

Profoto Pro-B2



User Manual

Profoto—Stockholm, Sweden

Safety Instructions

Profoto generators and flash heads are part of a complete professional lighting system. Please read the instruction manual carefully before use. Flash tubes and modelling lights emit considerable heat and can be dangerous if not used properly. Always unplug the lamp cable from the generator before changing modelling light, glass cover or flash tube. Under no circumstances are generators or heads to be opened! There is high voltage inside the generator! Service is only to be carried out by authorised personnel.

- Never connect accessories of other brands without consulting an authorised service station.
- Do not touch hot glass or metal parts.
- Do not obstruct ventilation.
- Do not connect the lamp head with the transport cap in place.
- Never place filters or diffusing material directly onto glass covers, flash tubes or modelling lights.
- Never position the light extremely close to people.
- When mounting umbrellas, do not touch flash tubes or modelling lights with the metal shaft – risk of high voltage.
- Always use a grounded power supply/mains outlet.
- Protect the flash equipment against moisture, condensation, heat, sand and dirt.



The photographer's tools are a natural part of the creative process. Like the painter's brush, the sculptor's chisel, or the musician's instrument, their form and design should reflect their function. They should have the right feel, and be aesthetically pleasing.

—Profoto founders Conny Dufgran and
Eckhard Heine

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The Pro-B2 system consists of the following products:

Generators:

Pro-B2

Heads:

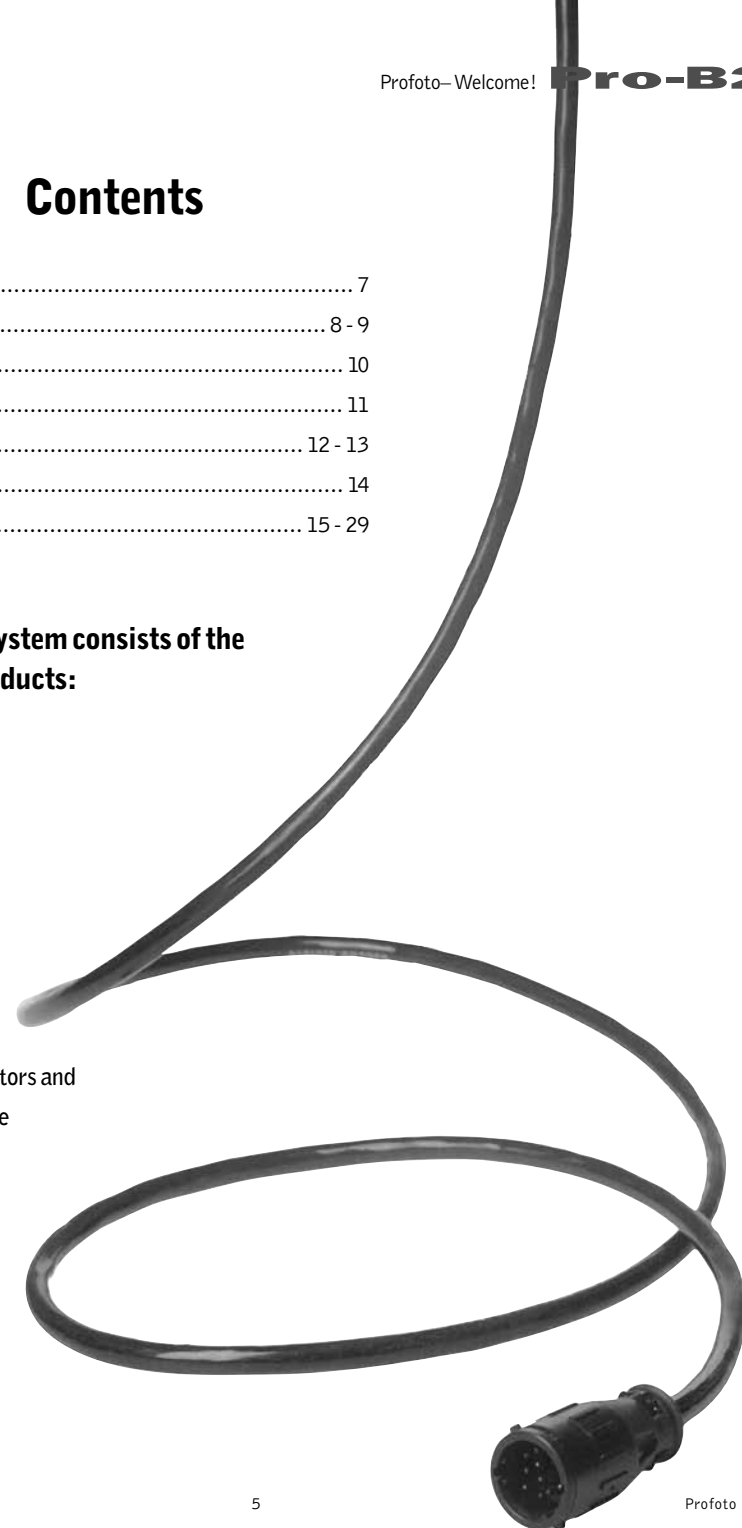
ProHead

Pro-B Head

ProTwin

ProRing

All Profoto reflectors and accessories fit the Pro-B2 system



Thanks for showing us your confidence by investing in a Profoto Pro-B2 system.

For more than three decades we have sought the perfect light. What pushes us is the conviction that we can even offer the most demanding photographer yet better tools. Still we know that we will never be able to offer the best light there is; the natural sunlight. But Pro-B2 comes very close. It is the best series we have ever manufactured. Before our products are shipped we have them pass an extensive and strict testing program. We check that they pass the quality and capacity levels the most demanding photographers require. For this reason our flash equipment is the standard in most rental studios in New York and Tokyo and the most rented flash all over the world.

Quality of Light

The system consists of different generators built and designed to meet the demands of the most demanding photographers on this planet. Yet the most important thing is the light you create and it is then essential that the system offers freedom to create your own light. The Pro-7 series of heads offer you this possibility in particular. The light source, both the flash tube and the modelling light, is placed high and free in the flash head. This makes it easier for you to adjust the light and use your creativity. The reflectors are moveable and lock easily into place. You can move the source of light toward the focus of the reflector to reflect the light backwards before it is projected forward. This is not new, of course. Our flash heads have always been designed that way. What is new, however, is our new glass cover, which is designed to increase precision. The ProHead and the ProTwin are supplied with a frosted and UV-coated cover glass, which together with the flash tube, produces a colour temperature adapted to daylight colour film. There are glass covers with varying filtration, for greater changes. The whole Pro-7 system is modular. Every single reflector and accessory creates its special light and the unique Profoto focusing system offers you a possibility to create your own light with only a few different reflectors.

Thanks!



Profoto – The Light Shaping System

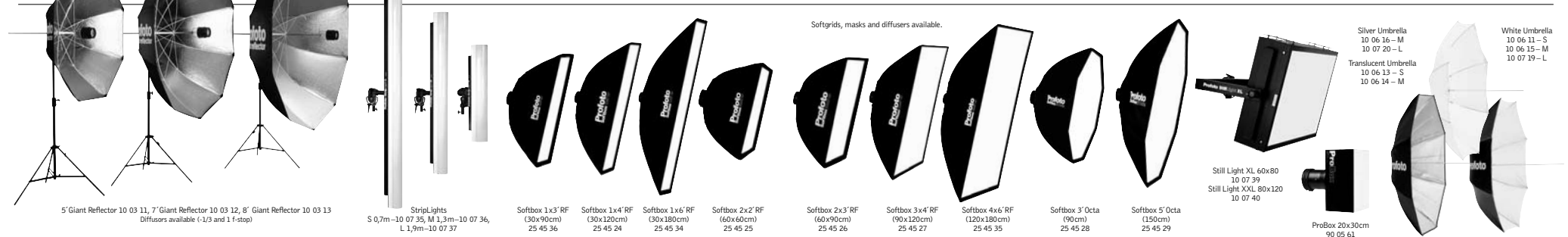
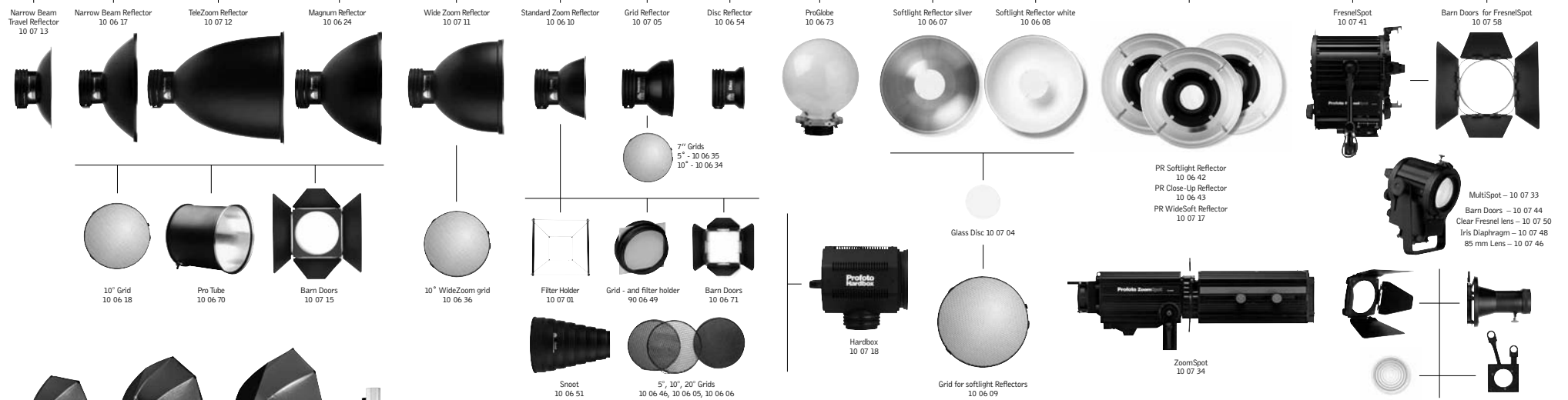
MONOLIGHTS AND GENERATORS



