Continental
The Future in Motion

ContiPressureCheck™

The tire pressure monitoring system

GB Installation Manual

ContiPressureCheck™

Table of Contents

Table of Contents

1 General

1.1 Information on this Installation Manual

This Installation Manual is intended for qualified technicians with technical know-how in vehicle electrics and tire fitting.

Knowledge of its contents enables the ContiPressureCheck™ System (CPC System) to be installed on commercial vehicles.

Special instruction by qualified staff of Continental Reifen Deutschland GmbH or their contractors is necessary for installing and activating the system.

This Installation Manual is a crucial aid to the successful and safe installation of the system. It contains important instructions on installing and operating the system correctly and safely. Observation of its contents helps avoid dangers, increase the reliability and service life of the system and maintain the system warranty, but is no substitute for the above-mentioned special instruction.

Insure that online access to Installation Manual is available in the garage conducting the install. It must be read and observed by everyone who is involved with

- Installation,
- Activation,
- Operation
- and/or Diagnosis

of the system.

Observe the instructions contained – in particular the safety instructions.

1.2 Liability disclaimer

The manufacturer assumes no liability for damage and operational faults resulting from:

- Failure to observe this Installation Manual,
- Used for other than the intended purpose,
- Installation by unqualified or insufficiently qualified personnel,
- Faulty installation,
- Use of other than original CPC spare parts and accessories,
- Technical changes and modifications,
- Failure to perform the prescribed visual inspections (see Chapter ***„5.5 Final inspection of the bonding of the Tire Sensor Container“***) after installation of the Tire Sensor.

1.3 Explanation of symbols

Warnings are additionally identified in this Installation Manual by warning symbols. The following warning symbols are used in this Installation Manual:

Symbol	Meaning
	General warning
	Electric shock hazard
	Hazard from health-endangering or irritant substances
	General instructions and useful suggestions on handling
	Note on observing environmental regulations for disposal
	Electric/electronic components with this symbol may not be disposed of in the normal household waste.

1.4 Abbreviations

The following abbreviations are used in this Installation Manual:

Abbreviation	Meaning
ADR	European agreement on international carriage of dangerous goods by road (**A**ccord européen relatif au transport international des marchandises **D**angereuses par **R**oute)
ATL	**A**uto **T**railer **L**earning
CAN	Data bus system for communication between vehicle systems (**C**ontroller **A**rea **N**etwork)
CCU	**C**entral **C**ontrol **U**nit
CPC	**C**onti**P**ressure**C**heck™
DOT	**D**epartment **o**f **T**ransportation
DTC	Error message (**D**iagnostic **T**rouble **C**ode)
GND	**G**rou**nd**
HHT	**H**and-**H**eld **T**ool
IGN	**Ign**ition
Truck	Heavy Goods Vehicles
RSSI	Transmission power of the Tire Sensors (**R**eceived **S**ignal **S**trength **I**ndicator)
Sensor ID	Sensor **id**entification number
SO	**S**urrounding **O**bserver
StVZO	German Road Traffic Licensing Act
SWE	**S**ingle **W**heel **E**xchange
U-bat	Battery voltage

1.5 Warnings

The following warnings are used in this Installation Manual:

⚠ WARNING

A warning of this hazard level indicates a hazardous situation.

If the hazardous situation is not avoided, it can result in serious injuries.

► Follow the instructions in this warning to avoid serious injuries to persons.

⚠ CAUTION

A warning of this hazard level indicates a potentially hazardous situation.

If the hazardous situation is not avoided, it can result in injuries.

► Follow the instructions in this warning to avoid injuries to persons.

ATTENTION

A warning of this hazard level indicates potential damage to equipment.

If the situation is not avoided, it can result in equipment damage.

► Follow the instructions in this warning to avoid the equipment damage.

NOTE

► A note draws attention to additional information of importance for further work or which simplifies the work step described.

1.6 Copyright

This Installation Manual and all documents supplied with this system are protected by copyright.

These documents may not be duplicated either wholly or in part without the express permission of Continental Reifen Deutschland GmbH.

1.7 Warranty terms

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

The latest version can be obtained via your CPC supplier.

1.8 Manufacturer's address

Continental Reifen Deutschland GmbH

Büttnerstraße 25

30165 Hannover

Germany

www.contipressurecheck.com

1.9 After-sales service

In the case of technical questions on the system, please contact your CPC supplier or the authorized garage that installed the CPC system.

2 Safety

2.1 General

This chapter contains important information on all aspects of safety.

Apart from the general safety instructions given in this chapter, further safety instructions relevant to the operations covered are given in each of the chapters.

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

⚠ WARNING

Hazard from failure to observe the safety instructions!

Failure to observe the safety instructions and handling instructions given in this Installation Manual can create considerable hazards.

► Observe the warnings and instructions given here.

2.2 Prohibited modifications

All modifications and changes to the system are prohibited.

The manufacturer assumes no liability for any resulting damage.

2.3 Intended use

This system is only intended for measurement of the tire pressure and internal tire temperature and wireless transmission of the values to an external evaluation unit.

This system may only be used for its intended purpose within the limits stipulated in the technical data.

Use for any other purpose is not considered as intended use.

Operation of the system in a faulty condition is prohibited.

⚠ WARNING

Hazard from use for other than the intended purpose!

Any use other than and/or going beyond the intended use of the CPC system can lead to dangerous situations.

- ▶ Use the CPC system only for its intended purpose.
- ▶ Comply with all instructions in this Installation Manual.

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

The risks associated with such improper use shall be borne solely by the user.

2.3.1 Use of the Tire Sensors

The operator must ensure that tires in which Tire Sensors are installed, are only operated in vehicles, in which monitoring is ensured by the CPC system.

If continuous technical monitoring is not ensured, the operator must make sure that the condition of the Tire Sensor is checked regularly, at the latest after 20 000 km (12 425 miles).

In the case of continued use of the tires on other vehicles where monitoring is not ensured, the Tire Sensors must first be removed from the tires.

2.4 Fundamental safety instructions

Observe the following instructions to avoid accidents during the installation of the system:

- Observe the vehicle manufacturer's safety instructions.
- Take all necessary precautions before jacking up the vehicle, e.g. to prevent rolling away.
- Observe the safety at work regulations of the country in question.
- Ensure adequate lighting conditions at the place of work.
- The place of work and the tools used must be in a clean and safe condition.
- Defective components may only be replaced with original CPC spare parts. Only these parts ensure that the safety requirements are satisfied.
- Check all screw and plug-in connections at regular intervals when using the CPC system.

2.5 Particular hazards

⚠ CAUTION

Danger of short-circuit!

Danger of short-circuits when working on the vehicle electrical system.

- ▶ Observe the vehicle manufacturer's safety instructions.
- ▶ Switch off all electrical equipment before disconnecting the battery terminals.
- ▶ Disconnect the minus terminal **before** the plus terminal.

- Do not kink cables, place cables under strain or lay cables over sharp edges.
- Do not install cables in the vicinity of rotating, moving or hot parts.
- For cables, observe a bending radius of at least 15 mm (0.6 inches); for corrugated tubes a bending radius of at least 35 mm (1.4 inches).
- Ensure that plug connectors are clean and dry, and that they are securely locked after connection.
- Secure the respective wiring harness after appropriately max. 10 cm (4 inches) in front of and behind every plug connection.
- Pay attention to effective sealing of the cable feedthroughs in the vehicle cab and in fuse and distribution boxes.
- Use only suitable tools for stripping the cable insulation and for crimping cable shoes.
- The installation of the CPC system on the vehicle (in particular when connecting to the power supply) must not influence the function of other systems on the vehicle (e.g. brake system or light system).

- **Special feature in the case of a vehicle for hazardous materials (ADR)**:
  If the CPC system is installed in a vehicle for hazardous materials (ADR) and if the CPC system remains switched on although the vehicle ignition is switched off, it is possible that sparks, other ignition sources or similar could lead to a reaction with the hazardous material in the event of a fault.
  This can result in explosion and serious injuries.
  - For this reason, make sure that the power supply of the CPC system is switched off when the vehicle is parked (i.e., ignition is switched off).

2.6 Qualifications for installation

⚠ WARNING

Injury hazard with insufficient qualification.

Installation by unqualified personnel can result in considerable personal injury and equipment damage.

► Have all work carried out only by appropriately qualified staff.

The following qualifications are specified in this Installation Manual:

- **Qualified staff**
  is deemed capable of independently carrying out the work assigned to them and of recognizing and avoiding possible dangers due to their technical training, know-how and experience (tire mounting and repair, mechanical and electrical automotive experience) and their knowledge of the relevant regulations.

The system may only be installed by persons who have been trained for this work and who have technical know-how of vehicle electronics and tire fitting.

2.7 Personal protective equipment

⚠ WARNING

Risk of injury due to wrong or missing protective equipment!

Personal protective equipment must be worn during installation in order to minimize health risks.

- ▶ Wear the necessary protective equipment for the work involved during the installation.
- ▶ Follow the instructions for personal protective equipment posted in the working area.

Wear the following protective equipment during installation:

Symbol	Meaning
	Wear protective goggles.
	Wear protective gloves.
	Wear safety shoes.

3 Technical data

	NOTE
	▶ All components to be installed on the vehicle are designed for an operating temperature range of -40 °C to 85 °C (-40 °F to 185 °F). When other temperature ranges are applicable, it is mentioned in the below tables.

3.1 Tire Sensor

Dimensions (L x W x H)	38 x 28 x 22 1.5 x 1.1 x 0.87	mm inches
Weight	26 0.92	grams 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 tire inside temperatures (caused for example by high ambient temperature, low tire pressure, etc.) can lead to a decrease of the battery service life.

3.2 Central Control Unit (CCU)

Dimensions (L x W x H)	165 x 121 x 65 6.5 x 4.76 X 2.56	mm inches
Weight	390 13.76	grams oz
Supply voltage	12/24	Volts
Reception frequency	433.92	MHz
Minimum mating cycles	10	cycles

3.3 Additional Receiver (optional)

Dimensions (L x W x H)	90 x 42 x 28 3.54 x 1.65 x 1.1	mm inches
Weight	44 1.55	grams oz
Frequency	433.92	MHz
Minimum mating cycles	10	cycles

3.4 Display

Dimensions (L x W x H)	117 x 107 x 40 4.60 x 4.21 x 1.57	mm inches
Weight	240 8.47	grams oz
Supply voltage	12/24	Volts
Minimum mating cycles: - diagnosis plug - connecting plug	 100 10	 cycles cycles
Minimum mating cycles between Display and Display Holder	5	cycles
Operating temperature range	-40 to 85 -40 to 185	°C °F
Readability of the LCD (screen) without restrictions	-20 to 80 -4 to 167	°C °F

3.5 Hand-Held Tool (HHT)

Dimensions (L x W x H)	160 x 90 x 38 6.3 x 3.54 x 1.5	mm inches
Weight	750 26.46	grams oz
Charger supply voltage	220/110	Volts
Transmission frequency	125	kHz
Reception frequency	433.92	MHz
Minimum mating cycles of Diagnosis Cable:		
Plug to Hand-Held Tool	1,000	cycles
All 3 plugs to vehicle components	100	cycles
Operating temperature range	-10 to 50 14 to 122	°C °F
Storage temperature range	-40 to 85 -40 to 185	°C °F

3.6 Pressure Check Indicator

Dimensions (L x W x H)	140 x 140 x 160 5.51 x 5.51 x 6.3	mm inches
Weight	115 4.06	grams oz
Supply voltage	12/24	Volts
Minimum mating cycles	100	cycles

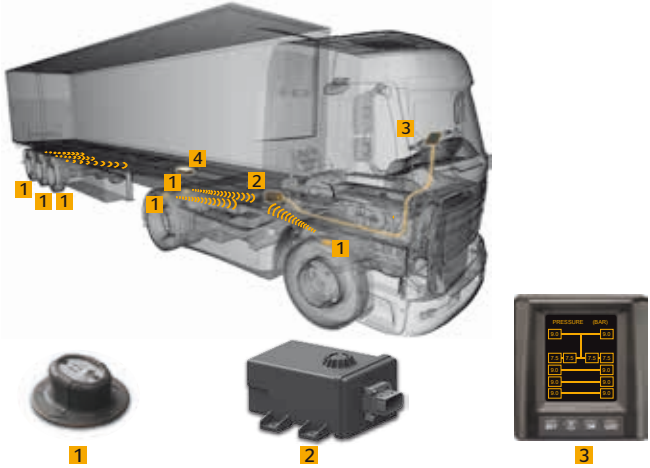
4 Design and Function

4.1 Description of function

The ContiPressureCheck™ System (CPC System) permits continuous monitoring of the tire pressure and tire temperature. The status is shown on the Display. In the event of a pressure drop in a tire, the driver immediately receives a corresponding warning.

The basic system consists of a Display, the Central Control Unit (CCU), and the Tire Sensors. Each Tire Sensor fixed on the inside of the tire, transmits the measured data via a radio signal to the Central Control Unit (CCU). The analyzed data are then transmitted via the CAN bus system to the Display in the driver's cab. The system displays the required information during operation and monitors the temperature and pressure of the tires continuously. In the case of a deviation form the programmed value of the associated recommended pressures, warning is shown on the Display.

4.2 Overview

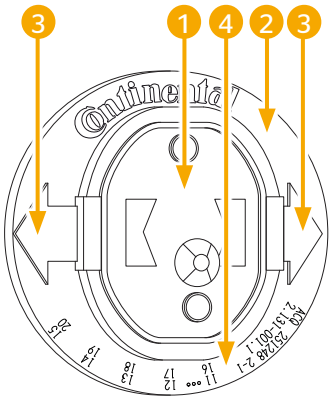


1. Tire Sensor
2. Central Control Unit (CCU)
3. Display
4. Additional Receiver

4.3 Tire Sensor

The Tire Sensor contains a pressure sensor, temperature sensor, acceleration sensor, evaluation circuit, radio transmitter and lithium battery. The unit is molded in a plastic housing and is introduced into a Tire Sensor Container.

The Tire Sensor Container is fixed to the tire inner-liner (for more information, see chapter ***„5.4 Installation of the Tire Sensor“***).



