Continental
The Future in Motion

RightViu®

CONTENT

Use and storage of the manual

This assembly manual makes the safe and efficient installation and commissioning of the RightViu Turn Assist system possible. The fitter must read through and understand this manual before starting work. A pre-requisite for safe work is compliance with all safety information and instructions provided in this manual. In addition, the local occupational protection regulations and general safety regulations for the specific work area apply.
Images in this manual are for general understanding and may deviate from the actual version used. The operating manual makes the safe and efficient use of the RightViu Turn Assist system possible. The operating manual is part of the product. The driver must be provided with the operating manual after commissioning. The operating manual must be stored in the direct vicinity of RightViu and must be accessible to the driver at all times. The driver must read through this manual and have familiarised himself with the system.before driving with it for the first time. A pre-requisite for safe application is compliance with all the safety information and instructions provided in the operating manual.

Limitation of liability

Continental shall not be liable for the improper installation or use of the Turn Assist system or for malfunctions caused by the purchaser's other systems.
In particular, Continental shall not be liable for assembly or connection errors and for damage caused by mechanical influences or overvoltage. If not otherwise agreed, in particular in individual contractual agreements, the following applies to Continental's liability:
Continental shall be liable for claims for damages – for any legal reason – under fault-based liability for intentional actions and gross negligence.
In case of simple negligence, Continental

shall be liable, conditional upon statutory limitations of liability (e.g. due diligence in its own affairs; copyright violations), only – for damages resulting from injuries to life, body or health – for damages resulting from violation of a significant contractual violation (violation of an obligation necessary to ensure the contract can be properly carried out and which the contractual partner should regularly expect will be fulfilled); in this case, however, Continental's liability shall be limited to reimbursing foreseeable, typical damages.
These limitations of liability shall also apply to breaches of duty or in favour of personnel for whose violations Continental is liable under the law. They shall not apply if anyone intentionally conceals a defect or expressly provides a guarantee of a particular characteristic, and shall not apply to any claims under the Product Liability Law.

BMVI

[The Federal Ministry of Traffic and Digital Infrastructure Bundesministerium für Verkehr und digitale Infrastruktur]

The Continental Turn Assist system RightViu is a radar-based system that fulfils BMVI recommendations (volume 19 - 2018).

Symbols used in this manual

Safety information in this manual is marked using symbols. Safety information is introduced by a signal word that expresses the severity of the hazard involved.

	**DANGER!**	This combination of symbol and signal word indicates a directly hazardous situation that will result in severe injury or death if it is not avoided.
	**WARNING!**	This combination of symbol and signal word indicates a potentially hazardous situation that can result in severe injury or death or severe injuries if it is not avoided.
	**CAUTION!**	This combination of symbol and signal word indicates a potentially hazardous situation that can result in minor or slight injuries if it is not avoided.
	**NOTE!**	This combination of symbol and signal word indicates a potentially hazardous situation that can result in property and environmental damage if it is not avoided.

This manual uses the following markings to highlight instructions, results, lists, references and other elements:

⇨ Results of action steps

› Listed in no particular order

The following tools and materials are necessary for the work described

1 **2** Instructions

Proper use and misuse

RightViu monitors the area next to the vehicle stipulated by the BMVI (indicated in the image) and serves to avoid accidents during right turns.

RightViu can be retrofit to the following vehicle classes:

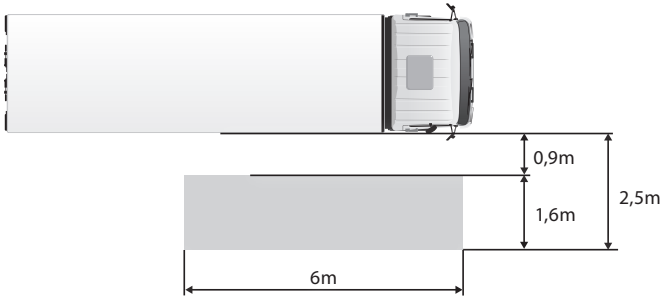
› N2 and N3 (trucks)

› M2 and M3 (buses)

The system can be operated under all vehicle load conditions.

Proper use also includes compliance with all information provided in the installation and operating manuals.

Any use other than or beyond the proper use shall be considered misuse.



⚠	**WARNING!**	Danger in case of improper use! Misusing RightViu may result in hazardous situations, and may cause slight or severe injuries, death, or property or environmental damage.

In addition to the safety instructions provided in this manual, the safety, accident prevention and environmental protection regulations valid for the area of application of the vehicle must also be heeded.
RightViu is an assistant system and does not exempt the driver from using the vehicle mirrors.

Personnel qualifications (trained personnel)

Only trained personnel who can be expected to carry out their work reliably may install the system. Personnel whose response capabilities are influenced, for instance by drugs, alcohol or medication, nay not carry out the said work.

NOTE

The assembly and installation of RightViu may only be carried out by trained personnel.

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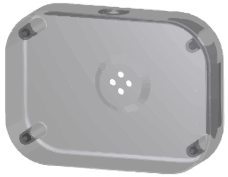
	**WARNING!**	Risk of death due to insufficient qualifications! If insufficiently qualified personnel carry out work on the vehicle, they may face a risk of death. They may also cause significant property damage. – Only allow personnel with the qualifications indicated in the individual chapters to complete the work required. – In case of doubt, instruct personnel to leave the hazard zone and work area.
	**WORK SAFETY CLOTHING**	Work safety clothing is close-fitting clothing with good tear resistance, narrow sleeves and no protruding elements.
	**PROTECTIVE GLOVES**	Protective gloves help protect hands from friction, abrasions, piercing wounds or deeper injuries, as well as from touching hot surfaces.
	**SAFETY SHOES**	Safety shoes protect wearers' feet against crushing, falling parts, and sliding on slippery surfaces.

SCOPE OF DELIVERY / PARTS LIST

1

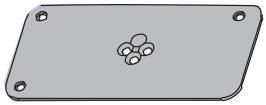


Housing
28-0160-2001-3-00

2

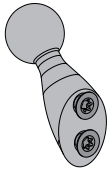
Cover
28-0160-2002-3-00

3



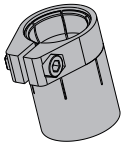
Radar base plate
28-0160-2003-3-00

4



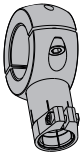
Ball holder G20
28-0160-2004-3-00

5



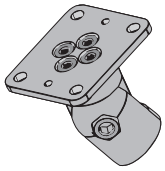
Bracket with clamp
28-0160-2005-3-00

6



Pipe clamp
28-0160-2006-3-00

7



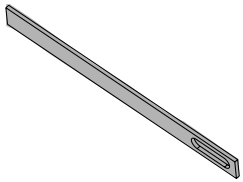
Pivoted joint
28-0160-2028-3-00

8

Steering angle sensor
28-0160-2008-3-00

SCOPE OF DELIVERY / PARTS LIST

9



Steering angle sensor bracket
28-0160-2009-1-00

10

ECU/controller
28-0160-2010-3-00

11

Signal box
28-0160-2011-3-00

12

Connection cable for radar sensor
28-0160-2012-3-00

13

Connection cable for ECU / controller
28-0160-2013-3-00

14

Connection cable for steering angle sensor
28-0160-2014-3-00

15

Fillister head screw
DIN 912 M5x12 V2A
28-0160-2015-3-00

16

Spring washer
DIN 6796 5 V2A
28-0160-2016-3-00

SCOPE OF DELIVERY / PARTS LIST

17

Ejot screw STP39 3 x 10 for plastic
28-0160-2017-3-00

18

Cable gland with lock nut
28-0160-2018-3-00

19

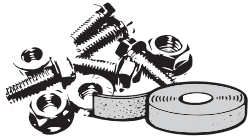
Rubber grommet for radar cable
28-0160-2019-3-00

