

Illuminance Meter LMT B 520



- Universal precision illuminance meter
- Class A or class L illuminance meter (according to DIN 5032 part 7)
- 4-digit display
- Display range from 600 klx to 0.1 mlx
- 7 decade-stepped ranges
- Automatic or manual ranging
- Attenuator with ten-turn precision potentiometer (option)
- Power supply for thermostatic stabilized LMT photometer heads (option)
- Analog output and V.24- (RS 232-) interface, BCD data output optionally
- Compact desktop housing
- Second measuring input with second calibration (option)
- Built-in rechargeable battery for mains-independent operation (option)
- Special photometer heads for E_z or E_{sz} (option)



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Technical Data according to DIN 5032 part 8 and CIE S023/E:2013

Marking	LMT B 520 Illuminance Meter						
Field of application	Laboratory and high precision measurement of illuminance						
Classification	Class A or class L illuminance meter according to DIN 5032 part 7 (depending on accuracy demands)						
Display range	Ranges	Photometer head P30xxx			Photometer head P11xxx / P10FC0		
		basic	cd 3.16 m	cd 10 m	basic	cd 3.16 m	cd 10 m
	min. reading	0.0001 lx	0.001 cd	0.01 cd	0.001 lx	0.01 cd	0.1 cd
	max. reading	600 klx	6000 kcd	60 Mcd	>800 klx	>80 Mcd	> 800 Mcd
	number of ranges	7	7	7	7	7	7
ranges graduated in steps of ten, all ranges overload protected							
Photometer Head	<ul style="list-style-type: none"> · P 30 SC0 with ultra-stable Si-photoelement, other versions optionally · Connection to measuring console by plug-in cable · Spatial evaluation: cos-correction, E_z - or E_{sz}-photometer head as option · Thermostatic stabilization: as option · Light sensitive surface: 30 mm diameter · Special equipment: individual test-report for $V(\lambda)$-match and cos-correction, adjustable legs and spirit level for exact horizontal adjustment 						
Measuring Console	<ul style="list-style-type: none"> · Transducer: precision operational amplifier · Integration time: 100 ms, $t_a = 200$ ms, (standard) or 20 ms, $t_a = 40$ ms (option 05) at range 7999 lx at least 50 ms, $t_a = 100$ ms (Version A) at range 799.9 mlx 500 ms, $t_a = 1$ s (Version B) · Conversion rate of A/D-converter: about 2.5 readings/s (5 readings/s with option 05) · Switching time of autoranging system: 400 ms (200 ms with option 05) · Time of response t_{max}: 0.44 – 1.8 s depending on option and range · Display: LED display, 0 – 7999 digit with decimal point and unit display · Range selection: manually, automatically or remote controlled · Digital data output: RS 232-interface · Analogue output: 0 – 800 mV, source resistance < 500 Ω · Electrical operated: mains, battery as option · Attenuator / multiplier: attenuator 100% to 0, continuously as option · Specials: rechargeable battery with charging control circuit, deep-discharge protection and automatic charging unit (option 04) 						
Maximum errors and qualities according to DIN EN 13032-1, DIN 5032-7 and CIE S023/E:2013	<ul style="list-style-type: none"> · $V(\lambda)$-adaption: $f_1 < 1.0 \%$ · UV-response: $u < 0.1 \%$ · IR-response: $r < 0.1 \%$ · Spatial evaluation: $f_2 < 1.5 \%$ · Error by non-linearity: $f_3 < 0.1 \% \pm 1$ digit · Error by display-unit: $f_4 < 0.15 \%$ · Temperature coefficient: $\alpha_0 < -0.1 \%/K, < 0.01 \%/K$ with Option 20 · Fatigue: $f_5 < 0.1 \%$, measured at 2000 lx · Error due to modulated light: $f_7 < 0.1 \%$ · Range change: $f_{11} < 0.1 \%$ · Total error: $f_{ges} < 5.0 \%$ (class A) $f_{ges} < 3.0 \%$ (class L) recommended for laboratory use · Lower frequency limit: $f_u < 25$ Hz respectively < 100 Hz with option 05 · Upper frequency limit: $f_o > 100$ kHz 						
Calibration	<ul style="list-style-type: none"> · Against Standard Illuminant A and 25°C, re-calibration period < 2 years / PTB traceable · Relative expanded measurement uncertainty includes the uncertainty of the standard employed of 0,8% · Standard calibration in lx, further calibration setting see options 01, 02, 03 						
Electrical supply	<ul style="list-style-type: none"> · Rated supply voltage: 230 V / 115 V selectable, $\pm 10 \%$ · Power consumption: mains operation < 15 VA, battery operation (optional) < 2 W · Rated frequency: 50 Hz, range 45 to 60 Hz (mains supply) 						
Environmental specifications	<ul style="list-style-type: none"> · Operating temperature range: 0 to +50°C · Storage temperature range: -5 to +50°C · Relative humidity: 10 to 90 %, non condensing 						
Dimensions	<ul style="list-style-type: none"> · Measuring console: 93 mm x 389 mm x 148 mm (L x W x H, without handle and feet) · Photometer head: 80 mm in diameter, height approximately 55 mm · Length of cable: 3 m standard, extender cables as option 						
Weight	<ul style="list-style-type: none"> · Measuring console: approximately 2.8 kg, with battery 3.7 kg · Photometer head: approximately 0.2 kg 						