1. Tire Sensor
2. Tire Sensor Container
3. Direction of tire rotation
4. Quarter and year of manufacture

	NOTE
	▶ Under normal conditions, the service life of the battery is approx. 6 years or 600 000 km (372 820 miles) (see also Chapter ***„3.1 Tire Sensor“***). ▶ When the battery has expired, the warning "NO SIGNAL" appears on the Display. As this warning can also have other causes, the status of the battery has to be checked with the Hand-Held Tool at the Tire Sensor. If the status "LOW battery" is displayed, replace the Tire Sensor with a new sensor.

4.4 Central Control Unit (CCU)

The data recorded by the Tire Sensor are transmitted by radio to the Central Control Unit (CCU).

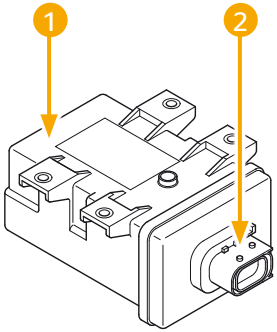
The radio communication is assured by an antenna integrated into the housing of the Central Control Unit which ensures the fault-fre reception of the pressure and temperature signals from all the Tire Sensors.

The Central Control Unit (CCU) is designed for operation in a 12/24 Volt system.

The CCU is installed in a central position on the vehicle chassis so that fault-free radio communication with the Tire Sensors is assured. For most applications a special Bracket is recommended for installation to ensure good radio reception (see Chapter ***„4.7 Bracket“***).

The CCU for tractors, trailers and buses is available in two versions:

- Control unit with black plug:
  without Pressure Check Indicator control
- Control unit with gray plug:
  with Pressure Check Indicator control



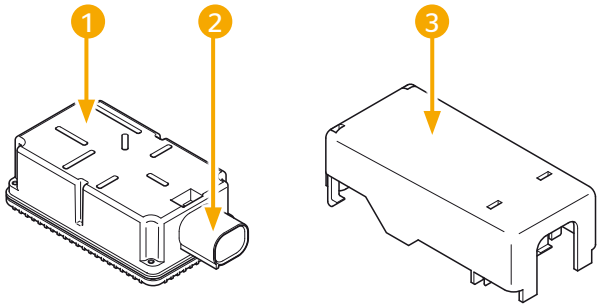
1 Housing
2 Connecting plug

The system can manage up to 24 Tire Sensors per control unit. Faults occurring during operation are stored in the electronics for diagnostic purposes.

4.5 Additional Receiver (optional)

An Additional Receiver is necessary:

- If there is big distance (more than approx. 4 m/4,4 yds) between the tires and the Central Control Unit (CCU).
- For monitoring trailer from the truck.
- For vehicles with more than 2 axles.
- For busses/coaches



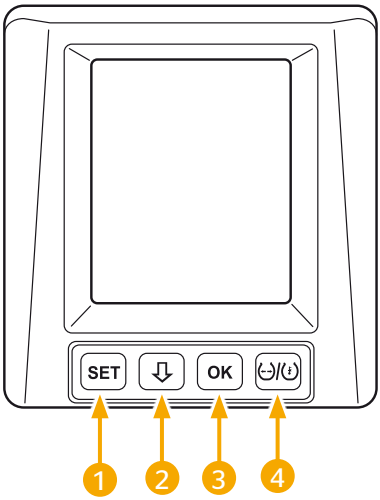
1. Housing
2. Connecting plug
3. Impact Protection

The Additional Receiver must **always** be used with the Impact Protection.

	NOTE
	If the Impact Protection is not used, ▶ the ContiPressureCheck™ system may not be used for transporting hazardous materials (see Chapter ***„14.3 ADR“***). ▶ damage to the Additional Receiver is possible. ▶ the reception range of the Additional Receiver is reduced.

4.6 Display

A Display is installed in the driver's cab to show the tire information. This applies only to trucks and buses, not to trailers.



1. **SET** -button: Switch between vehicle view and settings
2. ⇩ -button: Navigation between menu items and warnings
3. **OK** -button: Confirmation of the selected menu item
4. -button: Switch between pressure and temperature display

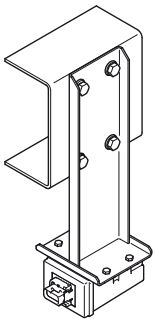
On the rear side are the jacks for:

- Power supply and communication
- Diagnosis Cable

	NOTE
	▶ The Display operates reliably in a temperature range from –20 °C to 80 °C (-4 °F to 176 °F). At temperatures below –20 °C (-4 °F) or above 80 °C (176 °F), the Display may be impaired.

4.7 Bracket

4.7.1 Bracket for the Central Control Unit

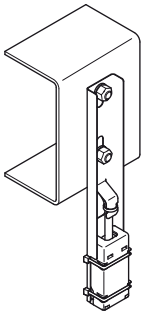


For most applications a special Bracket is recommended for installation of the Central Control Unit (CCU) on the vehicle chassis in order to ensure good radio reception.

NOTE

- Screws, washers and nuts for attachment of the Central Control Unit (CCU) to the Bracket are included in the installation kit.
- Screws for installation on the chassis are not included in the installation kit.

4.7.2 Bracket for the Additional Receiver (optional)



A special Bracket is necessary for fixing the Additional Receiver (and the associated Impact Protection) to the vehicle chassis, in order to ensure good radio reception.

NOTE

- Screws for installation on the chassis are not included in the installation kit.
- The original Bracket must be used, as the Additional Receiver and the mounting of the Impact Protection are matched to the Bracket.

4.8 Wiring the truck/bus with Additional Receiver

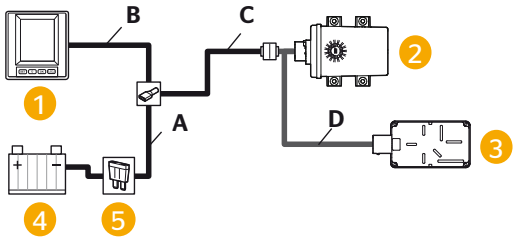
For truck/bus, the CPC system is connected as explained below:

- **Sub-Harness C:**
  Sub-Harness C comprises the connection of the Central Control Unit (CCU) to a distribution point in the vicinity of the driver's workplace. This section is splash water-proof so that it can be laid on the outside of the vehicle.
- **Sub-Harness A and B:**
  Sub-Harness A (with integrated fuse) and B are only conceived for enclosed spaces. A wiring set to the Display (Sub-Harness B), and a wiring set with free cable ends for connection to the supply voltage of the vehicle (Sub-Harness A).

Adapter cable for Additional Receiver:

- **Sub-Harness D:**
  Connection of the Additional Receiver (optional) with the Central Control Unit (CCU) takes place via Sub-Harness D.

The basic principle of wiring for the truck/bus with Additional Receiver is shown in the following illustration:

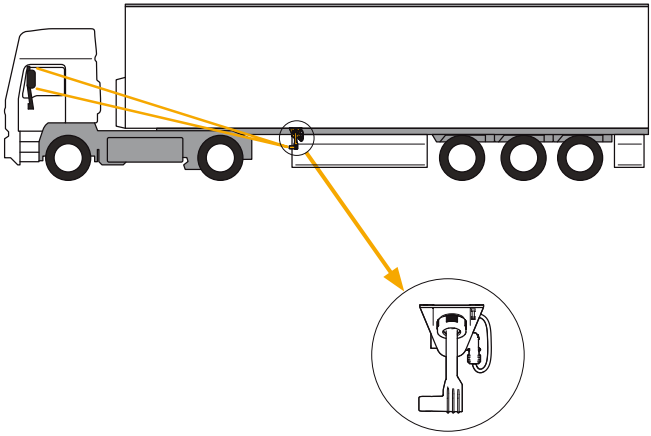


1. Display
2. Central Control Unit (CCU)
3. Additional Receiver
4. Power supply (fuse box)
5. ATO fuse 1 amp - exchangeable

4.9 Pressure Check Indicator for trailer/semi-trailer

The trailer/semi-trailer can be operated with a separate Central Control Unit (CCU) independent of the towing vehicle. In this case, a Pressure Check Indicator is installed on the outside of the trailer.

An example of the positioning of the Pressure Check Indicator is shown in the following figure:

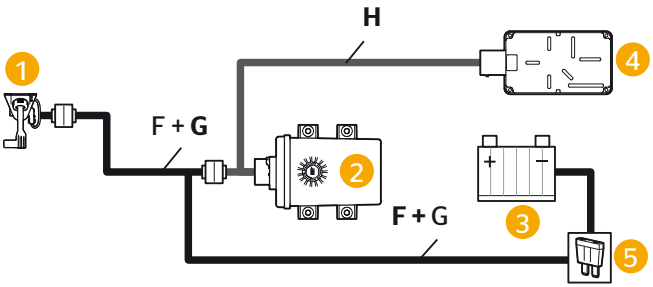


	NOTE
	▶ Above a speed of 110 kph (70 mph) the visibility of the Pressure Check Indicator may be restricted.

4.10 Wiring trailer/semi-trailer

- **Harness F + G:**
  Harness F + G connects the Central Control Unit (CCU) to the vehicle power supply (branch F) and the port for the Hand-Held Tool/Pressure Check Indicator (branch G).
- **Sub-Harness H (optional):**
  Connection of the Additional Receiver (optional) with the Central Control Unit (CCU) takes place via Sub-Harness H.

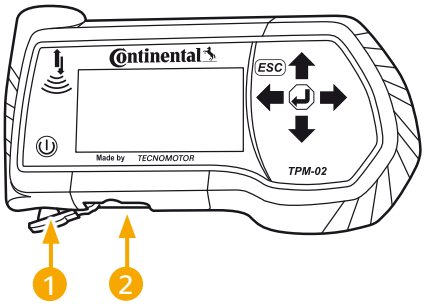
The basic wiring principle for the trailer/semi-trailer with Additional Receiver is illustrated in the following diagram:



1. Pressure Check Indicator
2. Central Control Unit (CCU)
3. Power supply (distribution box)
4. Additional Receiver
5. 1 amp ATO fuse - exchangeable (included in the mounting kit)

4.11 Hand-Held Tool, Diagnosis Cable

After installation, the system is initialized using the Hand-Held Tool.



1 Charging cable port

2 USB and Diagnosis Cable port

The Hand-Held Tool is connected to the Display or to the diagnostic plug of the trailer by means of the Diagnosis Cable. A port is provided for this on the housing of the Display and on the Hand-Held Tool. The diagnostic plug of the trailer is the mating plug on the Pressure Check Indicator (see branch G or Harness F+G).

NOTE

- The Hand-Held Tool works safely in a temperature range from –10 °C to 50 °C (14 °F to 122 °F). At temperatures below –10 °C (14 °F) or above 50 °C (122 °F), the display and transmitting power may be impaired.
- Comprehensive operating instructions for the Hand-Held Tool can be found at www.contipressurecheck.com in the manual of the of the Hand-Held Tool.

4.12 Spare parts

An overview of available spare parts and the associated article numbers can be obtained from your CPC supplier or from authorized CPC partner garage.

5 Installation

5.1 Scope of supply

	NOTE
	▶ Check the entire delivery for completeness and visual damage. ▶ On delivery of the system, note any damage due to improper packaging or transport damage on the delivery note and report it to your sales contact immediately.

5.2 Disposal of the packaging materials

The packaging protects the system against transport damage. The packaging materials have been selected in line with environmental and disposal aspects and are therefore recyclable.

Recycling the packaging saves raw materials and reduces the production of waste. Packaging materials which are no longer needed should be disposed of in accordance with the local regulations.

5.3 General instruction

For proper and efficient installation and in order to avoid mistakes, the sequence of the installation steps described below must be strictly observed.

	NOTE
	▶ The CPC system must be installed no later than 2 years after packing of the kits due to ageing of the rubber (used particularly in the Tire Sensor Container and Pressure Check Indicator) and due to storage life of battery used in Tire Sensor. Refer to the sticker on the kit for the packing date. ▶ The storage life of the Cyberbond CB 2250 Glue is shorter (observe the expiry date and storage instructions on the packaging).

5.4 Installation of the Tire Sensor

5.4.1 Fundamental safety instructions:

- Installation may only be carried out by appropriately qualified staff.
- The place of work must be adequately ventilated.
- Ensure adequate lighting conditions at the place of work at all times.
- The place of work and the tools used must be in a clean and safe condition.
- Store all products used according to the packaging specifications.
- Keep tools, cleaning agents and Cyberbond CB 2250 Glue out of the reach of unauthorized persons and children.
- When fitting the Tire Sensor, the use of Cyberbond CB 2250 Glue is mandatory.

5.4.2 Particular hazards

⚠ WARNING

Risk of injury!

Risk of injury when working with the pneumatic grinder!

- ▶ Observe the manufacturer's safety instructions.
- ▶ Wear goggles and protective gloves.
- ▶ Wear ear protectors, if necessary.

⚠ WARNING

Risk of injury when working with Cyberbond CB 2250 Glue!

Skin and eyelids are stuck together within seconds.

- ▶ Observe the manufacturer's safety instructions.
- ▶ Wear goggles and protective gloves.

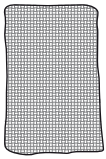
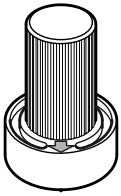
⚠ WARNING

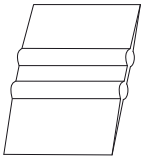
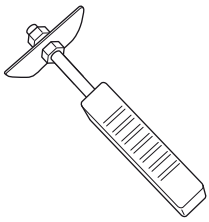
Health hazard from cleansing agents!

Hazards in the form of burns, irritation of the skin or health-endangering vapors can occur when working with cleansing agents.

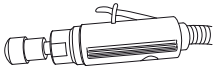
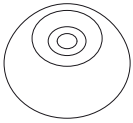
- ▶ Pay attention to and follow the safety instructions of the cleaning agent manufacturer.
- ▶ Wear protective gloves.
- ▶ Ensure good ventilation.

