

# User guide

## Air Remote TTL-O

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 **Profoto**



## **Congratulations on your new Profoto product!**

Regardless if you chose a new flash or a new light shaping tool, know that almost half a century's worth of experience was put into its making.

If the years have taught us one thing, it is to never neglect a single detail. We only put our name on a product in which we have the fullest confidence. Before shipping, every one of our products passes an extensive and strict testing program. Unless it complies with the specified performance, quality and safety, it is a no-go.

As a result, we are confident that your new Profoto product will stay with you for years and help you grow as a photographer. But getting the product is only the beginning of that journey. Using it for light shaping is the real adventure. That is why we take pride in providing you with such a wide assortment of light shaping tools, allowing you to shape the light in any way you can imagine.

The almost infinite possibilities might seem bewildering at first, but we're certain you will soon get the hang of it.

Still, I encourage you to sign up for our newsletter at [www.profoto.com/newsletter](http://www.profoto.com/newsletter) or visit our blog at [www.profoto.com/blog](http://www.profoto.com/blog) so that we can share our experience from almost 50 years of light shaping and hopefully inspire you to grow even further. Enjoy your Profoto product!

Conny Dufgran, founder

# General safety instructions



## Safety Precautions!

Do not operate the equipment before studying the instruction manual always accompany the equipment and the accompanying safety instructions. Make sure that Profoto Safety Instructions is always accompanied the equipment! Profoto products are intended for professional use! Generator, lamp heads, and accessories are only intended for indoor photographic use. Do not place or use the equipment where it can be exposed to moisture, extreme electromagnetic fields, or in areas with flammable gases or dust! Do not expose the equipment to dripping or splashing. Do not place any objects filled with liquids, such as vases, on or near the equipment. Do not expose the equipment to hasty temperature changes in humid conditions as this could lead to condensation water in the unit. Do not connect this equipment to flash equipment from other brands. Do not use flash heads without supplied protective glass covers or protective grids. Glass covers shall be changed if it has become visibly damaged to such an extent that their effectiveness is impaired, for example by cracks or deep scratches. Lamps shall be changed if they are damaged or thermally deformed. When placing a lamp into the holder ensure not to touch the bulb with bare hands. Equipment must only be serviced, modified or repaired by authorized and competent service personnel! Warning - The terminals marked with the flash symbol are hazardous live.



## WARNING - Electrical Shock Hazard - High Voltage!

Mains powered generators shall always be connected to a mains socket outlet with a protective earthing connection! Only use Profoto extension cables! Do not open or disassemble generators or lamp heads! Equipment operates with high voltage. Generator capacitors are electrically charged for a considerable length of time after being turned off. Do not touch modeling lamps or flash tubes when mounting an umbrella metal shaft in its reflector hole. Disconnect the lamp head cable between the generator and lamp head when changing the modeling lamp or flash tube! The mains plug or appliance coupler is used as disconnect device. The disconnect device shall remain readily operable. Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as direct sunlight, fire, or the like.



## Caution - Burn Hazard - Hot Parts!

Do not touch hot parts with bare fingers! Modeling lamps, flash tubes, and certain metal parts emit strong heat when used! Do not point modeling lamps or flash tubes too close to persons. All lamps may on rare occasions explode and throw out hot particles! Make sure that the rated voltage for the modeling lamp corresponds with the technical data in the user guide regarding the power supply!

## Note about RF!

This equipment makes use of the radio spectrum and emits radio frequency energy. Proper care should be taken when the device is integrated in systems. Make sure that all specifications within this document are followed, especially those concerning operating temperature and supply voltage range. Make sure the device is operated according to local regulations. The frequency spectrum this device is using is shared with other users. Interference cannot be ruled out.



## Final Disposal

Equipment contains electrical and electronic components that could be harmful to the environment. Equipment may be returned to Profoto distributors free of charge for recycling according to WEEE. Follow local legal requirements for separate disposal of waste, for instance WEEE directive for electrical and electronic equipment on the European market, when product life has ended!

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## System description & compatible products

The small, lightweight Air Remote TTL-O is designed to make flash easy. Mounted on the camera hot shoe, it acts as a wireless extension of your camera to your Profoto flashes, combining TTL (Through-The-Lens) exposure control with the option to manually adjust and sync your Profoto lights.

- The Air Remote TTL-O is specially designed for Olympus cameras.
- Some camera models may not be supported or have limited functionality. Create a free user account on [profoto.com/myprofoto](https://profoto.com/myprofoto) to check and install latest firmware version or download release note with updated listing of supported cameras.
- The Air Remote TTL-O operates with Profoto flash units and generators, with built-in Profoto Air functionality according to the table below.
- The Air Remote TTL-O can also be used to trigger the Air Remote and Air Sync Profoto Air transceivers.
- The Air Remote TTL-O is not compatible with Olympus Speedlights or other non-Profoto flashes.
- The Air Remote TTL-O is not compatible with any 3rd party radio triggering systems.

