Minicom

Operating instructions | Bedienungsanleitung | Mode d'emploi

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Operating Instructions

b r o n c o l o r
Minicom 40 / 80 / 160

Before use

We are very pleased you have chosen a broncolor Minicom monolight which is a high-quality product in every respect. If used properly, it will render you many years of good service. Please read the information contained in these operating instructions carefully. They contain important details on the use, safety and maintenance of the appliance. Keep these operating instructions in a safe place and pass them on to further users if necessary. Observe the safety instructions.

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Important safety instructions

broncolor flash light systems should be utilised exclusively for professional photo shootings by qualified personnel. Before starting up your flash light equipment carefully read all the information in your operating instructions. The safety instructions in the operating instructions must be strictly followed!

- **Read and understand all instructions before using!**
- **Remove the transport protection and the packing material!**
- **Close supervision is necessary when any appliance is used near children. Do not leave the flash light appliance unattended while in use!**
- **Flash light contains, similar to sunlight, a specific portion of UV radiation! The undesirable side effects on skin and eyes are considerably reduced by using flash tubes or protecting glasses with UV safety measures! Nevertheless, taking pictures at close distances with unprotected skin and eyes should be avoided! Also avoid eye contact with the light source! The maximum daily UV radiation according to IEC 60335-2-27 / DIN 5031-10 is: 50 J/m^2. This value should not be exceeded!**
- **With due allowance for heat radiation, the distance between the monolight and a person or between the monolight and inflammable or heat sensitive surfaces should be at a minimum distance of 1 m / 3.3 feet!**
- **Prior to replacing flash tubes, halogen lamps, protecting glasses or fuses, disconnect the monolight and the lamp from the power supply! Prior to replacing the halogen lamp or the flash tube, the lamp should cool down for 10 min.!**
- **broncolor flash light systems should only be equipped with original broncolor flash tubes, original broncolor combustible and packing material, original broncolor accessories, and also original broncolor spare parts!**
- **broncolor flash light systems, lamps and accessories meet an extremely high safety standard! When connecting broncolor units to accessories of other brands, integrated safety measures may become ineffective! Due to different design features and contact assignment of the lamp plugs of other brands, the user himself/herself may even be at risk. We offer no guarantee and accept no liability for damages which may be caused by this type of usage!**
- **To avoid the risk of fire, electric shock or injury to persons utilise exclusively the accessory recommended by the manufacturer!**
- **Check that the mains voltage corresponds to the information on the type plate of the unit!**
- **The flash light equipment is designed for use in dry conditions and in an ambient temperature from 0°C to 35°C! The flash light equipment has to be protected from wetness, condensation, from dripping and splash water, humidity, dirt, sand, metal chips and exposure to dust!**
- **Protect the flash light equipment from electromagnetic fields, shock and vibration!**
- **Protect the flash light equipment from heat and frost! If the monolight freezes, continuous loss of power output and serious technical damage can result!**

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- **Sudden temperature differences can cause condensation water in the unit! In such situations the equipment must remain in a well ventilated place for 1 hour to acclimatise to the new temperature before startup!**
- **Do not operate the units in an environment where there is a risk of explosion!**
- **The monolight should not be operated in or near water! Attention: high voltage!**
- **The monolight and the lamps should not be immersed in water or other liquids! It could cause an electric shock!**
- **Remove the transport protection cap on the front side of the lamp before connecting it to the monolight!**
- **For safety reasons, never operate the monolight without the protecting glass in place! UV-coated protecting glasses or UV-coated flash tubes must be utilised as a protection against UV radiation for eyes and skin!**
- **Before operation, the monolight has to be fastened on a stand or a suspension device! The lamp must be locked by tightening the mounting screw!**
- **Only sand-filled fuses of the type indicated on the safety type plate may be used! Sand-filled fuses can be identified by their opaque fuse body! With incorrect fuse protection the halogen lamp may burst!**
- **Filters or diffusors should not be fastened directly on the flash tube, halogen modelling lamp or protecting glass!**
- **Do not operate the appliance with a damaged earthed cable. Cables which are damaged or twisted must be replaced!**
- **The unit must only be connected to an earthed socket, or an emergency power generator!**
- **If an extension cable is necessary, a cable with a current rating at least equal to that of the appliance should be used. Cables rated for less amperage than the appliance may overheat. When using a cable reel, it must be completely unrolled before use to prevent overheating of the cable!**
- **The unit is suitable for operation with a motor generator provided that the voltage lies within all the load conditions (including capacitive load) and within the tolerance limit of 200-264 V respectively 95-135 V! From experience this means that only electronic stabilised motor generators are to be utilised! When operating on unstabilised motor generators, voltage peaks of 300 V and more have been observed! This can lead to damages for which we assume no liability!**
- **Do not operate the monolight inside a bag or a box!**
- **The ventilation slits on the unit or on the lamp should not be covered!**
- **Pay attention when laying, clearing away or rolling up cables that they do not contact hot surfaces or parts of lamps and that they will not be tripped over by persons!**
- **Do not touch the connection sockets for mains cable and lamp outlets on the monolight and do not poke in them with metal objects!**
- **Flash tubes, modelling light, halogen lamps and protecting glasses heat up to a high operating temperature, this also applies to the front side of the monolight! Therefore the attachments also assume high temperatures! Handle with care! Contact with hot components can cause injuries!**
- **Do not come into contact with glass or metal whilst operating the flash light system!**