20

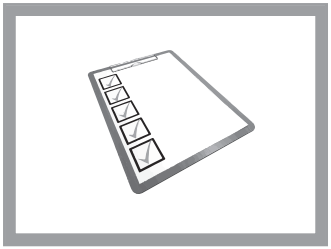
Radar sensor
28-0160-0002-3-00

21

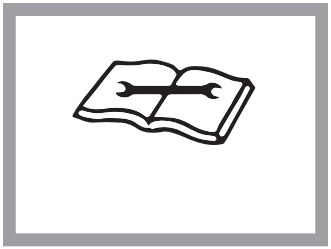
Sealing cord



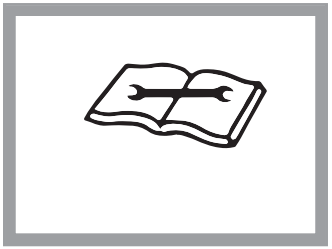
Assembly materials



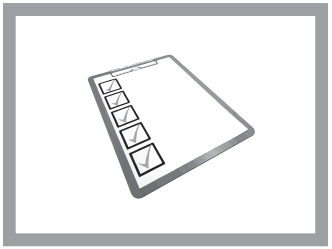
Check list
28.0190-6201.1



Operating instructions
28.0190-6301.1



Assembly manual
28.0190-6101.1



German type approval

SCOPE OF DELIVERY / PARTS LIST

8

Steering angle sensor **28-0160-2008-3-00**

Designation	Value
Operating temperature:	-25°C ...+70°C
Transportation and storage temperature:	-25°C ...+75°C
Protection class:	IP 67
	IP 6k 9k (dust, high-pressure washing) IP 6k7 (10 cm under water) Ice water shock testing, salt spray resistant mixed gas EN 60068-2-60
Current / power intake:	< 10 mA
Operating voltage:	10...30 DC
Degree of contamination:	Inductive proximity sensors are designed for contamination level 3.
Working distance	0...5.7 mm
Switching distance	7 mm
Switching status	Highly active

10

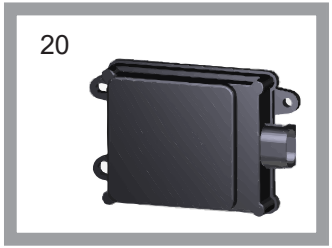
ECU/ controller **28-0160-2010-3-00**

Designation	Value
Digital outputs	8,, 2.5A - max. 5A
Digital inputs:	8, resistance 2.5 – 3k Ohm, frequency 6kHz
Protection class:	IP52
Ambient temperature/storage temperature:	-40°C ...+85°C
Supply voltage:	9 ...30 V

SCOPE OF DELIVERY / PARTS LIST

Connection cable for steering angle sensor
28-0160-2014-3-00

Designation	Value
Ambient temperature:	-25 °C ...+90 °C
Protection class:	IP 65; IP 67; IP 68; IP 69K
Length	5 m
Display elements	Switching status 2 x LED, yellow Operation 1 x LED, green



Radar sensor
28-0160-0002-3-00

Designation	Value
Maximum detection range:	0.20 ...250 m far range 0,20...70 m/ 100 m @ 0...45 ° near range 0,20...20 m @ 60 ° near range
Operating temperature:	-40 °C ... +85 °C
Storage temperature:	-40 °C ... +90 °C
Protection class:	IP 6k 9k (dust, high-pressure washing) IP 6k7 (10 cm under water) Ice water shock testing, salt spray resistant mixed gas EN 60068-2-60
Current / power intake:	6.6 W / 550 mA
Rated voltage:	12 V / 24 V
Power supply:	+8.0 V ...32 V DC

Detection

RightViu is designed to detect pedestrians and cyclists.

Pedestrians and cyclists are described in the following text as valid objects.

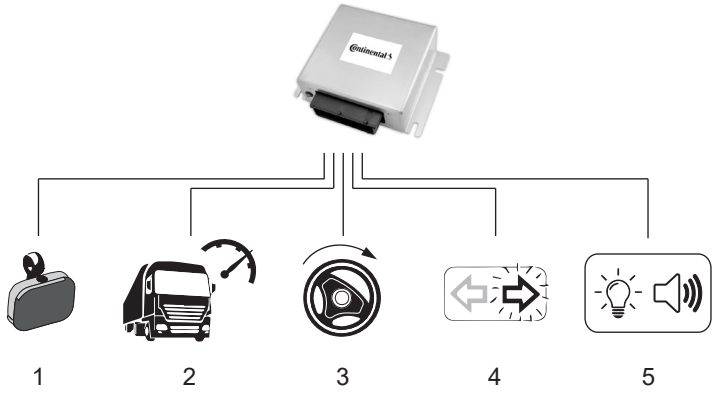
NOTE

If you find damage:

› Do not operate RightViu.

› Please contact your dealer promptly.

System overview



1	Radar sensor with housing
2	Speed signal
3	Steering angle sensor
4	Right turn signal
5	Signal box with signal lamp and buzzer

Safety instructions

	**WARNING!**	Danger due to improper assembly! Improper assembly may result in personal injury, property damage or environmental damage. The device must be installed according to the assembly manual.
	**WARNING!**	Mortal danger due to improper work! Please observe the safety instructions issued by the vehicle manufacturer and the vehicle industry as a whole, and observe technical installation requirements.
	**DANGER!**	Mortal danger due to improper work! Installation and commissioning errors may result in life-threatening injuries and significant property damage. => Installation, assembly and electrical connections may only be carried out by trained technicians and only in accordance with the information in this assembly manual.
	**CAUTION!**	Danger of injury on sharp edges and pointed corners! Sharp edges and pointed corners of components may cause cuts and abrasion on the skin.
	-	In general, observe the vehicle manufacturer's regulations when carrying out all repairs and servicing work.

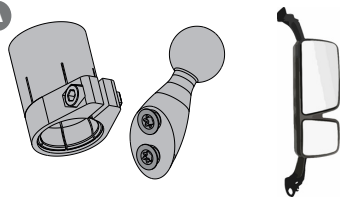
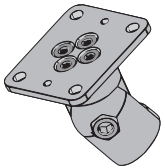
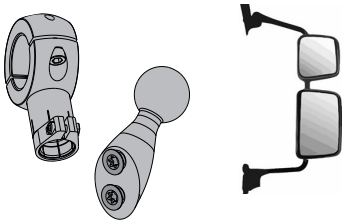
Select attachment options

Before installing the device, determine which attachment option is suitable for the vehicle.

There are different attachment options for the radar housing, depending on the vehicle type and mirror. The following attachment options are available:

NOTE

Additional bracket elements may be required for optimum device positioning. See the replacement parts list for these additional bracket elements.

	BRACKET	TYPE OF VEHICLE MIRROR
Attachment option 1 Direct screw fitting	A 	
Pivoted joint	B 	May be installed independent of the vehicle mirror
Attachment option 2 Pipe clamp	C 	

PREPARATORY WORK

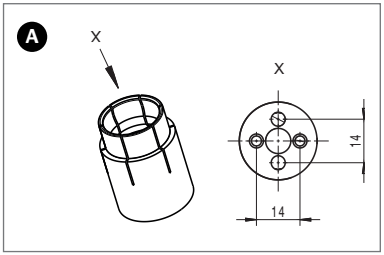
A Drill two holes with a Ø 3.3 mm drill into the mirror bracket. Use the bracket itself (5) as a drilling template.

