Lightning aligment device PREMIUM-digital measurement (Biksenon, Halogen,Antifog,Laser)

Manual

007935902020

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ACCEPTANCE OF THE DEVICE

At the time of delivery it is essential to check at once and make sure you have received all the material indicated in the shipping documents, and that the device has not undergone damage during shipment. In this case, show the damage to the forwarder and inform our customer service department. Only if you proceed promptly in this way will it be possible to obtain any missing material and reimbursement of the damage.

FOREWORD

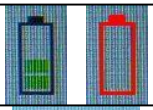
This is a device designed for correct beam alignment of any type of automobile or motor vehicle headlight.
The device must be used for this purpose only. Even the finest of devices can function properly and ensure profitable service only if it is used correctly and kept in the best possible condition. For this reason, we ask you to read this manual with care and to reread it whenever difficulties should arise in using the device. In case of need, we remind you that our service centers, organized in cooperation with our retailers, are always at your disposal for any advice you may need.
NOTE: the manufacturer may decide to make changes in the device without notice, in order to adapt it to technological advances and specific production or installation needs. Therefore, even if the illustrations shown in the manual differ slightly from the device in your possession, the safety and instructions about it are guaranteed.

TECHNICAL DATA		
Field of measurement		
orientation: above and below right and left	0 – 600 mm / 10 mt (0 - 6 %) 0 – 1000 mm / 10 mt (0 - 10 %)	
Intensity:	0 - 240 lx (Lux/25mt) 0 - 150.000 cd (Candle) 0 – 150.000 lx (Lux/1mt)	
Unit of intensity measurement	Lux (a 25mt) – Kcand – Klux (a 1 mt)	
Unit of orientation measurement	% - cm/10mt – degrees (°)	
Height from ground of optical center	from 240 to 1450 mm	
Supply voltage with internal battery	12 V	
Input voltage of battery charge	100 – 240 V / 50 mt (0 - 60 Hz)	
Working temperature	+ 5°C - + 45°C	
Width - height - length	mm	660 - 1780 - 695
Weight	kg	36
Laser product classification	Class 3R laser product	
2 Laser modules in the optical box	class 3R wave length is 635 nm power is 5 mW fan angle 90°	
Visor laser module	class 3R wave length is 635 nm power is 5 mW fan angle 130°	
	LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT	

SYMBOLS USED IN THE MANUAL

Warning symbol
Read the sections preceded by this symbol with particular care, for the safety of the operator and the device.

SYMBOLS USED ON THE DEVICE



Indicator of internal battery charge status.
When the symbol is red, the device needs to be recharged, using the battery charger supplied with the equipment.

Indicator of state of connection with station PC.
xxxxxx**NOT CONNECTED *****

Indicator of state of connection with station PC.
xxxxxx **CONNECTED *****

Indicator of state of connection with station PC.
xxxxxx **INVALID DATA ITEM TRANSMITTED OR RECEIVED *****

Touch key function to go back:
when you press this key the menu returns to the previous page

Touch key function to start test:
when you press *MEASURE*, the internal laser lights and the key changes its color to green

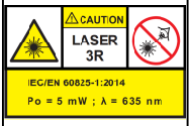
Real touch key function:
when you press *REAL*, the window opens with the REAL image projected on the internal screen of the optical box.

Graphic touch key function:
when you press *GRAPHIC*, the window opens with the image reconstructed graphically of the measurement point projected on the internal screen of the optical box.

Save touch key function:
when you press *Save*, the data are saved and remain available for transmission to the PC when required.

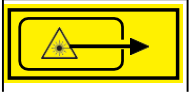
Print touch key function:
when you press *Print*, the test result is printed.

