Continental
The Future in Motion

Tyre sensor container

Mounting the container and installing the tyre sensor

GB / USA Installation instructions
Tyre sensor container with REMA TIP TOP

Rev. V01

NOTE	
Use these installation instructions only in conjunction with the "General Safety Notes" (document no.: General_Safety_V01_122020).	

1 Introduction

1.1 Use

1.1.1 Intended use

The tyre sensor container is intended to be installed exclusively in a commercial vehicle tyre according to the specifications (see chapter ***"4.4 Approved tyres"***) and to accommodate a corresponding tyre sensor and hold it safely in the tyre for operation.

1.1.2 Foreseeable misuse

Any use of the tyre sensor container and the system other than the intended use and/or other use is not permitted.

No claims of any kind will be accepted for damage resulting from use for other than the intended purpose.

1.2 Safety precautions

In addition to the safety instructions specified in these installation instructions, the "General Safety Notes" (document no.: General_Safety_V01_122020) belonging to the product must be observed.

Hazards that could occur during a particular action are described before the instructions for each step.

Failure to observe the "General Safety Notes" and procedural instructions specified in these installation instructions can lead to considerable hazards.

1.3 Information on this installation instructions

These installation instructions are intended for qualified staff in workshops for tyre fitting, tyre repair and tyre service.

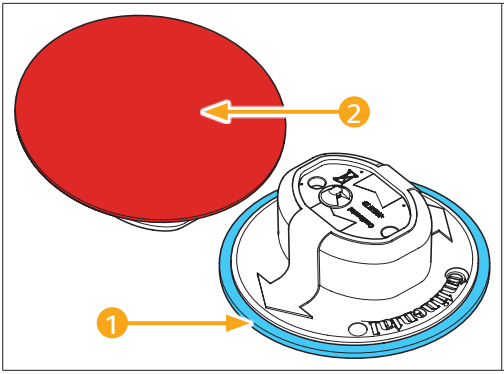
Qualified staff is defined as staff that:

- has expertise in tyre fitting and repair,
- was trained by a qualified trainer who holds an official certificate from REMA TIP TOP AG

The certification of the trainer and the training certificate of the installation staff must be documented.

The contents of these installation instructions help to install the tyre sensor container into the tyres of commercial vehicles.

The information and procedural instructions contained herein refer exclusively to the tyre sensor container with the following features:



- blue Cushion gum (1)
- red protective foil (2)

1.4 Warranty terms

The respective relevant "Continental AG terms and conditions" apply with the exception of possible different contractual agreements.

1.5 Liability disclaimer

Continental Reifen Deutschland GmbH assumes no liability for damage and operational faults resulting from:

- Failure to observe these installation instructions,
- use for other than the intended purpose,
- employment of unqualified or insufficiently qualified and correspondingly instructed staff,
- faulty installation,
- not using original replacement and accessory parts,
- technical modifications and alterations, conversions and changes to the system are expressly prohibited.
- Failure to perform the prescribed visual inspections (see chapter ***"3.3 Final inspection of the vulcanisation compound of the tyre sensor container"***) after installing the tyre sensor.

NOTE	
▶ Installing the tyre sensor may invalidate the tyre manufacturer's warranty. Please check with the respective tyre manufacturer in advance. Continental is not liable for any damages, costs or claims arising from the loss of warranty coverage and guarantee.	
▶ The fitter assumes all risks associated with improper installation.	
▶ The functionality of the sensor In conjunction with the use of balancing substances may be impaired and warranty claims may expire.	

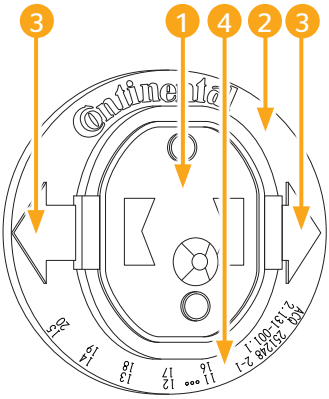
2 Design and function

2.1 Description of functions

The tyre sensors are mounted in tyre sensor containers on the inside of the tyres. The tyre sensor containers and their cushion gum are attached to a preprepared surface on the inner layer of the tyre by a special cold vulcanising agent.

