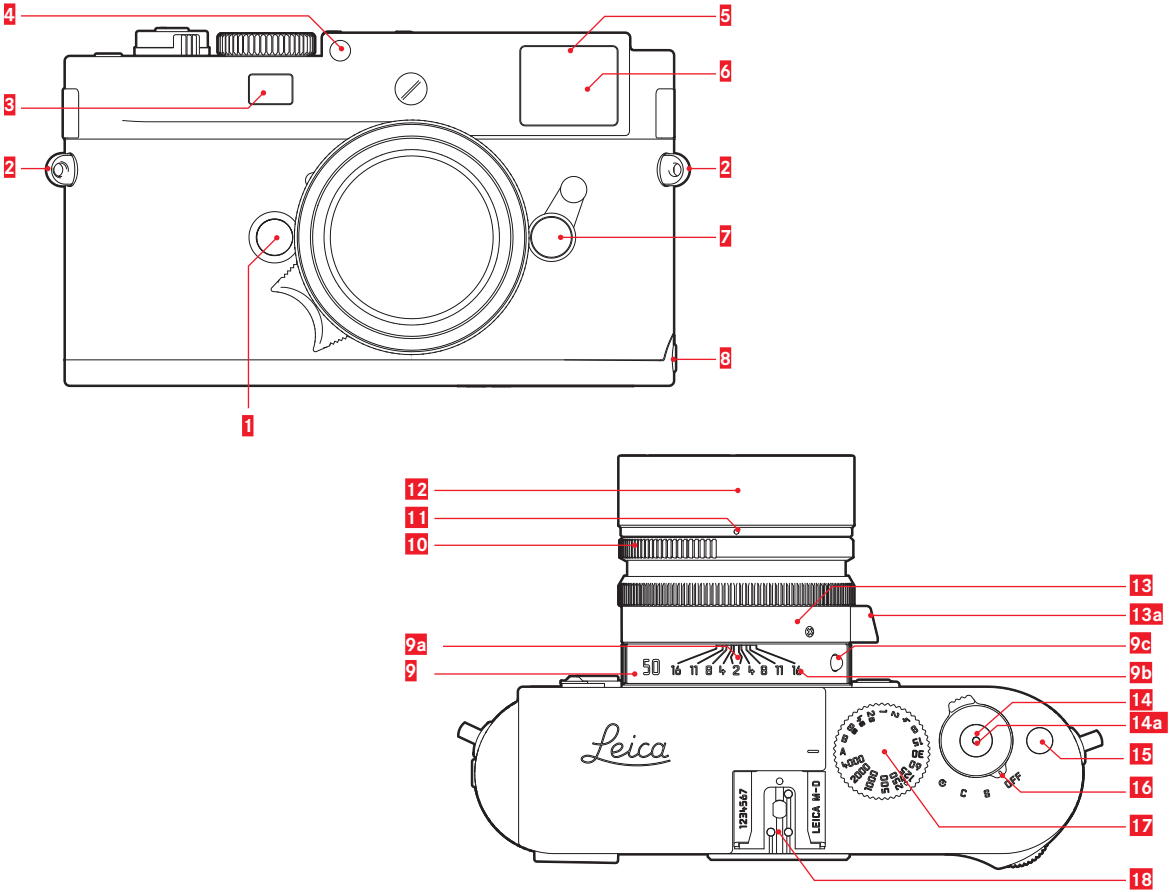
LEICA M-D

使用說明書 | Instructions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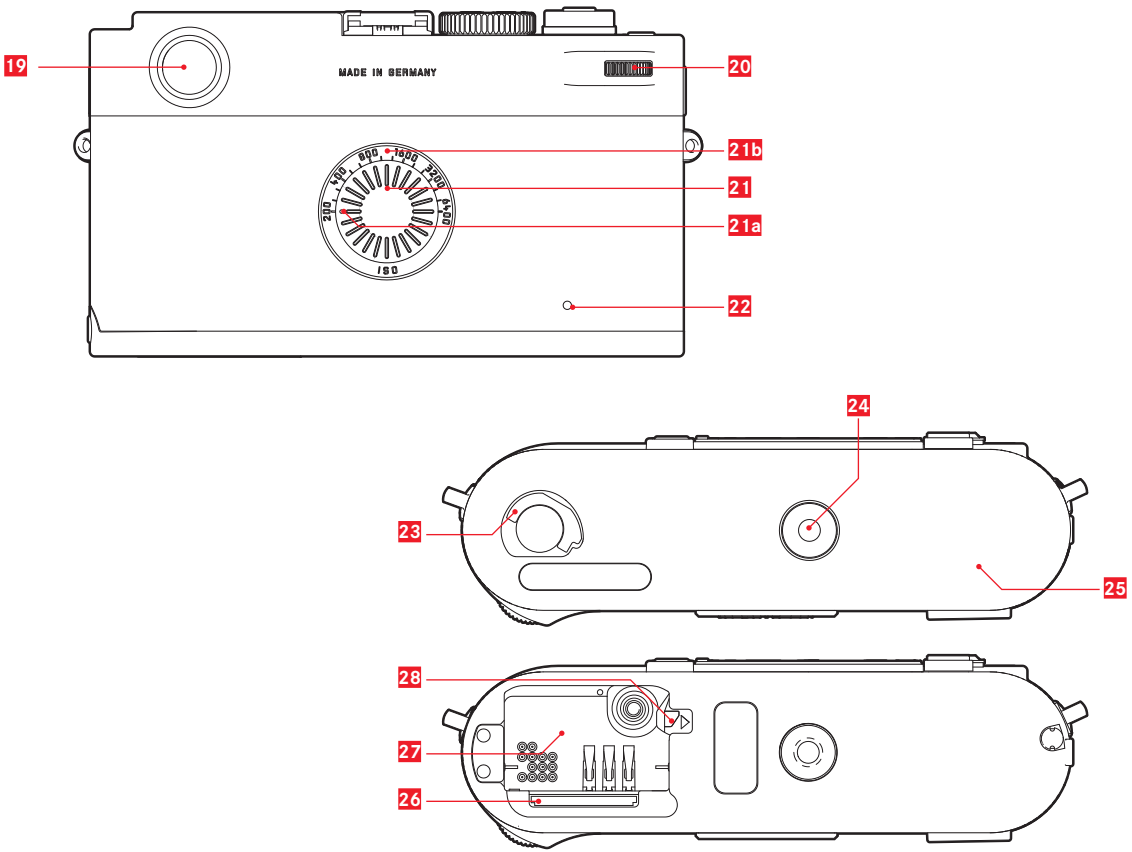
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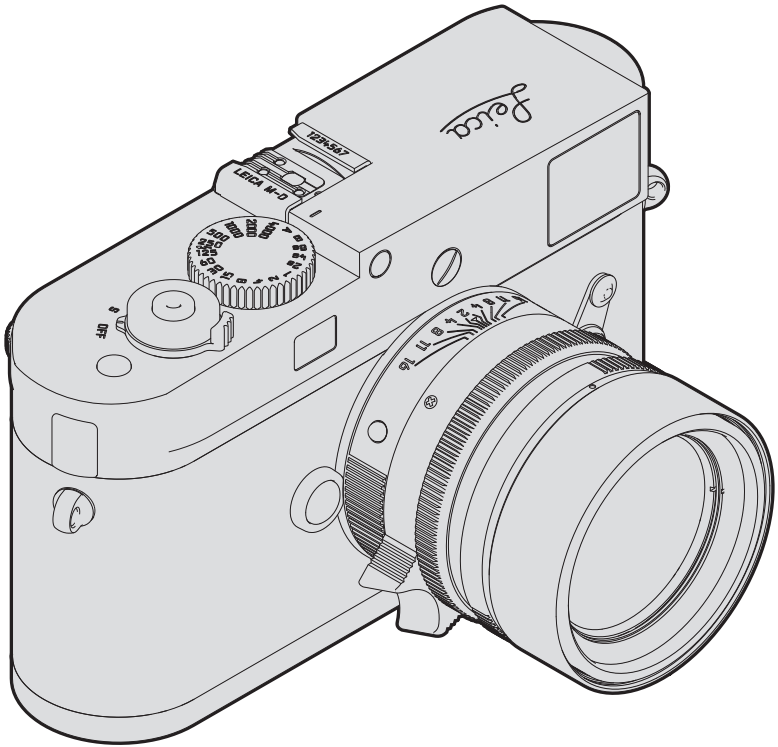
Leica M-D

說明書

前言

親愛的顧客:
感謝您購買徠卡 M–D 型相機，並恭喜您慧眼獨具選擇了這台獨一無二的數位旁軸相機。衷心期望這台嶄新的徠卡相機，能帶給您許多樂趣和成果。
我們建議您先閱讀本說明書，以便您能駕輕就熟地使用這台相機的所有功能。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LEICA M-D
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目錄

本產品之 CE 標誌代表本產品遵守適用之歐盟規章的基本要求。

警告提示

- 現代電子元件對於靜電放電的反應很敏感。例如在合成地毯上走動就有可能產生好幾萬伏特的靜電，若在這時候碰觸您的相機，而它又剛好坐落在導電的地面上，就可能引發放電現象。只發生在相機機身表面的放電現象不會對相機內部的電子零件造成損害。通到外部的接腳，例如配件熱靴電池或背板上的接點，雖有內建的保護電路，為了安全起見仍應盡量避免碰觸。若未使用配件熱靴，應始終蓋上附屬的護蓋（在配送範圍中）。
- 如果要對觸頭進行清潔，請勿使用超細纖維清潔布（人造纖維清潔布），而應選用一塊棉布或麻布！如果您提前意識到要接觸加熱管或水管（可導電的「接地」材料），則可確保釋放您身上可能帶著的靜電電荷。儲藏相機時，請勿拔下鏡頭或鏡頭接座蓋，且應將其放在乾燥的地方，以避免這些接點沾染汙垢或氧化。
- 僅能使用本廠推薦的配件，以避免產生干擾、短路或觸電等問題。
- 請勿嘗試拆除機身零件（外蓋）；專業修理工作僅能由經授權的維修單位執行。

法律提示

- 請遵守著作權法。未經授權自行轉載或公開播放轉錄媒體，例如經由錄影帶、CD、他人發行或寄送的內容，皆有可能違反著作權法。
- 此點亦適用於所有附贈的軟體。
- SD及HDMI標誌都是註冊商標。
- 其他在本說明書提到的商標、公司及產品名稱皆為相關公司的商標或註冊商標。

電機與電子裝置的廢棄處置

（適用於歐盟及其他有獨立回收系統的歐洲國家。）

本裝置包含電氣及 / 或電子組件，不得棄置於一般家庭垃圾內！請務必將本裝置送至地方政府府設置的資源回收點。您不需為此付費。若裝置含有可更換式電池或充電電池，請務必先將這些電池取出，並按當地規定進行廢棄物處理。
其他和本主題相關的資訊，可從當地政府、廢棄物處理公司或者您購買產品的商店處得知。

您可在保固卡的貼紙上或在電池外殼的包裝上找到相機的製造日期資料。相機的書寫格式為年/月/日，電池的則為日历周/年（WWYY）。

各部件名稱

封面和封底上的圖片

前視圖

1 鏡頭解鎖鈕
2 揹帶吊耳
3 測距儀視窗
4 亮度感測器[1]
5 自拍器發光二極管
6 觀景窗觀測窗口
7 視野撥桿
8 底板上的停止點

俯視圖

9 固定環，隨附
  a. 焦距調整指標
  b. 景深刻度盤
  c. 用於更換鏡頭的紅色指示鈕
10 光圈調節環
11 用於光圈設定的指標
12 遮光罩
13 焦距設定環，含
  a. 手指撥桿
14 快門鈕
15 功能按鍵
16 含如下停格位置的主開關
  – OFF（相機關機）
  – S（單張拍攝）
  – C（連續拍攝）
  – ⏲（自動引閃器、時間/日期設定或感測器清潔）
17 含如下停格位置的快門時間設定轉盤
  – A 快門時間自動控制
  – 快門時間 1/4000 – 8秒（包括中間值）
  – B（長時間曝光）
  – ϟ 閃燈同步時間（1/180秒）
18 配件靴座

[1] 有觀景窗座的徠卡M型鏡頭會遮住亮度感測器。關於這類鏡頭以及其它鏡頭的運作方式， 請參閱第 46頁「顯示訊息/觀景窗內」以及第 17頁「徠卡M型鏡頭」兩節的說明。

背視圖

19 觀景窗
20 拇指轉輪
21 ISO設定，含
a. 刻度盤
b. 設定盤
c. 指標點
22 發光二極體，可用於顯示相機正在攝影/記憶卡正在儲存資料

仰視圖

（裝上底蓋時）
23 底蓋的閂柄
24 三腳架螺孔 A ¼，DIN 4503（¼ “）
25 底蓋

（取下底蓋時）
26 記憶卡插槽
27 電池插槽
28 電池閂鎖推桿

簡要說明

請備妥下列物品：

- 相機
- 電池
- 記憶卡（請自行購買）
- 充電器與電源線

準備工作

1. 電池充電（請看第 11頁）
2. 安裝電池（請看第 14頁）
3. 安裝記憶卡（請看第 15頁）
4. 開啟相機（請看第 20頁)
5. 設定日期與時間（請看第 22頁）

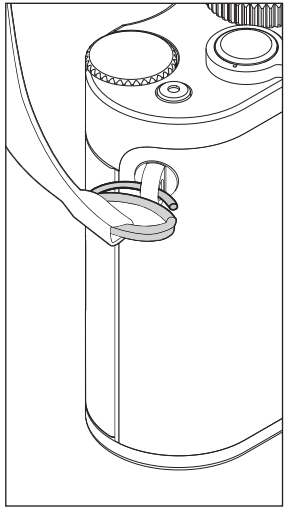
拍攝

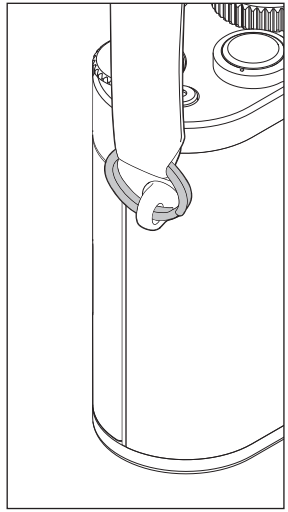
6. 安裝鏡頭（請看第 19頁）
7. 快門時間設定轉盤設定到 **A**（請看第 21頁）
8. 設定主題清晰度（請看第 26頁）
9. 開啟相機（請看第 20頁)
10. 開啟測光（請看第 28頁)
11. 視需要調整曝光（請看第30頁）
12. 觸發（請看第 20頁）

詳細說明

準備工作

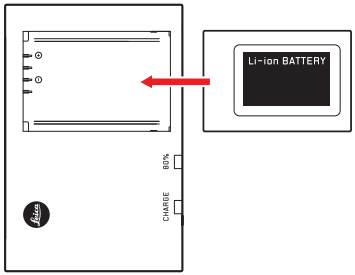
裝上揹帶





電池充電

徠相機的電源來自鋰離子充電池。



- 有 **CHARGE** 標示的綠色LED閃爍，表示充電作業開始了。電池電力一旦達到其容量的 4/5，有 **80%** 標示的黃色LED會亮起。電池完全充飽電後，綠色的LED就會持續發亮。

提示：

代表 **80%**的LED會依充電特性在大約2小時後亮起來。

完成充電後，應該拔除充電器電源。無論如何，您不用擔心會有過度充電的問題。

注意：

- 請務必使用本說明書裡描述的充電電池種類（訂購編號14 499）或是徠卡相機公司所列舉之充電電池種類。
- 這些充電電池僅能使用專屬的（亦即以下所說明的）裝置充電。
- 違反使用規定，以及使用不合規定種類的充電電池，可能會導致電池爆炸！
- 充電電池不得長時間暴露於熱源或日曬、溼度或濕氣之下，亦不得置於微波爐或高壓容器內，否則會有失火或爆炸的危險！
- 充電電池內的安全閥應確保釋放，因不當操作或其他原因所產生的過度壓力。
- 僅能使用本說明書提及說明的充電器（訂購編號14 494）。使用其他非經徠卡相機公司許可的充電器，可能會使充電電池受損，嚴重時甚至可能引發嚴重、危及生命的傷害。
- 隨機附贈的充電器僅能用於充電電池的充電，請勿嘗試使用於其他用途。
- 充電器已連接電源的情況下，請切勿使用隨機所附的車用充電器。
- 充電時使用的電源插座，應置於隨手可及之處。
- 充電器及電池不可以拆解。修理工作只能由取得授權的工廠執行。

提示：

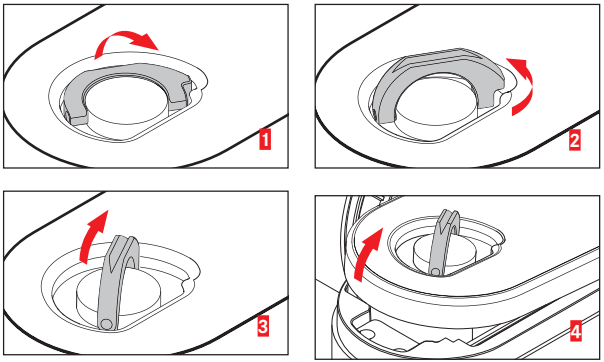
- 首次使用相機前，應該先為充電電池充電。
- 充電電池的溫度必須在10° –30° C之間才能夠充電（否則充電器會無法啟動或會自行再度關機。）
- 鋰離子充電電池不管有多少剩餘電力，都可再行充電。若電池電力還未耗盡，則充飽電所需的時間會較短。
- 充電過程中，電池會升溫。這是正常現象，不是故障跡象。
- 充電器的兩個訊號燈若於充電啟動後快速閃爍（>2Hz），此乃充電異常的警訊（可能是因為已超越充電時間上限、電壓或溫度異常，或是有短路現象）。這時，請拔除充電器的電源並取出充電電池。請確定前述溫度條件吻合，再重新充電。若無法排除此問題，請與您的經銷商、所在國家的徠卡代理商或徠卡相機公司聯絡。
- 新的充電電池要充分充電、放電（讓相機的運作耗盡其電力）兩三次後，才能充出其最高電力。這種充分放電作業應該每充放電25次，就重新執行一次。為讓充電電池的使用壽命達到最長，應避免長時間放置在溫度極高或極低的環境中（例如在夏天或冬天，放在停駛的汽車裡）。
- 每顆充電電池的使用壽命，即便在最佳的使用條件下都是有限的！數百次充電週期過後，會發現使用時間明顯變短。
- 最晚應每四年更換一次電池，因其功效會逐漸減弱，特別是在冬天將不保證電池的運作可靠度。
- 損壞的充電電池，應該遵照相關規定(請看第 7頁)處置。
- 相機裡有一顆內建的備用充電電池，用以儲存時間和日期，最長可達2個月；其充電電源是那顆可更換的充電電池。如果備用充電電池的電力耗盡，您必須安裝一顆有電力的可更換式電池為它充電。在裝上可交換式充電電池後，備用充電電池大概幾天後可充到完整容量。在這段充電期間，相機必須保持在關機狀態。

