New! MLD 9000

DIGITAL HEADLIGHT TESTER FOR FUTURE
HEADLIGHT SYSTEMS AND LEGISLATIONS

BEISSBARTH

Beissbarth MLD 9000
Digital headlight measurement and adjustment

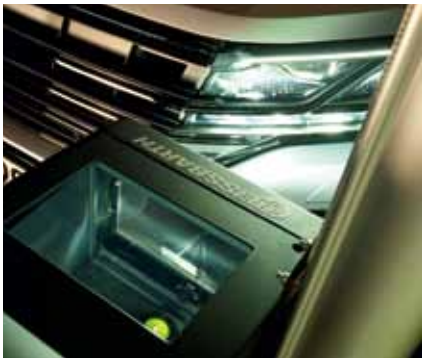
Adjustment of a headlight on rail system, combined with LTB 100 leveled test bay

Advantages of headlight testing with MLD 9000

- For all light sources and glare-free high-beam systems (DLA, Matrix beam, Matrix beam 2, ILS etc.)
- Alignment and cross laser for precise alignment to vehicle and positioning to headlights
- Digital image processing in real-time,
- 5-Megapixel CMOS camera
- Interfaces: LAN, USB, RS232
- Mechanical stability of +/- 0,1% (optional: alignment with the accuracy of 1 angular minute)
- 7" touch display, TFT-LED high resolution, swivel mounted

TPN 100148827 TÜV certificate in line with StVZO § 50:

MLD 9000 is TÜV-certified by prototype technical release examination in accordance with the directives for testing headlight adjustment/test equipment (German Road Traffic Type-Approval Law StVZO §50 paragraph 5).



5-Megapixel CMOS camera

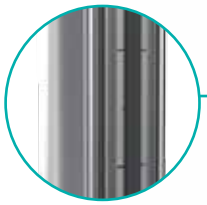
Green cross laser for enhanced visibility

Ford laser-kit (optional)

New! Compact laser visor for the alignment to the vehicle

Optional: upgradable with Ford laser-kit for the alignment to the vehicle's centre axis

New! Robust and durable counter weight system with toothed belt



New! Aluminium column for highest mechanical precision +/-0,1 %

New! Height marker and adjustable aluminum scale or (optional) automatic height-measurement sensor to measure the installation height of the headlight

New! Robust sliding system for precise height adjustment and optimized user experience

New! Optional: fine adjustment of the measuring unit – accuracy of 1 angular minute

New! Software and user interface designed for live-adjustment

New! Swivel mounted 7" touch display – workshop proof design

New! Measuring system with a fresnel lens – designed for future headlight systems

Cross laser for the alignment to the headlight

Uneveness compensation upto 3 % – depending on the configuration

Wheel base fitting for all common rail systems

Levelable rail system (optional)

Rail-kit 3 m (above and inground installation)

Wide precise fresnel lens – two-dimensional level for the horizontal leveling of the lightbox

Workshop proof mechanical design
for precise alignment and measurement

Top precision thanks to precise mechanics

- Lightweight optical box design thanks to the optimized combination of an aluminium structure and injection moulded plastic covers.
- A new developed torsion-free and specially hardened aluminium column.
- Easy to use, robust sliding system for precise height adjustment and comfortable working.
- Determinition of the headlight installation height via adjustable, specially made aluminium scale or use of the optional height measuring sensor.
- **Optional:** fine adjustment of the column with 1 angle minute accuracy.

Precise alignment thanks to laser technology

- The optimized designed alignment laser on the upper part of the MLD 9000 column helps aligning the light box with the vehicle.
- To assure the highest laser security regulation inside the workshop is achieved, the MLD 9000 is equipped with a low-class green laser. Green laser diodes are particularily well visible to the human eye because the eye has its maximum spectral sensitivity in the green range.
- The cross laser function for precise positioning in the center of the headlight is realised with the same optimized green laser diodes.
- **Optional:** to increase the accuracy of the alignment, an additional vertical green laser is available to increase accuracy in the alignment to the vehicle's symmetrical axis.