5.4.3 Tools and materials required

	Protective gloves (not included in the delivery)
	1 x cleaning agent containing naptha ("Liquid Buffer" from Tip Top or Continental, as well as "Pre-Buff Cleaner" from PREMA) Continental article no.: 17080300000 Cleaning agent for pretreatment of the tire inner-liner and the bonding surface of the Tire Sensor. ("Liquid Buffer" from Tip Top and "Pre-Buff Cleaner" from PREMA are not included in the delivery)
	1 x cleaning cloth Cleaning cloth for cleaning the bonding surfaces. (not included in the delivery)
	1 x Tire Sensor Mounting Tool (including Insert) article no.: 17340190000 Insert (Mounting Tool) (replacement part) article no.: 17340220000 Tool for mounting the Tire Sensor.
	1 x Glue Cyberbond CB 2250 Glue for affixing the Tire Sensor (Part of every Tire Sensor Kit)

	1 x Spatula Tool for spreading the Glue on the Tire Sensor. (Part of every Tire Sensor Kit)
	1 x Cleaning Scraper Article No.: 17341300000 Scraper for pretreatment of the tire inner-liner.

Additional tools for removing any ventilation ribs in the bonding area of the tire inner-liner (not included in the delivery):

	Pneumatic grinder, slow-running (max. 3600 rpm)
	Contour disc, for low speeds (65 mm, K 36) e.g., TipTop article no.: 595 4357

5.4.4 Information on Cyberbond CB 2250 Glue

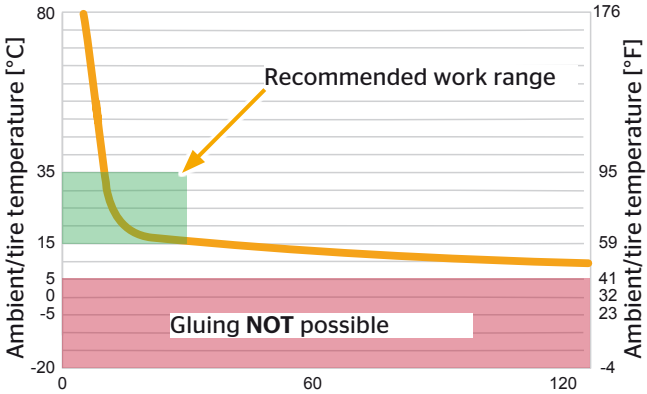
ATTENTION

Damage to equipment!

Improper gluing of the Tire Sensor Container in the tire can result in damage to the tire and the Tire Sensor.

- ▶ Safe gluing is not possible below 5 °C (41 °F) (see red area).
- ▶ To bond safely, pay attention to the recommended pressing time in relation to temperature.

Drying time for Cyberbond CB 2250 depending on the ambient/tire temperature::



recommended pressing time for Cyberbond CB 2250 [sec]

- The recommended ambient/tire temperature for gluing with Cyberbond CB 2250 is 15-35 °C (59-95 °F).
  - see green area.
- The tire and the Tire Sensors Container must be close to the recommended ambient temperature.

	NOTE
	▶ After the recommended pressing time, the bonding exhibits enough basic stability to allow tire fitting on the rim.

5.4.5 Place of work

Before starting work, prepare the place of work so that all the necessary tools and materials are within easy reach.

	NOTE
	▶ The tires should have a temperature of 15 °C to 35 °C (59 °F to 95 °F) for bonding. If the temperature is lower, the required pressing time increases considerably during the gluing process (see diagram in the Chapter ***„5.4.4 Information on Cyberbond CB 2250 Glue“)***. Safe gluing is not possible below a temperature of 5 °C (41 °F). ▶ The place of work must be adequately ventilated. ▶ Position the tire so that the inner area of the tire is easily accessible and well illuminated.

5.4.6 Permissible tire sizes

With proper installation, most standard tubeless truck tires are fundamentally suitable for the installation of a Tire Sensor as long as the surface of the tire inner-liner is according to the normal market.

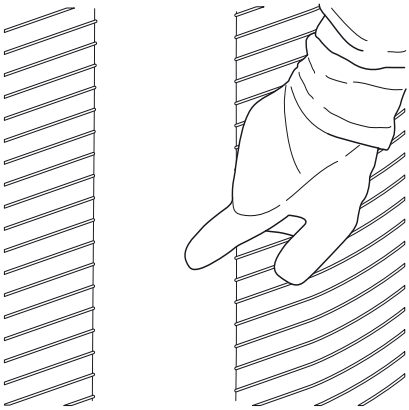
The current table with permissible tire sizes can be found at www.contipressurecheck.com.

	NOTE
	▶ The Tire Sensor must not be used in tires with inner tube.

5.4.7 Bonding position in the tire

The correct position of the bonding surface is:

- In the middle of the tire inner-liner.
- In the area of the DOT (Department of Transportation) stamp.



Dimensions of the bonding surface:	approx. 6 x 6 cm (approx. 2.5 x 2.5 inches)
Dimensions of the area to be cleaned:	approx. 7 x 7 cm (approx. 3 x 3 inches)

	NOTE
	▶ The Tire Sensor Container should preferably be bonded to a smooth surface. ▶ Bonding on a honeycomb structure is possible. Minor unevenness can be compensated with Glue. ▶ Remove ventilation ribs in the area of the bonding surface before the bonding process. See Chapter ***„5.7 Removing ventilation ribs in the bonding area“***. ▶ The preparation is intended to that the entire surface of the Tire Sensor Container makes contact. It is important to make sure that the Tire Sensor Container edges are completely bonded. ▶ Avoid direct sunlight and drafts on the bonding area.

5.4.8 Pretreatment of the bonding surface

ATTENTION

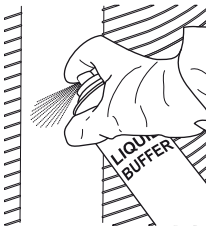
Risk of damage due to improper cleaning of the bonding surfaces.

The Tire Sensor and the Tire Sensor Container can become loose and cause permanent damage to the tire.

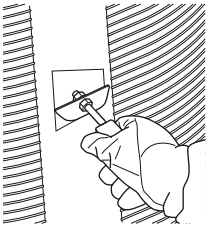
- **Brake cleaner** or similar substances may never be used for cleaning the glue surfaces since this will impair the bonding process.
- Furthermore, the use of **brake cleaner** can damage the tire.

NOTE

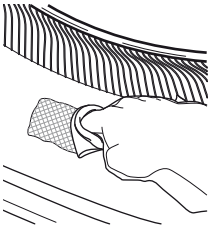
- Due to tests performed by Continental Reifen Deutschland GmbH, it is recommended to use "Liquid Buffer" from Tiptop, Continental or "Pre-Buff Cleaner" from PREMA (see Chapter ***„5.4.3 Tools and materials required“***) to clean the bonding surfaces.
- If any other products are used for cleaning, Continental Reifen Deutschland GmbH cannot guarantee that adhesion is sufficient for the application.
- Pay attention to the additional/updated instructions on ContiPressureCheck installation and use at: **www.contipressurecheck.com**



- To clean the bonding surfaces, align the tire so that excess cleaning agent can flow out of the bonding area.
- Shake the spray can (Liquid Buffer or Pre-Buff Cleaner).
- Spray the complete dry bonding surface to be cleaned with the cleaning agent from a distance of approx. 20 cm (8 inches).



- Use considerable force to scrape the bonding area to be cleaned several times until the bonding area is dry. Take care not to damage the tire inner-liner.
- Repeat the cleaning process at least 2 times.

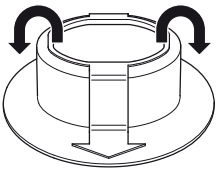


- Afterwards, moisten the entire bonding area to be cleaned with the cleaning agent and clean thoroughly with the cleaning cloth. Wipe only in one direction and always use clean areas of the cleaning cloth. Do not rub any dirt into the bonding surface.
- Repeat this process until the area to be cleaned clearly differs from the uncleaned area.

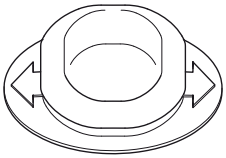
- Remove any residue from the tire caused by scraping an cleaning.
- Mark the outer edge of the bonding surface with chalk. Be careful not to get chalk on the bonding surface.
- Then, allow cleaning agent on the surface to evaporate for approx. 3 minutes.

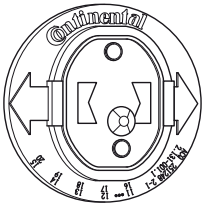
5.4.9 Inserting the Tire Sensor into the Tire Sensor Container

	NOTE
	▶ Normally, the Tire Sensor is inserted in the Tire Sensor Container before delivery.

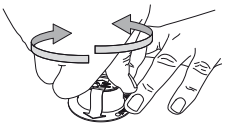


- Turn the sealing lip of the Tire Sensor Container inside out.
  Tip: Turning the sealing lip inside out on the short side of the Tire Sensor Container is the easiest way (see black arrow in the adjacent illustration).
- Moisten the remaining surface in the Tire Sensor Container slightly with tire mounting lubricant.



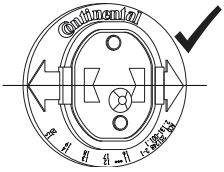


- Insert the Tire Sensor into the Tire Sensor Container. The direction of rotation arrows on the Tire Sensor Container continue onto the sensor (see illustration).
- Push the sealing lip if the Tire Sensor Container back up. The sealing lip of the Tire Sensor Container must lie uniformly around the circumference on the top of the sensor.



- To ensure that the Tire Sensor sits better inside the Tire Sensor Container, it is recommended to position the Tire Sensor in the Tire Sensor Container by turning it correspondingly to the right/left.

The Tire Sensor is correctly inserted in the Tire Sensor Container when:



1. The arrows on the Tire Sensor Container continue exactly onto the Tire Sensor.
2. A slight elevation on the surface of the Tire Sensor is visible and can be felt.

Faulty installation causes damage to the Tire Sensor during operation. In this case, the CPC system indicates **"CHECK SENSOR / DEMOUNT TIRE“.**

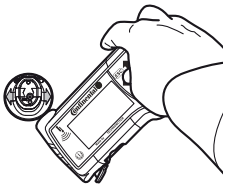
ATTENTION

Damage to equipment!

Improper insertion of the Tire Sensor into the Tire Sensor Container causes damage to the Tire Sensor and minimizes the CPC system performance.

- ▶ The Tire Sensor **must** be inserted correctly according to the specifications.
- ▶ The Tire Sensor may **not** be insert and operated transverse to the rolling direction or upside down.

5.4.10 Tire Sensor activation



To activate the Tire Sensor, proceed as follows:

- Select the **"Activate Sensor"** menu item in the Hand-Held Tool and confirm with the Return button.
- Bring the Hand-Held Tool close to the Tire Sensor. The Hand-Held Tool performs activation.

After activation, "**Sensor successfully activated“** is displayed.
The Hand-Held Tool subsequently displays the current Tire Sensor data:

- Tire Sensor ID
- Pressure
- Temperature
- State

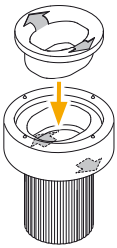
The status must be **"Activated"**.

If further messages are displayed, the Tire Sensor must be replaced and activated again.
Possible messages are:

- Sensor DEFECTIVE
- LOW battery
- Sensor is LOOSE
- ACC: > 5 g/< -5 g

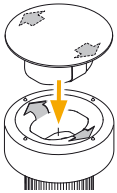
For an explanation on the messages of the Hand-Held Tool, see ***"Hand-Held Tool user manual"***.

5.4.11 Inserting the Tire Sensor Container with integrated Tire Sensor into the Mounting Tool

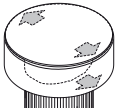


- Place the Insert in the Mounting Tool so that the two arrows on the Insert correspond with those on the Mounting Tool.

	NOTE
	▶ Do not use the Mounting Tool without the Insert.



- Put gently the Tire Sensor Container with integrated Tire Sensor into the Insert so that the two arrows on the Tire Sensor Container are aligned with those on the Insert.



- The Tire Sensor Container base surface must be in contact with the Mounting Tool all round, otherwise check the position of the Tire Sensor in the Tire Sensor Container.

5.4.12 Cleaning the bonding surface on the Tire Sensor Container

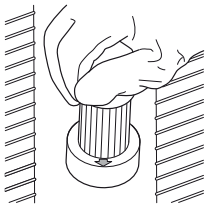
- Shake the spray can (Liquid Buffer or Pre-Buff Cleaner).
- Spray the cleaning agent onto the cleaning cloth.
- Clean the bonding surface afterwards with the moistened cleaning cloth.
- Perform this cleaning process at least 2x, but continue until the area to be cleaned clearly differs to the uncleaned area.
- Then, allow cleaning agent on the surface to evaporate for approx. 3 minutes.

5.4.13 Bonding of the Tire Sensor Container with integrated Tire Sensor

- Before bonding, it is important to pay attention to the recommendation with respect to the ambient temperature, the temperature of the tire and the Tire Sensor Container, to ensure safe bonding (see Chapter **„5.4.4 Information on Cyberbond CB 2250 Glue“**)

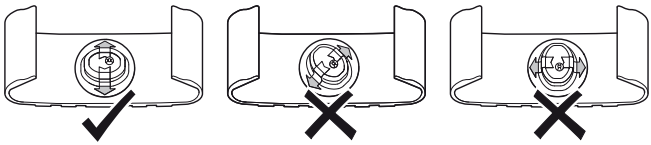
	NOTE
	▶ Cyberbond CB 2250 Glue contains a fluorescent agent which will enable verification of use.

- Check the position of the Tire Sensor Container with integrated sire sensor in the Mounting Tool.
- Apply approx. 1 unit (see graduation marks on flask) of the Glue to the bonding surface of the Tire Sensor Container and spread uniformly using the spatula.
- Immediately after applying the Glue, press the Tire Sensor Container with integrated Tire Sensor perpendicularly onto the cleaned bonding surface using the Mounting Tool. For proper positioning on the tire inner-liner, see Chapter ***„5.4.7 Bonding position in the tire“***.



- Press the Tire Sensor Container with integrated Tire Sensor perpendicularly, firmly and steadily onto the tire inner-liner with a weight of at least 5 kg (11 lbs) for approx. 45 seconds using the press-in tool.
  Do not move/swivel the Mounting Tool for 45 seconds!
- Finally, release the Mounting Tool by moving it lightly back and forth.
  Avoid strong, jerky movement!

