



SEG V

User Manual



manuals

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1. About these Instructions

Original Operating Instructions

In these instructions, we have clearly structured the most important information so that you can use your product quickly and efficiently.

1.1. Notes about the Use of these Operating Instructions

These operating instructions contain important information relevant to operator safety.

Go to www.hella-gutmann.com/manuals to find all the manuals, instructions, references and lists about our diagnostic devices, tools and much more.

Please also visit our Hella Academy under *www.hella-academy.com* and expand your knowledge with various online tutorials and other training courses.

Please read the instructions completely. Pay special attention to the first pages containing the safety instructions. They exclusively deal with your safety during the work with the diagnostic device.

When working with the diagnostic device, it is recommended to read the individual work steps in the instructions again to prevent hazard of persons and equipment or operating errors.

The diagnostic device shall be operated exclusively by personnel qualified in vehicle engineering. Information and knowledge included in this training is not explained in these operating instructions.

The manufacturer reserves the right to modify these instructions and the diagnostic device itself without prior notice. We therefore recommend checking it for any updates. These operating instructions must accompany the diagnostic device in case of sale or any other transfer.

These operating instructions shall be kept for the entire service life of the diagnostic device and shall be accessible at any time.

1.2. Marking of Text Parts



DANGER

Text parts marked in this way indicate an imminent dangerous situation, which will lead to death or severe injuries if not avoided.



WARNING

Text parts marked in this way indicate a possibly dangerous situation, which may lead to death or severe injuries if not avoided.



CAUTION!

Text parts marked in this way indicate a possibly dangerous situation, which may lead to minor or slight injuries if not avoided.



These symbols indicate rotating parts.



This symbol indicates dangerous electric voltage/high voltage.



This symbol indicates the risk of crushing limbs.



This symbol indicates a potential injury of the hand.



IMPORTANT

All texts labeled **IMPORTANT** refer to a hazard in the diagnostic device or environment. The advices or rather instructions stated here must therefore be observed by all means.



NOTICE

Texts marked with **NOTICE** contain important and helpful information. It is recommended to observe these texts.



Crossed-out wheeled bin

This marking indicates that the product must not be discarded as domestic waste.

The bar underneath the wheeled bin indicates whether the product was "placed on the market" after 13 August 2005.



Refer to manual

This marking indicates that the user manual must always be read and always be available.

2. Safety Precautions

2.1. Safety Precautions

2.1.1. General Safety Precautions



- The device is intended for use on motor vehicles only. It is a precondition for the use of the device that the user has knowledge of automotive technology and is therefore aware of the sources of danger and risks in the workshop and on motor vehicles.
- Please read the entire user manual thoroughly and carefully before using the SEG V. You can also find the user manual on the enclosed HGS data carrier.
- All notes given in the individual sections of this user manual apply. It is important to regard the following measures and safety precautions.
- Furthermore, pay attention to all general instructions from labor inspectorates, trade associations and vehicle manufacturers as well as all laws, legal ordinances and instructions which have to be commonly obeyed by a repair shop.

2.1.2. Safety Precautions for the SEG V



In order to avoid incorrect handling and injury to the user or destruction of the SEG V arising from this, pay attention to the following:

- Select functions and menus on the TFT LCD only with clean fingers. Do not use tools such as a screwdriver.
- Only connect original power adapters to the power cord (supply voltage 115 to 230 V / 50 to 60 V).
- Protect the TFT LCD and the device from long periods of exposure to solar radiation.
- Protect the Fresnel lens of the SEG V from direct solar radiation. The concentration of light beams can lead to thermal overload or even fire damage on the SEG V.
- It is recommended to cover the optical housing with a protective cover (8XS 002 500-031) after having finished work with the SEG V.
- Protect the product and the connecting cable from hot components.
- Protect the product and the connecting cables from rotating parts.
- Regularly check the connecting cables/accessory parts for damage (destruction of the product due to short circuit).



- Connect the device exclusively according to user manual.
- Keep the product away from fluids such as water, oil or gasoline. The SEG V is not waterproof.
- Protect the product from strong impacts and do not drop it.
- Do not open the device on your own. Only technicians authorized by **Hella Gutmann** are allowed to open the device. Warranty and guarantee will be rendered void at any case of unauthorized tampering of the device or if the protective seal is damaged.
- Immediately contact Hella Gutmann or a Hella Gutmann trading partner in case of any malfunctions.
- Arrange for any scratched Fresnel lenses to be replaced.
- Dust and scratches can have a negative impact on the display of the test screen. Only clean the lens with a soft cloth and glass cleaner.
- Check the 9-V monobloc battery of the laser sight for leaks/sulphation in regular intervals.
- Arrange for damaged protective shields to be replaced before the next use.

2.1.3. Safety Notes Regarding High Voltage/Mains Voltage



Very high voltages occur in electrical systems. Due to voltage flashover on damaged components, such as marten damage or touching live components, the risk of electric shock is likely. High voltage via the vehicle and line voltage via the building's mains supply can cause severe injury or even death if adequate care is not taken. Voltage flashover can occur e.g. on the primary and secondary side of the ignition system, the connection to the vehicle, the lighting systems or the wiring harness with plug connections. Therefore regard the following:

- Only use power supply cables with grounding contact.
- Only use a checked or the attached power cord.
- Always use the original cable set.
- Regularly check cables and adapters for damage.
- Perform any assembly work such as the connection of the diagnostic device to the vehicle or the replacement of components only when ignition is switched off.

2.1.4. Safety Precautions – Risk of Injury



When working on the vehicle, there is a risk of injury through rotating parts or rolling of the vehicle. Therefore regard the following:

- Protect vehicle against rolling away.
- Additionally place gear selector lever of AT vehicles to park position.
- Deactivate the start/stop system to avoid an inadvertent engine startup.
- Connect the product to the vehicle only when ignition is switched off.
- Do not reach into rotating parts while the engine is running.
- Do not run cables near rotating parts.
- Check the high-voltage parts for damage.

2.1.5. Safety Precautions – Chemical Burns



If the TFT display is damaged, there is a danger of chemical burns due to the escape of liquid crystal. Therefore regard the following:

- Immediately rinse affected parts of the body or clothing with water (consult a doctor).
- Seek medical attention immediately after inhaling or swallowing.

2.1.6. Safety Precautions – Laser Sight



A CAUTION!

Laser class 3R



The laser sight corresponds to laser class 3R.



There is a risk of injury through dazzling the eyes when working with the laser. The use of operating elements, settings or the the performance of procedures which are not described in these instructions, can lead to dangerous exposure to radiation. Therefore regard the following:

- Only use the laser in connection with the mounted protective shields.
- Replace defective protective shields instantly.
- Do not direct the laser beam towards persons, doors or windows.
- Never look directly into the laser beam (damage to/destruction of the retina).
- Use the laser sight only for the intended application.
- The notices on the device shall be present and clearly visible any any time.

The laser sight does not require any service work/cleaning to function properly. Therefore, never open the laser sight.

Laser class 3R

The wavelength of the accessible laser radiation lies between 302.5 and 106 NM and is dangerous for eyes! The laseroutput or energy is up to 5 times above the threshold value of the accessible radiation of class 2 in the wavelengthrange from 400 to 700 NM and 5 times the threshold value of class 1 for other wavelengths.



Class 3R: IEC/EN 60825-1:2014

3. Product Description

3.1. Delivery Contents

Count	Name	
1	SEG V (without 3rd rubber castor)	
1	3rd rubber caster (assembly neces- sary)	
2	Retaining clip (for assembly of the 3rd rubber castor)	
3	Washer (for assembly of the 3rd rubber castor)	

Count	Name	
1	Power cord	IEC-60320 C13
1	HGS data carrier (incl. operating in- structions)	

3.1.1. Checking Delivery Contents



Danger of short circuit due to loose parts in or on the device.

Never put the device into operation if you suspect that there are loose parts in or on the device.

Inform the Hella Gutmann trading partner or the Technical Help Line of Hella Gutmann immediately.

Check the delivery contents upon or immediately after delivery so that any damage can be reported immediately.

Proceed as follows to check the delivery contents:

- Open the package and check contents for completeness using the enclosed delivery note. Should you identify any
 damage to the package, then open the package in the presence of the delivery service and check the device for hidden
 damage. Any transport damage to the package supplied and damage to the device shall be registered in a damage report by the delivery service.
- 2. Remove the device from the packaging.