Air labeling on Profoto flash	Enabled features on Air Remote TTL-O			
	Manual sync	Remote control	TTL	HSS
Air TTL	X	X	X	X
Air	X	X		
AirS	X			

## General notes on wireless operation with Profoto Air

The Profoto Air channels [1-8] use eight specific frequencies in the 2.4 GHz band and have an operating range of up to 300 meters (1000ft). The frequencies are evenly distributed over the entire frequency band. Since each channel uses a different radio frequency, it is possible to select a channel without interference from other photographers using Profoto Air, WLAN/Bluetooth devices or other radio equipment operating on the 2.4 GHz frequency band.

### 8

- Keep cables and cords away from antennas.
- Maintain line of sight between the Air Remote TTL-O and the flash unit whenever possible
- When hiding the flash from view, try to not hide it behind or against metal or water-filled objects as this will affect the radio range.



# Nomenclature



1. ON button
2. Display
3. Energy buttons
4. Group buttons (A, B, C)
5. Test button
6. Mode button
7. Sync button
8. Channel button
9. Head button
10. Model button



11. Battery compartment

12. Hot shoe connector

13. USB port

14. Locking mechanism

# Operating instructions

## Quick guide

For detailed instructions, refer to the subsequent sections.

### Profoto Flash setups

1. Set the flash to synchronization via Radio/Air (may differ by flash models).
2. Select the same radio channel on all flashes.
3. Select the same group (A,B or C) for all lamp heads to be controlled simultaneously.

### Air Remote TTL-O

4. Slide the hot shoe connector on the Air Remote TTL-O into the hot shoe of the camera. Turn the locking mechanism [14] to secure the device.
5. Switch on the remote.
6. Select the same radio channel on the remote as on the flashes.
7. Press the Mode button [6] to toggle between TTL (Automatic) and MAN (Manual) mode.
8. Press the A, B or C button to select the corresponding group.
9. When a group is selected:
  - a) Press the HEAD button [9] to turn on/off the lamp heads/flashes.
  - b) Press the MODEL [10] button to turn on/off the modeling light.
  - c) Press the ENERGY buttons [3] to adjust the energy level for the group in relation to the other groups (TTL mode) or the energy level for the group (MAN mode). Since energy adjustments work differently in TTL mode and Manual mode we recommend to carefully read the detailed instructions for operation in both modes on page 13-16 of this user guide.
10. Press the TEST button [5] to manually transmit a sync signal, in order to test the settings.

## Power on/off

1. Press and hold down the ON button [1] to switch on/off the remote.

### Note!

The remote automatically turns off after 30 minutes of inactivity. The auto power off can be deactivated by pressing and holding the "Energy +" button [3] when starting the remote. Deactivation is confirmed by two short beeps.

Note that when auto power off is deactivated new batteries will drain in approximately 20 hours of inactive use. The camera should not be in a silent drive mode.

## Channel selection

The currently selected channel is shown in the CHANNEL section on the Display [2].

1. Press the Channel button [8] repeatedly until the desired channel is displayed.

## Sync selection

The selected sync setting (cameras sync setting) is shown in the SYNC section on the Display [2].

- 1st: The flashes fire when the first shutter curtain is fully open.
- 2nd: The flashes fire when the second shutter curtain is about to close.
- Hi-S: HSS is selected.

### NOTE:

In TTL mode, the camera selects SYNC status. In MAN mode, the user can toggle the HSS setting with the SYNC button. If the camera is in a mode where HSS can't be used, the remote will switch off HSS automatically.

## HSS (FP flash)

HSS enables shooting with flash at a faster shutter speed than the fastest external flash sync speed (x-sync) of the camera, all the way down to 1/8000s (may differ between camera models). This option can be extremely useful to limit the influence of ambient light when shooting in bright conditions.

**Note!**

\* During a HSS flash, the flash is pulsing to provide a constant light output during the time when the shutter is open. To ensure a perfect exposure and a stable flash pulse, the flash uses only the upper part of its power range when in HSS Mode. Exact range may differ between flash models.

\* Frequent use of HSS will have an impact on the life-time of the flash tube.

\* Your remote and AirTTL flash may require a firmware update in order to use this feature. The latest updates and a list of compatible cameras is available on [profoto.com/myprofoto](http://profoto.com/myprofoto). Create your personal account and login to access all new upgrades.

**Mode selection (TTL or Manual)**

The currently selected mode is shown in the MODE section on the Display [2].

