NATRAS
LSVA · RPLP · TTPCP

Vehicle recording system (VRS)
Operating instructions version 1.6

VRS operating instructions

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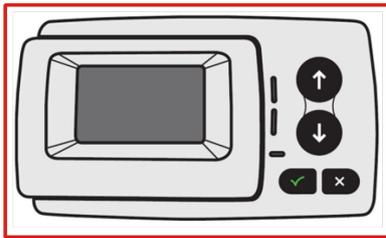
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1   Assembly and commissioning

1.1   Scope of delivery VRS

Vehicle recording system VRS

VRS bracket:

is pre-assembled on the VRS
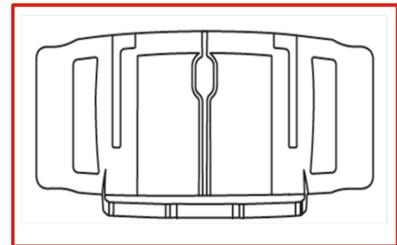
Bracket for installation in existing emotach mounting rails or directly on the windscreen.
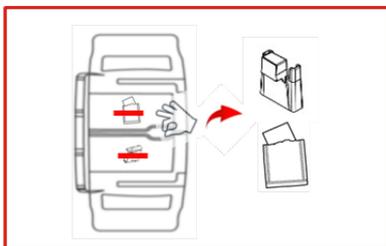
Cable fastener and cleaning cloth are attached with a red (removable) adhesive strip.

Optional

Only supplied in the event of:

a. an emotach replacement is needed
b. with a pre-installed HVCII cable (NAT-A0102)

1.2   Information - HVC - cabling options

1.2.1   Vehicles with existing cabling (emotach)

On vehicles with a built-in emotach, the existing emotach wiring and emotach holder rails can continue to be used. Rewiring is not necessary.

The scope of delivery of the VRS (HVC III/NATRAS vehicle recording system) includes both a connection cable for connection to the existing emotach supply cable and a bracket for attachment to the existing emotach holder rails.

1.2.2   New vehicles (delivery from 1 January 2025)

NATRAS offers all vehicle manufacturers and interested parties the following HVC cabling options (https://natras.ch/en/shop/):

1.2.2.1   Connection cable "open-end vehicle to NATRAS VRS"

The standard cabling variant offers direct (adapter less) access to the NATRAS VRS and is intended for vehicle owners who have opted for the HVC basic supply and wish to work exclusively with NATRAS.
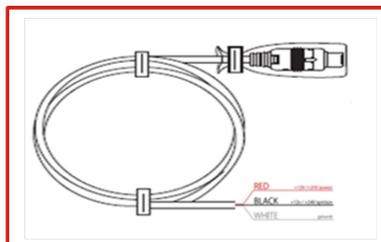
Connection cable "open-end vehicle to NATRAS VRS" (order number NAT-A0104)

1.2.2.2   Connection cable "open-end vehicle to adapter HVC III (multiple use)"

This cable corresponds to the plug variant of the existing HVC cabling and only needs to be connected to the vehicle's power supply in future. This variant enables the vehicle owner to use devices from authorised providers (e.g. EETS, ZNA) in addition to the NATRAS VRS if required.
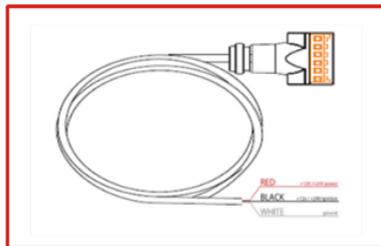
Connection cable "open-end vehicle to HVC III adapter (multiple use)"

(order number NAT-A0102)

1.3   Assignment of the VRS to a vehicle

If the assignment is to be made using the barcode/QR code (located on the back of the VRS), this step must be performed first, and the assignment must be made before the final installation step (i.e. before inserting the VRS into the VRS holder).

> **An VRS can only be assigned to a vehicle registered with NATRAS.**

> **The holder is liable for all irreversible changes made to the VRS by him or on his behalf (e.g. affixing texts or labels). The costs incurred as a result will be charged to the holder.**

The **NATRAS app** can be used to easily assign the VRS to the vehicle. The NATRAS app (download link) is available to download from the Google Store and Apple Store. Please follow the instructions in this app to complete the assignment correctly.

Assignment via the Online-Service-Desk (OSD) is also possible.

1.4   Assembly of the VRS

1.4.1   Installation in the vehicle with existing emotach mounting rails

This variant can be carried out under the following conditions:

- There is a holding device for an emotach (HVC II VRS) on the windscreen of the vehicle. The emotach must first be removed and disposed of in accordance with the law (see **chapter 4**).
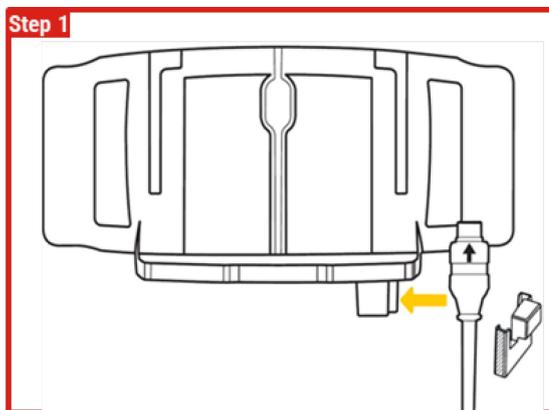
The connection cable is fed into the cable opening on the side of the VRS holder. The black arrow on the cable connector must point upwards and towards the driver of the vehicle and be pushed as far as it will go in the provided guide.

The connection cable is attached to the holder with the cable fastener. The cable fastener must be placed with its protrusion pointing outwards on the right at both guide grooves of the holder and pushed upwards. The cable fastener engages when you apply further sustained pressure. You will hear a click.

Step 3
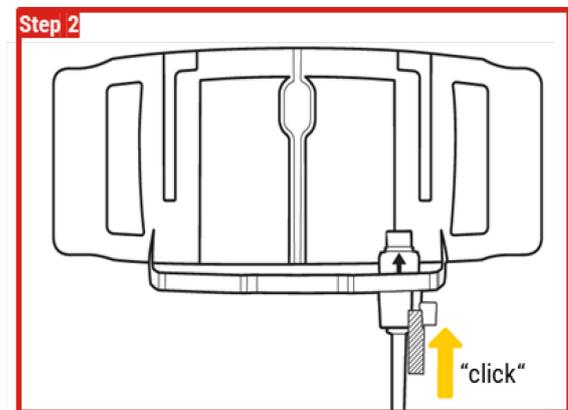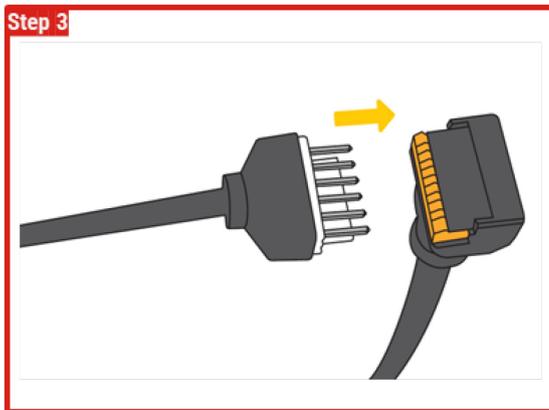
The connection cable is connected to the existing emotach cabling.