⚠ CAUTION!

Risk of Injury due to Heavy Device

The device may drop down and cause injuries during unloading.

Always unload the device with the aid of a second person.

Use suitable aids such as a forklift truck if necessary.

3. Check the device for mechanical damage.

3.2. Intended Use

The **SEG V** is a mobile device for testing the modern headlight systems of motor vehicles.

The **SEG V** is equipped with a modern camera system. This enables precise testing of halogen, xenon, LED and laser headlight systems with the various light distribution functions such as dipped, high beam and fog light but also the vertical light-dark boundary.

The CMOS camera catches the light distribution of the headlight and transmits it to the electronic evaluation system. In combination with precise data records the light distribution is displayed on the test screen in almost real time. The software guides the user through the evaluation and aiming process based on stored vehicle-specific data and procedures. The recorded measurement data sets can be transmitted to peripheral devices through the USB or WiFi interface.

3.3. Equipment Overview



- 1 ON button of laser (Switch on the laser with this button. The laser will switch off again automatically after 30 seconds).
- 3 Protective shield (The protective shield protects the eye of the user from the laser beam.)
- 5 Device base (The device base of the SEG V has rubber castors.)
- 7 USB port (Use the USB port to download updates from a pen drive or to save reports on a pen drive.)
- 9 ON/OFF button of optic housing (Switch the device on or off with the ON/OFF button.)
- 11 Laser sight handwheel (Loosen the handwheel to shift the height of the laser sight.)

- 2 Laser sight (The SEG V is correctly aligned if the line laser pointer is parallel to two symmetrical reference points on the front side of the vehicle. Alternatively you can use the optical unit (on the right in the laser sight) for the alignment to the vehicle.)
- 4 Recessed grip (Adjust the height of the optic housing with the recessed grip.)
- 6 Power supply socket (The power supply socket supplies the device with power and charges the internal battery.)
- 8 Optic housing (Use the optic housing to check modern lighting systems.)
- 10 Column (Adjust the height of the optic housing at the column.)
- 12 Column locking mechanism handwheel (Loosen the handwheel to turn the optic housing.)



- 13 Operating lever (Push the operating lever to adjust the height of the optic housing.)
- 15 Fresnel lens (The Fresnel lens bundles the scattered headlight light and projects it to a projection surface in the optic housing.)
- 17 Laser sight pinch bolt (Loosen the pinch bolt to adjust the tilt angle of the laser sight.)
- 14 Recessed grip (Adjust the height of the optic housing with the recessed grip.)
- 16 TFT display (touch screen) (Select or activate all menus and functions by slight tipping onto the TFT display with the finger, the stylus or with the arrow keys.)
- 18 Battery compartment (You can insert a 9-V monobloc battery in the battery compartment of the laser sight.)

3.4. Adjusting the Height of the Optic Housing

To set the height of the optical housing, proceed as follows:

- 1. Hold both handles (4 + 14) on the optical housing (8).
- 2. Press the control lever (13).
- 3. Set the desired height.
- 4. Release the control lever.
- $\Rightarrow\,$ The optical housing latches in.

3.5. Turning the Optic Housing

To rotate the optical housing, proceed as follows:

- 1. Loosen the hand wheel of the column locking mechanism (12).
- 2. Rotate the optical housing (8).
- 3. Tighten the hand wheel of the column locking mechanism.

3.6. Switching On the Laser



Laser radiation

Damage to/destruction of the retina

Never look directly into the laser beam.

Observe the notes in section Safety Precautions – Laser Sight [▶ 9].



NOTICE

After switching on the laser, the laser output is activated for approx. 30 s via an integrated interval timer. Within this time you can align the SEG V in front of the vehicle.

Proceed as follows to switch on the laser module:

1. Briefly push the ON/OFF button of the laser module (1).

The laser is activated for approx. 30 s.

- 2. If required, repeat step 1 to reactivate the laser.
- \Rightarrow Now, you can align the SEG V in front of the vehicle.

3.7. Adjusting the Height of the Laser Sight

To adjust the height of the laser sight, proceed as follows:

- 1. Loosen the hand wheel of the laser sight (11).
- 2. Set the desired height.
- 3. Tighten the hand wheel of the laser sight.

3.8. Adjusting the Inclination of the Laser Sight

To adjust the inclination of the laser sight, proceed as follows:

- 1. Loosen the pinch bolt of the laser sight (17).
- 2. Set the desired inclination.
- 3. Tighten the pinch bolt of the laser sight.

3.9. Operating the Device



Damage or destruction of the display

Never touch the display using a tool or pointed metal object.

Always use the stylus or a finger.

The device is equipped with an 8.4" touch screen display (16). All menus and functions can be selected and/or activated by gently touching with the stylus or finger.

3.10. Important Icons

Symbols	Meaning
	Switch off
0	Switch the device off.
	Confirm
	Perform the following functions:
	Start the selected function.
	Confirm the present entry.
	Confirm your menu selection.
	Cancel
X	Cancel the following functions:
	Active function
	• Input
	Start
	Start a function or procedure.
<u></u>	Delete
Ш	Delete data or entries.

Symbols	Meaning
	Arrow keys
	Navigate with the cursor in menus or functions.
	Virtual keypad
Ξa	Open the virtual keypad for text input.
	Information
	Information on the contents of the respective menu can be displayed here.
\mathbf{V}	Drop-down list
\mathbf{V}	A drop-down list can be opened here.

4. Mounting

4.1. Mounting the Rubber Castor

The SEG V is entirely assembled except the 3rd rubber castor at the device's base. The delivery contents of the rubber castor include 3 washers and 2 retaining clips.

Proceed as follows to mount the 3rd rubber castor to the device base:



- 1. Slide a washer onto the shaft up to the retaining clip.
- 2. Push the rubber castor onto the shaft up to the washer.
- 3. Slide the two other washers onto the shaft.

- 4. Use the second retaining clip to secure the rubber castor.
- \Rightarrow Now the 3rd rubber castor is mounted to the SEG V.

5. Calling Up the User Manual

This section describes how to call up the user manual from the HGS data carrier.

Go to *www.hella-gutmann.com/manuals* to find all the manuals, instructions, references and lists about our diagnostic devices, tools and much more.

Please also visit our Hella Academy under *www.hella-academy.com* and expand your knowledge with various online tutorials and other training courses.

5.1. Calling Up the SEG V User Manual

Proceed as follows to call up the operating instructions for the SEG V via the supplied HGS data carrier:

- 1. Switch on the PC.
- 2. Insert the supplied HGS data carrier into a USB port on the PC.
- 3. Open the USB drive of the inserted HGS data carrier.
- 4. Open the application >Start.exe< with a double click.
- 5. Click to >Instructions and Manuals<.
- 6. Open the list under Language with 🔨.
- 7. Select the requested language.
- 8. Open the list under **Operating instructions** with \checkmark .
- 9. Select >SEG V<.
- 10. Call up the operating instructions with >Open<.
- \Rightarrow The selected PDF file is displayed.

6. Installation

This section gives a description of how to switch the device on and off as well as all the necessary steps for the first use of the device.

6.1. Charging the Battery

Prior to putting the device into operation, charge the integrated battery for at least 3 to 4 h. Then charge the integrated battery regularly, e.g. overnight.



NOTICE

In order to ensure proper operation, we recommend charging the SEG V daily (preferably overnight).

Proceed as follows to charge the battery:

- 1. Plug in the power cord to a power supply socket and the power supply port of the device.
- $\Rightarrow\,$ The battery is being charged.

6.2. Switching On the Device



NOTICE

When starting the device for the first time and after every software update, you need to confirm the general terms and conditions (GTC) of the **Hella Gutmann Solutions GmbH**. Otherwise, certain device functions will be unavailable.

The first time the device is started you need to confirm also the order processing agreement of the **Hella Gutmann Solutions GmbH**. This contract governs the handling of personal data pursuant to the GDPR.

Proceed as follows to switch on the device:

1. Keep the ON/OFF button of the optic housing (9) pushed for at least 5 s.

The device boots.

The GTCs appear.

2. Read the GTCs and confirm them at the end of the text.

The order processing agreement is indicated.

- 3. Read the order processing agreement, then confirm it and agree to it at the end of the text.
- 4. Confirm your input with \checkmark .

The window User selection appears.