更換蓄電池/記憶卡

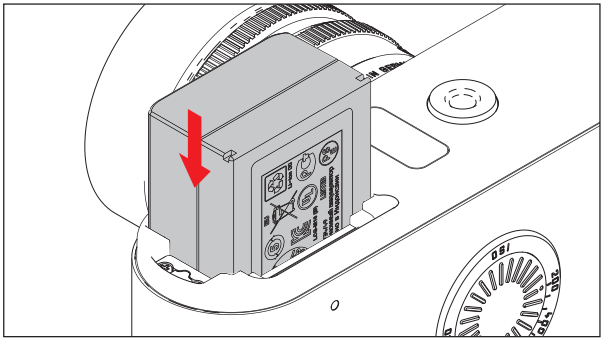
關閉相機（請看第20頁）

重要：
如果顯示幕旁右下方代表記憶卡上數據保存的紅色LED閃爍，請勿打開底蓋或取出記憶卡或充電電池。否則，尚未（完全）儲存好的相片資料可能會丟失。

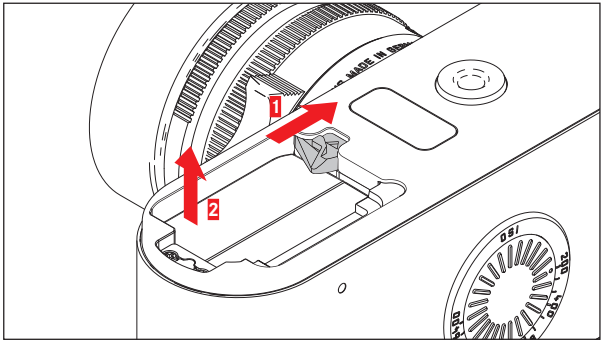
取下底蓋



安裝電池



取出電池



電池電量顯示

您可在觀景窗顯示當前電池電力：

1. 接通相機

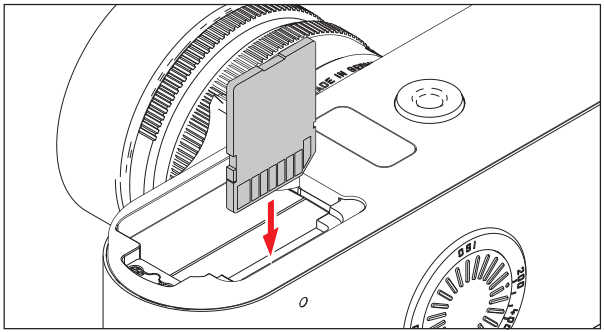
如果相機開啟狀態下，觀景窗顯示關閉了，就需要：

2. 按下快門至第一個壓力點
3. 按壓功能按鍵2次。
   - 重複按壓時可以百分比形式交替顯示記憶卡容量和電池電力。為了便於區分，顯示電池電力時，上方還會顯示一個點。

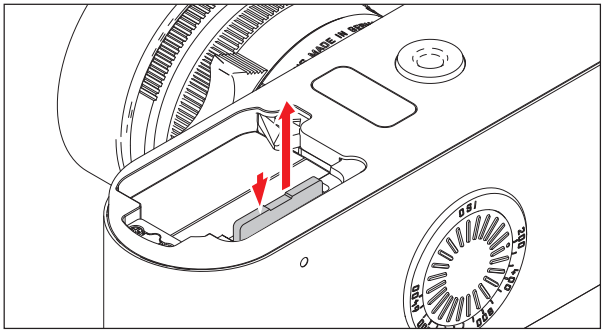
提示：

- 電池電力和記憶卡容量的顯示與觀景窗顯示是否提前打開無關。
- 若長時間不使用相機，請取出充電電池。
- 相機內的電池電力耗盡後（請參閱第11頁「為電池充電」的最後一個提示），最遲二個月後，就必須重新進行日期與時間設定。

裝入記憶卡



取出記憶卡



可用的記憶卡

相機將相片儲存在一個SD（安全數位）、SDHC（高容量）或SDXC（超高容量）記憶卡內。
SD/SDHC/SDXC記憶卡有很多供應商，而且有各種容量和讀寫速度。這些高容量及容許高速讀寫的特性，可以快速記錄及播放資料。SD/SDHC/SDXC記憶卡具備防寫開關，可防止意外寫入或刪除卡上的資料。此開關位於記憶卡上無斜角那邊的推桿，推到下面標示著LOCK[上鎖]的位置即可保護記憶卡上現存的資料。

提示：
請勿碰觸記憶卡上的接點。

記憶卡容量顯示

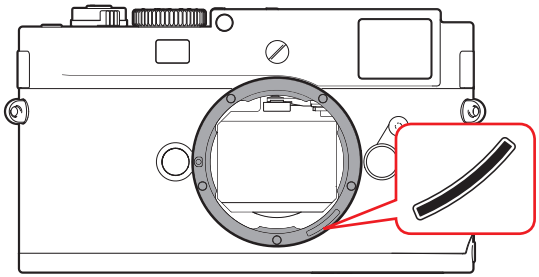
您可在觀景窗顯示還可拍攝的照片張數：
1. 接通相機
   - 首先會顯示電池電力。
2. 按壓功能按鍵1次。

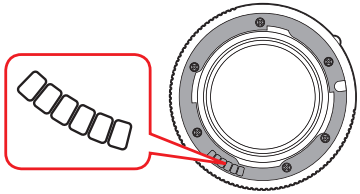
如果相機開啟狀態下，觀景窗顯示關閉了，就需要：
3. 按下快門至第一個壓力點
4. 按壓功能按鍵1次。
   - 會顯示各自的數值。
     按壓快門按鈕至第一個按壓點3秒后，或按壓功能按鍵鬆開后，顯示會回到正常狀態。
     記憶卡達到容量極限時會顯示 Full，這與觀景窗顯示是否提前開啟或關閉無關。

提示：
- 市面上供應的SD/SDHC/SDXC卡廠牌種類繁多，徠卡相機公司無法全面檢驗所有品牌與型號的相容性和品質，使用其他型號的記憶卡雖然不至於使相機或記憶卡受損，但鑒於有些記憶卡，尤其是所謂的「白牌」產品，並不符合SD/SDHC/SDXC標準，徠卡相機公司無法擔保其功能。
- 如果無法裝入記憶卡，請檢查是否正確對齊。
- 電磁場、靜電電荷以及相機和記憶卡上的損傷，可能會造成記憶卡上的資料損壞或遺失，所以建議將資料傳送至電腦儲存（請看第36頁）。
- 基於同樣理由，記憶卡應盡量存放在抗靜電的容器內。

徠卡M型鏡頭

原則上：可以使用大部分徠卡M型鏡頭，少數例外及限制詳見下列說明。
其適用性與相機鏡頭配備無關——無論接座是否有6位元辨識碼。為優化曝光和圖形數據，相機在鏡頭帶辨識碼時使用轉換過的信息。
即使沒有這項額外的配備，亦即使用沒有辨識碼的徠卡M型鏡頭時，相機通常還是能展現優秀的攝影效果。





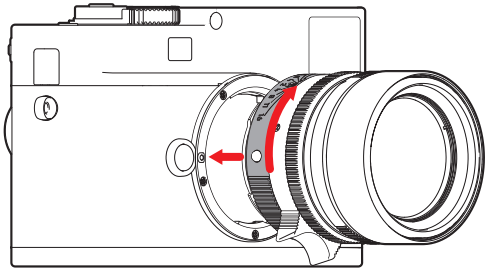
重要：

- 無法使用的鏡頭：
  - Hologon 1:8/15mm，
  - 含微距功能的Summicron 1:2/50mm，
  - 縮筒式的Elmar 1:4/90mm（製造年代：1954至1968）
  - Summilux–M 1.4/35mm（非球面，製造日期1961–1995，加拿大製）有某些個別產品無法裝在相機上，以及無法對焦到無限遠處，徠卡客服部門 可修改這些鏡頭，讓其亦能使用在相機上 。
- 可使用，但有相機或鏡頭受損的風險：
  縮筒式鏡頭只能在鏡筒伸出時才能使用，亦即是其鏡筒絕對不可縮進相機裡。現在的Macro–Elmar–M 1:4/90mm不受此限，因為其鏡筒在縮筒狀態下並不會伸進相機。

可使用，但有限制條件：
相機的測距觀景窗有很高的精度，可是光圈全開時景深會很淺，所以我們無法保證使用135mm鏡頭時能準確對焦。在這種情況下，我們建議您至少縮降2格光圈。
- 可使用，但無法進行測光
  - Super–Angulon–M 1:4/21mm
  - Super–Angulon–M 1:3.4/21mm
  - Elmarit–M 1:2,8/28mm，製造序號低於2 314 921者

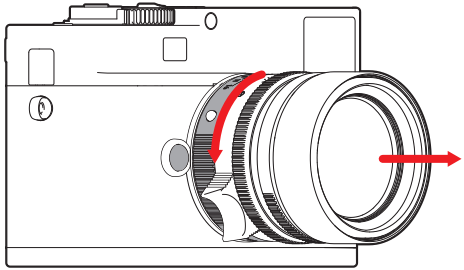
提示：
- 徠卡客服維修部門可以替許多徠卡M型鏡頭加裝6位元辨識碼。（地址請看第54頁）。
- 使用徠卡TRI–ELMAR–M 1:4/16–18–21mm ASPH. 鏡頭時，焦距的設定無法傳送到相機，因此無法記錄在相片的EXIF資料中。
- 徠卡Tri–Elmar–M 1:4/28–35–50mm ASPH具備連動觀景窗內取景框線的必要機械式傳導功能，可將設定的焦距傳給相機，該焦距由相機電子元件探測并用於焦距修正。這適用於所有三種型號的鏡頭（貨號11 625、11 890和11 894）。

安裝鏡頭



1. 關閉相機
2. 握住鏡頭的固定環
3. 將鏡頭的紅色指標鈕對準相機機身的解鎖鈕
4. 依此方位直直插入鏡頭
5. 稍微向右旋轉，直到聽到並感覺到鏡頭卡住定位

取下鏡頭



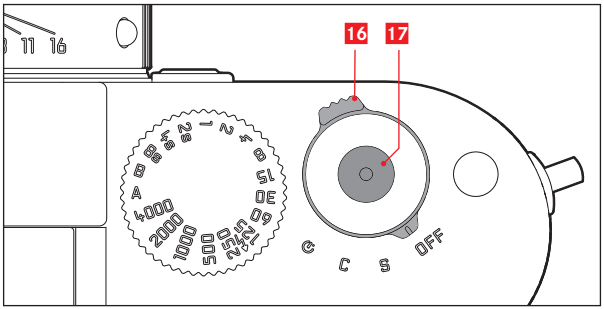
1. 關閉相機
2. 握住鏡頭的固定環
3. 將相機機身上的解鎖鈕往下按
4. 將鏡頭向左轉，直到其紅色指標鈕對準解鎖鈕為止
5. 直接取下鏡頭

提示：

- 原則上：為了防止灰塵等異物侵入相機內部 – 相機原則上應一直裝著鏡頭或以機身蓋罩上。
- 基於同樣理由，更換鏡頭的動作應迅速，而且儘可能在無塵的環境中進行。
- 相機或塑料鏡頭後蓋不應放在褲子口袋裡，因為一旦沾上灰塵，裝到相機上時灰塵便會進入相機內部。

操作元件

總開關



相機使用主開關開機和關機。位於快門鈕下面，是一個有四段位置的定格式撥桿：

a. **OFF** – 相機關機

b. **S** – 切換到單張拍攝模式
按下快門按鈕，每次會拍攝一張相片，與是否按住不放無關。閂鎖的繃緊聲音很輕。振動很小。

c. **C** – 切換到連續拍攝模式
只要所使用的記憶卡和相機內部暫存記憶體有足夠的容量，按下快門按鈕相機就會連續拍攝。第一次連拍時，會以較快的速度至少連續拍攝8張，之後連拍頻率會變慢。

d. 自拍
按下自拍器會開始倒數預設的前置時間（請看第36頁），然後拍攝相片。

提示：

- 開機約1秒之後，即可到達待命狀態
- 相機長時間不使用或是放在相機袋裡時，應該要用主開關關機。如此可阻斷電力消耗，否則測光表自動關機、顯示訊息熄滅後，相機在待命模式下還是會繼續耗電。藉此也可防止不經意按壓到快門鈕而攝入影像的意外發生。

快門鈕

快門鈕有二個壓段：

1. 按到第一個壓點
   - 啟動測光功能及觀景窗內的訊息顯示
   - 儲存光圈先決時的測光值，亦即相機所決定的快門時間（請看第30頁的「儲存測量值」章節）

*取決於卡的速度

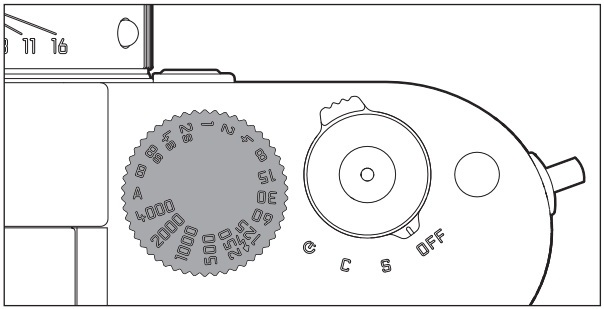
若快門鈕在該壓段被按住，顯示訊息會保持開啟狀態。若相機之前是設定在待機模式，則會重新啟動並開啟顯示訊息。
放開快門鈕後，測光系統和顯示訊息會維持大約30秒的啟動狀態（請看第28頁以下「測光」章節的詳細說明）。

提示：
在下列情況，快門鈕會維持在被封鎖狀態：
- 內部緩衝記憶體（暫時）處於空間不足的狀態，例如連拍 ⩾16 張相片之後，或是
- 插入的記憶卡已滿且內部緩衝記憶體（暫時）已滿，或是
- 插入的記憶卡寫保護，或是
- 插入的記憶卡的圖像編號用光（這種情況下，應在做好數據保護后在相機外進行記憶卡格式化），或是
- 充電電池到達極限值（電力、溫度、年限），或是
- 底蓋未安裝。

2. 快門鈕按到底後，即完成拍攝。隨後，影像資料會被傳送到記憶卡上。

提示：
為了避免手震，應輕緩地按壓快門鈕，直到聽到一聲輕輕的快門響聲為止。

快門時間設定轉盤



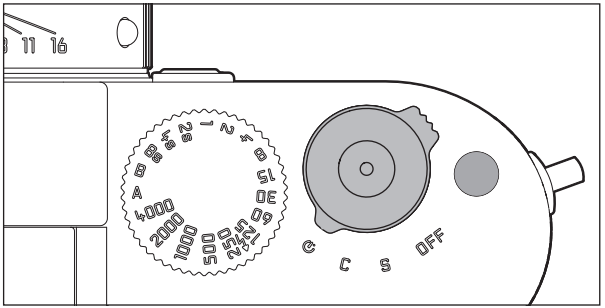
可使用快門時間設定轉盤選擇曝光模式，
- 光圈先決模式，設定到 **A**的位置，（請看第29頁），
- 手動模式，讓您選擇快門時間 1/4000秒至8秒（以1/2格為單位的中間值也能使用），
- 用 ϟ 符號標示的最短同步時間 1/180秒，適用於閃光燈模式（請看第35頁），以及
- **B** 長時間曝光模式（請看第31頁）。

快門時間設定轉盤沒有停止點，可以從任何位置朝任意方向旋轉，可停在所有刻度位置以及其間的數值上，這些停格位置以外的中間位置則無法使用。
欲設定出適度的曝光，請參閱從第28頁起的「測光」。

基本設定

時間和日期

該設定只需藉助功能按鍵、拇指轉輪和觀景窗顯示訊息實現。



啟動設定模式：

1. 將主開關調至 ⏲
2. 長按功能按鍵（⩾12秒，在此期間不允許有其他操作進程同時進行）

各個值的設定：

3. 藉助拇指轉輪

在下列數值組間轉換：

4. 短按功能按鍵

數值組出現的順序

設定年份：	
設定月份：	
設定日期：	
設定小時：	
設定分鐘：	

退出設定模式：

1. 長按功能按鍵（ ⩾12秒），或將主開關轉出 ⏲位置，或輕按快門鈕。
   此時將儲存/執行所有設定。

ISO感光度

ISO設定範圍是ISO 200 – 6400，設定單位1/級數，以便您依攝影當時的快門時間 / 光圈值條件調整出適當的設定。此時可使用相機背後待用的設定盤。旋轉設定盤時，使指標點沿與刻度盤上所需數值相反的方向旋轉。

提示：

特別是在高ISO感光度及影像後處理的情形下，有可能在被攝目標的大面積均勻亮區看到雜訊，以及垂直和水平條紋。

固定的相機設定

該相機將圖像數據以無損壓縮的DNG格式儲存。白平衡自動實現。

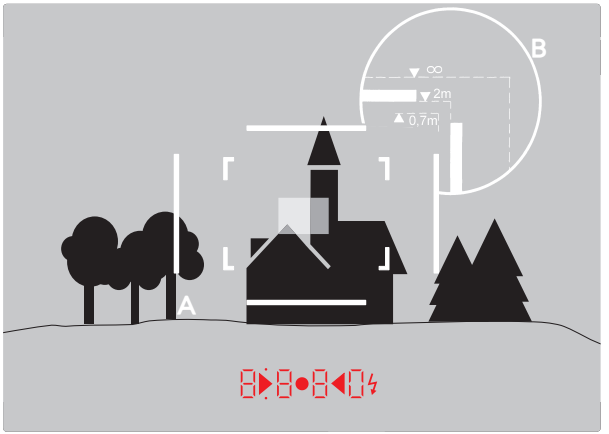
有框線觀景窗

此相機的有框線觀景窗，不只是一個品質特高、尺寸特大、卓越明亮的觀景窗，也是一個和鏡頭連動、非常精確的測距儀，它擁有0.68倍的放大倍率。觀景窗框線將通過LED照明呈現白色。

本取景框線的尺寸是配合徠卡M 原廠預設的格式而定，讓取景框線和距離設定是連動，視差 – 也就是鏡頭和觀景窗軸線之間的偏差，會自動補償修正。感測器能感測到的比取景框線內緣顯示在距離小於2m以內時小一點，距離超過2m時則多一點（請看旁邊的圖解），這些在實務中鮮少被注意到的細微差異源自作業原理：

連動測距式相機的取景框線必須配合所用鏡頭焦距的視角調整。然而在對焦時，額定視角會隨著變化中的外移量而變，亦即隨光學系統和感測器平面之間的距離而變。如果設定的焦距比無限遠小（相對的，外移量較大），實際上的視角也會比較小 – 鏡頭能掌握到的攝影目標較少。此外，焦距較長時的視角差異有隨著較大的外移量變大的傾向。

在觀景窗區域的中央有四邊形的對焦區，比周圍的影像區域亮。若啟動了測光表，觀景窗影像下緣就會額外出現測光表的LED訊號或LED閃光燈符號。關於測距、測光以及閃光燈作業的進一步說明，請看第26/28/32頁的相關章節。



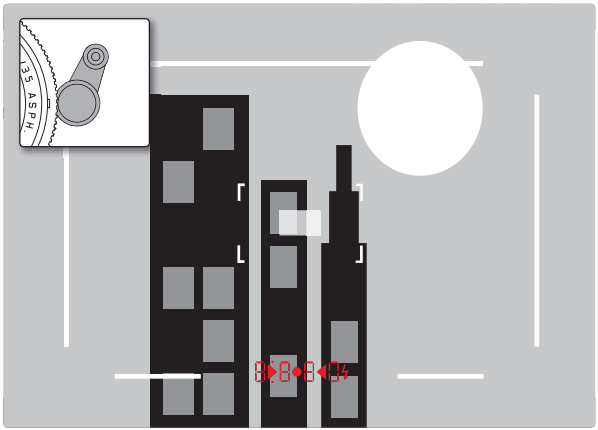
所有相片和取景框線位置都以50mm的焦距為基準

A	取景框線
B	實際畫面
設定為0.7m時：	感測器取得的景象略微小一點，其差異約為框線線寬。
設定為2m時：	感測器取得的景象與取景框線內緣所顯示的畫面吻合。
設定為無限遠時：	感光元件可涵蓋大約1(垂直)/4(水平)的框線寬度。

