



Continental
The Future in Motion



ContiConnect™

Yard Reader Station

USA

Installation manual

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Yard Reader Station

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1 General Information

1.1 Subject of this installation manual

This installation manual contains important information on handling the Yard Reader Station during

- mounting,
- commissioning,
- troubleshooting,
- dismantling and
- disposal.

To install the Yard Reader Station successfully and safely, it is necessary to comply with all of the warnings and instructions specified.

Following these instructions will help prevent hazards and increase the reliability and service life of the Yard Reader Station.

Furthermore, regional accident prevention regulations and general safety regulations applicable at the respective place of use must be observed.

Please read the installation manual carefully before commissioning; it is an integral part of the Yard Reader Station and must be stored in an accessible location at all times.

If the Yard Reader Station is passed onto third parties, this installation manual must be handed over as well.

1.2 Target groups

This installation manual is aimed at installers and operators of the Yard Reader Station.

1.3 Information on this installation manual

1.3.1 Notes on use

1.3.1.1 Instructions

Action steps to be carried out by installation and operating personnel are described sequentially. The order of the steps must be observed.

Example:

- ◆ Action step

1.3.1.2 Lists

Lists that do not have to be actioned in a set order are presented with preceding bullet points.

Example:

- Point 1
- Point 2

1.3.1.3 References






Information on chapters or sections of text that contain procedures, instructions or further information is shown as follows.

Example: (See chapter "***x.x chapter***")

General Information

1.3.2 Symbols used

In this installation manual, warnings are also indicated by warning symbols. The following warning symbols are used in this installation manual:

Symbol	Meaning
	General warning
	Danger due to electric current
	General information and useful tips for handling the equipment
	Information on complying with environmental regulations regarding disposal
	Electric/electronic components with this symbol must not be disposed of with normal domestic waste.







1.3.3 Abbreviations

The following abbreviations are used in this installation manual:



Abbreviation	Meaning
GND	Ground
GSM	Global System for Mobile Communication
ITE	Information Technology Equipment
LED	Light Emitting Diode
LTE	Long Term Evolution
MAC	Media Access Control
UMTS	Universal Mobile Telecommunications System

1.3.4 Warnings

The following warnings are used in this installation manual:

	<div style="background-color: red; color: white; padding: 5px; text-align: center;">  DANGER </div> <p>A warning of this risk level indicates an impending dangerous situation.</p> <p>If the dangerous situation is not avoided, it will result in death or severe injury.</p> <ul style="list-style-type: none"> ▶ The instructions in this warning must be followed to prevent the risk of death or severe injury.
	<div style="background-color: orange; color: white; padding: 5px; text-align: center;">  WARNING </div> <p>A warning of this risk level indicates a dangerous situation.</p> <p>If the dangerous situation is not avoided, it could result in death or serious injury.</p> <ul style="list-style-type: none"> ▶ The instructions in this warning must be followed to prevent the possible risk of death or serious injury.
	<div style="background-color: yellow; color: black; padding: 5px; text-align: center;">  ATTENTION </div> <p>A warning of this risk level indicates a potentially dangerous situation.</p> <p>If the dangerous situation is not avoided, it could result in slight or moderate injury.</p> <ul style="list-style-type: none"> ▶ The instructions in this warning must be followed to prevent injuries.

General Information

	<p style="text-align: center;">CAUTION</p> <p>A warning of this risk level indicates potential damage to property.</p> <p>If the situation is not avoided, it could result in damage to property.</p> <ul style="list-style-type: none">▶ The instructions in this warning must be followed to prevent damage to property.
	<p style="text-align: center;">NOTE</p> <ul style="list-style-type: none">▶ A note indicates additional information that is important for further work or makes the work step described easier.

1.4 Liability limitation

The manufacturer does not accept any liability for damage or malfunctions caused as a result of:

- failure to comply with this installation manual,
- improper use,
- use of untrained personnel or personnel who have not received sufficient or proper training,
- incorrect installation,
- failure to use original parts and accessories,
- technical changes and modifications or
- intentional damage.

1.5 Copyright

This installation manual and all of the documents supplied with the Yard Reader Station are protected by copyright.

These documents may not be reproduced, either in whole or in part, without the express permission of Continental Reifen Deutschland GmbH.

1.6 Warranty provisions

The respective “General Terms and Conditions of Continental AG” apply with the exception of any contractual provisions that may differ.

The latest version is available from your Continental sales partner.

1.7 Manufacturer address

Continental Reifen Deutschland GmbH

Büttnerstrasse 25

30165 Hanover

Germany

www.conticonnect.com

1.8 Customer service

If you have any technical questions regarding the Yard Reader Station, please contact your Continental sales partner.


2 Safety

2.1 General information

This chapter provides important information on all safety aspects.

In addition to the general safety information provided in this chapter, each chapter that covers a particular set of actions provides further safety information relevant to the respective chapter.

Hazards that can occur during a specific action step are described before the respective action step.

	⚠ WARNING
	Danger caused by failure to comply with safety instructions! Failure to comply with the safety and handling instructions specified in this installation manual can result in serious risks. ▶ Observe the warnings and instructions specified in this manual.

2.2 Prohibition of modifications

Any modifications and changes to the Yard Reader Station are prohibited.


The manufacturer does not accept any liability for damage resulting from any modifications or changes made.

2.3 Intended use

The Yard Reader Station has been designed solely to receive data from tire sensors and to transfer this data to the ContiConnect™ web portal via a mobile radio connection. The sensors must be in the reception range of the Yard Reader Station for at least two minutes.

The system may be used only within the technical framework and operating conditions defined by the manufacturer (see Chapter “3 *Technical Data*”).

Any other use, or use above and beyond this, is deemed improper and is prohibited.

