PFL-200

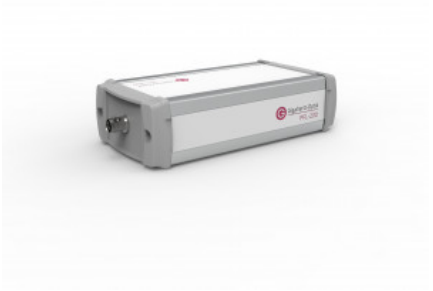
https://www.gigahertz-optik.com/en-us/product/pfl-200/

Product tags:

Description

Manufacturers of lamps and luminaires for general lighting purposes must consider light flicker when qualifying product safety in terms of EMC immunity requirements. In addition to the influence of mains voltage fluctuations, flicker effects caused by the lamp and the luminaire itself must be taken into account.

With the PFL-200, Gigahertz Optik GmbH, a renowned measuring device manufacturer, offers a light flicker amplifier for **all BNC detectors**. Combined with a programmable AC source, the PFL-200 becomes a comprehensive flicker test system for lamps and luminaires including voltage fluctuation immunity tests IEC TR 61547-1:2017. See **technical article about TLA**. If spectral measurements are needed as well the BTS256-EF instead of the PFL-200 would be the perfect solution.



PFL-200 for BNC detectors for fast flicker measurements

PFL-200 – Flicker meter

In its function as a light-flicker meter, the PFL-200 supports all current **flicker measurements**:

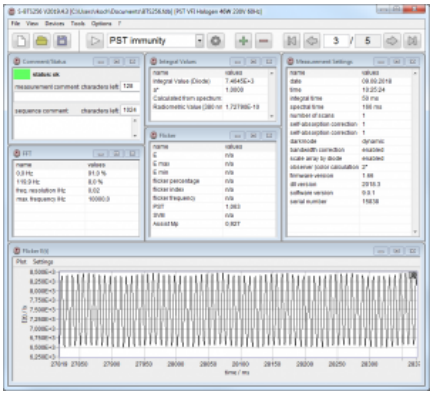
- Percent Flicker (IEEE Std 1789-2015, IES: RP-16-10, CIE:TN-006, CIE:TN-012)
- Flicker Index (IEEE Std 1789-2015, IES: RP-16-10, CIE:TN-006, CIE:TN-012)
- FFT Frequency component analysis
- P_{st} Short term flicker severity (CIE:TN-006, CIE:TN-012, IEC TR 61547)
- Stroboscopic Visibility Measure, SVM (CIE:TN-006, CIE:TN-012, IEC TR 63158)
- M_p ASSIST Flicker perception metric
- Joint Appendix JA10

VL-3702 as exemplary detector to be used (optional)

In addition, the PFL-200 allows flicker tests according to IEC TR 61547 when operated in combination with **power supply LPS-CH-500**. These tests aim to probe flicker stability when light sources are operated in an AC circuit under the influence of disturbance signals.

User Software S-BTS256

The PFL-200 is operated with the comprehensive and powerful S-BTS256 software. This allows a variety of evaluations such as SVM and Pst.



S-BTS256 software for flicker and light evaluation

Calibration of the PFL-200

One essential quality feature of a transimpedance amplifier is their precise and traceable current calibration of all ranges. Every PFL-200 device is delivered with its respective calibration certificate.

Options for the PFL-200 flicker amplifier

- Software development kit for integration of the device in the user's own software
- In combination with software tool S-T-Flicker and the programmable AC Source LPS-CH-500 Gigahertz-Optik GmbH offers a functional extension of the BTS256-EF for an test system according to the IEC TR 61547-1:2017 Equipment for general lighting purposes - EMC immunity requirements - Part 1: An objective light flicker and fluctuation immunity test method.

Specifications

General	
Short description	Flicker Amplifier for -1 (BNC) detectors with USB interface for remote controll
Main features	Flicker Amplifier for SVM, Pst, etc., USB interface, intuitive software and flicker evaluation included, BNC (-1) connector
Measurement range	depends on detector
Typical applications	Precise flicker measurements for the lighting industry
Calibration	Factory calibration of amplifier, traceable to national standards
Product	
Sensor	BNC connector (-1)

