UW Technics

#11052 Internal TTL-Converter (for CANON) for NAUTICAM underwater photo housings

MANUAL

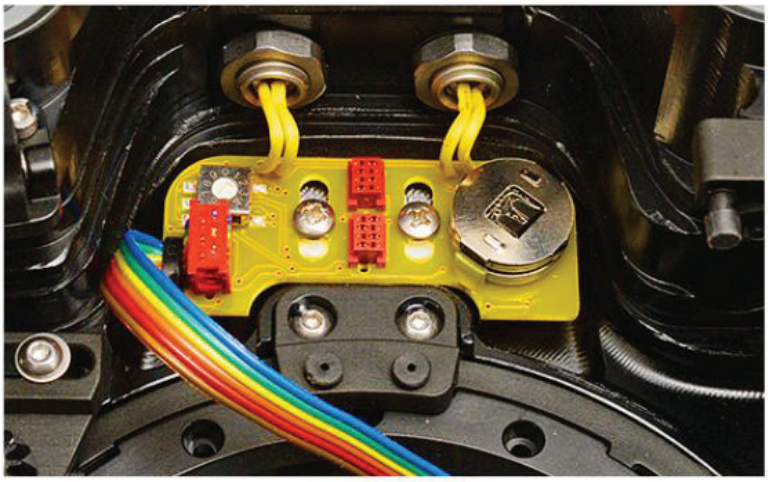
Specifications

Compatible photo cameras: all CanonDSLR cameras
Compatible underwater housings : NA-5Dm4, NA-7Dm2, NA-5DSR, NA-5Dm3, NA-1DX, NA-60D,NA-80D, NA-6D, … .
Compatible strobes: Inon Z-240; Sea&Sea YS-250, YS-D1,YS-D2; Ikelite DS-161, DS-160
TTL outputs: 2 optical, 2 wire
(+/-) “Flash Exposure compensation” adjustment underwater: yes
Continuous (serial) shooting mode support: yes
1-st / 2-nd curtain modes support: yes
Switching “TTL / M” underwater by camera controls: yes
Setting strobe power manually by camera controls in M mode: 1/64 … ..1/1
Switching power “ON/OFF”: automaticby camera command
Battery type: CR1632 (2pcs.)
Current consumption (in standby mode) 0.1 mkA
Battery capacity (+20°C): 3 years, 45 000 flashes
Maximum Fiber-optic cable length for “TTL” operation: 3m
Maximum Fiber-optic cable length for “MANUAL” operation (at max power setting): 35m
Recommended Fiber-optic cable type: Nauticam #26211, #26212
Available Electric Bulkhead type (optional accessory): Nik onos-5,Ike lite
Dual Electric cables support: yes
Dimensions of main board: 55mm x 24mm x 10mm

Safety Warning for Batteries usage

Use batteries only CR1632 type.
Batteries must be new and undamaged. Carefully check batteries before usage.
To avoid leakage or explosion, always check appropriate battery terminals position (“plus” / “minus”) before installing to the TTL-Converter.
Never expose batteries to overheating, short-circuiting, disassembling, high pressure, mechanical deformation. Save batteries from high humidity and water. All these circumstances may cause a chemical leakage, electric shock, explosion or fire, which can be dangerous for health.
Remove batteries from TTL-Converter before longtime storage.
Utilize used batteries according appropriate rules.
Keep out batteries of children. Save batteries in inaccessible for children place

installation



Open underwater housing. Pick up mirror prism by a sharp knife. (Prism is glued very slightly, like a sticker, on the plastic podium, easy to delete it by knife). Delete mirror prism from the housing.

Using hex wrench unscrew 2 bolts from plastic podium. Delete podium from the housing.

Insert batteries into TTL-Converter. Before installation check that “plus” terminal of each battery is in Up position.

Try TTL-Converter installation to its place. Bend LED wires as necessary for concrete housing. Try to insert both LEDs into optical bulkheads.

Install 2 white plastic spacers. Install TTL-Converter board. Screw 2 bolts, included with TTL-Converter package, by screwdriver.

IMPORTANT! Push both LEDs maximum deep into the optical bulkheads. The LED must be maximum close to transparent optical element inside the bulkhead to get normal TTL accuracy.

(Optional). In case of using Electric Wire Synchronization, connect electric bulkheads flat cables to 4-pin sockets on the board.

Carefully check fiber-optic cables. Strongly recommended to use only original new (unused) NAUTICAM fiber optical cables, listed in Specifications above. In case of using inconsistent fiber optical cables, user can get a wrong exposure of underwater shots.