5. Open the list with \checkmark .

6. Select the user.

The user selection enables quicker identification of the mechanic who performed the measurements if a query is subsequently made.

Perform the steps as described in the section Entering the User Name [▶ 26] if you wish to add further users or to edit existing users.

7. Activate the **Remain logged in** check box if necessary.

If the **Remain logged in** check box is activated, you will not need to select a user name when switching on the device in the future.

8. Confirm your input with \checkmark .

The main menu appears.

 \Rightarrow Now you can start working with the device.

6.3. Switching Off the Device

Proceed as follows to switch off the device:

- 1. Switch off the device with \mathbf{O} .
- 2. Observe the confirmation prompt.
- 3. Confirm the confirmation prompt with \checkmark . Abort the procedure with \boxtimes .

7. Device configuration

Configure all interfaces and functions under >Settings< in the main menu.

7.1. Configuring Vehicle Data

Enter data for the quick test and the documented test here.

Proceed as follows to enter or to change vehicle data:

- 1. Select **Settings** > **Measurement** in the main menu.
- 2. Open the list under Test standard with and select SAE.
- 3. Open the list under Setting procedure with \checkmark and select the required setting procedure.
- 4. Open the list with \checkmark and select the applicable range under Installation height of headlight in cm.
- 5. Open the virtual keyboard with 🖻 and enter the correct value under Front fog lamp inclination in cm.

7.1.1. Configuring the Light Measurement Unit

Proceed as follows to configure the light measuring unit:

- 1. Select **Settings** > **Measurement** in the main menu.
- 2. Open the list under Light measuring unit with \checkmark .
- 3. Select >Lux< or >Candela<.

Lux (receive size) is the illumination level and measures, how much light arrives on a certain surface from a light source.

Candela (send size) is the light intensity and describes the luminous flux, that is emitted from a light source in a specific direction.

 \Rightarrow The selection will be saved automatically.

7.2. Setting the Country

Configure the following data here:

- Country
- Language
- Date format
- Time format
- Date
- Time

7.2.1. Setting the Country

You can set your country here.

Proceed as follows to set the country:

- 1. Select **Settings** > **Device** > **Region** in the main menu.
- 2. Open the list under **Country** with \checkmark .

The compilation of countries depends on the prevailing software.

3. Select the country to the corresponding language. The selection will be saved automatically.

7.2.2. Setting the Language

Here you can set the language version if the software is multilingual.

Proceed as follows to set the language:

- Open the language selection with A in the status bar.
 The compilation of languages depends on the prevailing software.
- 2. Select the requested language.



NOTICE

Restart the device to display the changed language.

- 3. Return to the main menu with 🔀.
- 4. Observe the information window.
- Confirm the information window with ✓. Abort the procedure with ⊠.
 The language setting is saved automatically. The device switches off and on again automatically.
- \Rightarrow The main menu is displayed in the language selected.

7.2.3. Setting the Date Format

Here you can set the date format.

Proceed as follows to set the date format:

- 1. Select **Settings** > **Device** > **Region** in the main menu.
- 2. Open the list under **Date format** with **X**.
- 3. Select the required date format.

The selection will be saved automatically.

7.2.4. Setting the Time Format

Set the time format here.

Proceed as follows to set the time format:

- 1. Select **Settings** > **Device** > **Region** in the main menu.
- 2. Open the list under **Time format** with \checkmark .
- 3. Select >24 h< or >12 h<.

The selection will be saved automatically.

7.2.5. Setting the Date

Here you can set the present date.

Proceed as follows to set the date:

- 1. Select **Settings** > **Device** > **Region** in the main menu.
- 2. Open the selection window under **Date** with 🛃 .
- 3. Select the requested day under **Day** with \frown .
- 4. Repeat steps 2 and 3 for Month and Year.
- Confirm the selection with ✓.
 The selection will be saved automatically.

7.2.6. Setting the Time

Set the current time here.

Proceed as follows to set the time:

- 1. Select **Settings** > **Device** > **Region** in the main menu.
- 2. Open the settings window under **Time** with 🛃 .
- 3. Set the desired hour under **Hour** with \frown **T**.
- 4. Repeat step 3 for Minute and Second.
- 5. Confirm settings with \checkmark .

The setting is saved automatically.

7.3. Setting Company Data

Enter the company data that shall appear on the hard-copy printout, e.g.:

- Company address
- Fax number
- Homepage

7.3.1. Entering Company Data

Proceed as follows to enter the company data:

- 1. Select **Settings** > **Company** in the main menu.
- 3. Enter the company name.
- Close the virtual keypad with
 The input will be saved automatically.
- 5. Repeat steps 2–4 to make more inputs.

7.4. Configuring users

7.4.1. Entering the User Name

Here you can manage the different users.

Proceed as follows to enter the user name:

- 1. Select **Settings** > **User** in the main menu.
- 2. Open the virtual keypad with \mathbf{I} .
- 3. Enter the desired user name.
- 4. Close the virtual keypad with 🛡.

The input will be saved automatically.

7.5. Installing Password Protection

Due to the General Data Protection Regulation (GDPR) of the European Union, which came into effect on 25 May 2018, there is a demand to protect the customer-related data even better.

In order to prevent access to our devices by third parties, we have integrated the function Password protection.



NOTICE

If the device no longer has a valid password, it can only be reactivated with the menu **>Starting the factory reset<** or with the help of the Hella Gutmann's Technical Help Line. In this case personal data and the Car History will be cleared, and it might not be possible to restore them again.

Proceed as follows to set up the password protection:

- 1. Select **Settings** > **User** in the main menu.
- 2. Call up **Password management** with **D**.



NOTICE

The length of the password must not exceed 10 characters.

- 3. Enter the new password and confirm it by entering it again.
- 4. Observe the warning notice and confirm.
- ⇒ The device can now be accessed only with the new password.

7.6. Configuring the SEG V

Here you can calibrate the display brightness, light measuring unit and level compensation, for example.

7.6.1. Setting the Display Brightness

Proceed as follows to set the display brightness:

- 1. Select **Settings** > **Device** >**Save energy** in the main menu.
- 2. Open the list under **Display brightness** with **X**.
- 3. Select the requested brightness value.

The display brightness is adjusted immediately. The selection will be saved automatically.

7.6.2. Automatic display dimming

Proceed as follows to activate or deactivate the display dimming:

- 1. Select **Settings** > **Device** >**Save energy** in the main menu.
- Open the list under Automatic display dimming with X.
- 3. Select >On< or >Off<.

If **>On**< is selected, the display brightness will be automatically dimmed to the minimum brightness value after 5 minutes of inactivity.

 \Rightarrow The selection will be saved automatically.

7.6.3. Automatic switching off when inactive

Proceed as follows to activate or deactivate the automatic switch-off od the device in case of longer inactivity:

- 1. Select **Settings** > **Device** >**Save energy** in the main menu.
- 2. Open the list under Automatic display dimming in case of inactivity with \checkmark .
- 3. Select >On< or >Off<.

The SEG V will switch off automatically after 30 minutes if **>On<** is selected.

 \Rightarrow The selection will be saved automatically.

7.6.4. Calibrate touch screen

Proceed as follows to calibrate the touch screen:

- 1. Select **Settings** > **Device** > **Extended** in the main menu.
- 2. Start the calibration process with **b** in the menu **Calibrate touch screen**.
- 3. Regard the window with information and instructions.
- Activate the calibration with ✓. Abort the procedure with ⊠.
 Five calibration points are displayed consecutively.
- 5. Choose the five calibration points.

The selection will be saved automatically. The device switches off and on again automatically. This may take a few seconds.

 \Rightarrow The touch screen is now recalibrated.

7.6.5. Save diagnostic data

Use this function to save diagnostic data on a pen drive in case of troubles.

Proceed as follows to save diagnostic data:

- 1. Insert a pen drive into the USB port on the SEG V.
- 2. Select **Settings** > **Device** > **Extended** in the main menu.
- 3. Open the list under **Save diagnostic data** with **X**.
- 4. Select **USB** and start saving with **D**. Observe the information window.
- ⇒ The Technical Help Line of Hella Gutmann requires the diagnostic data for troubleshooting.

7.6.6. Sending Diagnostic Data

Use this function to send diagnostic data to an e-mail address in case of troubles.

Proceed as follows to send diagnostic data to the saved e-mail address:

- 1. Open the list under **Save diagnostic data** with **X**.
- 2. Select **E-mail** and send the diagnostic data with **D**. Observe the information window.