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- **Let the unit and its connected lamp base cool completely after use and before packing!**
- **Always unplug appliance from electrical socket before cleaning and servicing and when not in use! Never jerk cable to pull the plug from the socket. Grasp plug and pull to disconnect!**
- **Dropped or damaged units or lamps must be checked by a specialist before reconnection!**
- **To reduce the risk of electric shock, do not open this appliance, but take it to a qualified service person when service or repair work is required. Incorrect reassembly can cause electric shock when the appliance is used subsequently!**

Shipping instructions Minicom 40 / 80 / 160:

Use original broncolor packing for the transport of the monolights. Before shipping flash tubes, halogen lamp and protection glass, pack them with our protective packing material (foam plastic and transport cap). If the protective packaging is incomplete, remove flash tube, halogen lamp and protection glass from the monolight and send them separately!

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Controls and displays

Monolight Minicom 40	**art. no. 31.405.XX**
Monolight Minicom 40 RFS	**art. no. 31.406.XX**
Monolight Minicom 80	**art. no. 31.415.XX**
Monolight Minicom 80 RFS	**art. no. 31.416.XX**
Monolight Minicom 160	**art. no. 31.474.XX**
Monolight Minicom 160 RFS	**art. no. 31.473.XX**

1 Photocell on/off

2 IR-receiver and/or RFS-Interface on/off

3 Umbrella holder

4 Mains switch on/off

5 Modelling light on/off

6.1 Sync socket (when required, usable as connection socket for computer link)

6.2 Sync socket

7 Test release, ready display green

8 Connection socket for mains cable

9 Fuse

10 Auxiliary functions (aux)

11 Operating mode modelling light

12 Flash sequence

13 Charging dimmer

14 Buzzer

15 Slow charge

16 Appliance address (for Minicom 40 RFS / Minicom 80 RFS / Minicom 160 RFS)

17 Digital flash energy display

18 Energy control up/down

19 IR-receiver and photocell

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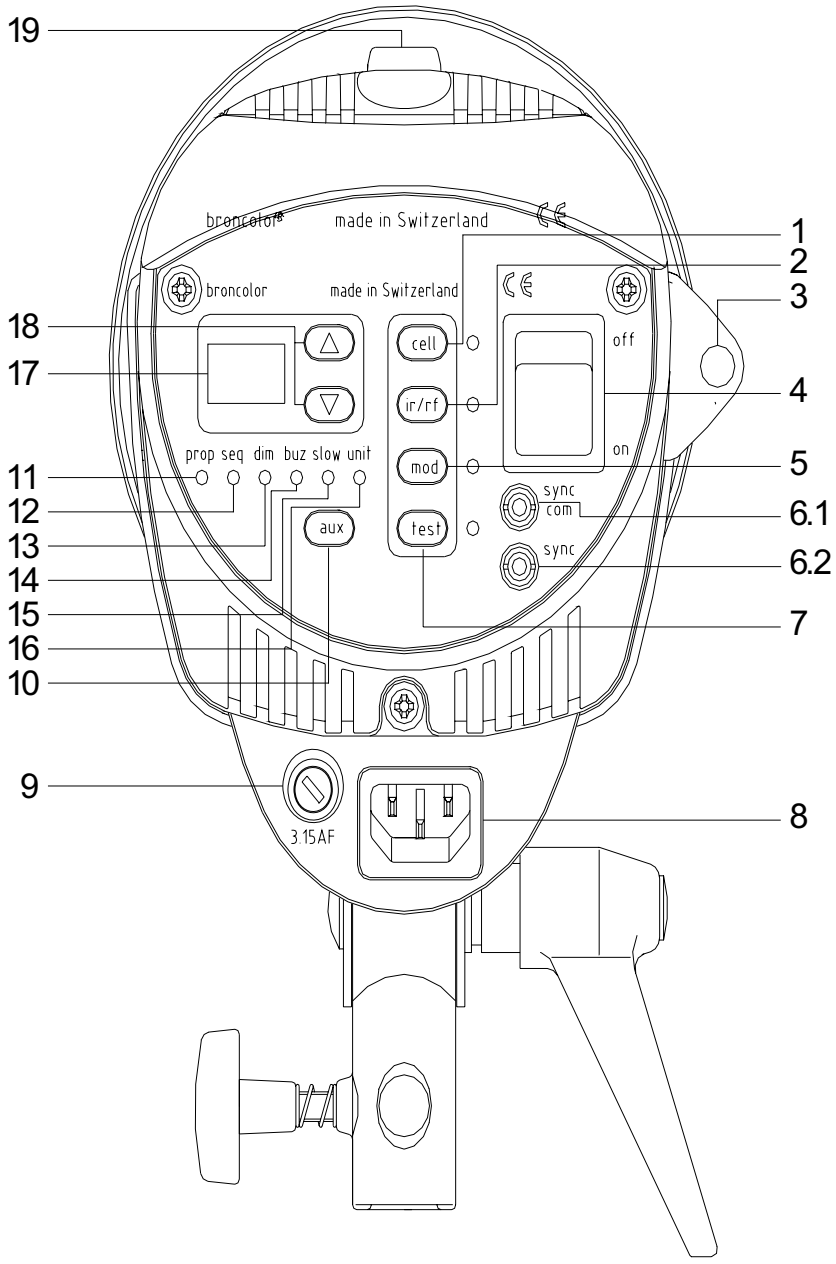
Front panel of Minicom 40 / 80 / 160