Positioning of the Tire Sensor is correct when the arrows on the Tire Sensor Container are in the direction of motion of the tires.



5.5 Final inspection of the bonding of the Tire Sensor Container

- Inspect the bond visually. When bonded properly, the Tire Sensor Container with integrated Tire Sensor is lying completely on the inner-liner of the tire.
- Carefully wipe any residual glue projecting over the edge of the Tire Sensor Container away. Do not pull on the Tire Sensor or the Tire Sensor Container during (at least) the first 15 minutes.
- The tires can be fitted immediately after bonding.

5.6 Instructions for tire fitting

5.6.1 Alignment of the tires

	NOTE
	▶ In order to be able to better identify the position of the Tire Sensor from the outside after fitting the tire, position the Tire Sensor bonded into the tire in the area of the DOT stamp close to the valve seat. ▶ For twin tires: To simplify the teach-in process of the Tire Sensors, fit the twin tires so that the valves and therefore the position of the Tire Sensors are at 180° offset to each other. ▶ When fitting the tire using tools such as tire levers, ensure that these do not damage the Tire Sensor.

5.6.2 Marking the wheels equipped with Tire Sensors

After fitting the tires, it is recommended to mark the tires that contain a Tire Sensor.

For this purpose:

- Attach the stickers supplied to the respective wheel housings/mudguards so that they are clearly visible (one sticker per wheel)
- Replace the valve caps with the CPC valve caps supplied.

	NOTE
	▶ The stickers are not suitable for attaching to the rims or tires. ▶ Before attaching the stickers, clean the area with a suitable cleaning agent.

5.7 Removing ventilation ribs in the bonding area

ATTENTION

Tire damage due to damage to the tire inner-liner!

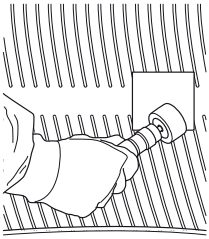
Damage to the tire inner-liner can cause impairment of the service life of the tire.

- ▶ Remove only the ventilation ribs.
- ▶ Have the work carried out only by staff trained in tire repairs.

Tool required:

- Marking pen or chalk
- Goggles, protective gloves
- Slow-running pneumatic grinder
- Brass brush
- 65 mm /K36 (2-1/2", SSG230) contour disc
- Wet/dry vacuum cleaner

Proceed as follows:



- ◆ Mark the area of approx. 8 x 8 cm (3 x 3 inches) to be roughened with a marking pen or chalk.
- ◆ Roughen the tire inner-liner with a contour disk. At the same time, remove all ventilation ribs in bonding area until the surface is smooth. Only press the contour disc lightly and move continuously to prevent holding down at one place.

NOTE

- ▶ Create a rough patch of Type RMA 3 using the contour disc.

- ◆ Clean the roughened area with a brass brush.
- ◆ Completely remove all roughening dust with a wet/dry vacuum cleaner.
- ◆ Subsequently continue the bonding process as described from Chapter **„5.4.8 Pretreatment of the bonding surface“**.

5.8 Retreading

- Before retreading the tire, remove the Tire Sensor. The Tire Sensor Container can remain in the tire.
- After retreading, insert the Tire Sensor into a new Tire Sensor Container, see Chapter ***„5.4.9 Inserting the Tire Sensor into the Tire Sensor Container“*** and then insert into the tire.
- Activate Tire Sensor as discribed in Chapter ***„5.4.10 Tire Sensor activation“***.

5.9 Continued use of the Tire Sensor after changing a tire

When the Tire Sensor is to be used again when a tire is replaced/or refitted, take the specified service life of the battery or operating time of the sensors according to Chapter ***„3.1 Tire Sensor“*** into consideration.

5.10 Use of balancing substances in commercial vehicle tires

Numerous balancing substances from different manufacturers are available on the market for filling tubeless utility vehicle tires before the fitting process. These are predominantly pellets, pastes or liquids and mineral-based substances whose effect (in operation) is intended to eliminate the need for conventional balancing of the wheels.

We neither recommend nor expressly forbid the use of these substances in our tires: Continental Reifen Deutschland GmbH can give no generally applicable comments on the quality and field of application of these substances as they can vary from manufacturer to manufacturer.

The user of such substances should ask the respective manufacturer/dealer about their properties in detail before using them in tires. Ultimately the user has to decide on the method of balancing of commercial vehicles tires and on the use of balancing substances with respect to the specific operating conditions of the tire.

The use of balancing substances in commercial vehicle tires from the Continental Group does not automatically lead to the voiding of the liability for technical defects. However, tire damage and damage to the ContiPressureCheck™ components caused or enhanced by the use of balancing substances is not covered under the ContiPressureCheck™ warranty.

Balancing substances should be completely removed from the removed tire before the tire is sent to the incoming inspection for retreading or repair. We should also point out that we will completely remove any balancing substances in tires sent to us with complaints. Balancing substances removed from the tires will not be returned nor will any refund be given.

5.11 Installation of the Central Control Unit on truck/bus

ATTENTION

Damage to the Centrat Control Unit!

When selecting a suitable installation location, observe the following points to avoid damage to the Central Control Unit:

- ▶ Avoid proximity to high temperature sources (e.g., exhaust system), rotating or moving parts.

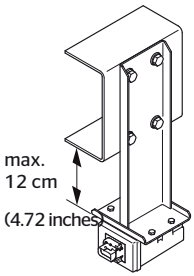
5.11.1 Determining the installation location on the longitudinal member of the truck

- The unit should be installed mid-way between the first and last axle.
- Install the Bracket so that the Central Control Unit (CCU) extends as far as possible under the longitudinal member in order to ensure good radio contact with the Tire Sensors (maintain safety distances e.g. to the road). For good wireless connection, the CCU must not be shielded by metal barriers in the immediate vicinity.
- Choose the distance to the driver's cabin so that the length of Sub-Harness C (9 m/ 9.8 yds) ranges into the fuse box.

NOTE

- ▶ The protruding length of the Bracket (gap: Lower edge of chassis frame to Central Control Unit) must not exceed 12 cm (4.72 inches) (see Chapter ***„5.11.2 Mounting“***).

5.11.2 Mounting

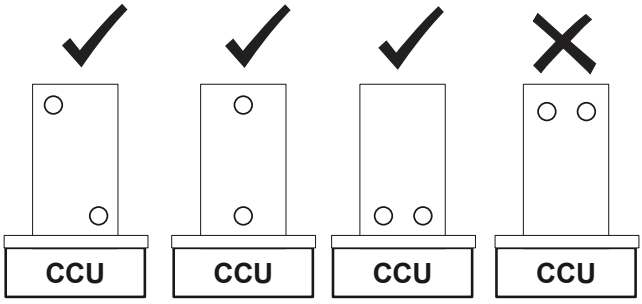


- For fixing the Bracket to the I-beam, use at least 2 of the suitable holes provided. Measure the distance between the existing holes, transfer to the Bracket and install.
- Mount the Central Control Unit (CCU) on the Bracket using the mounting material included in the installation kit. Align the Central Control Unit (CCU) so that the plug-in connection points to the rear of the vehicle.

NOTE

▶ If the installation situation does not otherwise allow, it is possible to align the Central Control Unit with the plug-in connection to the side of the vehicle. However, in this case, damage to the plug / plug-in connection by flying stones cannot be ruled out.

- Use suitable installation materials (bolts min. M 10 (7/16”), strength class min. 8.8 (grade 5.2)), self-locking nuts and washers dia. ≥ 24 mm (1 inch) for attachment to the longitudinal members.
  Preferably, fixing should take place with 4 bolts. If this is not possible, fixing must take place according to the illustration below.



Examples for fixing with 2 screws (the example on the right is a negative example).

5.11.3 Installation location on the bus

In the case of the bus, an Additional Receiver is always required.

Install the Central Control Unit (CCU), preferably on the chassis. If this is not possible, both components can be installed in the trunk. Both components may not be shielded by metal walls to the Tire Sensor.

- Install the Central Control Unit (CCU) in the trunk as close as possible to the front axle.
- Attach the Additional Receiver as near to the rear axle/s as possible.

5.12 Installation of an Additional Receiver (optional)

ATTENTION

Damage to the Additional Receiver!

When selecting a suitable installation location, observe the following points to avoid damage to the Additional Receiver:

- Avoid proximity to high temperature sources (e.g., exhaust system), rotating or moving parts.

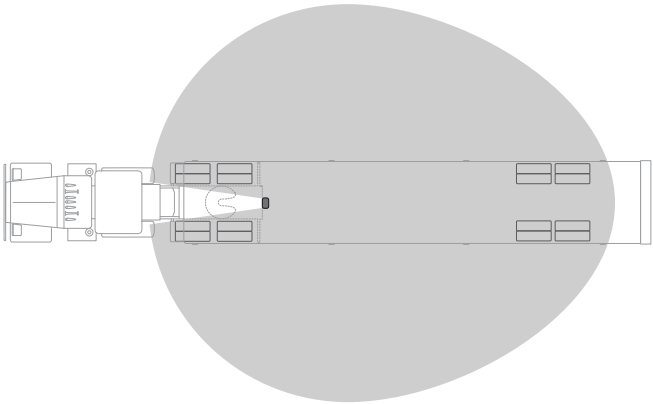
In the case of vehicles with a large wheelbase and vehicles with more that 2 axles, an Additional Receiver is necessary to improve the radio contact.

NOTE

- If an Additional Receiver is installed, the Central Control Unit (CCU) must be attached in the vicinity of the front axle and the Additional Receiver at the rear of the vehicle.

5.12.1 Requirements for optimum reception

The reception area of the Additional Receiver is similar to that of a sphere, whereby the reception quality decreases as the distance to the Tire Sensors increases. Reception is restricted in the area behind the Bracket (see illustration below).



The optimum position of the Additional Receiver is

- in the middle of the vehicle's rear end

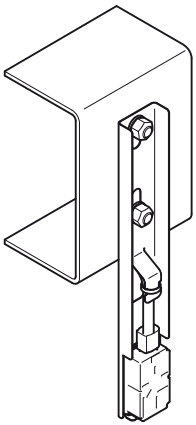
and

- with the smallest possible gap to the floor (observing safety gaps, e.g. to the road).

Ideally, this allows a direct line of sight between the Additional Receiver and the side walls of all tires to be monitored.

	NOTE
	▶ If the Additional Receiver is attached offset to the side, so that the front face points to the tread of some of the tires, there is a risk that reception of the sensor signals from these tires could be impaired.

5.12.2 Positioning the Additional Receiver



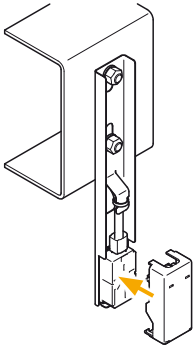
The preferred installation location for the Additional Receiver is the rear of the vehicle, particularly when the trailer also has to be monitored.

- The holes for fitting the Bracket of the Additional Receiver are drilled according to the hole pattern of common tractor units in Europe. If the hole pattern of the Bracket is not available on the chassis, then use the hole pattern available on the chassis and drill the holes accordingly into the Bracket.

	NOTE
	▶ The Additional Receiver should be mounted so that the there is no metal directly behind it. This could impair the reception quality.

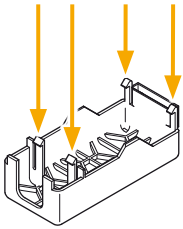
- The Bracket should be mounted so that the open side of the U profile points to the trailer and the Additional Receiver has the smallest possible gap to the ground (observing safety gaps, e.g. to the road).
  Due to the quasi sphere-shaped reception characteristics, not only the trailer tires are monitored in this case, but also the rear axles of the towing vehicle.
- Attach the Bracket with suitable fixing material (at least manufacturing class 8.8 (grade 5.2) screws as well as self-locking nuts and washers). Attach the Additional Receiver with the plug connector facing upwards.

5.12.3 Mounting the Impact Protection on the Additional Receiver

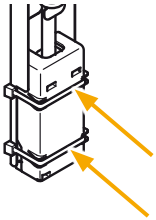


After connecting Sub-Harness D with the Additional Receiver (see Chapter ***„5.13 Installation of Sub-Harness D from the Central Control Unit to the Additional Receiver“***), the Impact Protection must be mounted.

- Place the Impact Protection over the Additional Receiver and anchor it in the Bracket.



- Insert the 4 snap hooks into the corresponding openings of the Bracket and press the Impact Protection against the Bracket so that all 4 snap hooks are engaged.



- Secure the Impact Protection with two cable straps (not included in the delivery) as illustrated.

	NOTE
	If the Impact Protection is not used, ▶ the ContiPressureCheck™-System may not be used for hazardous goods transport (see Chapter ***„14.3 ADR“***). ▶ damage to the Additional Receiver is possible. ▶ the reception range of the Additional Receiver is reduced.

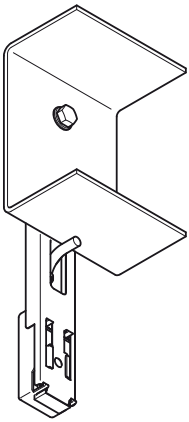
5.13 Installation of Sub-Harness D from the Central Control Unit to the Additional Receiver

ATTENTION

Damage to the wiring harness!

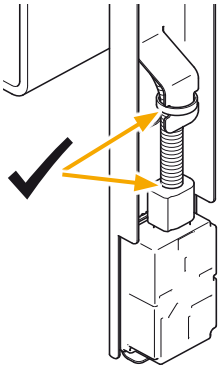
When laying the wiring harness, observe the following points to avoid damage to the harness:

- ▶ Avoid proximity to high temperature sources (e.g., exhaust system), rotating or moving parts.

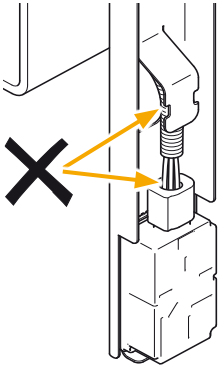


Sub-Harness D of the Additional Receiver is supplied with water-proof plugs. To install Sub-Harness D, perform the following steps:

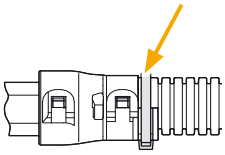
- ◆ Connect Central Control Unit (CCU) first.
- ◆ Lay the cable along the existing wiring harness of the vehicle and fasten loosely with cable straps.
- ◆ Insert the plug of the Additional Receiver into the Bracket from the back and plug-in to the Additional Receiver.



