

Transmitters for Dive Computers: A Small Gadget That Has Changed the Way We Dive

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Do you remember the feeling when you first used a dive computer instead of tables? That freedom to follow your own profile and see bottom time and decompression in real time. Many divers are now experiencing that same sense of technological wonder again, but with an even smaller detail: the transmitter.

The small device that sits on the tank and sends pressure data directly to your dive computer has done something quite simple yet revolutionary. It has given us full control below the surface.

First dive with a transmitter

I remember my first dive with a transmitter. I was at a depth of 20 metres at a wreck outside Stockholm, visibility was decent, and I glanced at my wrist—172 bar remaining—all in one window on my dive computer.

No pressure gauge hanging and banging against my suit, no bubbles obscuring the numbers. Just a clean number, updated every second. It sounds trivial, but it felt like I had acquired a whole new language underwater. That was also when I

realised how much technology can make diving easier without taking away the feeling of freedom.

What exactly is a transmitter?

A transmitter is a small electronic piece that you screw into the regulator's high-pressure port. It measures the pressure in the tank and sends the information wirelessly to your dive computer.

It sounds simple, but the effect is enormous. Suddenly, you do not have to check a separate pressure gauge. You have all the data right on your wrist: pressure, air consumption and remaining dive time.

There are two main types:

- **Simple pressure transmitters**, which only show how much air you have left.

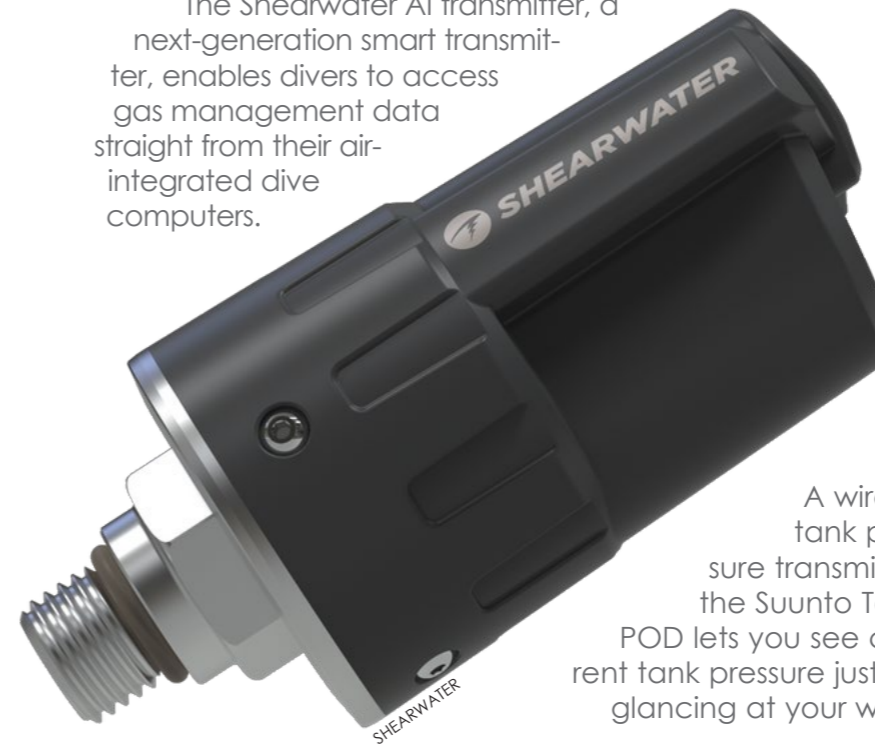
- **AI (Air Integrated) transmitters**, which integrate with the dive computer's algorithms and also calculate your air consumption and Air Time Remaining (ATR).

