GOSSEN

Lightmeters

Precision Lightmeters
Made in Germany

QM TÜV
Zertifiziert nach
ISO 9001

www.gossen-photo.de

GOSSEN

MAVOLUX 5032 C/B *USB*

Illuminance meters of the precision class C or B

Features

- Precision meters for measuring the illuminance in Lux and Footcandles meeting Standard Specification DIN 5032-7, Class C or B and EN 13032-1, Appendix B
- The silicon photo diode is colour corrected, i.e. its spectral responsivity is matched to the photopic daylight vision of the human eye V(λ).
- Luminance can be measured in cd/m² or fL when using the Luminance Attachment (optional accessory)
- Cosine correction for light inciding at an angle
- Easy to use
- 3 ½ digits display
- Backlight display illumination (only in MAVOLUX 5032 B *USB*)
- Data storage of up to 100 measurements
- Auto and manual range selection
- USB Port 1.1
- CD-Rom with software for processing the values measured and controlling the meter
- Compact transport case and USB cable included

The GOSSEN digital precision luxmeters are classified according to DIN 5032-7 in Class C or B and EN 13032-1, Appendix B. Wide range of applications: for lighting engineers and specifiers, for the control of light sources, street lights, lighting of work places, public buildings, sport facilities, for quality control and quality assurance in the manufacture of lamps and light sources, for light designers and architects, for light measurements in agriculture, gardening and forestry.

Both MAVOLUX types are optimally suited for measuring very high light intensities (brightest daylight, head lights) without any additional accessories. Especially the MAVOLUX 5032 B *USB* having an initial sensitivity of 0.01 lx also allows measuring extremely low light intensities, such as emergency lighting. Most important: Due to its high precision acc. to Class B, the MAVOLUX 5032 B *USB* has been approved for certification and official inspection procedures.

When attaching the Luminance Attachment to the measuring probe of the MAVOLUX 5032 C or B *USB,* they can be used also for measuring the luminance; the measuring angle being approx. 20°. Luminance is the reflected light effect of self luminous or reflecting surfaces. The measuring unit is candela per square meter (cd/m²) or foot Lambert (fL).

Calibration Certificate

When required, to be specifically ordered together with the lightmeter.

Specifications:

Model	MAVOLUX 5032 C *USB*	MAVOLUX 5032 B *USB*
Type	Illuminance meter for measuring light	
Accuracy	Class C acc. DIN 5032-7	Class B acc. DIN 5032-7
LCD Display	3 1/2 digits	3 1/2 digits, with backlight display illumination
Light sensor	Silicon photo diode with V (λ) filtering	
Measuring unit	Lux or footcandle (fc) and with Luminance Attachment cd/m² or foot Lambert (fL)	
Measuring ranges	Automatic and manual measuring range selection	
	0.1 lx to 199 900 lx and 1 cd/m² to 1 999 000 cd/m² in 4 ranges (with Luminance Attachment)	0.01 lx to 199 900 lx and 0.1 cd/m² to 1 999 000 cd/m² in 5 ranges (with Luminance Attachment)
Data memory	100 individual measuring values	
Measuring rate	2 measurements per second	
USB Port	USB 1.1	
Operating temperature	0° C to 50° C According EN 61010-1:2001, cl. 1.4.1	
Storage temperature	-20°C to +70° C	
Power supply	1 x 1,5 V, size AA , when meter is connected to PC, power will be supplied via USB cable	
Software	gLux Software and additional applications	
Connection cable	1.5 m cable, firmly attached	1.5 m cable (plugged in)
Weight	200 g without battery	
Standard Accessories	Lightmeter in transport case, gLux Software incl. meter driver, USB cable, battery, instruction manual	
Optional Accessories	Luminance Attachment (measuring angle 20°) Adapter disk for luminance contact measurement (eliminating light incident from the sides)	

Applications - Examples:

Measuring the emergency lighting in emergency exits
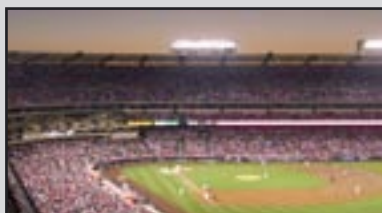
Sports Arenas

TV Studios

MAVOLUX 5032 C/B *USB*

The MAVOLUX 5032 C/B USB is supplied in a practical and compact transport case.

Optional accessories: Luminance Attachment, Adapter disk for eliminating light inciding from the sides, with contact measurement.