The tyre sensors are inserted into a tyre sensor container and consist of a pressure sensor, temperature sensor, acceleration sensor, evaluation circuit, radio transmitter and lithium battery. The unit is cast in a plastic housing.

2.2 Overview



- Tyre sensor (1)
- Tyre sensor container (2)
- Direction of tyre rotation (3)
- Quarter and year of manufacture (4)

3 Installation

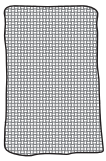
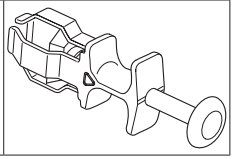
3.1 General instructions

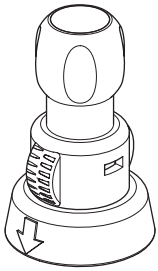
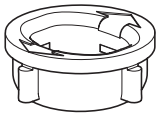
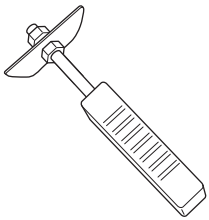
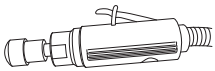
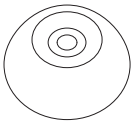
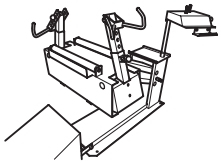
- To install correctly, it is essential to follow the sequence of steps described below.
- The tyre sensor and tyre sensor container must be installed no later than 2 years after packaging due to ageing of the plastics (especially the tyre sensor container) and due to the battery storage time of the tyre sensor before use (service life in operation).
- The period of use may be shorter for the chemical and auxiliary materials (note the information on storage time and type on the packaging).

3.2 Installing the tyre sensor container with tyre sensor

3.2.1 Tools required

All tools and materials listed below are not included in the scope of delivery.

Protective gloves	
1 x brass brush For removing dust particles from the prepared surfaces	
1 x lint-free paper disposable cleaning wipes Cleaning wipes for cleaning the vulcanisation surfaces.	
1 x HAZET tool article no.: 17341410000 Tool for inserting the tyre sensor into the tyre sensor container.	

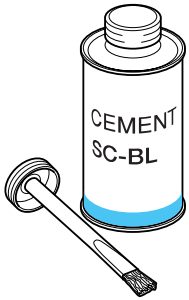
1 x pressing tool 2 article no.: 17341750000 Tool for pressing the tyre sensor with tyre sensor container when applying to the vulcanisation surface.	
1 x Inlax (inlay) for pressure tool 2 Inlay for holding the tyre sensor container in the pressure tool	
1 x tyre repair/pressure roller Tool for pressing the vulcanisation surface of the tyre sensor container	
1 x cleaning scraper article no.: 17341080000 Scraper for pre-treating inner layer of the tyre.	
Pneumatic grinder, slow-running (max. 4000 rpm)	
Contour disc, for low speeds (65 mm, K 36)	
1 x tyre spreader For fixing and spreading the tyre during processing.	

3.2.2 Materials required

ATTENTION	**Damage to equipment!**

If agents other than the prescribed cold vulcanising agent and the prescribed cleaning agent are used or the installation instructions are not observed, the tyre sensor or the tyre sensor container may come loose. This could lead to damage to both the tyre and the tyre sensor.

- ▶ "Liquid Buffer" or "Pre-Buff Cleaner" from REMA TIP TOP is prescribed for cleaning the installation area.
  When using other products, it cannot be guaranteed that the adhesive bond is sufficient.
- ▶ Use CEMENT SC-BL from REMA TIP TOP always when installing the tyre sensor.
- ▶ Observe safety instructions for the CEMENT SC-BL cold vulcanising agent.
- ▶ The tyre and the tyre sensors container must correspond to the recommended ambient temperature.
- ▶ After the recommended pressing time, the adhesive exhibits enough basic stability to allow tyre fitting.