	⚠ WARNING
	<p>Danger due to improper use!</p> <p>Any use beyond the intended use and/or other use of the Yard Reader Station can result in dangerous situations.</p> <ul style="list-style-type: none">▶ The Yard Reader Station is to be used only for the intended purpose.▶ Comply with all of the information provided in this installation manual.

Claims of any kind for damages resulting from improper use are excluded.

The risk of not observing these instructions is borne solely by the user.

2.4 General safety instructions

The Yard Reader Station has been built in accordance with the latest applicable directive using state-of-the-art technology in line with generally recognized safety rules and regulations.

Nevertheless, hazards can arise and damage can occur when the Yard Reader Station is installed and used.

The following safety instructions for the safe installation and fault-free operation of the Yard Reader Station must be observed:

- Comply with the occupational safety regulations applicable in the respective country.
- Check all of the parts and connecting cables of the Yard Reader Station for visible signs of external damage before starting work. Do not commission the Yard Reader Station if it is damaged.
- Repairs to the Yard Reader Station must be carried out only by trained specialist personnel. Repairs performed by untrained persons can result in serious risks.
- Defective components may only be replaced with original spare parts; only original parts ensure that the safety requirements are met.


2.5 Specific hazards

Danger due to electric current!

Contact with live cables or components poses a risk to life!

- Work on electrical equipment may be carried out only by qualified electricians or by trained personnel under the management and supervision of qualified electricians in accordance with electrical safety regulations.
- Any defects identified on electrical systems/assemblies/operating resources must be rectified immediately. Until defects are eliminated, there is a serious risk and the system must therefore not be used in a defective condition.
- Never work on live parts! System components on which repair work is to be carried out must be de-energized, if specified. First check that the disconnected parts are in a de-energized state and then ground and short-circuit these parts as well as isolate adjacent live parts.
- Fuses must not be repaired or bypassed. Use only original fuses with the specified current rating.
- If insulation is damaged, switch off the power supply immediately and arrange for the insulation to be repaired.
- Keep live parts away from moisture to prevent short circuits.

2.6 Personnel requirements



	⚠ WARNING
	<p>Risk of injury due to inadequate qualifications. Improper handling can cause serious injuries and damage.</p> <ul style="list-style-type: none">▶ Have all operations carried out by appropriately qualified personnel only.

This installation manual refers to the following qualifications:


- **Specialist personnel**
are able to carry out the work assigned to them and independently identify and avoid potential dangers as a result of their specialist technical training, knowledge and experience as well as their awareness of the relevant regulations.
- **Electricians**
are able to perform work on electrical equipment and independently identify and avoid potential dangers as a result of their specialist technical training, knowledge and experience as well as their awareness of the relevant standards and regulations. The respective electrician is trained for the specific site at which they are working and is familiar with the relevant standards and provisions.

Work may only be carried out by persons who can be expected to perform the respective task reliably. Persons whose reactions are impaired, e.g. as a result of drugs, alcohol or medication, are not authorized to perform work.

2.7 Personal protective equipment

	 WARNING
	<p>Danger of injury due to incorrect or no protective equipment!</p> <p>During the installation process, it is necessary to wear personal protective equipment to minimize health risks.</p> <ul style="list-style-type: none"> ▶ Wear the protective equipment required for the respective operation during the installation process. ▶ Observe the signs mounted in the working area regarding personal protective equipment.

Wear the following protective equipment during the installation process:

Symbol	Meaning
	Wear safety shoes.

Technical Data

3 Technical Data

3.1 General

Operating temperature range	-35°C to 55°C -31°F to 131°F
Storage temperature range	-40°C to 70°C -40°F to 158°F
Place of installation	Wall mounting
Operating mode	Continuous operation (permanently connected)
Protection class	II
Type of protection	UL type 3 IP64

3.2 EU GSM Yard Reader Station

Dimensions (L x W x H)	312 x 130 x 410 12.28 x 5.11 x 16.14	mm inch
Weight	~ 2.1 ~ 74	kg oz
Receiving frequency	433.93	MHz
Frequency ranges of the mobile radio module		
GSM:	900/1800	MHz
UMTS/3G	900/1800/2100 (FDD I/III/VIII)	MHz
LTE:	800/900/1800/ 2100/2600 (FDD 1, 3, 7, 8, 20)	MHz
Transmission power		
GSM:	33	dBm
UMTS/GSM:	23	dBm
LTE:	24	dBm
Input voltage range	100-240	V _{AC}
Mains frequency	50-60	Hz
Power consumption at an ambient temperature of 23°C (73.4°F)	Max. 6.6 Min. 2.2	W W
Current consumption at 230 V	Max. 45	mA

3.3 US GSM Yard Reader Station

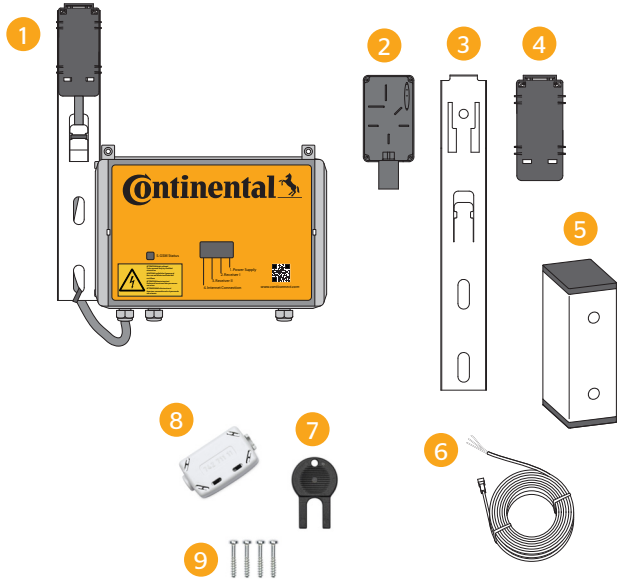
Dimensions (L x W x H)	312 x 130 x 410 12.28 x 5.11 x 16.14	mm inch
Weight	~ 2.1 ~ 74	kg oz
Receiving frequency	433.93	MHz
Frequency ranges of the mobile radio module		
GSM:	850/900/ 1800/1900	MHz
UMTS/3G	850/ AWS(1700/2100)/ 1900 (FDD II/IV/V)	MHz
LTE:	700/850/ AWS(1700/2100)/ 1900 (FDD 2, 4, 5, 17, 2x2 DL_MIMO)	MHz
Transmission power		
GSM:	33	dBm
UMTS/GSM:	23	dBm
LTE:	24	dBm
Input voltage range	100-140	V _{AC}
Mains frequency	50-60	Hz
Power consumption at an ambient temperature of 23°C (73.4°F)	Max. 6.6 Min. 2.2	W W
Current consumption at 120 V	Max. 87	mA