- Push the corrugated pipe onto the plug until it stops and then fix it to the protruding metal latch with a cable strap. If properly mounted, the 3 wires must not be visible (see adjacent examples).
- Secure the cable along the vehicle wiring harness sufficiently with cable straps.
- On the Bracket of the Central Control Unit (CCU), secure the T-cable of Sub-Harness D with a cable strap.
- Lay the excess cable in loops and secure with at least two cable straps.



For the plug connection on the Central Control Unit (CCU) and to Sub-Harness C, the following is recommended:



- Fix the ends of the corrugated pipe with the protection caps using a cable strap at the indicated groove (see arrow) so that the corrugated pipe cannot detach itself from the protection caps in unfavorable conditions.

5.14 Installation of Sub-Harness C from the Central Control Unit to the fuse box

ATTENTION

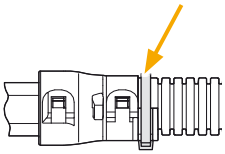
Damage to the wiring harness!

When laying the wiring harness, observe the following points to avoid damage to the harness:

▶ Avoid proximity to high temperature sources (e.g., exhaust system), rotating or moving parts.

- Connect the plug end of Sub-Harness C to the Central Control Unit (CCU) or to the mating plug of Sub-Harness D (if used).
- From there, lay the cable along the existing wiring harness of the vehicle to the driver's cab and fasten loosely with cable straps.
- Lay the wiring harness to the fuse box of the vehicle (see also vehicle operating manual).
- Finally secure the cable along the vehicle wiring harness with cable straps once again.

For the plug connection at the Central Control Unit (CCU) or to Sub-Harness D, the following is recommended:



- Fix the end of the corrugated pipe with protection cap using a cable strap at the indicated groove (see arrow) so that the corrugated pipe cannot detach itself from the protection cap in unfavorable conditions.

5.15 Mounting the Display (optional)

⚠ WARNING

Risk of injury!

The risk of injury cannot be ruled out if the installation instructions are not followed.

- ▶ Mount the Display offset to the side of the driver and the front passenger(s).
- ▶ Do not mount the Display in the impact zone of the body or the head and not in the airbag area (driver & front passenger).

NOTE

The vehicle driver must have a sufficient field of view under all operating and weather conditions.

- ▶ Mount the Display so that the field of view of the driver is not restricted.

5.15.1 Display Holder with suction cup for attaching to the windshield

To attach the Display onto the windscreen, use the Display Holder with the suction cup.

- Connect the Display with the Display Holder supplied. Make sure that the Display is completely snapped and locked into the Display Holder.
- Choose a suitable location on the windscreen. Pay attention to possible dazzling by sunlight.

	NOTE
	National regulations! ▶ If national regulations stipulate that devices may no be attached to the windscreen, mount the Display with the Display Holder according to Chapter ***„5.15.2 Display Holder for screwing to the dashboard“***

5.15.2 Display Holder for screwing to the dashboard

To mount the Display on the dashboard, glue **and** screw the Display Holder on the dashboard.

- Connect the Display with the Display Holder supplied.
- Chose a suitable location on the dashboard. Pay attention to possible dazzling by sunlight.

ATTENTION

Damage!

In the case of improper screwing of the Display Holder, it is possible to damage components or cables in the dashboard of the vehicle:

▶ Before screwing tight, maker sure that components or cables cannot be damaged when fixing the Display Holder.

- Remove the Display from the Dispaly Holder.
- Pull of the protective foil of the contact surfaces on the Dispaly Holder and glue the Display Holder to the desired location.
- Also screw the Display Holder into the dashboard with the 2 screws supplied.
- Connect the Display with the Display Holder supplied. Make sure that the Display is completely snapped and locked into the Dispaly Holder.

	NOTE
	It is recommended to fix the Display Holder by gluing and screwing! ▶ The glue foil compensates unevenness between the Dispaly Holder and installation location and ensures a tighter fit. ▶ The screws secures the Display Holder against vibration during operation and therefore against unintentional loosening.

	NOTE
	Dismantling the Display Holder! ▶ After dismantling the Display Holder, two holes remain in the dashboard. In addition, residual glue could remain on the dashboard.

5.16 Finalizing work during installation on truck/bus

ATTENTION

Danger of short-circuit!

▶ Switch off the ignition before starting work.

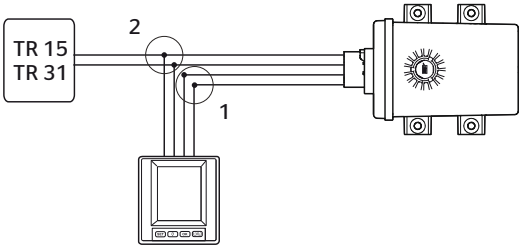
The CPC system can be operated in 2 ways when installed in a truck/bus:

- **CPC as independent system**
  The status of the tires and the warnings are shown on the CPC Display.
  Installation instructions: Chapter ***„5.16.1 CPC as independent system“***.

- **Connection of the CPC system to a third-party system** (e.g., telematic system, dashboard display or vehicle CAN bus)
  The status of the tires, the warnings ad the error messages must then be displayed on another display device.
  Installation instructions: Chapter ***„5.16.2 Connection of the CPC system to a third-party system“***.

5.16.1 CPC as independent system

Basic principle of the wiring:



A plug-in connector is used for 2 wires respectively:

- **Plug-in connector 1** (white):
  Wires are brown and white
- **Plug-in connector 2** (black):
  Wires are red and black

Proceed as follows for installation:

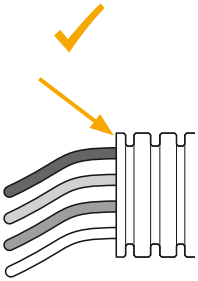
- Identify a suitable cable feedthrough behind the dashboard from the Display to the fuse box; components of the dashboard may have to be loosened for this (see operating manual of the vehicle).
- Lay Sub-Harness B behind the dashboard. Lay the open end from the dashboard to the fuse box.
- Secure the cable sufficiently with cable straps.
- Secure loosened parts of the dashboard again.
- In the fuse box, identify terminal 15 (ignition - IGN) and the terminal 31 (ground - GND). Pay attention to the special instructions in the vehicle operating manual.
- Lay Sub-Harness A from the fuse box to cables B and C. The integrated fuse remains in the wiring harness.

ATTENTION

Danger of short-circuit!

Risk of short-circuit if the fuse is not installed.

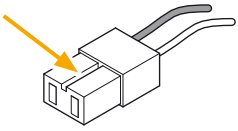
► Do not shorten the Sub-Harness A on the fuse side.



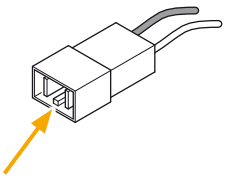
◆ Shorten Sub-Harnesses B and C to the required length, if necessary.

NOTE

► Shorten the corrugated pipe on the wiring harness in "upper" areas and not "lower" areas as shown in the adjacent illustration. Otherwise there is a risk that wires routed on the inside could fray in the "lower" edge during operation.



◆ First fit spade connectors to the two CAN terminals (brown/white) of Sub-Harness C of the Central Control Unit (CCU) and install the connector housing. Polarity of the wires as shown in the adjacent illustration.
The groove (see arrow left) serves as reverse polarity protection.
(The spade connectors and the plug housing are included in "Connector Kit A+B+C".)



◆ Then fit flat connectors to Sub-Harness B and mount the plug housing.
The polarity from connector to socket must correspond.
The ridge (see arrow left) serves as reverse polarity protection.

◆ Connect both white plugs to each other
Check the polarity of the wires by comparing the colors, correct if necessary.

- In the following step, fit flat connectors to the red and black wires of Sub-Harnesses B and C and mount the black plug housings.
  The polarity of the plugs is already prescribed by Sub-Harness A.
  (The flat plugs and the plug housings are included in "Connector Kit A+B+C".)
- Subsequently connect the black plugs of Sub-Harnesses A, B, and C with each other.
- Connect Sub-Harness A to terminal 15 (ignition - red) and terminal 31 (ground - black).
- Subsequently lock the fuse box again properly. Take into consideration that the original sealing of the fuse box must be ensured after completing the installation.
- Connect the plug of the Sub-Harness B to the Display.
- Secure loosened parts of the dashboard again.

	NOTE
	▶ If the CPC is used as independent system, please select the “CPC+J1939” setting for the CAN bus format while using the Hand-Held Tool functions **“Installation - New Installation”** or **“Modification - Modify Installation - Modify Parameters“**.

5.16.2 Connection of the CPC system to a third-party system

5.16.2.1 Safety instructions when using the CPC system connected to third-party system

⚠ WARNING

Risk of injury!

If the CPC system is connected to a safety-related CAN bus, the safety-related CAN messages might be influenced. This can result in accidents and serious injuries.

▶ The CPC system **may not** be connected to a safety-related CAN bus without prior written permission Continental.

The CPC system is designed so that all necessary warnings and error messages are shown to the driver on the Display or via the Pressure Check Indicator as quickly as possible.

If the CPC system is used in conjunction with a third-party system and the Display or the Pressure Check Indicator is not used, then:

- The fleet manger must ensure that the driver is notified appropriately and as quickly as possible when warnings or error messages occur.

	NOTE
	▶ In the case of high-level warnings (see table on following page) and error messages, the driver **must** be notified appropriately when the warning / error message occurs. ▶ In the case of low-level warnings (see table on following page), the driver **should** be notified appropriately when the warning occurs.

The following table provides an overview on possible warnings.

For detailed information and handling instructions on warnings, see the corresponding chapter in the ***User Manual*** of the CPC system.

Priority:	Level	Symbol	Warning message	Reason
High	High	72 2*)	FAST PRESS. LOSS	Continuous, fast pressure loss. Tire damage and tire destruction will occur.
		77 1*), 2*)	VERY LOW PRESSURE	The tire pressure falls below the recommended alarm threshold value. Tire damage or even tire destruction is possible.
		2*)	CHECK SENSOR	The Tire Sensor is no longer properly affixed.
	Low	86 1*)	LOW PRESSURE	The tire pressure falls below the recommended warning threshold value. Tire damage or even tire destruction is possible.
		116	TEMPERATURE	The measured temperature in the tire exceeds 115 °C (239 °F). The Tire Sensor no longer functions at 120 °C (248 °F).
			NO SIGNAL	Due to insufficient signal strength, it is not possible to display a sensor protocol.
Low			SENSOR DEFECT	Tire Sensor is defective

1*) Tire pressure values shown above are for example proposes only. Recommend tire pressure is set according the tire manufactures' guidance by an authorized garage.

2*) High level warnings are indicated by flashing symbols changing between positive and negative mode.

NOTE

▶ For details on possible error messages, see chapter ***„11.1 Trouble shooting for truck/bus“***.

5.16.2.2 Connecting the CPC system to a third-party system

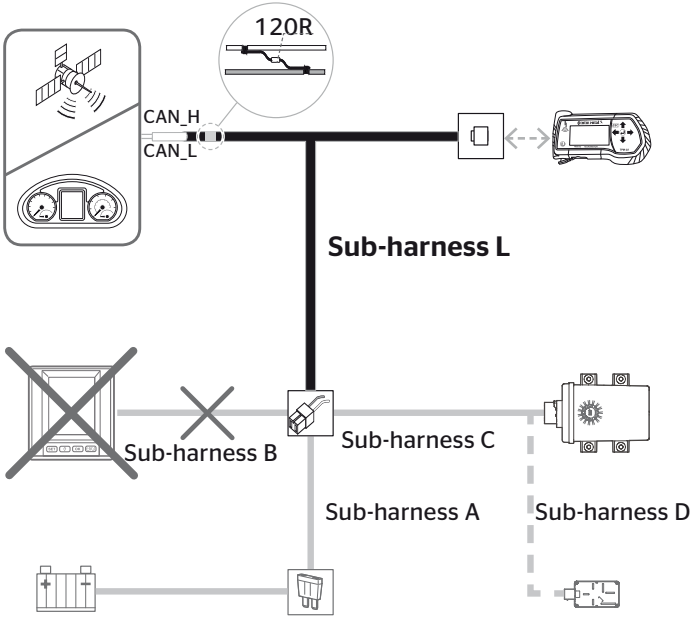
The CPC system has 2 CAN termination resistors. One in the Central Control Unit (CCU) and an other at the open end of Sub-Harness L (marked by the red shrink tube).

Connection of the CPC system to a third-party system requires prior checking and adherence to the following points:

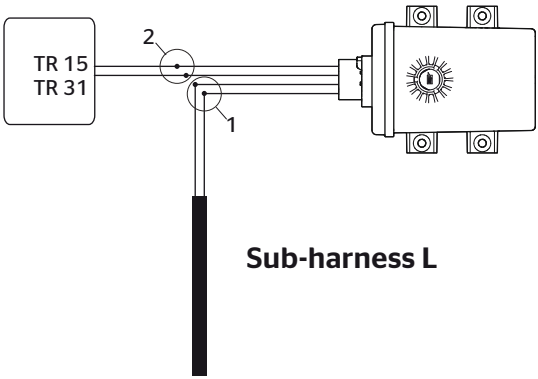
- With the help of the documentation on the third-party system, check whether and which of the two CAN termination resistors of the CPC system are required.
- Observe the specifications of SAE J1939-15, particularly with respect to the permissible lengths of the CAN lines and the branch lines.

	NOTE
	▶ If the Display is also to be used, take into account that one CAN termination resistor is also located in the Display. This cannot be deactivated.

Basic principle of the wiring



Basic principle of the wiring



A plug-in connector is used for 2 wires respectively:

- **Plug-in connector 1** (white):
  Wires are brown and white
- **Plug-in connector 2** (black):
  Wires are red and black

Proceed as follows for installation:

- Find a suitable cable feedthrough to the fuse box. Components of the dashboard may have to be loosened for this (see operating manual of the vehicle).
- In the fuse box, identify terminal 15 (ignition - IGN) and the terminal 31 (ground - GND). Pay attention to the special instructions in the vehicle operating manual.
- Lay Sub-Harness A from the fuse box to Sub-Harness C. The integrated fuse remains in the wiring harness.
- Secure the cable sufficiently with cable straps.

