

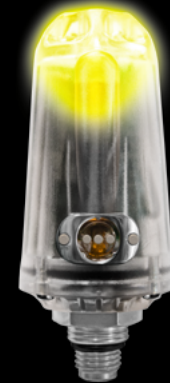
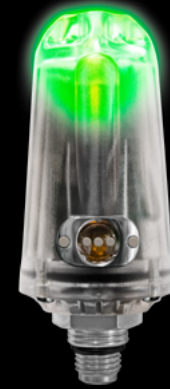


RATIO
COMPUTERS

CC Transmitter

Ratio® Color-Coded Wireless
Transmitter for iDive and iX3M
"Transmitter Ready"

User Manual
ver. 1.1



Attention: requires OS 4.x.x
and a compatible iDive or iX3M.

Think Green

If possible do not print this manual.
Use your tablet or your PC to consult it .





Warning!



This is NOT the user manual of the
iDive/iX3M dive computer.

You can download the user manual of your
RATIO[®] dive computer from:
www.ratio-computers.com
("support" area)

In order to pair the CC Transmitter to your iDive or iX3M the OS 4.x.x of higher have to be installed in your "Transmitter Ready" unit. You can update the OS installed in your iDive or iX3M "Transmitter Read" using the DiveLogger.

All the iDive and iX3M that can be paired with the CC Transmitter have a "Transmitter Ready" label on the box. If you have not the original box, check this clues in order to understand if your iDive/iX3M can be paired with the Ratio® CC Transmitter:

COMPATIBLE



All* the iDive Sport Edition can be paired with the Ratio® CC Transmitter.

*No "iDive Free" model can paired with the Ratio® CC Transmitter.

COMPATIBLE



NOT COMPATIBLE



iDive Avantgarde edition units that has "iDive" on the top glass can be paired with the Ratio® CC Transmitter.

iDive Avantgarde edition units that has "iDive MODEL NAME" (e.g. iDive Free, iDive Deep, iDive Tech ...) on the top glass can **NOT** be paired with the Ratio® CC Transmitter.

*No "iDive Free" model can paired with the CC Transmitter.

NOT COMPATIBLE

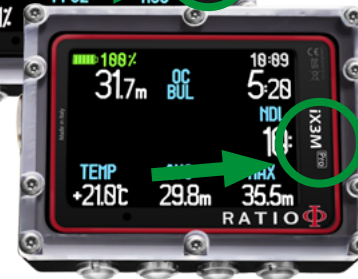


iX3M units that has "iX3M" only label on the top face can **NOT** be paired with the Ratio® CC Transmitter.

COMPATIBLE



iX3M units that has "iX3M GPS" or "iX3M PRO" label on the top face can be paired with the Ratio® CC Transmitter.



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Introduction

Thank you for having purchased the RATIO® CC Transmitter.

RATIO®, with the quality of its products, always stands by you to guarantee comfort, leisure and safety when diving.

Check periodically the presence of possible updates of this manual on web site www.ratio-computers.com
The manual version (e.g. 4.0) is shown on its cover.

Important Warnings



General Warnings about the CC Transmitter

It is necessary to read this manual carefully before using the computer RATIO®. A wrong use of this computer or its accessories will nullify the warranty and could cause permanent damages to the device and/or its accessories.

- The diving computer DOES NOT replace an adequate diving training and should be used only by those divers who have been opportunely trained.
- The Ratio® CC Transmitter DOES NOT replace the PRESSURE GAUGE, so it is compulsory having always a working pressure gauge for each tank. Even if the CC Transmitter is working properly it is always suggested to check from time to time the pressure gauge.
- The RATIO® computer and the CC Transmitter are auxiliary instruments to the dive, so it is compulsory having always an appropriate diving chart and a pressure gauge for each tank in order to carry out the decompression phase in case the devices are malfunctioning.

- Diving has some intrinsic risks which cannot never be completely eliminated.

No computer or diving chart can guarantee that the risk of Decompression Disease (DD) or Oxygen toxicity to the central nervous system don't exist, even if the diver follows meticulously and accurately the indications given by the computer or the diving chart.