Step 4
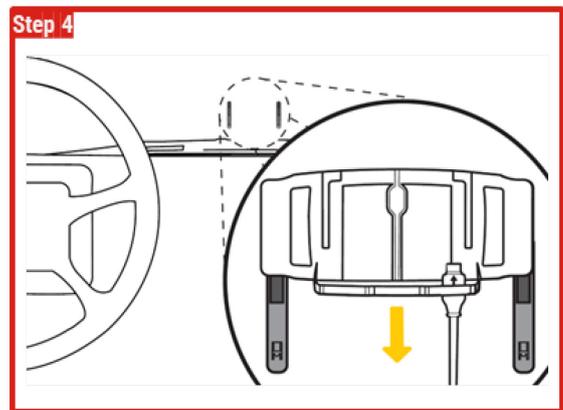
The screws on the two emotach retaining rails are loosened using a suitable tool (4 mm hexagon).

The VRS bracket is inserted into the existing emotach mounting rails.

Step 5
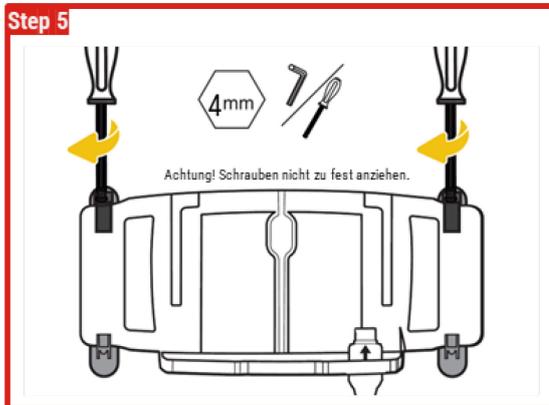
Tighten the screws on the two retaining rails.

Caution: do not overtighten the screws.

Step 6

VRS is inserted into the VRS holder from above. You will hear a click.

Make sure that the vehicle ignition is switched off and the start button is not pressed at this point, as otherwise the VRS initial start-up process will begin automatically.

Supplying power to the VRS for the first time before the requirements of the initial start-up process (see chapter 1.5) have been met may result in the process not being completed correctly.

Note: Once installation is complete, please assign the VRS to the vehicle! You can do this in the OSD (description in the OSD manual/chapter 8) or with the NATRAS app (download link) (description in the NATRAS app manual/chapter 5). **Commissioning is only complete once the VRS has been assigned to the vehicle**.

1.4.2 Installation in the vehicle without emotach mounting rails

If there are no emotach mounting rails in the vehicle or the existing mounting rails are not suitable for mounting the VRS, the VRS must be attached directly to the windscreen.

> **On vehicles with a metal-coated windscreen, the VRS must be fitted in an uncoated area.**
>
> **The VRS must be installed in an area where the driver's visibility is not impaired.**

### 1.4.2.1 Installation in the vehicle with "open-end vehicle to NATRAS VRS" cabling
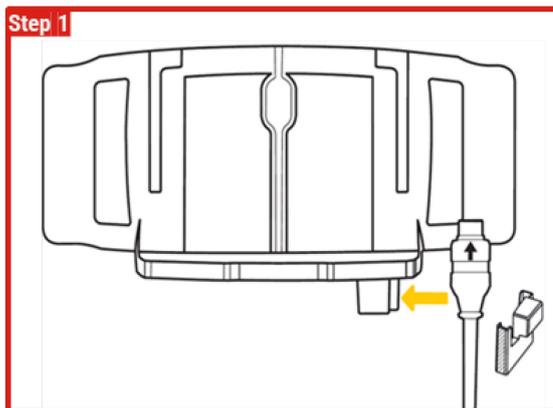
The NAT-A0104 connection cable is fed into the cable opening on the side of the VRS bracket. The black arrow on the cable connector must point upwards and towards the driver of the vehicle and be pushed as far as it will go in the provided guide.
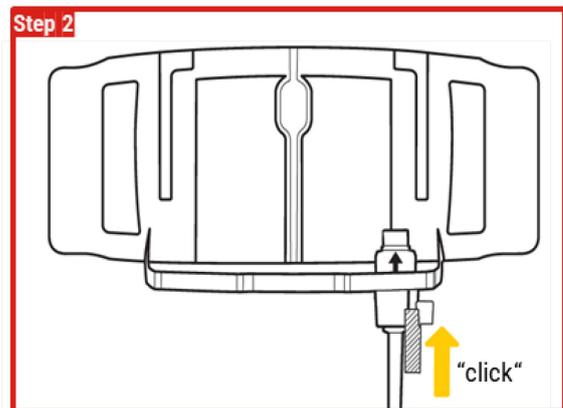
The NAT-A0104 connection cable is attached to the bracket with the cable fastener. The cable fastener must be placed with its protrusion pointing outwards to the right on both guide grooves of the bracket and pushed upwards. The cable fastener engages when you apply a little more pressure. You will hear a click.
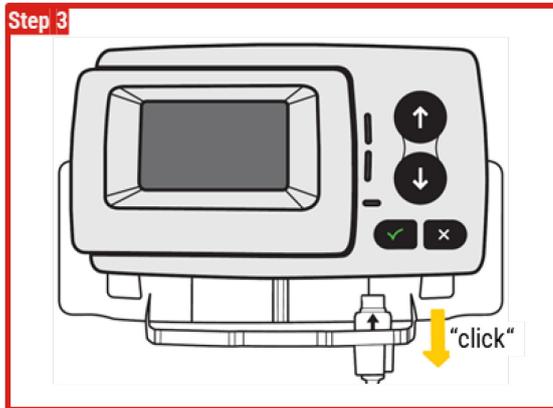
VRS operating instructions

Step 3

"click"

VRS is inserted into the VRS holder from above. You will hear a click.

Make sure that the vehicle ignition is switched off and the start button is not pressed at this point, as otherwise the VRS initial start-up process will begin automatically.