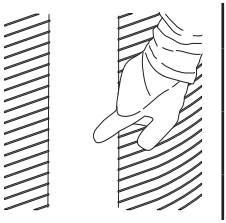
Cleaner 1 x naphtha-containing cleaner ("Liquid Buffer" or "Pre-Buff Cleaner" from REMA TIP TOP) Cleaner for pre-treatment of the tyre inner layer and the vulcanisation surface of the tyre sensor.	
CEMENT SC-BL cold vulcanising agent. 1 x CEMENT SC-BL from REMA TIP TOP Cold vulcanising agent for fixing the tyre sensor container.	

3.2.3 Fixing position in the tyre

The correct position of the installation area is:

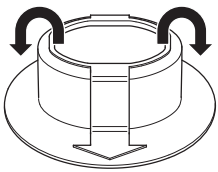
- in the middle, on a smooth surface on the inner layer of the tyre outside the venting ribs and other bumps.
  The aim is for the tyre sensor container to cover the entire surface.
  It is particularly important to ensure that the edge area of the tyre sensor container is flush.

Dimensions of the installation area:	approx. 6.6 x 6.6 cm (approx. 2.6 x 2.6 inches)
Dimensions of the area to be cleaned:	approx. 8 x 8 cm (approx. 3.15 x 3.15 inches)

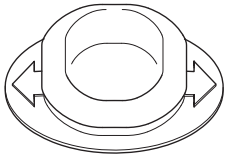


3.2.4 Inserting the tyre sensor into the tyre sensor container

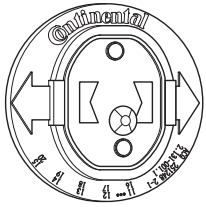
Inserting without tool



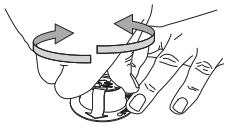
- Turn the sealing lip of the tyre sensor container inside out.
  Tip: Turning the sealing lip inside out on the short side of the tire sensor container is the easiest way (see black arrow in the adjacent illustration).



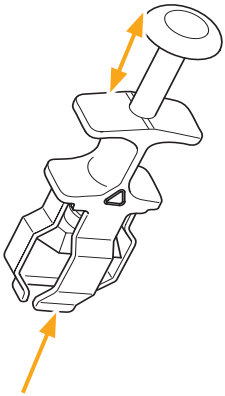
- Moisten the remaining surface in the tyre sensor container slightly with fitting paste.



- Insert the tyre sensor into the tyre sensor container. The direction of rotation arrows on the tyre sensor container continue onto the sensor (see illustration). Make sure that the pressure channel of the tyre sensor is not installed upside down when fitting.
- Push the sealing lip if the tyre sensor container back up. The sealing lip of the tyre sensor container must rest evenly over the circumference on the top of the sensor.
- In order for the tyre sensor to sit better inside the container, it is recommended to position the tyre sensor in the container by turning it correspondingly to the right/ left.



Alternative:
Inserting with tool (HAZET tool)



- HAZET- Press and hold the tool so that the holder for the tyre sensor opens.
- Insert the tyre sensor into the HAZET tool with the upper side first and stop operating the HAZET tool.
  The tyre end sensor is held by the HAZET tool.
- Insert the tyre sensor into the tyre sensor container with the HAZET tool. The direction of rotation arrows on the tyre sensor container continue onto the sensor (see illustration). Make sure that the pressure channel of the tyre sensor is not installed upside down when fitting.
- Hold the HAZET tool and pull it out of the tyre sensor container.
  The sensor remains in the tyre sensor container and is held by the sealing lip.

The tyre sensor is installed in the tyre sensor container correctly when:

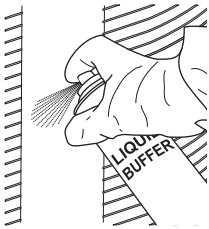
1. the direction of rotation arrows continue exactly flush to the tyre sensor.
2. a slight elevation on the surface of the tyre sensor is visible and can be felt.

