

FAQs

Cerebrum is an innovative, never-before-seen tire technology. Naturally, our customers have many questions about the product and how it works. This FAQs page provides a comprehensive summary of Cerebrum sensors and the mobile application.

Will Cerebrum Sensors fit my tire?

Cerebrum is an aftermarket kit which is compatible with most passenger and light truck vehicles, trailers and fits nearly every size and brand tire. Cerebrum is not initially designed for use in donut tires or two wheel motorcycle tires, however, these options will be available in the future. We also recommend measuring the clearance of low profile tires (such as 20 or 25 aspect ratio) to ensure sufficient clearance of the sensor from the wheel assembly.

Do I need to take the tire off of the wheel for installation?

Yes, Cerebrum Sensor kits are installed inside of each tire on the inner lining, opposite of the tire tread. Therefore, it is necessary to dismount the tire from the wheel to perform the simple installation.

Can I reuse Cerebrum Sensors?

Yes, Cerebrum Sensors are reusable and can easily be separated from the base, retaining housing which is cured to the inner lining during installation. The bottom, retaining housing cannot be reused but is affordable and can be ordered from our website. This is extremely convenient for using the same sensor on multiple sets of tires.

What is the life span of Cerebrum Sensors?

The battery life of each Cerebrum Sensor is approximately 5-7 years for traditional use as a Tire Pressure Monitoring System (TPMS) with an average annual driving of 15,000 miles. With normal usage of the advanced features of Cerebrum such as the tread depth calculation, Advanced Mode, etc. Cerebrum Sensors will last closer to 5 years. The battery lifetime will vary based on average annual mileage of the vehicle and usage of the advanced sensor features or repetitive use of the Tread Depth measurement feature.

Is there a warranty for the sensors?

Cerebrum Sensors include a 1-year, free replacement warranty for manufacturing defects, premature battery failure or failure during normal use. Refunds are only available for unused product returns. The replacement warranty will not cover failure due to: (1) an improperly installed base, retainer housing that becomes dislodged from the tire inner liner, (2) chemical damage from unapproved tire filler repair, (3) damage during the tire and wheel mounting process, or (4) damage from driving conditions exceeding the product's intended use for passenger and light truck

vehicles. Our customer service team will provide instructions for the replacement process once notified of a claim.

Can Cerebrum Sensors be used in off-road tires?

Cerebrum Sensors are designed to withstand conditions for most on and off road passenger and light truck vehicles. This includes pavement, mud, gravel, etc. conditions.

Can I drive in extreme hot or cold weather with Cerebrum Sensors in my tire?

Cerebrum sensor can withstand temperature as low as -40 deg C and temperature as high as 125 deg C.

What tool do I need to connect Cerebrum Sensors with ECU?

No tools are required to connect Cerebrum sensor with ECU. Follow the ECU connection steps mentioned in the user manual. Cerebrum comes with intelligent technology which calls upon vehicle specific RF protocol and connects automatically. You might need a tool to scan your OEM TPMS sensor ID if you can not physically see the OEM TPMS sensor ID. **This feature is not yet available and will be released in 2020. Follow the programming instructions when installing Cerebrum to receive the benefit once this feature is enabled.**

Are Cerebrum Sensors waterproof?

Cerebrum Sensors and housings are fully protected from moisture, salt, tire lube and other common contaminants which may buildup inside the tire during normal use. Excessive exposure to contaminants may cause damage to the sensor, which is uncommon.

How much does Cerebrum weigh, do I need tire balancing after installing Cerebrum Sensors?

Each sensor weighs roughly the same as a standard tire patch. Yes, it is advised to balance the tire after installing Cerebrum Sensors or anytime a tire is installed. The standard mount and balance procedure is sufficient to account for the weight of Cerebrum Sensors. Once installed and balanced, the sensor will not be noticeable or impact tire performance.

How do I prepare the inside of tire before installing Cerebrum Sensors?

Tire inner liners contain oils such as mold release and other contaminants. Therefore, the inner liner must be properly cleaned to ensure the sensor housing will bond and last the lifetime of the tire. When in doubt, use the standard Rubber Manufacturers Association or similar industry practices for tire patch repair preparation.

Absolutely! Any tire can be ordered with Cerebrum Sensors pre-installed and shipped directly to you or a local tire shop for mounting and installation to your vehicle.

How do I connect Cerebrum Sensors with my car's ECU?