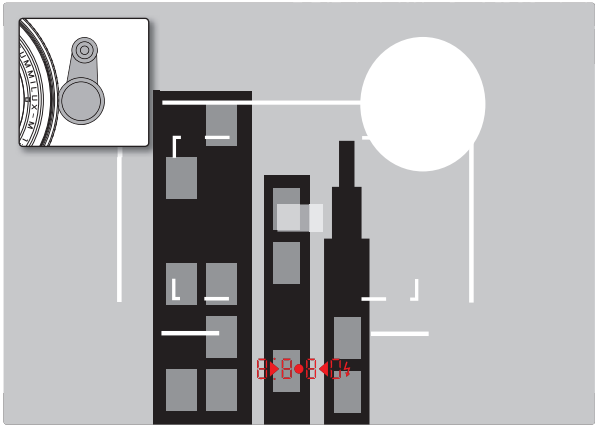
視野撥桿

視野撥桿擴展了此一內建泛用觀景窗的應用可能性。您可隨時讓觀景窗映出不屬於所裝鏡頭的取景框線。您可藉此判斷，是否使用別的焦距拍攝當時的拍攝主題，能得到更好的構圖。
如果將撥桿向外撥，亦即朝遠離鏡頭的方向轉動，則會出現適用於35和135mm焦距的取景範圍。
如果將撥桿撥至中間垂直位置，則會出現適用於50和75mm焦距的取景範圍。如果將撥桿往內撥，亦即朝鏡頭的方向轉動，則會出現適用於28和90mm焦距的取景範圍。

35mm + 135mm



50mm + 75mm



28mm + 90mm

距離測量

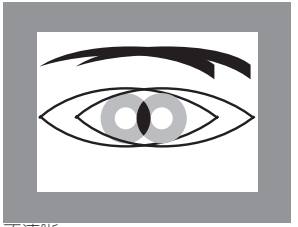
此相機的測距儀，由於有效基線很大，可以非常精準地作業。特別是在使用廣角鏡頭時，因為景深相對來說很大，其優點會更加顯著。

機械基線（觀景窗和測距儀觀測窗的光學軸之間的距離）	**x 觀景窗放大倍率**	**= 有效基線測量基線**
69.25mm	x 0.68	= 大約 47.1mm

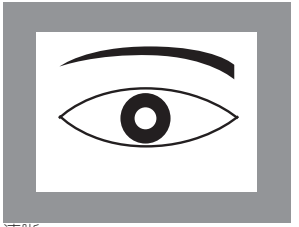
測距儀的對焦區在觀景窗的中央，是一個明亮及清晰的方塊區。您可用混合影像法或分割影像法進行對焦：

混合影像法

在拍攝人像時，例如把測距儀的對焦區瞄準眼睛，然後持續轉動鏡頭上的對焦環，直到對焦區裡的輪廓疊合為止。隨後再設定拍攝主題的構圖範圍。



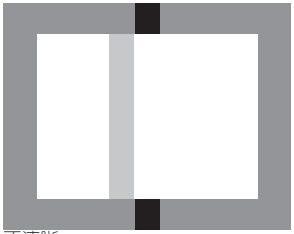
不清晰



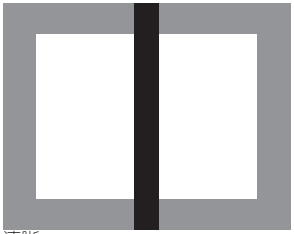
清晰

分割影像法

拍攝建築物時，例如用測距儀的對焦區瞄準垂直邊緣或別條清楚定義的垂直線，然後一直轉動鏡頭的對焦環，直到邊緣的輪廓或線條和對焦區的邊界呈現無錯位為止。隨後再設定拍攝主題的構圖範圍。



不清晰



清晰

曝光測量

該相機對於當前環境光線的曝光測量通過帶強烈中心凸顯的工作光圈鏡頭實現。此時測量的是從第一道快門簾幕上淺色的快門葉片反射來的光線。正確曝光所適合的快門時間/光圈值組合將通過觀景窗顯示訊息，亦即通過您的幫助得出。
光圈先決時光圈由手動選擇，與此相配的快門時間由相機自動生成。在該操作模式下，生成的快門時間通過一個LED訊號顯示（例如 **1000**）
在兩個數值的手動設定中，為了曝光平衡，有一個由三個紅色LED組成的光量儀（▸●◂）。若設定正確，則僅中間的原形LED會亮起。

開啟/關閉測光表

輕輕向下按壓快門鈕直到它的第一格壓點，測光表則開啟，前提條件是相機已通過主開關開啟，且快門時間設定轉盤不出在B的位置上。觀景窗上其中一個顯示燈持續亮起則表示測光表準備就緒：

- 使用光圈先決時，由快門時間的LED訊號提示，
- 使用手動設定時，由觀景窗兩個三角形LED中的其中一個LED提示，有時候中間的圓形LED也會派上用場。

若放開快門按鈕，而沒有啟動快門，測光表會繼續維持約12秒長的啟動狀態，而且相關的LED會繼續發亮。快門時間轉盤調至**B**時，測光表處於關閉狀態。

提示：

- 顯示訊息熄滅時相機則處於一種待機狀態。
- 環境光線極弱，亦即在光線達到測光表極限時，LED亮起可能需要約2秒時間。
- 如果不可能在光圈先決模式下以現有的快門時間得到正確的曝光，則快門時間顯示訊息會閃爍表示警告(相關詳細內容請看第29頁的「光圈先決」)。
- 若測光表的測光區處於手動設定模式，而且低於非常低的光線密度，則左邊的三角形LED會閃爍表示警告。在光圈先決模式中，快門時間會繼續顯示。如果所需快門時間超過60秒的上限，該訊號也會閃爍。
- 相機長時間不使用或是放在相機袋裡時，應該要用主開關關機。如此可阻斷電力消耗，否則測光表自動關機、顯示訊息熄滅後，相機在待命模式下還是會繼續耗電。藉此也可防止不經意按壓到快門鈕而攝入影像的意外發生。

為了正確曝光而調整的快門時間，或正確曝光設定的差異值會以觀景窗訊息顯示（請參閱以下說明）。

曝光模式

此相機提供兩種曝光模式：光圈先決或手動設定。您可依拍攝主題、場合和個人偏好選擇
- 常見的「半自動化」，或是
- 預設的快門時間和光圈。

光圈先決

快門時間轉盤設定在 **A**位置時，相機的電子系統會自動設定適當的快門時間—介於 1/4000秒至60秒之間的任意值，是依預設的感光度、相機測得的亮度和手動選定的光圈而定。為求一目了然，相機計算出的快門時間數值以半階為顯示單位。
曝光時間若大於2秒，按下快門後，觀景窗會顯示倒數剩下的曝光時間。不過，相機所計算出、無段調整的曝光時間，可能會和以半階單位顯示的數值略有差異。例如按下快門前， 顯示訊息裡看到的值是16（離實際值最近的值），但是計算設定的時間值其實更大，這時按下快門後的倒數計時可能會從 19 開始。
在極端的光線條件下，測光機制計算所有參數後，可能得到超出運作範圍以外的快門時間，亦即為配合亮度值的條件，曝光時間可能必須小於 1/4000秒或大於60秒。在這種情形下，相機會採用額定的最小或最大的快門時間值，並讓這些數值在觀景窗閃爍以示警告。

提示：

- 如第 23 頁ISO感光度設定的總結所述，使用較高感光度時，您會察覺到或多或少的畫面雜訊——均勻、黑暗的表面上尤甚。為了減少這些令人困擾的現象，相機在以較長的快門時間拍攝之後，會自動產生第二張「黑相片」（快門關閉）。隨之相機會從原先拍攝的影像資料，以數學運算法「消掉」在此平行攝影中所測得的雜訊。進行長時間曝光時，請務必考量這種作業所衍生的雙倍「曝光」時間。在這段時間內，不可以讓相機關機。
- 若您在播放題材時希望亮度更亮或更暗，建議您手動設定曝光（請看第30頁）。

測量值儲存

重要的拍攝主題，往往基於構圖的理由並不在畫面中心，而且有時候這些重要的拍攝主題，也比整個畫面的平均值來得較亮或較暗。相機的中間重點式測光只注意畫面中央的區域，而且是依平均灰度值校正。
上面說明的拍攝主題和狀況，在使用光圈先決功能時可輕易用測量值儲存功能克服。

使用測光功能

1. 對準重要的主題部位，然後再轉向另一個有平均亮度的細部。
2. 接著按壓快門按鈕到第1個壓力點，進行測光及儲存。一直按在該壓點時，觀景窗數字列的上方會出現一個小紅點以示確認，而且快門時間顯示值即使亮度條件產生變化亦不會改變。
3. 隨之用原先計算出的曝光值進行拍攝。
4. 成功儲存測量值之後，

改變光圈設定並不會讓快門時間跟著變動，亦即有可能產生不當的曝光。手指一旦離開快門按鈕的壓力點，儲存值就會失效。

曝光修正

測光表是以一個灰色值為基值，相當於一般常見拍攝主題的亮度。如果拍攝主題細部不符合此先決條件，您可採取相應的曝光修正措施。
例如基於特定理由，做一系列拍攝時想刻意拍出有點不足或有點過頭的曝光效果，這時曝光修正便是極為有益的功能。此功能一旦啟動，和測量值儲存功能剛好相反，會一直維持到被重設為止。相機所支援的曝光修正值範圍是 ± 3EV，單位是 $^1/_3$EV（EV：Exposure Value = 曝光值）。

1. 接通相機
2. 按住功能按鍵，旋轉拇指轉輪
   - 設定時觀景窗數字顯示訊息會顯示各個數值，輕擊快門鈕后也會短暫出現。

手動設定曝光

如果要完全用手動設定曝光的話，快門時間設定轉盤就必須轉到某格快門時間上，或停在兩格中間。
然後

1. 啟動測光表，而且
2. 旋轉快門時間設定轉盤及/或鏡頭的光圈設定環，依發亮的三角形LED所指示的方向，讓圓形LED單獨亮起。

除了指示快門時間轉盤及光圈設定環的正確選轉方向外，光量計的三顆LED也會以下列方式顯示曝光不足、過度或適當：

▶ 至少1光圈級數的曝光不足；必須向右轉
▶● 最大半光圈級數的曝光不足；必須向右轉
● 適度曝光
●◀ 最大半光圈級數的曝光過度；必須向左轉
◀ 至少1光圈級數的曝光過度；必須向左轉

提示：
曝光時間若大於2秒，按下快門後，觀景窗會顯示倒數剩下的曝光時間。

B快門設定

使用 **B**快門設定時，只要按住快門鈕，快門就會一直維持在開啟狀態（最多60秒；視ISO的設定而定）。
測光表會維持在關閉狀態，觀景窗的數字顯示會以秒為單位顯示曝光時間的流逝。

提示：
- 長時間曝光下會有非常嚴重的畫面雜訊。
- 為了減少這些令人困擾的現象，相機在以較長的快門時間拍攝之後（約 1/30秒），會自動產生 第二張「黑相片」（快門關閉）。隨之相機會從原先拍攝的影像資料， 以數學運算法「消掉」在此平行攝影中所測得的雜訊。
- 進行長時間曝光時，請務必考量這種作業所衍生的雙倍「曝光」時間。在這段時間內，不可以讓相機關機。

超出或低於測量範圍

若測光表的測光區處於手動設定模式，而且低於非常低的光線密度，則觀景窗左邊的三角形LED（▶）會閃爍表示警告，同理亮度過高時右邊的LED（◀）會閃爍。在光圈先決模式中，快門時間會繼續顯示。低於或超過必要的快門時間，最長的60秒以及最短的1/4000秒也會閃爍顯示。因為測光是使用工作光圈進行，所以這種情況也可能因鏡頭光圈縮小而產生。放開快門鈕後，即使當前狀況低於測量範圍，測光表還是會繼續維持約30秒的啟動狀態。若在這段時間內光線條件有所改善（例如改變拍攝主題構圖範圍或放大光圈），則LED顯示訊息會從閃爍變成持續發亮（表示測量作業就緒）。

閃光燈模式

相機可在真正攝影之前，用觸發一次或多次瞬間測試閃光，之後，開始曝光時，就會觸發主閃光燈。所有會影響曝光的因素（例如攝影濾鏡、光圈設定的變更）都會自動納入考慮。

可用的閃光燈

下列閃光燈可以在相機上執行所有本說明書裡所描述的功能，包括TTL閃光測量：

- 徠卡系統閃光燈如SF 40、SF 64、SF 26、SF 58.
- 具備系統 3000 的 SCA（System–Camera–Adaption）的技術條件、備有 SCA–3502–M5 轉接頭的閃光燈。

亦可使用其他市售、具備標準閃光燈接腳以及正極中央接點的外接式閃光燈，透過中央接點(X接點)來觸發。

裝上閃光燈

將閃光燈安裝在相機的靴座前，必須

- 先將不使用時保護靴座的護蓋往後拉出取下，及
- 關閉相機和閃光燈。

安裝閃光燈時要注意，將其腳座完全推進徠卡M的閃燈靴座裡面。而且(如果有的話)要用夾緊螺帽固定好，防止意外掉落。這一點對於有其他操控及訊號接點的閃光燈來說格外重要，因為它在靴座裡的位置變化，會中斷必要的接點連結，並且可能因此造成故障。

提示：
若未使用配件熱靴，應始終蓋上附屬的護蓋（在配送範圍中）。

閃光燈曝光操控

此相機裝上前述系統相容的閃光燈後，不管您使用哪個曝光模式—光圈先決 **A** 或手動設定—都能選用全自動，亦即由相機操控的閃光模式。

在這兩種曝光模式下，都有一種自動照亮模式。為了確定閃燈和現場光源保持平衡，在較高亮度下，閃光燈功能有時可能會減少多達1⅔EV。如果現場亮度加上最短的閃光燈同步時間 1/180秒，會造成過度曝光，則在光圈先決模式下，不具HSS能力的閃光燈不會觸發（有關HSS模式的詳細內容請看第35頁）。在這種情形下，快門時間會根據環境光線而調整，並且會顯示於觀景窗中。

此外，相機會將設定的感光度傳給閃光燈。如此一來，只要閃光燈上有這類顯示訊息，而且可以用手動方式，把相機鏡頭上選擇的光圈設定在閃光燈上，閃光燈就可以自動配合調整其有效距離數據。使用系統相容的閃光燈時，感光度設定不會受到該閃光燈的影響，因為該設定值已從相機傳送。

提示：

- 攝影棚閃光燈設備的閃光時間通常都很長。因此在實際應用時可選擇 1/180秒以上的快門時間。
- 同樣情形亦適用於無線電操控的閃光燈快門按鈕（「激發的閃光」），因為無線電傳輸會造成延時。
- 下列章節只說明可用於此相機及系統輕巧型的閃光燈之設定和功能。
- 如果要取得閃光作業（尤其是使用非徠卡M–P相機專用的閃光燈時），以及閃光燈不同作業模式的進一步資訊，請查閱閃光燈的使用說明書。

由相機控制的設定，自動閃光燈作業

在閃光燈開機并設定為相應的TTL閃光操控作業模式（請看閃光燈說明書）后，必須在徠卡相機上

1. 每當您要用閃光燈攝影時，都要先輕輕壓下快門鈕啟動測光功能；換句話說，觀景窗內必須出現快門時間值或光量計。若過急地將快門鈕按到底，而沒成功完成上述動作，閃光燈可能不會觸發。
2. 快門時間設定轉盤設定在 **A**、設定在閃燈同步時間（1/180秒），或是設定在較長快門時間（包括 **B**快門）。在光圈先決作業模式下，相機決定與環境光線相應的快門時間，但也會根據1/焦距規定限制較長的快門時間，以減少手震引起的模糊。
3. 設定您想要或合乎焦距需求的光圈。

提示：

若自動控制或手動控制的快門時間小於 1/180秒，則不會觸發閃光燈，除非該閃光燈具有HSS能力（請看第 35頁）。

以相容系統閃光燈攝影時，觀景窗內的閃光燈控制顯示訊息

在觀景窗裡，有一顆閃電形狀的LED，用於回報及顯示不同的作業狀態。這個LED會和相關章節所說明的現場光線測光顯示訊息一起出現。

自動閃光燈模式

（閃光燈設定為導數操控或TTL）

- 未出現，儘管閃光燈處於開機及待命狀態：
  相機上手動設定了比1/180秒更短的快門時間，而且所連接的閃光燈不具HSS能力。在這類情況下，儘管閃光燈處於開機及待命狀態，相機也不會觸發它。
- 在攝影前緩慢閃爍（2Hz的頻率）：
  閃光燈還沒進入待命狀態。
- 在攝影前發亮：
  閃光燈已在待命中
- 在按下快門後繼續發亮，但其他顯示訊息都已熄滅：
  閃光燈待機狀態繼續。
- 在按下快門後快速閃爍（頻率4 Hz），但其他的顯示訊息都已熄滅了：
  閃光燈待機狀態尚未恢復。
- 在按下快門後和其他顯示訊息一起熄滅：
  曝光不足，例如，選擇了對於拍攝主題來說太小的光圈。

閃光燈設定成電腦控制(A)或手動模式(M)

- 未出現，儘管閃光燈處於開機及待命狀態：
  相機上手動設定了比 1/180秒更短的快門時間，在這類情況下，儘管閃光燈處於開機及待命狀態，相機也不會觸發它。
- 在攝影前緩慢閃爍（2Hz的頻率）：
  閃光燈還沒進入待命狀態。
- 在攝影前發亮：
  閃光燈已在待命中。

高速同步閃光模式（HSS）

在相機裝上相應的徠卡系統閃光燈後，不管在任何快門時間、光圈先決及手動曝光設定等條件下，都能選用全自動、亦即由相機操控的高速同步閃光模式。如果選擇或計算所得的快門時間比同步時間短，1/180秒，相機就會自動啟動此模式。正確設定閃光燈時，這個切換動作不需要做其他攝影動作。

重要：
HSS閃燈的有效範圍比TTL燈的有效範圍小很多。

提示：

- 手動操控曝光時，所有快門時間，包括同步時間 1/180秒，也都可以選用。
- 當使用的快門時間短於 1/180秒時，閃光燈會自動切換至HSS作業。

其他

以自拍器攝影

利用自拍器時，您可以延遲12秒拍攝相片。建議在這類情形下，將相機固定於腳架上。
設定及使用該功能

1. 將主開關旋轉到 ⏲。
2. 若要開始前置時間，請按下快門按鈕至第二個壓段，（見第 20 頁）。
   - 相機前面在開始的10秒會閃爍的發光二極管 7 會顯示前置時間的流程。

在前置時間內，可通過輕擊快門鈕重新啟動它，也可動過將主開關旋出 ⏲的位置中斷它。

重要：
自拍作業的曝光的設定並不是在按下快門鈕時進行，而是在拍攝之前的瞬間。

播放

播放需在您的計算機上進行。這時您需要內置或接上一個讀卡器。

將資料傳送到電腦

記憶卡圖像資料傳輸至電腦可通過讀卡器實現。計算機集成讀卡器或通過USB數據線連接的外置讀卡器都可以。

記憶卡上的資料結構

在100LEICA、101LEICA等資料夾裡最多可以儲存9999張相片。

用原始資料（DNG）工作

您需要一個與所使用的DNG（數碼底片）格式相配的軟件對圖像進行進一步處理，以對儲存的原始數據進行高質量轉換，例如Adobe® Photoshop® Lightroom® 原始數據轉換器。該軟體有能改善品質、適於數位色彩處理的演算法，能將雜訊降到特別低的程度並實現令人驚奇的影像解析度。
進行影像處理時，您可以事後 調整例如白平衡、減少雜訊、階調、銳利度之類的參數，進而達到最高水準的影像品質。

