

Ikelite DS-Sensor

i n s t r u c t i o n m a n u a l

#4100.5



Ikelite's DS Sensor offers full TTL functions via slave sensors. It grants one strobe the freedom to be moved freely and positioned virtually anywhere without the inconveniences of a connecting cord.

The DS Sensor connects **ONLY** to Ikelite Digital Substrobes DS50, DS51, DS125 and DS200. It is **NOT** compatible with other model Ikelite TTL Substrobes or other brand strobes.

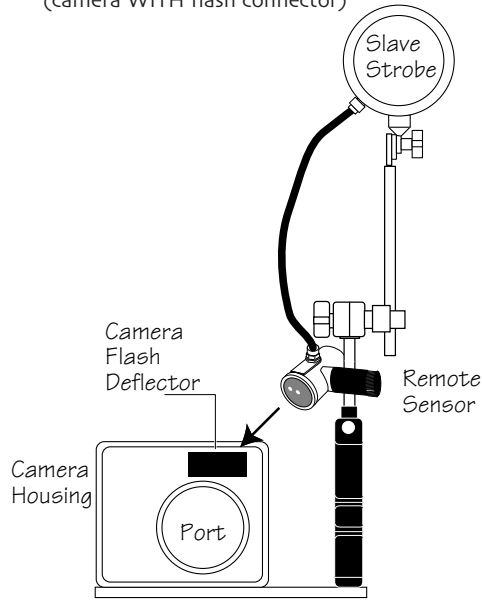
The sensor can be triggered by any manufacturer's strobe connected to the camera. The DS Sensor detects when the light from the TTL strobe connected to the camera starts and stops, and automatically signals the Ikelite Substrobe to start and stop in sync.

Please familiarize yourself with the features and functions of the system before trying the camera and strobes in the water.

APPLICATIONS

There are two basic applications for the Ikelite DS Sensor.

- Add an External Strobe (camera **WITHOUT** flash connection)
- Add a Second Strobe (camera **WITH** flash connector)



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ADD AN EXTERNAL STROBE Camera **WITHOUT** flash connection

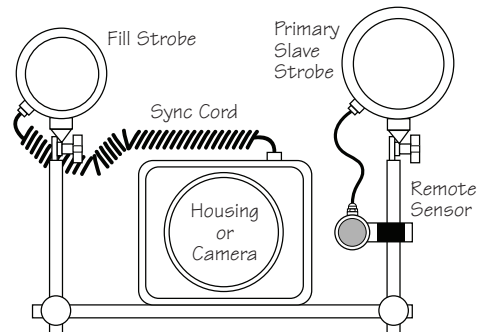
Some cameras feature a built-in flash without a means to connect a sync cord for an external strobe.

To trigger an external strobe, the solution is to deflect the light from the camera's built-in flash upward to the Ikelite DS Sensor, which triggers the Ikelite Substrobe to fire in sync with the camera's built-in flash. Many digital still camera systems use this application.

The camera must feature TTL/Auto exposure in order for the DS Sensor to signal the Substrobe to start and stop in sync with the TTL system.

Most digital still cameras fire their built-in flash more than once while taking a flash picture. This happens so fast it is difficult to see, but the preflash helps the camera determine focus, exposure and/or color balance. After the preflash, the camera's built-in flash then fires to illuminate the subject and the picture is taken. For the external strobe to provide proper exposure, it **MUST** be preflash compatible to duplicate the preflash and flash output.

Ikelite offers four preflash compatible Digital Substrobes, the DS50, DS51, DS125 and DS200. When connected with the DS Sensor, the sensor detects the light from the camera's built-in flash and instructs the Ikelite Digital Substrobe to mimic the preflash and flash sequence.



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ADD A SECOND STROBE Camera WITH flash connection

Avid photographers often use two strobes for more natural lighting, and the remarkable DS Sensor eliminates the need for a dual cord when using two strobes. Full TTL functions are provided through slave sensors enabling the second strobe to be moved freely and positioned virtually anywhere without the inconveniences of a connecting cord.

One strobe must be connected via a sync cord to the camera. Ikelite suggests linking the smaller fill strobe to the camera. ANY brand strobe can be connected to the camera and used as the fill strobe.

The DS Sensor then connects to the other strobe which **MUST** be an Ikelite Digital Substrobe. Use both strobes in the TTL/Auto mode for TTL automatic exposure. The Ikelite Substrobe will then operate as the primary slave strobe with full TTL/Auto functions. It performs in complete harmony with any brand TTL fill strobe connected to the camera. The DS Sensor detects the light output from the fill strobe, senses when the fill strobe quenches, and quenches the primary slave strobe in sync with the TTL/Auto exposure system.