Step 4
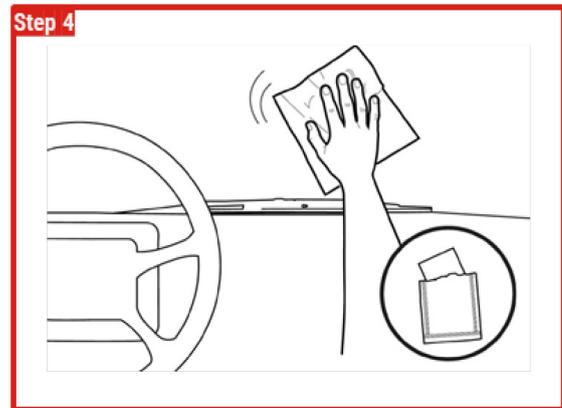
The windscreen is cleaned in the intended mounting area using the cleaning cloth supplied. The installation area must be clean, dry and free of grease.

Supplying power to the VRS for the first time before the requirements of the initial start-up process (see chapter 1.5) have been met may result in the process not being completed correctly.

Step 5

Remove the protective film from the adhesive device.

Step 6

10 s
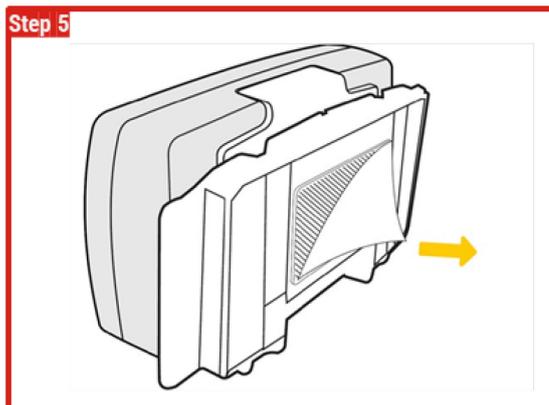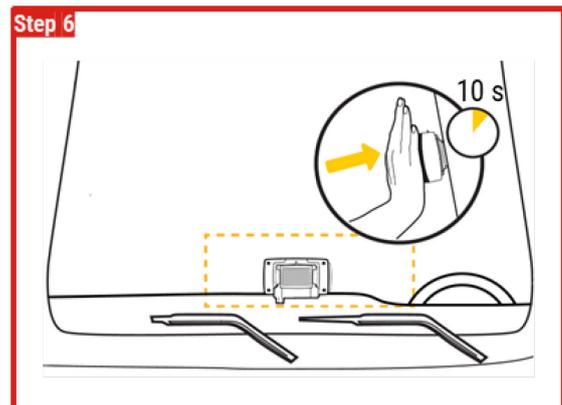
Press the VRS together with the bracket firmly into the intended installation position. Maintain the pressure for at least 10 seconds.

1.4.2.2   Installation in the vehicle with wiring "open-end vehicle to HVC III adapter (multiple use)"

Step 1
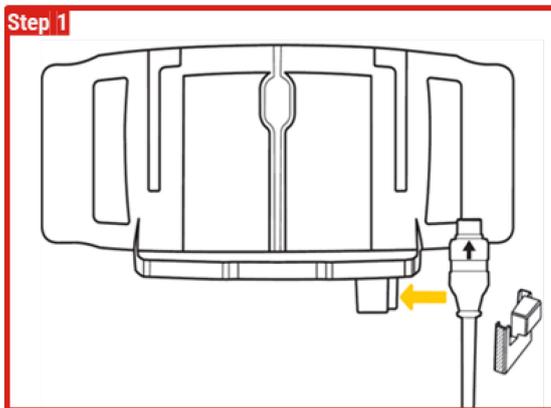
The connection cable NAT-A0102 is fed into the cable opening on the side of the VRS holder. The black arrow on the cable connector must point upwards and towards the driver of the vehicle and be pushed as far as it will go in the provided guide.

Step 2

"click"
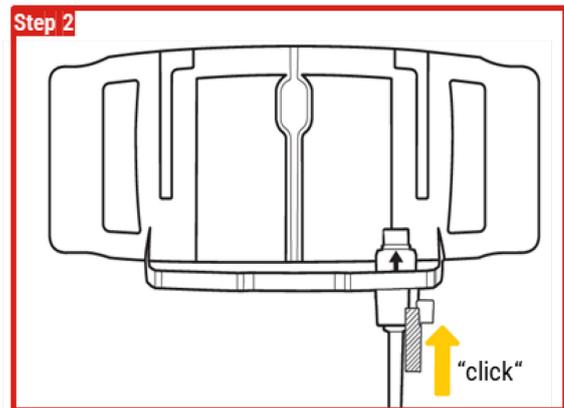
The connection cable NAT-A0102 is attached to the holder with the cable fastener. The cable fastener must be placed with its protrusion pointing outwards on the right at both guide grooves of the holder and pushed upwards. The cable fastener engages when you apply further sustained pressure. You will hear a click.

Step 3
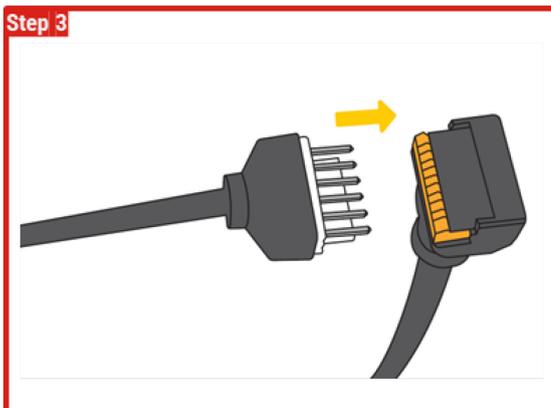
The connection cable is connected to the existing cabling.

Step 4

"click"
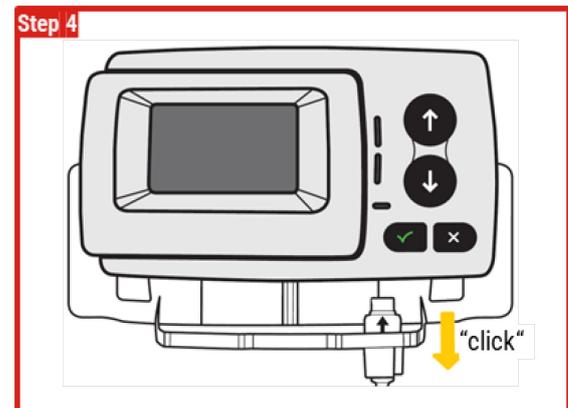
VRS is inserted into the VRS holder from above.

Make sure that the vehicle ignition is switched off and the start button is not pressed at this point, as otherwise the VRS initial start-up process will begin automatically.

Supplying power to the VRS for the first time before the requirements of the initial start-up process (see chapter 1.5) have been met may result in the process not being completed correctly.

VRS operating instructions

Step 5

The windscreen is cleaned in the intended mounting area using the cleaning cloth supplied. The installation area must be clean, dry and free of grease.