安裝韌體更新

Leica 致力於進一步開發、改善自己的產品。由於相機中有許多功能完全由軟體控制，因此某些改良與功能上的擴充，可於出廠後安裝於相機之中。
因此，徠卡會不定期提供韌體更新。如果要瞭解說明書裡所列的規格是否會因此有所變更或補充，請瀏覽我們的網頁：
www.leica–camera.com

步驟

1. 關閉相機
2. 在一個集成讀卡器或一個連接您的電腦的讀卡器上插入儲存卡
3. 記憶卡格式化
4. 從名為“FIRMWARE（軟體）”的鏈接下載網頁上的軟體檔案
5. 將韌體檔案*FW儲存在記憶卡資料夾結構的最上一級。
6. 打開軟體檔案*FW
7. 從讀卡器中取出儲存卡
8. 確保相機關閉，儲存卡插入相機，且底蓋合上
9. 按住功能按鍵，隨後開啟相機

更新作業隨之啟動。可能需要多達15分鐘的時間。

顯示訊息

	觀景窗LED （持續亮起）	**背板LED**
在過程中	UP	亮起
更新成功後	UP	熄滅
電池電力過低， 無法執行更新	bc	緩慢閃爍
無法更新*	Err	快速閃爍

*例如，相機無法從卡中找出更新數據

系統配件

交換式鏡頭

徠卡M型系統提供了快速且低調攝影所需的最佳基本配備。此系列的鏡頭涵蓋了16至135mm的焦距範圍以及高達1:0.95的光傳量。

濾鏡

對於當前的徠卡M型鏡頭，有不同的濾鏡型號和大小可供選用。

提示：
特別為徠卡M8和M8.2開發的徠卡UV/IR濾鏡，不應該用在徠卡M上，因為可能特別在使用廣角鏡頭時，會在相片邊緣發生色偏現象。

M型反射鏡式觀景窗

18、21、24mm的鏡頭都各有合適的反射鏡式觀景窗可選用，其特點是特別小巧的結構以及明亮的觀景窗畫面。如同相機的觀景窗，它們也有設定取景範圍用的框線（訂購編號18mm：12 022黑色，12 023銀色/21mm： 12 024黑色，12 025銀色/24mm：12 026 黑色，12 027銀色）。

泛用式M型廣角觀景窗

徠卡M型泛用式廣角觀景窗是極其實用的配件。它可不受限地用在所有類比及數位徠卡M型相機上，而且（和相機的觀景窗一樣）會映出的框線，依您的選擇顯示廣角鏡頭焦距16、18、21、24或28mm的取景範圍。此觀景窗配備了視差補償裝置，還有一個水平儀可精確校準相機的水平方位。
（訂單號12 011）

M型1.25倍及1.4倍的觀景窗放大鏡

使用焦距35mm以上的鏡頭時，徠卡M型1.25倍及1.4倍的觀景窗放大鏡可讓取景構圖變得容易很多。它們適用於所有徠卡M型相機，而且會放大觀景窗畫面的中心區域。此相機0.68倍的觀景窗用1.25倍的放大鏡會有0.85倍的放大效果，用1.4倍的放大鏡則有0.95倍的放大效果。
為防止遺失，有一條含簡易鎖的安全鏈可用來將觀景窗掛在揹帶的固定環上。
這些觀景窗放大鏡都附有收納皮袋。皮袋上有一個掛環，便於將觀景窗放大鏡安全地收藏在相機的揹帶上以備隨時取用。
（訂購編號12 004 M，1.25倍/12 006 M，1.4倍）

閃光燈

徠卡M–D相機可使用
不同種類的閃光燈。僅系統兼容的、帶徠卡專用接口的設備可執行基於相機的全自動閃光燈曝光操控。為此，徠卡提供各種配備不同的產品。

提示：
未使用其他配件時，務必蓋上靴座護蓋。

視力矯正目鏡

為了讓眼睛能夠以最佳程度適應相機的觀景窗，我們提供了下列的正或負視度值（球面）的視力矯正目鏡：±0.5/1/1.5/2/3。

相機袋

新款M型相機套是專為徠卡M型相機開發的產品。相機套可在運送途中保護相機，無需將相機取出護套也可拍攝，即方便又快速。
為了在密集拍照時提供完善的保護，可以取下相機套的前部，而留在相機上的護套部分可繼續提供相機保護。
（訂單號14 547）
除此之外，還有防水布料的白金漢 (Billingham) 綜合式相機袋，可收納多種相機配備。它可收納兩個機身加兩個鏡頭，或是一個機身加三個鏡頭。即使是大型鏡頭或是裝上M型把手的相機，也都有足夠的空間。設有拉鍊隔間可讓您收納徠卡閃光燈SF 26或其他配件。
（訂購編號14 854黑色，14 855鐵灰色）。

備用件	**訂單號**
接座蓋M	14 397
配件靴座蓋M	14 900
揹帶	439–612.105–000
鋰離子電池BP–SCL2	14 499
充電器BC–SCL2 （含歐規及美規電源線，車用充電線）	14 494
澳洲及英國用電源線	14 422 及 14 421

安全及保養須知

一般注意措施

- 請勿在有強力磁場及靜電或電磁波的器材（例如電磁爐、微波爐、電視或電腦螢幕、錄影機、手持式攝影機、收音機）旁邊使用您的相機。
- 若將相機放在電視上或在電視旁操作，其磁場可能會干擾影像的紀錄。
- 同理應避免在行動電話旁使用本機。
- 強力磁場，例如揚聲器或大型電動馬達，都可能損壞儲存的資料或干擾攝影。
- 請勿在無線電發送機或高壓電線旁使用相機。其電磁場也可能干擾影像的記錄。
- 若相機因為電磁場的作用而有錯誤動作，請先關機、取出電池，並且稍後再重新開機。
- 保護相機不和殺蟲劑及其他有侵蝕性的化學品接觸。同樣的，請勿用汽油、稀釋劑或酒精清潔相機。
- 某些特定的化學藥劑和液體可能損害相機的機身，以及表面的塗層。
- 因為橡膠和塑膠有時會釋出侵蝕性化學品，所以不應和相機長時間保持接觸。
- 請您確定砂粒和灰塵不會跑進相機內，例如在海灘。砂粒和灰塵可能會損害相機和記憶卡。在更換鏡頭以及插入、取出記憶卡時，請特別注意這一點。
- 請您確定不會有水灑落相機內，例如在雪地、雨天或在海灘。濕氣可能會造成相機和記憶卡故障，甚至造成無法修復的損害。
- 未使用其他配件（例如燈光燈、外接式觀景窗或麥克風）時，務必蓋上靴座護蓋。
- 如果鹽水噴霧碰到相機（例如在海灘），請您將柔軟的毛巾先用自來水弄濕，然後徹底擰乾。隨後用一條乾布徹底擦拭。

感測器

- 高空射線（例如在飛行時）可能會引發畫素毀損。

冷凝濕氣

- 若相機的外部或內部有冷凝濕氣，請先關機，並將相機置於室溫一小時左右。當室溫和相機溫度相互適應後，冷凝液體會自行消失。

保養提示

污漬是微生物的溫床，所以，請仔細維護裝備的清潔。

相機

- 只用乾燥的軟布清潔相機。遇有頑固汙漬，應先用稀釋得很薄的清潔劑沾濕，再用乾布擦拭。
- 相機和鏡頭上的斑點和指紋要用乾淨 、不起毛球的布 拭去。相機機身上不易搆著的角落的粗糙汙漬，可用一根小刷子清理。同時不得碰觸快門葉片。
- 您的相機上所有軸承和滑動面都潤滑過。若長時間不使用相機，請記得：為預防潤滑位置發黏，應每三個月就啟動相機快門數次。同樣地，我們也建議您多次轉動或使用所有其他操作元件。鏡頭上的對焦環以及光圈設定環也應該偶爾轉動一下。
- 請您注意：鏡頭接座上6位元辨識碼用的感測器既不能弄髒，也不能刮傷，也請注意勿讓砂粒或類似顆粒附著於此處，以免刮傷接座。此組件只能以乾燥方式清潔，且不可對保護玻璃施力！

電池

可重複充電的鋰離子電池是透過內部化學反應產生電流，這種反應也會受到外界溫度和空氣溼度的影響。非常高和非常低的溫度，都會縮短電池的使用時間與壽命。

- 若長時間不使用相機，請取出充電電池，否則電池可能在幾星期後放電到快沒電的程度，因為相機即使在關機狀態下，還是會消耗微小的電流（例如用來儲存日期）。過度放電的電池可能會無法再充電。
- 鋰離子電池應該只能以部分充電的狀態存放，亦即是既不要完全放電也不要充飽電（在對應顯示訊息中）。長期儲存時，應該每年兩次為電池充電約15分鐘，以避免其電力過度流失。
- 請確保電池接點乾淨、無阻物。雖然鋰離子電池備有防止短路的措施，但其接點還是不應該與金屬（如迴紋針或飾品之類）物品接觸。短路的電池可能會變得很燙，而引發嚴重燙傷。
- 如果電池曾掉落地面，請檢查其外殼 和接點是否有損壞。裝上 損壞的電池可能會使相機受損。
- 若有發出氣味、褪色、變形、過熱或流出液體的現象發生，務必立刻將該電池從相機或充電器取出，改用其他電池。繼續使用這樣的電池可能引發過熱現象、火災及 / 或爆炸！
- 有液體流出或有燒焦的味道時，務必讓該電池遠離熱源。那些流出的液體有可能會著火！
- 充電電池內的安全閥應確保釋放，因不當操作或其他原因所產生的過度壓力。

- 電池的壽命是有限的。建議用過4年後更換電池，寒冷環境下使用時更換時間也可能提前。（您可在電池外殼上找到電池的生產日期。格式為：日曆周/年份（WW/YY））
- 請將受損的電池交給資源回收點回收。
- 充電電池不得長時間暴露於熱源或日曬、溼度或濕氣之下，亦不得置於微波爐或高壓容器內，否則會有失火或爆炸的危險！

充電器

- 若在收音機附近使用充電器，訊號的接收可能受到干擾；這些裝置之間至少要維持一公尺的距離。
- 使用充電器時，可能會出現噪音（「嗡嗡聲」）。這是正常現象，並非功能故障。
- 充電器不使用時，請拔除電源，因為即使未放入電池還是會消耗一些（很少的）電流量。
- 充電器的接點應該保持乾淨，而且絕對不要讓它們短路。
- 本機隨附的車用充電線
  - 只能使用12V電源，
  - 不可連接已接上市電網路的充電器。

記憶卡

- 在儲存相片或是讀取記憶卡的過程中，不能將記憶卡取出、將 相機 關機或是劇烈震動。
- 基本上，為了保險起見，記憶卡只能存放在附贈的抗靜電容器內。
- 請勿將記憶卡存放在曝露於高溫、直接日曬、磁場或靜電的場所。
- 請勿讓記憶卡掉落地面，而且不要彎折，否則可能會受損，而且可能導致儲存的資料遺失。
- 如果長時間不使用相機，請將記憶卡取出。
- 請勿接觸記憶卡背面的接點，並避免讓它們沾上汙漬、灰塵或濕氣。
- 我們建議您偶爾將記憶卡格式化，因為 刪除資料而引發的記憶體破碎現象多少會影響記憶體的功能。

清潔感測器

若有灰塵或髒汙微粒附著在感測器表面玻璃上，大一些的微粒可能會在相片上形成黑點或斑點。您可將相機送至徠卡相機公司的顧客服務部（地址：請看第54頁），客戶服務部門進行付費的感測器清潔工作；這項清潔工作並非保固服務的一部分。

您也可自行清潔：

1. 檢查相機電池電力是否不低於60%
2. 將主開關調至 ST
3. 按住第一個功能按鍵，緊接著按下快門鈕。
   快門打開，可清潔感測器（若電池電力過低，快門不會打開，觀景窗內會出現 bc（=電池電力）提示）。
4. 進行清潔：
   此時務必要注意後面的提示說明。
5. 完成清潔后通過主開關關閉相機。10秒後快門再次合上。

提示：

- 原則上：為了防止灰塵等異物侵入相機內部 – 相機原則上應一直裝著鏡頭或以機身蓋罩上。
- 基於同樣理由，更換鏡頭的動作應迅速，而且儘可能在無塵的環境中進行。
- 塑膠零件容易產生靜電並因此吸附灰塵， 所以這類材料製成的鏡頭蓋和機身蓋 應該盡量不要在衣物口袋裡放太久。
- 感測器的清潔應該儘可能在無塵環境中進行，以避免又弄髒它。
- 輕微附著的灰塵，可用乾淨或甚至離子化的氣體（例如空氣或氮氣）從感測器表面玻璃上吹掉。最好是用沒有刷子的（橡膠）風球。合適的低壓清潔噴劑，例如「Tetenal Antidust Pro–fessional」的產品，也可依其說明使用。
- 若用前述方式無法去除附著的顆粒，則請和徠卡 客戶服務部門。
- 避免損壞！
- 為避免損壞， 您 務必 在關閉相機前 確保 無異物阻擋快門正確關閉！

重要：

- 徠卡相機公司不為使用者清潔感測器所造成的損害提供保固服務。
- 請勿嘗試用嘴巴向感測器表面玻璃吹氣去除灰塵顆粒，即使最小的唾液滴都可能引發難以去除的斑點。
- 切勿使用高壓的氣動清潔工具，以免造成損害。
- 進行清潔時，請小心避免讓任何堅硬物體碰觸到感測器表面。

存放

- 若長時間不使用相機，建議
  a. 取出記憶卡（請看第 69頁）
  b. 取出電池(請看第 68頁)，(最遲2個月後失時間及日期資料。
- 直射陽光從正前方照到相機時，鏡頭會發揮猶如聚焦鏡的效力。所以必須保護相機，避免受到日光直曬。裝上鏡頭蓋、將相機置於陰影下（或是放進袋子裡），有助於避免相機內部發生損害。
- 請您將相機存放在封閉和有軟墊的容器內，這樣就不會擦傷而且也可以防灰塵。
- 將相機存放在乾燥、通風良好而且不會暴露於高溫和濕氣的場所。在潮濕環境使用過相機後，要收起來之前，務必先將濕氣清除掉。
- 使用中弄濕的相機袋應該先騰空，以避免濕氣和可能析出的製革劑殘渣對您的裝備造成損害。
- 為了防止在濕熱的熱帶氣候使用時受到真菌侵染，相機裝備應儘可能避免暴露於大量的陽光與空氣中。唯有加入乾燥劑例如矽膠凝體時，才建議用密封的容器或袋子收藏。
- 為避免霉菌侵染，亦不宜長時間將相機存放在皮袋內。
- 請記錄您的相機和鏡頭的工廠序號（刻在配件靴座上），萬一遺失時此點為非常重要線索。

故障及其排除方式

相機開機時沒反應.

- 有裝入電池嗎?
- 電池的電力充足嗎?
  請使用充飽電的電池。
- 有正確裝上底蓋嗎?

相機開機後直接關機.

- 電池的電量足以供相機作業嗎?
  請為電池充電，或是換上一顆充飽電的電池。
- 有冷凝濕氣嗎?
  將相機從很冷的地方拿到溫暖處，就會出現這種現象。發生此情況時，請等到冷凝濕氣蒸發後再開機。

相機無法觸發快門。

- 相機正在將影像資料傳送到記憶卡上，而且緩衝記憶體已滿。
- 記憶卡容量已用完，而且緩衝記憶體已滿。
- 沒有插入記憶卡，而且緩衝記憶體已滿。
- 所使用的儲存卡寫保護。
- 插入的記憶卡的圖像編號用光（這種情況下，應在做好數據保護后在相機外進行記憶卡格式化）。
- 充電電池到達極限值（電力、容量、年限）。
- 底蓋未裝上。

無法儲存相片。

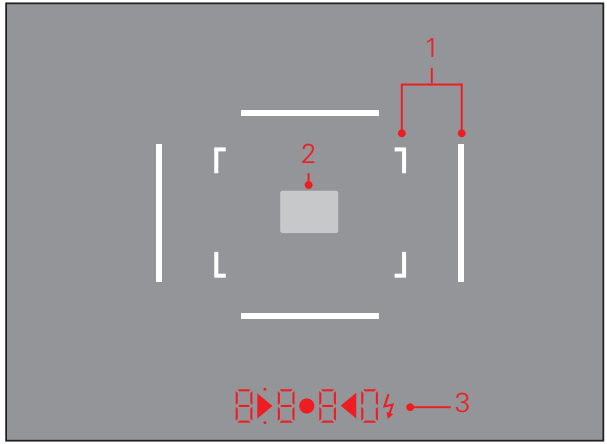
- 有插入記憶卡嗎?
- 記憶卡的容量用完了。

時間和日期資料錯誤或是不存在。

- 相機長時間沒有使用（裡面沒電池時，更容易發生這種狀況）。
  請裝入充飽電的電池。
  設定日期和時間。

附件

觀景窗內的顯示訊息



1. 用於50mm及75mm[1]的框線（例子）

2. 焦距設定的測量區

3. 藉由 LED[1]（發光二極體）顯示：
   a. 四位數數位顯示，以及位於上方和下方的點狀數位燈號：
      8 8 8 0 數位顯示：
      - 使用光圈先決功能 A時，會顯示相機自動設定的快門時間；快門時間超過1秒時，則顯示其流程
      - 顯示設定的曝光補償（在第一個快門鈕壓段）
      - 光圈先決 A下，超出及未達測光和設定範圍時的警告訊息
      - 顯示時間/日期（僅在設定時）
      - 提示緩衝記憶體（暫時）已滿
      - 提示記憶卡有誤、損壞或寫保護（Sd），或達到圖像編號極限，或底蓋未安裝
      - 提示記憶卡已滿（Full）
      - 提示電池電力過低（bc）
      - 提示軟體更新結束或正在進行（UP）
      - 無法執行軟體更新（Err）

   b. • 上方點狀燈號：
      - 提示使用測光值儲存功能(恆亮)
      - 提示日期顯示訊息（僅在設定時）
      - 提示電池電力顯示訊息（在相機開機後，或與功能按鍵結合）

   c. • 下方點狀燈號：
      - （閃爍）告示：
      - 提示時間顯示訊息（僅在設定時）▶ • ◀兩個三角形及一個圓形的LED訊號燈：
      - 手動曝光設定時：共同作為曝光平衡的光量計顯示元件三角形LED會提示您，該往哪個方向旋轉光圈環及快門時間轉盤，以調整出適當的曝光。
      - 低於測量範圍的警示

   d. ⚡ 閃光符號：
      - 閃光燈待機狀態
      - 攝影前後閃光燈曝光的數據資料

[1]提供自動亮度控制功能，會隨外界亮度而調整。含觀景窗座的徠卡M型鏡頭無法執行此自動控制功能，因為會遮住為該功能提供對應資訊的亮度感測器。在這種情況下，相機會以固定的亮度顯示取景框線及訊息。

關鍵詞目錄

技術資料

相機型號
Leica M–D (Typ 262)，小巧的數碼檢景 – 測距雙用相機
鏡頭連接
徠卡M型接座，加上額外的6位元辨識碼用感測器。
鏡頭系統
從16 – 135mm的徠卡M型鏡頭。
攝影格式／影像感測器
CMOS型號，有效面積約23.9 x 35.8mm（相當於可用的類比式徠卡M型格式）。
解析度5976 x 3992 Pixel （24MP），
數據格式
DNG™（原始數據），無損壓縮，
數據大小 視主體而定
緩存 1GB
儲存媒介
容量至2GB的SD卡/容量至32GB的SDHC卡/SDXC卡