Fine adjustment of the measuring unit – accuracy of 1 angular minute (optional)

Green vertical laser for symmetrical axis alignment as optional accesssory

Test results via WLAN
with quick and aptly arranged results on the PC

Accurate display of the test results on the workshop computer

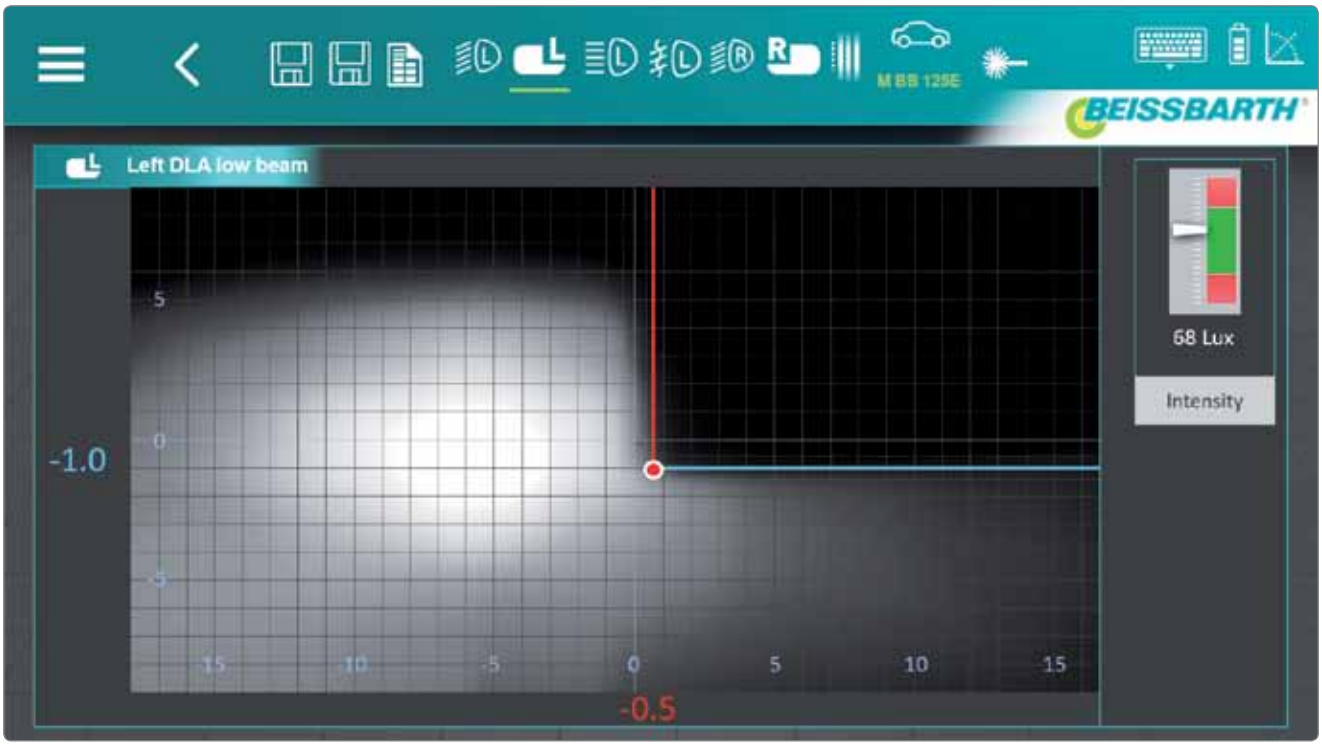
Optional: visualization on the workshop computer

- Data transfer to PC via WLAN
- All relevant values at a glance
- Database function
- Printing and archiving
- Adjustment of the colour scheme by the user: Light/dark background depending on the lighting conditions