The DS Sensor can also function as a non-TTL slave triggering device by placing the Ikelite Substrobe in the manual exposure mode.

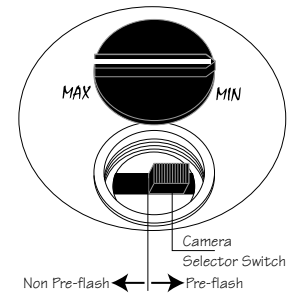
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CAMERA SELECTOR SWITCH

The DS Sensor features a camera selector switch, concealed behind the removable door. This door is located below the sensitivity knob on the back of the sensor.

Ikelite presets the camera selector switch for digital still cameras that feature preflash. Therefore, the switch is initially slid towards the right side of the sensor, as viewed from the rear. When using a preflash digital still camera, make sure the camera selector switch inside the compartment is slid to the right side. This preflash-compatible mode provides for longer preflash to reduce the chances of overexposure.

If you are using a digital camera that does NOT feature preflash or another type camera, then slide the camera selector switch to the left side of the sensor for the best exposure control.



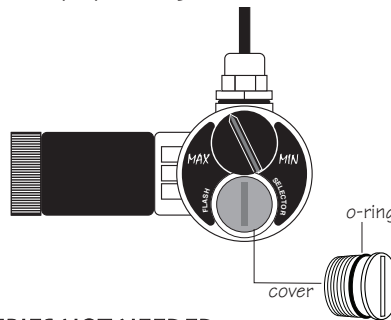
Sensor is automatically turned on and off as the strobe is turned on and off.

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OPENING THE COMPARTMENT

Make sure the DS Sensor is dry before opening the compartment. Use a coin to unscrew the door counter-clockwise. Note the position of the o-ring around the perimeter of the door. Keep the o-ring and sealing surfaces clean. Lightly lubricate the o-ring with silicone lubricant provided. Never use spray lubricant as it may crack the plastic.

After adjusting the camera selector switch, use a coin to secure the cover and hand-tighten to assure the proper o-ring seal.



BATTERIES NOT NEEDED

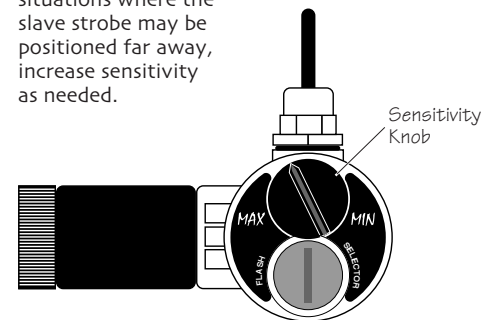
The sensor does NOT require batteries as it receives power from the Ikelite Digital Substrobe DS50, DS51, DS125 or DS200. The power drain on the strobe is negligible. The sensor is automatically turned on and off as the digital strobe is turned on and off.

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SENSITIVITY CONTROL

Rotate the knob on the DS Sensor to adjust the slave sensitivity. The range is approximately a minimum of 3m (10') to a maximum 15m (50') from the on-camera strobe. For most normal photographic situations, the minimum distance setting is adequate and recommended. This reduces the possibility that the slave strobe could detect someone else's strobe firing.

For cave photography or special lighting situations where the slave strobe may be positioned far away, increase sensitivity as needed.



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TTL/AUTO AND MANUAL MODES

The DS Sensor connects to the Ikelite Digital Substrobe DS50, DS51, DS125 or DS200 to operate the strobe as a primary slave strobe.

For automatic exposure, simply place all strobes in the TTL/Auto exposure mode. TTL/Auto exposure camera reads the light from the strobes passing thru-the-lens and automatically signals the strobes to turn off when the exposure is correct.

The DS Sensor can also function as a slave signaling device for manual exposure. Simply place the Substrobe connected to the sensor in the manual exposure mode. Also select the desired power setting on the strobe if offered.

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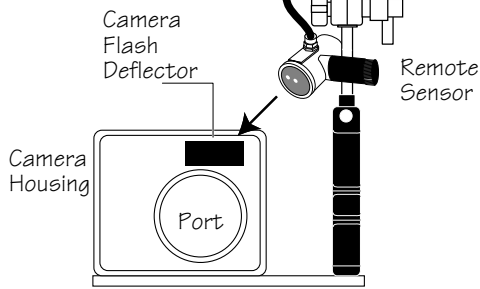
MOUNTING

The DS Sensor mounts to the arm of the Ikelite Substrobe. Select the appropriate mounting method based on the type of arm used.

For Digital Strobe Packages

When deflecting light from the camera's built-in flash upward to the DS sensor, we suggest mounting the sensor to the extended stem, which snaps into the quick-release handle on the housing.

Secure the sensor as described on the next page.