How the transmitter communicates with your dive computer

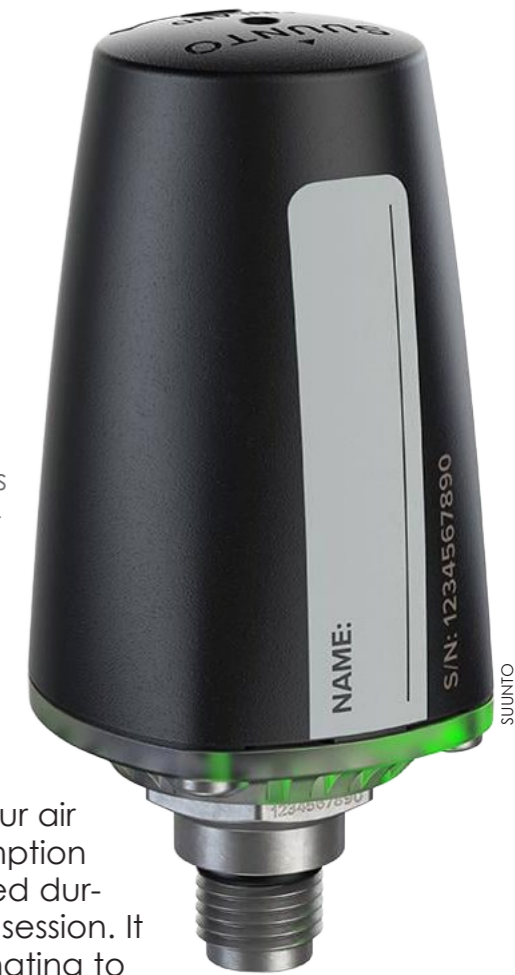
Most transmitters communicate via ultrasound or low-frequency radio, usually around 38 kHz. The range is just over a metre, but that is enough, as the signal travels from the regulator to your wrist without any problems.

When you use it for the first time, you pair the transmitter with your computer—just like connecting wireless headphones to your mobile phone. When you open the tank valve, the transmitter wakes up, sends

The Shearwater AI transmitter, a next-generation smart transmitter, enables divers to access gas management data straight from their air-integrated dive computers.



A wireless tank pressure transmitter, the Suunto Tank POD lets you see current tank pressure just by glancing at your wrist.



its unique ID signal, and the computer responds. Then they are “friends” for a long time to come.

And yes, the signal works even if you swim up and down. After all, it has been tested by divers who do just that all the time.

Why use transmitters?

Once you have tried it, it is hard to go back to the “old” analogue pressure gauge.

1. You get a complete overview

The air pressure is displayed in real time on your dive computer, along with depth, dive time and temperature. You no longer need to fumble for the pressure gauge. It feels safe and modern.

2. You can see how long your air will last

AI dive computers with transmitters calculate how long you can stay at your current depth. If you dive deeper or start breathing more, it adjusts that time immediately. This gives you a clear picture of your margins.

3. You get to know your own breathing

After the dive, you can see exactly

how your air consumption changed during the session. It is fascinating to follow, especially if you are training to lower your SAC value. Many divers find that they breathe much more calmly after just a few dives with transmitter data.

4. Fewer hoses, less hassle

Without the pressure gauge hose, you get a cleaner setup, which means less risk of getting snagged, less weight and a sleeker profile.

5. Perfect for technical diving

Some dive computers can handle multiple transmitters simultaneously. This means you can have one for each gas cylinder, and some computers switch automatically when you change gas. This is invaluable for technical and sidemount divers.

But everything has its downsides

Accurate display. Accurate display is good, but it is easy to reduce the margins when the computer shows how long the gas will last.



The Garmin Descent T1 transmitter lets you keep an eye on tank pressure, remaining air time and air consumption rate for various types of diving.

The batteries. The transmitters are usually powered by CR2 or 3V lithium batteries that last for 100–300 dives. Replacement is easy but requires precision. If you fail to lubricate the O-ring properly, you risk water ingress.

Temporary signal loss. Sometimes the signal disappears if the transmitter is covered by the body or interfered with by metal. However, most dive computers buffer the latest value, so this is rarely a problem.