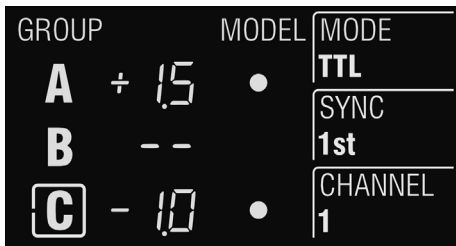
1. Press the Mode button [6] to toggle between TTL and MAN mode.
  - TTL mode: The camera dictates the light output of the flashes. The relationship between the energy levels for group A, B and C can be adjusted.
  - MAN mode: The light output for group A, B and C can be controlled manually.

**Operation in TTL mode (Automatic mode)**

In TTL mode the camera dictates the light output of the flashes. If more than one light is used the relationship between the energy levels for group A, B and C can be adjusted. This can, for example, be used to achieve more light on one side of the object.

- Press the A, B or C Group button [4] to select the group you want to adjust.
- Use the ENERGY buttons [3] to set the relative light output for the selected group, in relation to the other groups. The relations can be set  $\pm 2.0$  f-stop for each group A, B or C. Relations should not be confused with exposure compensation. Carefully read all the notes in the end of this section!
- To change the total flash exposure, use the flash exposure compensation function in the camera. Refer to the camera manual for details.
- Press the Model button [10] to turn on/off the modeling light in the selected group.

- Press the Head button [9] to turn on/off the lamp heads in the selected group (if the heads in a group are turned off, the relation value for that group will display '--')
- When changing from MAN mode to TTL mode, the previous TTL relation value is displayed.



Example of remote Display[2] settings in TTL mode operation

The figure shows the Display [2] when:

- TTL mode, 1st-curtain sync and channel 1 are selected.
- Group C is selected to be adjusted.
- The relative light output from lights in group A is set to 2.5 f-stops more than lights in group C. (A to +1.5 f-stops and C to -1.0 f-stops).
- Lights/Heads in Group B are turned off.
- The modeling light is turned on in both group A and C.

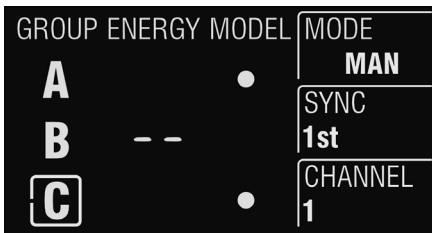
#### NOTE:

- Relation values should not be mistaken for flash exposure compensation. To compensate the total flash exposure always use the flash exposure compensation function in the camera. Refer to camera manual for details.
- If flashes without Profoto AirTTL support are used in combination with Profoto AirTTL flashes in TTL mode, the flash outputs of the non-TTL flashes are added to the total flash exposure. Such flashes can for instance be used to manually set the exposure on the background.
- If a Profoto AirTTL compatible flash is set to group D, E or F, it will be synchronized but not be part of the TTL calculation. The flash outputs of these flashes are added to the total flash exposure and can for instance be used to manually set the exposure on the background.
- If the camera is in a mode where TTL can't be used, the remote will switch to MAN automatically.

## Operation in MAN mode

With the Air Remote TTL-O set to MAN mode, the light output for groups A, B and C can be adjusted manually. By alternating between TTL and MAN mode, you can test your way to the perfect light.

- Press the A, B or C Group button [4] to select the corresponding group.
- To select all groups, press one of the Group button [4] two times.
- Use the ENERGY buttons [3] to adjust the light output for the group. The adjustment (increase/decrease) always starts from the current light output setting and the adjustment value is momentarily shown in the ENERGY section on the Display [2].
- Press the Model button [10] to turn on/off the modeling light in the selected group.
- Press the Head button [9] to turn on/off the lamp heads in the selected group (if the heads in a group are turned off, the relation value for that group will display '--')



Example of remote Display[2] settings in MANmode operation

The figure shows the Display [2] when:

- MAN mode, 1st-curtain sync, and channel 1 are selected.
- Group C is selected to be adjusted.
- Lights/Heads in Group B are turned off.
- The modeling light is turned on in both group A and C. If the light output for group A or C is adjusted, the energy change will be shown momentarily.

**NOTE:**

- Press the ENERGY button to increase/decrease in 1/10 f-stop increments.
- Press and hold down the ENERGY button to increase/decrease in 1f-stop increments.
- If a light output cannot be set by the flash because it is outside its energy range, the Air Remote TTL-O beeps to signal that the command was not executed. The light output of all flashes in the selected group then remains unchanged.
- When all groups are selected the remote will also control lights in group D, E or F (selected on flash).
- If the remote beeps when trying to exit MAN mode, it means that the MAN mode was requested by the camera. Check the selected drive mode in your camera's menu.

**Test sync**

- Press the Test button [6] to manually transmit a sync signal.