Faulty installation causes damage to the tyre sensor during operation. The system indicates "**CHECK SENSOR / DISMANTLE TYRE**“ in this case.

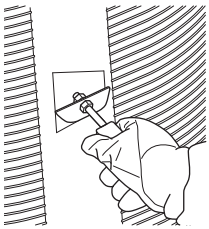
3.2.5 Pre-treatment of the installation area

Cleaning:

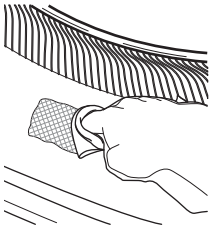
- To clean the installation area, align the tyre so that excess cleaning agent can flow out of the area.
- Shake the spray can (Liquid Buffer or Pre-Buff Cleaner).
- Spray the installation area to be cleaned completely with the cleaner at a distance of approx. 20 cm (8 inches).



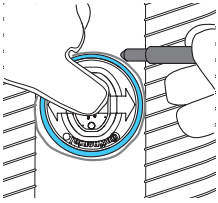
- Immediately afterwards, use considerable pressure to scrape the installation area to be cleaned several times until the surface is dry. Take care not to damage the inner layer of the tyre.
- Repeat the cleaning process at least twice.
- Afterwards, moisten the entire installation area to be cleaned with the cleaning agent and clean thoroughly with the cleaning paper.



- Wipe in one direction only and always use clean areas of the cleaning paper.
- Do not rub any dirt into the installation area.
- Repeat this process until the area to be cleaned clearly differs from the uncleaned area.
- Remove any residue from the tyre caused by scraping and cleaning.



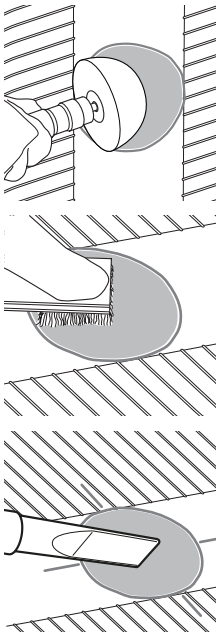
- Allow the cleaned surface to air for approx. 3 minutes after the cleaning steps.
- Mark the area to be roughened using the tyre sensor container or a suitable die and a marker pen or chalk. Circle an area that corresponds to the installation area of the tyre sensor container with an allowance of approx. 1.25 mm.



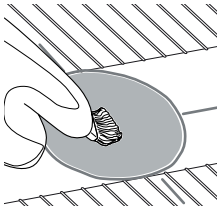
Roughening:

ATTENTION	Damage to equipment!
Incorrect treatment of the inner surface of the tyre can destroy the tyre or render it or the roughened surface unusable. ▶ Have the work carried out only by staff correspondingly trained in tyre repairs (see chapter ***"1.3 Information on this installation instructions"***). ▶ If a surface roughness of > 0.14 mm (5.5 thou) is determined or if the carcass is damaged, the tyre must be replaced and disposed of. ▶ Do not apply any cleaning agent (Liquid Buffer) to the roughened vulcanisation surface. This reduces the adhesive effect during cold vulcanisation.	

- Roughen the inner layer of the tyre with a contour disk.
- Only press the buffing tool lightly and move continuously to prevent holding down at one place.
- Use the contour disk to create a surface with a type RMA 1-2 buffing texture (approx. 0.12 mm/4.7 thou) as installation surface.
- Remove dust with a brass brush and vacuum cleaner.
- Clean the roughened area with a brass brush only intended for repairing tyres.
- Brush the area several times in one direction and make sure that no dirt from the surrounding areas gets into the cleaned area.
- Remove all roughening dust with a vacuum cleaner. Make sure that the roughened surface is not touched by the vacuum cleaner nozzle



Apply the vulcanisation agent:

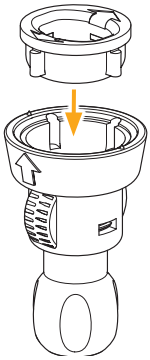


- Apply a thin, even layer of CEMENT SC-BL (approx. 0.45 g to 0.75 g) with a brush (the brush is mounted on the inside of the vessel lid) within 60 min after buffing. (Alternatively, use a clean brush intended only for this application)
- Apply CEMENT SC-BL in circular movements to optimise the drying process.
  Make sure that the brush is only moved in the prepared installation area. This prevents the brush from getting dirty.
- After applying the cold vulcanising agent CEMENT SC-BL, ensure that the CEMENT SC-BL and the contact surface are not touched.