IMPORTANT WARINIG: THIS IS NOT THE MANUAL OF THE DIVE COMPUTER, this is the manual of the Ratio® CC Transmitter (an accessory of the dive computer). It is mandatory to read the "Warnings" of the manual of the Ratio® dive computer before to dive! The User manual of your Ratio® dive computer is available on: www.ratio-computers.com/support



Danger Warnings about the CC Transmitter



WARNING: DO NOT EXPOSE THE CC TRANSMITTER TO PRESSURE HIGHER OF 300 BAR (4351 Psi)

Max readable pressure: 250 BAR (3625 Psi)

Max supportable pressure: 300 BAR (4351 Psi)

The Ratio® CC Transmitter IS NOT meant for a PROFESSIONAL use.

The Ratio® CC Transmitter is meant exclusively for a sport use (recreational or technical).

- A use which is not compliant to what has been said above, could expose the diver to an increasing risk of incurring in the Decompression Sickness (DCS). For this reason we discourage its use in case of professional or commercial dives, unless it is used as an operator's further support device.
- Before dive it is necessary to check the battery autonomy. It is suggested not to dive if the battery level is at 30% (red light) or at lower percentages; (it is mandatory to have a pressure gauge of each tank used)
- Before the dive check the integrity of the CC Transmitter. The CC Transmitter have not to have rifts, cracks, damages or similar, that the seals on the screws are present and that the CC Transmitter has not been altered in any way. If the CC Transmitter has been damaged in any way do not use the CC transmitter.
- Never lift or carry your tank by holding the CC Transmitter. This may damage the CC Transmitter!

WARNING: DO NOT USE the CC Transmitter that has been damaged !

Using a CC Transmitter that has been damaged in any way is dangerous! Do not assembly the CC Transmitter to your first stage if the CC Transmitter or the first stage are damaged. Always refer to the safety check of the pressure gauge and HP hoses as you have been trained during your diving certification training. If you have not received a proper dive training or if you do not know and accept that kind of risk, do not use the Ratio® CC Transmitter.

Refer to your instructor or to your diving certification agency to get instructions about how to manage High pressure ports.

IMPORTANT WARINIG: THIS IS NOT THE MANUAL OF THE DIVE COMPUTER, this is the manual of the Ratio® CC Transmitter (an accessory of the dive computer). It is mandatory to read the "Warnings" of the manual of the Ratio® dive computer before to dive! The User manual of your Ratio® dive computer is available on: www.ratio-computers.com/support



Care and Maintenance

- Keep the CC Transmitter clean and dry. DO NOT expose the CC Transmitter to chemical agents, alcohol included. To clean the CC Transmitter use exclusively fresh water, removing all salt sediments. Leave the CC Transmitter dry naturally, without using cold or warm air jets.

WARNING: Clean the CC Transmitter when plugged to the first stage. The pressure hole of the CC Transmitter have to be protected from the water. Washing the CC Transmitter unplugged from the first stage can cause flooding.

If not assembled to the first stage always place the protection cap to the CC Transmitter.

- Do not expose the CC Transmitter to the sun directly or to heat sources higher than 50°C. Store the CC Transmitter in a fresh (5°C-25°C) and dry place.
- Do not attempt to open, modify or repair the CC Transmitter by yourself. You must always address to a RATIO service center.
- The warranty is void if the seals of the CC Transmitter are broken.
- Do not put the CC Transmitter inside a hyperbaric chamber.
- Il computer RATIO e la Sonda CC sono costruiti per resistere all'uso in acqua di mare ma al termine dell'immersione bisogna sciacquare bene in acqua dolce e non esporre direttamente ai raggi solari o fonti di calore per farli asciugare.
- Make sure that there is no humidity signs inside unit

WARNING: Do not try to open the CC Transmitter for any reason.

Any problem, turn to a RATIO® authorised center or to RATIO® Computers support.

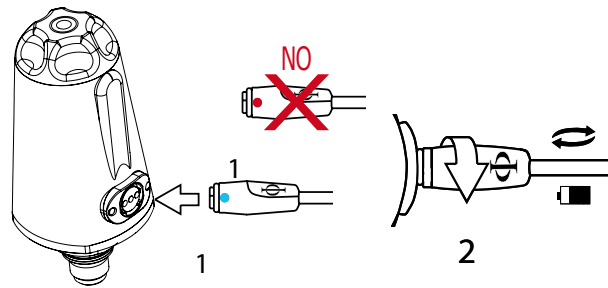
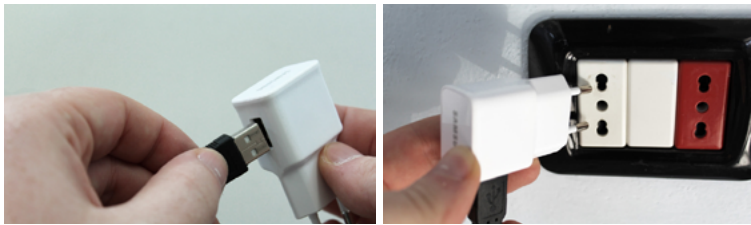