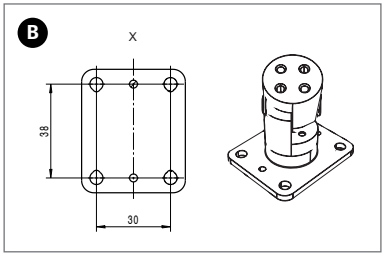
B Drill four holes with a Ø 3.3 mm drill into the mirror bracket. Use the base plate (7) as a drilling template.

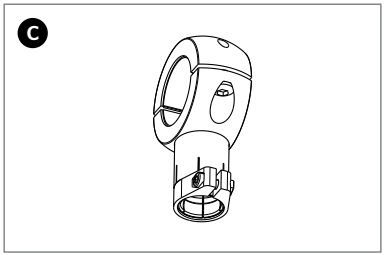
C No holes need to be drilled in the mirror bracket for the ball holder G20 with pipe clamp (4, 6).

NOTE

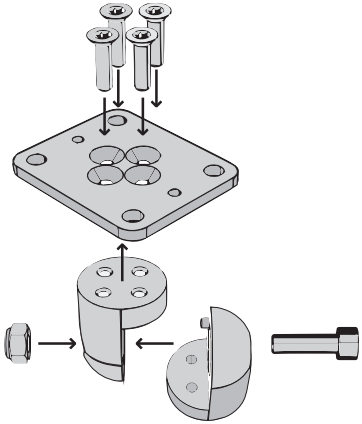
Before installing the radar attachment mount, determine where the cables inside the mirror's electronics are located so you do not damage them.





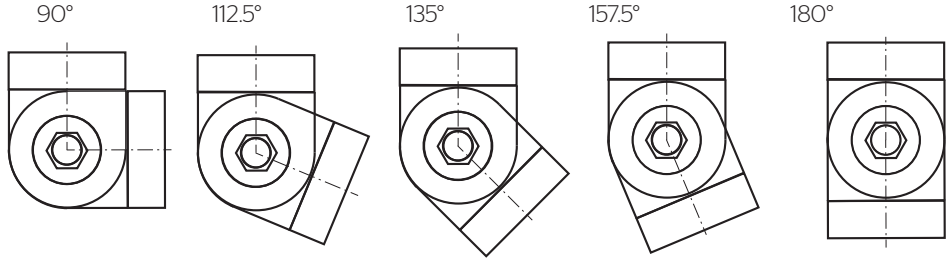


B Mounting the pivoted joint



The pivoted joint can be adjusted in steps of 22.5° between 90° and 180° pre-inclination.
The pivoted joint is secured by a stainless steel pin in these positions. This is pressed in on delivery of RightViu.
The basic alignment of the pivoted joint is designed in such a way that when the plate is attached horizontally at the base of the mirror with the long side in direction of movement, the centre position of the joint is inclined 45° to the rear and 45° down.
Rotation of the joint in relation to the plate can be changed as required by turning the drilling template for the 4 x M4 threaded holes.

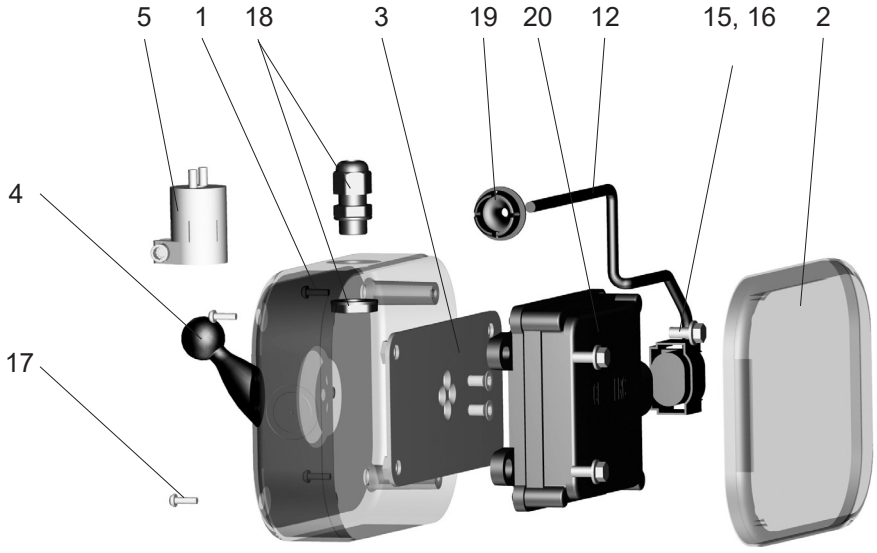
The following adjustment angles are possible:



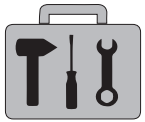
NOTE

All the tightening torques required to mount RightViu can be found in the tightening torques chapter in the annex.

RADAR HOUSING OVERVIEW



1	Housing
2	Cover
3	Radar base plate
4	Ball holder G20
5	Bracket
12	Radar connection cable
15	(3x) fillister head screw M5 x12
16	(3x) spring washer
17	(4x) screws STP39 3x10
18	Cable gland
	Lock nut
19	Rubber grommet
20	Radar sensor



- Drill
- Spiral drill Ø 3.3 mm
- Spiral drill Ø 13 mm

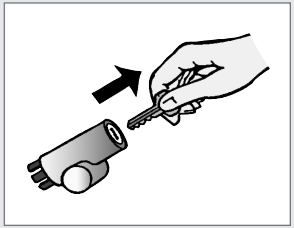
Alternative: step drill up to Ø 20 mm

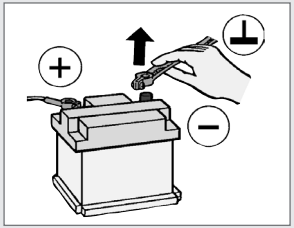
- M4 tap
- Torque wrench
- Allen key and Torx inserts
- Open-end spanner
- Torx 10 screwdriver

To install RightViu, proceed as follows:

1. Ensure the engine cannot be started unintentionally.

   - Remove the ignition key
   - Disconnect the vehicle battery

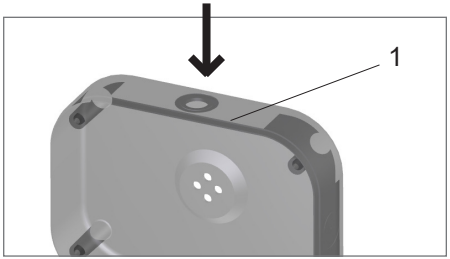




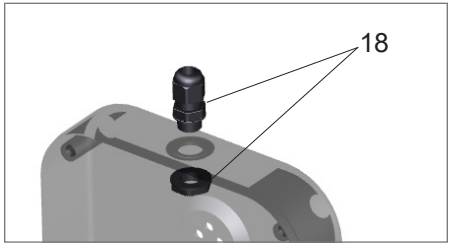
NOTE

All the tightening torques required to mount RightViu can be found in the tightening torques chapter in the annex.

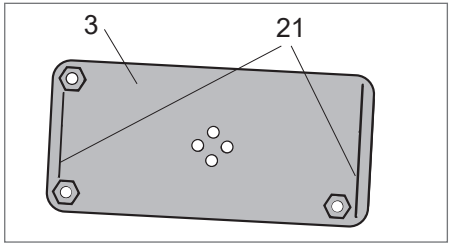
ASSEMBLE THE RADAR HOUSING



2 Drill a hole Ø 13 mm into the side wall of the housing (1). 3 possible positions are marked on the housing for this hole (1). Select the outlet hole based on how the connection cable (12) for the radar sensor (20) needs to be guided into the vehicle interior.



