# Gloss Measuring Device PICOGLOSS 560 MC-X

"Reference Class"

# Gloss Measuring Device PICOGLOSS 560 MC-S

**Model 560 MC-X**
Extremely small convenient Gloss Measuring Device

60°Measuring geometry
3 Measuring modes

EN ISO 2813 · DIN 67 530 · ISO 7668 · ASTM D 523


**Model 560 MC-S**
Extremely small convenient Gloss Measuring Device with remarkably small measuring aperture

60°Measuring geometry
2 Measuring modes

testing equipment for quality management

ERICHSEN since 1910

## Technical Description

Integrated Mirror-gloss Measurement

Calibration with only one Standard

Automatic change-over to Mirror-Gloss

For gloss measurements on small specimens (Model 560 MC-S)

# PICOGLOSS 560 MC

## Design

Especially in the automotive industry, many users are obliged to arrange themselves with various prescriptions for gloss measurement. The new developed small portable gloss meter **PICOGLOSS 560 MC-X** was designed for the non-complicated mobile gloss measurement in accordance with the most frequently requested, standardized measurement angle of 60°. But, it considers even also the requirements of some *uncommon* 60° gloss measurements deviating from the standard, which indeed a lot of users within their daily testing reality are faced with.

## Special Features

***• Handling***
Single-key operations make gloss measurements extremely easy and comfortable. The reading remains stored in the display for about 10 s and is then switched off automatically to save the battery. However, the last measured value is preserved and is shown in the display when the instrument is switched on again.

***• Display***
In addition to the measuring and calibrating values the high-contrast LC display also shows messages and information. The display can be rotated by 180 degrees, so that the device is also comfortably to be used by left-handers.

***• Calibration***
The **PICOGLOSS 560 MC-X** requires only one calibrating standard for normal two-position calibration. After key pressure the calibration routine runs automatically. The calibration value is stored on the standard (EPROM).

***• 60° Gloss measurement***
Across the branches, still the most commonly required measurement geometry, e.g for lacquers, plastics, etc.

***• Mirror gloss measurement***
Mirror-gloss measurements can be conducted on metallic surfaces in the range of up to 1000 gloss units. There is an automatic change-over of the measuring range at 150 gloss units.

***•Automatic switchover of the display resolution***
from 0,0 GU to 150,0 GU → from 150 GU to 1000 GU

***• USB interface***
The measured data can be transferred to a PC by means of the USB cable supplied and evaluated using the software PICOSOFT III *) - only the supplied USB is suitable for that.

***• Power supply***
The **PICOGLOSS 560 MC-X** is operated by a round cell. When using a PC, the power supply is taken over by the USB interface of the PC.

## Technical Data

| | |
|---|---|
| Dimensions (L x W x H): | (105 x 31 x 59) mm |
| Net weight: | 200 g |
| Measuring aperture: | (10 x 24) mm |
| Measuring spot: | (8 x 16) mm |
| Measuring geometry: | 60° |
| Light source: | LED |
| Detector: | Si photo-cell |
| Display: | graphic LCD<br>height of digits 11 mm |
| PC interface: | USB |
| Power supply: | 1 round cell (LR03) |
| Permissible temperature range: | |
| Storage: | - 10 °C to + 60 °C |
| Operation (non-dewy): | + 15 °C to + 40 °C |
| Reproducibility: | 0.2 GU in the range of 0 to 150 GU<br>0.5 GU in the range of 150 to 1000 GU |
| Reproducibility in case of interfering irradiation (EN 61000-4-3): | 1 GU |

(GU* = gloss unit)

The software PICOSOFT III for model 560 MC-X is availlable free of charge at www.erichsen.de/service/downloads .


**PICOGLOSS 560 MC-X**
Gloss measurement on lacquered sheets

# PICOGLOSS 560 MC-S

## Design

The **PICOGLOSS 560 MC-S** is as well as the PICOGLOSS 560 MC one of the smallest portable gloss-measuring devices ever designed.
Especially even due to the continuously increasing number of enquiries from the automotive range regarding gloss measurements on small parts, the **PICOGLOSS 560 MC-S** provides with its remarkably small measuring aperture (round, 3 mm Ø) the possibility of gloss measurements. Up to now only a user-dependent non-communicable visual valuing of gloss values was possible.
Gloss measurements on small parts require some attention to a few essential facts:

It has to be considered, that a Glossmeter with such a small measuring aperture has a quite high sensitivity for all influences which could effect the measured value (flat- and evenness, radius, structures, slight mottling).

Therefore, it is essential that the surface to be measured is absolutely flat and even as well as with a possibly homogeneous appearance.

Otherwise, even already a slight change of the unit's position (distinctly less than 1 mm ) could bring an area of the surface to be measured into the measuring focus, which has an other gloss appearance. This would immediately be recognized as a variation at the displayed measuring value, because due to its sensitivity the **PICOGLOSS 560 MC-S** is able to measure/display the different/varying gloss of areas which are very close to each other .

The gloss impression through humans' eyes is the result of a mixed impression of an area with a minimum size which is distinctly larger than the **PICOGLOSS 560 MC-S'** measuring aperture .

So, also common Glossmeters measure a larger area and the value is an "average" of its mixed impression.