How to recharge the battery

The Ratio® CC Transmitter has a rechargeable Li-Ion battery without memory effect, the given autonomy data may change of +/-15% depending on the environment temperature.

ATTENTION: Charge the CC Transmitter completely before using it for the first time.

Recharge the CC Transmitter using a USB wall charger (not included) and the “Blue-dot” USB cable of your iDive or iX3M (a spare USB cable is not included with the CC Transmitter). The USB cable that can be used to recharge the CC Transmitter have a blue dot on the connector. Do not use “red-dot” USB cable to recharge the CC Transmitter, it can damage the connector of the CC Transmitter. During the recharge the CC Transmitter lights up in blue. The recharge is completed when the CC Transmitter turns off.



We recommend to use an USB wall charger (as the one of your mobile phone/tablet) to recharge the CC Transmitter. In case of use of a PC/Mac USB charger (not recommended), make sure that the PC/Mac doesn't interrupt the electricity supply when in stand-by. Recharge the CC Transmitter with a PC/Mac is however not recommended because there is the risk to carry out only a partial recharge cycle.

The CC Transmitter has 100 diving hr of autonomy with a single charge (this data may change of +/-15% depending on the environment temperature) or 2 years of stock (if the CC Transmitter was fully charged before the stock)

Even if the CC Transmitter new generation Li-Ion battery hasn't the memory effect, it is however recommended to recharge it completely. The average recharge time is 3-5 hours, depending on the battery residual charge level.

Once the battery is completely charged, even if the device remains connected to electricity, the CC Transmitter interrupts the electricity feeding automatically. Anyway is suggested not to charge the CC Transmitter over 8 hr.

Attention: Do not leave the RATIO[®] CC Transmitter completely discharged for a long period (for ex. 1-2 months). This may damage the battery. The Ratio[®] CC Transmitter registers an alarm if left without charge for long time. This event is not covered by warranty. In case of long term stock recharge the CC Transmitter and remember to recharge it from time to time.



Prepare the CC Transmitter for the dive

Install the CC Transmitter on the first stage

The CC Transmitter have to be installed on an HP (High pressure) port of your first stage.
Refer to the user manual of your regulator in order to find the right port on your first stage.

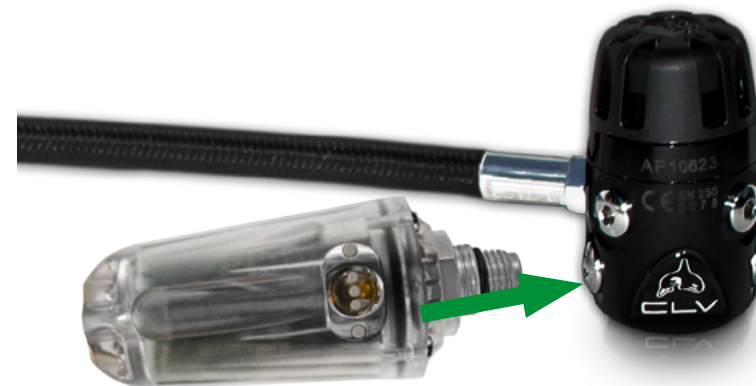
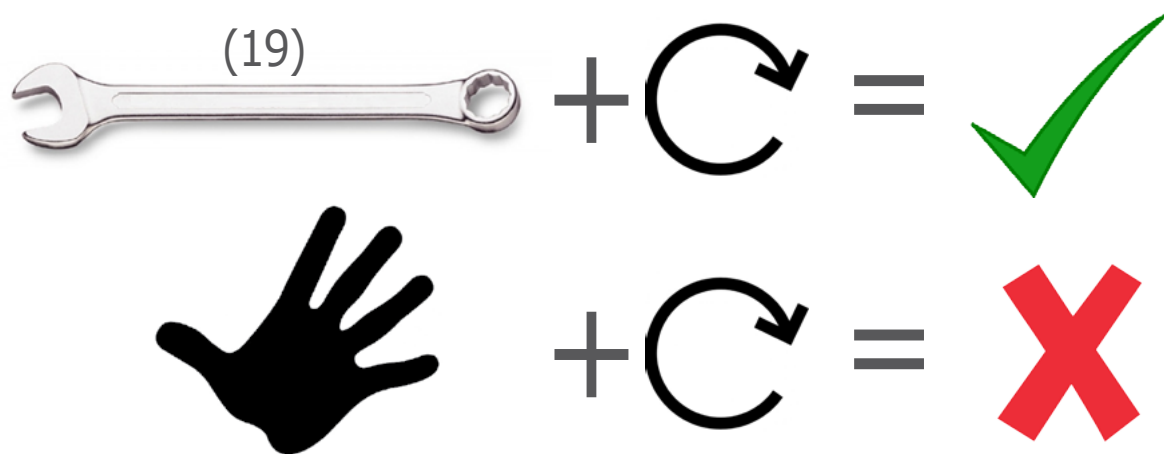
Install the CC Transmitter with the same technique, care and attention used to install the HP hose of your gauge.
Take care that the CC Transmitter does not mess with the other hoses of your first stage.