3.4 Additional antenna

Dimensions (L x W x H)	90 x 42 x 28 3.54 x 1.65 x 1.1	mm inch
Weight	44 1.55	g oz
Frequency	433.92	MHz
Number of connecting cycles	10	

3.5 Scope of delivery

The Yard Reader Station is supplied with the following components:



- 1 Yard Reader Station
- 2 Additional antenna
- 3 Bracket for additional antenna
- 4 Protective cover for additional antenna
- 5 Spacer for additional antenna
- 6 Connecting cable for additional antenna
- 7 Special wrench for opening the ferrite core
- 8 Ferrite core for additional antenna
- 9 Four screws for sealing the housing
- 10 Two cable ties (not shown)
- 11 Installation manual (not shown)

4 Design and Functionality

4.1 Description of function

The Yard Reader Station including the additional antenna is a hardware component for the digital tire-monitoring platform ContiConnect™.

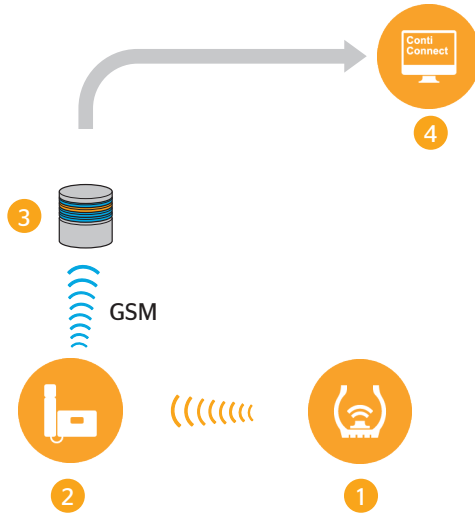
The Yard Reader Station receives all of the data from the tire sensors located in the reception area and transmits this information to the Continental database via a mobile radio connection.

The Yard Reader Station is installed in an area in which vehicles stop for at least two minutes because the sensors automatically send their data every two minutes. The additional antenna can also be used to improve the reception range and is wired to the Yard Reader Station.

The Yard Reader Station is a convenience system. Situations in which the Yard Reader Station is unable, due to unfavorable conditions, to receive sensor data or the Yard Reader Station is unable to transmit the data cannot be completely excluded.

Design and Functionality

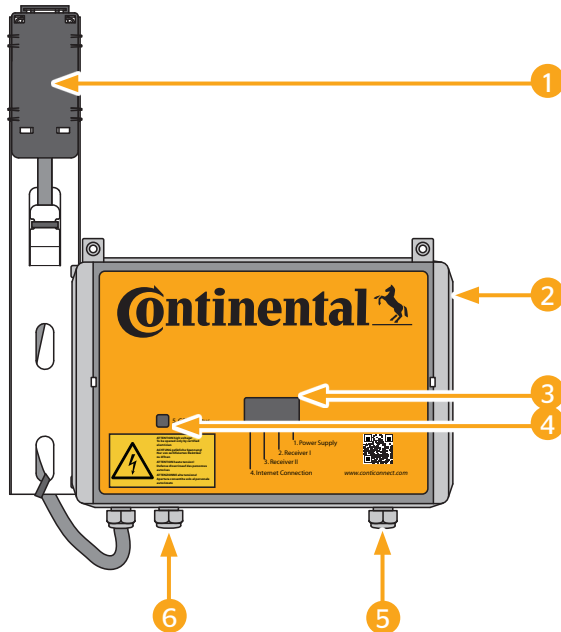
4.2 General overview



- 1 Tire sensor
- 2 Yard Reader Station
- 3 Continental backend
- 4 ContiConnect™ web portal

4.3 Yard Reader Station

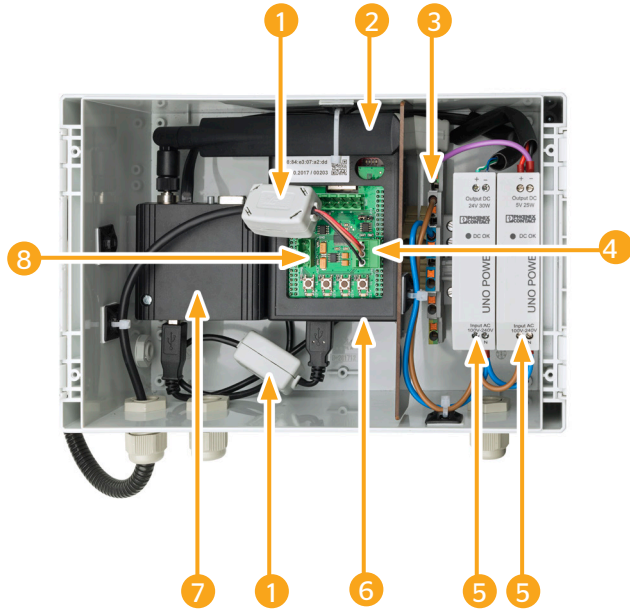
The Yard Reader Station consists of a housing with an antenna for receiving data from the tire sensors. The housing has one connection each for the power supply and the additional antenna. Four LEDs provide information on the status of the control module. A further LED provides information on the status of the mobile radio module.