Touch key function to switch the laser point on:
when you press LASER, the internal laser lights and the key changes its color to green



Class 3R laser radiation symbol, applied on the side of the optical chamber and on the rear of the laser visor

LASER RADIATION
AVOID DIRECT EYE EXPOSURE
CLASS 3R LASER PRODUCT



LASER EMISSION POINT
This label is placed beside the emitting point of the laser, one in the visor and two in the optical box, before use the device read the relative section

WARNING:

Class 3R laser

- The risk of Class 3R laser products is limited because unintentional exposures would rarely reflect worst-case conditions of the laser source with a large pupil and worst-case accommodation with the entire beam energy entering the eye because of the natural aversion behaviour for exposure to bright light for the case of visible radiation
- The risk of injury increases with exposure duration, it may be hazardous for ocular exposure for intentional direct intrabeam viewing.
- Never look directly at the laser source.
- Never aim a laser beam directly at anybody, particularly not at the face or eyes.
- Under low ambient light conditions, dazzle or flash-blindness and afterimages may be caused by a beam from a Class 3R laser product in the visible wavelength range. This may have indirect general safety implications resulting from temporary disturbance of vision or from startle reactions
- Avoid reflections, e.g. by covering up or removing any reflective surfaces in the vicinity of the laser beam.
- Observe the intended use

PREPARATION OF THE DEVICE

HANDLING CRATED DEVICE

The device is packed in a special crate.
Do not stack more than five crates.
The packed weight is 40 kg.
The external dimensions are:
W: 630 mm **L:** 1800 mm **H:** 660 mm

CONTENTS OF THE PACKAGE

1 carton containing a base unit
1 column unit
1 visor
1 carton containing:

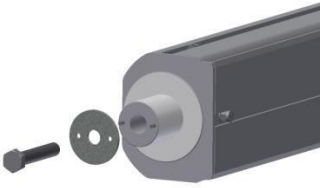
- an optical chamber
- a battery charger
- a package containing 4 screws and 4 washers for fastening the optical chamber to the structure
- manual for use and maintenance
- conformity certificate
- cd rom containing software for communication with a personal computer or inspection line and this manual.

If you receive erroneous parts, or notice shortages or damage, contact the distributor. Keep the package, including the original packing material, in case you need to send the product for repairs.

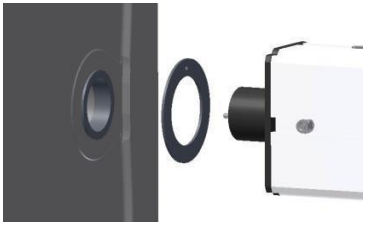
HOW TO ASSEMBLE THE DEVICE

Open the crate from the top.
Remove the parts taking care not to cause violent impacts and damage.

Take the column and unscrew the screw and washer from the pivot.

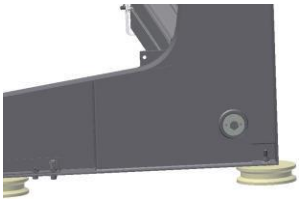


Fit the column in the base taking care to center the friction ring between them.



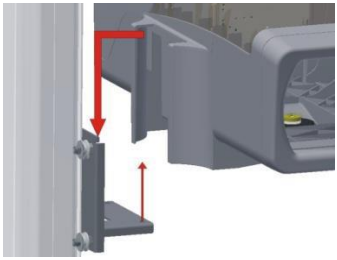
PREPARATION OF THE DEVICE

Replace the screw and washer centering the two holes with the pins. Tighten the screw all the way, eliminating any slack in the column and give it another quarter turn, always taking care to the direction of orientation.

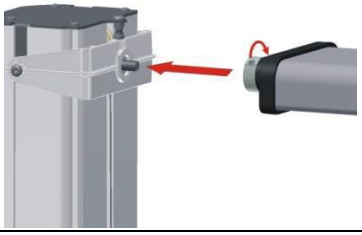


Return the structure to the upright position, check the correct orientation between the base and the column and check column rotation.

Remove the optical box and fit it in from the top of the box in the housing on the slider of the column taking care to fit it all the way in. Fasten the optical box to the slider using the screws supplied, to be assembled on the bottom of the box, as shown by the arrows in the figure.



Remove the visor from the carton, screw it onto the support and tighten, using the hole in the visor.