HEADS

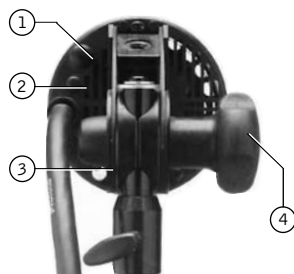


LIGHT SHAPING TOOLS



Softgrids, masks and diffusers available.

ProHead



The modelling light is turned on and off with the black switch [1] at the back of the head. The built-in fan is a thermostatically controlled 2-speed fan ensuring minimized sound level and efficient cooling in all situations. Please note that when changing modelling light, flash tube or glass cover the lamp cable must be disconnected from the generator.

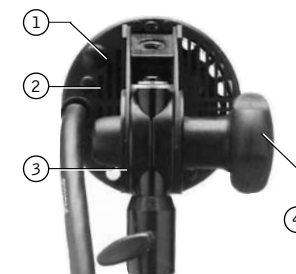
The modelling light has a mini-can socket (E11). The flash tube has two metal pins. When removing a flash tube, pull it straight out of the sockets. When inserting a new flash tube, check that the trigger-wire clasps properly around the flash tube (please see mounting instructions in package). When mounting the glass cover, check that both locking springs connect properly into glass cover holes. In case the head overheats the modelling light automatically switches off. When the temperature has dropped sufficiently the modelling light will switch on again. At the back of the head there is a thread for attaching accessories like handle (std. with head) or a flex arm (Magic arm) to hold filters etc.

There are glass covers for different colour temperatures available. Loosening the handle [4] can easily alter the flash head position. An umbrella can be mounted in the umbrella holder. The ProHead is normally delivered with a 250W

modelling lamp but can be equipped with a 500W lamp if using the longer (100mm) glass cover used on the ProTwin. Max 250W lamp when used on the Pro-B2.

Pro-B Head

The Pro-B head is a small and easily transportable flash head exclusively designed for the Pro-B2 and Pro-7b generators. Please note that when changing modelling light, flash tube or glass cover the lamp cable must be disconnected from the generator. The modelling light is a standard 100W lamp with an E11 socket. The flash tube has two pins. When removing a flash tube, pull it straight out of the sockets. When inserting a new flash tube, check that the trigger-wire clasps properly around the flash tube (please see mounting instructions in package). The head has no fan. Because of the heat generated there is a certain limitation to the number of flashes per minute. At the back of the head there is a thread for attaching accessories like handle (std. with head) or a flex arm (Magic arm) to hold filters etc.



- 10.15.33 Glass Cover, frosted, UV-coated (standard)
- 10.15.34 Glass Cover, frosted, uncoated, + 300°Kelvin
- 10.15.35 Glass Cover, frosted, extra UV-coated, - 300°Kelvin
- 10.15.36 Glass Cover, clear, uncoated, + 300°Kelvin
- 10.15.37 Glass Cover, clear, UV-coated

ProHead cont.

- 10.15.28 Flash Tube, uncoated
- 10.20.02 Modelling Light 250 W, 120 V, Mini-can socket (E11)
- 10.07.09 Handle for Pro-7 series of heads, Pro-B Head and ProTwin
- 10.20.14 Modelling light 100 W, 120 V, E11 socket

ProTwin



The ProTwin is used to obtain extremely short flash duration, very quick recycling or to get up to 4800 Ws out of one single head. There are two flash tubes in a ProTwin. As the flash duration is shorter at low power settings, and as only half of the desired power is used in each tube, consequently shorter flash duration is obtained. For example if you need 1200Ws, you fire 600 Ws from each tube, and your flash duration is shorter than if a standard ProHead is used. The flash duration at 1200 Ws with a ProHead is 1/2200 while it is only 1/3200 with a ProTwin. One or two generators can be used.