- 1 Antenna
- 2 Housing
- 3 Status LEDs for the control module
- 4 Status LED for the mobile radio module
- 5 Connection for the power supply
- 6 Connection for the additional antenna

Design and Functionality

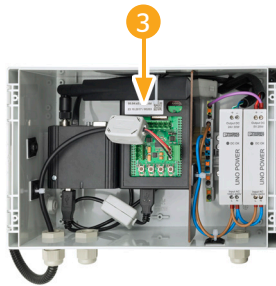
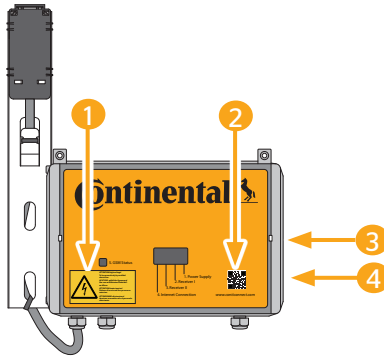
The interior of the Yard Reader Station contains two switch-mode power supplies, one series terminal connection, the control module with the connections for the antenna and additional antenna as well as the mobile radio module with the mobile radio antenna.



- 1 Ferrite cores
- 2 Mobile radio antenna
- 3 Series terminal connection
- 4 Antenna connection
- 5 Switch-mode power supplies
- 6 Control module
- 7 Mobile radio module
- 8 Connection for the additional antenna

4.3.1 Notices

The following notices are attached to the Yard Reader Station:

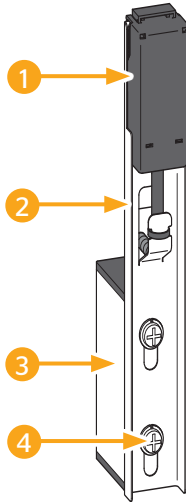


- 1 Warning: Caution - dangerous voltage
- 2 QR code for web page www.conticonnect.com
- 3 Adhesive label indicating the MAC address
- 4 Product rating data

Design and Functionality

4.4 Additional antenna

The additional antenna is attached to a bracket and protected by a protective cover. The spacer ensures the correct distance from the wall and thereby optimal reception for the additional antenna.




- 1 Protective cover
- 2 Bracket
- 3 Spacer
- 4 Screws (not included in the scope of delivery)

4.5 Replacement parts

An overview of the spare parts available and the corresponding article numbers is available from your Continental sales partner.

5 Assembly

5.1 Checking the delivery

	NOTE
	<ul style="list-style-type: none">▶ Check the entire delivery to determine whether everything has been delivered and whether any items exhibit visible damage.▶ Once the Yard Reader Station has been delivered, please note any damage caused as a result of inadequate packaging or the transportation process on the certificate of receipt and notify your Continental sales partner straight away.


5.2 Disposing of the packaging


The packaging protects the system from damage during transportation. The packaging materials have been selected on the basis of being environmentally compatible and suitable for environmentally friendly disposal and are therefore recyclable.



Putting the packaging back into the material cycle saves raw materials and decreases the amount of waste produced. Dispose of packaging materials that are no longer required in accordance with locally applicable regulations.

5.3 Safety information

	⚠ DANGER
	<p>Danger due to electric current!</p> <p>Contact with live cables or components poses a risk to life!</p> <ul style="list-style-type: none">▶ Work on electrical equipment may be carried out only by qualified electricians or by trained personnel under the management and supervision of qualified electricians in accordance with electrical safety regulations.

	⚠ WARNING
	<p>Danger of injury due to incorrect or no protective equipment!</p> <p>When mounting, connecting and commissioning the equipment, it is necessary to wear personal protective equipment to minimize health risks.</p> <ul style="list-style-type: none">▶ Always wear the protective equipment required for the respective operation while carrying out the operation.

The equipment may only be mounted, connected and commissioned by specialist personnel who are authorized to do so due to their training and qualifications.

5.4 Instructions regarding electrical connections


- The Yard Reader Station requires a single-phase power supply.
- The equipment must be installed such that the mains supply can be disconnected using an external isolating device that is easily accessible in the vicinity of the Yard Reader Station.
- The Yard Reader Station must be connected to an ITE power supply system.
- For safety reasons, external short-circuit protection must be provided for the Yard Reader Station.
- If the Yard Reader Station is operated in an area in overvoltage category III or IV, overvoltage protection must be installed.
- Connect the mains supply in accordance with local regulations and ensure protection against electric shocks.
- Make sure that the wiring from the mains to the Yard Reader Station complies with local regulations. However, the cables must have a minimum core diameter of 1.024 mm, a core cross-section of 0.823 mm² (AWG 18) and a resistance of 20.95 mΩ/m.
- Use flexible cables during the installation process.
- Make sure that the grounding cable is long enough and that wiring is carried out in accordance with local regulations.
- The cable gland must be able to withstand quadruple the weight of the Yard Reader Station. See Chapter “**3 Technical Data**” for the weight of the Yard Reader Station.
- The connected power cable must withstand a tractive force of 5.0 kg following the installation process. Shear forces on the cable glands must be reduced through the use of flexible cables or cable conduits (corrugated conduits).

- Observe the thermal limit values. See Chapter “**3 Technical Data**”.
- The internal power supply systems are equipped with a fuse (2-A delay fuse). The wiring should be correct and provide a sufficient level of external fuse protection.
- Make sure that the power supply is protected against overcurrent and ground leakage.