曝光測量
環境光線：通過鏡頭（TTL），在工作光圈下，閃光燈：藉助與系統一致的SCA–3000/2標準閃光燈進行TTL測量
測光原理/方法
測量從第1道快門簾幕上明亮葉片反射在測光元件上的光線中央重點式測光
測光範圍
在室溫及正常空氣溼度條件下，相當於ISO 200（光圈1.0 EV0到光圈32 EV20）；觀景窗左側三角形LED閃爍，表示低於測光範圍
感光度範圍
ISO 200至ISO 6400，可手動調至 1/3 ISO級別
曝光模式
可在手動光圈預選 – 光圈先決 **A**條件下自動控制快門時間，或選擇手動設定快門時間與光圈。

閃光燈曝光操控

閃光燈連接

配件熱靴上方，帶中間和操控觸點

同步

在第一道快門簾幕上

同步時間

↯ = 1/180秒；若未超出同步時間，可使用更長的快門時間：自動切換至TTL直線閃光模式，藉助具備HSS功能的徠卡系統閃光燈進行

閃光燈曝光測量

藉助系統兼容的閃光燈，藉助中央重點式TTL預閃光測量操控

閃光燈曝光補償

在具有相應配備的閃光燈上：在所有作業模式下為1/3 EV級中±3EV

閃光燈模式下的顯示訊息

閃光燈就緒：通過觀景窗內閃光燈LED信號燈的持續亮起，成功控制：通過後續閃爍，亦即，通過拍攝后LED燈短暫快速的閃爍，曝光不足顯示訊息：通過LED燈短暫的熄滅

觀景窗

觀景窗原理

大型、明亮取景框線的測距觀景窗，含自動視差補償功能。

目鏡

目鏡調整成–0.5視度；可選購–3至+3視度的視力矯正目鏡。

畫面範圍

以每兩組取景框線發亮加以表示：適用於35及135mm、適用於28及90mm或適用於50及75mm； 安裝鏡頭後自動切換；框線顏色：白色。

視差補償

觀景窗和鏡頭之間的水平和垂直差距會自動根據各個距離調節通過移動框線得到平衡

觀景窗和實際畫面的吻合度

若距離設定為2m，取景框線的尺寸正好等於感測器的尺寸（約23.9 x 35.8mm）；設定為無限遠時，視焦距的不同，感測器的捕捉範圍會比取景框線顯示的範圍大約7.3% (28mm) 至 18% (135mm)；相反的，若距離設定短於2m，捕捉範圍亦隨之縮小

放大（適用於所有鏡頭）

0.68倍

大基線-測距儀

使用分割影像法和混合影像法，對焦區在觀景窗的中央（一個特別明亮的區域）

有效基線

47.1mm（機械基線69.25mm x 觀景窗放大倍率0.68x）

顯示訊息

四位數數位顯示，以及位於上方和下方的點狀數位燈號，請看第46頁的顯示訊息

快門及觸發

快門

金屬葉片狹縫快門，垂直動作

快門時間

光圈先決：**(A)**無段變化從60秒至 $^{1}/_{4000}$秒（手動設定時），8秒至 $^{1}/_{4000}$秒，以半格為單位。

B:對於最長達60秒的長時間拍攝，↩（$^{1}/_{180}$秒）：閃光同步功能的最短快門時間，HSS線性閃光模式允許小於 $^{1}/_{180}$秒的所有快門時間（使用相應配置的徠卡系統閃光燈時）

快門上絃

使用內建馬達，只會發出輕微的聲音。

快門鈕

兩段式。第1段啟動測光功能及測光值儲存（在光圈先決之下），解析度

相機的開機/關機

藉助相機頂蓋上的主開關。輕擊快門鈕再次激活相機

電源

鋰離子電池1枚，額定電壓7.4伏，電力1800毫安時；電力在觀景窗內有顯示，操作條件（相機內）：溫度0到40攝氏度；型號：BP–SCL2，廠家：PT.VARTA Microbattery 印度尼西亞，印尼製造

充電器

輸入：交流電100–240V，50/60Hz，300mA，自動切換，或是直流電12V，1.3A；輸出：額定直流電7.4伏，1000毫安/最大8.25伏，1100毫安；操作條件（充電）：溫度10到30攝氏度；型號：BP–SCL2，廠家：Guangdong PISEN Electronics Co., Ltd.，中國製造

相機機身
材質
全金屬外殼以鎂合金/鋁合金製成，皮套，頂蓋及底蓋以黃銅製成，兩者都有黑色漆面的表面處理。
腳架螺紋
A ¼ (¼ “) DIN以貴金屬製成，位於底部。
操作條件
溫度0到40攝氏度
接口
ISO配件熱靴
尺寸
（寬x深x高）：約138.6 x 42 x 80mm
重量
約720克（含充電電池）

出貨內容
充電器100–240伏，帶2條充電線（歐標、美標，在有些出口市場不規則）、鋰離子電池、揹帶、外殼接座蓋、配件熱靴蓋

LEICA PRODUCT SUPPORT

徠卡相機股份公司使用者服務部門會以書面、電話或電子郵件的方式，回答您關於徠卡產品應用技術方面的問題。
關於購買諮詢及訂購方式的指導，也都由此部門負責與顧客洽談。您亦可利用 Leica Camera AG 網站上的聯繫表格，向我們提出問題。

徠卡相機股份公司
產品支援服務 / 軟體支援服務
Am Leitz–Park 5
D–35578 Wetzlar
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傳真：+49(0)6441–2080–490
info@leica–camera.com/
software–support@leica–camera.com

LEICA CUSTOMER CARE

Leica Camera AG 的顧客服務部門或 Leica 的地區代理維修服務部門（地址請參閱保證書），會負責您 Leica 裝備的相關保養及損壞之維修服務。

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customer.care@leica–camera.com

Leica M-D

Instructions

FOREWORD

Dear Customer,
Leica would like to thank you for purchasing the Leica M-D and to congratulate you on your choice. With this unique digital view and range finder camera, you have made an excellent choice.
We wish you a great deal of pleasure and success using your new camera.
In order to make best use of all the opportunities offered by this high performance camera, we recommend that you first read this instruction manual.

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI).
If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

FCC Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:
To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Trade Name:	LEICA
Model No.:	LEICA M-D (Typ 262)
Responsible party/ Support contact:	Leica Camera Inc. 1 Pearl Count, Unit A Allendale, New Jersey 07401 Tel.: +1 201 995 0051 Fax: +1 201 995 1684 technicalinfo@leicacamerausa.com

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

LEICA M-D
(Typ 262)

Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

For Canada only:
CAN ICES-3 (B)/NMB-3(B)

TABLE OF CONTENTS

The CE identification of our products documents compliance with the fundamental requirements of the applicable EU directives.

WARNING MESSAGES

- Modern electronic elements react sensitively to electrostatic discharge. As you can easily pick up charges of tens of thousands of volts, by walking on synthetic carpets for example, a discharge can occur when you touch your camera, particularly if it is placed on a conductive surface. If only the camera housing is touched, this discharge is harmless to the electronics. However, despite built-in safety circuits, the outer contacts, such as the accessory shoe, battery or rear panel contacts, should not be touched if at all possible for safety reasons. If the accessory shoe is not in use, the relevant cover (supplied) should always be in place.
- For any cleaning of the contacts, do not use an optical microfiber cloth (synthetic); use a cotton or linen cloth instead! Before touching the contacts, you can make sure you discharge any electrostatic charge by deliberately touching a heating or water pipe (conductive, earthed material). You can also avoid soiling and oxidization of the contacts by storing your camera in a dry place with the lens or bayonet cover fitted.
- Use only the recommended accessories to prevent faults, short circuits or electric shock.
- Do not attempt to remove parts of the housing (covers); repairs must be done at authorized service centers only.

LEGAL INFORMATION

- Please ensure that you strictly observe copyright laws. The recording and publication of pre-recorded media such as tapes, CDs, or other published or broadcast material may contravene copyright laws.
- This also applies to all of the software supplied.
- The SD, HDMI, and USB logos are registered trademarks.
- Other names, company and product names referred to in this manual are trademarks or registered trademarks of the respective companies.

DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applies within the EU, and for other European countries with segregated waste collection systems)

This device contains electrical and/or electronic components and must therefore not be disposed of in general household waste! Instead, it should be disposed of at a recycling collection point provided by the local authority. This costs you nothing. If the device contains standard or rechargeable batteries, these must be removed first and also be disposed of in line with relevant regulations.
Further information on the subject is available from your local administration, your local waste collection company, or in the store where you purchased this device.

The production date of your camera can be found on the stickers in the warranty card and/or on the packaging and that of the rechargeable batteries on their housing. In the case of the camera, this is written year/month/day and in the case of the rechargeable batteries calendar week/year (WW/YY).

DESIGNATION OF PARTS

Figures in the front and rear cover pages

Front view

1 Lens release button
2 Eyes for carrying strap
3 Range finder viewing window
4 Brightness sensor[1]
5 Self-timer LED
6 Viewfinder viewing window
7 Image field selector
8 Bottom cover locking point

Top view

9 Fixed ring with
   a. Index for distance setting
   b. Depth of field scale
   c. Red index button for changing lenses
10 Aperture setting dial
11 Index point for aperture setting
12 Lens hood
13 Focusing ring with
   a. recessed grip
14 Shutter release button
15 Function button
16 Main switch with detent position for
   - **OFF** (camera turned off)
   - **S** (single pictures)
   - **C** (serial exposures)
   - ⏲ (self-timer, time/date setting, or sensor cleaning)
17 Time-setting dial with detent positions for
   - **A** for automatic shutter speed control
   - Shutter speeds 1/4000 - 8s (incl. intermediate values)
   - **B** (Long-time exposure)
   - ϟ Flash sync speed (1/180S)
18 Accessory shoe

1 Leica M lenses with viewfinder attachment cover the brightness sensor. Information about functions with these and other lenses can be found under "Displays in the viewfinder", p. 100, and „Leica M lenses ", p. 71.

Rear view

19 Viewfinder
20 Thumb wheel
21 ISO setting with
   a. Scale
   b. Setting disc
   c. Index point
22 LED for indicating picture mode/recording data

Bottom view

(with bottom cover fitted)

23 Locking toggle for bottom cover
24 Tripod thread A ¼, DIN 4503 (¼“)
25 Bottom cover

(with bottom cover removed)

26 Memory card slot
27 Battery compartment
28 Battery locking slider

QUICK-START GUIDE

YOU WILL NEED THE FOLLOWING ITEMS:

- Camera
- Battery
- Memory card (not supplied)
- Charger and mains cable

PREPARATIONS

1. Charge the battery (see p. 65)
2. Insert the battery (see p. 68)
3. Insert the memory card (see p. 69)
4. Turn on the camera (see p. 74)
5. Set the date and time (see p. 76)

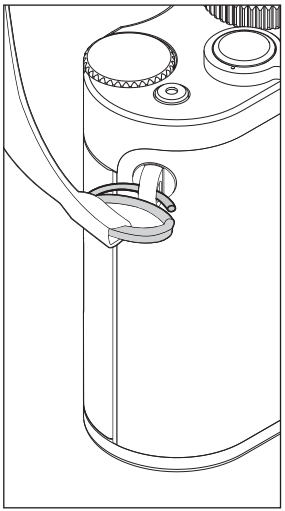
TAKING PHOTOGRAPHS

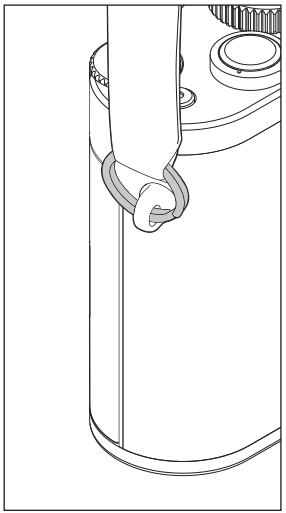
6. Attach the lens (see p. 73)
7. Set the shutter speed setting dial to **A** (see p. 75)
8. Set the subject focus (see p. 80)
9. Turn on the camera (see p. 74)
10. Turn on exposure metering (see p. 82)
11. Correct the exposure, if necessary (see p. 84)
12. Release the shutter (see p. 54)

DETAILED INSTRUCTIONS

PREPARATION

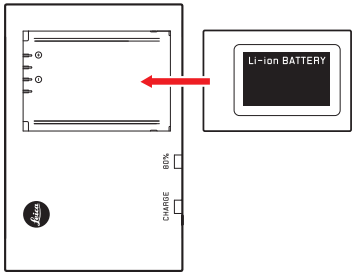
ATTACHING THE CARRYING STRAP





CHARGING THE BATTERY

The camera is powered by a lithium ion battery.



- The green LED marked **CHARGE** starts flashing to confirm that charging is in progress. As soon as the battery has charged to at least ⅓ of its capacity, the yellow LED marked **80%** also lights up. When the battery is fully charged, the green LED also changes from flashing to continuously lit.

Note:
The **80%** LED lights up after around 2 hours due to the charging characteristics.

The charger should be disconnected from the mains when charging is complete. There is therefore no risk of overcharging.

Caution:

- Only the battery type specified and described in this manual (Order No. 14 499), or battery types specified and described by Leica Camera AG, may be used in this camera.
- These batteries may only be used in the units for which they are designed and may only be charged exactly as described below.
- Using this battery contrary to the instructions and using non-specified battery types can result in an explosion under certain circumstances!
- The batteries must not be exposed to heat or sunlight for prolonged periods, or to humidity or moisture. Likewise, the batteries must not be placed in a microwave oven or a high pressure container as this results in a risk of fire or explosion!
- A safety valve in the battery guarantees that any excess pressure caused by improper handling is discharged safely.
- Only the charger specified and described in this manual (order no. 14 494) is to be used. The use of other chargers not approved by Leica Camera AG can cause damage to the batteries and, in extreme cases, can cause serious or life-threatening injuries.
- The charger supplied should be used exclusively for charging this battery type. Do not attempt to use it for other purposes.
- The car charging cable supplied must never be connected while the charger is connected to the mains.
- Ensure that the mains outlet used for charging is freely accessible.
- The battery and charger must not be opened. Repairs may only be carried out by authorized service centers.

Notes:

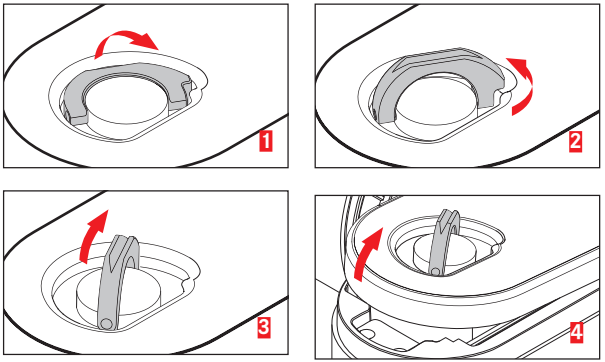
- The battery should be charged before the camera is used for the first time.
- The battery must have a temperature of 10°-30°C to be charged (otherwise the charger will not turn on, or will turn off again).
- Lithium ion batteries can be charged at any time, regardless of their current charge level. If a battery is only partly discharged when charging starts, it is charged to full capacity faster.
- The batteries warm up during the charging process. This is normal and not a malfunction.
- If the two LEDs on the charger flash rapidly (> 2Hz) after starting charging, this indicates a charging error (e.g. maximum charging time exceeded, voltages or temperatures outside the permitted ranges, or short circuit). In this case, disconnect the charger from the mains and remove the battery. Ensure that the above temperature conditions are met and then restart the charging process. If the problem persists, please contact your dealer, the Leica office in your country or Leica Camera AG.
- A new battery only reaches its full capacity after it has been fully charged and – by use in the camera - discharged again 2 or 3 times. This discharge procedure should be repeated every 25 cycles. To ensure a maximum service life of the battery, it should not be exposed to constant extremes of temperature (e.g. in a parked car in the summer or winter).
- Even when used under optimum conditions, every battery has a limited service life! After several hundred charging cycles, this becomes noticeable as the operating times become significantly shorter.
- The battery should be replaced after a maximum of four years, as its performance deteriorates and reliable operation can no longer be guaranteed, particularly in cold conditions.
- Defective batteries should be disposed of according to the respective instructions (see p. 61).
- The replaceable battery provides power to a back-up battery which is permanently fitted in the camera. This back-up battery retains the set date and time for up to 2 months. If this back-up battery becomes discharged it must be recharged by inserting the replaceable main battery. Once the replaceable battery has been inserted, the full capacity of the back-up battery is recovered after about a few days. This process does not require the camera to be turned on.

CHANGING THE BATTERY/MEMORY CARD

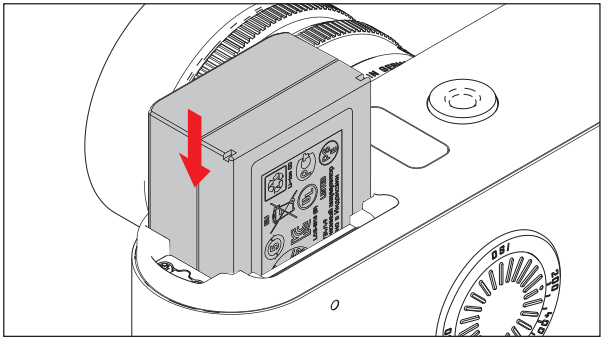
Turn the camera off (see p. 74).

Important:
Do not open the bottom cover or remove the memory card or battery while the red LED on the back of the camera is flashing, indicating picture recording and/or data saving to the card. Otherwise the unsaved (or not completely saved) picture data may be lost.

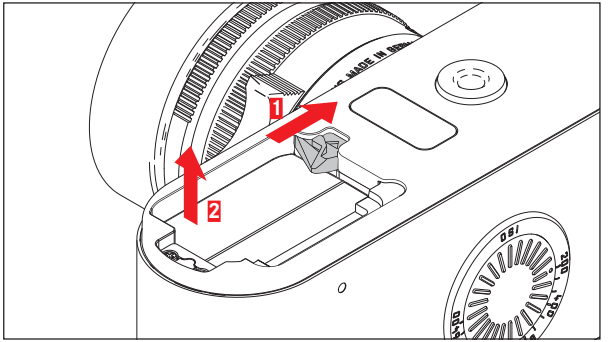
Removing the bottom cover



Inserting the battery



Removing the battery



Charge level display

You can display the current battery capacity in the viewfinder:

1. Turn on the camera

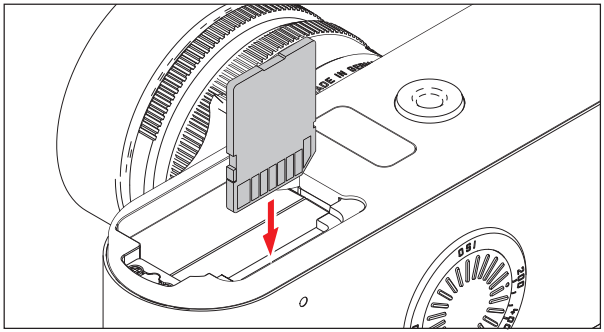
Only necessary if the viewfinder display has switched itself off again even though the camera is switched on:

2. Press the shutter release button to the first pressure point
3. Press the function button 2x.
   - When pressed repeatedly, the battery and memory card capacities are alternately displayed as percentages. To differentiate, when the battery capacity is displayed, a dot also lights up at the top of the display for the battery capacity.