If, on the contrary, you require 2400Ws from one head you connect ProTwin to two Pro-B2/1200 generators. For the same reason shorter recycling times is obtained when two generators are used, as the recycling is faster when the generators in fact only need to recharge half the energy. Flash duration and recycling for a ProTwin at a certain power setting - for example 1200 Ws - compares with a ProHead set at 600 Ws.

The modelling light is turned on and off with the black switch [1] at the back of the head. The built-in fan is a thermostatically controlled 2-speed fan ensuring mini

mized sound level and efficient cooling in all situations.

Please note that when changing modelling light, flash tube or glass cover the lamp cable must be disconnected from the generator.

The modelling light has a mini-can socket (E11). The flash tube has two metal pins. When removing a flash tube, pull it straight out of the sockets. When inserting a new flash tube, check that the trigger-wire clasps properly around the flash tube (please see mounting instructions in package). When mounting the glass cover, check that both locking springs connect properly into glass cover holes. In case the head overheats the modelling light automatically switches off. When the temperature has dropped sufficiently the modelling light will switch on again. At the back of the head there is a thread for attaching accessories like handle (std. with head) or a flex arm (Magic arm) to hold filters etc. There are glass covers for different colour temperatures available.

When used on the Pro-B2 it is strongly recommended to change from a 500W to a 250W lamp for increased efficiency due to the fact that the B2 delivers max 250W to the lamp.



Magic arm

Fits ProHead, Pro-7b head and ProTwin. Filters and Barn Doors can be attached.



Handle

Fits ProHead, Pro-7b head and ProTwin. Makes it easier to manoeuvre lamp heads when using soft boxes. (Included with all ProHeads)

- 10.15.18 Glass Cover, frosted, UV-coated (standard)
- 10.15.19 Glass Cover, frosted, extra UV-coated, -300°Kelvin
- 10.15.20 Glass Cover, frosted, uncoated + 300°Kelvin
- 10.15.21 Glass Cover, clear, UV-coated
- 10.15.23 Glass Cover, clear, uncoated + 300°Kelvin

ProTwin cont.

- 10.15.32 Flash Tube, uncoated
- 10.20.07 Modelling Light 500W, 120 V, mini-can socket (E11)
- 10.07.09 Handle for Pro-7 series of heads, Pro-B Head and ProTwin

ProRing



The ring flash is an entirely mobile source of light. The interior diameter of 100 mm provides plenty of space for professional camera lenses. Since the camera holder can be tilted forward and backwards, as well as upwards and downwards, most cameras can be attached. This makes an excellent source of light in cramped areas, such as the interior of an automobile.

Many fashion photographers also use the ring flash to find new angles and capture details. The ring flash provides a very distinct, directed light, but can be complemented by a soft or a widesoft Reflector, which increases the light source, thereby producing a softer light with fewer sharp shadows. For close-ups, there is a reflector that focuses the light 50 cm in front of the camera lens. The maximum charge is 9600Ws per minute. This means 4 flashes a minute at 2400 Ws, 8 flashes at 1200 Ws, 16 flashes at 600 Ws, etc. Changing flash tube is only to be done at a professional servicestation.

Mounting the reflector

- Remove the two ridged screws fixating the camera holder.
- Remove the four ridged nuts holding the outer and inner reflectors together.
- Run the lamp cable through the outer reflector and let the reflector slide into position.
- Reassemble the outer and inner reflectors using the ridged nuts.
- Reassemble the camera holder using the two ridged screws.

Profoto Pro-B2 Generators



Pro-B2 Generators

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Nomenclature Pro-B2 Generator

1. Lamp Head Sockets
2. SYM/ASYM Switch
3. Indicator for Battery Charge
4. Charge Outlets
5. Photo/IR-cell
6. Sync Sockets
7. Photocell Button On/Off
8. Ready Lamp & Test Button
9. Audible Signal On/Off
10. Recharging Button Slow/Fast
11. Modelling Light Control
12. On/Off Switch
13. Modelling light control
14. Radio channel control (optional)
15. Energy control, fine adjustment
16. Energy Control



Brief Instructions

See page 18 for top panel picture.