But, unfortunately, such common Glossmeters are not suitable to be used for the often enquired gloss measurements on a lot of small specimens to be measured, because their larger measuring aperture will be not completely covered by these specimens .

Due to the high sensitivity of the **Model 560 MC-S**, it is recommended to take a sufficient number of measurements from the area to be measured, with slight positioning changes, and understand the average of all nearly similar values as the actual gloss value of the small specimens to be measured .

For bigger specimens, the common Glossmeters with their "less sensitive" larger measuring aperture are still the comfortable right choice .

## Special Features

- ***Handling***
  Single-key operations make gloss measurements extremely easy and comfortable. The reading remains stored in the display for about 30 s and is then switched off automatically to save the battery. However, the last measured value is preserved and is shown in the display when the instrument is switched on again.
- ***Display***
  In addition to the measuring and calibrating values the high-contrast LC display also shows messages and information.
- ***Calibration***
  The **PICOGLOSS 560 MC-S** requires only one calibrating standard for normal two-position calibration. After key pressure the calibration routine runs automatically. The calibration value is stored on the standard (EPROM).
- ***60°Gloss measurement***
  Specifically for gloss measurements on lacquers and plastics in the range of 0 up to approx. 15 GU* (display with two decimal places) and in the range of 0 up to 150 GU* (display with one decimal place).
- ***Mirror gloss measurements***
  Mirror-gloss measurements can be conducted on metallic surfaces in the range of up to 1000 gloss units. There is an automatic change-over of the measuring range at 150 gloss units.
- **Two times change-over of the display resolution**
  - ***from*** 0.00 GU to 15.00 GU → ***to*** 15.0 GU to 150.0 GU
  - ***from*** 15.0 GU to 150.0 GU → ***to*** 150 GU to 1000 GU
- ***USB interface***
  The measured data can be transferred to a PC by means of the USB cable supplied and evaluated using the software **PICOSOFT II *).**
- ***Power supply***
  The **PICOGLOSS 560 MC-S** is operated by a round cell, the capacity of which is adequate for at least 10,000 measurements. When using a PC, the power supply is taken over by the USB interface of the PC.

(GU* = gloss units)


**PICOGLOSS 560 MC-S –**
Gloss measurement on small specimens

**Gloss measurement on non-flat surfaces?**

**Gloss measurement technique conforming to the standards, basing on refexion measurement, cannot work universally suitably on radiuses.**
**But, regardless of this, after individual accommodation of the Glossmeters' positioning above the concerning specimen's geometry, there is the possibility of comparative measurements.**

**In this direction, several users already successfully use self-created templets/positioning devices, which ensure the every time repeatable positioning of the Glossmeter above the concerning (non-flat) specimen type, and prevent the influence of light from out of the Glossmeter.**

**Due to this, oftenly also for tricky surfaces to be measured, there can be a possibility of gloss measurement which is finally even better than user-depending gloss valuing by humans' eyes' impression.**

## Technical Data

| | |
|---|---|
| Dimensions (L x W x H): | (105 x 31 x 59) mm |
| Net weight: | 200 g |
| Measuring aperture: | 3 mm Ø (round) |
| Measuring spot: | 3 mm Ø (round) |
| Measuring geometry: | 60° |
| Light source: | LED |
| Detector: | Si photo cell |
| Display: | 8-digit LCD<br>height of digits 11 mm |
| PC interface: | USB |
| Power supply: | 1 round cell (LR03) |
| Permissible temperature range: | |
| Storage: | - 10 °C to + 60 °C |
| Operation (non-dewy): | 23 °C +/- 2 °C |
| Reproducibility: | 0.2 GU in the range of 0 to 15 GU<br>0.2 GU in the range of 0 to 150 GU<br>0.5 GU in the range of 150 to 1000 GU |
| Reproducibility in case of interfering irradiation (EN 61000-4-3): | 1 GU |

(GU* = gloss unit)

The software PICOSOFT II for model 560 MC-S is availlable free of charge at www.erichsen.de/service/downloads .

| Order Informations | |
|---|---|
| **Ord.-No.** | **Product-Description** |
| 0295.01.31 | **Gloss Measuring Device PICOGLOSS 560 MC-X "Reference Class"** |
| 0248.02.31 | **Gloss Measuring Device PICOGLOSS 560 MC-S** |
| | *Included in the scope of supply:*<br>High gloss standard<br>Battery (round cell LR03)<br>USB cable<br>Lens cloth<br>Transport case<br>Operating instructions |

| Accessories | |
|---|---|
| **Ord.-No.** | **Product-Description** |
| 0791.01.32 | Medium gloss standard |
| 0718.01.32 | High gloss standard |

**Reference Class:**
The **PICOGLOSS 560 MC-X** is supplied with a Manufacturer's Certificate M in accordance with DIN 55 350-18 that includes among others the following information:

Actual and setting values of the gloss standards, product indification, test equipment used with calibration status, date, name of inspector. In the range up to 100 gloss units the linearity is checked by means of 4 gloss standards (the maximum deviation permissible is 1 gloss unit)

Subject to technical modifications.
Gr. 17 - TBE - 560 MC-X/560 MC-S – III/2013

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