WARNING: Use a wrench (size 19) to tight the CC Transmitter! Grabbing the CC Transmitter from its body to tight it by hand can seriously damage the CC Transmitter!

Always double-check that the O-ring at the end of the CC Transmitter thread is on its place, clean, not damaged and greased. If not, change the O-ring (O-Ring HP: 8,73x1,78 NBR 70)

WARNING: If you do not know how to install an accessory to the HP port on your first stage ask your instructor !

If the CC Transmitter is damaged do not install it!



This is just an example.
Your first stage can be different.

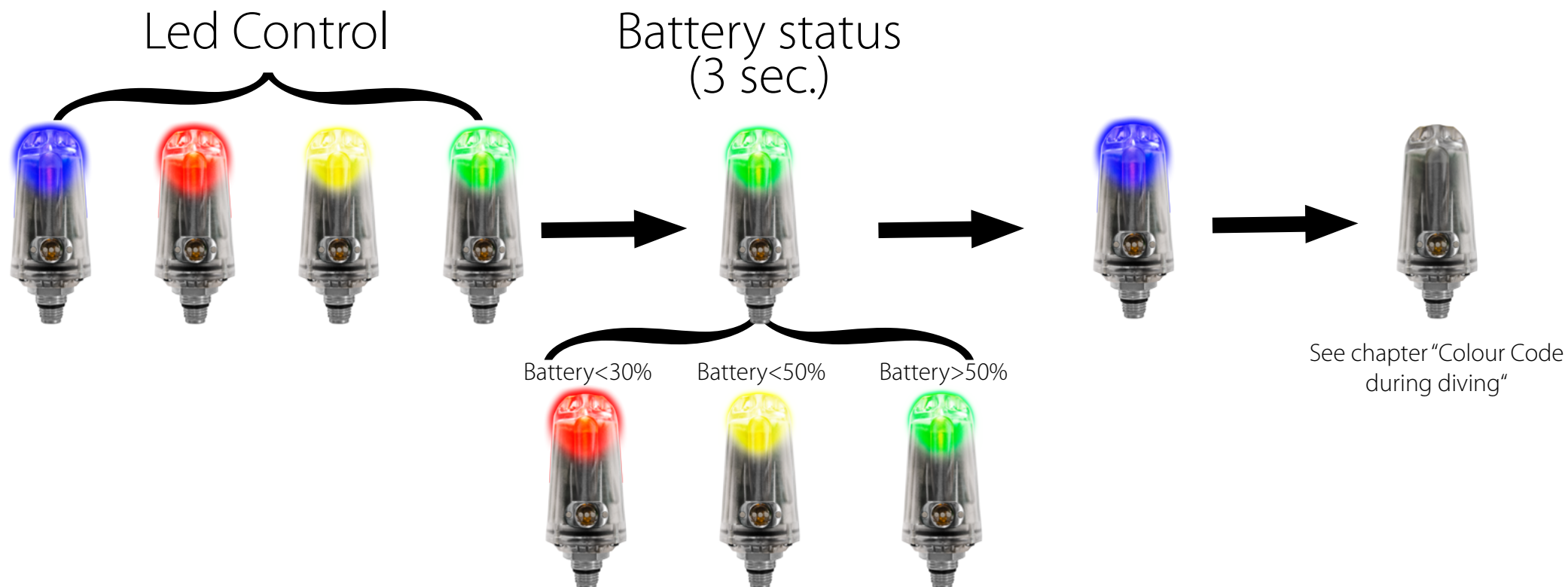
Turn on the CC Transmitter and check the battery