Step 6

Remove the protective film from the adhesive device.

Step 7
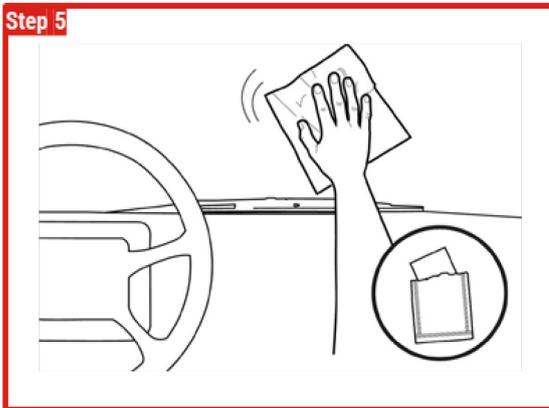
Press the VRS together with the bracket firmly into the intended installation position. Maintain the pressure for at least 10 seconds.

Note: Once installation is complete, please assign the VRS to the vehicle! You can do this in the OSD (description in the OSD manual/chapter 8) or with the NATRAS app (download link) (description in the NATRAS app manual/chapter 5). **Commissioning is only complete once the VRS has been assigned to the vehicle**.

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1.5   Initial start-up VRS

After **successful installation** (except for step 6/ **chapter 1.4.1** or step 3/ **chapter 1.4.2.1** or step 4/ **chapter 1.4.2.2**) in a **vehicle registered with NATRAS** and completion of the cabling, the VRS is put into operation for the first time. To do this, the following initialisation steps must be followed in **the vehicle**:

1.   Before starting the initial VRS commissioning in the vehicle and supplying it with power:

     a.   Complete the VRS assignment process (see **chapter 1.3**).

     b.   Move the vehicle to a location with good mobile network reception outdoors (outside buildings or garages) to enable proper data connection and GPS location of the VRS, and switch off the vehicle's ignition.

     c.   Continue with the installation of the VRS according to the respective steps (**chapter 1.4.1** or **chapter 1.4.2.1** or **chapter 1.4.2.2**).

2.   Only now should you switch on the vehicle's ignition. If the VRS is correctly installed and connected to the power supply, it will become active. Leave the VRS running for at least 30 minutes with the power supply switched on.

> **The 30 minutes are used to charge the battery for the first time and to install any outstanding software updates or configuration updates.**
>
> **During this time, the vehicle recording system (VRS) may display the message '4008 – Contact support'. This message can be ignored during initial operation.**

3.   Switch on the vehicle's ignition. If the VRS is correctly installed and connected to the power supply, it will become active. Leave the VRS connected to the power supply for at least 30 minutes.

> **Depending on the quality of the mobile network connection, the process usually takes only a few minutes. Do not switch off the ignition during the first 30 minutes. This is crucial for successful initialisation. Thank you for your patience!**

> **Note: Once installation is complete, please assign the VRS to the vehicle**! You can do this in the OSD (description in the OSD manual/chapter 8) or with the NATRAS app (download link) (description in the NATRAS app manual/chapter 5). **Commissioning is only complete once the VRS has been assigned to the vehicle**.

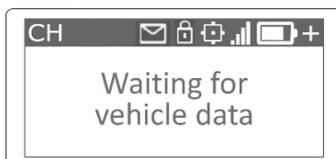4. The VRS begins the initialisation sequence. It automatically establishes a data connection via the mobile network and retrieves existing personalisation data:

```
CH          ✉ 🔒 ⬡ .ill ▭+
         Confirm
        VIN vehicle
       CH B3286050
```
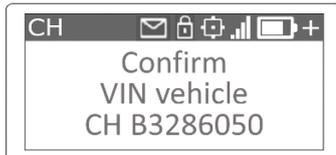
If the displayed vehicle identification is correct, i.e. the VRS is in the correct vehicle, please confirm by pressing the button [✓] . The VRS initial start-up process is now complete and the VRS is ready for use. If this is not the case, please contact NATRAS Support.

5. Once you have ensured that the VRS is installed in the correct vehicle, you can select the language of the user interface. The following languages are available:

- German (preset)
- English
- French
- Italian

Select the desired language using the buttons [⬆] or [⬇] and confirm your selection by pressing the button [✓] . The language can be easily changed later (see **chapter 2.2.2**)

6. The VRS is now ready for operation.

2   Operation of the VRS

2.1   Operating and signalling elements

- Keys for data entry

- Display for showing important information and for controlling data input

- Light-emitting diodes (LED displays) that indicate the status of the VRS

- Buzzer for signalling tones

2.1.1   Keys

Press buttons to select menu item (up/down)

Cancel / Close

Conferm / Selection
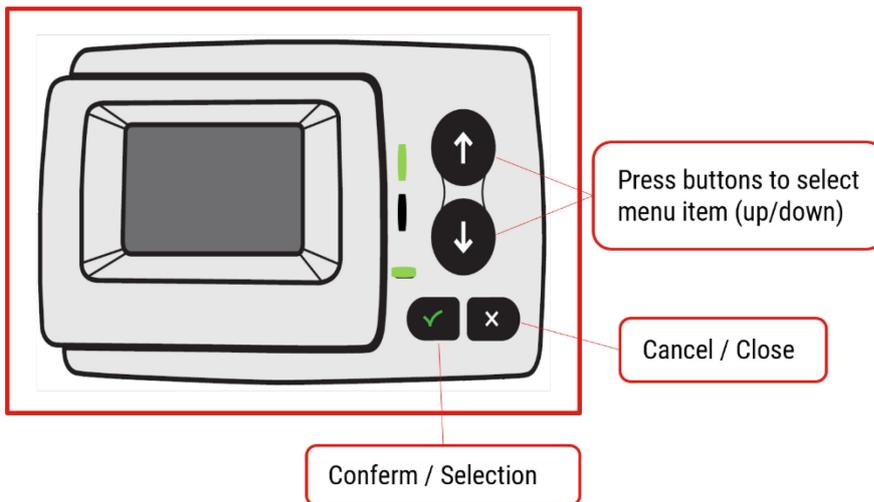
The buttons ↑ and ↓ are used to select entries in menus and submenus. The selection is confirmed with the ✓ button. The ✗ button is used to cancel the entry in a settings menu or to close an input menu.

For safety reasons, the buttons are blocked when the vehicle is travelling faster than 10 km/h.

For your own safety, please only make entries when the vehicle is stationary.

