

Flicker-BT Flicker Test Accessory

Benchtop meter for illuminance and flicker analysis



Why flicker analysis is needed

The health effects of flicker are divided into visible and invisible flicker. In the visible domain, frequencies in the range ~3 to 70 Hz represent a risk of seizure in those with photosensitive epilepsy. In the invisible domain, at higher frequencies, migraines, headaches, eye strain and non-specific malaise may result. Some SSL systems, particularly those paired with dimming controls, demonstrate significant photometric flicker. Now Labsphere makes it easy to measure flicker metrics with Flicker-BT software.

Fast integration

Flicker-BT is a high-speed illuminance meter designed to measure temporal lighting artifacts. The sensor is integrated with a signal condition module that connects directly to a PC. No external power is required. Data acquisition and analysis is performed with the Flicker-IP software.

Features and reporting

- Selectable Sampling Rate
- Selectable Scan Duration (Measurement Period)
- Selectable Recording Intervals
- Lamp Light Output Periodic Frequency
- Percent Flicker
- Flicker Index
- Stroboscopic Visibility Measure (SVM)
- Short Term Flicker (P_{st})
- ASSIST Flicker Perception Metric (M_p)
- Digital Exportable of RAW Data*
- Fraction of Rated Light Output Integrated over Measurement Period
- Percent Amplitude Modulation at Selected Frequencies
- Precision Cosine Receiver
- Robust Carry and Storage Case

*excluding P_{st}

Ordering Information

Model Name: Flicker-BT Order Number: AA-01510-100

Includes: flicker sensor, condition electronics, mounting post and base, Flicker-BT software, and Illuminance calibration and storage sleeve.

Options:

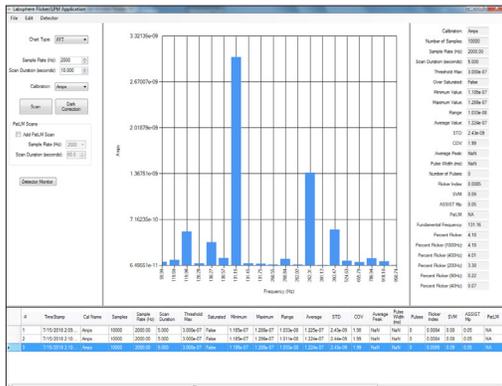
Posts: 1 to 12 inches

Post Holders

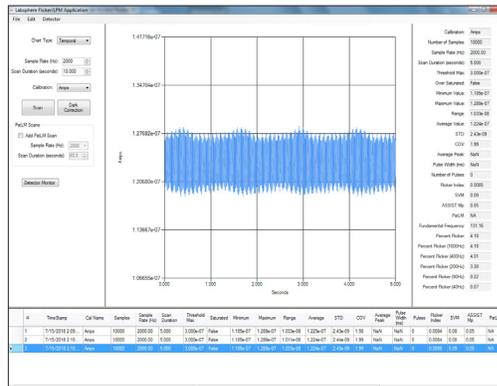
Base Plates: 4 x 4 in² to 8 x 8 in²

Specifications

Sensor:	Broadband silicon photodiode diode filtered for V_{λ} response
Photometric Range:	380 nm to 780 nm
Input Optic:	Diffuser window
Cosine Response:	< 9%
Sampling Rate Range:	Low: 10 Hz High: 5000 Hz
Data Recording Rate:	5 kHz with internal sample rate of 20 kHz
Recording Interval:	0.1 to 0.0002 sec
Equipment Measurement Period Range:	12 seconds
Measurement Time Range:	120 ms to 12 s
Percent Flicker Range:	0 -100%
Flicker Index:	Reported
Lamp Light Output Periodic Frequency Range:	0-2500 Hz
Stroboscopic Visibility Measure: (SVM)	Reported
ASSIST Flicker Perception Metric: (M_p)	Reported
Fraction of Rated Light Output Integrated over Measurement Period Amplitude:	100%, 20% and minimum fraction of light output
Modulation Unfiltered:	At 1000 Hz, 400 Hz, 200 Hz, 90 Hz and 40 Hz cut off frequencies
Software:	Flicker-BT
Interface:	USB 2.0
Computer Requirement:	PC or laptop with Windows 7 or newer
Cable Length: (from sensor to USB)	80 in (20.4 cm) + 2 m extension
Dimensions: (sensor head)	1.5 in diameter x 1.1 in (3.81 x 2.74 cm)
Weight:	0.40 lbs (0.18 g)
Mounting:	Mounts on Labsphere's 0.5 inch integrating sphere port frame 8-32 mounting boss for benchtop use



FFT Plot



Temporal Plot



Advancing the Technology of Light: Measure. Create. Reflect.

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