Cable connections

TTL-Converter maintains Optical Synchronization by Fiber Optical cable connection, and Electric Wire Synchronization by Wire cable connection.
Maximum 2 pcs Fiber-optic cables can be connected.
Maximum 2 pcs Electric Wire cables can be connected.
“Sea&Sea” and “Ikelite” dual electric cables are supported at each output as well.

Optional Accessories

UW Technics #91340 Nikonos style Bulkhead (M14 screw) with flat cable and 4-pin MicroMatch connector.
UW Technics #91341 Ikelite style Bulkhead (M14 screw) with flat cable and 4-pin MicroMatch connector.
Bulkheads are optional products and must be purchased separately.

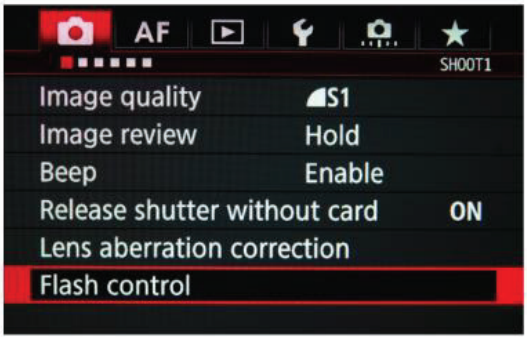
Initial Settings

Set and check camera settings before underwater shooting:

- Set appropriate Exposure Metering (“Evaluative”, “Partial”, “Spot”, “Center-weighted) according your shooting conditions . Right type of Exposure Metering is the key setting for accurate TTL work. In case of wrong setting, the shot may be overlighted, or underlighted.
- Set camera’s “Flash Exposure Compensation” (and “Exposure Compensation”) to “0e v”, as initial setting.
- Set appropriate ISO. Recommended to use ISO 100 … .400 for best resolution and TTL accuracy underwater.
- Set Aperture and Shutter Speed according real underwater conditions and shooting task. Pay attention that max fast sync speed for underwater strobes usage is usually about 1/250.
- Recommended apertures F8-F16 for wide angle photo, and F16-F22 for Macro photo, as initial settings.
- Use other settings recommended by your camera User’s Manual.

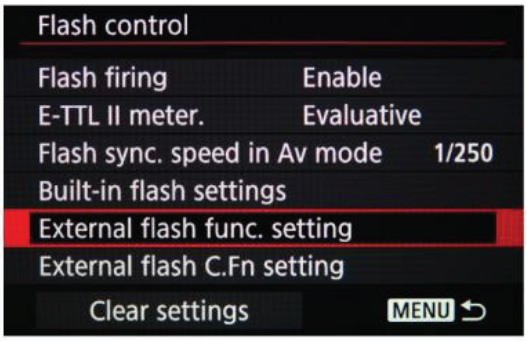
Using camera menu photographer can totally control TTL-Converter underwater. Flash settings are always stored in TTL-Converter nonvolatile onboard memory, even after power is turned off.

Enter Flash control menu to set initial preferences:

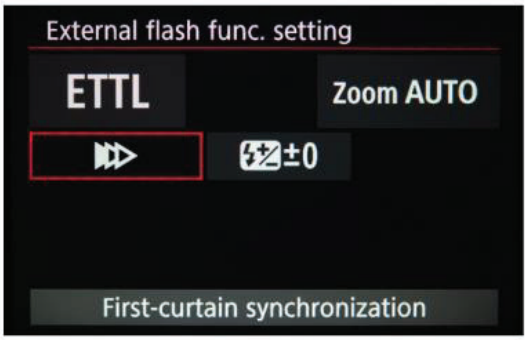


- Flash firing – “Enable” (switch ON the flash) or “Disable” (switch OFF the flash)
- E-TTL II metering – “Evaluative” or “Average”, according your preferences for metering for flash
- Flash sync. speed in Av mode – “1/250 fixed”, “1/60-1/250 auto” or “Auto’

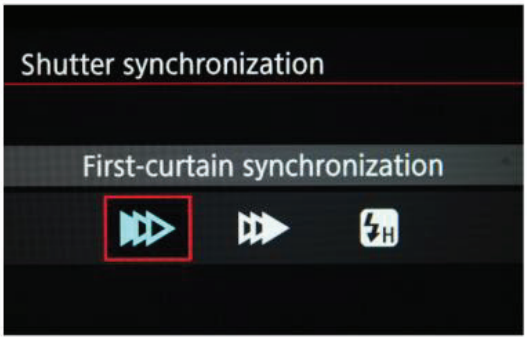
Enter External flash func. setting submenu:

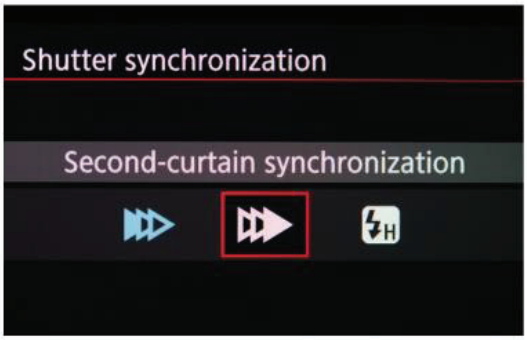


Enter submenu for Shutter Synchronization setting:



- Set 1st or 2nd curtain synchronization, dependently of the shooting task.





Shooting in TTL mode

Set TTL-Converter onboard dial switch according your strobe type:

1 - Z-240 underwater strobe
2 - YS-D1 underwater strobe
3 - YS-D2 underwater strobe
4 - YS-250 underwater strobe
5 - DS-161/160 underwater strobe

Set main dial switch on the underwater strobe body to TTL mode. Please refer to concrete strobe User's Manual to choose appropriate mode (Z-240 set to "S-TTL", YS-D1/D2 set to "DS-TTL", YS-250/DS-161/DS160 set to "TTL").

Set another dial (+/-Ev correction) on the underwater strobe body to "0 ev" position, as initial setting. Using Z-240 strobe, pay attention: for fiber optical connection set to "0ev" as position "12 o'clock", for electric wire connection set to "ttl" as fixed position "9 o'clock". In case of optical TTL, adjustment (+/-) is available by the strobe dial "+/-Ev" and by the camera wheel "flash exposure compensation" as well, the final value is the sum of these two corrections. In case of electric wire TTL, adjustment (+/-) is unavailable by the strobe dial, but available by the camera control "flash exposure compensation".

During the shooting, dependently of concrete underwater situation, strobe condition etc., photographer should set (+/-) correction to TTL flash intensity. Available to do it by 2 ways:

- Use "+/-Ev" dial on the underwater strobe body (adjustment works for fiber-optical type connection only).
- Use camera "Flash Exposure Compensation" function. Such adjustment is recommended, it is more deep, works for both types of connection. Available "Flash Exposure Compensation" range for Canon cameras: -3ev … 0…+3ev. User can adjust it by steps 0.3ev or 0.5ev (choose the step by camera menu), viewing the value on the camera service screen or on the menu screen.

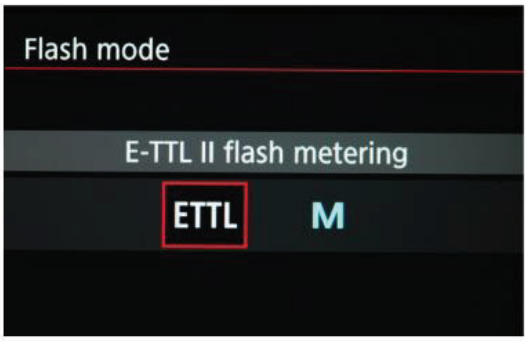
Connect TTL-Converter Hot Shoe plug to the camera Hot Shoe socket. Switch ON the camera. TTL-Converter activates automatically (switch ON) when user pushes camera Shutter Release Button for shooting or focusing. Device goes to

standby mode (switch OFF) also automatically few seconds later (according the camera command), or after disconnection from camera Hot Shoe socket.

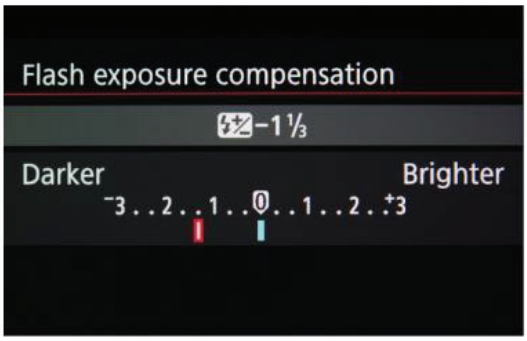
Camera recognizes E-TTL device on the Hot Shoe socket and confirms compatibility by the “Flash” symbol on the service screen. Submenu “External Flash func. settings” becomes available in camera menu only in case of full compatibility of products.

Enter submenu Flash mode :

- Set ETTL mode :



Later, during the shooting in TTL mode, adjust (+/-) Flash Exposure Compensation by the camera wheel, if images are too dark or too bright:



For normal TTL accuracy the distance from underwater strobe to a target must be more than 0.35m underwater (and more than 0.7m for any land tests). But camera can be positioned close to the target as user needs.

