DESCENT™ T1

Owner's Manual

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Introduction

> **⚠ WARNING**
>
> See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

Installation and Setup

> **⚠ CAUTION**
>
> To ensure proper setup and best performance, it is strongly recommended that you complete the first time installation and setup at a dive shop. You should fully test the transmitter installation above and below water before using it during a dive.

Transmitter Position Tips

The transmitter communicates wirelessly with your compatible dive computer. On the surface, it uses ANT® technology. Underwater, it uses a sonar signal. Your body, drysuit, and dive equipment can obstruct the signal, particularly while underwater. For the best reception, all transmitters in your group should have clear lines of sight to the dive computer. To help prevent blocking the signal with your body or equipment, you should follow these tips.

- You should install the transmitter at least 7 cm (3 in.) from your body.
- You should install the transmitter on the same side of the tank as the wrist wearing your dive computer. For example, if you wear your dive computer on your left wrist, you should install the transmitter on the left side of the tank regulator.
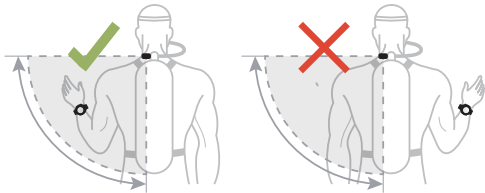
- For the best reception, you should wear the tank high on your back. This allows the transmitter to have a clear line of sight over your shoulders.
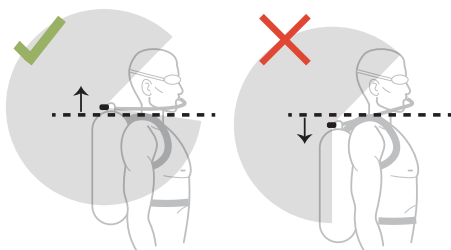
- If you wear your tank inverted with the regulator at the bottom, you can use a high-pressure hose to relocate the transmitter to have a clear line of sight over your shoulders.
- If you lose the signal from your transmitter, you should move your arm until the signal is restored.
- If you lose the signal from another diver, you should change your body position until the signal is restored. If your body is between the dive computer and another diver, it may obstruct the signal from that diver's transmitter.
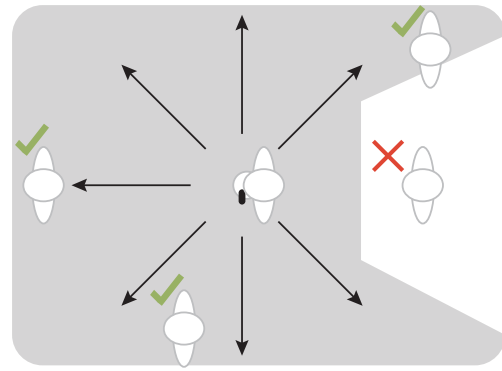
Installing the Transmitter on Your Tank Regulator

> **⚠ WARNING**
>
> Always use the pre-installed flow restrictor when using the transmitter directly attached to your regulator. Always use the included air spool when connecting the transmitter to a high pressure hose extension (*Installing the Transmitter on a High Pressure Hose Extension*, page 2). Using the transmitter without either the flow restrictor or air spool could result in serious injury or death from an air pressurization failure.

Before you install the transmitter on your tank regulator, you should read the transmitter position tips and choose the port position that provides the best line of sight to the dive computer.

To install the transmitter, you need a $^5/_8$ in. (16 mm) open-ended wrench.

The transmitter connects to a high pressure output port of the first-stage regulator.

1 Confirm the regulator is depressurized and detached from a scuba cylinder.
2 Remove the port plug from the high pressure output port of the first-stage regulator.
3 Confirm the flow restrictor is installed in the transmitter.
4 Screw the transmitter onto the high pressure output port until you feel resistance.

> **⚠ WARNING**
>
> Verify the installed transmitter does not physically interfere with any hoses or other tank assemblies.

5 Use a $^5/_8$ in. (16 mm) wrench to tighten the transmitter.

NOTICE

To prevent damage to the transmitter and possible loss of function, do not overtighten. Do not use the transmitter housing to tighten or loosen the transmitter.

Do not grip the regulator or the transmitter to move, carry, or adjust the tank.

Installing the Transmitter on a High Pressure Hose Extension

⚠ WARNING

Always use the pre-installed flow restrictor when using the transmitter directly attached to your regulator (*Installing the Transmitter on Your Tank Regulator*, page 1). Always use the included air spool when connecting the transmitter to a high pressure hose extension. Using the transmitter without either the flow restrictor or air spool could result in serious injury or death from an air pressurization failure.