7.6.7. Report

Proceed as follows to display the report in another language:

- 1. Select the main menu Settings > Report.
- 2. Open the list under Language with \checkmark .
- 3. Select the requested language.
- ⇒ The prevailing selection will be saved automatically.

Proceed as follows to display a logo on the report:

- 1. Select Settings > Report in the main menu.
- 2. Open the list under **Logo** with \checkmark .

If **>With logo**< is selected, a logo will appear on the report. If **>No logo**< is selected, no logo appears on the report.

 \Rightarrow The prevailing selection will be saved automatically.

7.6.7.1. Having Indicated Light Distribution Images

Proceed as follows to display light distribution images on the report:

1. Open the list under **Images** with .

If >With images< is selected, the light distribution will appear on the report.

If **>No image** *is selected, no light distribution appears on the report.*

 \Rightarrow The prevailing selection will be saved automatically.

7.6.8. Level compensation

Activate the level compensation and make settings here.

A level sensor registers the inclination angle of the **SEG V** and compensates floor unevenness and inclinations of up to 2% to prevent improper measurements.

7.6.8.1. Executing Manual Level Compensation

Proceed as follows to perform the manual level compensation:

- 1. Select **Settings** > **Device** > **Extended** in the main menu.
- 2. Open the selection window under Level compensation with \checkmark .
- 3. Open the list under **Level compensation** with $\mathbf{\mathfrak{V}}$.
- 4. Select >Manual<.

If **>Manual**< is selected, the vertical and horizontal axis level can be manually determined. This compensates unevenness/inclinations in the set-up area of the SEG V and the vehicle.

- 5. Open the virtual keypad under **Pitch angle in %** with 🛡.
- 6. Enter the desired value and apply.
- 7. Repeat steps 5 to 7 for the **Roll angle in %**.
- 8. Confirm the inputs with \checkmark . Abort the procedure with \boxtimes .

The inputs will be saved automatically.

⇒ Automatic level compensation continues to remain active in this mode.

7.6.8.2. Executing Automatic Level Compensation

Proceed as follows to do the automatic level compensation:

- 1. Select **Settings** > **Device** > **Extended** in the main menu.
- 2. Open the selection window under Level compensation with \checkmark .
- 3. Open the list under Level compensation with \checkmark .
- 4. Select >Automatic<.

If **>Automatic**< is selected, the level of the vertical and horizontal axis adjusts automatically so that any unevenness in the SEG V setup area is compensated.

Now the device is balanced.

5. Confirm the selection with \checkmark . Abort the procedure with \boxtimes .

The selection will be saved automatically.

7.6.8.3. Switching Off Level Compensation

Proceed as follows to switch off the level compensation:

- 1. Select **Settings** > **Device** > **Extended** in the main menu.
- 2. Open the selection window under Level compensation with \checkmark .
- 3. Open the list under Level compensation with \checkmark .
- 4. Select >Off<.

When >Off< is selected, level compensation is switched off.

5. Confirm the selection with . Abort the procedure with . *The selection will be saved automatically.*

7.6.9. Start factory reset

Use this function to reset the device to factory settings.

All customer-specific data records will be reset if you perform the factory reset.

Proceed as follows to perform a factory reset:

- 1. Select **Settings** > **Device** > **Extended** in the main menu.
- Use to start the factory reset under Start factory reset.
 Observe the confirmation prompt.
- Confirm the confirmation prompt with ✓.
 The device will be automatically reset to the state of delivery.

7.7. Updating the Device

Perform device updates here. Various system parameters are also displayed, e.g.:

- Software version
- Hardware version
- Device number

Hella Gutmann Solutions supplies customers with software updates at varying intervals: The software installation requires a license. These updates contain technical modifications and improvements. We recommend keeping your device up to date with these updates.

7.7.1. Preconditions for an Update

Ensure the following to perform updates:

- Voltage supply of the device is ensured.
- The shop has a valid license.

7.7.2. Starting the Software Update

Start the update of the device's software here.

Proceed as follows to start the software update:

1. Select **Settings** > **Update** in the main menu.



Insufficient voltage supply

System data loss

Do not switch off the device during the update and do not disconnect it from voltage supply.

Ensure sufficient voltage supply.

2. Start the update with **D**.

The device searches for a new update, the files will then be downloaded and installed.

⇒ The device switches off and on again automatically after the successful software update.

7.8. Service menu

The **>Service menu<** is exclusively reserved for Hella Gutmann service technicians or the testing organizations.

7.9. Configuring interfaces

Make your Wi-Fi and e-mail settings here.

Wi-Fi is a wireless local area network. Data is transmitted wirelessly via a router and DSL modem (access point). The respective devices register in the Wi-Fi router.

7.9.1. Searching and Installing a Wi-Fi Interface

Proceed as follows to connect the device to a network (router) via Wi-Fi interface:

- 1. Select **Settings > Device > Interfaces > Network** in the main menu.
- 2. Open the list under **IP address mode** with \checkmark .

If **>Determine automatically (DHCP)<** (recommended) is selected, the DHCP server of the network will assign an IP address to the **SEG V** automatically. This option is set ex works.

If >Manual< is selected, then go to SEG V – IP address and enter a free IP network address, e.g.: Network mask 192.168.246.002 / Standard gateway: 192.168.204.2.

3. Select >Determine automatically (DHCP)< (recommended) or >Determine manually<.

The selection will be saved automatically.

4. Create wireless network with **Q**.

The Wi-Fi connection search is active.

Once the device has successfully finished the search for a Wi-Fi connection, a drop-down list of Wi-Fi networks found is displayed.

- 5. Select a Wi-Fi network.
- 6. Confirm the selection with **D**.
- 7. Open the virtual keypad with \mathbf{E} .
- 8. Enter the Wi-Fi password.
- 9. Close the virtual keypad with \blacksquare .
- 10. Confirm your input with \checkmark .

The input will be saved automatically.

If the connection to the Wi-Fi network was successfully set up, the name of the selected Wi-Fi network is shown under **Wireless network (SSID)**.

 \Rightarrow Now you can start working with Wi-Fi connection.

7.9.2. Test Wi-Fi configuration

Proceed as follows to test the Wi-Fi configuration:

- 1. Select Settings > Device > Interfaces > Network in the main menu.
- 2. Use 💪 for the function **Test Wi-Fi configuration**.
 - The Wi-Fi configuration is tested.
- ⇒ The address of the selected Wi-Fi network is displayed under **SEG V IP address** if the Wi-Fi configuration has been tested successfully.

7.9.3. Reset Wi-Fi configuration

Reset the Wi-Fi configuration again here.

Proceed as follows to reset the Wi-Fi configuration:

- 1. Select Settings > Device > Interfaces > Network in the main menu.
- 2. Reset Wi-Fi configuration with III .

The Wi-Fi configuration is reset.

7.9.4. Sending Reports by E-Mail

Take the corresponding e-mail settings before you can send reports by e-mail.

Proceed as follows to take e-mail settings:

- 1. Select **Settings** > **Device** > **Interfaces** > **E-Mail** in the main menu.
- 2. Open the virtual keypad under **Receiver address** with 🛃 .
- 3. Enter the e-mail address of the receiver.
- 4. Close the virtual keypad with \blacksquare .
- Open the list under Server settings with [▼].
 Further settings are not necessary if >Automatically< is selected.
 Continue with steps 6-22 if >Manually< is selected.
- 6. Open the virtual keypad under **Host** with 🛃 .
- 7. Enter the host name of the outbox server.
- 8. Close the virtual keypad with $\mathbf{\overline{P}}$.
- 9. Open the virtual keypad under **Port** with 🛃 .
- 10. Enter the port number of the outbox server.
- 11. Close the virtual keypad with $\mathbf{\overline{P}}$.
- 12. Open the virtual keypad under **Sender address** with
- 13. Enter the e-mail address of the sender.
- 14. Close the virtual keypad with $\mathbf{\overline{P}}$.
- 15. Click **D** under **User login**.

The **User login** window is displayed.

- 16. Open the virtual keypad under **Name** with \blacksquare .
- 17. Enter the user name of the sender.
- 18. Close the virtual keypad with $\overline{\blacksquare}$.
- 19. Open the virtual keypad under **Password** with 🛃.
- 20. Enter the user password.
- 21. Close the virtual keypad with \blacksquare .
- 22. Close the User login window with ✓.The input will be saved automatically.