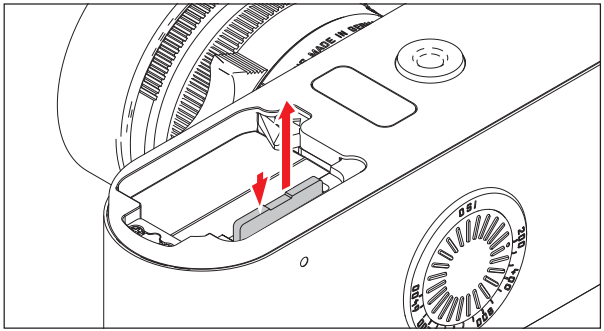
Notes:

- The capacity display appears irrespective of whether the viewfinder display was on before or not.
- Remove the battery if you will not be using the camera for a long period of time.
- A maximum of 2 months after the capacity of a battery left in the camera is exhausted (see also the last note under “Charging the battery”, p. 65), the date and time need to be re-entered.

Inserting the memory card



Removing the memory card



Compatible memory cards

The camera saves the pictures on an SD (secure digital), SDHC (high capacity), or SDXC (eXtended capacity) card.
SD/SDHC/SDXC memory cards are available from various suppliers and with different capacities and read/write speeds. Particularly those with high capacities and read/write speeds allow data to be recorded and retrieved very quickly. The cards have a write protection switch, which can be used to prevent unintentional storage and deletion of pictures. This switch takes the form of a slider on the non-beveled side of the card; in the lower position, marked LOCK, the data on the card is protected.

Note:
Do not touch the memory card contacts.

Displaying the memory card capacity

You can display the number photographs that can still be taken in the viewfinder:

1. Turn on the camera
   - The battery capacity is displayed first.
2. Press the function button 1x

Only necessary if the viewfinder display has switched itself off again even though the camera is switched on:

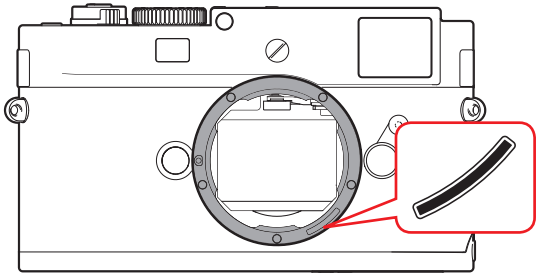
3. Press the shutter release button to the first pressure point
4. Press the function button 1x
   - The relevant value is displayed.
     3s after the shutter release button has been pressed to the first pressure point, or after the function button has been let go, the display returns to the normal state.
     When the card's capacity limit has been reached, Full always appears, irrespective of whether the viewfinder display was switched on before or not.

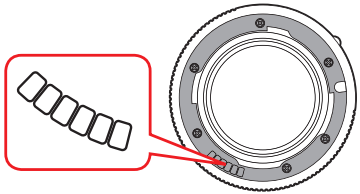
Notes:

- The range of SD/SDHC/SDXC cards is too large for Leica Camera AG to be able to completely test all available types for compatibility and quality. Although using other card types is not likely to damage the camera or the card, some "no name" cards do not comply with the SD/SDHC/SDXC standards and Leica Camera AG is unable to provide any guarantee that they will function correctly.
- If the memory card cannot be inserted, check that it is aligned correctly.
- As electromagnetic fields, electrostatic charges, and defects on the camera or the card can lead to damage or loss of the data on the memory card, we recommend that you also transfer the data to a computer and save it there (see p. 90).
- For the same reason, it is recommended that the card is always stored in its antistatic cover.

LEICA M LENSES

Generally, most Leica M lenses can be used. Details on the small number of exceptions and restrictions can be found in the following notes.
They can be used regardless of the lens features, and whether it does or does not have 6-bit coding in the bayonet. In the case of lenses with coding, the camera uses the information transmitted to optimize exposure and image data.
Even without this additional feature, i.e. when using Leica M lenses without identification, the camera will deliver excellent pictures in most situations.





Important:

- The following cannot be used:
  - Hologon 1:8/15mm,
  - Summicron 1:2/50mm with close-up,
  - Elmar 1:4/90mm with retractable tube (manufactured from 1954-1968)
  - Some versions of the Summilux-M 1.4/35mm (not aspherical, manufactured from 1961-1995, Made in Canada) cannot be fitted to the camera or will not focus to infinity. The Leica Customer Care department can modify these lenses so that they can be used on the camera.
- The following can be used, but risk damaging the camera or lens:
  Lenses with retractable tube can only be used with the tube extended, i.e. their tube must never be retracted into the camera. This is not the case with the current Macro-Elmar-M 1:4/90mm, as its tube does not protrude into the camera body even when retracted. It can therefore be used without any restrictions.

The following can be used with restrictions

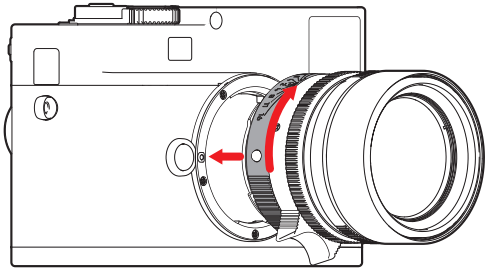
Despite the high precision of the range finder on the camera, exact focusing with 135mm lenses with an open aperture cannot be guaranteed due to the very low depth of field. Therefore, stopping down by at least 2 stops is recommended.

- Possible, but excluded from the exposure metering
  - Super-Angulon-M 1:4/21mm
  - Super-Angulon-M 1:3,4/21mm
  - Elmarit-M 1:2,8/28mm with serial nos. before 2 314 921.

Notes:

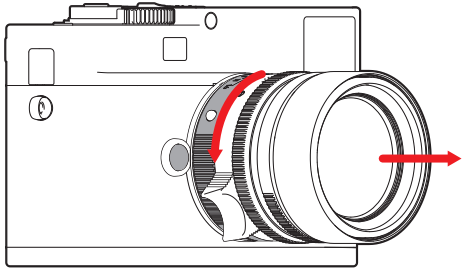
- The Leica Customer Care department can retrofit many Leica M lenses with 6-bit coding. (Address, see p. 108).
- When using the Leica Tri-Elmar-M 1:4/16-18-21mm ASPH., the set focal length is not transferred to the camera and thus is not included in the EXIF data for pictures.
- By contrast, the Leica Tri-Elmar-M 1:4/28-35-50mm ASPH features mechanical transfer of the set focal length to the camera, necessary to display the appropriate bright line frame in the viewfinder, which is scanned by the camera's electronics and used for focal-length-specific compensation. This applies to all three versions of the lens (item nos. 11 625, 11 890 and 11 894).

Attaching the lens



1. Turn off the camera
2. Hold the lens at the fixed ring
3. Align the red index button on the lens with the release button on the camera housing.
4. In this position, insert the lens straight
5. Turn the lens slightly to the right, and you will hear and feel it click into place.

Detaching the lens



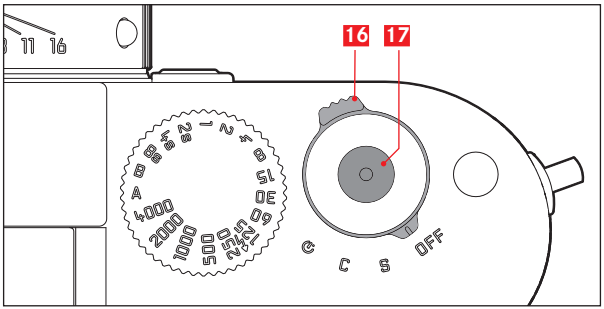
1. Turn off the camera
2. Hold the lens at the fixed ring.
3. Press down the release button on the camera housing
4. Turn the lens to the left until its red index button is aligned with the release button.
5. Remove the lens

Notes:

- Generally, to protect against ingress of dust etc. into the interior of the camera, it is important always to have a lens or a cover fitted to the camera body.
- For the same reason, when changing lenses work quickly and in an environment that is as dust-free as possible.
- Camera or lens rear covers should not be stored in your pants pocket as they attract dust that can get into the camera when they are fitted.

OPERATING ELEMENTS

MAIN SWITCH



The camera is turned ON and OFF using the main switch. This is below the shutter release button and is a lever with four detent positions:

OFF – Camera turned off

b. **S** – Single picture
Pressing the shutter release takes a single picture regardless of how long it is held down for. Activation of the shutter release button is extremely quiet and causes minimum vibration.

c. **C** - Continuous series
A series of pictures are taken for as long as the shutter release is held down and the capacity of the memory card used and the internal buffer memory is sufficient. At least 8 pictures are taken in rapid succession, subsequent pictures with a reduced frequency.

d. ⏲ - Self-timer
Pressing the shutter release starts the set delay time (see p. 90), then the picture is taken.

Notes:

- After turning on, the camera is ready to use after approx. 1s.
- If the camera is out of use for an extended period or is stored in a case, always turn it off at the main switch. This prevents any power consumption, including that which continues to occur in standby mode after the exposure meter is turned off automatically and the display is extinguished. This also prevents pictures from being taken accidentally.

SHUTTER RELEASE BUTTON

The shutter release button has two pressure points:

1. Pressing down to the 1st pressure point
   - activates exposure metering and the viewfinder display
   - saves the metered exposure value in aperture priority mode, i.e. the shutter speed determined by the camera (for more details, refer to the “Metering memory lock” section on p. 84)

* Depending on card speed

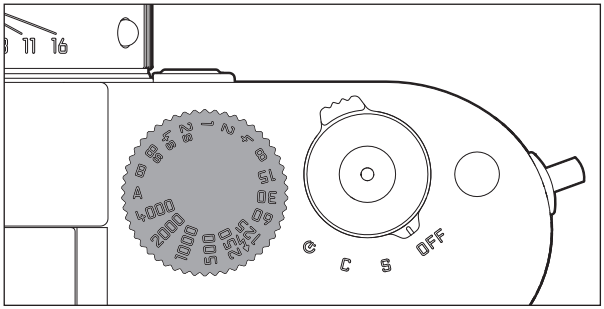
If the shutter release button is pressed down to this pressure stage, the display stays on. If the camera had previously been in stand-by mode, it will be reactivated and the displays switched on. If you release the shutter button, the metering system and the displays remain activated for around a further 30s (for more details, refer to the sections on p. 82).

Notes:
The shutter button remains blocked if
- the internal buffer memory is (temporarily) full, e.g. after a series of ≥16 pictures, or
- the memory card inserted and the internal buffer memory are (temporarily) full, or
- the memory card inserted is write-protected, or
- the picture numbering of the memory card inserted is used up (in such a case, format the card outside the camera after saving the data), or
- the battery has exceeded its performance limits (capacity, temperature, age)
- the bottom cover is not in place.

2. Pressing the shutter button all the way down takes a picture. The data is then transferred to the memory card.

Note:
To avoid wobble, the shutter button should be pressed gently, not jerkily, until the shutter is released with a soft click.

TIME THUMBWHEEL



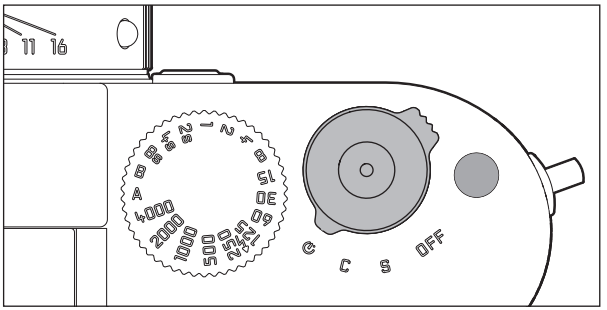
The exposure modes are selected using the shutter speed thumbwheel,
- Aperture priority mode by setting the **A** position (see p. 83),
- Manual mode by selecting a shutter speed of 1/4000s to 8s, (intermediate values in ½ step positions are also available), and
- the ϟ shortest possible sync speed of 1/180s for flash mode, marked with the symbol (s. S. 89), and
- **B** for long exposures (see p. 85).

The Leica M shutter speed dial has no stop, i.e. it can be turned in either direction from any position. It detents at all marked positions and at the intermediate values. Values between the detent positions cannot be used.
More details on setting the correct exposure can be found in the sections under the heading: "Exposure metering" from page 82.

BASIC SETTINGS

DATE AND TIME

Actual setting is done only with the function button, the thumbwheel and the viewfinder display.



Accessing the setting mode:

1. Set main switch to ⏲
2. Press the function button for a long time (≥12s, during this time, no other operation process may be carried out)

Setting each of the values:

3. With thumbwheel

Switching between the value groups:

4. Briefly press the function button

Order of the value groups

Adjusting the year:	
Adjusting the month:	
Adjusting the day:	
Adjusting the hour:	
Adjusting the minute:	

Leaving the setting mode

1. Press the function button for a long time(≥12s), or turn the main switch from the ⏲ position, or briefly touch the shutter release button
   All settings are accepted/saved.

ISO SENSITIVITY

The ISO setting covers a range of ISO 200 – 6400 in ⅓ ISO increments, and thus enables you to adapt the shutter speed/aperture values to the relevant situation as required. The setting disc with detent positions on the back of the camera is used for this. Turn it so that the index point is opposite the desired value on the scale.

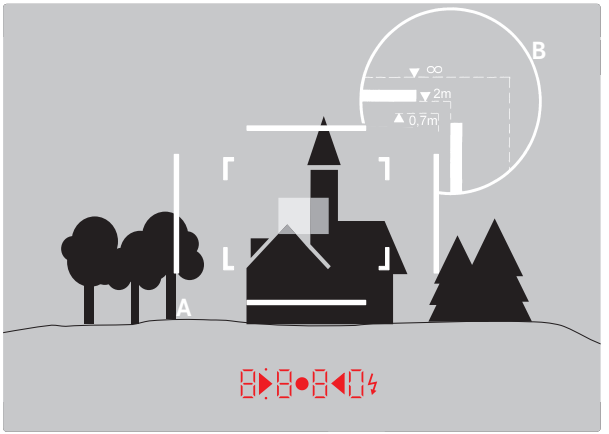
Note:
Particularly at high ISO values and when editing pictures, noise as well as vertical and horizontal stripes may become visible, especially in large, uniformly bright areas of the subject.

PERMANENT CAMERA SETTINGS

This camera saves the picture data in compressed loss-free DNG format. White balance is automatic.

BRIGHT-LINE VIEW AND RANGE FINDER

The camera's bright-line view and range finder is not only a very high-quality, large, brilliant and bright viewfinder, it is also a highly accurate range finder coupled to the lens. It has a magnification factor of 0.68x. The bright-line frames are lit in white by LEDs.
The bright-line frames are linked to the range setting to ensure that the parallax - the offset between the lens and the viewfinder axis - is automatically compensated. At a range of below 2m the sensor detects slightly less than shown by the inner edges of the bright-line frame, and slightly more at longer ranges (see adjacent diagram). These slight variations, which are hardly ever critical in practice, are due to the operating principle.
Bright-line frames on a viewfinder camera must be matched to the image angle of the relevant lens focal lengths. However, the nominal image angles change slightly when focusing due to the changing extension, i.e. the distance between the optical system and the sensor plane. If the set range is less than infinity (and the extension correspondingly greater), the actual image angle is smaller - the lens captures less of the subject. In addition, the differences in the image angle tend to be greater at longer focal lengths, as a result of the greater extension.
In the middle of the viewfinder image is the square range metering image, which is brighter than the surrounding image field.
If the exposure meter is turned on, the exposure meter LEDs and the flash symbol LED appear at the lower edge of the viewfinder image. For more details about setting the range and exposure metering, as well as flash mode, refer to the relevant sections on p. 80/82/86.



All pictures and bright-line frame positions relative to 50mm focal length

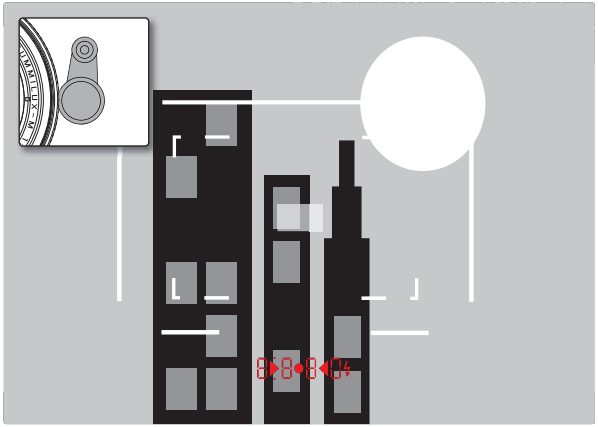
A	Bright-line frame
B	Actual image field
Set to 0.7m:	The sensor detects approx. one frame width less.
Set to 2m:	The sensor detects exactly the image field shown by the inner edges of the bright-line frame.
Set to infinity:	The sensor detects approx. 1 or 4 (vertical or horizontal) frame width(s) more.

IMAGE FIELD SELECTOR

The image field selector extends the possibilities of this built-in universal viewfinder: at any time, you can view frames that do not belong to the current lens. You can then see immediately if, for image composition reasons, it would be better to photograph the relevant subject using a different focal length.
If the lever is rotated outwards, i.e. away from the lens, the image field limits for 35 and 135mm focal length are shown.
If the lever is rotated to the vertical, centered position, the image field limits for 50 and 75mm focal length are shown. If the lever is rotated inward, i.e. toward the lens, the image field limits for 28 and 90mm focal length are shown.

35mm + 135mm

50mm + 75mm



28mm + 90mm

RANGE MEASUREMENT

Due to its large effective metering basis, the range finder on this camera is very precise. The benefits of this are particularly noticeable when using wide-angle lenses with their relatively high depth of field.

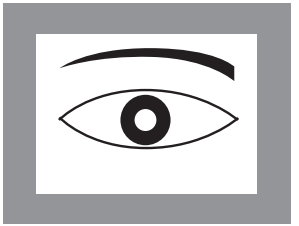
Mechanical metering basis (Distance between the optical axes of the viewfinder window and the range finder viewing window)	**x Viewfinder zoom**	**= Effective metering basis**
69.25mm	x 0.68	= approx. 47.1mm

The range finder metering field is visible as a bright, sharply defined rectangle in the center of the viewfinder. The focus can be set using either the superimposed image or split image method:

Superimposed image method

In a portrait, for example, aim the metering field at the eye and turn the distance setting ring on the lens until the contours in the metering field are brought into line. Then choose the subject detail.

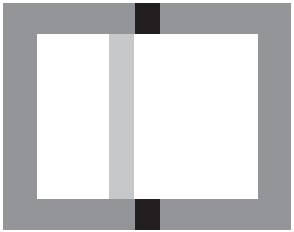
Out of focus

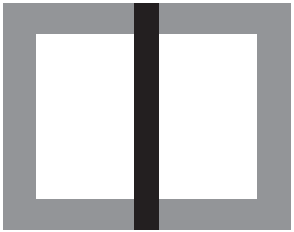


In focus

Split image method

When taking photographs of architecture, for example, aim the range finder metering field at the vertical edge or another clearly defined vertical line and turn the distance setting ring on the lens until the contours of the edge or line can be seen at the limits of the metering field with no misalignment. Then choose the subject detail.


Out of focus


In focus

EXPOSURE METERING

In this camera, the exposure is metered for the available ambient light though the lens with the working aperture with strong center weighting. The light reflected by a bright shutter diaphragm blade in the first shutter curtain is measured. The time/aperture combinations suitable for the correct exposure are indicated by the viewfinder displays or identified with their help.
In aperture priority mode, the aperture is selected manually, however the camera forms the shutter speed automatically. In this mode a digital LED display provides information on the shutter speed to be used (e.g. **1000**)
A light balance (▶●◀) comprising three red LEDs is used to adjust the exposure for manual settings. If the setting is right, only the central, circular LED lights up.