Measuring probe with Luminance Attachment mounted and Adapter disk

Ordering information:

Description	Ordering code
MAVOLUX 5032 C *USB* incl. transport case, software, USB cable, battery, instruction manual	M502G
MAVOLUX 5032 B *USB* incl. transport case, software, USB cable, battery, instruction manual	M503G
Calibration Certificate for Mavolux 5032 C/B *USB* * (please see page 12)	H997B
Accessories for MAVOLUX 5032 C /B USB	
Luminance Attachment for measuring in cd/m² and fL	5908V0120
Adapter disk for contact measurement (for use only with the Luminance Attachment)	M499G
Special length cables for MAVOLUX 5032 C or B USB	
3 meters for MAVOLUX 5032 C *USB* *	15143
5 meters for MAVOLUX 5032 C *USB* *	15144
10 meters for MAVOLUX 5032 C *USB* *	15145
3 meters for MAVOLUX 5032 B *USB* *	15146
5 meters for MAVOLUX 5032 B *USB* *	15147
10 meters for MAVOLUX 5032 B *USB* *	15148
* The extra length cables and the Calibration Certificates must be ordered already together with the meters.	

MAVO - MAX

Features

• Monitoring range 20 to 60 Lux

• Connection with AC Adapter to the mains or to USB socket of computer

• Continuous operation

Applications

Monitoring of the ambient light according to IEC 61223-2-5 (QS-RL dt. Nov. 20, 2003). The MAVO-MAX extends the repeating cycles to six months for testing the constancy at imaging display systems concerning the „veil luminance" and the „max. brightness contrast". In case of repeat measurements in the course of inspection or constancy tests, the repetition of the „veil luminance" measurement will not be required. Therefore, it saves the waiting time of up to 60 minutes, which must be observed for this procedure to ensure stability of the imaging display. The MAVO-Max fully meets the needs in all medical applications, where constant illuminance e.g. at diagnosis monitors and viewing systems (DIN 6856-1) is required. A green LED at the MAVO-MAX will indicate the permissible value for the ambient light in the range of 20 – 60 Lux. If the ambient light exceeds these limit values allowed for at the diagnosis monitor, a red LED will come on. The MAVO-MAX is to be connected with the included AC adapter to the mains or to one of the USB ports of the computer. Then just stick the MAVO-MAX to the top of the Monitor.

Technical date:

Monitoring range	20 to 60 Lux
Conection	With AC adapter 90-240 V (50-60 cps) or with USB cable to computer
Protection class	According to VDE 0106 Part 1
Electromagnetic Compatibility EMC meets the Specifications 89/336/EWG dt. 01.01.1996	

Ordering information:

Description	Ordering code
Mavo-Max incl. AC Adapter	M505G

GOSSEN

MAVO - SPOT 2 *USB*
Luminance Spotmeter with measuring angle of 1°, Accuracy Class B

Features

- High precision spotmetering of the luminance with a measuring angle of 1° according to DIN 5032-7, Class B and DIN EN 13023-1, Appendix B
- SLR viewfinder with measuring circle of 1° and viewing field of 15°
- Measuring from the distance from 1 m to ∞, with close-up lenses (optional) down to 34 cm
- Contact measurement with optional Measuring Probe
- Backlight display illumination with LCD read-out in the viewfinder
- The silicon photo diode is colour corrected, i.e. its spectral responsitivity is matched to the photopic daylight vision of the human eye V(λ)
- Remarkably easy, one hand use, with only four buttons and 1 sliding switch
- Configuration via DIP Switches in the battery compartment
- Automatic measuring range selection, total range 0.01 cd/m² to 99.990 cd/m² subdivided in four measuring ranges and 0,003 to 29.187 foot Lambert
- Data memory for up to 1000 single measuring values, or alternatively in 10 groups
- USB 2.0 Port
- Tripod socket
- CD Rom included with software for visualizing and processing the values measured and controlling the meter.
- Aluminum transport case, USB cable incl. in the supply

The high reliability and precision make the MAVO-SPOT 2 *USB* ideally suitable for measuring:

- **Monitors taking into consideration the ambient light, e.g. official inspections or constancy tests in medical applications according to DIN 6868-57 and IEC 61223-2-5. For luminance measurement at viewing monitors in computer tomography, digital radiography, viewing panels for X-ray films and other medical systems.**
- **Lighting of streets, roads, tunnels and airfields**
- **Light reflections at work places according to the applicable Protective Laws and regulations for people at work**
- **Lighting in museums, in public buildings and places**
- **Projection screens, for checking the uniformity of the illumination**