CC Transmitter automatically powers up as soon as the tank pressure is detected.

In order to turn on the transmitter, it is necessary to connect it to a tank and then open the tank valve. It is always advisable to open the tank gradually, and in case gas loss from any of the tools applied to the tank is perceived, close the tank.

WARNING: If you do not know how to safely open a tank, refer to your instructor!

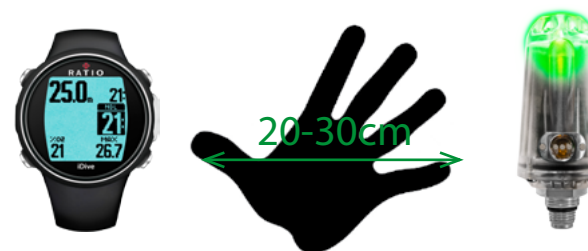
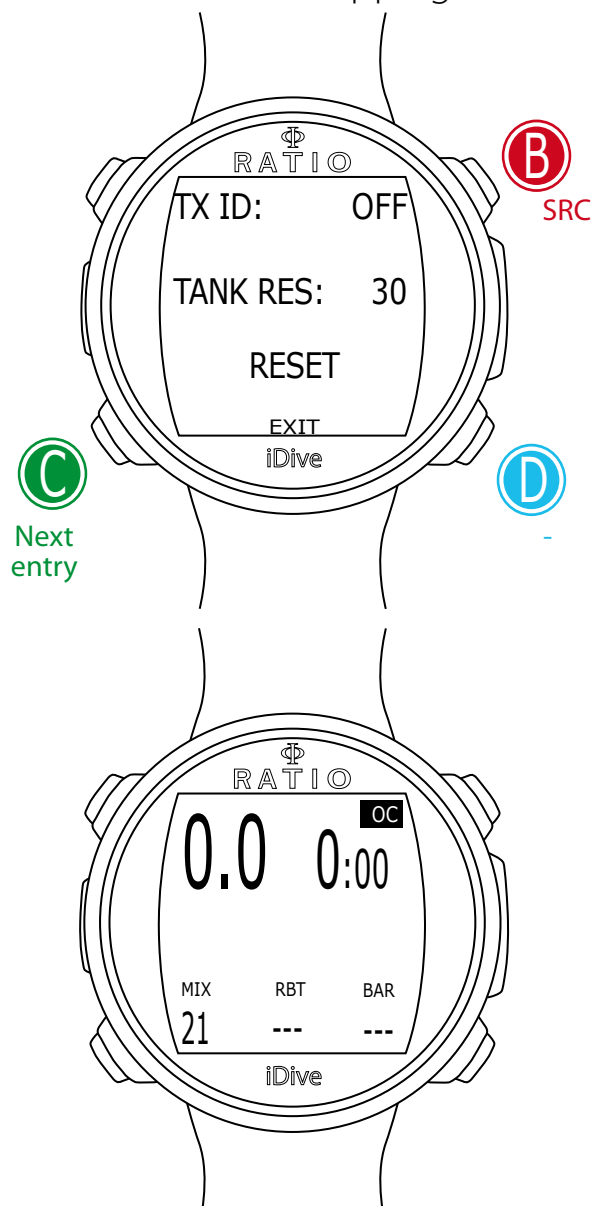
During the boot phase, the transmitter carries out a checking of the leds by powering them up in string (Blue -> Red -> Yellow ->Green), and after that it indicates the battery level by powering up one of the three leds for three seconds, according to the battery status (see below chart). Finally, it confirms the end of the boot phase with a blue flash. Once the boot phase is concluded, the CC Transmitter starts to show the tank pressure through the Colour Code system.