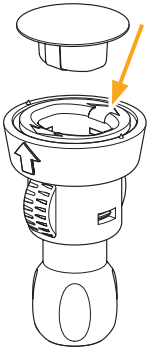
NOTE	
The expected drying time of the CEMENT SC-BL cold vulcanising agent is: – Minimum 2 minutes – Maximum 15 minutes If necessary, perform an tensile stress test after the drying time to determine whether the cold curing agent has dried.	

3.2.6 Apply the tyre sensor with container to the prepared installation surface.

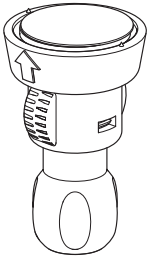
- Check the inlay for dirt.
  Replace a dirty inlay.
- Place the inlay part in pressing tool 2 so that both arrows on the inlay part correspond with those on pressing tool.
  Do not use the pressing tool without the inlay part.



- Insert the tyre sensor container with integrated tyre sensor into the inlay so that the two rotation direction arrows of the tyre sensor match those of the inlay.
  Make sure that the protective film of the tyre sensor container is undamaged and fully adhered to the blue cushion gum.
  Dispose of a tyre sensor container with damaged or detached protective film because permanent attachment in the tyre can no longer be ensured.



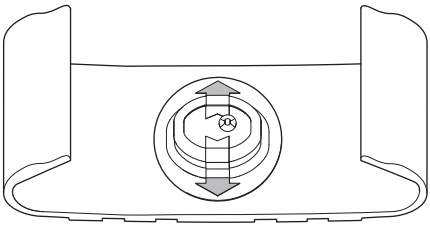
- Remove the protective film from the tyre sensor container and expose the contact surface of the blue cushion gum.
- After removing the protective film, make sure that the blue cushion gum is not touched or soiled.



ATTENTION

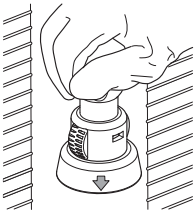
The tyre sensor container with integrated tyre sensor must be positioned optimally to function properly.

► Positioning of the tyre sensor is correct when the arrow on the tyre sensor container points in the direction of motion of the tyres.



Positioned properly

- Align the arrows on the pressing tool with the direction of travel of the tyre and press blue " " installation surface onto the prepared installation surface in the tyre.
- The contact pressure required is indicated by the spring stop.
- Ensure contact pressure for at least 10 s.
  Do not move the pressing tool during the pressing time!
- Then remove the pressing tool carefully.
- Press the edges of the tyre sensor container with the tyre repair/pressure roller. Work out air and excess vulcanising agent.



3.3 Final inspection of the vulcanisation compound of the tyre sensor container

Pay attention to the The following points after installation:

- The vulcanisation time depends on the ambient conditions (temperature and humidity). The ambient temperature must be at least 18°C (65°F).
  Never try to shorten the drying time by using other means (e.g., compressed air, hair dryer, hot air dryer, ...).
- Do not pull on the tyre sensor or the tyre sensor container during (at least) the first 15 minutes.
- Inspect the vulcanisation compound visually.
  When vulcanised properly, the tyre sensor container with integrated tyre sensor is in full contact with the inner layer of the tyre.

NOTE	
▶ If other agents (e.g., Tech720 tyre mounting fluid) are used when fitting the tyres on the rim, the full curing time of 24 hours must be observed so that the fluid does not damage the cold curing system.	
▶ If mounting pastes are used (only the bead area is coated with mounting paste), the tyre can be fitted on the rim immediately after vulcanisation.	