3 Mount the cable gland (18) and lock nut (18) in the drill hole Ø 13 mm on the housing (1).

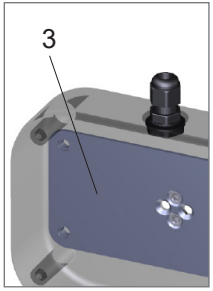


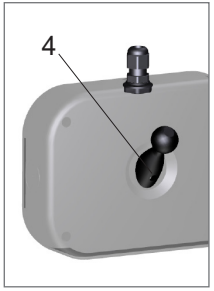
4 The surfaces of the bearing plate (3) and housing (1) must be clean and free of soiling or grease residue during assembly. Align the position of the sealing cord (21) in the housing (1) to the countersunk drilling. Press onto the back of the base plate (3) using the protective film. Press the base plate (3) down evenly at the ends.

NOTE

Before installing the radar attachment mount, determine where the cables inside the mirror's electronics are located.

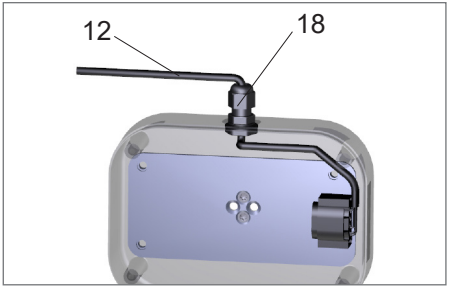
ASSEMBLE THE RADAR HOUSING



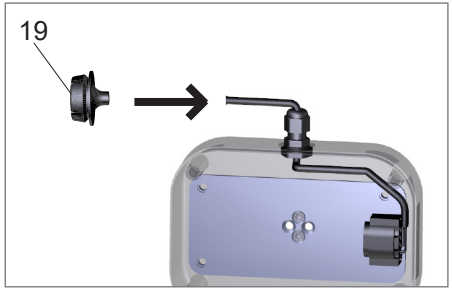


4 Mount the following using the M5 countersunk-head screws

› Housing (1)
› Base plate (3)
› Ball holder G20 (4)



5 Guide the connection cable for the radar sensor (12) through the cable gland and the lock nut (18).

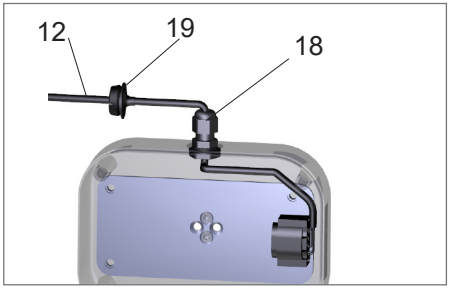


6 Guide the connection cable for the radar sensor (12) through the rubber sleeve (19) so that the cable gland (18) is covered.

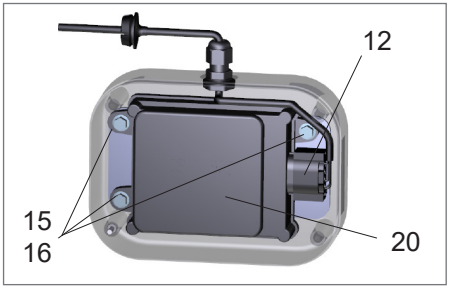
NOTE

Pull the connection cable for the radar sensor (12) only as far through as necessary to ensure the cable is completely inside the radar housing. Ensure that the connection cable for the radar sensor (12) is between the cable gland (18) and the inlet on the passenger door, and that there is sufficient cable. If there is not, then the vehicle mirror may not be able to be folded in if necessary.

ASSEMBLE THE RADAR HOUSING



7 Tighten the lock nut (18) to relieve the tension in order to protect the radar sensor connection cable (12) from slipping through.

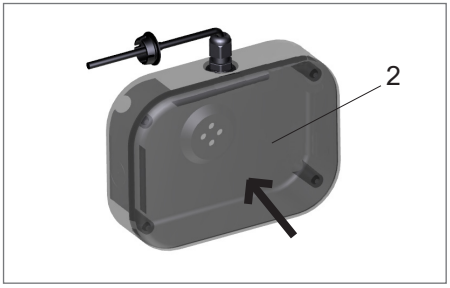


8 Insert the plug for the radar sensor connection cable (12) into the radar sensor (20).

9 Screw the radar sensor (20) with 3 spring washers (16) and 3 M5 x 12 fillister head screws (15) to the base plate (3).

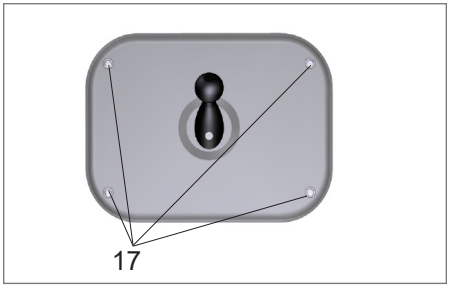
NOTE

The lettering on the fitted radar sensor must be legible.



10 Place the housing cover (2) on the radar housing (1) and press it into place.

ASSEMBLE THE RADAR HOUSING



11 Mount the housing cover (2) from the back of the radar housing (1) with 4x STP39 3x10 mounting screws (17) to the radar housing (1). Tighten the mounting screw (17) hand-tight.

NOTE

Self-tapping plastic screws must not be overtightened.

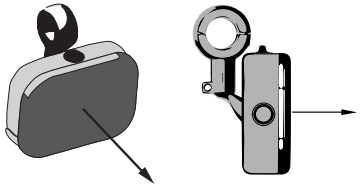
MOUNT AND SET ON THE VEHICLE

- Spiral drill Ø 20 mm

Alternative: step drill up to Ø 20 mm

- Power drill
- Crimping pliers
- Loctite
- Touch-up pencil
- Calibrated goniometer + extension, e.g. aluminium strip

Radar sensor with main line of sight



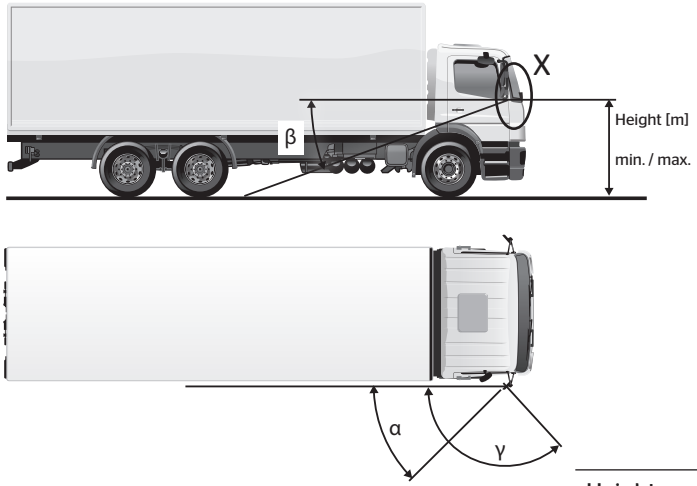
1 To install the connection cable for the radar sensor (12) in the same manner as the mirror electrics, a hole with a diameter of 20 mm must be drilled for the rubber grommet (19) at an appropriate spot on the cover of the mirror joint.

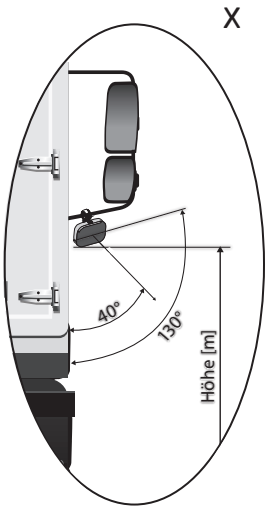
2 Crimp the pins together with the connection cable for the radar sensor (12) and pin these into the free connector provided (22) in accordance with the wiring diagram.