Pair the CC Transmitter to your iDive

After powering up the CC transmitter, go on TRANSMIT menu on your iDive (by pressing the bottom-left button on the watch screen and swipping the menu entries).

Place the iDive about 20-30cm from the CC Transmitter (Attention: If you place the CC Transmitter too close to the iDive the pairing procedure may not work properly).



Press B to start the search of the CC Transmitter (SRC).

As soon as the Pair is done, the TX ID of the CC Transmitter will be displayed.

(Each CC Transmitter has 31 TD ID channels, the TX ID is randomly assigned in order to avoid interferences with other CC Transmitters. To change the TX ID of your CC Transmitter see the dedicated chapter on this manual).

In order to check the correct pair of the CC Transmitter activate the dive mode in your iDive. Within about 30 sec. the tank pressure will be displayed in the bottom-right corner of the display (BAR)

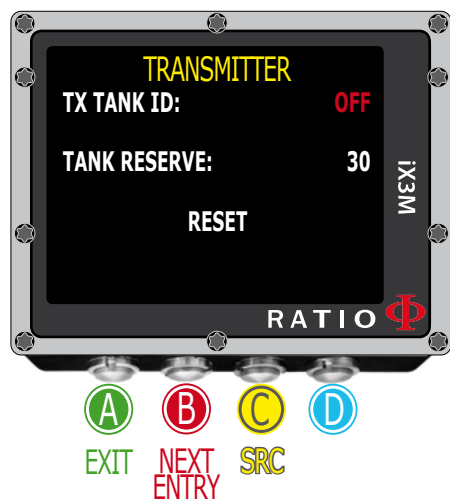
(RBT will be displayed only during the dive. See dedicated chapter on this manual)

After the first pair your iDive and your CC Transmitter will connect automatically (the iDive have to be in dive mode).

Attention: Using the CC Transmitter will reduce the autonomy of your iDive at about 20 diving hours. Set the TX ID on "OFF" in you are not using a CC Transmitter.

Pair the CC Transmitter to your iX3M

After powering up the CC transmitter, go on TRANSMIT menu on your iX3M (by pressing the first button from the left from the watch mode and wipping the menu entries).



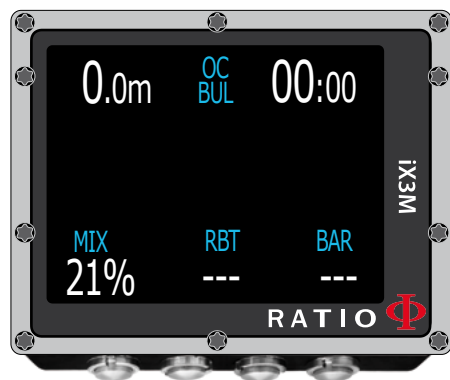
Place the iX3M about 20-30cm from the CC Transmitter (Attention: If you place the CC Transmitter too close to the iX3M the pairing procedure may not work properly).



Press C to start the search of the CC Transmitter (SRC).

As soon as the Pair is done, the TX ID of the CC Transmitter will be displayed.

(Each CC Transmitter has 31 TX ID channels, the TX ID is randomly assigned in order to avoid interferences with other CC Transmitters. To change the TX ID of your CC Transmitter see the dedicated chapter on this manual).



In order to check the correct pair of the CC Transmitter activate the dive mode in your iDive. Within about 30 sec. the tank pressure will be displayed in the bottom-right corner of the display (BAR)

(RBT will be displayed only during the dive. See dedicated chapter on this manual)

After the first pair your iX3M and your CC Transmitter will connect automatically (the iX3M have to be in dive mode).

Attention: Using the CC Transmitter will reduce the autonomy of your iX3M of about -15%. Set the TX ID on "OFF" in you are not using a CC Transmitter.

Change the TX ID of the CC Transmitter

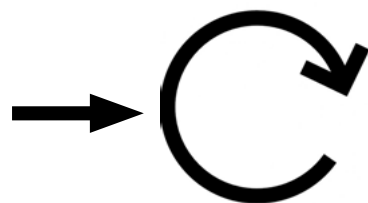
In case you experience interferences with other CC Transmitters you have to change the transmission channel (TX ID) of your CC transmitter.