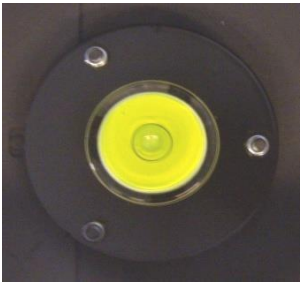


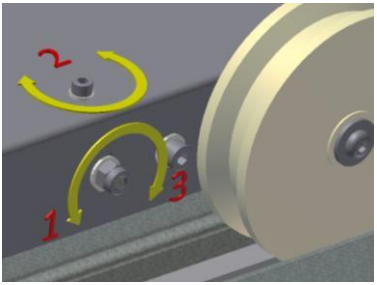
PREPARATION OF THE DEVICE

Place the device over the rails previously installed, remove the screw and washers holding the counterweight in the bottom section of the column.

LEVELING THE DEVICE

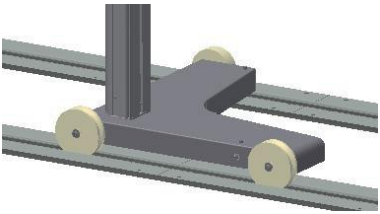
Position the headlight tester in the work zone. Check the position of the level inside the optical box and, if it is not aligned, slightly loosen the screw fastening the wheel and adjust the tilt using the screw above it, then tighten the screw fastening the wheel.



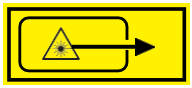


DESCRIPTION OF THE DEVICE

The headlight tester is a device that serves to test headlights of all types, for motor vehicles, cars and trucks in general.
The device can be installed as a fixed station with lateral movement on a track.
The column can rotate, by means of a pin installed on a glide bearing, by about 30° to align with the vehicle.



The optical chamber is adjustable in height by means of slides on precise, silent, plastic runners along a drawn aluminum column marked with a centimeter scale for exact positioning with respect to the headlight.



To center the device at the light source, the front side is equipped of 2 laser line emitter class 3R the wave length is 635 nm (nanometers) and the power is 5 mW (milliwatts) fan angle is 90° highlighted in the picture aside, they create a cross starting from 14cm to the optical box

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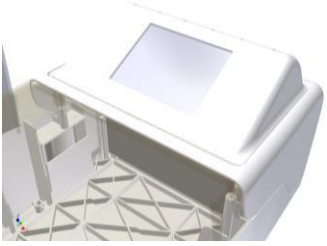
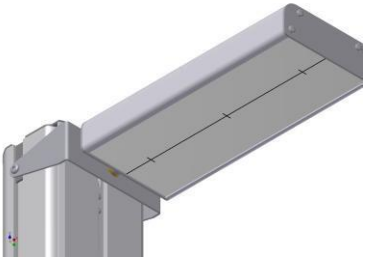
The control screen is equipped with an LCD graphic color monitor that, with a few touches of the TOUCH SCREEN, guides the operator in performance of the test with accuracy and simplicity.



DESCRIPTION OF THE DEVICE

The visor that facilitates the alignment of the device to the vehicle can be equipped with mirror or laser.



Mirror visor

Laser visor

To align the device at the vehicle, the laser visor is equipped on a front side laser line emitter class 3R the wave length is 635 nm (nanometers) and the power is 5 mW (milliwatts) fan angle is 130° highlighted in the picture aside.

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GENERAL SAFETY RULES

The following rules must be followed carefully to prevent damage to the operator and device.