Before you install the transmitter on a high pressure hose extension certified to the EN 250:2014 standard, you should read the transmitter position tips and choose a position that provides the best line of sight to the dive computer.

To install the transmitter, you need two $^5/_8$ in. (16 mm) open-ended wrenches and a small flat screwdriver or flat-nose pliers.

The transmitter can connect to a high pressure hose extension from the high pressure output port of the first-stage regulator.

1 Use a screwdriver or pliers to carefully remove the flow restrictor ① from the transmitter.

NOTICE

Use care when removing the flow restrictor to avoid damaging the device.

2 Insert the large end of the air spool ② into the transmitter.

3 Confirm the regulator is depressurized and detached from a scuba cylinder.
4 Remove the port plug from the high pressure output port of the first-stage regulator.
5 Connect a high pressure hose extension to the high pressure output port of the first-stage regulator.
6 Screw the transmitter onto the high pressure hose extension until you feel resistance.

⚠ WARNING

Verify the installed transmitter does not physically interfere with any hoses or other tank assemblies.

7 Use two $^5/_8$ in. (16 mm) wrenches to tighten the transmitter, placing one wrench on the transmitter and one wrench on the hose fitting.

NOTICE

To prevent damage to the transmitter and possible loss of function, do not overtighten. Do not use the transmitter housing to tighten or loosen the transmitter.

Do not grip the regulator or the transmitter to move, carry, or adjust the tank.

8 Ensure the connection between the transmitter and hose fitting is secure before using the device.

You must remove the air spool and reinstall the flow restrictor before installing the transmitter on your tank regulator.

Pairing the Transmitter with a Compatible Descent Dive Computer

To pair the transmitter, you must have a pressurized tank and regulator.

The Descent T1 can transmit air pressure data to a compatible Descent dive computer. For more information about compatible dive computer models, go to the Descent T1 product page on garmin.com.

Before you use the transmitter for the first time, you must pair it with the dive computer. Out of the box, the transmitter is in low

power mode. You must wake the device from low power mode to complete the pairing process.

NOTE: If a transmitter was packaged with your dive computer, they are already paired.

1 Install the transmitter on the first-stage regulator (*Installing the Transmitter on Your Tank Regulator*, page 1).
2 Gradually open the tank valve to pressurize the first-stage regulator.

   When the transmitter detects pressure, it wakes from low power mode. The transmitter plays a tone when it wakes from low power mode and is ready to pair.
3 On the compatible Descent dive computer, hold **MENU**, and select **Dive Setup** > **Air Integration** > **Transmitters** > **Add New**.

   The dive computer starts searching and displays a list of nearby transmitters.
4 From the list of transmitters, select the transmitter ID you want to pair.

   The transmitter ID is printed on the housing.

When the pairing process is complete, **Connected** appears on the dive computer screen. The transmitter begins sending tank pressure data, and it is ready to use on a dive. The next time the transmitter and dive computer are turned on and within wireless range, they connect automatically when you start a dive.

If you are diving with a group, you can pair up to 5 Descent T1 transmitters with the dive computer.

Transmitter Settings

You can customize the settings for paired transmitters prior to a dive.

On the paired Descent dive computer, hold **MENU**, select **Dive Setup** > **Air Integration** > **Transmitters**, and select a transmitter.

Status: Enables a connection to the transmitter, and shows current connection status.

Identify: Plays a tone on the selected paired transmitter. This helps you to identify the transmitter without needing to look at the transmitter ID printed on the transmitter housing.

Units: Sets the pressure units for your tank. The device defaults to psi if your depth setting is in feet, and bar if your depth setting is in meters.

Working Pressure: Sets how much pressure the tank has when full. This value is used to determine the upper end of the pressure gauge, and to calculate respiratory minute volume (RMV) for tanks using psi units.

Reserve Pressure: Sets the threshold values for reserve pressure and critical pressure alerts to appear on the dive computer.

Volume: Allows you to enter the air volume of the tank. You can use the Reset Volume option if you move the transmitter to a different size tank.

   NOTE: This value is required to calculate volumetric surface air consumption (SAC) and respiratory minute volume (RMV) (*Selecting the Gas Consumption Rate Metric*, page 3).

SAC/RMV/ATR: Enables the transmitter to be included in volumetric surface air consumption (SAC), respiratory minute volume (RMV), and air time remaining (ATR) estimates (*Including Transmitters in Gas Consumption Calculations*, page 3).

Set Transmit Power: Allows you to adjust the power setting if your transmitter is losing connection with the paired dive computer underwater.