Turning the exposure meter on/off

The exposure meter is switched on by lightly pressing the shutter release button down to its 1st pressure point, provided that the camera is switched on with the main switch and the shutter speed dial is not set to B. The readiness of the exposure meter is signaled by the constant lighting of one of the displays in the viewfinder:
- in aperture priority mode the digital LED display of the shutter speed,
- and in manual mode one of the two triangular LEDs lights up, either individually or in conjunction with the center circular LED.

If you let go of the shutter release button without activating the shutter, the exposure meter remains turned on for around 12s more, and the relevant LED(s) remain lit for the same time. If the shutter speed setting dial is set to **B**, the exposure meter is disabled.

Notes:
- When the displays have gone out, the camera is in a "stand-by" mode.
- In very low ambient light, i.e. at the limits of the exposure meter, it can take around 0.2s until the LEDs light up.
- In aperture priority mode, if correct exposure cannot be achieved using the available shutter speeds, the shutter speed display gives a warning by flashing (for more details, refer to the "Aperture priority mode" section on p. 83).
- If the exposure meter reading is below its working range in very low lighting conditions and in manual mode, the left hand triangular LED flashes as a warning. In aperture priority mode, the shutter speed is still displayed. If the required shutter speed falls below the slowest possible setting of 60s, this display also flashes.
- If the camera is out of use for an extended period or is stored in a case, always turn it off at the main switch. This prevents any power consumption, including that which continues to occur in standby mode after the exposure meter is turned off automatically and the display is extinguished. This also prevents pictures from being taken accidentally.

The appropriate shutter speed for correct exposure, or the variation from a correct exposure setting, are specified or determined using displays in the viewfinder (see following sections).

EXPOSURE MODES

The camera provides two exposure modes: Aperture priority mode and manual mode. Depending on the subject, situation and your individual preferences, you can thus choose between
- the familiar “semi automatic” operation, or
- setting a fixed shutter speed and aperture.

APERTURE PRIORITY

If the shutter speed thumbwheel is in the **A** position, the electronics within the camera generates the exposure time automatically and continuously in the range of $^{1}/_{4000}$s to 60s, in accordance with the film speed setting, the metered brightness and the manually selected aperture. The calculated shutter speed is displayed in half steps to provide a better overview.
For shutter speeds slower than 2s the remaining exposure time is counted down and displayed in seconds after the shutter release.
The actually generated and continuously controlled exposure time can however vary from the half step value displayed: For example, if the display shows 16 (the closest value) before releasing the shutter, but the calculated exposure time is longer, the countdown after releasing the shutter may actually start from 19.
Under extreme lighting conditions, based on all the parameters the exposure meter may generate a shutter that is outside the working range, i.e. brightness values that would require shorter exposures than $^{1}/_{4000}$s or longer than 60s. In such cases the specified minimum or maximum shutter speed is nevertheless used, and these values flash in the viewfinder as a warning.

Notes:
- As described in connection with the ISO setting on p. 77, a certain amount of noise becomes apparent when using higher sensitivities, and particularly with uniform dark surfaces. To reduce this annoying phenomenon, after pictures with slow shutter speeds and high ISO values the camera automatically takes a second “black picture” (taken with the shutter closed). The noise present in this parallel picture is then digitally “subtracted” from the data for the real picture. This doubling of the “exposure” time can be significant at longer exposure times, and must be allowed for. During this time the camera should not be turned off.
- If you want a darker or brighter reproduction of the subject, it is recommended to set the exposure manually (see p. 84).

EXPOSURE LOCK

For compositional reasons, the most important part of the subject is often not in the center of the picture, and as a result such important parts of the subject may be excessively light or dark. Center-weighted metering, however, records only an area in the center of the image and is calibrated to an average gray scale value. Subjects and situations of this type can be overcome very easily even in aperture priority mode, using exposure lock.

Using the function

1. Aim at the important subject detail or alternatively at another detail with average brightness.
2. Press the shutter release button down to the 1st pressure point for measurement and saving. As long as the pressure point is held, a small red dot appears in the viewfinder at the top in the digits line for confirmation, and the exposure time no longer changes even if the lighting conditions are different.
3. Keeping the shutter release pressed, move the camera to capture the final trimming,
4. The shutter can then be released using the exposure originally determined.

Changing the aperture setting after using exposure lock has no effect on the shutter speed, and will lead to an incorrect exposure. Exposure lock is canceled when you remove your finger from the shutter release pressure point.

EXPOSURE COMPENSATION

Exposure meters are calibrated to a gray scale value, which corresponds to the brightness of a normal, i.e. average photographic subject. If the actual subject detail does not match this assumption, an appropriate exposure compensation can be performed. Particularly when taking several pictures in succession, for instance if for any reason a series of pictures is taken deliberately using slight under or overexposure, exposure compensation is a very useful function: In contrast to exposure lock, once set it remains effective until it is reset. Exposure compensation can be set in the range ±3EV in ⅓ EV steps (EV: Exposure Value).

1. Turn on the camera
2. Keep the function button pressed down and turn the thumbwheel
   - During setting, the digital display in the viewfinder shows the relevant value. Even after the shutter release button has been lightly pressed, it appears for a short time.

MANUAL EXPOSURE SETTING

If the exposure setting is performed entirely manually, the shutter speed dial must be clicked to one of the engraved exposure times or to one of the intermediate values.

Then:

1. Turn on the exposure meter, and
2. turn the shutter speed dial and /or the aperture setting ring on the lens – in each case in the direction indicated by the triangular LED that is lit up – until only the circular LED is lit up.

As well as the direction of rotation of the shutter speed thumbwheel and aperture setting ring necessary for correct exposure, the three LEDs in the light balance also indicate underexposure, overexposure and correct exposure in the following way:

- ▶ Underexposure by at least one aperture stop; turning to the right is required
- ▶● Underexposure by at most half an aperture stop; turning to the right is required
- ● Correct exposure
- ●◀ Overexposure by at most half an aperture stop; turning to the left is required
- ◀ Overexposure by at least one aperture stop; turning to the left is required

Note:
For shutter speeds slower than 2s the remaining exposure time is counted down and displayed in seconds after the shutter release.

THE B SETTING

With the **B** setting, the shutter remains open for as long as the shutter release button is held down (up to a maximum of 60s; depending on the ISO setting).
The exposure meter is disabled; however the digital display in the viewfinder counts the elapsed exposure time in seconds, for guidance.

Notes:

- Long exposure times can be associated with very heavy picture noise.
- To reduce this annoying phenomenon, following exposures with slower shutter speeds (below approx. 1/30s) this camera automatically takes a second "black picture" (with the shutter closed). The noise present in this parallel picture is then digitally “subtracted” from the data for the real picture.
- This doubling of the “exposure” time can be significant at longer exposure times, and must be allowed for. During this time the camera should not be turned off.

VALUES ABOVE AND BELOW THE METERING RANGE

If the exposure meter reading is below its working range in very low lighting conditions and in manual mode, the left hand triangular LED (▶) flashes as a warning in the viewfinder, while the right hand LED (◀) does the same if there is too much light. In aperture priority mode, the shutter speed is still displayed. If the required shutter speed is more than the slowest possible 60s or less than the fastest possible of $^{1}/_{4000}$s, these displays also flash. As the exposure is metered with the working aperture, this situation can come about by stopping down the lens. Even if you are below the metering range, the exposure meter remains on for around 30s after you let go of the shutter release button. If the lighting conditions improve in this time (e.g. through a change in the subject detail or opening of the aperture), the LED display changes from flashing to continuously lit, indicating that the meter is ready.

FLASH MODE

The camera determines the necessary flash power by firing one or more ranging flashes, fractions of a second before taking the actual picture. Immediately after this, at the start of exposure, the main flash is fired. All factors that influence the exposure (such as picture filter and changes to the aperture setting) are automatically taken into account.

COMPATIBLE FLASH UNITS

The following flash units, when used on the camera, are capable of all the functions described in this manual, including TTL flash metering:

- Leica system flash units, such as the models SF 40, SF 64, SF 26, SF 58.
- Flash units that satisfy the technical requirements for a System 3000 System Camera Adaption (SCA), are fitted with the SCA-3502-M52 adapter.

Other commercially available flash attachments with standard flash foot and positive center contact, and fired by the center contact (X contact) can also be used.

ATTACHING THE FLASH UNIT

Before attaching a flash unit to the accessory shoe on the camera,

- the cover that protects the accessory shoe when not in use, must be detached to the rear, and
- the camera and flash unit must be turned off.

When attaching a flash unit, you should ensure that the foot of the flash unit is fully inserted into the accessory shoe and the clamping nut is tightened to prevent it accidentally falling out. This is particularly important for flash units with additional control and signal contacts, because if the position in the accessory shoe changes the necessary contacts can be broken, leading to malfunctions.

Note:
If the accessory shoe is not in use, the relevant cover (supplied) should always be in place.

FLASH EXPOSURE CONTROL

Fully automatic flash mode, i.e. controlled by the camera, is available on the camera with the system-compatible flash units listed in the previous section, and in aperture priority **A** and manual exposure modes.
In addition, automatic illumination control is operational in both exposure modes. This means that in order to ensure a balanced relationship between flash and other lighting at all times, the flash power is reduced by up to 1⅔EV as ambient brightness increases. However, if the ambient brightness plus even the shortest possible flash sync time of 1/180s would cause overexposure, a non-HSS compatible flash unit will not be fired in aperture priority mode (for details on HSS operation, see p. 89). In such cases the shutter speed is governed by the ambient brightness and is shown in the viewfinder.
In addition, the camera transfers the set sensitivity to the flash unit. This allows the flash unit, provided it has received such information and the aperture manually set on the lens is also input to the flash unit, automatically to adjust its range values accordingly. With system compatible flash units, the sensitivity setting cannot be influenced from the flash unit as it is transferred from the camera.

Notes:

- Studio flash systems may have a very long burning time. Therefore, when using them it may be useful to select a slower shutter speed than 1/180s.
- The same applies to radio controlled flash triggers for "unchained flash", as the radio transmission can cause a delay.
- The following sections describe only those settings and functions that are available when using this camera with system-compatible flash units.
- More details of flash use, in particular for other flash units not specially adapted to this camera and for different flash modes, can be found in the relevant manuals.

Settings for camera-controlled automatic flash mode

When the flash unit used has been switched on and set to the appropriate mode for TTL flash exposure control (see flash manual), exposure metering must be carried out on the camera:

1. before taking each flash picture by gently pressing the shutter release, so that the display in the viewfinder shows the shutter speed or switches to the light balance. If this stage is missed out by fully depressing the shutter release in one quick movement, the flash unit will not fire even if required.
2. The shutter speed dial must be set to **A**, to the flash sync speed (1/180s), or to a slower shutter speed (including **B**). In aperture priority mode, the camera determines the shutter speed in line with the ambient light, but limits slow shutter speeds in line with the 1/focal length rule to reduce blurring.
3. The desired aperture, or the aperture required for the relevant distance to the subject, must be set.

Note:
If the utomatically controlled or manually set shutter speed is faster than 1/180s, the flash is not fired unless the flash unit is HSS-compatible (see p. 89).

Flash exposure displays in the viewfinder with system-compatible flash units

A flash-shaped LED appears in the viewfinder as confirmation and to display the various operating conditions. This LED appears together with the displays for exposure metering for the ambient light level, described in the relevant sections.

In automatic flash mode

(flash unit set to GNC or TTL)

- ⚡ does not appear despite the flash unit being switched on and ready for use:
  A faster shutter speed than $^1/_{180}$s is set manually on the camera and the connected flash unit is not HSS-compatible. In such cases the camera will not fire the flash unit even though it is switched on and ready for use.
- ⚡ flashes slowly (at 2Hz) before the picture is taken:
  The flash unit is not yet ready to use
- ⚡ is lit up before the picture is taken:
  The flash unit is ready for use
- ⚡ remains continuously lit after taking the picture, and the other displays go out:
  The flash is still ready to use.
- ⚡ flashes rapidly after taking the picture (at 4Hz), and the other displays go out:
  It is not yet ready to use again.
- ⚡ goes out after taking the picture, together with the other displays:
  Underexposure, perhaps due to the choice of too small an aperture stop for the subject.

When the flash unit is set to camera control (A) or manual mode (M)

- does not appear despite the flash unit being switched on and ready for use:
  An exposure time shorter than $^{1}/_{180}$s has been set manually on the camera. In such cases the camera will not fire the flash unit even though it is switched on and ready for use.
- flashes slowly (at 2Hz) before the picture is taken:
  The flash unit is not yet ready for use.
- is lit up before the picture is taken:
  The flash unit is ready for use.

LINEAR FLASH MODE (HIGH SPEED SYNCHRONIZATION)

Fully automatic, i.e. camera controlled, linear flash operation is available with this camera when using correspondingly equipped Leica system flash units, with all shutter speeds and in aperture priority and manual exposure modes. The camera activates it automatically if the selected or calculated shutter speed is faster than the sync speed of $^{1}/_{180}$s. If the flash unit is set correctly, this change does not require the photographer to do anything else.

Important:
The range for HSS flash is significantly lower than for TTL flash.

Notes:

- Manual exposure control also allows any shutter speed up to the sync speed of $^{1}/_{180}$s to be set.
- If shutter speeds faster than $^{1}/_{80}$s are used, the flash unit automatically switched to HSS mode.

MISCELLANEOUS

TAKING PHOTOGRAPHS WITH THE SELF-TIMER

You can use the self-timer to take a picture with a delay of 12s. In such cases we recommend that the camera is placed on a tripod.
Setting and using the function

1. Turn the main switch to ⏲.
2. To start the delay time, press the shutter release button to the 2nd pressure point (see p. 74)
   - The LED 7 on the front of the camera flashes for the first 10s to show the progress of the delay time.

During the delay time, it can be restarted by touching the shutter release button again or the function can be canceled by turning the main switch out of the ⏲ position.

Important:
In self-timer mode, the exposure is not set by pressing the shutter release button to the pressure point, it is set immediately before the picture is taken.

REVIEW

Your photos are played back on your computer. You need one with an integrated or connected card reader.

TRANSFERRING DATA TO A COMPUTER

You will need a card reader to transfer image data from a memory card to a computer. This can be either an integrated card reader or an externally connected device via USB cable.

Data structure on the memory card

The 100LEICA, 101LEICA, etc. folders can each hold up to 9999 pictures.

USING RAW DATA DNG

For further image processing, you need software compatible with the DNG (Digital Negative) format used to convert the saved raw data to the highest quality, for example the raw data converter Adobe® Photoshop® Lightroom®. It provides quality-optimized algorithms for digital color processing, delivering exceptionally low noise photographs with incredible resolution.
During editing, you have the option of subsequently adjusting parameters such as white balance, noise reduction, gradation, sharpness etc. to achieve an optimum image quality.

INSTALLING FIRMWARE UPDATES

Leica is constantly working on developing and optimizing its products. As many functions of the camera are entirely controlled by software, some of these improvements and extended functions can be installed at a later date.
Leica provides firmware updates at irregular intervals for this purpose. Information about any resulting changes or additions to the details in this manual can be found on our website.
www.leica-camera.com

Procedure:

1. Turn off the camera
2. Insert the memory card in an integrated card reader, or one connected to your computer
3. Formatting the memory card
4. Download the firmware file from our website under the link "FIRMWARE"
5. Save the *.FW file to the highest level of the card folder structure.
6. Decompress the *.FW file if necessary
7. Remove the memory card from the card reader
8. Make sure that the camera is switched off, insert the memory card in the camera and close the bottom cover
9. Keep the function button pressed down and then switch the camera on

The update process begins. This can take up to 15 minutes.

Displays

	Viewfinder LED (permanently lit up)	**Back LED**
During the procedure		lights up
After an update		goes out
Battery capacity too low for update procedure		flashes slowly
Update not possible*		flashes quickly

*e.g. because the camera can't find an update file on the card

SYSTEM ACCESSORIES

INTERCHANGEABLE LENSES

The Leica M system provides a basis for optimum adaptation to fast and unobtrusive photography. The range of lenses incorporates focal lengths from 16 to 135mm and light intensities up to 1:0.95.

FILTERS

Various filter types and sizes are available for the current Leica M lenses.

Note:
Leica UV/IR filters specially developed for use on the Leica M8 and M8.2 should not be used on the Leica M as they can cause color shifts at the edges of pictures, particularly when using wide angle lenses.

MIRROR VIEWFINDER M

Mirror viewfinders are available for 18, 21, and 24mm lenses. They feature an exceptionally compact design and a bright viewfinder image. Bright line frames like those in the camera viewfinder are used to select the trimming (order no. 18mm: 12 022 black, 12 023 silver/21mm: 12 024 black, 12 025 silver/24mm: 12 026 black, 12 027 silver).

UNIVERSAL WIDE ANGLE VIEWFINDER M

The Leica universal wide-angle viewfinder M is a thoroughly practical accessory. It can be used without restriction on all analog and digital Leica M models and – just like the viewfinder in the camera – uses a reflected bright-line frame to outline the picture area for wide angle focal lengths 16, 18, 21, 24 and 28mm. The viewfinder is equipped with parallax compensation and a vial (spirit level) for exact leveling of the camera.
(Order No. 12 011)

VIEWFINDER MAGNIFIERS M 1.25x AND M 1.4x

The Leica M 1.25x and M 1.4x viewfinder magnifiers significantly simplify picture composition when using focal lengths above 35mm. They can be used on all Leica M models and magnify the central area of the viewfinder image. The 1.25x viewfinder magnifier gives the 0.68 x viewfinder on this camera a magnification of 0.85 x, while the 1.4 x gives 0.95 x magnification.
A security chain with snap fasteners prevents loss and can be used to hang the viewfinder on the carrying strap's fastening ring.
The viewfinder magnifiers are supplied in a leather bag. A loop on the case allows the viewfinder magnifier to be stored on the camera's carrying strap, where it is protected and ready for use.
(Order no. 12 004 M 1.25x, 12 006 M 1.4x)

FLASH UNITS

The Leica M-D can be used with different types of flash unit. Only system-compatible units with the proprietary Leica interface enable camera-based, fully automatic flash exposure control. Leica offers several models with varying specifications for this.

Note:
Ensure that the accessory shoe cover is always fitted when no accessories are in use.

CORRECTIVE LENSES

For optimum adaptation of the eye to the camera's viewfinder, we offer corrective lenses with the following positive or negative diopter values (spherical): ±0.5/1/1.5/2/3.