Test results on the tablet computer

Light and dark background can be selected

Reliable check and adjustment
of permanent high beams



Adjustement of a headlight with DLA high-beam assistant (test image via ECU diagnosis left on the vehicle)

Adjustment of headlights with glare-free high beam (e.g. Dynamic Light Assist DLA, Matrix and Matrix HD beam)

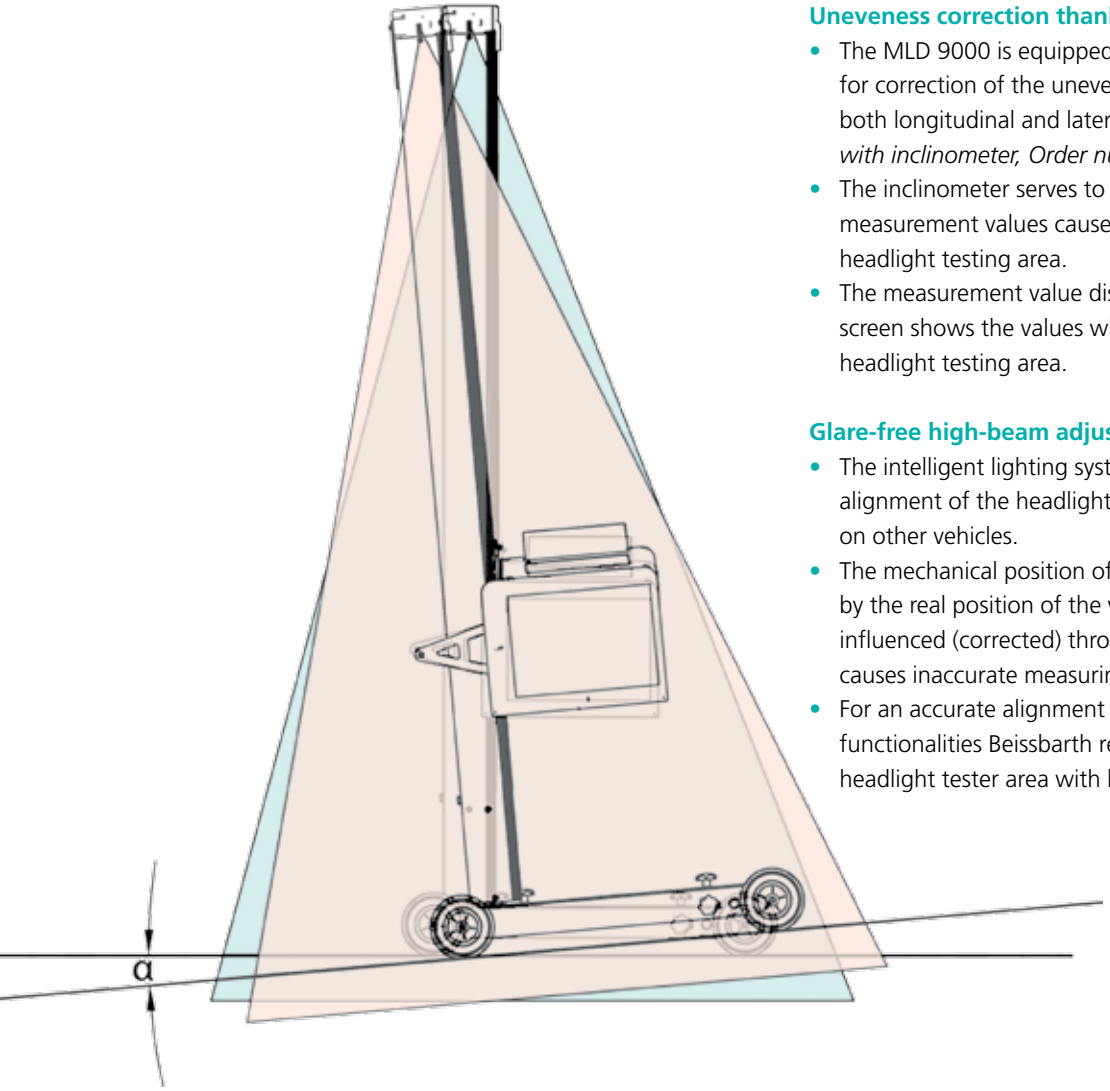
- All the MLD 9000 versions assist the operator in most of the common procedures. (DLA, Matrix, Matrix HD, ILS)
- Mechanical adjustment of the vertical cut-off line (e.g. DLA, ILS)
- Positon of the cut-off line read out by means of the MLD 9000 software – with an accuracy level based on angular minutes (e.g. Matrix and Matrix HD beam)