About: Displays the transmitter ID, software version, and battery status.

Name: Allows you to enter an easily identifiable name for the transmitter.

Remove: Allows you to remove a paired transmitter.

Dive Terminology

Air time remaining (ATR): The time you may remain at the current depth until an ascent at 9 m/min. (30 ft./min.) would result in surfacing with the reserve pressure.

Pressure-based surface air consumption (PSAC): The change in pressure over time, normalized to 1 ATM.

Respiratory minute volume (RMV): The change in gas volume at ambient pressure over time.

Volumetric surface air consumption (SAC): The change in gas volume over time, normalized to 1 ATM.

Selecting Paired Transmitters to View on Your Dive Data Screens

You can view two paired transmitters at-a-glance on the primary dive data screen. You can customize which paired transmitters appear on the screen. By default, the first and second transmitters that you pair appear.

1 On the paired Descent dive computer, hold **MENU**.
2 Select **Dive Setup** > **Air Integration** > **Display Setup**.
3 Select a field to customize.
4 Select a paired transmitter.

Selecting the Gas Consumption Rate Metric

1 On the paired Descent dive computer, hold **MENU**.
2 Select **Dive Setup** > **Air Integration** > **Display Setup** > **Gas Consumption Rate**.
3 Select an option.

   NOTE: The dive computer can estimate volumetric surface air consumption (SAC) or respiratory minute volume (RMV) only if the air volume of the tank is entered in the dive computer (*Transmitter Settings*, page 3). The dive computer can estimate pressure-based surface air consumption (PSAC) with or without the air volume of the tank.

Including Transmitters in Gas Consumption Calculations

Gas consumption and air time remaining estimates are calculated using the tank pressure from the included transmitters. By default, the first transmitter that you pair with your compatible dive computer is included. You can include additional paired transmitters in gas consumption calculations.

1 On the paired Descent dive computer, hold **MENU**.
2 Select **Dive Setup** > **Air Integration** > **Transmitters**.
3 Select a paired transmitter.
4 Select the **SAC/RMV/ATR** toggle switch to include the transmitter in gas consumption calculations.
5 If necessary, repeat steps 2 through 4 to include additional paired transmitters in gas consumption calculations.

Adding the Transmitters Data Screen to a Dive Mode

You can add the transmitters data screen to the data screen loop for a dive mode.

1 On the paired Descent dive computer, hold **MENU**.
2 Select **Activities & Apps**.
3 Select a dive mode, and select the dive mode settings.
4 Select **Data Screens** > **Add New** > **Transmitters**.

Diving

You can use a compatible Descent dive computer paired with your Descent T1 transmitter to start a diving activity. See the *Descent Series Owner's Manual* for more information.

Dive Warnings

> ⚠️ **WARNING**

- This device is for use by certified divers only.

- This device should not be used as the only source of pressure information. Always use backup instruments, including a depth gauge, submersible pressure gauge, and timer or watch.

- Make sure that you fully understand the use, displays, and limitations of your device. If you have questions about this manual or the device, always resolve any discrepancies or confusion before diving with the device. Always remember that you are responsible for your own safety.

- The dive computer can calculate your surface air consumption rate (SAC) and air time remaining (ATR). These calculations are an estimate and should not be relied on as the only source of information.

- Perform pre-dive safety checks, such as checking proper device function and settings, display function, battery level, tank pressure, and bubble checks to check hoses for leaks.

- If a tank pressure warning or battery warning appears on the dive computer, terminate the dive immediately and safely return to the surface. Disregarding the alarm may result in serious injury or death.

- For safety reasons, you should never dive alone. Dive with a designated buddy. You should also stay with others for an extended time after a dive, because the potential onset of decompression sickness (DCS) may be delayed or triggered by surface activities.

- This device is not intended for commercial or professional dive activities. It is for recreational purposes only. Commercial or professional dive activities can expose the user to extreme depths or conditions that increase the risk of DCS.

- The transmitter is not an oxygen cleaned product. Do not use the transmitter with anything greater than 40% oxygen.

Starting a Dive on a Paired Descent Dive Computer

1. On the paired Descent dive computer, press **START** from the watch face.

2. Select a dive mode.

   See the owner's manual for your Descent dive computer for more information about supported dive modes.

3. Press **START** until the primary dive data screen appears.

   The primary dive data screen displays up to two paired transmitters ① (*Selecting Paired Transmitters to View on Your Dive Data Screens*, page 3).

   NOTE: You can use this screen to confirm your paired transmitters are connected to your dive computer prior to starting your dive.