5.5 Requirements regarding place of installation

The place of installation must meet the following requirements:

- An area in which vehicles can stop for at least two minutes.
- The wall rack must be able to support triple the weight of the device.
- An area with a sufficient level of electromagnetic wave reflection (e.g. a wall opposite the Yard Reader Station).
- Good mobile radio reception for the respective bandwidth of the selected version of the Yard Reader Station in the vicinity of the area.
- An electrical power supply in the vicinity.
- The Yard Reader Station and additional antenna are in protection class IP64 and are therefore also suitable for installation outdoors. If the equipment is installed outdoors, the place of installation must be protected from direct sunlight to prevent damage occurring as a result of overheating.

	NOTE
	<ul style="list-style-type: none">▶ When choosing the place of installation, consider local laws and avoid any risk.▶ Objects in the range of the tire sensors and antennas can impair reception.

5.6 Installation variants with the additional antenna

The reception range of the Yard Reader Station is approximately 15 m (16.4 yd). However, reception can vary as a result of local conditions.

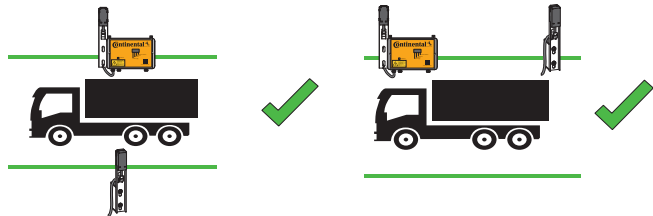
Reception can be improved by mounting the additional antenna.

The Yard Reader Station and additional antenna must be installed at least 10 m (10.9 yd) from each other.

The following two variants are examples of installation options.

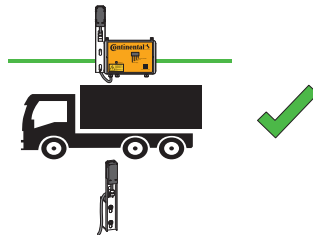
Variant 1:

Walls on both sides or in enclosed warehouses




Variant 2:

Wall on one side



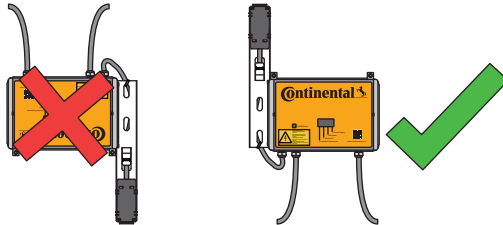
5.7 Mounting and connecting the Yard Reader Station

5.7.1 Mounting conditions

	<p style="text-align: center;">NOTE</p> <p>► Prior to ultimately mounting the station, it is advisable to check a parked vehicle equipped with tire sensors to determine whether all of the data is being received.</p>
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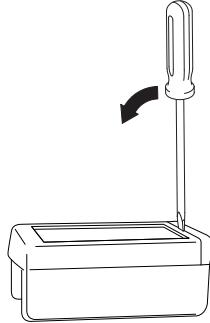
Observe the following conditions during the mounting process:

- Make sure that the system and all the components are de-energized.
- Open the housing of the Yard Reader Station in dry conditions.
- Mount the station directly onto the wall such that there is a solid surface 5 cm (1.97 in.) behind the antenna as this will improve reception.
- Mount the station at a height of 2.5 to 4 m (8.2 to 13.1 ft.). If the height is restricted, select the highest position possible.
- Never mount the station upside down.

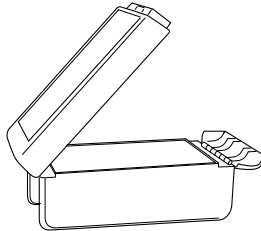


5.7.2 Opening the cover of the Yard Reader Station

- ◆ Using a slot screwdriver, open the fastener by means of a lever movement that pushes the fastener outwards.

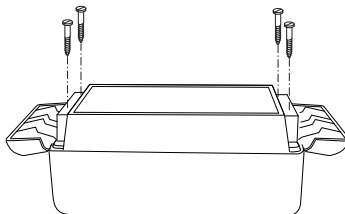


The cover can only be opened sideways.



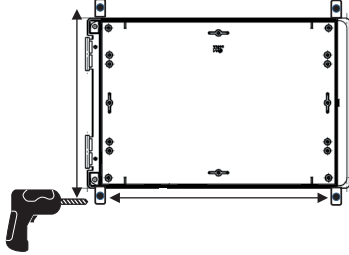
5.7.3 Closing the cover of the Yard Reader Station

- ◆ Place the cover on the housing and secure using the four screws supplied. The screws are located in a small bag in the housing.
- ◆ Then fold up the fasteners on both sides and click them into place.

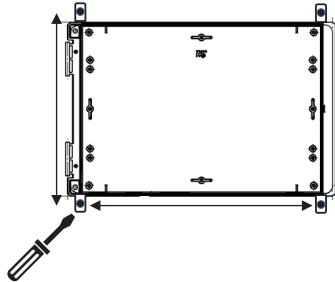


5.7.4 Mounting the Yard Reader Station

- ◆ Mark the distances between the holes on the wall and drill the holes.



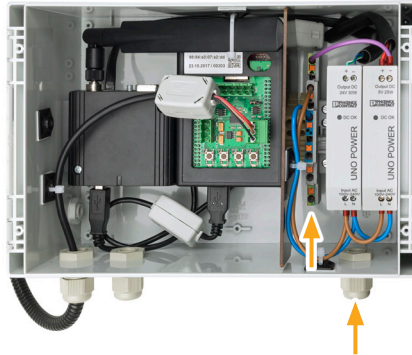
- ◆ Screw the Yard Reader Station into place using fasteners suitable for the wall material. Fasteners are not included in the scope of delivery. Make sure that the screws are securely in place and that the Yard Reader Station is stable and secure.



- ◆ Make sure that the system and all the components are de-energized.
- ◆ Open the housing for the Yard Reader Station in dry conditions (see Chapter “5.7.2 **Opening the cover of the Yard Reader Station**”).