3 Alignment of the radar sensor:
The radar's main line of sight (main radar beam) exits vertically from the level of the radar housing cover.
The radar's line of sight of the vehicle must be set using two angles.

INSTALLATION AND SETTING

Loosen the screw on the ball-and-socket joint to turn the radar housing in any direction to set it. Three orientation directions (angles **α, β, γ**) must be set in relation to the side line of the vehicle in order to correctly orient the mirror. Use a calibrated goniometer to correctly set the angle. After setting the spherical head, secure it with Loctite.





NOTE

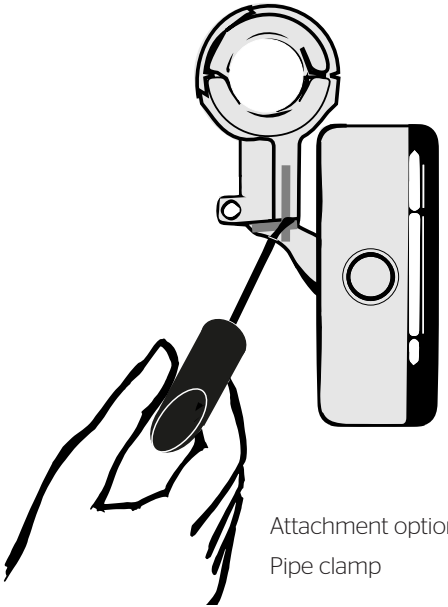
Angle **α** = area vehicle side to radar's line of sight

Angle **γ** = area vehicle side to area radar

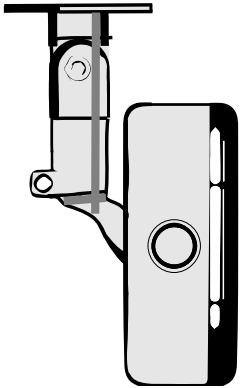
Height [m]	2 - 2.5	2.6	2.7	2.8	2.9	3.0
Angle β	15° +/- 1°	16° +/- 1°	17° +/- 1°	18° +/- 1°	19° +/- 1°	20° +/- 1°
Angle α	40° +/- 1°					
Angle γ	130° +/- 1°					

Mark the position of the radar housing on the bracket using a coloured touch-up pencil. It must be labelled in both horizontal and vertical directions.

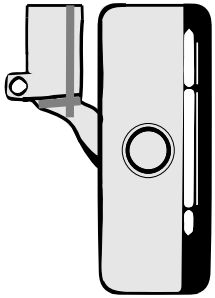
Secure all threaded connections using Loctite!



Attachment option 2
Pipe clamp



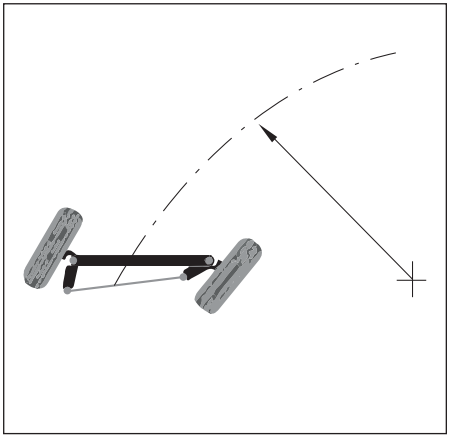
Attachment option 1
Pivoted joint



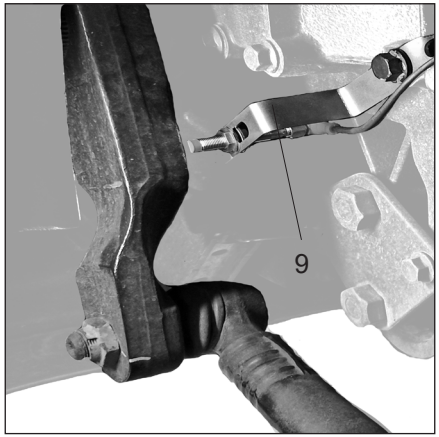
Attachment option 1
Direct screw fitting

MOUNT THE STEERING ANGLE SENSOR

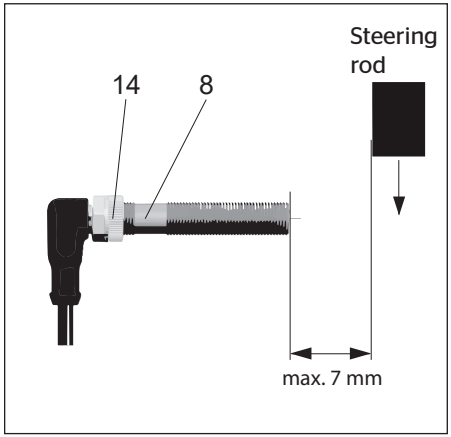
⚠	**WARNING!**	Hot surfaces! Danger of injury due to hot surfaces! If you come into contact with hot surfaces such as engines, there is a risk of severe skin burns. –Allow engines to cool down before completing work on/near the engine. –Wear heat-resistant work clothing and protective gloves.



25m curve radius



Steering angle sensor installation position



Steering angle sensor installation position

MOUNT THE STEERING ANGLE SENSOR

- Torque wrench
- Stainless steel screws
- Spanner SW14
- Rhodius VeryFine abrasive pad
- Sika Aktivator 205
- Sikaflex 252

The image shows one possible installation position for the steering angle sensor.
Installation may differ for different vehicles.

Select the installation position for the steering angle sensor so that a signal is activated if the vehicle's curve radius is < 25m to the end of the steering wheel angle to the right.

The steering angle sensor must be mounted at a maximum distance of 7 mm from the steering arm.
The universal bracket must be bent and shortened if necessary during installation.

NOTE

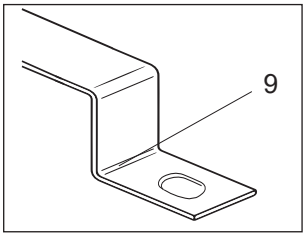
For checking, we recommend marking a semi-circle of 25m with chalk or adhesive tape and driving along this with the vehicle.

MOUNT THE STEERING ANGLE SENSOR

Observe the vehicle manufacturer's specifications.

Installation with screws

The materials used to install the universal bracket are not included in the scope of delivery. The screws used to install the steering angle sensor bracket must be stainless steel. Use existing drill holes or threads in the vehicle body for installation.



Steering angle sensor bracket (9)

Installation with adhesive

If the screws and nuts should not come loose, attach the steering angle sensor to the vehicle body using adhesive.
These installation materials are not included in the scope of delivery.

1. Use a Rhodius VeryFine abrasive pad to roughen the surface of the bracket.
2. Use Aktivator 205 or a product with the same properties to pre-treat the surface of the bracket and the body surface.
3. Attach the bracket to the body with Sikaflex 252 or a product with the same properties.

NOTE

Observe the product manufacturer's specifications.

MOUNT THE STEERING ANGLE SENSOR

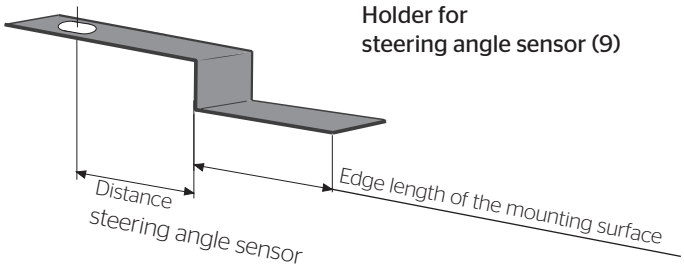
Vehicles in regular traffic:

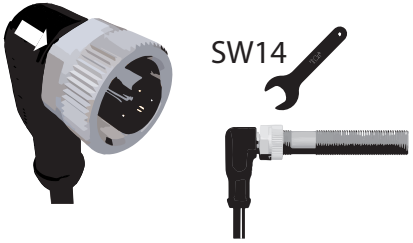
The edge length of the contact surface, whether glued or screwed, must be at least 100 mm long.