Cerebrum Sensors communicate with the vehicle using Radio Frequency transmission. Each vehicle make, model and even trim often has a unique protocol which is identified when setting up the Cerebrum mobile application. The app features an ECU Setup section which requires entering the unique identification number of an existing TPMS sensor in order to 'clone' the sensor and communicate with the ECU. If the vehicle is not setup with TPMS, no connection to the vehicle can be made. Alternatively, your existing TPMS sensor can remain in the wheel, there is no need to remove this in order to use Cerebrum.

Is Cerebrum Sensor compatible with my vehicle make?

Most vehicle ECU connection protocols will be available in 2020. Cerebrum Sensor is available at both 315 Mhz and 433 Mhz which are the frequencies used by vehicle manufacturers globally. Upon placing your order, we will contact you so that we can properly setup your Cerebrum mobile app profile and send you the correct frequency for your vehicle.

How can I measure tire temperature?

Cerebrum Sensors provide the true temperature of the tire carcass, which has never been made available before. TPMS sensors do not provide tire rubber temperature but rather the air temperature, which is a lagging indicate of the tire temperature. This is important for motorsports applications where the tire temperature is critical to vehicle performance. This is also important when detecting problems with the tire which could lead to a tire blowout. The temperature of the tire varies across the tire width, so the temperature displayed is an average of the tire carcass.

Do I need to get Cerebrum Sensors serviced?

Cerebrum Sensor require no servicing within the normal battery life cycle. The status of each sensor is available through the Cerebrum app.

Can I install Cerebrum Sensors on my own?

Cerebrum Sensors come with a D.I.Y. kit and simple installation instructions. The kit includes a cleaning solution and tool for preparation of the inner liner surface of the tire. The kit also includes the adhesive used for bonding the tire sensors. When in doubt, we recommend bringing the kit to a certified tire installation technician and following the industry standard tire patch repair preparation procedure.

Does Cerebrum require any additional tools for the installation?

Cerebrum Sensors come with most of the components in the kit. We DO NOT recommend substituting the adhesive as this has been specially formulated to work with the sensor housings. The only additional equipment which *may* be used for installation would be for the tire preparation process in which case the industry standard tire patch repair preparation procedure should be followed. This is not absolutely necessary, Cerebrum Sensors can be installed to most tires with the provided kit and a shop towel.

How much time is needed to install Cerebrum Sensors?

The most important step for installation of Cerebrum Sensors is the preparation of the tire. A poorly prepared tire inner liner will result in a failed bond, damage to the sensor, loss of warranty or perhaps damage to the vehicle. Most tires can be properly prepared with the supplied cleaner and tire scraper tool in 2-3 minutes. Some tires may require the industry standard tire patch repair preparation procedure. Once the tire is properly cleaned, Cerebrum can be affixed to the tire with the supplied adhesive within 45-60 seconds. After the initial bond, the tire can be mounted to the wheel. Once each sensor is installed, the adhesive will cure in 15 minutes and the vehicle will be ready to operate.

How do I identify the Cerebrum Sensor ID if the sensor is already in my tires and mounted to the wheel?

It is our goal to make the setup and use of Cerebrum as easy as possible. Once an order is placed, we will contact you to request information about your vehicle in order to setup your account for the Cerebrum app. If you choose to provide us with the information, we can setup your sensors and correctly identify each one for placement into the appropriate tires. However, sometimes the sensor may be installed into the wrong tire or you may be unsure which sensor is in which tire. Not to worry! The Cerebrum application offers an Auto Detect feature on the Setup Sensors screen. To determine the Sensor ID within each tire:

- Navigate to the Setup Sensors screen from the main menu.
- Selected a tire and manually depress the tire valve stem to release air from the tire.
- The loss in air pressure will alert the Sensor ID on the Cerebrum mobile application with a red flashing light.
- Select the tire location for this sensor from the tire positions (FL, FR, RL, RR).
- Repeat this process for each tire equipped with a Cerebrum Sensor and refill each tire to the appropriate air pressure.
- If the tire was improperly installed on the vehicle, simply use the Tire Rotation screen to move the tires as an alternative to re-assigning the sensors.

How do I get the OEM TPMS sensor ID if the sensor is in my tires?

There are several ways to collect this information if you would like to replace your TPMS sensor with the Cerebrum Sensor. Please note, this function is not yet available until mid 2020 but it is important to setup the ECU connection when installing Cerebrum to prevent having to dismount the tires later. The TPMS sensor ID can be located by:

- Use a TPMS tool to read the OEM TPMS sensor IDs. Most wheel and tire shops will have TPMS tools but may charge for this service.
- The vehicle dashboard display on many vehicles will display the TPMS sensor ID.
- Unmount the tire from the wheel to physically see the sensor ID imprinted on the sensor. Generally this is a 7 digit hexadecimal ID which contains both numbers and letters.