Communication with the vehicle

- Vehicle preparation and activation of the basic setting via OBD.
- Triggering individual test images (see illustration above) using an application for ECU diagnoses.
- Information on the position of the cut-off line is sent back to the vehicle via application for ECU diagnoses (in the case of Matrix and Matrix HD beam).

Accurate swivel mounted display on the MLD 9000

Headlight testing bay uneveness correction
with built-in inclinometer



Uneveness correction thanks to built-in inclinometer

- The MLD 9000 is equipped with a built-in inclinometer for correction of the uneveness of headlight testing area in both longitudinal and lateral direction *(MLD 9000 Standard with inclinometer, Order number 1 692 104 346).*
- The inclinometer serves to compensate the wrong measurement values caused due to an inaccurate headlight testing area.
- The measurement value displayed on MLD 9000 touch screen shows the values which would be on an accurate headlight testing area.

Glare-free high-beam adjustment

- The intelligent lighting systems require a very accurate alignment of the headlight tester compared to the use on other vehicles.
- The mechanical position of the alignment laser is defined by the real position of the wheel base. This position is not influenced (corrected) through the inclinometer which causes inaccurate measuring values (see the image on left).
- For an accurate alignment of the glare-free high beam functionalities Beissbarth recommends a correctly leveled headlight tester area with levelable rail system.

MLD 9000 – Versions

Description	Version	Order numbers
MLD 9000 Standard	RAL 7040 (grey)	1 692 104 345
MLD 9000 Standard with inclinometer	Including inclinometer RAL 7040 (grey)	1 692 104 346
MLD 9000	Including onboard printer RAL 7040 (grey)	1 692 104 347

MLD 9000 – Optional accessories

Description	Order numbers
Rail-kit (3 m)	1 692 105 080
Rail-kit extension (1,5 m)	1 692 105 112
Vertical Laser-Kit	1 692 105 252
Height-measurement sensor	1 692 105 066
PC software (September 2019)	1 692 105 253
Dust protection cover	1 692 105 201

Technical data

MLD 9000

Measuring range		
Orientation	Top and bottom	-8 % – +8 % (-800 mm – +800 mm)
	Right and left	
	Low beam	-10 % – +10 % (-1000 mm – +1000 mm)
	High beam	-10 % – +10 % (-1000 mm – +1000 mm)
Intensity	Candela	0 – 150000
Illumination	Lux/1 m	0 – 150000
	Lux/25 m	0 – 150000

Measuring units	
Intensity	Candela
Illumination	Lux / 1m ; Lux / 25m
Orientation	% ; cm ; °

Operating conditions	
Adjustment lens centre	240 – 1500 mm
Plug voltage	100 – 240 V / 50 – 60 Hz
Battery voltage	12 V
Operating temperature	5 °C – 45 °C (41 °F – 113 °F)
Air humidity	30 % – 60 %

Packaging	
Width – height – length	1800 – 700 – 650 mm
Rail-Kit extension (1,5 m)	40 kg
Vertical Laser-Kit	CE; TÜV; EMC; FCC; FDA

Safety information / laser warning

Symbol	Laser category	Description
	Laser 2	

Order number 1 693 601 073 **Print number** BB XXX/May 15, 2019 EN Subject to technical and program changes

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