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1. Application Minicom

This mains supplied studio flash unit is designed for professional photography only. In countries with earthed mains systems, use a three-wire extension cable when required.

2. Start up

2.1 Mains voltage

Minicom 40, Minicom 80

The monolights Minicom 40 and Minicom 80 are available in two different versions:

a) As a bi-voltage-unit, of which the technical data are optimised for 200 - 240 V mains voltage. If this version is operated with 120 V or 100 V mains voltage, the following restrictions result:

Mains voltage 120 V:	doubling of the charging time
Mains voltage 100 V:	doubling of the charging time as well as a reduction of the maximum flash energy to 250 J (Minicom 40) respectively 500 J (Minicom 80). Extension of the flash duration by 20 %.

b) As a bi-voltage-unit, of which the technical data are optimised for 120 V mains voltage. If this version is operated with a mains voltage of 200 - 240 V or 100 V, the following restrictions result:

Mains voltage 230 V:	doubling of the charging time
Mains voltage 100 V:	extension of the charging time by 20 % as well as a reduction of the maximum flash energy to 250 J (Minicom 40) respectively 500 J (Minicom 80). Extension of the flash duration by 20 %.

Minicom 160

The monolight Minicom 160 is only available as a bi-voltage unit with the technical data optimised for 200 - 240 V mains voltage. When this version is operated with 120 V or 100 V mains voltage, the following restrictions result:

Mains voltage 120 V:	doubling of the charging time
Mains voltage 100 V:	doubling of the charging time as well as reduction of the flash energy to 900 J. Extension of the flash duration.

Attention: The operating voltage of the modelling lamp must correspond to the mains voltage.

2.2 Earthed mains

Connect unit to current supply always using an earthed mains plug.

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2.3 Start up

In the proximity of the halogen lamp, the unit, depending on the accessories used, can acquire high temperatures. For this reason, we recommend to touch the unit only on the rear handle or on the stand adapter. Due to the intense heat radiation when a modelling light is in operation, keep the unit at a minimum distance of 1 meter from flammable surfaces.

1.) Remove the transparent plastic cap by turning and releasing the unlocking slide at the same time. Insert modelling lamp and flash tube as per instructions in chapter 8. Put on the protecting glass as well as the desired light shaper and turn in any direction.

2.) Please check that the mains supply corresponds to the information on the label of the unit. Connect unit to earthed mains.

3.) Switch on the unit with the mains switch (4). During charging, the digital flash energy display (17) flashes, afterwards the value is indicated continuously. Additionally the green control lamp of the ready display (7) is illuminated.

4.) Set the desired flash energy by means of the energy control keys "up / down" (18).

5.) Switch IR-receiver, photocell or RFS-interface on or off depending on the exposure situation.

6.) If required, plug in synchronous cable in one of the sync sockets (6.1) or (6.2).

3. Energy control

Use the "up/down" keys (18) to control the flash energy (flash intensity) within a range of 4 f-stops. A value of 10 indicates maximum intensity, 6 the minimum. Whole numbers correspond to whole f-stops, decimal places to tenth f-stop intervals. There is the option, to extend the control range up to 5 f-stops (see chapter 11), where in the underneath range a slightly higher exposure-tolerance has to be expected. Brief pressure on the energy control keys "up/down" (18) changes the setting by a 1/10 interval, prolonged pressure by 1/1 f-stop interval. The energy display (17) then flashes until charging or discharging has stabilized the new level of energy.

4. Modelling light

4.1 General

The Minicom units are equipped with a halogen modelling lamp. The modelling light is switched on by the key "mod" (5). When switched on, the green diode lights up. To protect the lamp filament from damage, it is advisable to switch off the modelling lamp when handling the monolight.

In chapter 7 you can find the instructions how to set the different operating modes (modelling light proportionality).

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Attention: The operating voltage of the modelling lamp must correspond to the mains voltage.

4.2 Proportionality

The brightness of the modelling light can be set proportionally to the flash intensity. To assure proportionality also when units with different power output ratings are operated together, the units have various proportionality levels. Proportionality is guaranteed if the identical prop level has been set for all units. The higher the digit, the brighter the modelling light.

The following operating modes are possible:

"P" This level can be set if either only Minicom 40 or only Minicom 80 or Minicom 160 are in use (most intense proportional modelling light). That means, the modelling light is proportional to the energy level 300 J, 600 J or 1200 J.