- Connect the desired number of lamp heads to sockets A & B.
- Start charging by pushing the button ON [12]. The ready lamp [8] will light up when the generator is fully charged.
- The generator can be activated from OFF position by means of a sync signal from a camera.
- Choose the desired energy distribution with the control POWER [15,16] and the SYM/ASYM switch [2]. The generator will automatically dump if the energy level is lowered.
- Connect sync cord and/or flash meter to the sync sockets SYNC [6]
- Activate the photocell [5] by pushing the button SLAVE [7].
- Activate the audible signal by pushing the button SOUND [9].
- Pushing the button MOD.LIGHT [11] turns on the modelling light, which will stay on for 10 seconds. To have the modelling light stay on for a longer period of time push the button two or three consecutive times, which will give 30 and 60 seconds respectively.
- Choose fast recharging by pushing down the button FAST [10].
- The charge indicator [3] shows the battery charge level.
- Turn off the generator by pushing and holding down the button ON [12]. The generator automatically turns off after 30 minutes when not in use.
- If using the optional built-in 32 channel radio receiver use the Radio channel control (14) to set the channel.

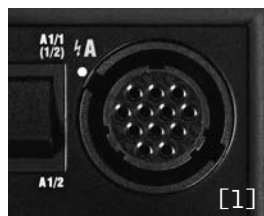
Battery and battery charging

The battery can be charged through the mains outlet by using a special charger or charged directly from the car cigarette lighter when driving. The charging time is only 2.5 or 5 hours depending on the charger used. The generator can be used during charging. The generator cannot be used without a battery in place. The battery will not deteriorate from being charged frequently or from being charged when not fully discharged. Neither does it need to be fully charged before using it. The actual battery life is in fact elongated when fully recharged. The battery indicator shows the charge level and is up-dated when the generator is turned on or when firing a flash. The battery can be charged when dismantled. The environment influences the capacity of both the generator and the battery, for example extreme cold decreases the battery charging capacity.

Profoto Pro-B2 – Assesoires

- 10.02.18 Multivoltage Charger incl. adapters, 90-130V/190-250V, 50-60Hz, 2.0A, 5 hour charging (incl. with the Pro-B2)
- 10.02.19 Charger (12/24V) for Car Cigarette Lighter, 3.5A, 2.5 hour charging
- 10.02.21 Battery only
- 90.07.26 Battery incl. Cassette
- 90.07.65 Universal power adapter for 2.5 hour charging, The adapter accepts a wide range of input voltages: 12-24V or 90-240V.
- 34.02.02 Pro-B protective bag





Changing Battery

By putting the two handles at the bottom together the battery cassette is released and the battery can easily be pulled out. A new battery is pushed all the way into the generator and is locked by directing the handles away from each other. When changing the battery it must be mounted in a battery cassette by an authorised service station.



Connecting Lamp Heads

One or two lamp heads can be connected to the lamp head sockets A & B [1]. When connecting the lamp head plug, align the dots on the plug with the white dot on the generator panel. Secure by turning the locking ring on the plug clockwise.

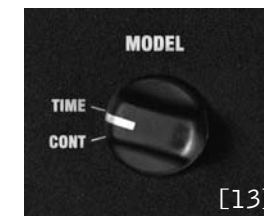
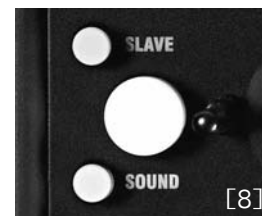


Energy Control

The energy output is regulated over eight f-stops. The energy can partly be adjusted with the control POWER [16] in 1/2 f-stop increments, from 1/1 down to 1/16 of the total energy (equivalent to five f-stops) and also via the POWER dial (15) for fine-grained energy control in 1/10 f-stop increments and partly with the SYM/ASYM switch [2] and through the use of one or two lamp heads.



One lamp head: The total energy chosen is obtained if the lamp head is connected to A and the SYM/ASYM switch is at A 1/1 (1/2), B 1/2. The lamp head can be connected to socket A or B. If the lamp head is connected to A the total energy



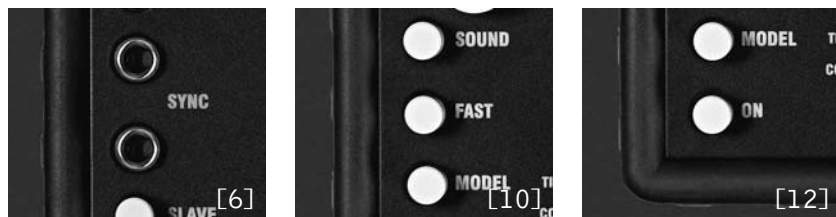
obtained is chosen with the control POWER [15,16]. If the lamp head is connected to B half the energy is obtained if the SYM/ASYM switch is in position A 1/1 (1/2), B 1/2. If the switch is in the position A 1/2, B 1/4 a quarter of the chosen energy is obtained. Two lamp heads: The energy chosen with the POWER [15,16] control can either be distributed evenly through the two lamp heads (the SYM/ASYM switch in the position A1/1 (1/2), B 1/2) or twice as much energy (equivalent to one f-stop ratio) through A as B (the SYM/ASYM switch in the position A 1/2, B 1/4). At any change of energy with the control POWER [15,16] the ready lamp [8] is put out. When the light is out, this is an indication that auto dumping or recharging is in progress.