## Other

### Factory reset

Reset the Air Remote TTL-O to factory settings:

- Switch off the Air Remote TTL-O.
- Press and hold down the Group Button C [4] and the ON button [1] simultaneously.

### Battery check & built-in power saving

The low battery symbol is displayed when the battery voltage reaches a critical level.



To save battery, the display automatically switches off after 30 seconds of inactivity. Press the ON button [1] to switch on the display. The display also switches on when any of the function buttons are used.

### Check Firmware

Press and hold the MODE button [6] for 5 seconds when the remote is turned on.

### Upgrade Firmware

We recommend that you look for firmware upgrades before you start using your new Air Remote TTL-O.

To access the latest free upgrades you create your personal account on [profoto.com/myprofoto](http://profoto.com/myprofoto). Once you have an account you can register your products and be sure you get noticed when new upgrades are released.

Upgrade of firmware is made via the USB port [13] on the remote, following the instructions provided in the upgrade application downloaded from [profoto.com/myprofoto](http://profoto.com/myprofoto). You can always contact your local dealer or distributor for professional service.

To upgrade your Olympus camera to the latest version, visit the Olympus webpage.

## Technical data

Specifications	
Frequency band	2.4 GHz (2404 to 2479.3 MHz)
No of frequency channels	8 (1-8)
Radio Power Output:	Maximum 10 mW
No of groups per channel	3 (A-C)
Operation modes	TTL & Manual
Camera TTL compatibility	Find the latest firmware upgrades and a complete list of Olympus camera models that are approved with Air Remote TTL-O in the latest release notes on <a href="http://profoto.com/myprofoto">profoto.com/myprofoto</a>
Sync modes:	Set the camera's Flash Mode to 1st, 2nd, Hi-S.
Camera mount/ Connectors	Hot shoe mount for Olympus. USB mini connector for firmware upgrades.
Range	Up to 300 m (1000ft) for normal triggering
	Up to 100 m (330ft) for remote control and TTL
Battery type	2xAAA, 1.5V (Not lithium)
Typical battery lifetime	30 hours
Antenna type	Integrated
LCD display	Yes
Auto power off	Remote: Turns off after 30 min of inactivity (Can be deactivated) Display: Partially dimmed after 20 seconds of inactivity. Turns inactive after 2 minutes of inactivity.

Supported Profoto Air functionality	
Flash Sync/Trigger	Yes, Air Remote TTL-O triggers Air Remote & Air Sync transceivers plus all Profoto flashes labeled AirTTL, Air and AirS.
Remote control	Yes, Air Remote TTL-O works as a manual remote control for all Profoto flashes labeled AirTTL & Air.
TTL control	TTL with group control for all Profoto flashes labelled AirTTL.
HSS	HSS for all Profoto flashes labelled AirTTL.
Measurements	
Dimensions	75x60x35 mm / 2.9x2.3x1.4 in
Weight	75 g / 2.6 oz including batteries

All figures are to be considered as nominal and Profoto reserves the right make changes without further notice.

## Regulatory information

### World-wide Usage of Radio Spectrum

The Profoto Air system operates on the license-free 2.4GHz ISM band for SRD (Short Range Devices). This band may be used in most parts of the world. Regional restrictions may apply.

#### NOTE

Refer to national regulations for the region where the Air Remote TTL-O shall be operated and make sure that they are followed.

### EU Declaration of Conformity

Hereby, Profoto AB declares that the radio equipment type Profoto Air Remote TTL-O is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <http://media.profoto.com/DoC>

### Unites States and Canada

#### F.C.C. and Industry Canada

Compliance Statement (Part 15.19) This device complies with Part 15 of FCC rules and RSS-210 of Industry Canada. 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.

#### Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Ce dispositif est conforme aux normes RSS-210 d'Industrie Canada. L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes :

1. il ne doit pas produire de brouillage et
2. l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term 'IC' before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Les lettres 'IC' n'ont aucune autre signification ni aucun autre but que d'identifier ce qui suit comme le numéro de certification/d'enregistrement d'Industrie Canada.

### **Profoto AB**

Transmitter / Receiver

MODEL: Profoto Air Remote TTL-O

PRODUCT NO: PCA5388-0000

Contains:

FCC ID: W4G-RMI and IC: 8167A-RMI

Product of Sweden

### **Japan**

The module has been granted modular approval for sale and operation in Japan.

特定無線設備の種類

Classification of specified radio equipment:

Article 2, Clause 1, Item 19

2.4 GHz Wide Band Low Power Data Communication

上記のとおり、電波法第38条の24第1項の規定に基づく認証を行ったものであることを証する。

This is to certify that the above-mentioned certification by type has been granted in accordance with the provisions of Article 38-24, Paragraph 1 of the Radio Law.



R 202WW08109202

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## Taiwan

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。



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 **Profoto**

Technical data and product information are subject to change without notice.

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