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MOUNTING continued

For Ikelite Strobe Arms (plastic knuckle)

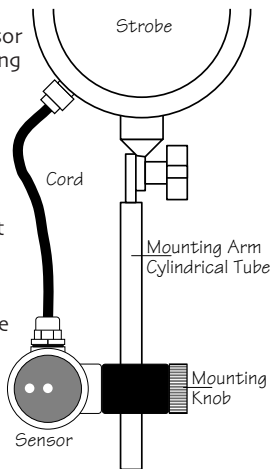
These Ikelite arms feature a removable 3/4 inch diameter cylindrical tube. Remove the tube from the mounting knuckle of the arm.

The sensor mounts directly to the tube of the arm. The rubber mount provided with the sensor is not used with this arm system.

Securing the sensor

Position the sensor with the cord pointing up. Loosen the mounting knob on the sensor by rotating it counter-clockwise, and insert the cylindrical tube thru the mount on the sensor.

Remote sensor can move up and down and also rotate 360° to properly position before tightening the knob to secure.



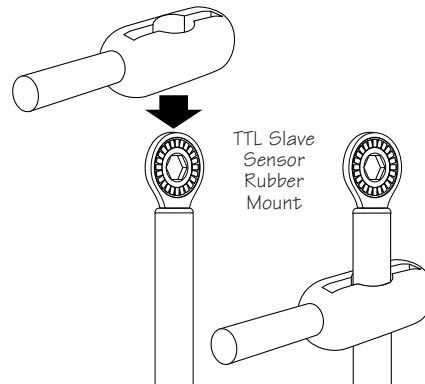
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MOUNTING continued

For Quick Grip Arms (aluminum ball-socket)

A rubber mount is provided with the DS Sensor which secures it to these arms.

Slide the rubber mount over the top of the arm and the rubber will grip the cylindrical tube. Loosen the mounting knob on the sensor by rotating it counter-clockwise. Position the sensor on the protruding stem of the rubber mount; tighten the knob to secure.



Remote sensor is not adaptable to Quick Grip II-c #4083.07 or Quick Release Handle #9578.07 (handle is too short to accommodate sensor).

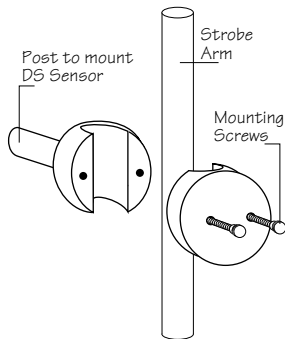
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MOUNTING continued

For Macro Grip Arms (aluminum ball-socket)

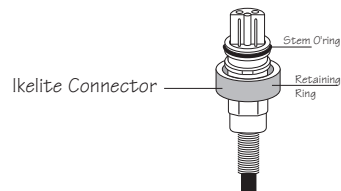
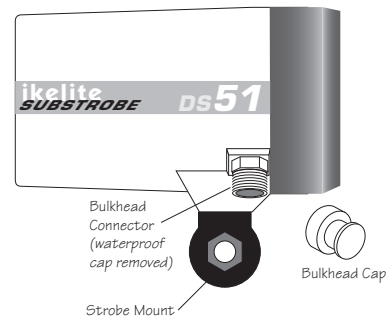
These arms feature balls at each end of the arm so the rubber mount provided does not slide directly onto the arm. Therefore, optional Ikelite mount #9580 is required to mount the sensor.

The mount #9580 clamps around the cylindrical tube of the arm. Loosen and remove the two thumbscrews from the mount #9580. Position the mount around the tube of the arm and resecure the two thumbscrews. Loosen the mounting knob on the sensor by rotating it counter-clockwise. Position the sensor on the protruding stem of the mount #9580; tighten the knob to secure.



#9580 Sensor Mount

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CORD CONNECTION

The short cord on the DS Sensor connects to the female bulkhead connector on the Ikelite Digital Substrobe DS50, DS51, DS125 or DS200.

DO NOT use the sensor with other model Ikelite TTL Substrobes or another brand strobe.

Connecting the Cord

The connector threads are very fine;
DO NOT cross thread.
If it is difficult to turn, you are cross threading.

1. Turn the Substrobe OFF and make sure all components are dry. Clean and lightly lubricate the stem o-ring and the strobe bulkhead connector threads. Check o-ring for nicks or cuts. Never use spray lubricant.
2. Note the positioning of the receptacles and pins. Properly align the end of the cord on the sensor and insert into the bulkhead connector.
3. Hand-tighten the knurled retaining ring on the cord. Push the connector body further into the bulkhead connector and continue to tighten the knurled ring to secure the cord.

DO NOT remove the cord from the strobe underwater or when wet. Connection is NOT waterproof when disconnected.