TTL-Converter is tuned for normal TTL accuracy underwater. Land tests may give another results.

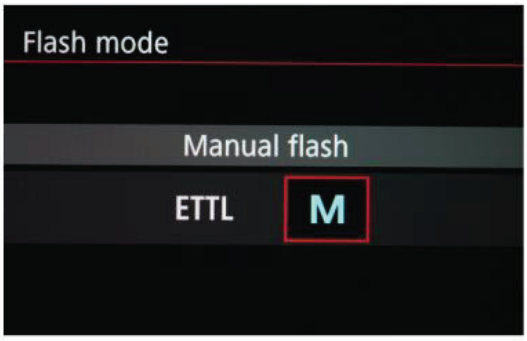
Continuose (serial) shooting camera modes are available in all modes (TTL, M) of the product. But pay attention, that underwater strobe usually recycles a significant time, so the shots in long seria may have different lighting levels. To reach a constant lighting for few shots in seria, useM anual modew ithm inimum strobe intensities.

In some shooting conditions TTL may be not effective or out of working range. This case photographer should use Manual mode.

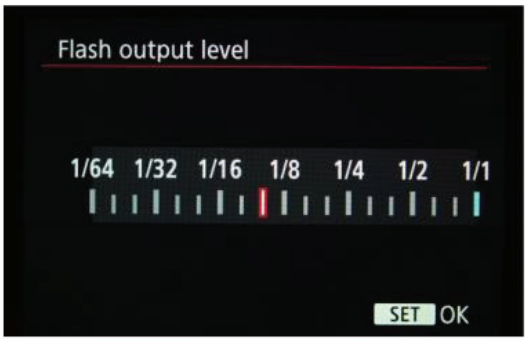
Shooting in Manual mode

Photographer can use 3 different Manual modes:

- 1-st Manual Mode
  Switch to “M” mode by camera menu.
  This is Manual mode for universal usage, easy switchable and controllable underwater.
  This case TTL-Converter switches to appropriate M mode automatically together with the camera (by camera command).



In that Manual mode becomes available special scale in submenu. User adjusts strobe light intensity by camera wheel, looking to that scale:



** Pay attention: In that mode for manual adjustment by camera wheel, underwater strobe must be set in TTL (S-TTL) mode by dial switch on the strobe body.
*** For information: In that Manual mode Pre-flashes are disabled.

- 2-nd Manual Mode:
  Switch to “M” mode by the dial switch on the strobe body.
  This is traditional way for underwater photographers. User sets M mode and adjusts lighting intensity by the dial switches on the strobe body.

  ** Pay attention: For that mode usage, it is strongly recommended to keep camera in M mode with flash output “1/1” by menu, to avoid some strobes restrictions for input signals duration.
  User should set M mode without Pre-flashes by switches on the strobe body, and adjust strobe light intensity by the dial switch on the strobe body.
  *** For information: If camera is in M mode as recommended above, Pre-flashes are disabled.

- 3-d Manual Mode:
  Switch to “M” mode by setting TTL-Converter onboard dial switch to “0” position.
  This operation can be done only before submerging, when the housing is open. This is forced Manual mode.
  Camera does not recognize any device on the HotShoe socket, TTL protocol is totally disabled.
  In this mode TTL-Converter makes fixed maximum duration pulse at each shutter release.

  ** Pay attention: User should set M mode without Pre-flashes by switches on the strobe body, and adjust strobe light intensity by the dial switch on the strobe body.
  *** For information: In that Manual mode Pre-flashes are disabled.

Storage

After shooting switch Off the camera.
Disconnect TTL-Converter Hot Shoe plug from camera socket. This way you defend the TTL-Converter from any accidents.
Also, you save TTL-Converter’s battery, because its standby current consumption is minimum in that case.
For a long time storage remove batteries from TTL-Converter.

Warranty

Product warranted against any manufacturing defects for 2 year from the date of purchase for consumer use.
Manufacturer accepts no liability for any damage to and defects in the housing caused by improper use and/or poor maintenance.
Manufacturer does not hold responsibility for damage of any nature, to any equipment used with the product.
Manufacturer accepts no liability for any loss of captured images or the inability to capture images even if it is due to the malfunctioning of the product.
This warranty only applies to products purchased from authorized dealers and does not extend beyond the original retail purchaser.
Unauthorized modifications and/or repairs of the product will automatically invalidate this warranty.
To return products for service, please contact authorized dealer in your region.