Each CC Transmitter has 31 TX ID channels, the TX ID is randomly assigned, and it is saved in the memory of CC Transmitter. It can be changed with a complete discharge of the battery (not suggested) or following this procedure:

Install the CC Transmitter of the first stage (on a tank)



open the tank valve



close the tank valve



On your second stage press the purge button (usually on the front of the second stage) and completely purge the pressure in the regulator before the boot phase of the tank is finished. Wait 30 seconds and power up the CC Transmitter.

After a TX ID reset a new pair with your iDive or iX3M is needed

Select RESET on your iDive or iX3M (TX ID will be set as OFF) and perform a new pairing (see dedicated chapter on this manual)

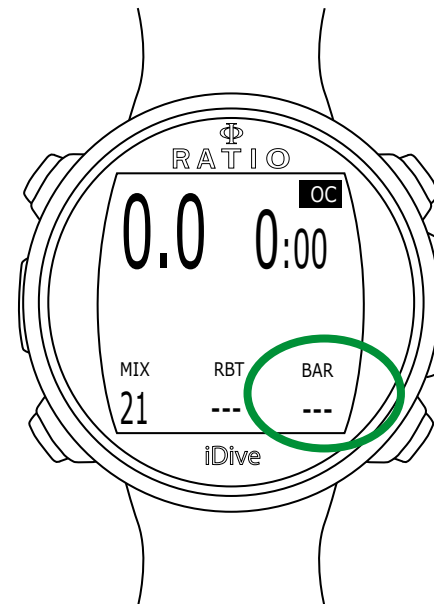
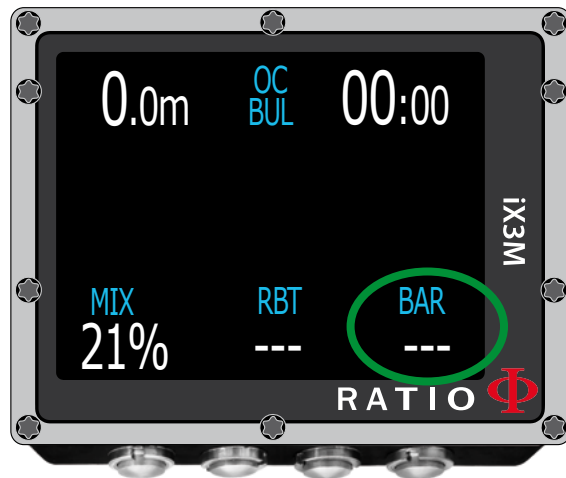
The CC Transmitter during the dive

BAR / Psi:

The BAR value (Psi if the imperial unit system is set) is displayed in the bottom-right part of the screen of your iDive or iX3M. The BAR/Psi value shows how many Bar/Psi of gas are left in your tank.

The BAR/Psi value is shown 30 seconds after the connection between the iDive/iX3M and the CC Transmitter. The BAR/Psi value is updated every 5 seconds during the dive.

In case the connection between the CC Transmitter and the iDive/iX3M would be instable or jammed for more than 1 minute the BAR/Psi value will be hidden ("---"). The BAR/Psi value will be ripristinated as soon as the communication is stable for more than 1 minute.



RBT and TANK RESERVE:

The RBT (Remaining Bottom Time) is shown in the bottom-center part of the screen of your iDive/iX3M

The RBT is calculated according to your current breath rate. It may take up to 2-5 minutes in order to let the iDive/iX3M collect enough data to calculate your breath rate. The RBT is hidden ("---") if not enough data have been collected from the iDive/iX3M. The RBT value is personal and can be different from person to person (even at same depth and same tank pressure)

RBT in no-deco dives

If no mandatory deco stops are required for your dive (safety stop and deep stop are not considered mandatory deco stops) the RBT value is the time (in minutes) that you can stay at the current depth with your current breath rate before your tank pressure reaches the TANK RES (tank reserve) set in the TRANSMITTER menu.

E.g. (If TANK RES. = 30 in TRANSMITTER menu)

If no mandatory deco stop are required, your RBT will be "0" when there will be 30 BAR of pressure left in your tank.

You can set the TANK RES value (from 10 Bar to 50 Bar) from the TRANSMITTER menu in your iDive/iX3M

WARNING: The RBT is a pure statistic value! The iDive/iX3M can not predict behaviours that can alterate your breath rate like anxiety, stress or similar.

It can be used just as a mere statistic information. The RBT can never replace a correct scheduling of the dive and the knowledge of your physical or mental status.