⇒ Reports can be sent via e-mail now.

7.9.5. Activate the Screen Duplication

The screen duplication enables to have the SEG V display indicated on an external terminal device via VNC viewer. Thus it is possible to do all work steps via external device. The response time of the screen indication depends on the network utilization. The example of VNC Connect describes the connection setup.

Proceed as follows to activate the screen duplication:

1. Select Settings > Device > Interfaces > Activate screen duplication.

Regard the info window.

The info window shows the data for connection to the VNC client (PC, tablet etc.) if the screen duplication has been activated successfully.

- Start the VNC viewer on the terminal device and set up the connection. For this click to >File< and select >New connection<.
- 3. Enter the IP address of the SEG V in line VNC server and confirm the entry with >OK<.

Now the info window of the VNC viewer indicates a symbol with the IP address of the SEG V.

4. Position the cursor on the symbol, push the right mouse button and click to >Connect< .

If the connection has been established successfully, the display of the SEG V is indicated on the terminal device. The symbols for Wi-Fi and remote appear in the header.

- 5. Click \checkmark to close the info window in the SEG-V again.
- 6. Click to >Deactivate screen duplication< to finish the function.

8. Working with the Device

8.1. Symbols

8.1.1. Symbols in the Header

Symbols	Meaning
$ \mathbf{\Delta} $	Vehicle data
	This menu contains the data of the currently selected vehicle.
_	User
Ħ	Here you can double-click to enter a new user name.
	Battery state of charge
85%	The battery state of charge is indicated here.
	Green symbol: Battery fully charged
	Symbol flashing green-white: Battery being charged
	Symbol partly red: Battery must be charged
	Wi-Fi
	The Wi-Fi symbol is indicated if an active Wi-Fi connection is existing.
*	Language selection
^A	Click the symbol to change the user language.
	Screen duplication
	This symbol indicates that the screen duplication is activated.

8.1.2. Symbols in the Main Menu

Symbols	Meaning
	Home
	Return directly to the main menu.

8.1.3. Headlight Test Symbols

Symbols	Meaning
$ \rightarrow $	Vehicle database
	Select a vehicle from the database, e.g., according to the following criteria:
	Manufacturer
	• Туре
	• Model year
	Engine code
	Car History
	Call up the Car History here.
< 	Low beam
	The immediate road ahead is illuminated.
~~	
$= \bigcirc$	High beam
	The road ahead is illuminated as far as possible.
20	Front fog light
利	The immediate road ahead is illuminated more brightly.
•	
$\neg \frown$	Adaptive light control/high beam assistant
ΞŪ	Here, moving lenses in the headlights illuminate curves more effectively.
	Oncoming traffic or preceding vehicles are not dazzled by high beam lights that are always on.
$= \bigcirc$	Dynamic Light Spot (night vision spot light)
	Here people in the dark are detected from a distance and lit in a targeted way.
SPUI	
	Create vehicle entry manually
=	Here you can create a vehicle by entering vehicle data manually.
Symbols	Meaning
---------------------	---
\wedge	Direction arrows
ት ጉ	Direction arrows symbolize the setting recommendations for the respective headlights.
	The measure of the deviation is depicted by means of different colours.
JL	Green symbol: No correction of headlight adjustment necessary
$\mathbf{\nabla}$	Yellow symbol: Slight correction of headlight adjustment necessary
Å	Red symbol: Major correction of headlight adjustment necessary
< つ	
くし	
$\neg \mathbf{v}$	
$ \mathbf{\Delta} $	Right/left headlight
	Here the device indicates which headlight is tested.

8.2. Preparing headlight test

8.2.1. Requirements for Vehicle Setup Area and SEG V



NOTICE

In general the requirements on the set-up areas shall correspond to the prevailing laws demands of the prevailing country.

The dimensions specified for the set-up area exclusively apply to Germany.

Following the valid regulation with regards to the adjustment of vehicle headlights, in line with §29 of the German Road Traffic Licensing Regulation (StVZO) (MOT test headlight testing directive), the testing and set-up areas are defined as follows for the vehicle and **SEG V**:

Fig. 1: Dimensions of the setup area



*In case of vehicle hoists, measure the distance is taken from the front edge of the optical housing to the front edge of the vehicle hoist.

Fig. 2: Tolerance



- The dimensions for the setup area for vehicles as well as the SEG V must correspond to fig. 1. The unevenness of the set-up area for the SEG V must be max. ± 1 mm/1 m. The tolerances of the set-up area for vehicles are specified as in fig. 2 (source of figures: Verkehrsblatt 11/2018).
- The set-up areas for the vehicle and the SEG V must be clearly marked e.g. through floor markings.

8.2.2. Setup Area for Stationary SEG V



NOTICE

The ground must comply with the requirements of Eurocode 2/DIN EN 1992 and the concrete must correspond to the compression strength class C20/25.

The area around the rail system has to be marked as a hazardous area (risk of tripping) (DIN 4844-1). This must be taken into account when assessing the hazards in the workplace.

Fig. 3:



	Name
1	Height difference +/- 1 mm

Fig. 4:



	Name
2	Spacer plate
3	Rail joint without lateral displacement
4	Rolled section not greater than 1 mm
• The SEG V is also suitable for fixed installation.	

- Rails are mounted onto the ground.
- When used as a rail unit, you need to order a rail set for each **SEG V** (ord. no. *9XS 861 736-001*). The rail serves as a drill template during assembly.

Moreover, we offer an adjustable rail system (order no.: 9XS 861 736-021) and a caster set (order no. 9XS 862 004-021).

• To establish the vehicle setup area, the same conditions apply as described in the section Requirements for Vehicle Setup Area and SEG V.

To test and adjust headlights observe the following when running the rails:

- The vehicle floor surface and rail level for the **SEG V** must lie parallel to each other in both dimensions.
- The height difference of the caster running surface must correspond to legal specifications.
- The rails (order no.: 9XS 861 736-001) must entirely rest onto the surface, so that they cannot bend.

• The rails are positioned in pairs 90° to the vehicle's longitudinal axis. Prevent lateral displacements on rails that collide (fig. 4).



NOTICE

If the device is placed onto guide rails you need to add or respectively subtract the height measure accordingly.

The tape measure is available as spare part and can be attached to the post accordingly.

8.2.3. Vehicle Test



NOTICE

Observe complete regulation, §29 of the German Road Traffic Licensing Regulation.

Observe national regulations.

Observe the manufacturer's specifications.



NOTICE

The **SEG V** can be used to test all headlight systems, including DE, FF, LED and xenon headlights. Headlights must be fastened to the vehicle after adjustment in a way that unintended adjustment *cannot* occur. After repairs are made to the vehicle suspension, the headlight aiming shall be tested. This is also recommended after having replaced a headlight bulb.

- Tires have the prescribed air pressure.
- The headlight lenses are not damaged or dirty.
- The headlights are checked for good working order.
- The vehicle is unloaded (for single- or multiaxle vehicles with just one headlight). Put a weight of 75 kg on the driver seat.

Observe the manufacturer's specifications in general.

- Do not load trucks or multiaxle vehicles.
- Load single-axle vehicles or single-axle tractors and work machines (with driver cab or trailer) with one person or 75 kg on the driver's seat.
- Observe manufacturer specifications for vehicles with hydraulics or air suspension.
- If automatic correction of the headlights or continuously variable or multistage adjustment is possible, then observe manufacturer specifications. Depending on the manufacturer, various function tests must be carried out here.

- A diagnostic device, e.g. from Hella Gutmann, is required to apply settings for various vehicles with automatic headlight leveling. The vehicle ECU must be in basic mode during the setting process. If the light-dark border is set correctly, then this value is stored as the new normal position.
- For headlights with multi-stage adjustment systems where position settings are not marked especially, proceed as follows:
 - If the light beam lifts with increased load, then apply the setting for the adjustment setting where the light beam sits highest.
 - If the light beam lowers with increased load, then apply the setting for the adjustment setting where the light beam sits lowest.

8.3. Aligning the SEG V

8.3.1. Switching On the Laser



⚠ CAUTION!

Laser radiation

Damage to/destruction of the retina

Never look directly into the laser beam.

Make sure that all instructions given under Safety Precautions – Laser Sight [▶ 9] are observed.