5.7.5 Connecting the Yard Reader Station

- ◆ Open the cable gland (bottom right) and guide the power cable through the cable gland. The power supply cable must be wired through the cable gland in accordance with local regulations.
- ◆ Prepare the power cable, guide it through the opening in the housing and connect it to the screw terminal connection.
 - L = live conductor (phase)
 - N = neutral conductor
 - PE = protective conductor (grounding)



- ◆ Close the housing for the Yard Reader Station in dry conditions (see ***“5.7.3 Closing the cover of the Yard Reader Station”***).
- ◆ Switch on the power supply and carry out a functional check. (See Chapter ***“5.9 Checks to perform following the mounting process”***).

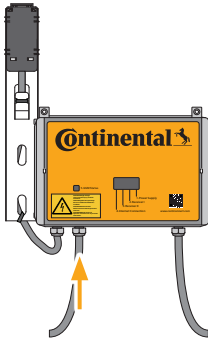
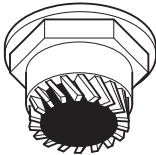
Assembly

5.8 Mounting the additional antenna

5.8.1 Connecting the additional antenna to the control module

Connect the additional antenna to the control module as follows:

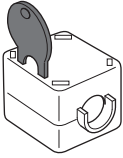
- ◆ Make sure that the system and all the components are de-energized.
- ◆ Open the housing for the Yard Reader Station in dry conditions (see Chapter “5.7.2 *Opening the cover of the Yard Reader Station*”).
- ◆ Open the cable gland for the additional antenna (bottom left-hand side of the housing). Remove the dummy plugs and keep hold of the rubber ring.



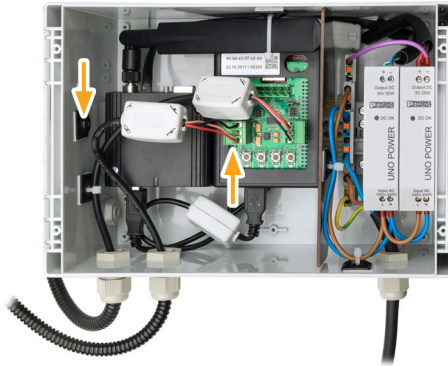
- ◆ Loosen the screws at the three-pin plug connection and remove the screw terminal from the cable.
- ◆ Guide the cable through the cable gland.



- ◆ Re-insert the cable ends in the three-pin plug connection (see image) and tighten.
1 red (+12 V), 2 yellow (K-Line), 3 black (GND)




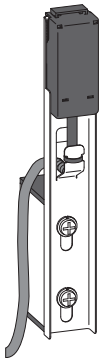
- ◆ Open the ferrite core using the special wrench supplied if it is closed.
- ◆ Position the ferrite core on the cable such that it sits as closely as possible to the three-pin screw terminal. Then press the ferrite core firmly together to close it.
- ◆ Insert the three-pin plug connection into the left-hand port labeled “Rec2” on the control module. Route the cable such that it does not run over the mobile radio antenna or status LEDs and fix the cable to the internal wall using the cable tie supplied.



- ◆ Close the housing for the Yard Reader Station in dry conditions (see **“5.7.3 Closing the cover of the Yard Reader Station”**).
- ◆ Close the cable gland.
- ◆ Follow the instructions in Chapter **“5.8.2 Mounting the additional antenna on the wall”**. Once again, make sure that the system and all the components are de-energized.
- ◆ Reconnect the power supply and perform a functional test (see Chapter **“5.9 Checks to perform following the mounting process”**). Check that LED3 is ON.

5.8.2 Mounting the additional antenna on the wall

	CAUTION
	<p>Damage to the Yard Reader Station due to a short circuit in the connecting cable for the additional antenna.</p> <p>Damage to the connecting cable can lead to a short circuit and thereby damage to the Yard Reader Station.</p> <ul style="list-style-type: none">▶ Take the utmost care when laying the cable in the floor.▶ Lay the cable such that vehicles do not drive over it.

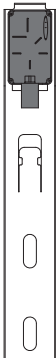


Observe the following conditions during the mounting process:

- The additional antenna must be positioned 5 cm (1.97 in.) from the wall. Use the spacer supplied to do this.

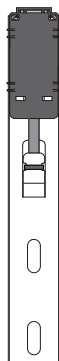
Mount and connect the additional antenna as follows:

- ◆ Make sure that the system and all the components are de-energized.
- ◆ Push the additional antenna onto the bracket as shown in the picture.

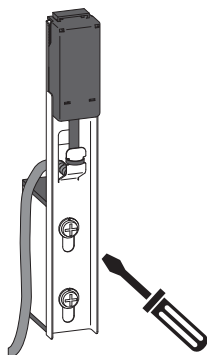




- ◆ Feed the connecting cable through the opening on the back of the bracket and connect it to the additional antenna.



- ◆ Fit the protective cover over the additional antenna.



- ◆ Mark the distances between the holes on the wall and drill the holes.
- ◆ Push the additional antenna onto the wall together with the spacer and screw into place using fasteners suitable for the wall material. Fasteners are not included in the scope of delivery.

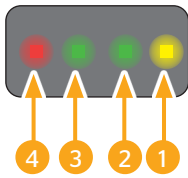
5.9 Checks to perform following the mounting process

Obtain confirmation from your Continental sales partner that the Yard Reader Station is activated and ready for use.

Once the Yard Reader Station has been connected to the power supply for at least five minutes, use the five status LEDs to check whether the equipment was installed successfully:

- LED1 is ON
- LED2 is ON and flashes if an activated tire sensor is located in the reception range for at least two minutes (first antenna is active)
- LED3 is ON and flashes if an activated tire sensor is located in the reception range for at least two minutes (second antenna is active)
- LED4 is OFF
- LED5 is ON and lights up white

If this is not the case, see Chapter “6 *Troubleshooting*”.