The maximum length from the edge length of the mounting surface of the steering angle sensor holder to the steering angle sensor must not be more than 200 mm long.

Construction vehicles:

The edge length of the cointact surface, whether glued or screwed, must be at least 150 mm long. The maximum length from the edge length of the mounting surface of the steering angle sensor holder to the steering angle sensor must not be more than 150 mm long.





Plug the plug connector into the steering angle sensor (8) The arrow shows the correct coding location. To ensure the required protective class is observed, the union nut must be tightened with a tightening torque of between 0.6 Nm (hand-tight) and 1.5 Nm (wrench installation).

To disassemble, loosen the union nut and press the plug connector against the sensor at the same time.

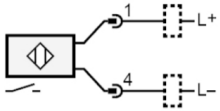
NOTE

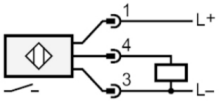
Continue to tighten the union nut using a spanner by one further notch to increase shock and vibration resistance.

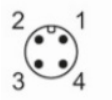
MOUNT THE STEERING ANGLE SENSOR

The LED in the plug of the connection cable (14) lights up when the steering lever is detected.

Standard assignment with 3-wire DC:







		CABLE	TERMINAL COMPARTMENT	US-100 PLUG
L+		BN	1 / 3	Pin 1 / BN
L-		BU	2 / 4	Pin 3 / BU
Output		BK	X	Pin 2 / WH Pin 4 / BK

Colour coding: BK: black; BN: brown; BU: blue; WH: white

NOTE

Install the steering angle sensor connection cable along the main wiring harness. Doing so will ensure there is no danger of it tearing out if the driver cab tips.

Display elements on the cable plug allow installation by one person.

MOUNT THE SIGNAL BOX

⚠	**DANGER!**	Mortal danger due to modification or manipulation of RightViu, which can have a negative influence on safety. This may result in death, severe or minor injuries (personal injury) to the operator or third parties, property and environmental damages.

There are different installation options, due to the large number of different possible vehicles.
Choose the installation position as follows:
At least 30° to the right of the driver's line of sight. The box, buzzer and indicator light may not interfere with the driver's view or distract the driver.
We recommend attaching the signal box (11) to the A column on the passenger side, at the height of the side mirror.
A self-adhesive hook and loop strap is included in the scope of delivery to install the signal box (11).

The volume of the warning signal cannot be adjusted. The brightness of the indicator light cannot be adjusted.

NOTE

The volume of audio sources such as e.g. radio must be reduced to such an extent that the warning signal can still be heard easily.

	DANGER!	Mortal danger due to unauthorised restart! If power supplies have been switched off and are switched on again without authorisation, this poses a mortal danger to workers. - Always secure power supplies against restart after they are turned off.
	DANGER!	Do not bend, pinch, or roll over the cables or allow them to come into contact with heat sources or sharp edges.
	DANGER!	If insulation is damaged, immediately unplug the power supply. Never allow liquids to penetrate the system.
	DANGER!	Mortal danger from electric current! Touching live parts poses a mortal danger from electric shock.
	DANGER!	Mortal danger due to stored charge! Electrical charges may be stored in electronic components. These charges may remain even after: - the power supply has been switched off and unplugged. Coming into contact with such components may result in severe or deadly injuries. - Only allow trained electricians to complete work on electronic components. - Before working on electronic components: Unplug components from the power supply. Wait 10 minutes so that capacitors can discharge fully.

ECU INSTALLATION

- Screws
- Nuts
- Crimping pliers
- Ring / pin
- Screwdriver
- Spanner
- Vehicle specific fuse holder with 7.5A fuse

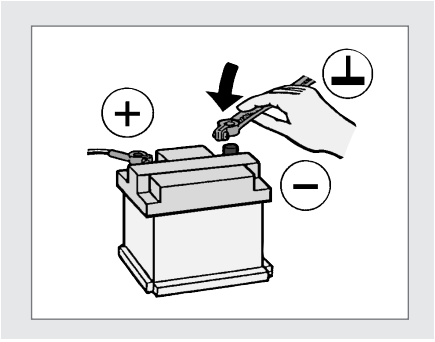
Install the ECU in a dry and non-accessible location in the vehicle cab.
The foot well on the passenger side is a good choice, since cables can be installed here free from tension.
The installer must select screws and nuts for attaching the ECU as appropriate for the specific vehicle. These are not included in the scope of delivery.
The steady plus power supply (terminal 30) and ignition (terminal 15) must be connected so that no current flows into the system when the key is removed.
All connections must be installed so that the electrical connections cannot come loose or be interrupted while driving.

The ends of the cables for the power supply and ground must be fitted with rings/pins.
Use the crimping pliers for this purpose.
The rings, fuse holders and fuses are vehicle-specific and not included in the scope of delivery.
Connect the power supply and ground to the central electrical system.

NOTE

Unconnected or reserve cables must be isolated by the installer.

To begin operating RightViu, connect the vehicle battery according to the vehicle manufacturer's specifications.



Review the points in the check list when commissioning RightViu.

Once you have checked all the points on the check list **28.0190-6301.1** and everything is OK, RightViu is ready for operation.

Safety instructions

	**WARNING!**	RightViu does not interfere with the vehicle's systems. RightViu only warns the driver. RightViu serves only to support the driver, and does not release the driver from his obligation to drive carefully. The Turn Assist cannot replace looking into your side view mirrors. It may issue incorrect or false warnings! Drivers must continue to assess their own driving risks and initiate safe driving manoeuvres whenever necessary.
	**DANGER!**	Changes or manipulation of RightViu can have a negative influence on safety. This may result in death, severe or minor injuries (personal injury) to the operator or third parties, property and environmental damages.

NOTE

The assembly and installation of RightViu may only be carried out by trained personnel.

Before driving

Before driving, check the following...

› Check the radar housing for external damage or modification
› Check the angle of the radar housing using the markings
› After turning on the ignition, check whether the warning light flashes slowly three times.
› Check the function of the steering angle sensor

>> See maintenance / servicing chapter

If it does not do so, there is a fault.

>> See troubleshooting chapter

NOTE

The volume of audio sources such as e.g. radio must be reduced to such an extent that the warning signal can still be heard easily.

Activation

RightViu is ready for operation when the vehicle ignition is turned on.

>> The indicator light will flash three times.
>> A brief warning signal sounds to confirm that the steering angle sensor is working.

Object detection

Driving	Status	
> 30km/h	RightViu is not active.	No warning is issued.
≤ 30km/h	RightViu is active when... – the right turn signal is activated. and/or – the steering wheel angle is < 25m to the right of the curve radius.	Valid objects within the warning area are detected.

NOTE

The system remains inactive for other vehicle conditions, such as the left turn indicator or left steering wheel angle

› No warnings will sound.

Each valid object in the warning area is detected by the system and indicated to the driver by the warning light. The first time the object is indicated, a warning signal sounds three times. If another valid object enters the warning area, the warning signal is activated again briefly three times. (The warning light remains turned on.)