AQUALUNG

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The cost. A transmitter costs between 200 and 500 EUR/USD. It is an investment. However, compared to what we spend on suits, lights and travel, it is often well worth it.

Compatibility. Not all brands “speak” the same language. A Suunto transmitter does not work with a Shearwater model, and Garmin’s SubWave technology is in a world of its own. Always check compatibility before buying.

Favourites on the market

- **Suunto Tank POD** – reliable, easy pairing, long battery life. Compatible with EON Steel, EON Core and D5.
- **Shearwater AI Transmitter** – robust and popular among technical divers.
- **Garmin T1** (SubWave™) – impressive range and the ability to share



Aqualung’s transmitters, when used with a compatible wrist computer, let you keep track of current pressure and remaining gas time without having to deal with a cumbersome high-pressure hose, thus offering a more streamlined profile.

The Scubapro Smart+ Pro, a low-profile transmitter that screws into the high-pressure port on your first stage, sends tank pressure data and true remaining bottom time (RBT) to your dive computer screen.



SCUBAPRO

data between multiple divers.

- **Scubapro Smart+** – a classic with a stable signal and proven technology.
- **Aqualung Transmitter 2.0** – user-friendly and affordable for recreational divers.

Care and tips

Transmitters are durable, but like all equipment, they require care:

- Always rinse in fresh water after each dive.
- Replace O-rings regularly.
- Check the battery in the app or computer and replace it in good time.
- During longer breaks, remove the battery.
- If pairing is problematic, release the pressure, wait a few seconds and try again.

These are small routines, but they make a big difference in terms of service life and reliability.

Safety and common sense

Wireless technology underwater sounds futuristic, but the fact is that the transmitters are tested for depths of over 150 metres. They are used by instructors, research divers and technical teams all over the world.

However, anything that is battery-powered can fail. That is why I still keep my analogue pressure gauge

in my dive bag, just as I always carry two computers with me on my dives.

The future: Smarter and more connected

Development is progressing rapidly. The next generation of transmitters will probably:

- be able to share data between multiple divers in real time,
- have built-in GPS,
- automatically log the dive to the cloud,
- combine pressure data with heart rate, breathing and body temperature,
- and perhaps be charged wirelessly, without any need to change batteries.

Garmin has already taken the first steps, and the rest of the industry is likely to follow suit. The future of diving technology is no longer just about depth and time. It is about having a complete overview of your body, gas and dive.

How to choose the right transmitter

- **Check compatibility.** Not all transmitters work with all computers.
- **Choose the original.** Pirated copies can fail and often lack a warranty.
- **Plan for the future.** Choose a system that will also work with your

FACT FILE:

Transmitters for Dive Computers

FUNCTION: Measures tank pressure and sends data wirelessly to the dive computer.

LOCATION: Screwed into the regulator’s high-pressure port (HP port).

COMMUNICATION: Ultrasound or low-frequency radio signal (1–1.5m range).

BATTERY TYPE: CR2 or 3V lithium, lasts for 100 to 300 dives.

PRICE: Around 200–500 EUR/USD depending on the model.

ADVANTAGES: Real-time data, reduced hose clutter, increased safety.

DISADVANTAGES: Requires battery replacement, risk of signal loss, not universally compatible. ■

next computer.

- **Install carefully.** Use the right torque, grease and feel.
- **Learn how to troubleshoot.** It saves frustration on the boat in 30-degree heat.

My conclusion

After several seasons of air-integrated diving, the transmitter feels like a natural part of the equipment. It has made me more aware of my air consumption. I am calmer underwater and actually a little more relaxed. Sure, it is electronics. It requires a little care, but the security of having all the information gathered on my wrist is a big advantage. It is a little gadget that has changed the way we dive—discreetly but noticeably. And for me, it is now as obvious as a mask and fins. ■