Operating Instructions for MINILUX

1 = Silicon-photosensor with V(λ)- and cosine-correction, class B in accordance to DIN 5032, part 7. Photosensitivity ≈ 2 nA/lx

2 = Trim-Potentiometer for zero-adjust. Put the black cap on the photosensor and then adjust the digital display with a small screwdriver to zero in every range.

The red trim-potentiometer is only for lux-calibration. Don't adjust it !!

Note: In the most sensitive range (0,000....1,999 lx), the displayed illuminance value can vary about some digits, because the photocurrent-amplifier works at his physical limit (1 mlx = 2 pA !!)

3 = Rotary switch for 6 Lux-ranges

4 = The battery-case is on the backside.

5 = Power on/off switch (on the left side of the device)

Luminance-Measurements

Put the luminance-tube on the photocell as deep as possible and hold the tube in the direction in which you want to measure the luminance of a surface. Read the lux-value from the display and multiply the lux-value with the constant factor 100. This result is the luminance in cd/m²

$$L\,/\,\frac{cd}{m^2} = 100 \cdot E\,/\,lx$$

Reflexion-Measurements of a diffuse surface

1. Measure the illuminance on the surface. 2. Measure the luminance of the surface. 3. Calculate the reflexion-value with the following formula:

$$\rho = \frac{\pi \cdot L\,/\,\frac{cd}{m^2}}{E\,/\,lx}$$

Datei: ho1099

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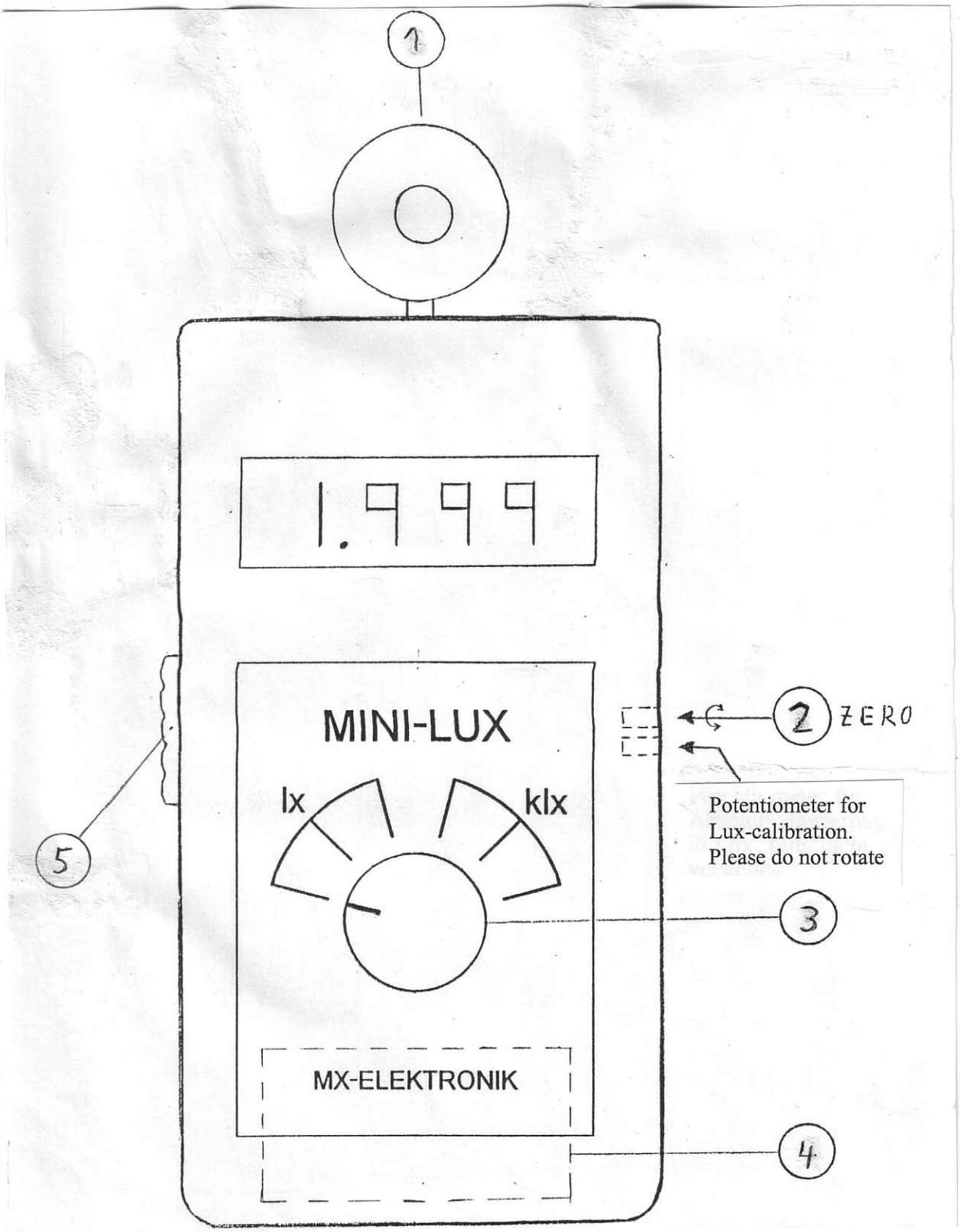
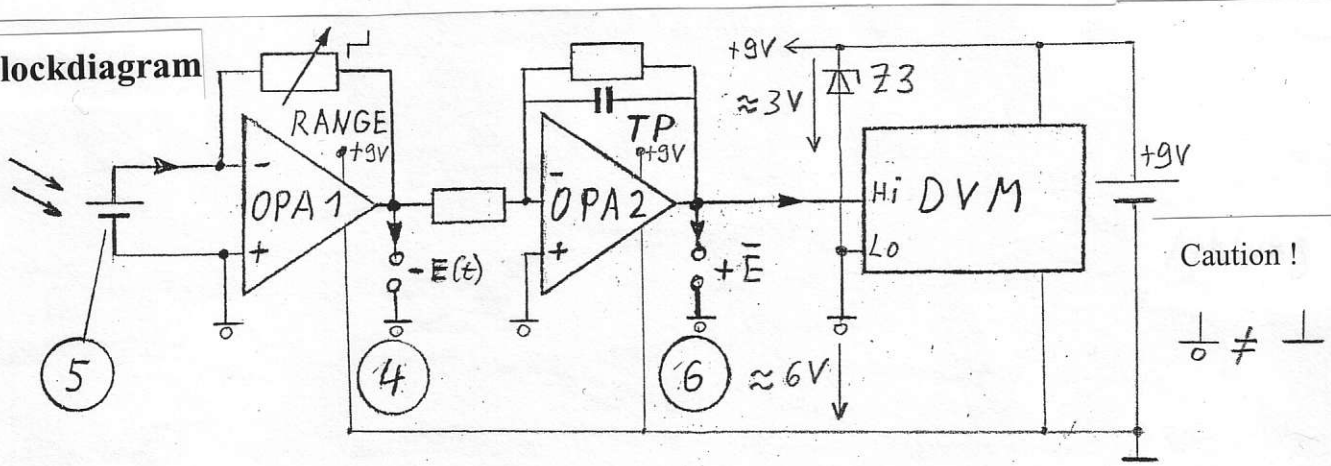
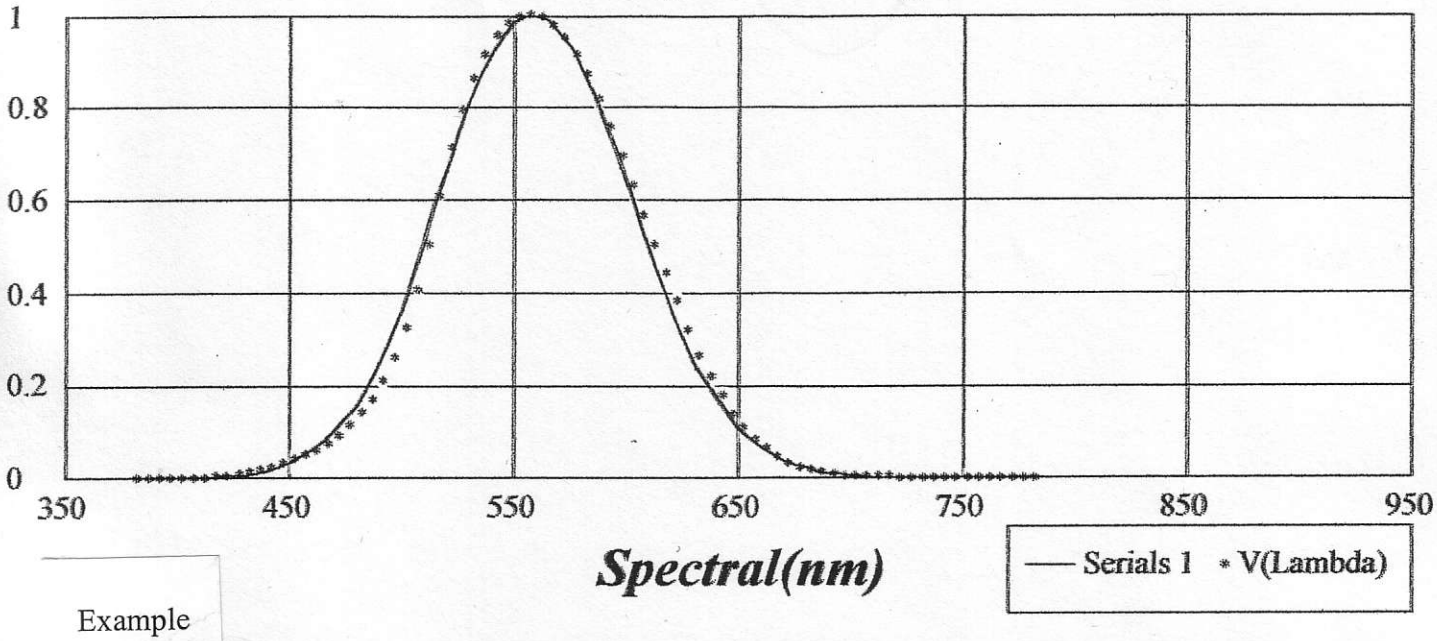