"P1" Proportional modelling light with broncolor power packs rated 6400 J

"P2" Proportional modelling light with broncolor power packs rated 3200 J

"P3" Proportional modelling light with broncolor power packs rated 1600 J

"P4" This proportionality level is optimised for an output level of 800 J. Recommended modelling light when using Minicom 80 in combination with Minicom 40. Recommended modelling light when using the Minicom 160 in combination with Minicom 80.

"P5" If a unit is operated at a lower output level, the modelling light will be relatively weak and yellowish. To counteract this problem, the Minicom monolights are equipped with the additional modelling light proportionality level "P5". It is optimised for the output level 400 J and less. Thus the brightness of the modelling light can be increased.

"HI" The unit operates at full modelling light, independent of flash output

"LO" The unit operates at lower lighting level, independent of flash output, to reduce power consumption and extend the service life of the halogen lamps

Pressing the "mod" key (5) for 1 second when the modelling light is on, will give direct access to the "HI" mode. To return to the previous mode briefly press the "mod" key.

4.3 Replacing the halogen lamps

Attention: Before replacing the halogen lamp, it is essential to discharge the unit by flashes, immediately afterwards, disconnect it from the power supply!
Before exchanging the modelling lamp let the monolight discharge and cool down for 10 min.! For your safety, only original flash tubes must be used!

The halogen lamps are plug-in.

The protecting glasses have a marking line and the glass rim has 2 grooves. When removing the protecting glass from the unit the marking line must be situated at the top. First the protecting glass has to be pulled off carefully in an axial direction (avoid tilting).

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Taking into consideration the service life, the halogen lamp should not be touched with bare hands. To change the lamp, pull it also straight along the lamp axis.

When inserting, be sure that the halogen lamp is fully pushed back in. When engaging the protecting glass into the locking mechanism of the Minicom monolight, the marking line must be situated at the top. After having engaged the protecting glass, it must be slightly turned, to prevent accidental loosening.

5. Release

The flash release is enabled when 75 % of the selected energy is available. However, please note that the ready indicator is activated only at 100 % charge (Chap. 6). The release is possible by means of a sync cable, infrared, photocell, or "test" key. When releasing via the photocell or the IR-receiver, ensure that the receiving cell of the unit is not obstructed by obstacles.

The appliance has a synchronous circuit with a low onload voltage to protect your camera contact. The synchronous circuit may not be connected in parallel with products of other manufacturers which operate with high synchronous voltage.

5.1 Photocell

The photocell can be switched on or off by using the "cell" key (1). If it is activated the green LED lights up. After a flash sequence, an active photocell will be blocked and the green LED blinks. By pressing the "cell" key, the photocell is reactivated.

5.2 Infrared receiver / RFS interface (ir/rf)

The IR receiver and, if available, the RFS interface can be switched on and off with the key "ir/rf" (2). Optionally it can be established, if with this key, every time, both functions (IR and RFS) or just one of the two can be switched on or off (see chapter 11). Is one or both functions active, the green display lights up.

5.3 Infrared flash release channel

The Minicom monolights can be released with broncolor infrared transmitters. When the unit is triggered via infrared, the flash release is effected with a time delay of 1/1000 s.

The IR receiver integrated in the unit is used for wireless release with the following units:
- IRX 2 transmitter
- FCM 2 lightmeter and contrast photometer

5.4 Sync sockets

The synchronous cables, art. no. 34.111.00 or 34.112.00, may be plugged into the sync sockets (1) or (2) to release flashes via cable.

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5.5 "test" key

This "test" key (7) allows manual release of the monolight Minicom. The respective LED lights up when the flash voltage corresponds exactly to the selected value. During charging and discharging the LED goes out and the flash energy display (17) blinks.

6. Ready display visual / audible

6.1 **The visual ready display** is the green LED at the "test" key (7). It lights up only when the unit is at 100 % charge. After releasing the flash this LED goes out until the unit is fully charged again.

6.2 **The audible ready signal** "buzzer" sounds when the unit is at 100 % charge. It may be switched on or off (chapter 7).

6.3 Audible fault signal

When the flash discharge fails, a warning signal of approx. 3 s duration will sound and the flash energy (17) of the monolight will flash.

7. Setting additional functions

The "aux" key (10) is used to set the additional functions. With repeated actuation of the key the following modes can be selected:

• Setting proportionality level of the modelling light	LED "prop" blinks (11)
• Define sequence (serial flashes)	LED "seq" blinks (12)
• Charging dimmer switch on / off	LED "dim" blinks (13)
• Buzzer switch on / off	LED "buz" blinks (14)
• Slow charge switch on / off	LED "slow" blinks (15)
• Setting appliance address / studio address	LED "unit" blinks (16)
• Return to standard display	no LED blinks

After the setting has been performed, the standard display can be re-activated by pressing the "aux" key (10) or automatically after a period of approx. 30 seconds.

To select the additional functions and appliance settings, choose the respective LED (e.g. "charging dimmer switch on/off"). The digital display (17) will then show the actual selected value which can be changed by the energy control keys "up/down" (18). If a setting is entered which deviates from the standard setting value or a function is activated, the respective LED will remain lit as a reminder after the display returns to standard (exception: function "prop").