Status LEDs for the control module:

- 1 Power supply OK
- 2 Status of antenna 1 (receiver I)
- 3 Status of antenna 2 (receiver II)
- 4 Status of Internet connection




Status LED for the mobile radio module:

- 5 Status of the mobile radio module

6 Troubleshooting

6.1 Safety information

- Faults may be rectified only by specialist personnel who are trained to do so.
- Work must only be carried out in accordance with the instructions set out in this installation manual.

	NOTE
	▶ Work on electrical items of equipment may be carried out only by qualified electricians or by trained personnel under the management and supervision of qualified electricians in accordance with electrical safety regulations.

6.2 Troubleshooting for the Yard Reader Station

Fault	LED status	Possible cause of fault	Instruction
1	LED1 is OFF.	The power supply is faulty.	Switch on the power supply for the Yard Reader Station.
			Check the power cable for the Yard Reader Station.
			Open the housing and check whether the power supply systems within the Yard Reader Station are ON.
			Replace the Yard Reader Station.
2	LED1-4 are OFF LED5 is permanently ON	The power supply is faulty.	Check the power supply cable to the control module.

Troubleshooting

Fault	LED status	Possible cause of fault	Instruction
3	LED1 flashes slowly once per second.	The application is initialized; no connection to the Continental backend.	Briefly switch the power supply for the Yard Reader Station off and on again and wait five minutes.
			Contact your Continental sales partner.
4	LED1 is permanently ON and does not even flash once within 2.5 minutes.	The software application is initialized but data is not being uploaded to the Continental backend.	Make sure that an activated tire sensor is in the reception range of the Yard Reader Station.
			Make sure that LED 2 or LED 3 lights up.
			Briefly switch the power supply for the Yard Reader Station off and on again and wait five minutes.
			Contact your Continental sales partner.
5	LED2 is permanently OFF.	Communication fault with the antenna.	Briefly switch the power supply for the Yard Reader Station off and on again and wait five minutes.
			Check the three-pin plug connection at the antenna cable.
			<p>Check whether the output voltage between pin 1 and pin 3 at the green three-pin plug connection of receiver I on the printed circuit board is 12 V.</p> <p>If the voltage is lower than 12 V, replace the Yard Reader Station.</p>

Fault	LED status	Possible cause of fault	Instruction
6	LED2 is permanently ON and does not even flash once within two minutes if an activated tire sensor is within the reception range.	Data/telegrams from the tire sensors is/ are not being received.	Make sure that the sensors mounted in the tires are activated. If the sensors are not activated, use the hand-held tool to activate them.
			Make sure that the vehicle with the sensors is in the detection range of the Yard Reader Station. An option is to choose another location for mounting the system in order to improve reception.
			Choose a location where sensor signals are adequately reflected.
			Make sure that there are no obstacles between the vehicle and the Yard Reader Station.
7	LED4 is permanently on.	No connection to the Continental backend. The last software update failed.	Check whether the mobile radio status LED is ON.
			Make sure that the mobile radio cable is connected to the mobile radio module and control module.
			Check the network coverage and relocate the Yard Reader Station if necessary.
			The SIM card is damaged. Replace the Yard Reader Station.

Troubleshooting

Fault	LED status	Possible cause of fault	Instruction
8	LED4 flashes slowly once per second.	Wait for a connection to the Continental database.	Switch on the system and wait for five minutes.
		The YardReaderStation is in deactivated mode.	Make sure there is consistent network coverage in the area around the Yard Reader Station.
		The Continental backend cannot be reached.	Ask your Continental sales partner to confirm that the Yard Reader Station and SIM card are activated.
			The backend has failed - ask your Continental sales partner to confirm.
9	LED4 flashes continuously.	An Internet connection is available but the YardReaderStation is not authenticated in the Continental backend.	Contact your Continental sales partner and check whether the Yard Reader Station is registered and activated.
10	LED1 flashes quickly and LED4 is OFF.	The YardReaderStation is not activated.	Contact your Continental sales partner and check whether the Yard Reader Station is activated and has not been set to standby.

6.3 Troubleshooting for the additional antenna

Fault	LED status	Possible cause of fault	Instruction
1	LED3 is permanently OFF when the additional antenna is connected.	Communication fault with the additional antenna.	Briefly switch the power supply for the Yard Reader Station off and on again.
			Check the three-pin plug connection for the additional antenna.
			<p>Check whether the output voltage between pin 1 and pin 3 at the green three-pin plug connection of the additional antenna on the printed circuit board is 12 V.</p> <p>If the voltage is lower than 12 V, replace the Yard Reader Station.</p>
2	LED3 is permanently ON and does not even flash once within two minutes if an activated tire sensor is within the reception range.	Data/telegrams from the tire sensors is/are not being received.	Make sure that the sensors mounted in the tires are activated. If the sensors are not activated, use the hand-held tool to activate them.
			Make sure that the vehicle with the sensors is in the detection range of the Yard Reader Station. An option is to choose another location for mounting the system in order to improve reception.
			Choose a location where sensor signals are adequately reflected.
			Make sure that there are no obstacles between the vehicle and the Yard Reader Station.


Troubleshooting


6.4 Troubleshooting for the mobile radio module

Fault	LED status	Possible cause of fault	Instruction
1	LED 5 is permanently on and lights up yellow.	The USB connection to the control module is faulty.	Make sure that the USB cable is connected to the mobile radio module and control module.
			Briefly switch the power supply for the Yard Reader Station off and on again and wait five minutes.
			Replace the Yard Reader Station.
2	LED 5 is permanently OFF.	The power supply to the mobile radio module is faulty.	Check the power supply to the mobile radio module.
			Briefly switch the power supply for the Yard Reader Station off and on again and wait five minutes.
			Replace the Yard Reader Station.