Minilux Blockdiagram



Test Report

Relative Spectral Response



Example

λ /nm	S(λ)	λ /nm	S(λ)	λ /nm	S(λ)	λ /nm	S(λ)	λ /nm	S(λ)	λ /nm	S(λ)
350	0.0028	355	0.0021	360	0.0019	365	0.0021	370	0.0017	375	0.0020
380	0.0016	385	0.0017	390	0.0016	395	0.0016	400	0.0017	405	0.0015
410	0.0019	415	0.0030	420	0.0041	425	0.0058	430	0.0083	435	0.0119
440	0.0171	445	0.0240	450	0.0336	455	0.0459	460	0.0615	465	0.0795
470	0.1015	475	0.1273	480	0.1587	485	0.1981	490	0.2451	495	0.3001
500	0.3645	505	0.4343	510	0.5110	515	0.5897	520	0.6657	525	0.7404
530	0.8083	535	0.8667	540	0.9184	545	0.9577	550	0.9832	555	1.0000
560	1.0000	565	0.9885	570	0.9631	575	0.9284	580	0.8830	585	0.8321
590	0.7684	595	0.7027	600	0.6312	605	0.5616	610	0.4908	615	0.4237
620	0.3588	625	0.3014	630	0.2492	635	0.2058	640	0.1685	645	0.1369
650	0.1073	655	0.0842	660	0.0653	665	0.0508	670	0.0392	675	0.0304
680	0.0229	685	0.0166	690	0.0122	695	0.0091	700	0.0067	705	0.0049
710	0.0036	715	0.0026	720	0.0020	725	0.0014	730	0.0008	735	0.0006
740	0.0003	745	0.0003	750	0.0002	755	0.0000	760	0.0000	765	0.0000
770	0.0000	775	0.0000	780	0.0000	785	0.0000	790	0.0000	795	0.0000
800	0.0000	805	0.0000	810	0.0000	815	0.0000	820	0.0000	825	0.0000
830	0.0000	835	0.0000	840	0.0000	845	0.0000	850	0.0000	855	0.0000
860	0.0000	865	0.0000	870	0.0000	875	0.0000	880	0.0000	885	0.0000
890	0.0000	895	0.0000	900	0.0000	905	0.0000	910	0.0000	915	0.0000
920	0.0000	925	0.0000	930	0.0000	935	0.0000	940	0.0000	945	0.0000
950	0.0000										

$f_1 < 6\%$