- ❑ Read the device labels, do not cover them for any reason, and replace them immediately if they should be damaged.
- ❑ The device should only be used by authorized personnel, trained in its use.
- ❑ Do not use the device in an explosive atmosphere.
- ❑ The working environment should be dry and sufficiently ventilated.
- ❑ When moving the device, pay attention to other people, especially children, in the vicinity.
- ❑ Do not bump shelves or scaffoldings where there may be a danger of falling objects: you and the device could be damaged.
- ❑ The storage temperature should be between -5° and +55°C.
- ❑ The working temperature should be between +5° and +45°C.
- ❑ Provide an adequate exhaust system for the exhaust gas, since the headlight test must be performed with the engine of the motor vehicle running. Accidental inhalation of carbon monoxide can cause serious damage to the organism, with a fatal outcome in some cases. Contact our agent in your zone, who can indicate the most suitable system for your company.
- ❑ Do not leave the headlight tester in the sun or in the immediate vicinity of hot objects like heaters, radiators, etc.
- ❑ Do not leave the headlight tester out in the rain or in an excessively damp place as its electronic circuits could be damaged.
- ❑ If the headlight tester will not be used for a long period, we recommend that you cover it with its dust cover (optional).
- ❑ There is a battery in the headlight tester that could cause a fire or explosion hazard if handled improperly. To prevent this risk to not heat or use open flames near the battery and, when replacing it, use one with the same characteristics.
- ❑ When you encounter any malfunction in use of the device, contact the retailer or send the device to the nearest service center.
- ❑ The headlight tester has to be serviced only by a authorized and trained factory technicians.
- ❑ In case of parts replacements, order ORIGINAL replacement parts from a concessionaire or authorized retailer.
- ❑ **Tampering with any part of the device will invalidate the warranty.**

PREPARATION

PREPARATION OF THE VEHICLE

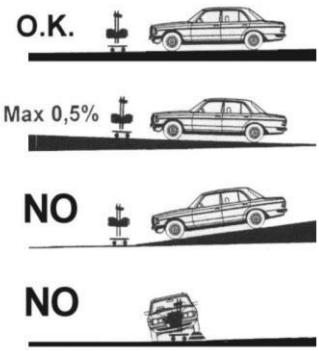
Make sure the headlights are clean and dry. If the vehicle is equipped with a headlight aligner, set in on "0". Eliminate anything that could affect the correct position of the vehicle: mud, snow, ice, etc. Straighten the car wheels. Make sure the vehicle does not have any distortions of the frame. Make sure the tires are inflated at the correct pressure. Start the engine and perform the test. In case of vehicles with pneumatic suspension, start the engine five minutes before starting the test and proceed with the engine running.

CAUTION!

When operating in an enclosed space with the engine on it is essential to evacuate the toxic gasses produced by combustion. We recommend using a specific fan for exhaust fumes.

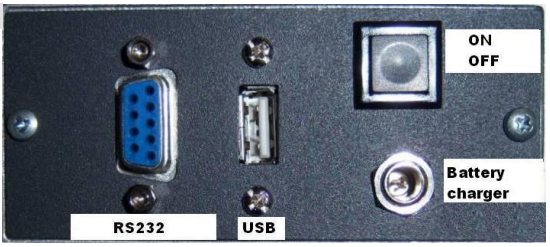
WORK SURFACE

During the headlight test the floor surface must be level. If this is not possible, the headlight tester should be positioned on a surface with a uniform slope, in any case not exceeding 0.5%. Do not test headlights on floors that are not perfectly regular and level, as the measurement might not be accurate.



CONNECTIONS

On the right side of the optical chamber is a button for switching the device on and off, an RS232 connector for communication and a system for updating the software by means of a USB port.



CAUTION!

If, when the device is switched on, the symbol for BATTERY DISCHARGED is displayed 

connect the battery charger supplied to the outlet on the side of the optical chamber and let it charge for at least 12 hours; you can perform the test even with the battery charger on but the battery is not charged while the test is going on.

ALIGNMENT TO THE VEHICLE

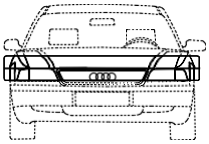
POSITIONING

Place the headlight tester in front of the right headlight of the vehicle at a distance of about 20 cm, switch on the cross laser by the icon  on the display, align the center of the cross to the center of the light bulb or the reference light of the beam.

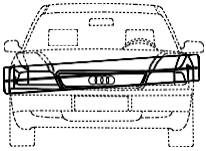
Switch off the laser by the same icon  on the display

ALIGNMENT WITH THE MIRROR VISOR

Locate two details, on the front of the vehicle, that are perfectly symmetrical between them (for example the top of the windshield or the headlights themselves)., turn the optical chamber until, when you look in the mirror, the two reference points meet the black line stenciled on the mirror.