Can I get cerebrum sensors for motorcycle tires?

Initially, Cerebrum Sensors are designed to fit passenger and light truck vehicles, small trailers and 4-wheel UTV. The size of the sensors are too large for most 2-wheel tires, however, we will be releasing a 2-wheel version later in 2020 that will provide the same benefits.

Can I fit Cerebrum sensor in race tires?

Yes, Cerebrum Sensors and mobile application is designed for motorsports purpose and daily driving conditions. The product has been tested to withstand 180mph consistently as well as high tire temperatures.

Will Cerebrum Sensors fall off?

Each Cerebrum Sensor kit comes with a specially formulated rubber to rubber bond glue, which chemically vulcanizes two rubber surfaces together. The glue provides superior bond equivalent to the strength of a tire patch when properly installed. Therefore, the Sensor will *never* fall off unless a poor installation was performed. Even potholes, speed bumps, etc. will not dislodge the Cerebrum Sensors from the tire. In the extremely rare circumstance of acute damage or significant

force (opposing the direction of centrifugal force) there is of course a possibility of sensor damage but likely damage to the tire and wheel as well.

What is Cerebrum Sensor made of?

Cerebrum Sensors are comprised of universal 3 main components: the electronic device, the master housing, and a base housing. The electronic device is made of several components similarly found in TPMS sensors and other bluetooth electronics such as a battery, printed circuit board and sensors. The master housing is made of a durable plastic-like material that can withstand the intense forces, temperatures and contaminants commonly found in vehicle tires. The base housing bonds directly to the tire and absorbs most of the movement experienced by the tire. The base housing is made of a rubber material, very similarly found in the manufacturing of tire inner liner and tire sidewalls. All of these components have been specifically engineered to interact as an assembly, therefore DO NOT substitute or alter these parts in any way as this will void any warranty and potentially result in damage to the product, tire, wheel and vehicle.

What is the expiry for the glue?

The recommended shelf life of the tire rubber bonding adhesive is 6 months. It is advised to install the Cerebrum Sensors upon receipt of the product. If the adhesive must be stored, do so in a cool, dark, dry environment with the cap securely tightened. If the adhesive appears 'milky', yellow or anything other than the clear consistency it is best to discard and obtain a new bottle. DO NOT SUBSTITUTE THE ADHESIVE.

How long should I wait to drive my car after installation of Cerebrum Sensors?

It is best to wait at least 20 minutes after installing the last base housing to the tire inner liner. Therefore, we recommend installing the base housings to all of the tires initially, these can then cure while the tires are being mounted, balanced and the Cerebrum app is setup. The tires can be mounted immediately after the initial installation of the base housing is complete, this will not damage the sensors or impact the bond in any way.

How long should I apply pressure to the housing and tire after applying the adhesive?

The tire rubber adhesive will begin bonding immediately, however, depending on the level of preparation (cleanliness) and the environment (temperature and humidity) the initial 'tack' will vary. We recommend installing the kit in at least 65 degrees Fahrenheit and after a proper tire inner liner preparation, the adhesive will tack after 45-60 seconds. We therefore recommend holding the housing and/or sensor with even, hand-pressure for 60-90 seconds while the tack is achieved. **Do not** use clamps or other mechanically leveraged tools to hold the housing and sensor to the tire, this can result in damage and likely a poor bond. After the initial tack, pressure can be released and a slight 'wiggle' of the base housing and/or sensor will confirm that it is secure. After this, use a squeegee tool or fingertips to apply pressure to the outer edges of the base housing to spread any excess adhesive to the edges. If no adhesive comes out, we recommend applying a 'sealing' layer of adhesive the the entire circumference of the base layer.

What is the correct position on the inner liner of the tire to install Cerebrum Sensors?

Cerebrum Sensors are shipped, assembled in the correct orientation for installation. Each base housing is marked with "CEREBRUM" text, which should be oriented parallel with the vehicle axle, perpendicular to the rotation of the tire. The base housing should be installed in the center of the

section width of the tire, as best as possible. Achieving this positioning will ensure the best measurements of tire temperature, tread depth and alignment as calculated by the Cerebrum app.

How long I can record an Advanced Mode Session?

Advanced Mode presently lasts up to 25 minutes in length for a single session. Please note, use of Advanced Mode will increase the communication of the Cerebrum app with each sensor, therefore the battery life can be decreased as a result.

How many Advanced Mode sessions can I record in the Cerebrum mobile application?

Currently, there is no limitation of recording Sessions in Advance mode.

What does Pressure Adjustment mean in Session Summary screen?