NOTICE

After switching on the laser, the laser output is activated for approx. 30 s via an integrated interval timer. Within this time you can align the SEG V in front of the vehicle.

Proceed as follows to switch on the laser module:

1. Briefly push the ON/OFF button of the laser module (1).

The laser is activated for approx. 30 s.

- 2. If required, repeat step 1 to reactivate the laser.
- \Rightarrow Now, you can align the SEG V in front of the vehicle.

8.3.2. Aligning the Optic Housing to the Vehicle

Fig. 5:



Proceed as follows to align the SEG V to the vehicle:

- 1. Position the **SEG V** at a distance between 30 and 70 cm in front of the headlights.
- 2. Switch on the laser sight.

Alternatively you can use the optical sight (black line in the right area of the sight). The laser is activated for approx. 30 s.

3. Loosen the hand wheel of the column locking mechanism (12).

By loosening the hand wheel, you can turn the optic housing.

- 4. Use the laser sight or the optical sight to align the optic housing in a way that the laser line 2 touches points at the same height, symmetrical to the geometric center line (fig. 6).
- 5. Tighten the hand wheel of the column locking mechanism (fig. 6), without changing the alignment.
- 6. Move the SEG V in front of the headlight to be tested.
 The distance between front edge of the optical housing and the headlight shall be between 30 and 70 cm (fig. 6).
- 7. Set the optical housing to the center of the headlight.

Deviations in height and side to the prevailing light source shall be max. 3 cm.

8.3.3. Adjusting the Height of the Laser Sight

The laser sight provides the option to align the **SEG V** and headlights using a line laser. Two parallel points on the vehicle front can be detected with the generated light band. If the required power supply (9 V block battery, 9 V type) is not available, then the alignment can be carried out using the broad-band sight.



To adjust the height of the laser sight, proceed as follows:

- 1. Loosen the hand wheel of the laser sight (11).
- 2. Set the desired height.
- 3. Tighten the hand wheel of the laser sight.

8.3.4. Aligning the Optic Housing on Commercial Vehicles

Fig. 6:



In individual cases, when aligning commercial vehicles and buses with the SEG V, difficulties may arise with heavily arched front sections. If this is the case, then use a plumb bob or other suitable object to transfer the headlight centres to the ground and detect them with the sight (see Figure 7).

8.4. Documented test

Use this function to retrieve data from the vehicle database or from the **Car History**. Moreover, it is possible to create a vehicle entry manually. The test results can be assigned to a licence plate number and vehicle owner and the results can be stored. If needed, the test result can be saved as a report onto a pen drive or it can be sent by e-mail.

8.4.1. Preconditions for a Documented Test

Observe the following to perform documented tests:

• The steps in the sections Preparing headlight test and Aligning the SEG V are performed completely.

8.4.2. Performing Documented Tests from Vehicle Database



NOTICE

A documented test can only be done when the company data has been entered.

To perform a documented test from the vehicle database, proceed as follows:

- 1. Select **>Documented test<** in the main menu.
- 2. Observe the info window where necessary.
- 3. Confirm the info window with \checkmark where necessary.

The Vehicle selection window is displayed.

4. Choose 🎮 to call up the **vehicle database**.



NOTICE

You need to select at least the manufacturer, the fuel type and the model.

- 5. Select the requested manufacturer.
- 6. Select the requested fuel type.
- 7. Select the requested model.
- 8. Confirm the selection with \mathbf{b} .

If all vehicle data is not selected, then a drop-down list is displayed.

- 9. Select the requested vehicle type.
- 10. Confirm the selection with **D**.

NO

NOTICE

The documented test can only be done if you have entered the vehicle registration number and the vehicle owner.

- 11. Open the virtual keypad under **Registration number** with oxpacestimes .
- 12. Enter the vehicle registration number.
- 13. Close the virtual keypad with 텩

The input will be saved automatically.

- 14. Repeat steps 11-13 for the **vehicle owner** and **VIN**.
- 15. Confirm the inputs with **D**.

The Target specifications window appears.

- 16. If required, change the data as described in the section Configuring Vehicle Data.
- 17. Open the **Headlight selection** window with \blacktriangleright .
- 18. Perform the headlight test as described in the section Performing headlight test [> 51].
- 19. Use **D** to call up the selection window **Finish documented test?**.
- 20. Use the selection window to:

finish the measurement

finish the measurement and send it to the pen drive

finish the measurement and send it per e-mail



NOTICE

The message **Finish measurement and send it per e-mail** is only indicated if the Wi-Fi interface is configured.

- 21. Regard the window with information and instructions.
- 22. Finish the measurement with \mathbf{b} .
- 23. Abort the procedure with \mathbf{X} .
- ⇒ The data from the documented test are automatically saved in **Car History**.

8.4.3. Performing Documented Tests from the Car History



NOTICE

A documented test can only be done when the company data has been entered.

Proceed as follows to perform a documented test from Car History:

- 1. Select **>Documented test<** in the main menu.
- 2. Observe the info window where necessary.
- 3. Confirm the info window with 🗸 where necessary.
- 4. Choose to call up **Car History**.

A drop-down list appears.

5. Select the desired vehicle.

Alternatively, you can search for the vehicle with the **Search for** function using **>License number<**, **>Vehicle owner<**, **>VIN<** or **>Report date<**.

With >Report date< selected, the device indicates all reports which have been created in that time period.

6. Open the **Input** window with 🖻 under **From date:**.

The **Input** window appears.

- 7. Use the arrow keys \frown and $\overleftarrow{}$ to select the requested day under **Day**.
- 8. Repeat step 7 for Month and Year.
- 9. Confirm the selection with \checkmark .

The selection will be saved automatically.

10. Open the **Input** window with 📴 under **To date:**.

The Input window appears.

- 11. Repeat step 7 for the requested Day, Month and Year.
- 12. Confirm the selection with \checkmark .

The selection will be saved automatically.

13. Click to **>Search<**.



NOTICE

Click to >Reset< to view again the entries which were saved last.

14. Confirm the selection with **D**.

A drop-down list appears.

15. Perform the measurement with **D**.

The Target specifications window appears.

- 16. If required, change the data as described in the section Configuring Vehicle Data.
- 17. Open the **Headlight selection** window with \blacktriangleright .
- 18. Perform the headlight test as described in the section Performing headlight test [> 51].
- 19. Use 🕑 to call up the selection window **Finish documented test?**.
- 20. Use the selection window to:
 - finish the measurement

finish the measurement and send it to the pen drive finish the measurement and send it per e-mail



NOTICE

The message **Finish measurement and send it per e-mail** is only indicated if the Wi-Fi interface is configured.

- 21. Regard the window with information and instructions.
- 22. Finish the measurement with \mathbf{D} .
- 23. Abort the procedure with 🔀
- \Rightarrow The data from the documented test are automatically saved in **Car History**.

8.4.4. Managing Car History Entries

The Car History provides an extended search function according to a specific time period and it is also possible to send and delete single or several entries.

Send and delete single or several entries by using the checkbox under **Multiple selection:**. The activated checkbox is marked with green square inside it.

The second checkbox becomes visible after having activated the first checkbox. By activating the second checkbox you are able to select or unselect already registered entries at the same time. A selected entry is marked with a green line. Uncheck your selection by deactivating the second checkbox.

Open the **Selection** window with **D**. Do the following here:

1. Perform measurement

Indicated only if an entry is selected

- 2. Show reports
- 3. Send reports to pen drive
- 4. Send reports to e-mail address
- 5. Delete reports
- 6. Delete vehicle owner
- ⇒ All entries to the selected vehicles are displayed if you select one out of the points 2 to 6. In this menu the multiple selection function is identical to the one in the previous menu.



NOTICE

Deletion processes cannot be undone.

8.4.5. Performing Documented Tests with Manually Created Vehicle



NOTICE

A documented test can only be done when the company data has been entered.

Proceed as follows to perform a documented test for a manually created vehicle:

- 1. Select >Documented test< in the main menu.
- 2. Observe the info window where necessary.
- 3. Confirm the info window with \checkmark where necessary.
- 4. Choose 🖻 to call up the Manually create vehicle option.
- 5. Click 🖻 to open the virtual keypad under **Manufacturer**.
- 6. Enter vehicle manufacturer.
- Close the virtual keypad with A
 The input will be saved automatically.
- 8. Repeat steps 5–7 to make more inputs.
- 9. Confirm the inputs with **D**.