OK



NO

ALIGNMENT WITH THE LASER VISOR

Locate two details, on the front of the vehicle, that are perfectly symmetrical between them (for example the top of the windshield or the headlights themselves)., switch on the laser by the button highlighted aside, turn the optical box until, when you see the two reference points meet the laser red line.

CAUTION!

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure

HEADLIGHT TEST

PREPARATION

SWITCH THE HEADLIGHT TESTER ON with the on/off button on the side.
Wait a few seconds for local control of the device and loading of the process software.

- OPTIONS MENU

See the section on service and maintenance.

- APPLICATIONS MENU

Press the TOUCH button for the applications; the device can perform two types of TEST:

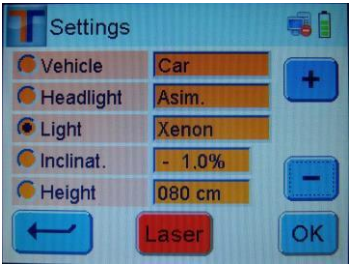
- OFFICIAL
- FREE

The OFFICIAL test is enabled only when there is a connection with the station PC, with communication in DIR mode.
The FREE test is enabled if there is no connection with the station PC.

SETTINGS

This menu requires the following data:

- type of vehicle being tested
  - 2 headlights: "automobiles"
  - 1 headlight: "motorcycles"
  - 1 headlight, low beam only: "motorbike"
- type of headlight
  - asymmetrical
  - symmetrical
- type of light
  - halogen
  - xenon
- headlight tilt
  - read at the top of the headlight the tilt indicated by the manufacturer, e.g. 1.2%, set the value using the + and - key.
- height of headlight from ground
  - set the value using the + and - key.



CAUTION!

Remember that the headlight tilt must in any case comply with the law in force, which establishes that for **low beam headlights** at a height above ground of up to 80 cm the tilt must be at least 1%.
For low beam headlights higher than 80 cm the tilt must be at least 1.5%.

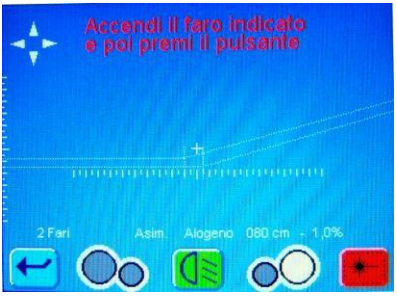
HEADLIGHT TEST

TEST OF THE LOW BEAM HEADLIGHT

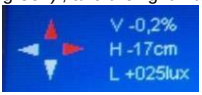
The display now shows the type of vehicle (2 headlights) the type of headlight (low beam) and the side (right).

Switch on the RIGHT LOW BEAM headlight of the vehicle to be tested, and press  .

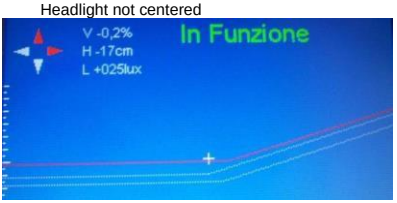
Wait a few second and check for the appearance of the borderline of the luminous beam.



Now the status of the headlight is displayed (high ↑ low ↓ the right → to the left ← centered **OK** (dot at the center colored green) , and the light intensity.

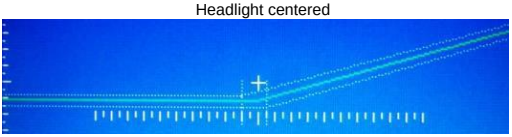


Headlight not centered

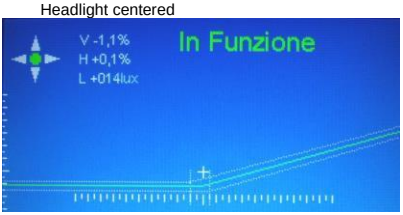


The position of the line at the center of the tolerance limits with change of the color from red to green is the sign that the headlight is correctly CENTERED.