Choice of Modelling Light

First set the MOD.LIGHT (13) to timer controlled or continuous. The maximum modelling light is 250 W even if a ProHead/ProTwin with a 500 W halogen lamp is used. A ProHead or older heads - Pro-7, PB or PF - can be used. The modelling light is automatically dimmed down to max 250 W regardless of the nominal effect of the modelling light. The efficiency (output) is higher when using a 100 or 250 W lamp. We therefore recommend using max 250 W lamps also in the ProHead. The modelling light is constant and does not vary with the energy chosen. If you wish to use a 250W lamp the ProHead or proTwin flash head must be used since the built-in fan will work on Pro-B2. Do not use older heads with a 250W lamp.

Timer controlled

Pushing the button MOD.LIGHT [11] turns on the modelling light. To save the battery the modelling light is automatically turned off after 10 seconds or when triggering a flash. To have the modelling light stay on for a longer period of time push the button two or three consecutive times, which will give 30 and 60 seconds respectively. For every period of 20 seconds when the modelling light is turned on the battery capacity decreases by the equivalent of two flashes at full energy.



Continuous

Set the MOD.LIGHT [13] control to continuous. The modelling lamp will automatically dim down while recharging or when the energy output is changed. In this position the battery is drained in 20 – 60 minutes depending on the lamp used (100 or 250 W) and the number of flashes triggered.

Connecting Camera & Flash Meter

The two sync sockets [6] allow the camera and flash meter to be connected simultaneously. The 5 m sync cord can be extended without limitations with sync extension cords. Further sync connections can be made with the Profoto sync interconnection cable or by so called "hard wiring". A slave signal from the photocell can be forwarded through this cable to another flash generator.

Recharging

The recharging starts when the ON/OFF switch [12] is pushed down. Slow or fast recharging can be chosen. When the button FAST [10] is released, the generator will recharge slowly. Push the FAST button [10] for normal fast recharging cycles; The recharging time is approx. 1.8 sec at full energy. When extremely short recharging times are required, for instance when operating a motor-drive camera, choose lower energy settings. The lowest energy setting offers the fastest recharging rate (0.04 sec or 25 flashes/sec.). The generator is turned off by pressing down the button ON [12] for a minimum of three seconds.



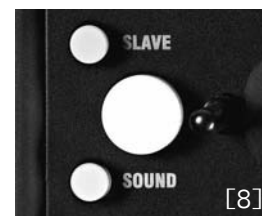
The generator automatically turns off when the controls POWER [15,16], MOD.LIGHT [11] and the sync outlets have not been in use for 30 minutes.

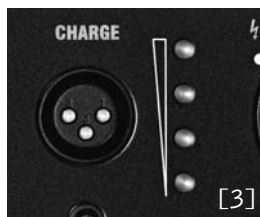
Photocell

The built-in photocell [5] will sense flash release as well as IR-signals from most IR-transmitters. The photocell is disabled when the button marked SLAVE [7] is released. The photocell can also, via cable, trigger off an additional generator.

Signals, Audible & Visible

One of the indicator lights for the battery charge [3] will light up once the generator is turned on. The charge indicator [3] is up-dated when the generator is turned on or when a flash is fired. When all lights light up the generator has no charging value - fire a flash. When the energy output is changed the white ready lamp [8] and the modelling lamp turns off thus indicating that dumping or charging of the energy is in progress. A short "beep" can be heard when the generator is fully recharged. Releasing the button SOUND [9] can turn off this signal. The generator can be restarted directly from a camera, if a sync cord is connected, by shooting a frame. If a flash is fired before the generator is fully charged a long "beep" can be heard thus indicating an underexposed frame. A number of short consecutive "beeps" can be heard before the generator automatically turns itself off.





Safety Functions

If the generator for any reason whatsoever overheats, the recharging will completely stop. After a while, when the temperature has gone down sufficiently, the generator will start recharging at a normal pace again. No recharging can take place when the red light of the battery indicator [3] is on.

This is a safety feature protecting the battery from harmfully low discharging. There are three fuses on the battery cassette. One is for the charging circuits and two for the battery. Furthermore the contacts are short-circuit proof.