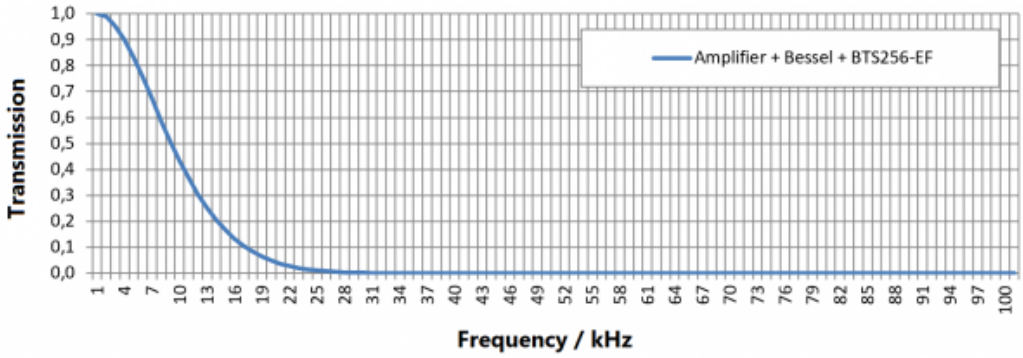
Flicker	Measurands: Percent flicker (IES:RP-16-10, CIE TN 006:2016, CIE TN 012:2021), flicker index (IES:RP-16-10, CIE TN 006:2016, CIE TN 012:2021), flicker frequency, fast fourier transformation (FFT), P_{st} short-term flicker severity Pst (CIE TN 006:2016, CIE TN 012:2021, IEC TR 61547:2020), stroboscopic effect visibility measure SVM (CIE TN 006:2016, CIE TN 012:2021, IEC TR 63158), Mp ASSIST, joint appendix JA10. The BTS256-EF has a **limited** internal memory and can thus only access the following frequency range **when used as a handheld** meter (without a PC):

Measurement Time (Sensor)	Measurement Time (Flicker)	Sampling Rate	Upper Cut-Off Frequency	Lowe
50 ms	41.0 ms	20 µs	5 kHz	60 Hz
100 ms	81.9 ms	40 µs	5 kHz	30 Hz
200 ms	163.8 ms	80 µs	2.5 kHz	15 Hz
500 ms	327.7 ms	160 µs	1.2 kHz	8 Hz
1000 ms	655.4 ms	320 µs	0.6 kHz	4 Hz
3000 ms	2620 ms	1280 µs	150 Hz	1 Hz
6000 ms	5240 ms	2560 µs	75 Hz	0.5 Hz
12000 ms	10486 ms	5120 µs	33 Hz	0.25 H

The **measurement range extends** to the following range when the BTS256-EF is used in combination with a PC and the S-BTS256 or S-SDK-BTS256 **software**:

Measurement time (Flicker)	Sampling Rate	Upper Cut-Off Frequenc (3dB)	Lower Cut-Off Frequency	uncertainty at acceptable S/N ratio	FFT frequency resolution
min. 1 ms	1 ms (1kHz) - 5 µs (200kHz)	200 Hz - 10 kHz	2.5 kHz	1% ± 0.5 Hz	1 kHz
max. 180 s (3 min)	1 ms (1kHz) - 10 µs (100kHz)	200 Hz - 10 kHz	0.014 Hz	1% ± 0.5 Hz	0.005 Hz

Filter Transmission Amplifier:



3dB Range 0 to 5 = 10 kHz, Range 6 to 8 = 200Hz

(for Flicker measurements only range 0 to 5 are recommended)

min. signal current	0.1 pA
Max. signal current	20 µA
Miscellaneous	
Microprocessor	16Bit, 25ns instruction cycle time
Power Supply	5VDC, 450mA per USB

Interface	USB 2.0 (Type B USB) Option WiFi: WiFi 2,4 GHz (external antenna, range > 100m) on request
Temperature range	Operation: +10°C bis +30°C Storage: -10°C bis +50°C
Transport case	333mm x 280mm x 70mm, 650g
Dimensions	159mm x 85mm x 45mm (Length x Width x Height)
Weight	430 g

Downloads

Type	Description	File-Type	Download
Brochure	Light measurement solutions for general and specialized lighting	pdf	https://www.gigahertz-optik.com/assets/Uploads/generallighting-broschuere-DINA4-hoch-v2.pdf

Configurable with

Product Name	Product Image	Description	Go to product
LPS-CH-500		Signal Generator for example for testing of flicker properties of lamps and luminaires according to IEC TR 61547-1:2017	https://www.gigahertz-optik.com/en-us/product/lps-ch-500 with s-t-flicker/

Purchasing information

Article-Nr	Modell	Description
Product		
15314215	PFL-200	PFL-200 flicker meter, user manual (D or E), S-BTS256 user software as a download, USB cable for PC operation, BHO-17 hard-top case
Options		
15308526	LPS-CH-500	Programmable power supply with reference source impedance
		Commissioning and training on request
Software		
15298218	S-SDK-BTS256	Software Development Kit; Software and users guide on CD
15308525	S-T-Flicker	Flicker software tool, only usable in combination with LPS-CH-500

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