CASES

The new M ever-ready case has been specially developed for the new Leica M. It protects the camera reliably during transport and can be left connected to the camera so that the camera can be used quickly when taking photographs.
For effective protection during intensive photography, the front of the case can be detached and the section remaining on the camera then acts as a camera protector.
(Order No. 14 547)
For your full set of camera equipment, the classic Billingham combination case made of waterproof fabric is also available. This either holds two cameras and two lenses or one camera and three lenses. It has enough space for even large lenses and a fitted M hand grip. A zipped compartment also provides space for a Leica SF 26 flash and for other accessories.
(Order no. 14 854 black, 14 855 khaki)

SPARE PARTS	Order No.
Bayonet cover M	14 397
Accessory shoe cover M	14 900
Carry strap	439-612.105-000
Li ion battery BP-SCL2	14 499
Charger BC-SCL2 (with EU/USA mains cables, in-car charging cord)	14 494
Mains cable for AUS and UK	14 422 and 14 421

SAFETY AND CARE INSTRUCTIONS

GENERAL PRECAUTIONS

- Do not use your camera in the immediate vicinity of devices with powerful magnetic, electrostatic or electromagnetic fields (e.g. induction ovens, microwave ovens, television sets or computer monitors, video game consoles, cell phones, radio equipment).
- If you place the camera on or very close to a television set, its magnetic field could interfere with picture recordings.
- The same applies for use in the vicinity of cell phones.
- Strong magnetic fields, e.g. from speakers or large electric motors, can damage the stored data or the pictures.
- Do not use the camera in the immediate vicinity of radio transmitters or high-voltage power lines. Their magnetic fields can also interfere with picture recordings.
- If the camera malfunctions due to the effects of electromagnetic fields, remove the battery and turn the camera on again.
- Protect the camera from contact with insect sprays and other aggressive chemicals. Petroleum spirit, thinner and alcohol may not be used for cleaning.
- Certain chemicals and liquids can damage the camera's housing or the surface finish.
- As rubber and plastics sometimes emit aggressive chemicals, they should not remain in contact with the camera for a long time.
- Ensure that sand and dust cannot get into the camera, e.g. on the beach. Sand and dust can damage the camera and the memory card. Take particular care when changing lenses and when inserting and removing the card.
- Ensure that water cannot get into the camera, e.g. when it is snowing or raining and on the beach. Moisture can cause malfunctions and even permanent damage to the camera and memory card.
- Ensure that the accessory shoe cover is always fitted when no accessories are in use (such as a flash unit).
- If salt water spray gets onto the camera, wet a soft cloth with tap water, wring it out thoroughly and wipe the camera with it. Then wipe down thoroughly with a dry cloth.

SENSOR

- Cosmic radiation (e.g. on flights) can cause pixel defects.

CONDENSATION MOISTURE

- If condensation has formed on or in the camera, you should turn it off and leave it to stand at room temperature for around an hour. Once the camera temperature has adjusted to room temperature, the condensation will disappear by itself.

CARE INSTRUCTIONS

As any soiling also represents a growth medium for microorganisms, you should take care to keep the equipment clean.

FOR THE CAMERA

- Clean the camera only with a soft, dry cloth. Stubborn dirt should first of all be covered with a well-thinned cleaning agent and then wiped off with a dry cloth.
- To remove stains and fingerprints, the camera and lenses should be wiped with a clean lint-free cloth. Tougher dirt in hard to reach corners of the camera body can be removed with a small brush. The shutter blades may not be touched when doing this.
- All mechanically operated bearings and sliding surfaces on your camera are lubricated. Please remember this if you will not be using the camera for a long period of time. To prevent the lubrication points becoming gummed up, the camera shutter should be released a number of times every three months. It is also recommended that you repeatedly move and use all other controls. The range and aperture adjustment rings on the lens should also be moved periodically.
- Take care not to scratch the sensor for the 6-bit coding in the bayonet, or to get it dirty. Take care also that no grains of sand or similar particles enter the fastening, where they could scratch the bayonet. Only clean this component when dry and do not exert any pressure on the glass cover.

FOR THE BATTERY

Rechargeable lithium ion batteries generate power through internal chemical reactions. This reaction is influenced by ambient temperature and humidity. Very high and low temperatures shorten the operating time and service life of the batteries.

- Always remove the battery, if you will not be using the camera for a long period of time. Otherwise, after several weeks the battery could become totally discharged, i.e. the voltage is sharply reduced as the camera still consumes a small amount of current (for saving your settings) even when it is turned off.
- Lithium ion batteries should only be stored in a partially charged condition, i.e. not completely discharged or fully charged (in the corresponding display). If the battery is stored for a long period of time, it should be charged around twice a year for approximately 15 minutes to avoid a full discharge.
- Always ensure that the battery contacts are clean and freely accessible. Whilst lithium ion batteries are proof against short circuits, they should still be protected against contact with metal objects such as paper clips or jewelry. A short-circuited battery can get very hot and cause severe burns.
- If a battery is dropped, check the casing and the contacts immediately for any damage. Using a damaged battery can damage the camera.
- In case of noise, discoloration, deformation, overheating or leaking fluid, the battery must be removed from the camera or charger immediately and replaced. Continued use of the battery results in a risk of overheating, which can cause fire and/or explosion.
- In case of leaking fluid or a smell of burning, keep the battery away from sources of heat. Leaked fluid can catch fire!
- A safety valve in the battery guarantees that any excess pressure caused by improper handling is discharged safely.

- Batteries have a limited service life. It is recommended to replace it after around four years; this may be necessary sooner if used in a cold environment. (You will find the battery manufacture date on its casing. Written: calender week/year(WW/YY))
- Take damaged batteries to a collection point to ensure correct recycling.
- The batteries must not be exposed to heat or sunlight for prolonged periods, or to humidity or moisture. Likewise, the batteries may not be placed in a microwave oven or a high pressure container as this results in a risk of fire or explosion.

FOR THE CHARGER

- If the charger is used in the vicinity of radio receivers, it can interfere with the reception; make sure there is a distance of at least 1m between the devices.
- When the charger is in use, it can make a noise (buzzing) – this is quite normal and is not a malfunction.
- When it is not in use, disconnect the charger from the mains as otherwise it uses a certain (very small) amount of power even when no battery is inserted in it.
- Always keep the charger contacts clean, and never short circuit them.
- The car charging cable supplied
  - may only be operated with 12V electrical systems,
  - may never be connected while the charger is connected to the mains.

FOR MEMORY CARDS

- While a picture is being stored or the memory card is being read, it may not be removed, nor may the camera be turned off or exposed to vibrations.
- For safety, memory cards should only ever be stored in the anti-static case supplied.
- Do not store memory cards where they will be exposed to high temperatures, direct sunlight, magnetic fields or static discharge.
- Do not drop or bend a memory card as this can damage it and result in loss of the stored data.
- Always remove the memory card if you will not be using the camera for a long period of time,
- Do not touch the connections on the rear of the memory card and keep them free of dirt, dust and moisture.
- It is recommended that the memory card be reformatted from time to time, as fragmentation occurs when deleting, which can block some of the memory capacity.

CLEANING THE SENSOR

If any dust or dirt particles should adhere to the sensor cover glass, depending on the size of the particles this can be identified by dark spots or marks on the pictures. The camera can be returned to Leica AG Customer Service (Address: see p. 108) for chargeable cleaning of the sensor; this cleaning is not covered by the warranty.

However, you can do this cleaning yourself:

1. Check whether the camera battery has a capacity of at least 60%
2. Set the main switch to ⏲
3. Firstly, keep the function button pressed down, and then press the shutter release button.
   The shutter opens, thus revealing thesensor for cleaning (if the battery capacity is too low, the shutter will not open and the note bc (= Battery Capacity) appears in the viewfinder).
4. Clean:
   Make sure you follow the instructions below.
5. After you have finished cleaning, turn the camera off with the main switch. The shutter closes again after 10s.

Notes:

- Generally, To protect against ingress of dust, etc., it is important important always to have a lens or cover fitted.
- For the same reason, when changing lenses work quickly and in an environment that is as dust-free as possible.
- As plastic parts can easily pick up a static charge and then attract more dust, lens caps and covers made of these materials should only be stored for short periods in pockets in clothing.
- As far as possible, cleaning of the sensor should be performed in a dust-free environment to prevent further soiling.
- Lightly adhering dust can be blown off the sensor cover glass using clean and, if necessary ionized gases such as air or nitrogen. It makes sense to use a (rubber) bellows with no brush for this purpose. Special, low pressure cleaning sprays such as "Tetenal Anti-dust Professional" can also be used in line with their specified usage.
- If the particles cannot be removed from the sensor in this way, please refer the matter to Leica Customer Service.
- Preventing damage!
- To prevent damage, before switching off the camera always make sure that no objects can prevent the shutter from closing correctly!

Important:

- Leica Camera AG accepts no liability for damage caused by the user when cleaning the sensor.
- Do not attempt to blow dust particles off the sensor cover glass using your mouth; even tiny droplets of saliva can cause marks that are difficult to remove.
- Compressed air cleaners with high gas pressure may not be used as they can also cause damage.
- Take care to avoid touching the sensor surface with any hard objects during inspection and cleaning.

STORAGE

- If you are not using the camera for a longer period of time, we recommend that you:
  remove the memory card (see p. 69), and
  b. remove the battery (see p. 68), (after 2 months at the latest the date and time that were entered will be lost.
- A lens works like a magnifying glass if bright sunlight shines on the front of the camera. The camera must always be protected from strong sunlight. Use the lens cover and keep the camera in the shade (or immediately put it away in the case) help to prevent damage to the interior of the camera.
- Store the camera preferably in a closed and padded container so that nothing can rub against it and it is protected from dust.
- Store the camera in a dry, adequately ventilated place, where neither high temperatures nor high humidity will occur. When used in humid conditions, the camera should be completely free of all moisture before being stored away.
- Photo cases that became wet during use should be emptied to prevent damage to your equipment caused by moisture and any residues of leather-tanning agent that may be released.
- To prevent fungal growth during use in hot, humid tropical climates, the camera equipment should be exposed to the sun and air as much as possible. Storage in airtight containers or cases is recommended only if a desiccant such as silica gel is placed in the container.
- To prevent the formation of fungus, do not store the camera in a leather case for long periods of time.
- Note the serial numbers of your camera (engraved on the accessory shoe) and lenses, as these are extremely important in case of loss.

TROUBLESHOOTING

THE CAMERA DOES NOT RESPOND WHEN I TURN IT ON.

- Has the battery been correctly inserted?
- Does the battery have sufficient charge?
  Use a charged battery.
- Has the bottom cover been correctly fitted?

THE CAMERA TURNS ITSELF OFF AGAIN AS SOON AS I TURN IT ON.

- Does the battery have sufficient charge to operate the camera?
  Charge the battery or insert a charged battery.
- Is there any condensation?
  This occurs if the camera is moved from a cold place to a hot place. In this case, wait until the condensation has evaporated.

THE CAMERA SHUTTER REFUSES TO TRIP.

- Picture data is currently being transferred to the memory card and the back-up memory is full.
- The capacity of the memory card is exhausted and the back-up memory is full.
- No memory card has been inserted and the back-up memory is full.
- The memory card inserted is write-protected.
- The picture numbering of the memory card inserted is used up (in such a case, format the card outside the camera after saving the data).
- The battery has exceeded its performance limits (capacity, temperature, age)
- The bottom cover is not fitted.

I CANNOT SAVE THE PICTURE.

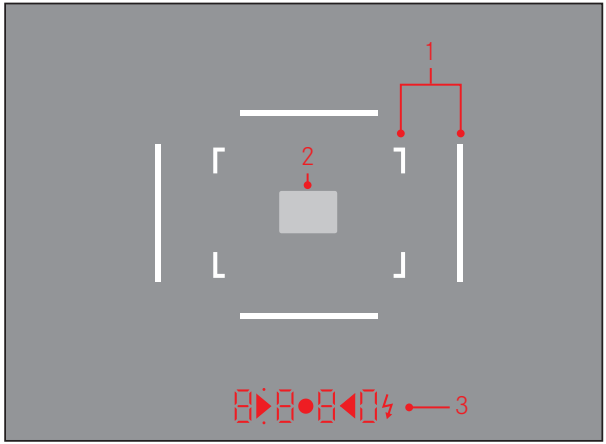
- Is a memory card inserted?
- The capacity of the memory card is full.

THE DATE AND TIME DISPLAYS SHOW INCORRECT VALUES OR ARE BLANK.

- The camera has not been used for a long period, particularly if the battery has been removed.
  Insert a fully charged battery.
  Set the date and time.

APPENDIX

VIEWFINDER DISPLAYS



1. Bright line frame for 50mm and 75mm[1] (example)

2. Metering field for distance setting

3. LEDs[1] (Light Emitting Diodes) for:
   Four-digit digital display with dots above and below
   8 8 8 0 Digital display:
   - Display of the automatically determined shutter speed for aperture priority **A**, or for counting down shutter speeds slower than 1s
   - Display of the exposure compensation set (when the shutter release button is pressed to the 1st pressure point)
   - Warning that the metering or setting ranges are overshot or undershot using aperture priority **A**
   - Display of the time/date (only during setting)
   - Indicates that the back-up memory is (temporarily) full
   - Indicates that the memory card is not inserted, damaged or write-protected (Sd), or the maximum number of pictures has been reached or the bottom cover is not fitted
   - Indicates that the memory card is full (Full)
   - Indicates that there is insufficient battery capacity (bc)
   - Indicates that the firmware update is taking place or has completed (UP)
   - Firmware update not possible (Err)

   b. Dot above:
   - Indicates (when lit) that saved metering values are being used
   - Indicates date display (only during setting)
   - Indicates display of the battery capacity (after switching on the camera or in conjunction with the function button)

   c. Dot below:
   - Indicates (flashing) that exposure compensation is being used
   - Indicates time display (only during setting) ▶ ● ◀ Two triangular LEDs and one circular LED:
   - For manual exposure setting: Together as a light balance for exposure compensation. The triangular LEDs give the direction of rotation of the aperture setting ring and shutter speed thumbwheel to adjust the exposure.
   - Warning of values below the metering range

   d. Flash symbol:
   - Flash ready to use
   - Details of flash exposure before and after the picture

[1] With automatic brightness control adjusted to the ambient brightness. This automatic control is not available for Leica M lenses with viewfinder attachments, since they cover the brightness sensor 5 which supplies the information required for their operation. In such cases the frame and displays always maintain a constant brightness.

KEYWORD INDEX

TECHNICAL DATA

Camera type
Leica M-D (Typ 262), compact digital view and range finder system camera
Lens attachment
Leica M bayonet with additional sensor for 6-bit coding
Lens system
Leica M lenses from 16 – 135mm
Picture format/image sensor
CMOS type, active area approx. 23.9 x 35.8mm (corresponds to usable format of analog Leica M models)
Resolution
5976 x 3992 pixels (24MP)
Data format
DNG™ (raw data), compressed loss-free, JPEG
File size
depends on subject
Buffer memory
1GB
Storage medium
SD cards up to 2GB/SDHC cards up to 32GB/SDXC cards

Exposure metering
Ambient light: Through the lens (TTL), with working aperture, flash light: TTL metering with system-compatible, SCA-3000/2-standard flash units
Metering principle/method
Metering the light reflected by light blades of the 1st shutter curtain onto a measuring cell: heavily center-weighted
Metering range
At room temperature, normal humidity and ISO 200,at aperture 1.0 EV0 to EV20 at aperture 32. Flashing of the left triangular LED in the viewfinder indicates values below the metering range
Sensitivity range
ISO 200 bis ISO 6400, can be set manually in $^{1}/_{3}$ ISO steps
Exposure mode
Choice of automatic shutter speed control with manual aperture preselection - aperture priority **A**, or manual shutter speed and aperture setting

Flash exposure control

Flash unit attachment

Via accessory shoe with central and control contacts

Synchronization

To the 1st shutter curtain

Flash sync time

↯ = $^{1}/_{180}$s; slower shutter speeds can be used if sync time is not met: automatic switching to TTL linear flash mode with HSS-compatible Leica system flash units

Flash exposure metering

With system-compatible flash units, control with center-weighted TTL pre-flash metering

Flash exposure compensation

Flash units with the appropriate specifications: in all modes ±3EV in $^{1}/_{3}$ EV steps

Displays in flash mode

Readiness: by means of constant lighting of the flash symbol LED in the viewfinder, success control: by further lighting or temporary fast flashing of the LED after the picture has been taken, underexposure display: by the LED going out temporarily

Viewfinder

Viewfinder principle

Large, bright line frame viewfinder with automatic parallax compensation

Eyepiece

Calibrated to -0.5 dpt.; corrective lenses from -3 to +3 diopter available

Image field limiter

By activating two bright lines each: For 35 and 135mm, or for 28 and 90mm, or for 50 and 75mm; automatic switching when lens is attached; frame color: white

Parallax compensation

The horizontal and vertical difference between the viewfinder and lens is automatically balanced by moving the bright-line frame in line with the relevant distance setting

Matching viewfinder and actual image

At a range setting of 2m, the bright-line frame size corresponds exactly to the sensor size of approx. 23.9 x 35.8mm; at infinity setting, depending on the focal length, approx. 7.3% (28mm) to 18% (135mm) more is recorded by the sensor than indicated by the corresponding bright line frame and slightly less for shorter distance settings than 2m

Magnification(For all lenses)

0.68 x

Large-base range finder

Split or superimposed image range finder shown as a bright field in the center of the viewfinder image

Effective metering basis

47.1mm (mechanical measurement basis 69.25mm x viewfinder magnification 0.68x)

Displays

Four-digit digital display with dots above and below, displays, see p. 100

Shutter and shutter release

Shutter

Metal blade focal plane shutter with vertical movement

Shutter speeds

For aperture priority: (**A**) continuous from 60s to $^{1}/_{4000}$s., with manual setting: 8s bis $^{1}/_{4000}$s in half steps,
B: For long-time exposures up to max. 60s, ↜ ($^{1}/_{180}$s): Fastest shutter speed for flash synchronization, HSS linear flash mode possible with all shutter speeds faster than $^{1}/_{180}$s with Leica system flash units with appropriate specifications

Activation of shutter release button

By integrated motor, low noise operation

Shutter release button

Two-stage, 1. Activation of exposure metering and exposure lock (in aperture priority mode), 2. Resolution

Turning the camera on/off

With main switch on the camera top panel, reactivation by touching the shutter release button

Power supply

1 lithium ion rechargeable battery, nominal voltage 7.4V, capacity 1800mAh.; capacity indicated in the viewfinder, operating conditions (in camera): 0°-40°C; Model No.: BP-SCL2; Manufacturer: PT. VARTA Microbattery, Made in Indonesia

Charger

Inputs: 100-240V AC, 50/60Hz, 300mA, automatic switching, or 12V DC, 1.3A; Output: Direct current nominal 7.4V,1000mA/max. 8.25V, 1100mA; operating conditions (charging): 10°-30°C; Model No.: BC-SCL2; Manufacturer: Guangdong PISEN Electronics Co., Ltd., Made in China

Camera body
Material
All-metal magnesium/aluminum body, leather covering, brass top panel and base, black lacquered finish.
Tripod thread
A ¼ (¼“) DIN stainless steel in bottom
Operating conditions
0°-40°C
Interfaces
ISO accesory shoe
Dimensions
(Width x Depth x Height) Approx. 138.6 x 42 x 80mm
Weight
Approx. 720g (with battery)

Package contents
Charger 100-240V with 2 mains cables (Euro, USA, different for some export markets), lithium-ion rechargeable battery, carrying strap, housing bayonet cover.
Cover for accessory shoe

LEICA PRODUCT SUPPORT

The Product Support Department at Leica AG can answer any technical questions relating to Leica products, including support for the supplied software in writing, on the phone or by email.
They are also the contact point for purchasing advice and to order instruction manuals. Alternatively, you can send us your questions using the contact form on the Leica Camera AG homepage.

Leica Camera AG
Product Support / Software Support
Am Leitz-Park 5
D-35578 Wetzlar, Germany
Telephone: +49(0)6441-2080-111 /-108
Fax: +49 (0)6441-2080-490
info@leica-camera.com / software-support@leica-camera.com

LEICA CUSTOMER CARE

The Leica Camera AG Customer Care department or the repair service provided by authorized Leica agents in your country are available for service, maintenance and repairs of your Leica equipment (see the warranty card for a list of addresses).

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Customer Care
Am Leitz-Park 5
D-35578 Wetzlar, Germany
Telephone: +49 (0)6441-2080-189
Fax: +49 (0)6441-2080-339
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DAS WESENTLICHE

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