3.4 Instructions for fitting tyres

ATTENTION	Damage to equipment!
Improper tyre fitting can cause damage to the tyre sensor. ► Do not fit the tyres until the full curing time of 24 hours has elapsed. ► Make sure that the tyre sensor is not damaged when fitting tyres using tools such as tyre irons.	

- For tyre pairs:
  To simplify the teach-in process of the tyre sensors, fit the tyre pairs so that the valves and therefore the position of the tyre sensors are offset at 180° to one another.
- It is recommended to mark the tyres that contain a tyre sensor after fitting the tyres.
  Coloured valve caps and corresponding stickers for the wheel housing/ mudguard can be used for this purpose.

NOTE	
Suitable valve caps and stickers can be ordered. Contact the authorised seller or an authorised partner workshop.	

3.5 Retreading

- Remove the tyre sensor before retreading the tyre. The tyre sensor container can remain in the tyre, but must no longer be used to hold a tyre sensor.

NOTE	
After retreading, the tyre sensor must be placed in a **new** tyre sensor container and fitted according to chapters ***"3.2.4 Inserting the tyre sensor into the tyre sensor container"*** to ***"3.2.6 Apply the tyre sensor with container to the prepared installation surface."***.	

3.6 Continued use of the tyre sensor after changing a tyre

When the tyre sensor is to be used again or replaced/or refitted, pay attention to the specified battery service life or operating time of the sensors according to chapter ***"4.3 Tyre sensor"*** into consideration.

4 Technical data

4.1 Ambient conditions

Storage temperature (according to applicable standard)	15 to 25 59 to 77	°C °F
Processing temperature	18 to 45 65 to 113	°C °F
Relative humidity	30 - 80	%

4.2 Tyre sensor container

Diameter incl. blue underlayer	66 2.6	mm inch
Height	22.2 0.874	mm inch
Weight	20 0.71	g oz

4.3 Tyre sensor

Dimensions (L x W x H)	38 x 28 x 22 1.5 x 1.1 x 0.87	mm inch
Weight	26 0.92	g oz
Transmission frequency	433.92	MHz
Reception frequency	125	kHz
Typical service life* of the permanently installed battery, approx.	6 or 600 000 372 820	years km miles
Temperature measuring range	-40 to 120 -40 to 248	°C °F
Pressure measuring range (rel.)	0 to 12 0 to 173	bar psi

* Constantly high tyre inside temperatures (caused for example by high ambient temperature, low tyre pressure, etc.) can decrease the battery service life.

4.4 Approved tyres

With proper installation, all standard commercial tubeless tyres are fundamentally suitable for the installation of a tyre sensor as long as the surface of the tyre inner layer corresponds to the normal market conditions.

The tyre sensor must not be used in tyres with inner tube.

NOTE	**Approved tyres**
The current table of approved tyres can be found at ***https://www.continental-tyres.com/transport/products/overview-product-lines/contipressurecheck/about.*** Contact local customer service for information on approved Continental Commercial Specialty Tires (CST).	

5 Disposal

Consumables and packaging material

Dispose of materials no longer needed, including packaging materials according to local regulations.

Tyre container and tyre sensor

The tyre sensor container remains in the tyre and is disposed of with the tyre.

NOTE	
The tyre sensor must be removed before disposing of the tyre. If the tyre sensor is to be used further, take the specified battery life or mileage of the sensor into account according to the chapter ***"4.3 Tyre sensor"***.	

The tyre sensor contains a lithium battery that is cast into the housing and cannot be replaced.

After reaching the end of its service life, the tyre sensor must be disposed of according to all current local, regional and national laws and regulations. For this purpose, it is necessary to return it to an authorised Continental sales partner or the central collection point.

Address of the central collection point:

Continental Trading GmbH

„Abteilung Entsorgung"
VDO-Straße 1,
Gebäude B14,

64832 Babenhausen

Germany

Continental Reifen Deutschland GmbH
Büttnerstraße 25
30165 Hanover
Germany

www.contipressurecheck.com
www.continental-truck-tires.com
www.continental-corporation.com

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