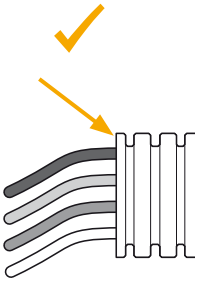
ATTENTION

Danger of short-circuit!

Risk of short-circuit if the fuse is not installed.

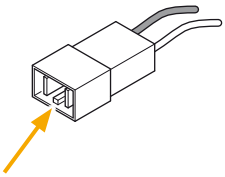
▶ Do not shorten the Sub-Harness A on the fuse side.

◆ Shorten Sub-Harness C to the required length, if necessary.
If Sub-Harness C represents a branch line in the CAN bus network, keep this a short as possible (see specifications from SAE J1939-15).



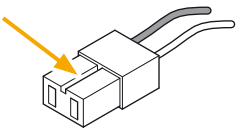
NOTE

▶ Shorten the corrugated pipe on the wiring harness in "upper" areas and not "lower" areas as shown in the adjacent illustration. Otherwise there is a risk that wires routed on the inside could fray in the "lower" edge during operation.



◆ For the connection of the CAN lines, the polarity is specified by the white plug on Sub-Harness L. The ridge (see arrow on the left) serves as reverse polarity protection.

◆ Fit both CAN wires (brown/white) of Sub-Harness C of the Central Control Unit (CCU) with spade connectors and mount the plug housing. Polarity of the wires as shown in the adjacent illustration.
The groove (see arrow left) serves as reverse polarity protection.
(The spade connectors and the plug housing are included in "Connector Kit A+B+C".)



◆ Connect the white plug housings of Sub-Harnesses C and L to each other. Check the polarity of the wires by comparing the colors, correct if necessary.

	NOTE
	Sub-Harness C must be laid so hat the open end (with the white plug) is located **inside** the driver's cabin or **inside** a protected room. ▶ The open end of Sub-Harness C does not meet the ADR requirements. ▶ The open end of Sub-Harness C is not suitable for outside installation (**no** IP69k).

◆ Lay the branch with the open end of Sub-Harness L to the third-party system.
For this, determine a suitable cable feed through out of the fuse box to the access point of the third-party system, components of the dashboard may have to be loosened for this (see operating manual of the vehicle).

	NOTE
	▶ During installation, ensure that the diagnostics plug of Sub-Harness L is positioned for easy access.

◆ Lay Sub-Harness L and secure sufficiently with cable straps.

◆ Fix the branch with the diagnostics plug appropriately.

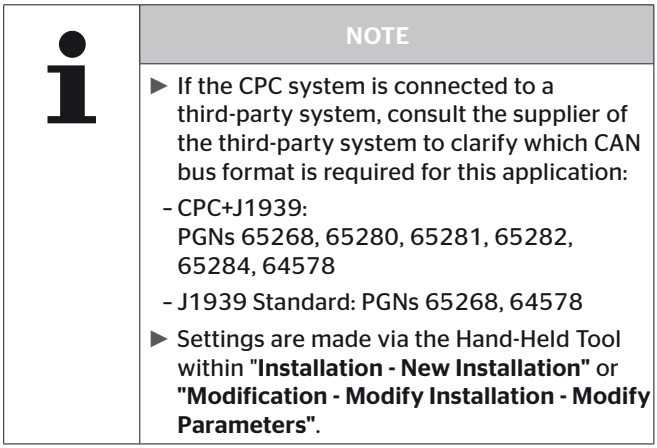
	NOTE
	Sub-Harness L may only be used **inside** the driver's cabin or inside a protected room. ▶ Sub-Harness L does **not** meet ADR requirements. ▶ Sub-Harness L is not suitable for outside installation (**no** IP69k)

For final connection work, pay attention to the following:

Option	Action
Termination resistor of Sub-Harness L not required.	◆ Short the cable accordingly.
Termination resistor of Sub-Harness L is required.	◆ Do **not** shorten cable. ◆ Lay the excess cable in loops and secure with at least 2 cable straps.
Termination resistor in the Central Control Unit (CCU) not required.	◆ Install Sub-Harness E (see chapter ***„5.16.2.3 Deactivating the CAN termination resistor in the Central Control Unit (optional)“***.

◆ Connect the open ends of Sub-Harness L to the third-party system.
Establish the connections according to the manufacturer documentation of the third-party system. Pay attention to the correct polarity.

- Connect the black plug housing of Sub-Harnesses A and C to each other.
- Connect Sub-Harness A to terminal 15 (ignition - red) and to terminal 31 (ground cable - black).
- Subsequently lock the fuse box again properly. Take into consideration that the original sealing of the fuse box must be ensured after completing the installation.
- Secure loosened parts of the dashboard again.



NOTE

- If the CPC system is connected to a third-party system, consult the supplier of the third-party system to clarify which CAN bus format is required for this application:
  - CPC+J1939: PGNs 65268, 65280, 65281, 65282, 65284, 64578
  - J1939 Standard: PGNs 65268, 64578
- Settings are made via the Hand-Held Tool within "**Installation - New Installation**" or **"Modification - Modify Installation - Modify Parameters"**.

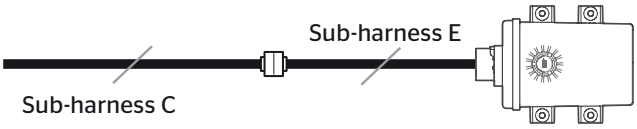
5.16.2.3 Deactivating the CAN termination resistor in the Central Control Unit (optional)

	NOTE
	▶ If the CAN termination resistor of the Central Control Unit (CCU) is deactivated by Sub-Harness E, pay attention to the specifications of SAE J1939-15 or the permissible lengths of the CAN line and the branch lines.

Sub-Harness E must be used when the CAN termination resistor in the Central Control Unit (CCU) must be deactivated (see chapter ***„5.16.2.2 Connecting the CPC system to a third-party system"***).

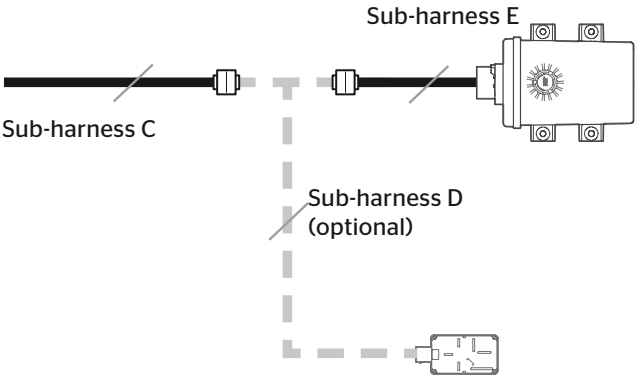
For this, Sub-Harness E must be mounted between Sub-Harness C and the Central Control Unit (CCU) (see illustration below).

Basic principle of the wiring when connecting Sub-Harness E.

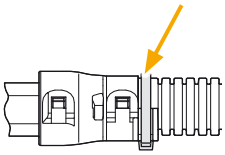


If an Additional Receiver is used, Sub-Harness E can be mounted between Sub-Harness D and the Central Control Unit (CCU) (see illustration below) **or** Sub-Harnesses C and D.

Basic principle of the wiring when Sub-Harness E and the Additional Receiver are used.



For both plug connections of Sub-Harness E, the following is recommended after successful wire harness installation:



- Fix both ends of the corrugated pipe with protection caps using a cable strap at the indicated groove (see arrow) so that the corrugated pipe cannot detach itself from the protection caps in unfavorable conditions.

5.17 Installation of the Central Control Unit (CCU) and an optional Additional Receiver on the trailer/semi-trailer

NOTE

▶ In the case of complex trailers/semi-trailers (e.g., more than 3 axles), it is recommended to use an Additional Receiver. In this case the Central Control Unit (CCU) should be positioned as close as possible to the first/last axle, and the Additional Receiver as close as possible to the last/first axle (determine the position of the CCU according to the access to the distribution box and the installation position of the Pressure Check Indicator).

ATTENTION

Damage to the Central Control Unit and to the Additional Receiver!

These components can be damaged by their proximity to high temperatures, rotating or moving parts.

▶ When selecting the installation location, avoid proximity to high temperature sources and to rotating or moving parts.

◆ Install the Bracket of the CCU at a suitable location in the area mid-way between the axles.

- Allow the Central Control Unit (CCU) to extend as far as possible downwards in order to ensure a good wireless connection to the Tire Sensors (observing safety gaps, e.g. to the road). For good wireless connection, the CCU must not be shielded by metal barriers in the immediate vicinity.
- For fixing the Bracket and aligning the Central Control Unit, see chapter ***„5.11.2 Mounting“***.
- Lay branch G of Harness F+G temporarily on the vehicle (detailed description in chapter ***„5.19 Installation of the Harness F+G from the Central Control Unit to the Pressure Check Indicator, diagnostic port and distribution box“***) in order to check whether the length of branch G is sufficient to connect the CCU to the Pressure Check Indicator. The position of the Pressure Check Indicator may have to be adjusted accordingly.

5.18 Installation and adjustment of the Pressure Check Indicator.

5.18.1 Installation position of the Pressure Check Indicator

The installation of the Pressure Check Indicator is preferably between the first and second side-marker lamp on the left-hand side of the vehicle. With long trailers, the Pressure Check Indicator can also be installed further back due to the wiring harness length available. Install the Pressure Check Indicator like a side-marker lamp on the vehicle.

NOTE

- ▶ The Pressure Check Indicator must not obstruct the visibility of any side-marker lamp.
- ▶ Keep a free beam angle of at least 45° in front of and behind side-marker lamps.
- ▶ Side-marker lamps must not be removed or repositioned.
- ▶ The Pressure Check Indicator is not a substitute for a side-marker lamp or other lights. It does not belong to the vehicle lighting in accordance with US regulation and with regulation UN ECE R 48. It may only be installed on the vehicle in conjunction with the ContiPressureCheck™ system.

ATTENTION

Damage to the Pressure Check Indicator!

Risk of damage if the Pressure Check Indicator is installed in the marked area for crane loading.

- ▶ Do not use the marked area if the vehicle is loaded by crane.

ATTENTION

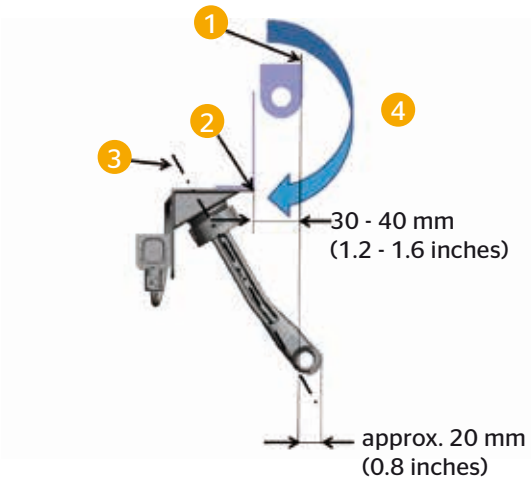
Damage to the Pressure Check Indicator!

If the Pressure Check Indicator is installed on vehicle with side gate there is a risk to damage the Pressure Check Indicator by the falling side gate. The rubber arm of the Pressure Check Indicator is designed to be bent by the falling side gate. The movement of the rubber arm along the side gate should not be obstructed by unevenness and projecting parts on the side gate.

- ▶ Position the holder of the Pressure Check Indicator accordingly and check the bend of the rubber arm.

Conditions of the installation position

- For good adjustability, position the Pressure Check Indicator approx. 30-40 mm (1.2 - 1.6 inches) from the outer edge of the vehicle. When the rubber arm is in middle position, the Pressure Check Indicator extends approx. 20 mm (0.8 inches) beyond the edge of the vehicle.

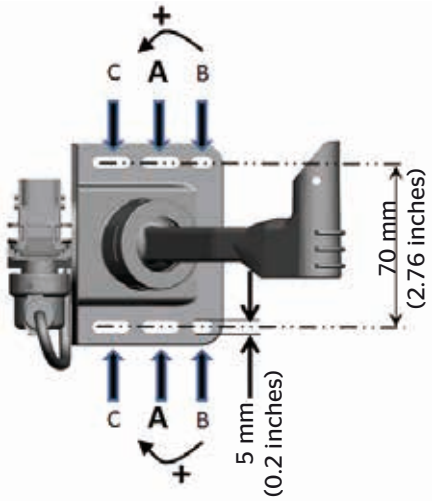


1. Maximum vehicle width
2. Edge of holder of Pressure Check Indicator
3. Middle position of the rubber arm
4. Caution on vehicles with side gate

- The Pressure Check Indicator can be mounted further inside, e. g., for tank vehicles.
  For this, it must be ensured that the visibility in the rear view mirror when driving straight is ensured.
- Install the holder of the Pressure Check Indicator in a horizontal position.
- If the Pressure Check Indicator cannot be installed directly on the outer frame of the vehicle, a corrosion-resistant adapter (e.g. sheet of aluminum) must be prepared.
  The adapter should be dimensioned such that swinging of the Pressure Check Indicator is ruled out. The form and size of the adapter can be similar to the adapter for the side-marker lamps of the respective vehicle.
  Observe the slot dimensions on the holder for the Pressure Check Indicator.
- Immediately coat all bores drilled in the vehicle frame with a corrosion inhibitor.

5.18.2 Installation of the Pressure Check Indicator.

Ideally, install the Pressure Check Indicator using the A marked slots. Mark the place holder for holes in the middle of the slots in order to be able to readjust the Pressure Check Indicator during installation.



NOTE

- ▶ Use one screw on each side of the holder.
- ▶ Two screws at position B is not permitted.

- ◆ Drill 2 holes with Ø 5.5 mm (0.22 inches) at position A in the frame or adapter with a gap of 70 mm (2.76 inches). Protect the drill holes against corrosion.
- ◆ Fix the Pressure Check Indicator with Ø 5 mm (0.2 inches) screws.
  Screw types: self-locking with spring loading.
- ◆ Use washers with 15 mm (0.6 inches) diameter to fix the holder of the Pressure Check Indicator.