NEVER use the RBT to extend your dive over the scheduled time.

If you do not know how to schedule a dive, ask your diving instructor!



RBT in Deco-stops dives

If your dive requires deco stops (safety stop and deep stop are not considered mandatory deco stops) the RBT is the time (in minutes) that you can stay at your current depth with your current breath rate, before, considered the time that you will need to perform the required deco-stops your tank pressure reaches the TANK RES (tank reserve).

E.g. (If TANK RES. = 30 in TRANSMITTER menu and the dive requires mandatory deco stops)

The RBT will be "0" when in your tank there will be enough Bar/psi to let you ascent (with standard speed) and perform the mandatory deco-stop (deep stops are not considered mandatory deco stops) in order to let you have 30 Bar left in your tank after the end of your last deco stop.

You can set the TANK RES value (from 10 Bar to 50 Bar) from the TRANSMITTER menu in your iDive/iX3M

WARNING: The RBT is a pure statistic value! The iDive/iX3M can not predict behaviors that can alter your breath rate like anxiety, stress or similar.

It can be used just as a mere statistic information. The RBT can never replace a correct scheduling of the dive and the knowledge of your physical or mental status.

NEVER use the RBT to extend your dive over the scheduled time.

If you do not know how to schedule a dive, ask your diving instructor!



The Color-Code during the dive:

The Ratio® CC Transmitter will let your buddy or your diving instructor know the status of your tank even from distance.

If you need to hide the status of your tank (eg. a diving instructor when teaching) the dedicated “black-out” cap is available.
Do not applies paint, solvents or similar to the CC Transmitter. That may damage the CC Transmitter and void any warranty.

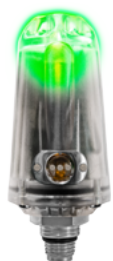
During the dive the CC Transmitter will flash up in green, yellow or red, according to the pressure left in your tank



3 GREEN flashes:
pressure between
200 and 250 Bar



2 GREEN flashes:
pressure between
150 and 200 Bar



1 GREEN flash:
pressure between
150 and 100 Bar



1 YELLOW flash:
pressure between
100 and 50 Bar



1 RED flash:
pressure between
50 and 1 Bar

The CC Transmitter after the dive

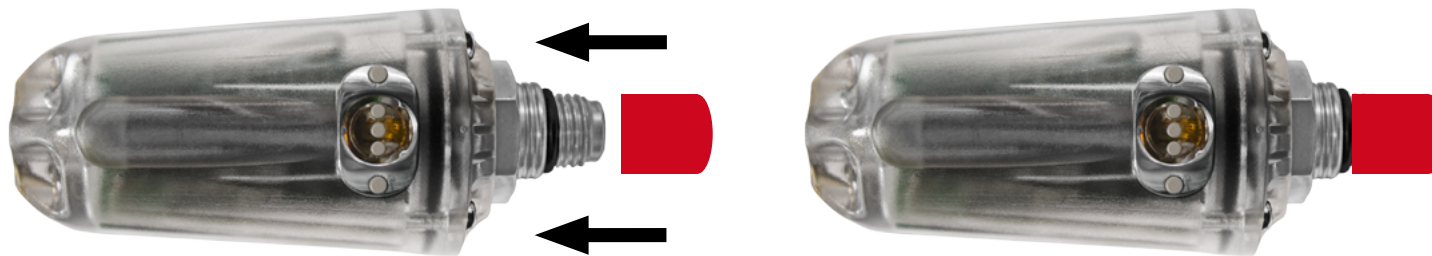
The CC Transmitter will automatically turn off 30 seconds after no pressure is detected.
(Close the tank's valve and purge the pressure from the second stage)

To clean the CC Transmitter use exclusively fresh water, removing all salt sediments. Leave the CC Transmitter dry naturally, without using cold or warm air jets.

WARNING: Clean the CC Transmitter only when plugged to the first stage. The pressure hole of the CC Transmitter have to be protected from the water. Washing the CC Transmitter unplugged from the first stage can cause flooding.

You can choose to left the CC Transmitter installed on your first stage or to disassemble it from the first stage.
If not assembled to the first stage always place the protection cap to the CC Transmitter.

Always protect the CC Transmitter from impacts, falls or similar (refer to "care and maintenance" on this manual)



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