder please refer to the operating instructions of the camera concerned.

The A mode with other Leica cameras

In the automatic flash mode the sensor integrated in the flashgun measures the light reflected by the subject. The flashgun interrupts the emission of light when the right amount of light has been reached for a correct exposure.

However, under- and over-exposures are possible with above-average bright or dark subjects. In such cases it is advisable to set a flash exposure correction. Please refer to the corresponding Section on p. 65.

Please note:

When shooting into the light ensure that the source of light does not shine directly onto the flashgun's sensor as this will falsify the measurement and result in flash underexposure.

The lens apertures 2, 2.8, 4, 5.6, 8 and 11 can be used in this mode. With these apertures flash exposure is automatically controlled within the specified distance ranges. Consequently, any change in distance does not require the calculation and setting of a new

aperture as long as the subject remains within the indicated automatic maximum flash range. Since the f-stops are independent of the film speed used, faster film speeds will result in larger distance ranges.

The choice of settings depends exclusively on the required distance range and depth-of-field. Smaller f-stops (larger aperture openings) result in a larger range while larger f-stops (smaller aperture openings) within the specified distance ranges provide greater depth-of-field.

The settings for A flash mode

1. Turn on the flashgun by pushing the main switch (1.7.) upwards to **ON**.
2. Set the operating mode selector (1.9.) at **A**.
3. Set the desired automatic range by selecting the corresponding aperture on the lens and on the flashgun. For further details concerning the setting of apertures and the corresponding distance ranges, please refer to the Sections "Setting the working aperture", p. 55 and "Maximum flash range", p. 57.
4. Set the camera's shutter-speed dial to flash synch speed or a slower speed.

The possible settings differ according to the given camera model:

With the models LEICA R4 / R4s.2 / R5 / RE:
 1/100 s and **B** are available. These cameras must not be set at **X** as this will result in malfunctions. There is no flash readiness indication. The over-exposure indication shown by some camera models can be

ignored as it does not indicate the actually performed flash exposure.

Shutter speeds slower than 1/100 s are possible if a corresponding commercial flash adapter is interposed between camera and flashgun (e.g. No. 1301 from Kaiser Foto-technik).

With the models LEICA R6 / R6.2:

The shutter speeds from 1s to 1/100 s, as well as **B** and **X** are available. Flash readiness indication lights up as soon as the flashgun is mounted and switched on.

With LEICA R7:

The settings 1/100 s and **B** identified by the flash symbol, as well as the shutter speeds 4 s to 1/60 s for manual mode, are available. For other exposure modes it is necessary to ensure that shutter speeds faster than the 1/100 s synch speed are not used. There is no flash readiness indication in the viewfinder.

Cameras with only a hot shoe contact in the flash shoe:

All shutter speeds that can be synchronised are available.

Cameras without hot shoe contact, but with synchronising socket:

An adapter, as the above-mentioned model, must be used so that all shutter speeds that can be synchronised are available.

For further information regarding the operating modes of the different camera models and correct exposure indications in the camera viewfinder please refer to the operating instructions of the camera concerned.

Please note:

Many zoom lenses feature variable initial or effective apertures in relation to the given focal length setting. This has to be taken into account in automatic and manual mode when selecting the working aperture.



Tip: Using test flashes



When in automatic flash mode, a test flash can be manually fired prior to exposure to establish the appropriate aperture. For this purpose set one of the six available apertures and trigger the flashgun with the firing button (1.4.). If the red LED (1.8.) does not light up, then a smaller f-number (e.g. f2.8 instead of f5.6) has to be set, or the distance to the subject must be reduced. To be on the safe side another test flash can then be fired.

Flash exposure corrections

Flash metering, both in **TTL/GNC** and **A** mode, can be deceived so that optimal exposures are not achieved without manual intervention on the part of the user. This is the case with above- and below-average bright subjects, as well as with dark subjects in front of a bright background or a bright subject in front of a dark background, resulting in under-exposure and over-exposure, respectively.

Correct exposures can nevertheless be achieved also under such conditions because the light output of the LEICA SF 24D can be specifically influenced by corrections within a range of $\pm 3\text{EV}$, set in 1/3 EV increments in **TTL/GNC** mode, and whole EV increments in **A** mode:

Setting procedure	Display
<p>1. Press the  P button (1.12.) 2x briefly in succession.</p> <p>Please note: If the displays described on the right-hand side are visible, then 1x brief depression is sufficient.</p>	<p>After the first depression the following is displayed instead of the aperture or ISO value: The symbol for flash exposure correction (2.7.), the possibly preset correction value (2.5.d, default setting = 0), and EV (2.3.), possibly including the corresponding sign (2.6.). The correction value starts to flash after the second depression.</p>
<p>2. As long as the value flashes (4 s) it can be set with the plus and minus buttons (1.5.):</p> <p>a. With TTL/GNC mode of the flashgun in 1/3 EV increments.</p> <p>b. With A (Automatic) mode of the flashgun in whole EV values.</p>	<p>The flashing value changes accordingly.</p>
<p>3. Press the  P button (1.12.) once again to confirm the entry.</p>	<p>The EV value stops flashing.</p>