PLEASE NOTE: Never store your flash equipment in a car on a hot and sunny day. Avoid storing the generator close or below the freezing point, which can lead to loss of capacity (flash output) and risk of condensation when used in a warmer surrounding immediately. Do not expose any flash equipment to wet or humid environments or extreme electro-magnetic fields.

Reliability Testing - The R-Test

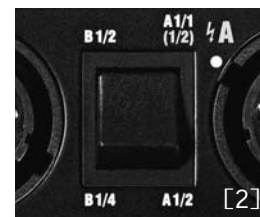
The Profoto R-test guarantees that all products leaving the factory meet the very high standards required of professional equipment by professional photographers. The R-test is a rigorous performance test that Profoto generators are put through - 360 full power flashes are released during one hour, which is equivalent to 10 rolls of 35 mm film. After the test the equipment is examined to see that all parts have kept a normal operating temperature and are not malfunctioning in any way. All Profoto products are subjected to the R-test prior to being shipped.

Colour Temperature

The Pro-7 generators are perfectly suited for critical analogue (film) and digital shoots.

The colour temperature is constant with a variation of a maximum of $\pm 150^\circ\text{Kelvin}$.

PLEASE NOTE: combining flash tubes and/or glass covers with different coatings can make even more distinctive colour temperature adjustments.



Flash Duration

In order to reduce the flash duration use first the SYM/ASYM switch (2) and the position of the head before using the POWER dials (15,16) (For more details please see "Energy control" on page 22 and "Technical Data" on page 28).

Lamp Heads

The ProHead, ProTwin, Pro-7 head, the Pro-7 twin, the Pro-7 ring or the exclusively designed Pro-B or Pro-7b head can be used. With the ProTwin and two Pro-7b generators 2400 Ws can be obtained. When using the new ProHead or ProTwin heads the fan will work when connected to the Pro-B2. If using a 250W lamp together with the B2 do not use the Pro-7 head or the Pro-7 twin head since the fan does not work (danger of overheating).

Radio receiver (optional)

The optional built-in radio receiver is available in 433Mhz (CE version) or 344Mhz (US).

They are compatible with all PocketWizard Plus transmitters and PocketWizard MultiMAX transceivers working on the same frequency! Please make sure to use the frequency allowed in your country. The radio receiver has 32 different channels and the last 16 have also 4 sub channels (zones), which can be used for triggering only the background light, ceiling light etc. There is a special dial (14) for setting the first 4 radio channels and a special learn mode to set the other 28 channels.

To set the channels 5 – 32 set the Radio control (14) to learn, turn off the generator and turn it back on again and within 30 seconds trigger a flash by pushing and holding down the trigger button on the PocketWizard until the flash triggers (3-5 seconds). The receiver is now set to the same channel as selected on the Pocket Wizard Transmitter. If you want to change the channel, first select the desired channel on the transmitter and repeat the above procedure. The generator will remember the selected channel in learn mode but next time you turn on the Pro-B2 it takes approx. 30 seconds before you can trigger a flash.



Technical Data Pro-B2

Energy: 1200 Ws f-stop at 2m with Magnum 50° reflector 90.3

Energy control: Over an eight f-stop range (down to 9Ws). In 1/10 or 1/2 step adjustments.

Energy distribution: Symmetric or Asymmetric (2:1 ratio)

Recycling: 0.04 – 1.8 Sec.

Number of outlets: 2

Flas duration: 1/2200 - 1/7400 sec.

PLEASE NOTE: With ProTwin and two Pro-B2 generators on the same equivalent power gives half the recycling time and shorter flash duration.

Flash capacity: Up to 200 full power flashes per charge

Modelling Light: Up to 250W continuous or time controlled (max 60 sec.)

Battery: Nonspillable lead/acid battery in a battery cassette for rapid exchange

Charging time: 5 hours with standard multi-voltage charger and 2.5 hours with universal power adapter

Size: 24x17x23cm (9.5x6,75x10 inches)

Weight: 12kg, incl. battery (26 pounds)

Others: Indicator for battery status, for full, 3/4, 1/2, and 1/4 power; built-in photocell, 2 sync outlets

Optional built in Radio with 32 channel / 4Zone for remote operation.



Digital Wireless Freedom (Radio Slave)

Profoto Pro-B2 generators are available as Pro-B2R version with an integrated PocketWizard 32 channel/4 sub channel radio receiver for wireless synchronization from a distance up to 100m via digital encoded radio signals. This receiver is compatible with dedicated Sekonic® flashmeters and PocketWizard® transmitters and transceivers. The PocketWizard Plus transmitter (4 channels) for wireless synchronization is available through Profoto.