Purpose of this feature is to keep heated tires at the recommended pressure for optimum performance. As the tire heats up, the air molecules will expand and increase the overall pressure of the tire. Conversely for colder conditions, where the air molecules will close together. Keep in mind, as time passes after a Session is complete and driving ends, the tires will most likely reduce in temperature. Therefore, the recommendations will only remain accurate for a limited amount of time.

What is the 'Tread' of a tire?

The tread of a tire or track refers to the rubber on its circumference that makes contact with the road or the ground. As tires are used, the tread is worn off, limiting its effectiveness in providing traction.

What is 'Tread Depth health'?

Tread Depth Health is the most recent calculation of the actual tread depth of each tire. This feature reports tread depth in terms of percentage as well as provides an industry standard 'condition' such as "Replace" when the tire needs to be changed. The ranges of conditions include:

- 81-100% Tread Depth - Green color and 'New' condition
- 61-80% Tread Depth - Yellow color and 'Good' condition
- 41-60% Tread Depth - Yellow color 'Usable' condition
- 21-40% Tread Depth - Orange color and 'Poor' condition
- Less than 20% Tread Depth - Red color and 'Replace' condition.

The reading of 0% tread depth is the minimum, legally acceptable tread depth of 2/32 of an inch. The Cerebrum application will read 0% tread depth condition even if the result is actually within the 2/32" remaining tire life. It is advised to replace tires before reaching the minimum acceptable tread depth. The variations of measurements on this screen may be as much as 10%. Always consult a tire professional for accurate measurement of the remaining tread life. The Tread Depth results are made available with the understanding that data is provided with no warranties, expressed or implied, concerning data accuracy, completeness, reliability, or suitability. Cerebrum Sensor Technologies, Inc. shall not be liable regardless of the cause or duration, for any errors, inaccuracies, omissions, or other defects in, or untimeliness or unauthenticity of, the information, or for any delay or interruption in the transmission thereof to the user, or for any Claims or Losses

arising therefrom or occasioned thereby. The end user assumes the entire risk as to the quality of the data and the operation of the vehicle.

What does the ‘Cost of Inefficiency’ page cover?

Properly maintained tires last longer and improve gas mileage. The Cost of Inefficiency page actually quantifies the annual cost of operating with inefficient tire conditions. It includes the dollars losses in fuel and tire warranty losses in terms of dollars, based on the current condition of the tires vs. the recommended operation conditions. Filling the tire pressure above the recommended state may result in premature tire wear, despite improving gas mileage.

What does the ‘Excess Carbon Emissions’ page cover?

This page calculates the approximate, excess emissions caused by the vehicles based on inefficient tire conditions. Poor tire maintenance results in more gas consumption and drag of the vehicle, thus more of a carbon footprint.

What does the ‘Average Warranty Miles Loss’ page cover?

This page calculates the loss of available mileage life (premature wear) caused to the tire due to inefficient operating conditions, primarily tire pressure. Make sure to check the tire pressure frequently using the app to ensure that the vehicle is running at the optimum tire pressure recommended by the manufacturer.

How many Vehicles and Sets of Tires can be added in the Cerebrum app?

An unlimited number of Vehicles and Tires can be added to the app and easily navigated between. The Cerebrum app will actually detect which vehicle is closest and automatically connect.

What if my vehicle, tire brand, model or size is not available in the app?

If your vehicle or tire are not available in our database, please Contact Us and our team can add the listing as necessary or provide recommendations on how to navigate the app accordingly.

What is the acceptable pressure range below recommended tire pressure?

Roughly +/- 15% PSI variation from the recommended tire pressure is acceptable, any more will result in a significant loss in fuel economy and tire wear. The Cerebrum app will also limit functions such as the Tread Depth calculation in the event of large pressure variations. Maintaining the recommended tire pressure is best.

How often should I check my tire pressure?

You should be checking your tire pressure at least once a month. Use the Cerebrum app to notify you if your pressure changes within that time period.59. Does cerebrum mobile app provides tire condition notifications when I am not near my vehicle?

How can I download the Cerebrum mobile application on an Android phone?

Cerebrum is initially only available for iOS devices, not Android. However, an Android version will be released in 2020.

Can anyone hack into my Cerebrum sensors?

Once the Cerebrum Sensors have been assigned to a vehicle, they will not be discovered by or

connected to from any other device. If the sensors are being setup by a local tire shop or installer, the technician can use the "Technician Account" to setup the sensors and assign them to your account using the VIN. Just setup your account with the VIN information and Cerebrum will automatically detect that the sensors, vehicle and tires have been setup and are ready to use.