Overview of system notifications

Status indicator	Warning light		Warning signal	
The system has started up properly		3x		
The steering angle sensor is functional				Within 5 minutes of turning the steering wheel to the right
Buzzer is working				Brief warning signal
Object detection: one ore more objects are detected		Continuous		The first time an object is detected in the warning area
Vehicle speed over 30 km/h				
System active without detected objects in the warning area				

Status indicator	Warning light		Warning signal
Check speed signal (upwards of 30km/h the sensor switches off) V_CAN connected Yes/No		Indicator ON/OFF (fast 1/3 sec., medium 2/3 sec., slow 4/3 sec.)	
CAN error, CAN data line interrupted, no power supply to the Radar sensor		Fast, continuous flashing	

Flashing frequencies following error message:

Radar sensor general error:	Fast permanent flashing, 330ms On, 330ms Off.
Radar sensor CAN error:	Medium permanent flashing, 660ms On, 660ms Off.
Vehicle CAN error:	Slow permanent flashing, 1320ms On, 1320ms Off.

Switch off

RightViu is deactivated when the vehicle ignition is turned off.

⚠	**WARNING!**	Danger of injury due to improper maintenance! If maintenance work is carried out improperly, this may result in severe injuries and significant property damage.

The following sections describe the maintenance work necessary to ensure optimal, fault-free operation. The following table lists maintenance work that must be carried out. The specified intervals must be observed.

INTERVAL	MAINTENANCE WORK	PERSONNEL
Before each trip	Visual inspection	Driver
	Check steering angle sensor	
Annual	Check alignment	Authorised workshop
As needed	Clean	Driver

During the general inspection (German MOT), check the alignment of the radar housing and the position of the steering angle sensor.
Only an authorised workshop may inspect RightViu.

NOTE

All maintenance work that may not be carried out by the driver is described in the assembly manual, and may only be completed by an authorised workshops.

NOTE

A visual inspection must be carried out following cleaning of RightViu

TROUBLESHOOTING

RightViu must not be modified or repaired without authorisation.

WARRANTY

The statutory warranty regulations apply under EU Directive 1999/44/EC. In non-EU countries, the minimum warranty claims valid in the specific country apply.

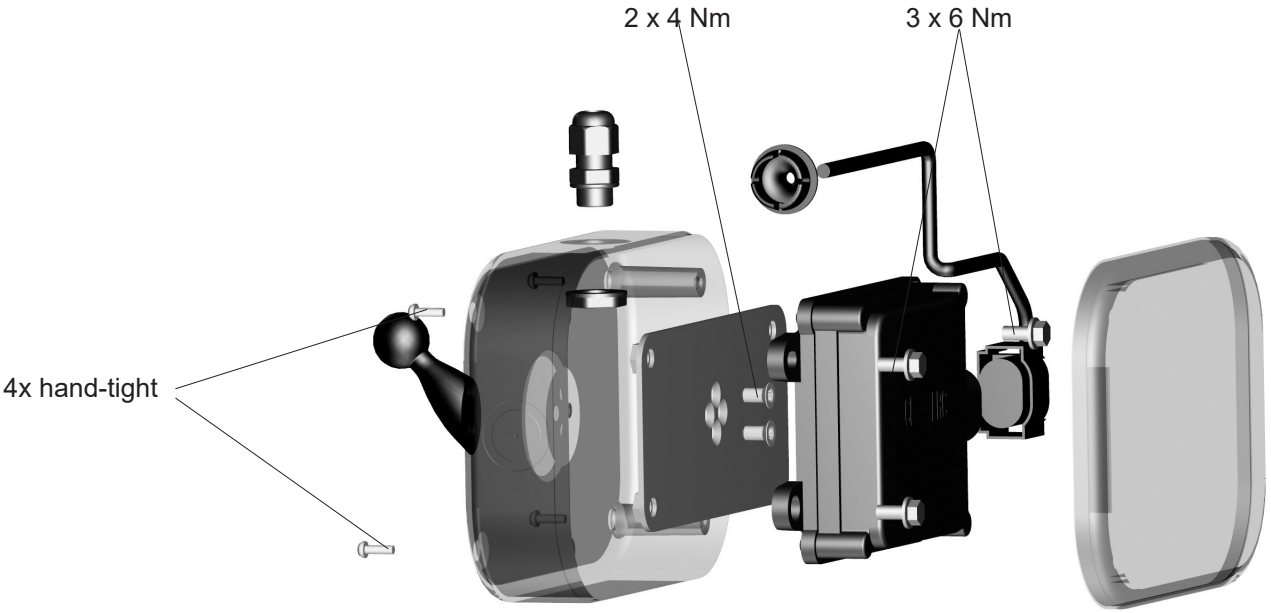
SHUTDOWN AND DISASSEMBLY OF RIGHTVIU

RightViu may only be shut down or disassembled by trained personnel. RightViu must be shut down and disassembled in the reverse order used for assembly and installation.

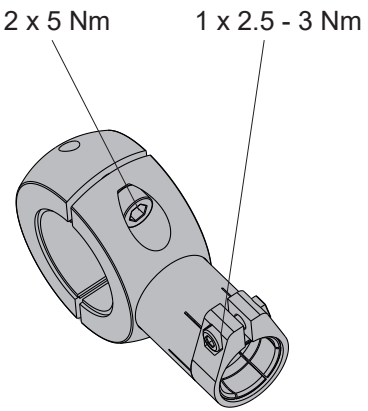
DISPOSAL

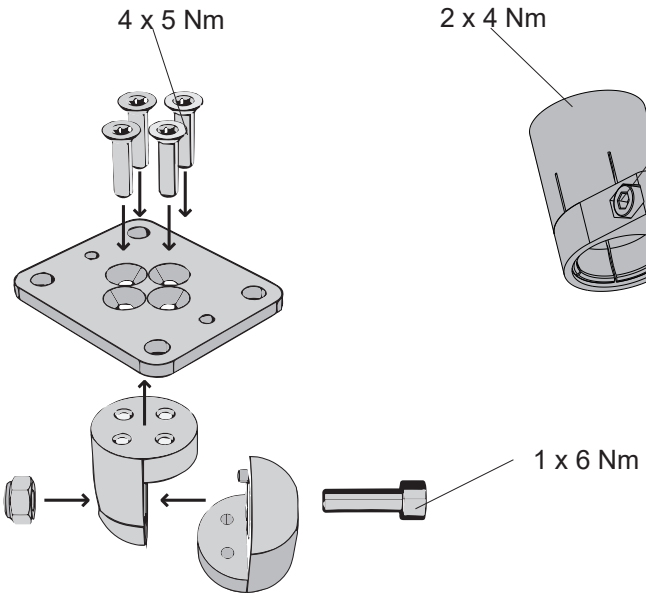
Dispose of packaging materials according to applicable statutory provisions and local regulations. Observe local requirements, and do not dispose of old equipment with normal household garbage. The device must be disposed of in accordance with the Electrical and Electronic Equipment Law (ElektroG2) dated 24.10.2015.