4. Descend to start your dive.

   The activity timer starts automatically when you reach a depth of 1.2 m (4 ft.).

5. Press **DOWN** to scroll through the additional data screens.

When you return to the surface, the device automatically ends and saves the dive after one minute has elapsed (by default).

You must depressurize your regulator to return the transmitter to low power mode.

Viewing the Transmitter Data Screens

1. During a dive, press **DOWN** on your paired Descent dive computer to view the transmitter data screen.
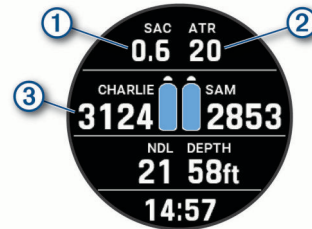
①	The gas consumption estimate for the selected transmitters. **NOTE:** You can customize the transmitters used for gas calculations (*Including Transmitters in Gas Consumption Calculations*, page 3).
②	The air time remaining (ATR) estimate for the selected transmitters.
③	Your primary and secondary transmitters and their tank pressure values. **NOTE:** You can customize which transmitters are displayed (*Selecting Paired Transmitters to View on Your Dive Data Screens*, page 3).

2. From the transmitter data screen, press **START** to view additional paired transmitters in the network.
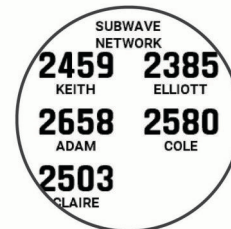
Transmitter Alerts

Alert Message	Cause	Device Action
None	Your paired dive computer has lost communication with the transmitter for 30 seconds.	The tank pressure value flashes yellow.
%1 is below reserve pressure.	Your tank pressure is below the reserve pressure level. "%1" is replaced with the transmitter name.	The tank pressure value turns yellow. The paired dive computer vibrates and plays a warning tone.
%1 pressure is critically low.	Your tank pressure is below the critical pressure level. "%1" is replaced with the transmitter name.	The tank pressure value flashes red. The paired dive computer vibrates and plays a warning tone.

Alert Message	Cause	Device Action
%1 has a low battery.	Fewer than 20 hours of dive time remain. "%1" is replaced with the transmitter name.	The transmitter name flashes BATT. LOW when the battery is critically low. The paired dive computer vibrates and plays a warning tone.
NO COMMS	Your paired dive computer has lost communication with the transmitter for 60 seconds.	The transmitter name flashes NO COMMS, dashed lines replace the tank pressure value, and the tank pressure value flashes red. The paired dive computer vibrates and plays a warning tone if connection alerts are enabled.

Enabling Lost Transmitter Alerts

Your paired dive computer can lose communication with the transmitter when the transmitter is out of range, when the transmitter signal is blocked by your body or that of another diver, and when the transmitter loses battery power. You can enable an alert that notifies you when your paired dive computer has lost communication with the transmitter for 60 seconds.

1 On the paired dive computer, hold **MENU**.
2 Select **Dive Setup** > **Air Integration** > **Connection Alert**.

Device Information

Replacing the Descent T1 Battery

> **NOTICE**
>
> You should purchase a replacement battery only from a high-quality manufacturer and a reputable vendor. Using a low quality battery could result in poor product performance and reduced battery life, especially at low temperatures. Do not use rechargeable batteries. Rechargeable batteries may have a higher voltage specification and can cause permanent damage to the device.

To replace the battery, you need a coin or flat screwdriver, a new 3 V CR123A lithium battery, and waterproof silicone grease. You may also need a replacement battery cap accessory.

The transmitter is powered by a 3 V CR123A lithium battery. A battery is pre-installed at the factory. You must carefully follow the battery replacement instructions to preserve the transmitter's waterproofing.

1 Insert a coin or flat screwdriver into the slot ①, and rotate counter-clockwise to unscrew the battery cap.

2 Remove the battery cap and battery.
3 Insert the new battery in the transmitter, with the positive pole facing into the transmitter and the negative pole facing the battery door.
4 Inspect both gaskets ② to verify they are clean, undamaged, and fully seated in the grooves.

If the gaskets appear worn or damaged, you can purchase a replacement battery cap kit, including a cap, pre-installed gaskets, and silicone grease. Go to the Descent T1 product page on garmin.com to purchase accessories.

5 Apply a thin layer of waterproof silicone grease to both gaskets.
6 Replace the battery cap into the transmitter, and fully tighten it.