2.1.2　　LED displays
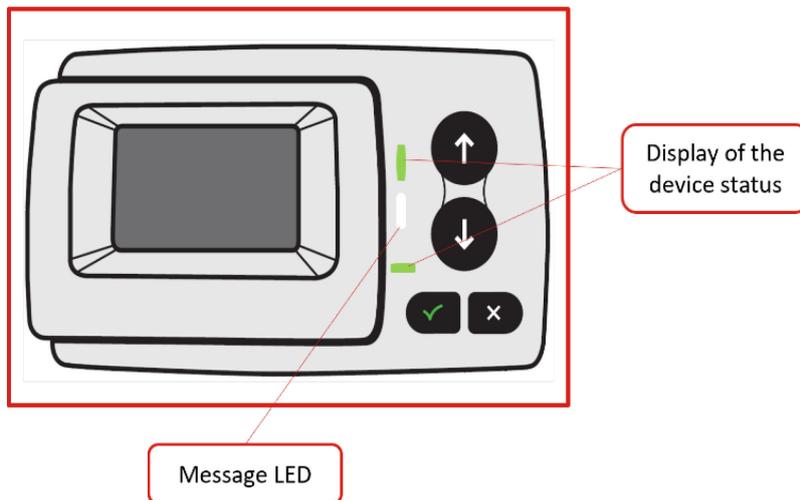
The two <u>LEDs for displaying the status of the VRS </u>can indicate different states:

- LEDs are off:
  The VRS is inactive or the initialisation process is still running after a start.

- LEDs light up green:
  The VRS is active and fully functional.

- LEDs flash green:
  The VRS indicates a warning, a condition that is only a minor problem but could become a problem (see **chapter 3**).

- LEDs light up red:
  The VRS is active but not functional. Action by the driver of the vehicle is required (see **chapter 3**).

The <u>message LED </u>lights up white when a message is available for the driver.

2.1.3   Signal tones

The status of the VRS is also signalled acoustically each time a change is made by emitting one of the following beeps once:

- A medium-length tone: OK
  The VRS is active and functional.

  This signal is emitted when a warning or error status of the VRS is rectified and the VRS is functional again, e.g. when an interrupted power supply is restored or a data connection that has been interrupted for a longer period can be resumed.

- Four short beeps: Error signal
  The VRS is active but not functional. Action by the driver of the vehicle is required (see **chapter 3**).

  This signal is output when the VRS detects an error, e.g. an interrupted power supply that leads to a critically low battery charge level or a prolonged interruption in the data connection.

- Two long beeps: Warning
  The VRS has detected a condition (e.g. interruption of the power supply) that may require action by the driver of the vehicle. The driver of the vehicle is required to pay increased attention.

Details on the error states and the respective acoustic signals can be found in **chapter 3** are shown.

2.1.4   Status indication on the display

When the VRS is active, **the first line of the display** shows important statuses:

```
CH          ✉ 🔒 🔳 .ıll ▭ +
      CH B3286050
12.34t
Semitrailer
```

Symbol	Description
CH	This indicates that the VRS is collecting data for the HVC. This is only displayed within the Swiss customs territory (Switzerland and Liechtenstein). Outside Swiss customs territory, the symbol is hidden and not visible. For technical reasons, the Swiss customs territory is divided into several areas. When changing between these areas – in both driving directions – this display appears briefly on the overview screen. Toll collection remains unaffected, as the position data continues to be recorded and transmitted. This display/information does not require any further action.
🔒	This indicates that the position data recording is limited to the Swiss customs territory (Switzerland and Liechtenstein).
▭	The VRS battery is fully charged. The battery charge level is displayed in 20% increments.
▭	The VRS battery is flat.
.ıll	Shows the availability of the connection to the mobile network. The number of bars represents signal strength.
🔳	Position data acquisition is active and provides data with the required accuracy.
✚	It indicates that the external power supply is connected. The battery is in charging mode.
✉	A new message is available (see **chapter 2.3**). The last 20 messages are stored.

When the VRS is used for the first time, the battery charge level indicator ▭ may not be fully calibrated and may display an inaccurate charge level. The VRS usually requires several charging and discharging cycles to provide accurate values.

As long as the ✚ is lit on the status display when the ignition is switched on, the charge level of the battery is irrelevant for normal VRS operation. Corresponding battery warnings should only be observed if the ✚ is not lit.

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2.2 Changing settings

The VRS buttons are deactivated when the vehicle is travelling faster than 10 km/h.

For your own safety, please only make entries when the vehicle is stationary.

To change settings, press the button ⬇ to access the settings menu from the overview screen.
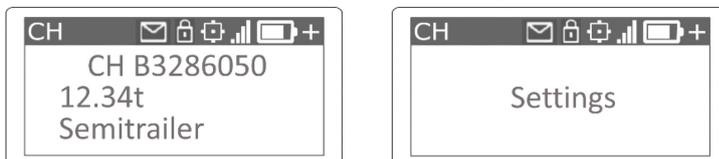
CH ✉🔒⊕.ıll▭+	CH ✉🔒⊕.ıll▭+
CH B3286050 12.34t Semitrailer	Settings

Press the button ✅ to access the selection of the respective submenus. Use the arrow buttons ⬆ and ⬇ to select the respective submenu and press ✅ to open it.

2.2.1 Register trailer

For vehicles <u>within the Swiss customs territory</u> (including Liechtenstein):

Before starting each journey, it must be checked whether the trailer is correctly declared at the VRS. If necessary, a declaration must be made.

After each trailer change, the current trailer must be correctly declared at the VRS before continuing the journey.

For vehicles <u>outside the Swiss</u> customs territory:

Before entering Swiss customs territory, it must be checked whether an existing trailer is correctly declared in the VRS and must be declared if necessary.

When carrying <u>trailers that are not subject to duty</u>, the vehicle type trailer or semi-trailer and the weight must be declared as 00.00 tonnes.

You only need to declare the trailers/semitrailers you are towing. There is <u>no longer any need to declare</u> any loaded trailers/semitrailers or rear-mounted cranes.

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On the active VRS, the currently declared trailer is always shown on the display. The following illustration shows the status of the display if no trailer is registered:

```
CH        ✉🔒⟳📶▭+
     CH B3286050
--.--t
No Trailer
```
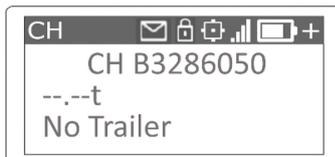
The registration of a trailer takes place in two steps:

1. selection of the trailer type.
2. enter the trailer weight (total weight according to the vehicle license).