If the unit is switched off and on again, it will be in the "standard display" mode. Previously set additional functions are retained.

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7.1 Setting proportionality level of the modelling light (prop)

The proportionality level of the modelling light can be selected by briefly pressing the energy control keys "up/down" (18).

With repeated actuation of the key the following modes can be set, each shown respectively on the digital display (17): LO, P, P1, P2, P3, P4, P5, HI.

7.2 Sequence (serial flashes) (seq)

This function allows to set a defined number of flash discharges from 1 to 50. By briefly pressing the energy control keys "up/down" (18) the required number of flashes can be selected. With a long pressure on the energy control keys "up/down", the setting changes in intervals of ten. Each release signal triggers the selected number of flashes. A current sequence can be aborted by a long pressure on the energy control keys "up/down" or by switching off and on again the unit. The function is switched off, by setting the number of flashes to "0".

7.3 Charging dimmer / boost function (dim)

The "dim" function can be switched on or off (on/--) by briefly pressing the energy control keys "up/down" (18). When switching on the "dim" function with the modelling light on (green LED of the "mod" key (5) lights up), the modelling light switches off while charging takes place. This feature allows visual flash control, to fade out the modelling light during flash sequences or to reduce the current load on weak mains.

If the "dim" function is activated when the modelling light is switched off (green LED of the "mod" key (5) is off), the boost function will be activated. In this mode, the modelling light remains on as a visual flash monitor during charging.

7.4 Buzzer switch on/off (buz)

The ready buzzer signals when the unit is at 100 % charge. The buzzer is switched on or off (on/--) by briefly pressing the energy control keys "up/down" (18). The warning signal also functions with the buzzer switched off.

7.5 Slow charge switch on/off (slow)

In case of weak mains power supply lines, charging time may be extended to approx. double the standard value. The slow charge mode is switched on or off (on/--) by briefly pressing the energy control keys "up/down" (18).

7.6 Studio / appliance address (unit)

The monolights Minicom are also available as versions with built-in RFS Interface (**R**adio **F**requency **S**ystem). For remote control respectively flash release via radio, an individual appliance address and a studio desk top (remote control channel) can be assigned to each RFS unit by means of the function "unit" (16).

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To carry out the settings, dial the LED "unit" using the "aux" key (10). The digital display (17) shows the letter "U", followed by an appliance number between 1 and 8. By briefly pressing the energy control keys "up/down" (18), the required value can be selected. When pressing again the "aux" key, the digital display shows the letter "C", followed by a studio number between 1 and 8. By briefly pressing the energy control keys "up/down", the required value can be selected.

8. Flash tube

The flash tube 600 J (Minicom 40 / 80) or 1500 J (Minicom 160) is not UV coated. To ensure an optimal colour temperature the monolight must be operated with an UV coated protecting glass. For your safety, use only broncolor original flash tubes. For safety reasons, never operate the monolight without protecting glass in place.

8.1 Replacing the flash tube

Attention: Prior to each exchange of the flash tube, the monolight must be fired down and immediately afterwards disconnected from the mains and let it cool down for ten minutes!

The flash tube is a plug-in type.

1.) The protecting glasses for the monolight have a marking line and the rim of the glass has 2 grooves. When taking off the protecting glass of the unit the marking line must be situated at the top. Pull off the protecting glass carefully in an axial direction (avoid tilting).

2.) Press the spring radially inward and pull the flash tube out of the socket in an axial direction (do not touch the flash tube with bare hands)

3.) Insert the new flash tube and press the spring radially inward. When inserting ensure that the ceramic socket is fully pushed back in. The spring serves as a contact as well as preventing accidental loosening of the flash tube.

4.) Replace the protecting glass. When engaging the protecting glass into the locking mechanism of the Minicom monolight the marking line must be situated at the top. After having engaged the protecting glass it must be slightly turned to prevent accidental loosening.

5.) Connect the unit to the power supply, now it is ready for use again.

9. Protecting glass

To ensure an optimal colour temperature the monolight must be operated with UV coated protecting glasses. For your safety, use only broncolor original protecting glasses. For safety reasons, never operate the monolight without protecting glass in place.

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10. Fuse

The fuse (9) is located on the rear of the unit. Sand-filled fuses with value 3.15 AF may only be used (sand-filled fuses can be identified by their opaque fuse container). Using wrong fuses is dangerous; it may cause the halogen lamp to burst. Original broncolor replacement lamps are therefore delivered with the correct fuse.

11. Basic settings ex works

The basic settings ex works can be viewed and in some instances changed with the following procedure:

When the unit is switched on, simultaneously press the "mod" (5) and "aux" (10) keys for approx. 5 seconds (the LED array "prop" / "seq" / "dim" / "buz" / "slow" / "unit" blinks to indicate that you are in the programming mode).

Additionally the LED of the "mod" (5) key is lit. The digital display (17) shows the function number 0. The other function numbers can be selected by pressing the energy control keys "up/down" (18).

By briefly pressing the "aux" key, the digital display shows the actual value or the actual setting within the selected function number. The LED of the "mod" key does not light up in this mode. Within the function numbers 1, 2, 3 and 9, the settings can be changed with the energy control keys "up/down".
Concerning the function numbers 0 and 4 – 8, the different pairs of these multiple digit values can be shown by means of the energy control keys "up/down".