DO NOT leave the cord connected for prolonged periods. Otherwise, the cord may freeze to the strobe. After each dive, disconnect the cord and lightly lubricate the connector threads.

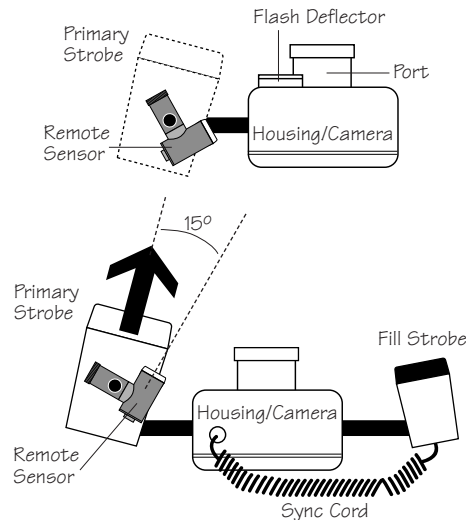
Never use spray lubricant.

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AIMING

For proper aiming, the DS Sensor should be pointed towards the camera's built-in strobe or fill strobe rather than towards the subject.

The sensor should be positioned at least 15° off center from the aiming of the connected Substrobe. This allows the sensor to detect the quenching of the camera's strobe and eliminates the possibility of the connected Substrobe firing at full power simply because the sensor detects only the light intensity from the Substrobe.



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READY LIGHT

Remote sensor is automatically turned on and off as the strobe is turned on and off.

There is no ready light indicator on the DS Sensor. Reference the visual ready light on the Substrobe for indication when it has recycled and is ready to fire.

TECHNIQUES

The purpose of a strobe is to illuminate the subject and bring out the subject's true colors. Due to the loss of color when light passes through water, move in on your subject to photograph thru as little water as possible. The maximum recommended lighting distance with ANY STROBE underwater is about 2m (6').

For balanced lighting between your subject and the background, meter the available light and set the camera aperture accordingly. A narrower aperture darkens the background. A wider aperture may over-expose photograph. If the exposures are consistently over or under exposed, an exposure compensation control may be featured on the TTL/Auto exposure camera that can be adjusted to compensate accordingly.

Ratioed TTL lighting can be accomplished with Ikelite DS Sensor by positioning the connected Substrobe approximately 30cm (1') closer to the subject than the on-camera strobe.

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MAINTENANCE

The Ikelite DS Sensor should be given the same care and attention as your other photographic equipment.

1. Always rinse the exterior of the DS Sensor and Substrobe with fresh water after use. Make sure the cord is connected between the units for the proper waterproof seal. The units can be cleaned by soaking them in a mild soapy solution. Use liquid soap; RINSE and DRY both before storage.
2. Keep the battery cover o-ring and threads clean and lightly lubricated. Keep the sync cord o-ring and threads clean and lightly lubricated. DO NOT leave the cord connected to the strobe for prolonged periods as electrolysis can make removal impossible.
3. With exception of the battery cover, the remote sensor is factory sealed. DO NOT disassemble the sensor.

LUBRICANT

Silicone lubricant is provided.

Use only enough lubricant to lightly cover the o-ring; wipe off any excess with a clean cloth. Lubricant only reduces friction; it is NOT a sealant.

DO NOT use spray lubricant as it may crack the plastic.

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VISUAL INSPECTIONS

Visual inspections are important. Take the time to visually inspect the system above water. An improper seal or a loose connection can cause a lot of damage. Always check for leaks once you place the system in the water.

INSURANCE

We recommend adding an ALL RISK floater to your homeowner's insurance policy in the event you damage, flood, or lose your camera or strobe. While the Ikelite DS Sensor has a limited warranty against manufacturing defects, it does not cover customer neglect.

BATTERIES

Always carry spare batteries. Weak batteries cause many camera and strobe problems. It is possible to buy bad "new" batteries; check the voltage output with a meter.

No battery is required in the DS Sensor. The DS Sensor is powered by the Digital Substrobe DS50, DS51, DS125 or DS200, and the power drain on the strobe is negligible.

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Ikelite Limited Warranty

This Ikelite product is warranted against any manufacturing defects for a period of two (2) years from the date of purchase. Defective products should be returned prepaid to Ikelite. Ikelite will, at its discretion, repair or replace such products, and will return to customer prepaid. All other claims, of any nature, including but not limited to bulb failure are not covered. Except as mentioned above, no other warranty expressed or implied, applies to this Ikelite product.

We recommend adding an ALL RISK floater to your homeowner's insurance policy in the event you damage, flood, or lose your camera or strobe. Ikelite warranty does NOT cover customer neglect.

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