



## HEADLIGHT TESTER

MODEL: MLT 3000



### Innovation in digital headlight testing

- ♦ Quick and accurate testing of the headlight adjustment
- ♦ Digital data acquisition and assessment through integrated control electronics
- ♦ For headlight systems of today and the future
- ♦ User-friendly menu operation via graphical LCD display
- ♦ Electronic levelling in case of uneven conditions
- ♦ 'Standalone' version with PC connectivity

## Precise measurement technology for current and future lighting systems

Today's lighting systems with variable cut-off lines and high-illuminance light sources are setting new standards for headlight testers. It is often necessary to determine and assess the contours and positions of cut-off lines individually. Light sources such as xenon and LED also form a pronounced blue fringe in the cut-off line area, which makes assessment even more difficult. The 'MLT 3000' determines the required measurement values digitally, making it very precise and objective.



## Highly user-friendly and powerful

The 'MLT 3000' features numerous practical detailed solutions that offer valuable services for day-to-day workshop and test centre business. For example, the tester's rechargeable battery has been integrated into the foot. The powerful battery supplies enough energy for up to ten hours of uninterrupted work. Moving the battery to the foot of the unit has made it possible to further reduce the weight of the light box. The unit is also more stable as its new centre of gravity is lower.

## Electronic levelling

The absolute highlight of the 'MLT 3000' headlight tester is the electronic levelling for uneven floors. Uneven base surfaces can greatly impair measurements in headlight testing. Even a few millimetres of deviation can result in a faulty assessment of the cut-off line. To prevent incorrect measurements of this type, the 'MLT 3000' has an integrated position sensor that determines the unit's angle of inclination. The 'MLT 3000' software uses this information to compensate for any horizontal deviations automatically.



The unit is aligned with the vehicle by means of a mirror or, optionally, by using the laser pointer.







### Well-established operating concept

To improve user-friendliness, a 7" touchscreen is now available. The 'MLT 3000' is operated via self-explanatory buttons on the touchscreen.

To allow the headlights to be adjusted with ease, a display is also provided on the front of the unit. The display uses an LED scale to show the user the horizontal and vertical position of the cut-off line/inflection point. This means that the tester can quickly and easily adjust the headlights without directly looking at the screen of the unit.

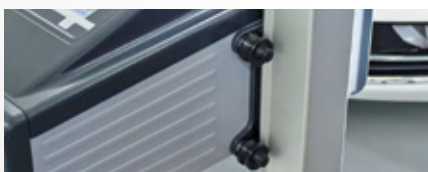
### Non-wearing precision guide pillar

Like its predecessor model (the 'LITE 3'), the 'MLT 3000' is equipped with a non-wearing precision guide pillar. Improvements have been made to the vertical guidance of the light box, which is now particularly maintenance-free and smooth-running thanks to its ball-bearing mounted guide rollers. A counterweight integrated into the guide pillar allows the light box to be positioned at headlamp height with smooth, effortless movements.



### Straightforward updates for future lighting systems

Given that vehicle manufacturers can be expected to produce further headlight innovations in future, constant adjustments to the tester software are an absolute necessity. MAHA makes the required updates available for download on the MAHA website. These updates can be installed directly from a networked PC quickly and easily via a web interface. This makes the 'MLT 3000' a future-proof investment.



Maintenance-free vertical guidance of the light box. A counterweight installed in the guide pillar keeps the light box in position.

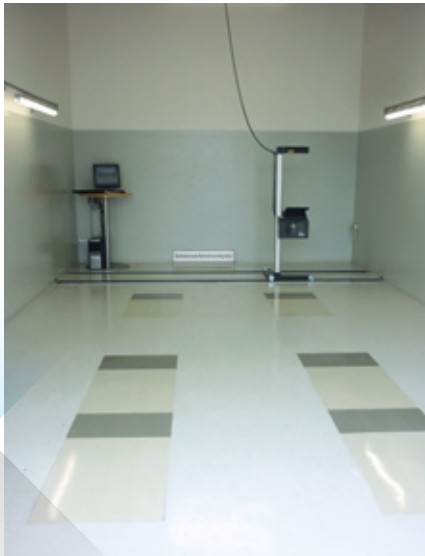


To make headlight adjustment easier, there is a display on the front of the unit. The display uses an LED scale to show the user the horizontal and vertical position of the cut-off line/inflection point.



Within fractions of a second, the MLT 3000's computer analyses the contour of the cut-off line and displays its findings on the colour screen in number and graphic form, practically in real time.

The headlight tester and test station function as a single measurement unit for identifying the cut-off line. The 'MLT 3000' surpasses all requirements here. Test stations need to be designed to eliminate any risk of an incorrect reading.



- ◆ The inclination\* of the base surfaces for the headlight tester and for the vehicle should not exceed 1.5%.
- ◆ The difference between the inclinations of the left and right driving surface must be no greater than 0.5%. In particular, the surfaces must not slope in opposite directions.
- ◆ At all other measurement points of the driving surfaces, the unevenness\* should not exceed 3 mm/m.

\* The inclination of the test area corresponds to how much the test area tilts away from the horizontal base line, expressed as an angle. Unevennesses are height deviations with regard to the line of inclination, measured at various points.

## TECHNICAL DATA

Application range	Testable headlamp types	Paraboid, projection system and free field
	Testable light sources	Bilux, Halogen, XENON and LED
Measuring range	above	Hotspot 0 – 800 mm / 10 m (0 – 8 %) Pitch angle 0 – 300 mm / 10 m (0 – 3 %)
	below	0 – 700 mm / 10 m (0 – 7 %)
	left	0 – 1000 mm / 10 m (0 – 10 %)
	right	0 – 1000 mm / 10 m (0 – 10 %)
	Height of light center	240 – 1500 mm
Measuring range	Measuring distance	100 – 500 mm
	Luminosity	0 – 125.000 cd (Candela)
Intensity	Intensity	0 – 200 lx (Lux)
	Illuminance	+/- 5 %
Error margins	Intensity	+/- 5'
	Deviation from an axis	+5°C – +40°C
Working range	Temperature	20 – 80 %
	Relative humidity	100 – 240 V, 50/60 Hz AC / 12V DC
	Power supply	

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