Return to normal operation by pressing (1 s) the "aux" key, by switching the unit off and on again or automatically after a period of 20 seconds.

Function number	Meaning and possible settings
0	Program version: Standard display Program number: after pressing the energy control "down" key
1	Control range flash energy: Setting ex work: "off" (--). Display "on": the control range of the flash energy is extended to 5 f-stops (10 - 5.0)
2	Sensitivity of the photocell: Setting ex work: "on". This function reduces the sensitivity of the photocell. If the function is activated the digital display shows the value "off"
3	Definition function "ir/rf": Setting ex work: digital display shows the value "3" = IR receiver and RFS Interface (if available) activated Display value "1" = only IR receiver activated Display value "2" = only RFS Interface activated

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Function number	Meaning and possible settings
4	Flash counter: Figure group in the display: xxxx**XX** = standard display Figure group in the display: xx**XX**xx = after pressing the energy control "up" key Figure group in the display: **XX**xxxx = after pressing the energy control "up" key
5	Series number of the unit: Figure group in the display: xx**XX**
6	Series number of the unit: Figure group in the display: **XX**xx
7	Production date of the unit: Figure group in the display: xx**XX** = month
8	Production date of the unit: Figure group in the display: **XX**xx = year
9	Reduction of the modelling light: Setting ex work: "off" (--) The activation of this function is recommended on power mains with great fluctuations. The voltage for the modelling lamp is reduced (light output ./. 1/3 f-stop), which results in a longer service life of the halogen lamp. If this function is activated, the digital display shows the value "on".

12. Protective facilities / Fault indication

12.1 Cooling fan

The cooling of flash tube, modelling lamp and internal electronics is effected by a cooling fan. It also runs when the modelling light is turned off. The cooling works on two levels, the fan runs smoothly when small flash sequences are effected. With longer flash sequences, the cooling fan switches to the higher level.

12.2 Display "th"

If excessively high temperatures build up inside despite the fan cooling, the charge mode will be blocked and a long audible signal will be generated. The modelling light is blocked as well for about 6 minutes. The digital display shows the indication "th" during the cooling period. The cooling process is accelerated by the fan which is still in operation.

Attention: **Do not switch off the unit during the cooling period!** Otherwise the number of flashes will be reduced until the next blockout.

12.3 Display "A1"

The unit is equipped with an automatic afterglow blockout. If the flash tube exhibits (e.g. at the end of its service life) afterglow, this blockout will block further charging to prevent consequential damage. This status is also noticeable from the ready display, which is no longer green. The blockout can be cancelled by switching the unit off and on again.

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12.4 Display "A2"

This indication is shown, when the unit is overcharging. Switch off the unit and switch it on again after a few minutes. If this fault continues to exist, please contact an after-sales service centre.

12.5 Acoustic flash monitoring

At the end of their service life, flash tubes often have triggering interruptions. This fault is indicated by an audible, intermittent signal. The signal disappears when the flash tube flashes properly again or the unit is switched off.

12.6 Monitoring of the modelling light

If the Minicom monolights are connected to 200 V – 240 V mains voltage, after previously having been operated on 100 V - 120 V mains voltage, they will release an audible signal and the modelling light will blink at a safely reduced voltage. This function serves as a reminder that the modelling lamp must be exchanged, and also to protect against damage of the lamp. Switch the unit off and on again to return to standard operation.

13. Mounting

The stand adapter is located below the housing. The adapter is designed for 12 mm bolts (broncolor®) and 16 mm bolts.

Make sure the unit is firmly attached to the stand before operating. The click-stops of the locking handle can be adjusted by pulling it out.

There are two possibilities for suspended mounting:

a) The bracket of the monolight is mounted upwards. To this purpose, dismount the bracket by removing the locking lever as well as the two retaining screws at the side of the unit. Turn over the bracket by directing the stand support upwards. Afterwards insert the bracket in the lower guide rail of the housing and re-insert the locking lever as well as the two retaining screws. In this case the enclosed locking pin must be screwed into the lower part of the stand adapter. This is not required for stand mounting. In this kind of suspended mounting, compared with the following option, the front panel of the unit is still readable (instead of hanging upside down) and the cooling efficiency is not reduced.

b) It is also possible to tilt the monolight to enable mounting of the bracket with upwards directed stand support. Also in this case the enclosed locking pin must be screwed into the lower part of the stand adapter.

Attention: A safety cable must be installed whenever the unit is suspended.

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14. Umbrella holder

Diffusing and reflex umbrellas are used in conjunction with the umbrella reflector (art. no. 33.496.00).The umbrella bar is inserted into the special holder in the stand adapter.

15. Accessories

When using the Pulso bayonet the whole range of broncolor reflectors is at your disposal. You will find the complete overall view in the broncolor system catalogue "creative work with light and with system”.