<p>Please note:</p> <ul style="list-style-type: none"> • Alternatively, press the buttons  (1.11.) or ISO (1.10.) to confirm the entry and simultaneously changeover the display to the required form (see Point 4). • The setting mode is automatically switched off 4 s after the last setting and the current value is stored. 	
<p>4. To return to normal display press the  button (1.11.).</p>	<p>The aperture reappears, EV disappears. The symbol for exposure correction remains illuminated.</p>

Please note:




- A flash exposure correction may remain effective for several shots until it is reset, or another value is set, or the flashgun is switched off or switches itself off, or the batteries are removed.
- The distance range rating changes when flash exposure corrections are entered.

Explanation: Minus corrections increase the distance range so that the associated lower light output level is still possible at a longer distance; inversely, plus corrections diminish the distance range (see also Table in Section "Maximum flash range," p. 57).

- When the LEICA R8 / LEICA R9 are in the **P** mode, an automatic program-controlled flash correction is performed in conformity with the ambient light. The corrected value can be seen on the data field of the flashgun when the Δ / **P** button is (1.12.) actuated. This automatic correction cannot be switched off or overridden on the LEICA R8, i.e. any correction that may have been set on the flashgun remains ineffective. The situation is different with the LEICA R9: In this case the correction manually set on the flashgun replaces the automatically set value.

- Any flash exposure correction is also indicated in the viewfinder of the LEICA R8 and LEICA R9 with the associated sign (+ or -)
- In the flashgun's **A** mode the range of adjustable corrections is limited, depending on the speed of the loaded film and the aperture used. The corresponding setting ranges can be read off the Table. The different grey levels show the extent of the limitations:

No highlight in grey = Unlimited setting range from -3 to +3EV

-  Setting range limited by 1EV
-  Setting range limited by 2EV
-  Setting range limited by 3EV

ISO	2	2,8	4	5,6	8	11
25/15°				-3 to +2 EV	-3 to +1 EV	-3 to 0 EV
50/18°					-3 to +2 EV	-3 to +1 EV
100/21°	-2 to +3 EV					-3 to +2 EV
200/24°	-1 to +3 EV	-2 to +3 EV				
400/27°	0 to +3 EV	-1 to +3 EV	-2 to +3 EV			
800/30°	⁴⁾	0 to +3 EV	-1 to +3 EV	-2 to +3 EV		

⁴⁾ Not adjustable; see "Setting the working aperture," p. 55

The M mode

In this mode the LEICA SF 24D always emits the same amount of light. This equals the flashgun's full light output, except that a partial light output level has been selected (see below). The flash exposure must therefore be controlled manually by varying the aperture setting. For this purpose the aperture is calculated for the established distance (aperture = guide number divided by distance), or read off the data field (1.6.) or taken from the Table in these instructions, and then set on the lens.

Settings for the M flash mode

- Turn on the flashgun by pushing the main switch (1.7.) upwards to **ON**.
- Set the operating mode selector (1.9.) at **M**.
- Set the distance to the subject on the camera.
- Use the aperture calculator in the data field to establish the aperture required for a correct flash exposure (see "Setting the working aperture," p. 55) or the Table in the Section "Maximum flash range" (p. 57).
- Set the established aperture on the lens.

6. Set the camera's shutter-speed dial to flash synch speed or a slower speed.
The possible settings differ according to the given camera model.


Using partial light output levels

In some photographic situations, e.g. if a certain aperture is required for close-ups, it may be helpful to work with a diminished light output. The light output of the LEICA SF 24D can then be reduced by several steps when in manual mode.

The settings and displays on the data field (1.6.) are almost identical to those for flash exposure corrections except that, in this case, only negative values up to -5EV are available because the output of the flashgun cannot be increased.

Consequently, -1EV equals a halving of the output, which results in a reduction of the distance range with the same aperture or a reduction of the aperture with the same distance range by the factor $\sqrt{2}$ (= 1.4 approx.); -2EV equals a quarter of the output/a reduction by the factor 2; -3EV an eighth of the output/a reduction by the factor $2\sqrt{2}$ (= 2.8 approx.), a.s.o.