MAVO-SPOT 2 *USB*

Specifications:

Type	Luminance meter, with precision single lens reflex optical system, display in view-finder
Measuring angle	1 °
Accuracy	Class B according to DIN 5032-7 in all chapters and DIN EN 13032-1, Appendix B
Optical system	Stray light error ambient light (fs (u) < 2%)
Field of view	15 ° diagonal
Focusing distance	1 m to ∞ - focusing with external ring at the lens
Light sensor	Silicon photo diode with V(λ) filter (f1 < 3%)
Luminance measuring unit	cd/m² or fL (selectable with DIP switches)
Measuring ranges	Automatic measuring range selection 0.01 cd/m² to 99 990 cd/m² in four ranges or 0,003 fL to 29 187 fL in four ranges
Measuring functions	Luminance in cd/m² or fL (selectable) Luminance percentage Memory MEM Correction Factor CORR Measuring the illuminance (Lux) with GOSSEN Reflexion Standard (optional accessory)
Measuring mode	Measurement from the distance (Close-up lenses for shorter distances, optional accessories) Contact measurement (Measuring Probe for contact measurement, optional accessory)
Data memory	Up to 1000 individual measurement values, or in 10 groups (adjustable with DIP switch in the battery compartment)
USB Port	USB 2.0 (1.1 compatible)
Operating elements	Easy to use with 4 buttons, 1 sliding switch Configuration with DIP switches in the battery compartment
Operating temperature	0° C to 50° C, According to EN 61010-1:2001, cl. 1.4.1
Storage temperature	-20°C to +70°C
Power supply	2 x 1,5 V, size AA, when connected to PC, power will be supplied via the USB cable
Software	gLux software and additional applications
Others	Tripod socket
Weight	appr. 400 g without batteries
Standard equipment	Meter in aluminum transport case, gLux software incl. meter driver, USB cable, lens cover, eye piece, batteries and instruction manual
Optional accessories	Close-up lens 1 (51 cm to 100 cm), close-up lens 2 (34 cm to 50 cm), Measuring Probe for contact measurement, Reflexion Standard for Lux measurement, Stray light screen, Carrying strap

MAVO-SPOT 2 *USB*

Applications:

The MAVO-SPOT 2 *USB* is a precision measuring instrument for the specific requirements of the professional user with a measuring angle of 1°. The meter provides luminance measurements from the distance from 1 m to ∞, while taking into consideration the ambient light. The MAVO-SPOT 2 *USB* is equipped with a high quality SLR optical system having a viewing field of 15° and clearly marked measuring angle of 1° in the center as well as an external focusing ring. Two close-up lenses (optional) permit reducing the measuring distance down to 34 cm.

Contact measurements of the luminance direct on the screen of the monitor can be made with the precision photometric Measuring Probe. (Optional accessory).

The light sensor is colour corrected, i.e. its spectral responsivity is matched to the photopic daylight vision of the human eye V(λ). The accuracy classification for luminance meters is defined in DIN 5032-7, class B and in EN 13032-1, Appendix B. The MAVO-SPOT 2 *USB* fully meets all the regulations of the class B.

A data memory for storing up to 1000 single measuring values, which can be subdivided into 10 groups, is available in the MAVO-SPOT 2 *USB*. The memory data can be visualized and processed directly with the keyboard and the display or also in the PC via USB Port and the included standard software.

Read-out in the display of luminance measurement

Luminance ratio measurement A/B

Luminance ratio measurement percentage % A

Lux measurement with Reflexion Standard

Corrections entered

Memory read-out

Examples for using the MAVO-SPOT 2 *USB*:

Lighting of tunnels

Measuring the reflections at monitors

Lighting of streets

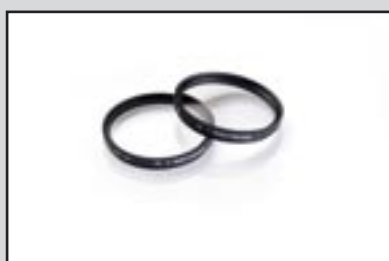# MAVO-SPOT 2 *USB*

The MAVO-SPOT 2 *USB* is supplied in a practical, strong aluminum transport case

Measuring probe for contact measurements

GOSSEN Reflexion Standard

Close-up lenses 1 and 2

Carrying strap

Applications - Examples:

Contrast measurements

Measuring light immissions

Measuring airfield guidance lights

Ordering information:

Description	Ordering code
Mavo-Spot 2 USB incl. Aluminum transport case, USB cable, CD Rom, lens cover, eye piece. batteries, instruction manual	M508G
Measuring probe for contact measurement, incl. adapter disk and lens cover	M511G
Close-up lens 1 (measurement between 51 cm and 100 cm)	M496G
Close-up lens 2 (measurement between 34 cm and 50 cm)	M497G
GOSSEN - Reflexion Standard for measuring Lux	M512G
Stray light screen	M513G
Carrying strap	M514G
Adapter ring for Gx - measurement	M498G
Calibration Certificate for MAVO-SPOT 2 (Please refer to page 12)	H997B

GOSSEN

MAVO - MONITOR *USB*

Luminance meter for contact measurements, accuracy class B

Features

- Precision measurement of the luminance, classified acc. to DIN 5032-7, class B and EN 13032-1 Appendix B
- The silicon photo diode is colour corrected, i.e. its spectral responsitivity is matched to the photopic daylight vision of the human eye V(λ)
- Measurement of the luminance in cd/m² or fL
- Easy to use
- Display 3 1/2 digits with backlight display illumination
- Data storage of up to 100 values measured
- USB Port 1.1
- CD Rom with software for processing the values measured and controlling the meter
- Compact transport case and USB cable included in the supply
- Automatic and manual measuring range selection

Applications:

Digital high precision instrument for measuring luminance with the measuring sensor placed directly on the luminous or backlighted surface, for instance monitors (CRT/LCD-backlighting), TV screens, light boxes, light panels, lighted advertisements, traffic signs and ground glass. An easy to handle, user friendly measuring instrument for professional applications in industry and for craftsmen. It is approved for special checks, certified testings and inspections according to the existing safety laws and regulations, above all at the work stations in medical and office systems.

The MAVO-MONITOR USB is supplied in a practical, compact transport case

The Adapter Disk is included with the meter and is used for eliminating stray light inciding from the side.

Applications - Examples:

X-Ray viewing boxes

Monitors

Lighting of traffic signs

Specifications:

Type	Luminance meter for contact measurements of light sources and backlighted surfaces
Measuring area	6,5 x 6,5 mm
Accuracy	Class B acc. to DIN 5032-7 and DIN EN 13032-1, Appendix B
LCD Display	3 1/2 digits, with backlight display illumination
LIght sensor	Silicon photo diode with V (λ) filter (f1 < 3%)
Measuring unit	cd/m² or fL (selectable)
Measuring ranges	Automatic and manual range selection 0,01 cd/m² to 19 990 cd/m² in four ranges or 0.003 fL to 5 835 fL in four ranges
Measuring mode	Contact measurement
Memory capacity	100 individual measuring data
USB Port	1.1
Operating temperature	0° C to 50° C, according to EN 61010-1:2001, cl. 1.4.1
Storage temperature	-20° C to + 70° C
Power supply	1 x 1,5 V, size AA, when connected to PC, power will be supplied via USB cable
Software	gLux Software, and additional applications
Others	Tripod socket
Weight	appr. 265 g without battery
Standard supply	Luminance meter in transport case, Adapter disk, gLux Software incl. meter driver, USB cable, battery and instruction manual

Ordering information:

Description	Ordering code
MAVO-MONITOR *USB* incl. transport case, Adapter disk, USB cable, CD-Rom with software, battery, instruction manual	M504G
Calibration Certificate for MAVO-MONITOR *USB*	H997B

Calibration Certificate

When required, to be specificly ordered together with the meter. Please see page 12 of this brochure for more information.

Calibration Certificate and Quality Assurance

The calibration is performed by comparison with measuring and test equipment which is subject to controls according to the Standard Specifications DIN EN ISO 9001/9003.

The measuring results are traceable using the Scientific Norm Lamp Wi41G to the National Standard of the Physikalisch Technische Bundesanstalt in Braunschweig (Federal Institute of Physics). The Calibration Certificate will be required for all applications where measurements, controls and inspections must be carried through required by the applicable laws and regulations, and obligatory Test Certificates to be issued. The innovative GOSSEN light measuring technology ensures reliable and high precision in all of their products.

The GOSSEN Calibration light laboratory has obtained approval and certification according to DIN ISO/IEC 17025. We are performing the calibration and recalibration of our GOSSEN Lightmeters and also the calibration of other brands.

All our meters fully meet the Specifications 89/336/EWG dt. 1-1-1996 concerning the Electromagnetic Compatibility.

Please visit our web site (www.gossen-photo.de), for more information or just call us.