NOTE

- ▶ Screws and washers are not part of the installation kit.

5.18.3 Adjustment of the Pressure Check Indicator.

The Pressure Check Indicator has a beam angle of 5°. In this range, it has the optimum luminosity. Outside this beam angle the luminosity decreases very rapidly. The diameter of the beam at a distance of 7 m (7.66 yds) is approx. 60 cm (23.6 inches)

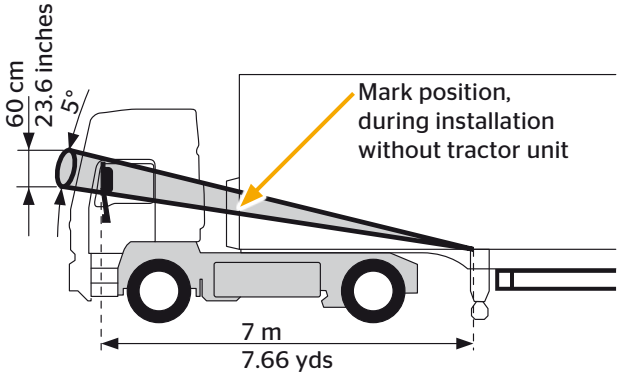


Figure:
Pressure Check Indicator with beam directed at a mirror.

5.18.3.1 Adjustment with tractor unit in front of the trailer

- Position the vehicle straight.
- Use the Hand-Held Tool to activate the Pressure Check Indicator so that it lights up. To do this, connect the Diagnosis Cable to the Hand-Held Tool and the plug of the Pressure Check Indicator and switch on the Hand-Held Tool.
- Loosen the lock nut on the holder of the Pressure Check Indicator.
- Loosen the slide ring from the rubber arm for optimum adjustment of the Pressure Check Indicator.
- Align the Pressure Check Indicator to the main rear view mirror of he driver's cabin.
  Help for the installer:
  If maximum luminosity is detected in the spherical mirror when glancing from the Pressure Check Indicator, the Pressure Check Indicator is properly set.
- Align the Pressure Check Indicator so that the driver can see the Pressure Check Indicator perfectly in the rear view mirror. Ensure that the center axis of the light beam of the Pressure Check Indicator is in the top right-hand area of the mirror. This is checked in the following point.
- Checking the alignment:

Checking	Result
Bend rubber arm slightly upwards and towards the vehicle	Luminosity decreases slightly.
Move in the opposite direction	Luminosity remains the same.

- If necessary, readjust the alignment of the Pressure Check Indicator.

- Tighten lock nut to 2 Nm (1.5 lb-ft) (finger-tight) so that the ball joint of the rubber arm can no longer move within the mounting

	NOTE
	▶ The material becomes more rigid at low temperatures. ▶ At temperatures below 2°C (36 °F) the tightening torque should not exceed 2 Nm (1.5 lb-ft) otherwise there is a risk of damage. ▶ At higher temperature, check and adjust the tightening torque accordingly.

- Check the visibility of the Pressure Check Indicator during the test drive.
  If necessary, correct alignment.

5.18.3.2 Prealignment of the Pressure Check Indicator on the trailer without towing vehicle

- Before uncoupling the towing vehicle, determine the position of the Pressure Check Indicator on the trailer.
- By surveying from this position, mark the upper edge of the main rear view mirror on the corner of the trailer (see figure in chapter 5.18.3).
- Use the determined position and the mark on the trailer corner for later installation of the Pressure Check Indicator without the towing vehicle.
- Install the Pressure Check Indicator on the uncoupled trailer. Then, switch on the Pressure Check Indicator and align roughly to the mark on the trailer.
- For checking the alignment of the Pressure Check Indicator, the user should position himself so that his head is at the same height as the mark on the trailer and then move his head according to the instructions in the table. Alignment is correct when the luminosity during checking is as described in the table:

Movement of the head	Result
approx. 20-30 cm (8-12 inches) towards the vehicle	Luminosity decreases slightly.
approx. 20-30 cm (8-12 inches) down	Luminosity decreases slightly.
approx. 20-30 cm (8-12 inches) up	Luminosity remains the same.

- Check position of the Pressure Check Indicator later with tractor unit.
- Check position:

Setting	Result
Bend rubber arm slightly upwards and towards the vehicle	Luminosity decreases slightly.
Move in the opposite direction	Luminosity remains the same.

- If necessary, readjust the Pressure Check Indicator.
- Tighten lock nut to 2 Nm (1.5 lb-ft) (finger-tight) so that the ball joint of the rubber arm can no longer move within the mounting

	NOTE
	▶ The material becomes more rigid at low temperatures. ▶ At temperatures below 2 °C (36 °F) the tightening torque should not exceed 2 Nm (1.5 lb-ft) otherwise there is a risk of damage. ▶ At higher temperature, check and adjust the tightening torque accordingly.

- Check the visibility of the Pressure Check Indicator during the test drive.
  If necessary, correct alignment.

5.19 Installation of the Harness F+G from the Central Control Unit to the Pressure Check Indicator, diagnostic port and distribution box

NOTE

- If an Additional Receiver is installed for the trailer/semi-trailer, connect Sub-Harness H to the Additional Receiver and the Central Control Unit (CCU). Obtain installation instructions from chapters ***„5.12 Installation of an Additional Receiver (optional)“*** and ***„5.13 Installation of Sub-Harness D from the Central Control Unit to the Additional Receiver“***.

⚠ WARNING

Risk of injury with ADR vehicles!

If the CPC system is installed in a vehicle for hazardous materials (ADR) and the CPC system remains switched on although the vehicle ignition is switched off, it is possible that sparks, other ignition sources or similar could lead to a reaction with the hazardous material in the event of a fault. This can result in explosion and serious injuries.

- Make sure that the power supply to the CPC system is switched off when the vehicle is parked (i.e., ignition is switched off).

ATTENTION

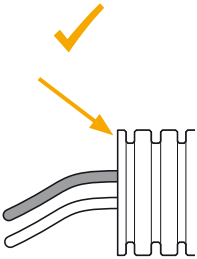
Damage to the wiring harness!

The wiring harness can be damaged by the proximity to high temperatures, rotating or moving parts.

▶ Avoid proximity to high temperature sources (e.g., exhaust system), rotating or moving parts.

- Connect the 12 pin plug end of Harness F+G to the Central Control Unit (CCU) or to the mating plug of Sub-Harness H if used.
- Lay the wiring harness (branch G) along the existing wiring harness of the vehicle to the Pressure Check Indicator and fasten loosely with cable straps. Connect the plug of branch G to the plug of the Pressure Check Indicator. Wind the rest of branch G in loops and fix appropriately to the vehicle with at least 2 cable straps.
- Lay branch F from the Central Control Unit (CCU) at the existing wiring harness to the distribution box or to the vehicle power supply and secure loosely with cable straps.

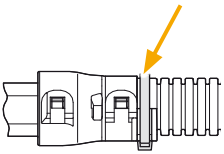
- Find a suitable cable feedthrough in the distribution box and thread in the cable.
- Shorten branch F to the required length, if necessary.



NOTE
▶ Shorten the corrugated pipe on the wiring harness in "upper" areas and not "lower" areas as shown in the adjacent illustration. Otherwise there is a risk that wires routed on the inside could fray in the "lower" edge during operation.

- In the distribution box, fasten the fuse supplied to the plus cable (red) using the cable shoes in the installation kit.
- In the distribution box, identify terminals U_bat and GND. Pay attention to the special instructions in the vehicle operating manual.
- Connect the red cable in branch F (incl. fuse) to terminal U-bat and the black cable to terminal GND.
- Subsequently lock the distribution box again properly. Take into consideration that the original sealing of the distribution box must be ensured after completing the installation.
- Finally secure branches F and G along the vehicle wiring harness with cable straps once again.

For the plug connection at the Central Control Unit (CCU) or to Sub-Harness H, the following is recommended after installing the wire harness:



- Fix the ends of the corrugated pipe with protection caps using a cable strap at the indicated groove (see arrow) so that the corrugated pipe cannot detach itself from the protection caps in unfavorable conditions.

5.20 CPC for a trailer connected to a third-party system

If the CPC system shall be connected to trailers with a third-party system (e.g., to a telematic system), contact the manufacturer.

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Büttnerstraße 25

30165 Hannover

Germany

5.21 Checks after installation

After completing the installation:

- Check all systems of the vehicle (e.g. brake and lighting system) for proper function.

6 Initialization using Hand-Held Tool

	NOTE
	▶ Obtain all information and handling instructions on the Hand-Held Tool from the ***"Hand-Held Tool user manual"***.

Initializing with the Hand-Held Tool, allows the CPC system to be suitably set for any vehicle configuration (with a CPC system, it is possible to monitor a maximum of 24 tires, distributed over 6 axles).

For this, proceed as follows:

- Switch on the Hand-Held Tool.
- Select the **Installation - New Installation** menu item.
- Follow the instructions on the Hand-Held Tool.

	NOTE
	▶ The operator of the vehicle must ensure that the CPC system is properly installed and put into operation. This includes setting the recommended pressures, correct allocation of the Tire Sensors to the wheel position, etc. ▶ When setting the recommended pressure for the individual axles, pay attention to the tire manufacturer's instructions.

- For setting the CAN bus format, observe the following:
  - **CPC system as independent system**.
    Select CAN bus format "**CPC+J1939".**
  - **The CPC system is connected to a third-party system.**
    Check with the supplier of the third-party system which CAN bus format is required:

    CPC+J1939: PGNs 65268, 65280, 65281,65282, 65284, 64578
    J1939 standard: PGNs 65268, 64578

After selecting the vehicle configuration and all relevant CPC settings, the Tire Sensors are learnt.

	NOTE
	▶ The first axle is shown on the left-hand side of the Hand-Held Tool screen, the last axle on the right-hand side.

- Hold the Hand-Held Tool against the side wall of the tire indicated and follow the animation on the screen.

	NOTE
	▶ To read the inner twin Tire Sensor, the Hand-Held Tool can remain on the outer twin tire.

- After reading out the last Tire Sensor, connect the Hand-Held Tool via the Diagnosis Cable as follows:
  - For the truck and bus, at the diagnostic plug of the Display or Sub-Harness L
  - On the trailer, to the plug of Harness F+G where the Pressure Check Indicator is connected
- Follow the instructions in the Hand-Held Tool to configure the Central Control Unit (CCU).

- After successful configuration, the Central Control Unit (CCU) must be switched off for at least 30 seconds. To do this, switch off the ignition or turn off the battery main switch if the Central Control Unit (CCU) on the trailer has been connected to a permanent power supply. Subsequently continue with chapter ***„7 Test drive for checking system“***.

	NOTE
	▶ If ATL (Automatic Trailer Learning) was selected, only one recommended pressure can be set for all the tires on the trailer.

During future operation:

	NOTE
	▶ After replacing or changing the position of one or more Tire Sensors, the telegram counter in the Display must be reset. See Chapter ***„11.2 Evaluation of the reception quality via Display“***.

7 Test drive for checking system

7.1 Test drive for checking the system on the truck/bus

	NOTE
	▶ Obtain all information and handling instructions for the test drive from the ***"Hand-Held Tool user manual".***
	▶ If "J1939 Standard" option was selected for the CAN bus format, a test drive is not possible.

To test the whole system, carry out a test drive as follows:

- Connect the Hand-Held Tool with the Display and select the menu item "**Installation - Test-Drive"**.
- Start the test drive.

	NOTE
	▶ The Test-Drive function can be canceled at any time. To do this, press the ESC button (***ESC***) for at least 3 seconds.
	▶ At speeds greater than 30 kph (19 mph), the test drive is normally completed after 5 minutes.

After the start of the menu, the display on the Hand-Held Tool changes to the bird's eye perspective, the left-hand side shows the first axle of the vehicle.

The transmission power of the Tire Sensors (RSSI) or the number of telegrams received is shown in the tire symbols.

	NOTE
	▶ Change between both screens (RSSI and number of telegrams) using the arrow keys ↕.

The test drive is completed when a prompt for saving the protocol file appears on the screen.

Pressing the return button ↵ saves the protocol file.

The result of the test drive is subsequently displayed:

- If the test drive was successful, the CPC system is suitable for operation on the tested vehicle.
- If the test drive was not successful, corrections to the CPC installation are necessary (such as position and alignment of the Central Control Unit (CCU)).

7.2 Test drive for checking the system on the trailer

	NOTE
	▶ Obtain all information and handling instructions for the test drive from the ***Hand-Held Tool user manual".***

Preparing for the test drive:

- Disconnect the plug of Harness F+G (branch G) from the Pressure Check Indicator.
- Connect the Hand-Held Tool to branch G using the Diagnosis Cable and select the menu item "**Installation - Test-Drive"**.

When the operation has been successfully completed:

- Disconnect the Hand-Held Tool.
- Connect branch G to the Pressure Check Indicator.
- Carry out test drive without the Hand-Held Tool.

	NOTE
	▶ At speeds greater than 30 kph (19 mph), the test drive is normally completed after 5 minutes.

The test drive is completed when the Pressure Check Indicator lights up for 60 seconds.

- Reconnect the Hand-Held Tool with branch G and select the menu item "**Installation - Test-Drive"** again.

To complete the system check:

- Switch off the Hand-Held Tool and disconnect from branch G.
- Connect branch G to the Pressure Check Indicator.

7.3 Preparation to repeat a test drive

If a test drive has to be repeated, e.g., after repositioning of the Central Control Unit (CCU), all Tire Sensors must be in the so-called Parking Mode.

The Tire Sensors reset themselves to the Parking Mode automatically, when the vehicle was not moved for at least **20 minutes**.

Repeating a test drive:

- The vehicle must have been standing for at least **20 minutes**.
- Carry out the test drive as described in chapter ***„7.1 Test drive for checking the system on the truck/bus“*** or chapter ***„7.2 Test drive for checking the system on the trailer“***.

8 Modification of the system configuration

If changes are necessary later on the CPC system installation, the configuration of the Central Control Unit (CCU) has to be modified with the Hand-Held Tool.

8.1 Automatic Single Wheel Exchange (SWE)

The "Automatic **S**ingle **W**heel **E**xchange" (SWE) enables easy exchange of a single Tire Sensor.