16. Service / Repair

Your broncolor monolight is a precision device which will work for many years without malfunction if you take proper care of it. If nevertheless malfunctions do arise, please do not attempt to open the unit to repair it yourself. Even when the unit is switched off, dangerous voltages may remain within the interior of the device. Always leave service and repairs to the broncolor after-sales service.

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17. Technical data

	Minicom 40 / 40 RFS (Art. no. 31.405.XX / 31.406.XX)	**Minicom 80 / 80 RFS** (Art. no. 31.415.XX / 31.416.XX)	**Minicom 160 / 160 RFS** (Art. no. 31.474.XX / 31.473.XX)
Flash energy	300 J (100 V: 250 J)	600 J (100 V: 500 J)	1200 J (100 V: 900 J)
F-stop in 2 m / 6.5 feet distance, 100 ISO, reflector P50 // P70	32 5/10 // 22 5/10 (100 V: 32 2/10 // 22 2/10)	45 5/10 // 32 5/10 (100 V: 45 2/10 // 32 2/10)	64 5/10 // 45 5/10
Flash duration t 0.1 (t 0.5)	1/900 s (1/2500 s) with mains voltage 110 – 240 V	1/420 s (1/1500 s) with mains voltage 110 – 240 V	1/330 s (1/1100 s) with mains voltage 110 – 240 V
	Flash duration with mains voltage 100 V: approx. 20 % longer		
Charging time (for 100 % of the selected energy)	230 V / 50 Hz: 0.3 – 0.9 s 120 V / 60 Hz: 0.3 – 1.2 s 100 V / 50 Hz: 0.3 – 1.5 s	230 V / 50 Hz: 0.4 – 1.4 s 120 V / 60 Hz: 0.4 – 1.9 s 100 V / 50 Hz: 0.4 – 3.0 s	230 V / 50 Hz: 0.5 - 2.4 s
	Can be switched to slow charge mode **Attention:** The above-mentioned charging times do not apply to units being operated on alternative mains voltages.		
	The technical data for these units are optimised for a certain mains voltage (200-240 V or 120 V). If the unit is operated with an alternative mains voltage the charging time increases. When operating the unit with mains voltage of 100 V the maximum flash energy is reduced to 250 J (Minicom 40) or to 500 J (Minicom 80).		The technical data for these units are optimised for 200-240 V mains voltage. If the unit is operated with 100 - 120 V the charging time increases. When operating the unit with 100 V mains voltage the maximum flash energy is reduced to 900 J.
Controls	Illuminated digital display, LED display as well as dust and scratch-proof, illuminated silicone keyboard		
Control range of flash energy (100 V: ⅓ f-stop less)	Over 4 f-stops in 1/10 intervals (1:16); Can be extended to 5 f-stops (1:32)		

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	Minicom 40 / 40 RFS (Art. no. 31.405.XX / 31.406.XX)	**Minicom 80 / 80 RFS** (Art. no. 31.415.XX / 31.416.XX)	**Minicom 160 / 160 RFS** (Art. no. 31.474.XX / 31.473.XX)
Modelling light	Halogen max. 300 W		Halogen max. 650 W
	Proportional to the flash energy as well as "full" and "low" settings. Proportionality adjustable to all broncolor flash systems and the different output levels. **Attention:** The operating voltage of the modelling lamp must correspond to the mains voltage.		
Flash release	Manual release button, photocell (can be switched off), infrared receiver (can be switched off), sync cable, FCM 2, IRX 2; RFS versions: transmitter RFS, transceiver RFS		
Ready display	Visual and audible (can be switched off), signals when 100 % of selected energy is reached		
Flash monitoring	Visual: Dim and boost function of the modelling light Audible: Buzzer		
Additional function	- Sequences (serial flashes) up to 50 flashes - Sensitivity of the photocell can be reduced		
Number of sync sockets	2		
Stabilized flash voltage	± 1.5 %		
Cooling	Fan		
Standards	EN 60065/A1, EN 55011, EN 60598		
Power requirements	200-240 V / 50-60 Hz: 6 A 100-120 V / 50-60 Hz: 10 A		
Dimensions (L x W x H)	286 x 154 x 194 mm 11.2 x 6.1 x 7.6 inch	286 x 154 x 194 mm 11.2 x 6.1 x 7.6 inch	355 x 154 x 194 mm 13.9 x 6.1 x 7.6 inch
Weight	3.0 kg / 6.6 lbs	3.3 kg / 7.3 lbs	4.35 kg / 9.8 lbs

18. Minicom RFS / Minicom plus

The monolights Minicom are also available as unit version with integrated 8 channel RFS Interface (**R**adio **F**requency **S**ystem). Each channel (studio) can control up to 8 units. This interface allows remote control respectively flash release by radio via transmitter RFS as well as by means of a transceiver RFS via PC or Macintosh© computer. When controlling via screen, 4 storage spaces for different lighting situations are at your disposal.

18.1 Modification to Minicom RFS

There is the possibility, to modify Minicom monolights later on with an RFS interface. The modification will be made by the customer service centre of our broncolor agency in your country.

18.2 Minicom plus

Because of the laws in some countries, the use of the broncolor radio system is not allowed. Therefore the Minicom monolights are also available in the version Minicom plus (that means with cable remote control). Besides the cable connection between the monolight and the computer, the application with RFS is almost identical.