The Vehicle selection window is displayed.

- 11. Enter the vehicle registration number.
- 12. Close the virtual keypad with $\mathbf{\overline{e}}$.

The input will be saved automatically.

- 13. Repeat steps 10-12 under Vehicle owner and VIN.
- 14. Confirm the inputs with **D**.

The Target specifications window appears.



NOTICE

From software version 74 onwards, you can select the correct light distribution, e.g. for antiglare high beam, with the manufacturer-specific name in the menu **Adaptive light control** or with the function **Selection assistant**. Hence you are able to check such light systems even if the vehicle is not in the database.

- 15. If required, change the data as described in the section Configuring Vehicle Data.
- 16. Open the **Headlight selection** window with **D**.
- 17. Perform the headlight test as described in the section Performing headlight test [> 51].
- 18. Use 🕨 to call up the selection window **Finish documented test?**.

19. Use the selection window to:

finish the measurement

finish the measurement and send it to the pen drive

finish the measurement and send it per e-mail

NOTICE

The message **Finish measurement and send it per e-mail** is only indicated if the Wi-Fi interface is configured.

- 20. Regard the window with information and instructions.
- 21. Finish the measurement with \mathbf{D} .
- 22. Abort the procedure with \mathbf{X} .
- ⇒ The data from the documented test are automatically saved in **Car History**.

8.4.6. Creating a Report

The report of the documented test can be saved on a pen drive or it can be sent per e-mail to another device.

To save the report on a pen drive, proceed as follows:

- 1. Insert a pen drive into the USB port on the SEG V.
- 2. Perform the steps 1 to 6 as described in section Performing Documented Tests from the Car History.

3. Select >Send report<.

The report is saved as a PDF file on the pen drive.

The report contains the following information:

- Company data
- Customer and vehicle data
- Device type
- Date and time of the headlight test
- Test results before headlight adjustment
- Test results after headlight adjustment



NOTICE

First configure the interfaces before you can send the report per e-mail. For this perform the steps as describes in section Configuring interfaces.

Now the following fault messages during e-mail sending may appear despite correctly configured interfaces:

• The device is not registered at Hella Gutmann. Please contact the Hella Gutmann Help Line.

• Registration was not successful. Please check the time and date settings. Please contact the Technical Help Line of Hella Gutmann if the problem occurs again.

8.5. Quick test

In the quick test, headlights can be checked without entering specific vehicle data. The headlight settings must be known for the vehicle.



NOTICE

From software version 74 onwards it is possible to save the results also after the measurement. The steps are identical as with the "Documented test" (see Documented test).

8.5.1. Preconditions for a Quick Test

Ensure the following to perform a quick test:

• The steps in the sections Preparing headlight test and Aligning the SEG V are performed completely.

8.5.2. Performing Quick Tests

Proceed as follows to perform the quick test:

- 1. Select **>Quick test<** in the main menu.
- 2. Observe the info window where necessary.
- 3. Confirm the info window with \checkmark where necessary.

The Target specifications window appears.



NOTICE

From software version 74 onwards, you can select the correct light distribution, e.g. for antiglare high beam, with the manufacturer-specific name in the menu **Adaptive light control** or with the function **Selection as-sistant**. Hence you are able to check such light systems even if the vehicle is not in the database.

- 4. If required, change the data as described in the section Configuring Vehicle Data. *The headlight setting data shall correspond to the manufacturer's specifications.*
- 5. Open the **Headlight selection** window with $\mathbf{\mathbb{D}}$.
- 6. Perform the headlight test as described in the section Performing headlight test.

8.6. Measured value calibration

Check the inclination calibration here. For this you can switch on or off the level sensor of the SEG V.

8.6.1. Switching On the Level Sensor

The level of the vertical and horizontal axis adjusts automatically in a way that any irregularity in the SEG V set-up area is compensated if the level sensor is switched on.

Proceed as follows to switch on the level sensor:

1. Select >Measured value calibration< in the main menu.

The window Measured value calibration appears.

- Open the list under Level compensation with X.
- 3. Select **>on<**.

The SEG V is balanced from a measuring technology standpoint.

Perform the horizontal/vertical calibration with 🕨.

Abort the procedure with \mathbf{X} .

 \Rightarrow The selection will be saved automatically.

8.6.2. Switching Off the Level Sensor

Surface irregularities of the SEG V set-up area will not be compensated if the level sensor is switched off.

Proceed as follows to switch off the level sensor:

- Select >Measured value calibration< in the main menu.
 The window Measured value calibration appears.
- 2. Open the list under **Level compensation** with \checkmark .
- 3. Select >Off<.

Perform the horizontal/vertical calibration with $inom{b}$.

Abort the procedure with \mathbf{M} .

 \Rightarrow The selection will be saved automatically.

8.7. Performing headlight test

8.7.1. Preconditions for the Headlight Test

Ensure the following before starting a headlight test:

- All preconditions listed in section Preparing headlight test are fulfilled.
- The device is placed correctly in front of the vehicle (see section Aligning the Optic Housing to the Vehicle).
- The data records required for the documented test are entered (see section Documented test).

8.7.2. Test Screen

The following is displayed on the test screen:

- Light intensity in Lux (lx) or Candela (cd)
- Vertical
- Setting recommendations via direction arrows
- Current test headlight
- Light type of the current test
- Blue cross: Zero point of device
- Yellow lines: Upper and lower tolerance limit
- Green line: Current position of the light/dark boundary
- Drop-down list 1: Choice between automatic or manual mode

Automatic mode:



You can select between automatic or manual mode when checking or setting the light distributions. Open the selection window with \checkmark .

Manual mode: The light distribution is indicated in the display as it is real. There is no evaluation by the device. The check or setting is done as on an analog headlight aiming device. This function is available for low beam, high beam and fog lights.

Manual mode:

A	🛉 Standard	XA EN 🗃 🛪	89%) 11.11.2024 11:32
🕂 Home	Measurement		
Candela: 0			
			[≈]≣D]
	+++		Manual
i			
i			

8.7.3. Performing Low Beam Headlight Tests



NOTICE

Perform the headlight test on the left and right headlight respectively.

To perform a headlight test on the low beam, proceed as follows:

- 1. Switch on the low beam on the vehicle.
- 2. Start the headlight test with \mathbb{I}^{O} .



- 3. Observe the confirmation prompt.
- 4. Confirm the confirmation prompt with \checkmark .

The light distribution of the headlight is displayed on the test screen.

5. In the vehicle setting options, correct the headlight setting according to the recommended settings using the direction arrows on the test screen.



If the settings are correct, then all arrows light up green.

6. Confirm settings with \mathbf{b} .

The date and time of the adjustment are displayed next to the symbol.

7. Repeat steps 2-6 to test the second headlight.

8.7.4. Performing High Beam Headlight Tests



2. Start the headlight test with [■]O.



- 3. Observe the confirmation prompt.
- 4. Confirm the confirmation prompt with \checkmark .

The light distribution of the headlight is displayed on the test screen.

5. In the vehicle setting options, correct the headlight setting according to the recommended settings using the direction arrows on the test screen.



If the settings are correct, then all arrows light up green.

6. Confirm settings with **D**.

The date and time of the adjustment are displayed next to the symbol.

7. Repeat steps 2-6 to test the second headlight.

8.7.5. Performing Fog Light Tests

NOTICE

Perform the headlight test on the left and right headlight respectively.

To perform a headlight test on the front fog lights, proceed as follows:

- 1. Switch on the front fog lights on the vehicle.
- 2. Start the headlight test with \ddagger



3. Observe the confirmation prompt.

4. Confirm the confirmation prompt with \checkmark .

The light distribution of the headlight is displayed on the test screen.

5. In the vehicle setting options, correct the headlight setting according to the recommended settings using the direction arrows on the test screen.



If the settings are correct, then all arrows light up green.

6. Confirm settings with **D**.

The date and time of the adjustment are displayed next to the symbol.

7. Repeat steps 2-6 to test the second headlight.

8.7.6. Performing Adaptive Light Control Tests

Many modern vehicles have adaptive light control. In these systems, the light distribution of the headlights is automatically adjusted to different conditions. To test these light systems, observe the instructions from different manufacturers.



- 1. Perform the steps 1 to 6 as described in section Performing Quick Tests [> 50].
- 2. Open the list under Adaptive light system via 🌺.