Setting procedure	Display
<p>1. Press the Δ /P button (1.12.) 2x briefly in succession.</p> <p>Please note: If the displays described on the right-hand side are visible, then 1x brief depression is sufficient.</p>	<p>After the first depression the following is displayed instead of the aperture: P (2.5.d), possibly the previously set partial light output level (2.5.d, default setting = 0), including the sign (2.6.) and EV (2.3.). The correction value starts to flash after the second depression.</p>
<p>2. As long as the value flashes (4 s) it can be set with the plus and minus buttons (1.5.) in 1/3EV increments:</p>	<p>The flashing value changes accordingly.</p>
<p>3. Press the Δ /P button (1.12.) once again to confirm the entry.</p> <p>Please note: • Alternatively, press the buttons \odot (1.11.) or ISO (1.10.) to confirm the entry and simultaneously changeover the display to the required form (see Point 4).</p>	<p>The EV value stops flashing.</p>

Setting procedure	Display
<ul style="list-style-type: none"> The setting mode is switched off 4 s after the last setting and the current value is stored. 	
4. To return to normal display press the  button (1.11.).	The aperture reappears, EV disappears. P remains illuminated.

Faults and remedies

Fault	Cause	Remedy
Flashgun does not indicate flash readiness (see p. 50)	Batteries incorrectly loaded or exhausted	Check batteries and reload if necessary (see p. 47)
Flashgun does not indicate flash readiness, even though fresh batteries have been correctly loaded	Poor contact	Clean battery poles and contacts; wipe with a dry cloth
Camera does not indicate flash readiness, even though flashgun is mounted and switched on	Flashgun not correctly mounted	Check position of flash foot in flash shoe; adjust to correct position (see p. 48)
Under-exposed flash shots	Distance range exceeded; aperture is too small	Check and correct aperture setting on the flashgun and lens (see p. 55)
A flashes after switch-on (see p. 51)	No electrical connection with the camera	If flashgun is connected to a system-compatible camera: apply power for the camera; If flashgun is not connected to a system-compatible camera: use A or M modes (see p. 57)

Tips for LEICA SF 24D care

- Never use alcohol or other chemical solutions to clean the flashgun's body. Only wipe it with a soft, dry cloth.
- Do not expose the LEICA SF 24D to hard knocks and jolts, excessive heat and/or moisture.
- Very low temperatures impair the performance of the flashgun, especially with declining battery power, with the result that the LCD data field will become sluggish. It is therefore advisable to keep the LEICA SF 24D warm in an inside pocket.
- An abrupt change in temperature from cold to warm should be avoided as this can result in condensation which will impair performance. If condensation has formed, it will disappear after a while when the flashgun is placed in a dry environment. Do not switch on the flashgun during this period.

- Ensure that the LEICA SF 24D does not get wet as this can result in costly repairs, even in a total write-off.
- Batteries should be removed if the flashgun is not being used. Store the flashgun in a cool, dry place, free of dust and chemicals.

Technical data

Flash holder ISO flash foot with hot shoe, signal and control contacts

Guide number (at ISO 100/21°, in m/ft) 20/65, with wide-angle diffuser 14/46, with telephoto diffuser 24/78

Illumination angle Equals a 35 mm focal length for a 35 mm camera (24 mm with wide-angle diffuser; 85 mm with telephoto diffuser)

Colour temperature approx. 5,600° K

Measuring angle of integrated sensor approx. 25°

Operating modes

1. **TTL/GNC** (camera-controlled flash exposure with LEICA CM, LEICA R8/R9 and the LEICA M6TTL/M7 models); guide-number controlled light output - GNC - with LEICA CM, otherwise TTL flash metering
2. **A** Flashgun controls flash exposure with other cameras; six automatic ranges selectable: 2, 2.8, 4, 5.6, 8 and 11
3. **M** Full, uncontrolled light output; partial light output levels adjustable in 1/3EV increments up to -5EV (equalling 1/32 output/GN 3.5)

Other functions Flash exposure correction ± 3 EV, with TTL in 1/3EV increments; with A adjustable in whole EV increments. Correction range restricted in A mode and simultaneous use of a high film speed and the two smaller apertures.

Suitable film speeds With TTL/GNC and M mode: ISO 12/12° - 3200/36°; with A mode: ISO 25/15° - 800/30°; the listed working ranges cannot be "indirectly" exceeded by setting exposure corrections on the camera.

Flash duration With TTL/GNC and A mode: 1/30,000 - 1/250 s; with M mode: 1/250 s (at full capacity)

Recycling times approx. 0.5 - 5 s

Number of flashes per set of batteries approx. 370 at full light output

Power supply Two lithium batteries, type DL 123A, CR 123A, or similar

Overall dimensions (w/h/d) 66 x 109 x 40 mm

Weight approx. 180 g (without batteries)

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