To start the login, the settings menu must be called up. To do this, press the button. ✓
In the settings menu, the last selection, usually the trailer registration, is selected (marked with *).

```
CH        ✉🔒⟳📶▭+
 *Trailer
  LED
  Display
```
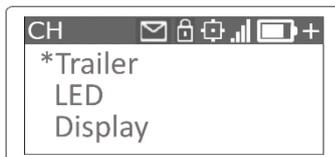
Use the push buttons ⬆ and ⬇ to navigate until the "Trailer" entry is selected. To start, press the button. ✓

The last selected trailer type is displayed:

```
CH        ✉🔒⟳📶▭+
        Trailer
        Type
  ◊    No Trailer
```

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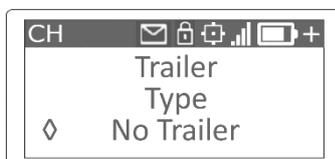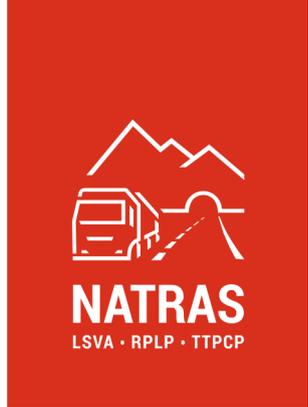
Starting with the "No trailer" option, the other options can be selected as follows:

Trailer	Press the button ⬆	CH ✉🔒⚙📶🔋+ Trailer Type ◊ Trailer
No Trailer	Press the button ⬇	CH ✉🔒⚙📶🔋+ Trailer Type ◊ No Trailer
Semi-trailer	Press the button ⬇	CH ✉🔒⚙📶🔋+ Trailer Type ◊ Semitrailer

Confirm your selection by pressing the button ✔ . To exit the menu without changing the registered tag, press the button ✖ .

If one of the two options Trailer or Semi-trailer has been selected, the menu for entering the trailer weight is activated automatically:

CH   ✉🔒⚙📶🔋+
 Trailer
 Weight
 12.34 t

The last weight entered is preset, the first digit of the number flashes. Press the arrow buttons ⬆ or ⬇ to increase or decrease the flashing digit by 1. The ✔ button confirms the entry, the flashing jumps one digit to the right.

After confirming the last digit of the weight, the entry is accepted as the weight and the settings menu is displayed:

CH   ✉🔒⚙📶🔋+
 *Trailer
 LED
 Display
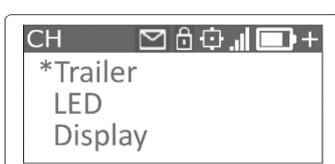
Pressing the button exits the settings menu and the registered trailer type is displayed in the VRS overview screen:

```
CH        ✉🔒⟐📶🔋+
     CH B3286050
12.34t
Trailer
```
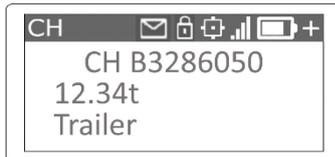
Before starting each journey, please ensure that both the type of trailer you are carrying and the weight of the trailer are entered correctly on the VRS.

Incorrect or missing trailer registrations must be corrected or completed subsequently (within 10 days) in the outage solution, which is an integral part of the Online-Service-Desk (OSD).

2.2.2   LED brightness

To adjust the LED brightness, start the settings menu by pressing the button . Press and hold the button ⬇ until the option for selecting the LED brightness is highlighted.

```
CH        ✉🔒⟐📶🔋+
  Trailer
*LED
  Display
```

Press the button to display the currently set LED brightness. Use the arrow buttons ⬆ and ⬇ to navigate until the desired LED brightness is displayed.

```
CH        ✉🔒⟐📶🔋+
        LED
     brightness
◊        20%
```
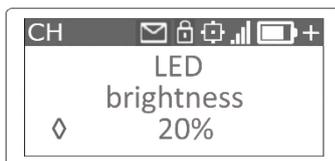
The button confirms the selected LED brightness, the button returns to the settings menu.

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2.2.3   Display brightness

To adjust the display brightness, start the settings menu by pressing the button ✅ . Press and hold the button ⬇
until the option for selecting the display brightness is highlighted.

```
CH        ✉🔒⚙📶🔋+
   Trailer
   LED
  *Display
```

Press the button ✅ to display the currently set display brightness. Use the arrow buttons ⬆ and ⬇ to navigate
until the desired display brightness is displayed.

```
CH        ✉🔒⚙📶🔋+
      Display
     brightness
  ◊      30%
```

The button ✅ confirms the selected display brightness, the button ❌ returns to the settings menu.

2.2.4   Changing the language

To set the language, start the settings menu by pressing the ✅ button. Press the ⬇ button until the option to
select the language is highlighted:

```
CH        ✉🔒⚙📶🔋+
   LED
   Display
  *Language
```

Press the ✅ button to display the currently set language. Use the arrow buttons ⬆ and ⬇ to navigate until the
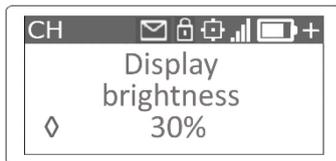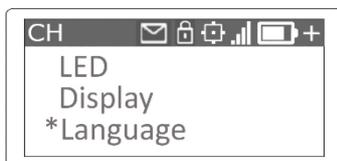desired language is displayed. The following languages are available for selection:

- German

- English

- French

- Italian

Press ✅ to confirm the selected language and ❌ to return to the menu settings.

2.2.5   VRS restart

The VRS offers a restart function in the menu. Performing this manual restart usually resolves most error messages (VRS codes/contact support, see **chapter 3.5**) immediately, eliminating the need to contact support.

To restart the VRS, open the settings menu (see **chapter 2.2**). Press the button ⬇ repeatedly until the Restart option is highlighted:

```
CH        ✉ 🔒 🔄 📶 🔋 +
  Display
  Language
 *Restart
```

Pressing the button prompts ✅ you to confirm the restart of the VRS.

```
CH        ✉ 🔒 🔄 📶 🔋 +

  Confirm Restart?

```
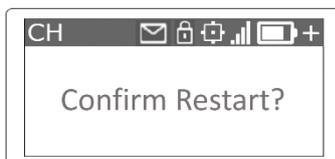
The button ✅ confirms the immediate execution of the restart and is indicated by the following message on the display.

```

  Restarting

```
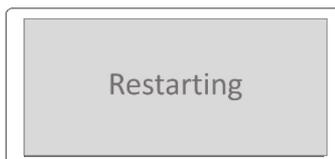
The restart takes approximately 1-2 minutes. Afterwards, the overview screen is displayed.

```
CH        ✉ 🔒 🔄 📶 🔋 +
   CH B3286050
 12.34t
 Semitrailer
```
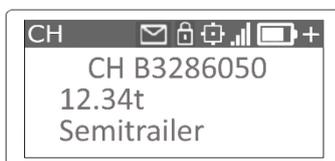
2.3 Viewing information

To view information, press the button ⬆ to access the information menu from the overview screen.
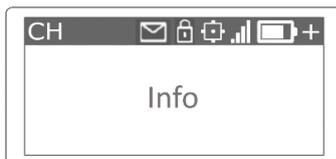
```
CH        ✉🔒⚙📶🔋+
          Info
```

Press the button ✅ to access the selection of the respective submenus. Use the arrow buttons ⬆ and ⬇ to select the respective submenu and press ✅ to open it.

```
CH        ✉🔒⚙📶🔋+
*Message History
 Serial number
 Helpdesk
```

2.3.1 Retrieving messages

The VRS can display messages to the driver, when, for example the VRS status changes. In this case, the message LED lights up white and the message is shown on the display for about 15 seconds. The latest messages are stored by the VRS in chronological order and can be selected individually using the arrow buttons ⬆ and ⬇. Press the button ✅ to display the message.