Headlight centered

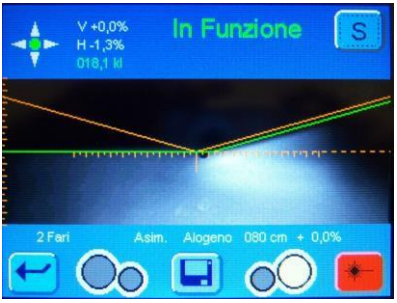


Headlight centered



Press  to proceed to control of the headlight in Real mode.

NOTE: This screen displays the image of the luminous beam projected on the internal screen to the optical box and you can check the position in REAL mode.



Press  to proceed to control of the next headlight.

HEADLIGHT TEST

TEST OF THE HIGH BEAM HEADLIGHT

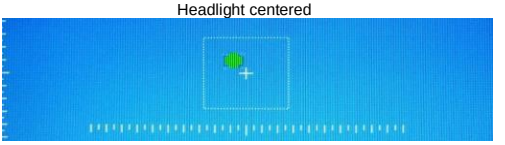
Now the device prepares to test the right high beam headlight.

Switch on the RIGHT HIGH BEAM headlight of the vehicle to be tested, and press.

Wait a few seconds and check for the appearance of the maximum intensity point of the high beam.

The position of the line at the center of the tolerance limits with change of the color from red to green is the sign that the headlight is correctly CENTERED.

Headlight centered



Press R key to proceed to control of the headlight in Real mode.

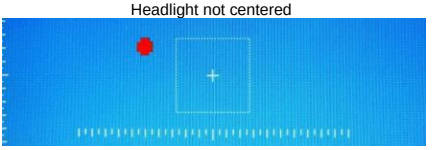
NOTE: This screen displays the image of the luminous beam projected on the internal screen to the optical box and you can check the position in REAL mode.

Press to proceed to control of the next headlight.

Proceed now to the left side of the vehicle and repeat the test sequence.

OFFICIAL TEST: At the end of the procedure the device will send the data to the PC via communication protocol RS232.
FREE TEST: On models with the printer incorporated, the test results are printed when you press PRINT.

Headlight not centered



CAUTION!

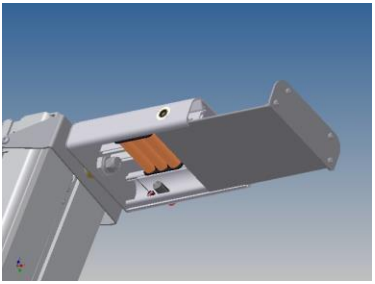
When using the headlight tester in a mobile station (on rubberized wheels), after positioning on the left headlight check the alignment again through the visor.

SUPPLEMENTARY INSTRUCTIONS

REPLACEMENT OF LASER VISOR BATTERIES

Switch off the laser before open the visor.

Unscrew the two screws on the lid of the laser visor and replace the 3 penlight batteries size AA 1.5V, respecting the correct polarity, close the visor and fasten the lid with the screws provided.



CLEANING AND MAINTENANCE

The headlight tester has to be serviced only by a authorized and trained factory technicians, any other intervention or modification of the device avoid the warranty.

The device does not require particular maintenance other than normal cleaning with a damp cloth (water or normal detergent).

CAUTION!
Do not use nitro solvents

DEMOLITION AND DISPOSAL

The device is mainly composed
of steel. Other parts:
in plastic, some parts
in cardboard and paper, packing and documents
the device is painted with scratch-resistant epoxy powder.
In disposing of the device, comply with the provisions of the local authorities.

WARRANTY

In case of evident and acknowledged manufacturing defects of any product, it will be repaired or replaced under the warranty only if the claim is made and documented within 8 days of delivery. Returns of defective goods will be accepted only FREIGHT PREPAID, while all returns CARRIAGE FORWARD will be rejected. All other forms of reimbursement are excluded.

SUPPLEMENTARY INSTRUCTIONS

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