	NOTE
	▶ If the ATL (Automatic Trailer Learning) function is activated, then the automatic Single Wheel Exchange (SWE) is deactivated. ▶ If a lift axle is raised, the automatic Single Wheel Exchange (SWE) does not function. The new Tire Sensor is only detected after the lift axle has been lowered. It is irrelevant at which position the wheel was exchanged.

If a single tire with Tire Sensor is replaced during operation, the CPC system detects this automatically. Reconfiguring with the Hand-Held Tool is not necessary.

- The new Tire Sensor is usually detected automatically during the first journey after replacing the tire.

- This procedure is completed after approx. 10 minutes of driving.
  Prerequisite is a speed of min. 30 kph (19 mph) during the duration of driving.
- No pressure value is visible in the corresponding tire symbol during this learning procedure.

	NOTE
	▶ If the detection fails during the first drive, the message "NO SIGNAL" appears on the Display for this tire position or the Pressure Check Indicator flashes slowly. ▶ To restart Single Wheel Exchange function, the vehicle **must** have been standing still for **20 minutes**. The CPC system restarts the automatic Single Wheel Exchange (SWE) each time until the new wheel has been detected.

8.2 Manual adjustments with the Hand-Held Tool

A reconfiguration of the CPC system is necessary and possible in the following cases:

- Changing the vehicle name
- Changing the CAN settings used
- Switching the trailer monitoring (ATL (Automatic Trailer Learning) and SO (Surrounding Observer)) on/off
- Switching the Additional Receiver on/off
- Changing the recommended pressure for an axle
- Changing the status of an axle (lift axle yes/no)
- Changing the position of the Tire Sensors
- Replacement of at least 2 Tire Sensors (new Tire Sensors)

To do this, call up the following menus on the Hand-Held Tool and follow the instructions on the Hand-Held Tool:

- **"Modification - Modify Installation - Modify Parameters"**
- **"Modification - Modify Installation - Modify Sensor IDs"**

If the modifications exceed the scope described above, re-initialization is necessary as described in chapter ***„6 Initialization using Hand-Held Tool“***.

8.3 Deactivate/Activate ContiPressureCheck system

If the CPC system exhibits a malfunction that could disturb the driver and cannot be quickly remedied, it is possible to temporarily deactivate the CPC system.

For this, proceed as follows:

- Connect the Hand-Held Tool to the CPC system via the Diagnosis Cable.
- Execute the menu item "**Modification - Deactivate CPC**".

When the CPC system is successfully deactivated, it is indicated at system level as follows:

- Truck: "SYSTEM NOT ACTIVE“ message on Display
- Trailer: Pressure Check Indicator without function (nothing lights up for 15 seconds at ignition on)

To reactivate the CPC system:

- Connect the Hand-Held Tool to the CPC system via the Diagnosis Cable.
- Execute the menu item "**Modification - Activate CPC**".

9 Documentation of system installation

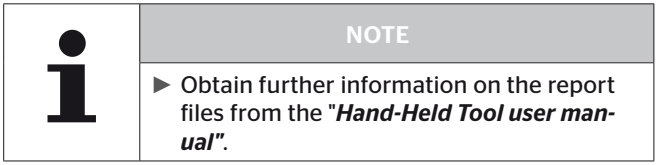
After successful installation, the vehicle configuration must be transmitted to a computer and printed out for documentation purposes.

- An Excel file is available at www.contipressurecheck.com that converts the report files to a printable format.

All tire IDs, the vehicle configuration, components installed and the settings are listed in this document.

If a test drive was carried out, there is an additional protocol file. It contains the result of the test drive, the RSSI values as well as the number of telegrams received. The file can also be transmitted to the computer and printed.

These documents must be signed by the garage manager/ supervisor.



NOTE

▶ Obtain further information on the report files from the "***Hand-Held Tool user manual***".

10 Information on the system

10.1 General

- ContiPressureCheck™ supports monitoring of the tire pressure. The responsibility for the correct pressure lies with the driver.
- Correct the tire pressure only when the tire temperature corresponds to the ambient temperature. Otherwise there is a risk that the wrong pressure is set.

10.2 Operation

During operation of the system, carry out the following measures:

- Clean the light surface of the Pressure Check Indicator at regular intervals.
- The driver must ensure that the Pressure Check Indicator can be seen in the rear-view mirror. For this, the Pressure Check Indicator lights up for 15 seconds after starting the vehicle each time.
- Keep the Central Control Unit (CCU) and the Additional Receiver free of dirt and debris such as snow or slush in order not to impair the reception.

11 Diagnosis

It is possible to use the Hand-Held Tool to read out error code (DTC = **D**iagnostic **T**rouble **C**ode).

	NOTE
	▶ Obtain further information on the error codes (DTC) from the ***"Hand-Held Tool user manual"***.

This chapter deals with the diagnostic instructions and diagnostic possibilities of the Display.

11.1 Trouble shooting for truck/bus

Status information	Error code	Possible cause of error	Handling instructions
SYSTEM ERROR	1001	Power to the CCU not sufficient.	See suggestions at ***www.contipressurecheck.com*** under "Downloads“
		CAN communication does not function.	See suggestions at ***www.contipressurecheck.com*** under "Downloads“
SYSTEM ERROR	1002	CCU has reduced CAN (not all CAN messages are available). **Possible reason:** CCU was switched on 2x for at least 72 minutes each time without receiving Tire Sensors.	Ignore error message, carry out **"New Installation"**. If the error continues to occur, replace the CCU.
SYSTEM ERROR	1003	Required CAN message not available.	Replace CCU. If the error continues to occur, contact CPC customer service (see chapter ***„1.9 After-sales service“***).

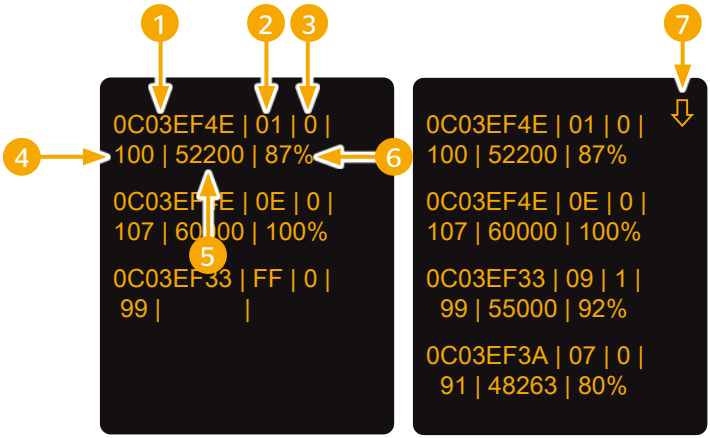
Status information	Error code	Possible cause of error	Handling instructions
SYSTEM ERROR	1004	Microcontroller or internal memory of the CCU defective.	Replace CCU.
SYSTEM ERROR	1005	Tire Sensors not activated.	Activate Tire Sensors. Carry out test drive. If the error continues, carry out **"New Installation"** or **Modify Sensor IDs"**.
		Tire Sensors not installed in the tire.	Check whether Tire Sensors are installed in the tires. Make sure that the Tire Sensors are in the tires and subsequently carry out **"New Installation"** or **"Modify Sensor IDs"**.
		None of the Tire Sensors installed match the saved system configuration.	Carry out **"New Installation"** or **"Modify Sensor IDs"**.
DISPLAY ERROR	1006	Microcontroller or internal memory of the Display defective.	Replace Display.

Status information	Error code	Possible cause of error	Handling instructions
SYSTEM NOT ACTIVE		CPC is deactivated.	Activate the CPC system using Hand-Held Tool.
SYSTEM NOT CONFIGURED		System is not yet configured.	Carry out **"New Installation"**.

11.2 Evaluation of the reception quality via Display

11.2.1 Call the diagnostics screen

Press and hold down the **SET**-button and press the / button. The following appears in the Display:



1. Tire Sensor ID
2. Wheel position
   (see chapter ***„11.2.2 Example of the wheel positions“***)
3. Battery charge:
   0 = OK
   1 = replace Tire Sensor
4. Number of telegrams since last ignition start
5. Number of telegrams since last reset of the Display
6. Reception performance as percentage compared to the best received Tire Sensor.
7. A visible arrow indicates that you can scroll to further diagnostic pages which contain data on further Tire Sensors installed

Reset telegram counter:

	NOTE
	▶ After replacing Tire Sensor(s) or changing the position of one or more Tire Sensors, the telegram counter in the Display must be reset.

Press and hold the **OK** button and then press the ⇩ button to reset the telegram counter.

11.2.2 Example of the wheel positions

Configuration

Matrix

4x2 truck

	3	5	9	B
0	■			■
1				
2				
3				
4				
5	■	■	■	■

6x trailer

	3	5	9	B
8				
9				
A				
B	■			■
C	■			■
D	■			■

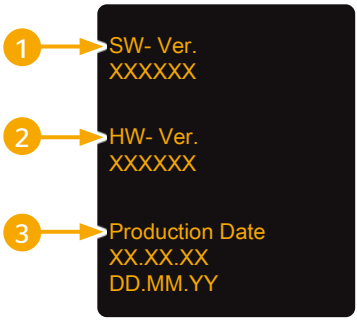
⇒

Wheel position	Coordinates
Front left	03
Front right	0B
Rear left outer	53
Rear left inner	55
Rear right inner	59
Rear right outer	5B
Trailer 1st axle left	B3
Trailer 1st axle right	BB
Trailer 2nd axle left	C3
Trailer 2nd axle right	CB
Trailer 3nd axle left	D3
Trailer 3nd axle right	DB

Axle numbers 0 to 5 are used for the drawing vehicle, 8 to D for the drawn vehicle.

11.3 Display device information:

Press and hold the **SET** -button and press the **OK** -button to Display the software and hardware version and the production date of the Display:



1. Software version
2. Hardware version
3. Productions date of the Display

Return to pressure/temperature display:

- Press and hold the **SET** -button.

12 Dismantling and Disposal

12.1 Dismantling

⚠ CAUTION

Danger of short-circuit!

Danger of short-circuits when working on the vehicle electrical system.

- ▶ Observe the vehicle manufacturer's safety instructions.
- ▶ Switch off all electrical equipment before disconnecting the battery terminals.
- ▶ Disconnect the minus terminal **before** the plus terminal.

The system may only be dismantled by appropriately qualified staff in observance of local safety regulations.

- ◆ Disconnect all plugs of the wiring harnesses.
- ◆ Remove the cable straps.
- ◆ Remove the wiring harnesses.

NOTE

- ▶ If the CPC system is connected to a third-party system (e.g., a telematic system or a dashboard), the CPC connection must be removed so that the third-party system can subsequently work without error.

Central Control Unit:

- Loosen the fixing bolts on the Bracket and remove it together with the Central Control Unit (CCU).
- Remove the Central Control Unit (CCU) from the Bracket.

Additional Receiver

- Loosen the fixing bolts on the Bracket and remove it together with the Additional Receiver.
- Remove the Additional Receiver from the Bracket.

Pressure Check Indicator:

- Loosen the fixing screws and remove the Pressure Check Indicator.

Display:

- Remove the Display from the Display Holder.
- Remove the Display Holder from the windshield or the dashboard.

Complete system:

- Dispose of all system components as described in chapter ***„12.2 Disposal“***.

	NOTE
	▶ If unprotected bores are left in the vehicle frame after removal of the CPC system, these must be sealed with zinc spray.

12.2 Disposal

The manufacturer is committed to the protection of the environment. As with other old devices, the system can be returned to Continental via the normal channels. For details of disposal, please contact your authorized sales partner.

- Sort metals and plastics carefully for recycling or scrapping.
- Dispose of all other components such as cleaning agents or electrical components (such as CCU, Additional Receiver) according to legal regulations.

12.2.1 Tire Sensor

	NOTE
	▶ Before disposing of a tire, the Tire Sensor must be taken out. If the Tire Sensor shall be used further, pay attention to the service life and mileage of the Tire Sensor as described in chapter ***„3.1 Tire Sensor“***.

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

After reaching the end of its service life, the Tire Sensor must be disposed of in accordance with all current local, regional and national laws and regulations. For this, a return to an authorized CPC sales partner or the return to the central CPC collection point is possible (address, see chapter ***„12.2.4 CPC collection point“***).

12.2.2 Hand-Held Tool

The Hand-Held Tool contains a rechargeable lithium battery that is cast into the housing. On reaching the end-of-life, the Hand-Held Tool must be disposed of in accordance with all current local, regional and national laws and regulations. For this, a return to an authorized CPC sales partner or the return to the central CPC collection point is possible (address, see chapter ***„12.2.4 CPC collection point“***).

12.2.3 Electrical/electronic components

All other electrical/electronic components except Tire Sensor and Hand-Held Tools must be disposed of in accordance with local, regional and national laws and regulations.

In case of any questions, please contact your local authority responsible for waste disposal.

12.2.4 CPC collection point

Address:

Continental Trading GmbH
"Abteilung Entsorgung"
VDO-Straße 1
Gebäude B14
64832 Babenhausen
Germany

13 Declaration of Conformity

The CPC system meets the basic requirements and relevant regulations of the European Union (EU) and the USA as well as other countries listed at www.contipressurecheck.com.

The complete original declaration of conformity is in the package leaflet:

EC-Declaration of Conformity

Déclaration CE de Conformité

EG-Konformitätserklärung

or at www.contipressurecheck.com.

14 Certifications

The individual certificates are included with the system documents and/or at www.contipressurecheck.com.

14.1 Radio permit

A radio permit was issued for the CPC system in the following countries.

See list of countries in the leaflet:

Homologation Certificate Vehicle Components

14.2 General Operating Permit

A general operating permit (Allgemeine Betriebserlaubnis - ABE) from the Kraftfahrt-Bundesamt (KBA) (German Federal Motor Vehicle Transport Authority) was issued for the CPC system.

See package leaflet:

ALLGEMEINE BETRIEBSERLAUBNIS (ABE)

14.3 ADR

The CPC system is principally designed for hazardous material (ADR) vehicles.

A declaration of conformity according to ADR is available for the CPC system and includes the approved hazardous goods classes. See the leaflet:

ADR-Konformitätserklärung CPC-System

The latest version can be found at www.contipressurecheck.com.

15 Index

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