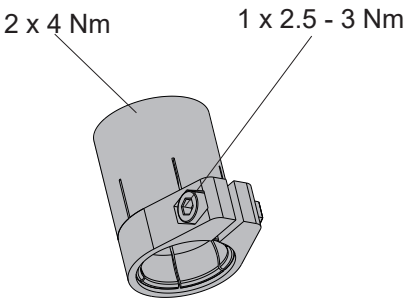
TIGHTENING TORQUES



TIGHTENING TORQUES



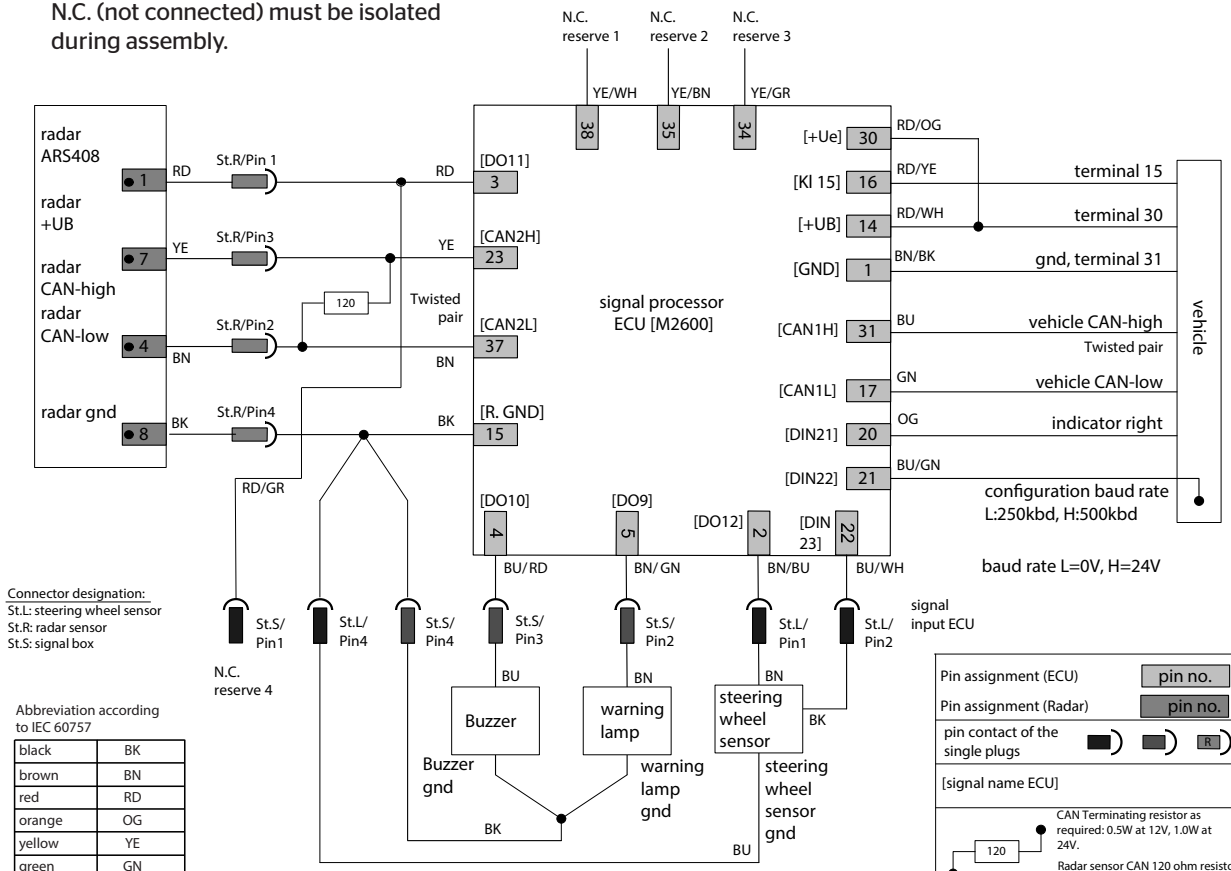




Secure all threaded connections using Loctite!

CONNECTION DIAGRAM

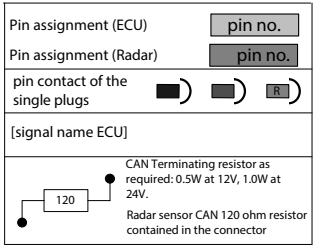
All spare cables are those that come with N.C. (not connected) must be isolated during assembly.



Connector designation:
St.L: steering wheel sensor
St.R: radar sensor
St.S: signal box

Abbreviation according to IEC 60757

black	BK
brown	BN
red	RD
orange	OG
yellow	YE
green	GN
blue	BU
white	WH



Allgemeine Betriebserlaubnis (ABE)
National Type Approval

ausgestellt von:

Kraftfahrt-Bundesamt (KBA)

nach § 22 in Verbindung mit § 20 Straßenverkehrs-Zulassungs-Ordnung (StVZO) für einen Typ des folgenden Genehmigungsobjektes

Abbiegeassistenzsysteme

issued by:

Kraftfahrt-Bundesamt (KBA)

according to § 22 and 20 Straßenverkehrs-Zulassungs-Ordnung (StVZO) for a type of the following approval object

Blind Spot Information System for the Detection of Bicycles

Genehmigungsnummer: **91842** Erweiterung: **--**
Approval number: Extension:

1. Genehmigungsinhaber:
Holder of the approval:
Continental Aftermarket & Services GmbH
DE-65824 Schwalbach am Taunus

2. Gegebenenfalls Name und Anschrift des Bevollmächtigten:
If applicable, name and address of representative:
Entfällt
Not applicable

3. Typbezeichnung:
Type:
RightViu

Kraftfahrt-Bundesamt
DE-24932 Flensburg

Genehmigungsnummer: **91842** Erweiterung: **--**
Approval number: Extension:

4. Aufgebrachte Kennzeichnungen:
Identification markings:
Hersteller oder Herstellerzeichen
Manufacturer or registered manufacturer`s trademark

Typ
Type

Genehmigungszeichen
Approval identification

5. Anbringungsstelle der Kennzeichnungen:
Position of the identification markings:
Auf den Außenseiten der Hauptkomponenten des Systems
On the outside of the main componentsof the system

6. Zuständiger Technischer Dienst:
Responsible Technical Service:
Typprüfstelle Fahrzeuge/Fahrzeugteile der TÜV Rheinland Kraftfahrt GmbH
DE-51105 Köln

7. Datum des Prüfberichts des Technischen Dienstes:
Date of test report issued by the Technical Service:
21.04.2020

8. Nummer des Prüfberichts des Technischen Dienstes:
Number of test report issued by that Technical Service:
205KA0003-00

9. Verwendungsbereich:
Range of application:
Das Genehmigungsobjekt „Abbiegeassistenzsysteme“ darf nur zur Verwendung gemäß:
The use of the approval object „Blind Spot Information System for the Detection of Bicycles“ is restricted to the application listed:

Punkt 3. des Prüfberichtes
Point 3. of the test report

unter den angegebenen Bedingungen an den dort aufgeführten bzw. beschriebenen Kraftfahrzeugen feilgeboten werden.
The offer for sale is only allowed on the listed vehicles under the specified conditions.

Genehmigungsnummer: **91842** Erweiterung: **--**
Approval number: Extension:

10. Bemerkungen:
Remarks:
Es gelten die im o.g. Gutachten nebst Anlagen festgehaltenen Angaben.
The indications given in the above mentioned test report including its annexes shall apply.

Die Anforderungen des Artikels 31, Absätze 5, 6, 8, 9 und 12 der Richtlinie 2007/46/EG - Verkauf und Inbetriebnahme von Teilen oder Ausrüstungen, von denen ein erhebliches Risiko für das einwandfreie Funktionieren wesentlicher Systeme ausgehen kann - sind sinngemäß erfüllt.
The requirements of Article 31, paragraphs 5, 6, 8, 9 and 12 of directive 2007/46/EC - Sale and entry into service of parts or equipment which are capable of posing a significant risk to the correct functioning of essential systems - are met.

11. Änderungsabnahme gemäß § 19 (3) StVZO:
Acceptance test of the modification as per § 19 (3) StVZO:
Notwendig
Required

12. Die Genehmigung wird **erteilt**
Approval is **granted**

13. Grund (Gründe) für die Erweiterung der Genehmigung (falls zutreffend):
Reason(s) for the extension (if applicable):
Entfällt
Not applicable

14. Ort: **DE-24932 Flensburg**
Place:

15. Datum: **23.04.2020**
Date:

16. Unterschrift: **Im Auftrag**
Signature:

Frederik Maß

KRAFTFAHRT-BUNDESAMT 516

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