Attention: There is no camera transmitter available for Minicom plus!

18.3 Technical data for remote control

	Minicom RFS (art. no. 31.406.XX / 31.416.XX 31.473.XX)	**Minicom plus**
Remote control	With integrated 8 channel RFS interface (**R**adio **F**requency **S**ystem) for the remote control of the unit by radio via transceiver RFS from PC or Macintosh© computer. Each channel (studio) can control up to 8 units.	With integrated interface for the remote control of the unit by cable from PC or Macintosh© computer. Each channel (studio) can control up to 8 units.
Flash release	Transmitter RFS, Transceiver RFS (besides the options in chapter 18)	Analogue chapter 18
Operational distance outdoors	Up to 30 m / 98.4 feet	Length of the connection cable from the computer to the unit: 5 m / 16.4 feet Length of the connection cable between the units: 2.5 m / 8.2 feet
Operational distance in closed rooms	Up to 20 m / 65.6 feet	See above
Range	Up to 300 m / 984.2 feet	See above
Number of sync sockets	2	1 (the second sync socket is configured as connection for the computer cable)

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18.3 Technical data for remote control (continuation)

	Minicom RFS (art. no. 31.406.XX / 31.416.XX 31.473.XX)	Minicom plus
Standards	ERM EN 300 220-1,-3 EMC EN 301 489-1,-3 EN 60950 EN 50371 FCC Part 15 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. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.	

Subject to change in the interest of product enhancement.

19. Order numbers for diverse spare parts / accessories

Flash tube 5900 K for Minicom 40 / 80		Art. no.	34.307.00
Flash tube 5900 K for Minicom 160		Art. no.	34.310.00
Halogen modelling lamp for Minicom 40	150 W / 230 V	Art. no.	34.201.00
Halogen modelling lamp for Minicom 40	150 W / 120 V	Art. no.	34.202.00
Halogen modelling lamp for Minicom 80	300 W / 230 V	Art. no.	34.233.XX
Halogen modelling lamp for Minicom 80	300 W / 120 V	Art. no.	34.234.XX
Halogen modelling lamp for Minicom 160	650 W / 230 V	Art. no.	34.226.XX
Protecting glass clear 5500 K		Art. no.	34.336.00
Protecting glass mat 5500 K		Art. no.	34.337.00
Fuse 3.15 AF		Art. no.	37361.00
Protection cap for transport, transparent		Art. no.	Z6750.00
Mains cable CH 200-240 V		Art. no.	39084.00
Mains cable USA 100-120 V		Art. no.	39085.00
Mains cable Europe 200-240 V		Art. no.	39086.00

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20. Declaration of Conformity

Bron Elektronik AG
broncolor VISATEC kobold

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CH-4123 Allschwil 1
Schweiz | Switzerland

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www.bron.ch

KONFORMITAETSERKLAERUNG
DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITE

Wir / We / *Nous* :

Bron Elektronik AG, Hagmattstrasse 7, CH-4123 Allschwil, Schweiz

erklären in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product
déclarons sous notre seule responsabilité que le produit

broncolor Minicom 40 RFS
broncolor Minicom 80 RFS
broncolor Minicom 160 RFS

auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt:
to which this declaration relates is in conformity with the following standard(s) or other normative document(s):
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s):

EN 60065/A1 **EN 55011** **EN 60598**

gemäss den Bestimmungen den Richtlinien:
following the provision of the Directives:
conformément aux dispositions des Directives:

2006/95/EEC **2004/108/EEC** **99/5/EEC** **96/EEC** **95/EEC**

Ort und Datum der Ausfertigung:
Place and date of issue:
Lieu et date:

Allschwil, 20.01.2011

Name und Unterschrift des Befugten:
Name and signature of authorised person:
Nom et signature du signataire autorisé:

Bron Elektronik AG
Hagmattstrasse 7
CH - 4123 Allschwil

Mario Borer
Technical Manager

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21. Environmental protection information

When no longer in use, this product may not be deposited in the normal household waste but should be brought to a collection point for the recycling of electrical and electronic appliances.

The materials are recyclable as marked. By re-use, recycling or another form of using old appliances you are making an important contribution towards the protection of the environment. Please ask your local authorities for the appropriate disposal point.

22. Guarantee

All broncolor power packs, lamps, monolights and accessories have a high quality standard. We offer a 2-year factory guarantee from the date of purchase (for the first owner) on the aforementioned units , except for flash tubes, halogen lamps, protecting glasses, cable, batteries, rechargeable batteries and textiles.

Faults resulting from non-observance of safety instructions, incorrect handling, use of accessories of another manufacturer or unauthorised intervention/modification are excluded from the factory guarantee. We assume no liability for damages resulting from non-observance of the safety instructions, incorrect handling, use of accessories of another manufacturer or unauthorised intervention/modification.

In case of technical problems please contact immediately the nearest authorised broncolor service station.

February 2011

Article numbers, product descriptions and scope of delivery can vary from one country to another. Detailed information are available from your responsible broncolor distributor. Errors and misprints excepted.

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THE LIGHT

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