Examples:

```
CH        ✉🔒⚙📶🔋+      CH        ✉🔒⚙📶🔋+      CH        ✉🔒⚙📶🔋+      CH        ✉🔒⚙📶🔋+
*(5006)Battery...           (5006)Battery             (2002) No GPS           (5002) Battery
 (2002)No GPS...               mode                     signal                low – please
 (5002)Battery lo.                                                              recharge
```

2.3.2 Further information

Further information can be accessed in the respective submenus by using the arrow keys ⬆ and ⬇ to select it.

Press the button ✅ to display for example: the message, the serial number, the customer service number, the vehicle identification number, etc.

```
CH        ✉🔒⚙📶🔋+
 Message History
*Serial number
 Helpdesk
```
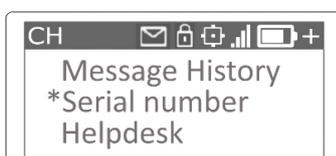
3 Operation and monitoring of functionality

The VRS signals its status and therefore its functionality using the display, the status LEDs (see **chapter 2.1.2**) and, if the status changes, by means of an acoustic signal (see **chapter 2.1.3**).

The VRS is in idle mode before the vehicle is put into operation:

- status LEDs are off

- display is off

The VRS wakes up from sleep mode when any button is pressed or the vehicle is set in motion. In many cases, the vibration when getting into the vehicle or closing the doors is sufficient.

3.1 Display a monitoring of the functionality of the VRS

The condition and functionality of the vehicle recording system (VRS) are to be checked regularly and, if necessary, measures are to be taken to ensure functionality.

Note: After extended periods of vehicle inactivity (e.g., several weeks), the operational readiness of the Vehicle recording system (VRS) should be checked before starting a journey. If it has not been charged via the vehicle's electrical system during this time, prior charging may be necessary. To ensure sufficient charge, a charging time of approximately 30 minutes with the ignition switched on is recommended. Operational readiness is indicated by the corresponding LED indicators (see **chapter 2.1.2**).

In the event of malfunctions or failures, measures to restore the connection must be initiated immediately. Days with no registration will be assessed by the FOCBS at its discretion.

3.2 Automatic software updates

When a new software version is available, the VRS updates itself automatically in the background during normal operation – you do not need to do anything. When the system restarts (this usually only takes a few minutes), the message 'Please contact support' may appear. In this case, do not disconnect the VRS from the power source and wait for it to restart. The LEDs should then light up green again and the VRS will be fully functional.

3.3 Manual restart of the VRS

The VRS offers a restart function in the menu (see chapter 2.2.5). Performing this manual restart usually resolves most error messages (VRS codes/contact support, see chapter 3.5) immediately, eliminating the need to contact support.

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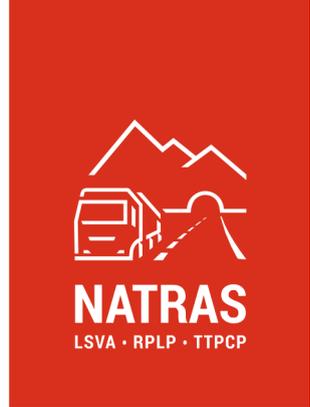
3.4   Optical and acoustic status messages

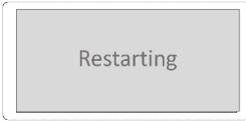The following list of conditions applies to VRS in moving vehicles <u>within the customs territory</u>:

Status LEDs	Acoustic signal	Display (status display)	Condition	Action
Green light	---	The following symbols are displayed: CH 🔒 🔲 📶 ➕ Battery charge level at least 60%.	Functional	---
Flashing green	Warning (2 beeps)	The symbol ➕ is not displayed. The battery charge level shows 80% or less.	Functional, but the VRS is currently not charging and is only drawing power from the battery.	Check that the plug in the VRS is inserted correctly. If using a connection cable with an emotach plug, also check this connection.
Flashing green	Warning (2 beeps)	The symbol ➕ is not displayed. Battery charge level: 🔋	Still functional, but the VRS is currently not charging and is only drawing power from the battery, which has little charge left. The device is about to fail.	Check that the plug in the VRS is inserted correctly. If using a connection cable with an emotach plug, also check this connection. When using a cable for the on-board connection, check that the plug is fully inserted.
Red light	Error (4 Beep)	At least one of the following symbols is not displayed: 🔲 📶	Not functional	Contact NATRAS Support and register the journey in the failure solution manually.

After reporting a failure of the VRS to NATRAS Support, the journey can be continued but must be manually logged into the failure solution within 10 days.

This applies to all further journeys made by the vehicle until a replacement for the defective VRS has arrived and been installed in the vehicle.

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3.5 VRS-Codes

VRS-Code	Screen display	Description
2	(2) Rebooting	VRS was restarted automatically. Reasons for a restart: SW update such as the new phrase file, etc.
24	(24) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
26	(26) Battery empty – device switches off	Please ensure that the VRS is correctly connected to the power supply so that the VRS battery can be charged. The charging process starts as soon as the ignition and the continuous current of the vehicle are active.
1008	(1008) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
2002	(2002) No GPS signal	No GPS signal has been received for approximately 10 minutes at the time of reporting (e.g. in underground car parks, covered galleries, tunnels, etc...)
3012	(3012) No network	No mobile network connection has been established for approximately 24 hours at the time of reporting.
3016	(3016) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
3018	(3018) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
4006	(4006) Battery low – please recharge	The charging process starts as soon as the ignition and the continuous current of the vehicle are active. No further action is required when the ignition is switched on.
4008	(4008) Battery low – please recharge	The charging process starts as soon as the ignition and the continuous current of the vehicle are active. No further action is required when the ignition is switched on.
4010	(4010) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
5002	(5002) Battery low – please recharge	The charging process starts as soon as the ignition and the continuous current of the vehicle are active. No further action is required when the ignition is switched on.
5004	(5004) Battery low – please recharge	The charging process starts as soon as the ignition and the continuous current of the vehicle are active. No further action is required when the ignition is switched on.
5006	(5006) Battery mode	VRS is running on battery power and is not currently being charged. This information is displayed when the ignition is switched off. Charging will start as soon as the ignition is switched on and the vehicle's continuous current is active. No further action is required for this message.