3. Select >Yes<.



NOTICE

From software version 74 onwards, you can select the correct light distribution, e.g. for antiglare high beam, with the manufacturer-specific name in the menu **Adaptive light control** or with the function **Selection as-sistant**.

The following systems are included:

Audi HD Matrix

BMW High Beam Assist, BMW Spot Light DS Matrix LED Vision

Ford ILS (Intelligent Light System), Ford Matrix

Mercedes ILS (Intelligent Light System)

Peugeot Matrix Beam

Renault LED Matrix Vision

Skoda Matrix (Kink)

Tesla LED Headlight

VAG Matrix, VAG DLA (Dynamic Light Assist)

Use the **Selection assistant** function to select the required algorithm by using a comparison of the listed graphics and information with the actual light distribution.

Hence you are able to check such light systems even if the vehicle is not in the database.



10. In the vehicle setting options, correct the headlight setting according to the recommended settings using the direction arrows on the test screen.

If the settings are correct, then all arrows light up green.

11. Confirm the setting with \blacktriangleright .

The date and time of the adjustment are displayed next to the symbol.

12. Repeat steps 2-7 to test the second headlight.

9. General information

9.1. Troubleshooting table

The following list will help you to solve minor problems yourself. Select the relevant problem description and check and perform the steps listed under **Solution** in sequence until the problem is solved.

Problem	Solution		
The device does not boot.	Check the cable connection to the device and plug socket.		
	Ensure voltage supply.		
	Charge the battery for 15 minutes and then restart the device.		
The program crashes or does	• Press and hold the ON/OFF button for 30 s to restart the device.		
not function.	Perform a software update.		
No measurement possible. Enter the company data as described in section Entering Company Data			
Display is dark.	Check the cable connection to the device and plug socket.		
	Ensure voltage supply.		
	Charge the battery for 15 minutes and then restart the device.		
	 Press and hold the ON/OFF button for 30 s to restart the device. 		
	• The display is possibly defective. Please inform a Hella Gutmann trading partner or the Technical Help Line of Hella Gutmann.		

9.2. Care and Maintenance

Like every device, the **SEG V** shall be handled with care. Therefore regard the following:

- Regularly clean the device with non-aggressive cleaning agents.
- Use commercial mild household cleaning detergents and a moistened, soft cleaning cloth.
- Replace damaged cables/accessories immediately.
- Only use original spare parts.



To readjust the column guidance, use an Allen key with width SW 6 for the opening.

9.2.1. Replacing the 9-V Monobloc Battery

Proceed as follows to replace the 9 V block battery:

- 1. Switch off the device and remove all connecting cables.
- 2. Remove the 4 screws from the battery compartment cover.



3. Pull out the 9 V block battery.



4. Dispose of the old 9 V block battery in an environmentally friendly way.



NOTICE

Pay attention to correct installation direction/polarity.

- 5. Insert a new 9 V block battery.
- 6. Assembly in reverse order.

9.3. Service Parts and Accessories

The following accessory parts are available for maintenance, breakdown assistance and optional upgrade of the device:

Service Parts and Accessories	Order no.
Clamping claw	9XD 181 854-001
Handwheel for column locking mechanism	9SG 855 454-011
Hand wheel for sight holder	9SG 855 498-001
Clamping piece for column	9XD 857 744-001
Wheel replacement set (3 wheels)	9XS 862 004-001
Caster base	9XS 860 998-001
Wheel-mounted base from device number 2273	9XS 860 998-101
Feet without rollers	9XS 860 999-021
Rotary handle	9XS 861 032-001
Sight arm cover	9XS 861 061-001
Lateral part (set 2 pcs. – lateral covers of sight)	9XS 861 065-001
Sight arm	9XS 861 436-001
Handle piece for clamping shoe	9SG 126 786-001
Guide tube for laser sight	9XS 861 113-001
Hybrid laser sight	8PV 861 112-031
Protective shields for hybrid laser sight	9EV 857 067-031

Service Parts and Accessories	Order no.
Stainless-steel column with arrestor	8XT 861 234-041
Control lever/button	9ST 861 074-001
Fresnel lens	9EL 857 597-001
Protective shield (behind the Fresnel lens)	9EV 857 067-011
Bracket for Fresnel lens and protective shield	9FH 861 011-001
Slidings (column guide)	9XD 861 016-001
Clamping piece (arrestor of the optical housing on the column)	9XD 861 861-001
Tension spring (for functionality of the clamping piece)	9KD 857 587-001
Green hood for optical housing	9XS 861 127-091
ON/OFF button	9ST 863 241-011
Battery (12 V)	9XS 863 241-021
Power cord (1500 mm)	9XS 863 241-031
Display (8.4" touch screen)	9XS 861 127-101
Disengage bearing cup for column locking mechanism	9XS 861 009-001
Guide axis for clamping plate	9XS 861 173-001
Clamping washer for guide axis	9XS 861 250-001
Clamping piece for column	9XD 857 744-001
Protective cover for optical housing	8XS 002 500-031

Further spare parts on request.

9.4. Checking the Device

The **SEG V** shall be checked in intervals of two years. The **SEG V** shall only be calibrated or maintained by an authorized institution. In the event of questions regarding testing or maintenance, contact a national calibration authority, a Hella Gutmann trading partner or the Technical Help Line of **Hella Gutmann**.

9.5. Disposal



In compliance with Directive 2012/19/EU of the European Parliament and Council of 4 July 2012 relating to Waste Electrical and Electronic Equipment (WEEE), and the German national statute governing the distribution, return and environmental disposal of electrical and electronic equipment (Electrical and Electronic Equipment Act – ElektroG) of 20 October 2015 in its current version, we are obliged to take back this device, distributed by us after 13 August 2005, at the end of its service life free of charge and to dispose of it in accordance with the above-mentioned directives.

Since, in the case of the present device, this relates to exclusively commercially used equipment (B2B), it shall not be handed over to a public recycling center.

The device can be disposed of at the following address (specifying the date of purchase and the device numbers):

Hella Gutmann Solutions GmbH

Am Krebsbach 2 79241 Ihringen GERMANY WEEE reg. no.: DE 25419042 Phone: +49 7668 9900-0 Fax: +49 7668 9900-3999 E-mail: info@hella-gutmann.com

HELLA Automotive Sales, Inc

201 Kelly Drive Peachtree City, GA 30269 USA Phone: +1-770-631-7500 Fax: +1-770-631-7575 Mail: hella.faq@hella.com

9.6. Technical data

Supply voltage	115-230 V ~/50-60 Hz
Supply	Lead battery, internal power adapter
Transmitting power	14 dBm
Frequency	2.4 Ghz
Battery run time	8 to 10 h
Battery capacity	7.2 Ah
Display	Construction type: LCD-TFT
	Size: 8.4 inch
Input	Touch screen
Ambient temperature	Recommended: 10 to 35 °C
	Working range: 5 to 35 °C
Operating system	Linux
Weight	approx. 40 kg
Dimensions	1730 x 620 x 690 mm (H x W x D)
Interfaces	• USB
	• Wi-Fi
Adjustment track lens centre/ground	250 - 1450 mm
Measuring distance to vehicle	300 - 700 mm
Light intensity	0-150000 Candela (cd)
Light output	0 to 240 Lux (lx)

9.7. Declaration of conformity SEG V



EU DECLARATION OF CONFORMITY (DoC)

We, Hella Gutmann Solutions GmbH

Am Krebsbach 2 D-79241 Ihringen

declare under our sole responsibility that the product:

product name: SEG V trade name: Hella G

SEG V Hella Gutmann Solutions

to which this declaration relates, is in conformity with the essential requirements and other relevant requirements of the RED directive (2014/53/EU), The RoHS directive (2011/65/EU) and the EMC directive (2014/30/EU). The product is in conformity with the following standards and/or other normative documents:

EMC: Laser Safety: Safety: RED: EN IEC 61326-1 IEC 60825-1:2014 IEC 62368-1:2014 ETSI EN 300 328 V 2.2.2 EN 62311:2020

Ihringen, 29/11/2022

Place and date of issue (of this DoC)

Signed by or for the manufacturer

Name (in print): Stefan Turnschek Title: product safety officer

BD-Nr.: 0078_1

CE

9.8. FCC Compliance Statement

Compliance statement (part 15.19)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning (part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Information to the User (Part 15.105 (b))

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

HELLA GUTMANN SOLUTIONS GMBH

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