Device Care

> **NOTICE**
>
> Do not grip the regulator or the transmitter to move, carry, or adjust the air tank.
>
> Do not remove the safety plug from the base of the transmitter.
>
> Do not use a sharp object to clean the device.
>
> Avoid chemical cleaners, solvents, and insect repellents that can damage plastic components and finishes.
>
> Thoroughly rinse the device with fresh water after exposure to chlorine, salt water, sunscreen, cosmetics, alcohol, or other harsh chemicals. Prolonged exposure to these substances can damage the case.
>
> Avoid extreme shock and harsh treatment, because it can degrade the life of the product.
>
> Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.
>
> Discontinue use if the device is damaged or if it is stored at a temperature outside the specified storage temperature range.
>
> Discontinue use if there is water ingress into the battery compartment. Even small amounts of water can cause corrosion of the electrical contacts.

Cleaning the Transmitter

1 After each dive, rinse the transmitter with fresh water to remove salt and debris.
2 If necessary, clean the transmitter with a soft cloth.

Specifications

Battery	3 V CR123A lithium
Battery life	Up to 100 hr.
Thread type	$^7/_{16}$ in. (20 UNF)
Normal operating temperature	From -20 to 60°C (from -4 to 140°F)
Underwater operating temperature	From 0 to 40°C (from 32 to 104°F)
Storage temperature	From -30 to 70°C (from -22 to 158°F)
Wireless frequency	2.4 GHz @ 0 dBm
Surface transmission range (ANT wireless technology)	Up to 10 m (33 ft.)
Underwater transmission range (sonar)	Up to 10 m (33 ft.)
Water rating	11 ATM[1]
Pressure rating	300 bar (4351 psi)
Inspection interval	Inspect parts before each use for damage. Replace parts as needed.[2]

Getting More Information

You can find more information about this product on the Garmin® website.

- Go to support.garmin.com for additional manuals, articles, and software updates.
- Go to buy.garmin.com, or contact your Garmin dealer for information about optional accessories and replacement parts.

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[1] The device withstands pressure equivalent to a depth of 110 m. For more information, go to garmin.com/waterrating.
[2] Aside from normal wear and tear, performance is not affected by aging.

Troubleshooting

Updating the Transmitter Software Using Your Descent Dive Computer

Before you can update the software, you must pair your Descent T1 transmitter to a compatible Descent dive computer.

1 Select an option to sync your dive computer:
- Sync your dive computer with the Garmin Dive™ app.
- Connect the dive computer to your computer using the USB cable, and sync with the Garmin Express™ application.

Garmin Dive and Garmin Express automatically look for software updates. When you sync with Garmin Express, the update is applied immediately to your dive computer. When you sync with Garmin Dive, you will be prompted to apply the update at a later time.

2 Install the transmitter on the first-stage regulator (*Installing the Transmitter on Your Tank Regulator*, page 1).

3 Gradually open the tank valve to pressurize the first-stage regulator.

When the transmitter detects pressure, it wakes from low power mode and plays a tone.

4 On the paired Descent dive computer, hold **MENU**, select **Dive Setup** > **Air Integration** > **Transmitters**, and select your transmitter.

5 Wait for the transmitter to connect to your dive computer.

Connected appears on the dive computer screen.

6 Select **Software Update**.

NOTE: This option may take up to a minute to appear while the dive computer determines the transmitter's software version and battery status.

7 Verify the transmitter ID when prompted.

The transmitter ID is printed on the housing.

8 Keep the dive computer near the transmitter until the software update is complete.

My transmitter and watch lose connection underwater

If your watch and transmitter communicate on the surface but lose communication underwater, you can try these tips.

- Increase the transmitter power setting (*Adjusting the Transmitter Power Setting*, page 6).
- Install the transmitter on a high pressure hose extension to improve the line of sight between the transmitter and the watch (*Installing the Transmitter on a High Pressure Hose Extension*, page 2).
- Follow the transmitter position tips to achieve the best line of sight between the watch and the transmitter (*Transmitter Position Tips*, page 1).

Adjusting the Transmitter Power Setting

NOTE: Increasing the power setting increases the audible noise from the transmitter and decreases its battery life.

1 Hold **MENU**.

2 Select **Dive Setup** > **Air Integration** > **Transmitters**.

3 Select a paired transmitter.

4 Select **Set Transmit Power**.

5 Enter the transmitter ID.

NOTE: The transmitter ID is printed on the housing.

6 Select an option.

My transmitter battery is draining rapidly

If your transmitter battery is draining faster than the expected battery life (*Specifications*, page 5), you should make sure the transmitter is returning to low power mode after a dive.

When you return to the surface after a dive, depressurize your regulator.

The installed transmitter enters low power mode after two minutes have elapsed.

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