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10000	(10000) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
11002	(11002) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
17002	(17002) Contact support centre	The VRS must be checked. There may be a malfunction. If the LEDs are permanently lit red, the journey must be recorded in the failure solution.
	Restarting	The VRS was restarted manually via the Settings menu. Performing this restart usually resolves most error messages (VRS codes/contact support) immediately. There is no need to contact support.
	CH ✉ 🔒 ⚙ 📶 🔋+ Waiting for vehicle data	Description: see **chapter 1.5**, item 3. The VRS begins with the initialisation sequence. Do not switch off the ignition during the first 30 minutes and observe the relevant note in **chapter 1.5**, item 3!

4 Instructions for dismantling and disposing of the emotach

See the FOCBS website: Removal guide Emotach

5 Instructions for removing the VRS and dismantling the VRS bracket

5.1 General information

The VRS bracket is equipped with a pre-mounted, strong adhesive device.

We recommend using standard work gloves (not included) when removing the bracket.

The VRS mount and cable fixings may be damaged during removal. In this case, make sure that all plastic parts are completely detached from the windscreen and removed. We recommend using a standard cleaner (not included).

Collect all removed parts for later use or disposal.

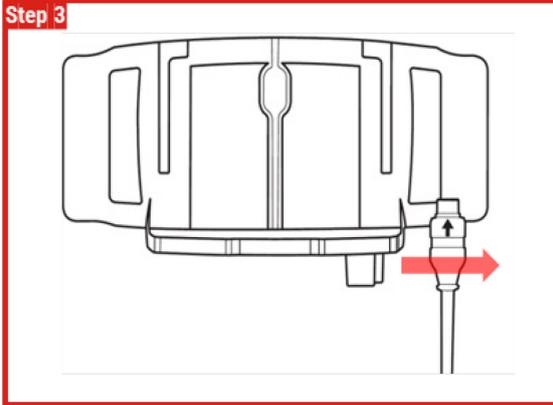## 5.2 Removing the VRS bracket
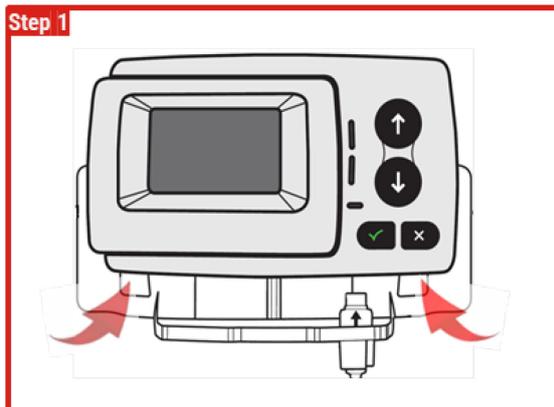
The VRS can be removed from the bracket by applying moderate upward pressure. A dampened sound can be heard when doing so.
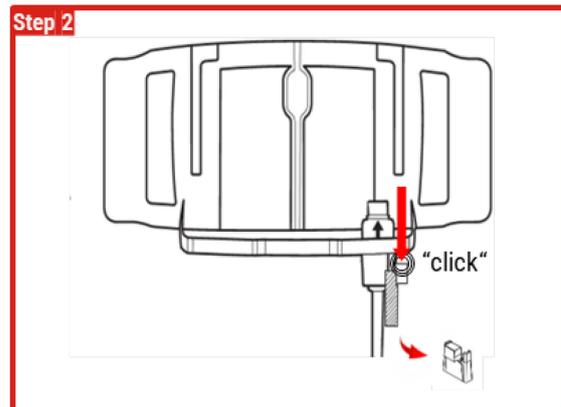
Release the cable fixings from their locking position by applying sustained pressure from above and straight downwards. You will hear a quiet click. Slide the cable fixings downwards along the two guide grooves.
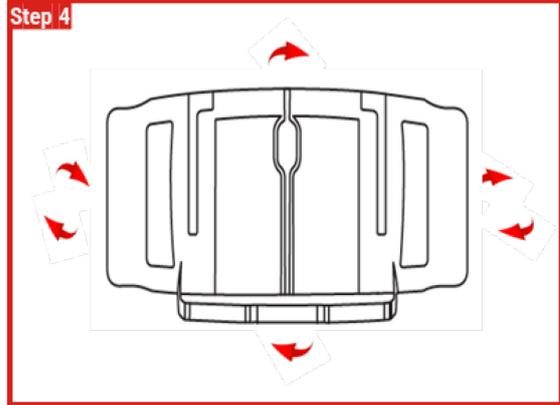
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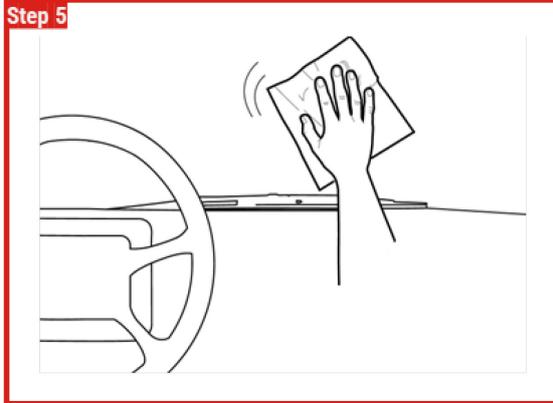# VRS operating instructions

Step 3

Push the existing cable sideways with slight pressure to the right out of the cable opening and remove it from the bracket.
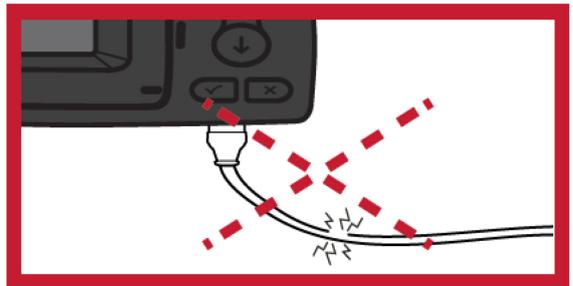
Step 4

Turn the VRS bracket several times alternately left/right with sufficient pressure to release it from the adhesive device. Recommendation: Use standard work gloves (not included)!

Step 5

Remove any adhesive residue left on the windscreen with a standard cleaner (not included).

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6   Safety instructions

7   Frequently asked questions (FAQ)

- **Question:** what should I do if I encounter a problem that is not covered in this manual?
- **Answer:** *if a problem occurs that is not described here, please send an e-mail to support@natras.ch*

- **Question:** how can I submit feedback or suggestions for improving the application?
- **Answer:** *we welcome feedback and suggestions. These can be sent directly by e-mail to improvements@natras.ch. Please note that suggestions for improvement must be approved by the client (FOCBS).*

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