Digital Wireless Freedom offers:

- Studio or on-location shoots without unreliable and disturbing PC cords.
- A light meter that wirelessly triggers all or only selected electronic flash units and measures the light simultaneously, can even trigger a camera. (Sekonic L-358, L-608 or L-558)
- A handy solution for triggering cameras, flash units or both simultaneously from behind a camera or from a remote location.
- All this wireless technology built into your photo equipment, ready for you to control remotely.

Visit www.pocketwizard.com for further information.

PLEASE NOTE! The DWF system is available in two different versions:

- 344MHz (USA)
- 433MHz (Europe)

If you are in any doubt about the frequency allowed in your country, please get in contact with the local Profoto distributor BEFORE you activate the radio slave transmitter. It is strictly forbidden by law to use these frequencies in other countries and it is impossible to use both versions in combination.



Warranty

All Profoto generators and heads are individually tested before they leave the company and guaranteed for a period of two years with the exception of flash tubes, glass covers, modelling lamps and cables. Profoto is not responsible for technical malfunctions created by improper use or accessories made by other companies. If you have any technical problems please get in contact with an authorized Profoto Pro-B2 service station.

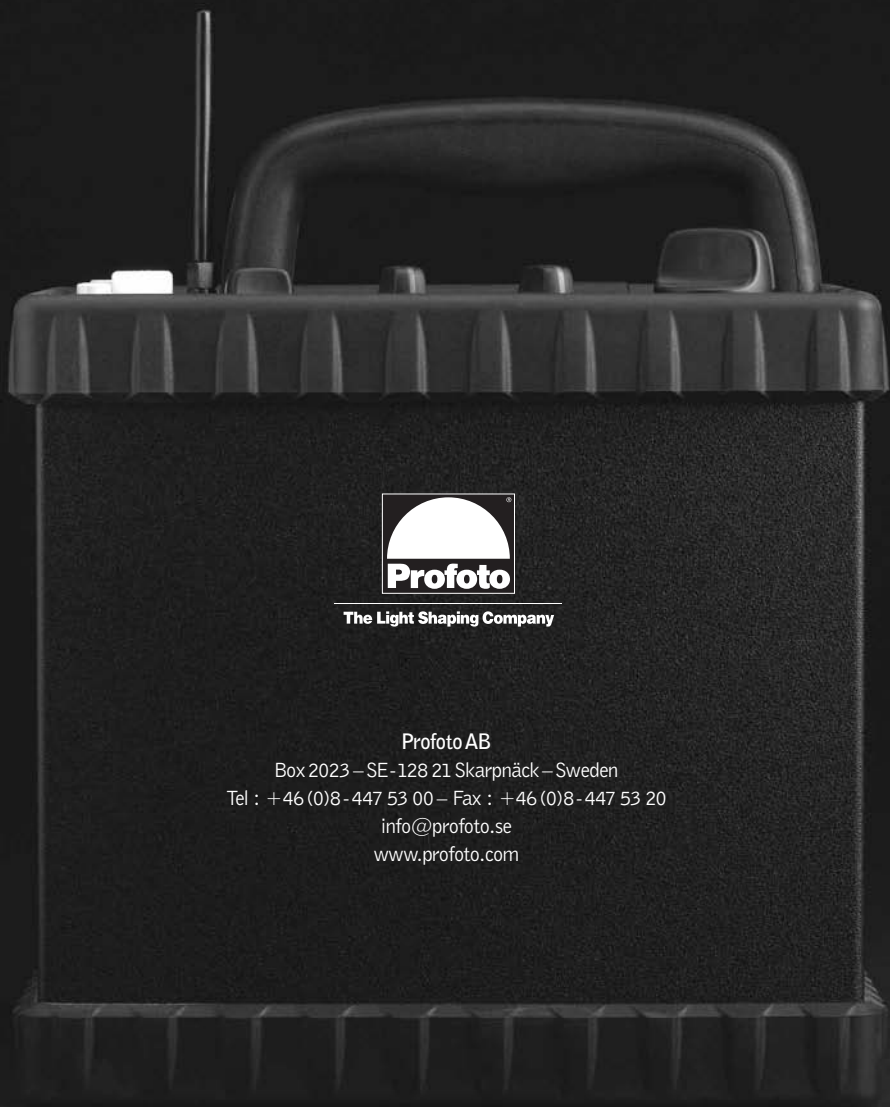
January 2005

Product codes, descriptions and included components may vary from market to market around the world.

Please consult your local dealer or distributor for specific information.

Photos: Gert Jansson/Jan Fridlund. Production: fjellis.com

Order number: 34 40 21



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