7 Dismantling and Disposal

7.1 Safety information

	⚠ DANGER
	<p>Danger due to electric current!</p> <p>Contact with live cables or components poses a risk to life!</p> <ul style="list-style-type: none">▶ Work on electrical equipment may be carried out only by qualified electricians or by trained personnel under the management and supervision of qualified electricians in accordance with electrical safety regulations.

	⚠ WARNING
	<p>Danger of injury due to incorrect or no protective equipment!</p> <p>When mounting, connecting and commissioning the equipment, it is necessary to wear personal protective equipment to minimize health risks.</p> <ul style="list-style-type: none">▶ Always wear the protective equipment required for the respective operation while carrying out the operation.

The system may be dismantled only by specialist personnel who are trained to do so with due regard to local safety provisions.

Dismantling and Disposal

7.2 Dismantling

- ◆ Make sure that the system and all the components are de-energized.
- ◆ Open the housing of the Yard Reader Station (see Chapter ***“5.7.2 Opening the cover of the Yard Reader Station”***).
- ◆ Disconnect the power cable from the Yard Reader Station.

7.2.1 Yard Reader Station

- ◆ Unscrew the clamping bolts from the Yard Reader Station and remove the station from the wall.

7.2.2 Additional antenna

- ◆ Unscrew the clamping bolts from the bracket and remove the bracket from the wall together with the additional antenna and spacer.
- ◆ Remove the additional antenna from the bracket.

7.3 Disposal

Continental endeavors to protect the environment. As with other used devices, the equipment can be returned to Continental through the usual channels. For further details regarding disposal, please contact your authorized Continental sales partner.

- ◆ Sort metals and plastics separately for recycling or scrapping.
- ◆ Dispose of other components, such as electrical parts (e.g. control module, additional antenna), in accordance with statutory provisions.

7.3.1 Electrical/electronic components



Electrical/electronic components are to be disposed of in accordance with Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Should you have any queries, please contact the local authority responsible for disposal in your area.

7.3.2 Collection point for disposal

Address:

Continental Trading GmbH
"Disposal division"
VDO-Strasse 1
Building B14
64832 Babenhausen
Germany

8 Certifications

The individual certificates are enclosed with the system documents and/or available at www.conticonnect.com.

8.1 Radio license

A radio license has been granted for the Yard Reader Station in the following countries:

See the country list at www.conticonnect.com.

This device may cause radio interference in residential areas.

8.2 FCC information

The GSM US Yard Reader Station has been tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur under certain conditions. If using this equipment does cause harmful interference to radio or television reception, which can be determined by turning off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

8.3 Declaration of Conformity

The GSM EU Yard Reader Station meets the basic statutory requirements and relevant regulations of the EU and of the other countries specified at www.conticonnect.com.

The complete original Declaration of Conformity is in the product insert:

EC Declaration of Conformity

Déclaration CE de Conformité

EG-Konformitätserklärung

or can be found at www.conticonnect.com.

















9 Color Code Tables

The color code tables were obtained from the following web page:











<https://www.allaboutcircuits.com/textbook/reference/chpt-2/wiring-color-codes-infographic/>

Status: February 12, 2018

9.1 Color code for flexible cables

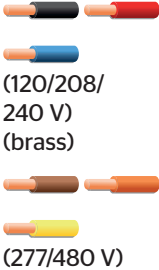
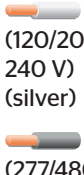
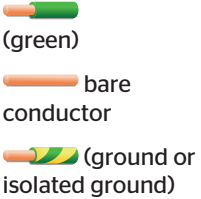
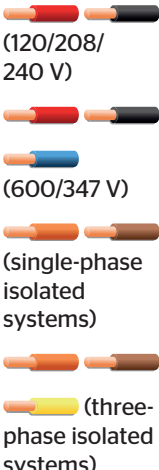


Color code for flexible cables (e.g.: extension cables, power cables and lamp cables)			
Region or country	Phase	Neutral	Protective conductor/ground
European Union (EU), Argentina, Australia, South Africa (IEC 60446)			
Australia, New Zealand (AS/NZS 3000:2007 3.8.3)	 	 	
Brazil	 		
U.S.A., Canada	 (brass)	 (silver)	 (green) or  (green/yellow)

9.2 Color code for solid cables

Color code for solid cables (e.g.: internal wiring of devices, installation in empty pipes on or under plaster)			
Region or country	Phase	Neutral	Protective conductor/ground
Argentina	  		
European Union (EU) (IEC 60446) including the U.K. from March 31, 2004 (BS 7671)	  		

Color code for solid cables (e.g.: internal wiring of devices, installation in empty pipes on or under plaster)			
Region or country	Phase	Neutral	Protective conductor/ground
U.K. prior to March 31, 2004 (BS 7671)			 (at an earlier point in time) bare conductor, sleeve at end (at an earlier point in time)
Australia, New Zealand (AS/NZS 3000:2007, section 3.8.1, table 3.4)	Colors other than Recommended for single phase: Recommended for multi-phase: 	 or 	(since around 1980) (since around 1980) bare conductor, sleeve at end (at an earlier point in time)
Brazil	 		
South Africa	 or 		 bare conductor, sleeve at connection (at an earlier point in time)
India, Pakistan	 		

Color Code Tables

Color code for solid cables (e.g.: internal wiring of devices, installation in empty pipes on or under plaster)			
Region or country	Phase	Neutral	Protective conductor/ground
U.S.A.	 <p>(120/208/240 V) (brass) (277/480 V)</p>	 <p>(120/208/240 V) (silver) (277/480 V)</p>	 <p>(green) bare conductor (ground or isolated ground)</p>
Canada	 <p>(120/208/240 V) (600/347 V) (single-phase isolated systems) (three-phase isolated systems)</p>	 <p>(120/208/240 V) (600/347 V)</p>	 <p>(green) bare conductor (isolated ground)</p>

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www.continental-truck-tires.com

www.continental-corporation.com

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