LED-Panel V5 data sheet

Overview

Product name	LED-Panel V5
Principle	An array of LEDs to perform timing measurements on digital cameras. The LEDs are illuminated in different modes and frequencies.

Features

LED array

Number of LEDs	110 (array of 10 x 10 LEDs, 1 row with 10 LEDs for multiplying counts)
Size LED array	77 x 77 mm
LED specifications	LED-Panel: diffuse, peak wavelength 630 nm (red), viewing angle 100° LED-Panel (525): diffuse, peak wavelength 525 nm (green), viewing angle 50° LED-Panel IR (850): diffuse, peak wavelength 850 nm (NIR), viewing angle 80° LED-Panel IR (940): diffuse, peak wavelength 940 nm (NIR), viewing angle 90°
Accuracy @ +18 °C ... +28 C°	Frame rate: $f \leq 100$ Hz: ± 45 ppm $f > 100$ Hz: ± 75 ppm Exposure time: ± 40 ppm. Rolling shutter: ± 40 ppm. Response time: ± 12 ppm.
Accuracy @ -20 °C ... +75 C°	Frame rate: $f \leq 100$ Hz: ± 55 ppm $f > 100$ Hz: ± 85 ppm Exposure time: ± 50 ppm. Rolling shutter: ± 50 ppm. Response time: ± 22 ppm.
Dim function	LED-array and LCD display dimmable from 0 to 100%
Service life	10,000 h
Manual control	Operating buttons: switching between single and continuous triggers, Rotary switch: adjusting the frame rate frequency, time, LCD, and LED-array brightness Display: shows the current setting

Operating mode	An external trigger, single internal trigger, continuous trigger
LED running directions	Left to right, right to left, top to bottom, bottom to top
Adjustable times	20 µs to 10 s*
Maximum reading measurement time	1000 x of set time
Frame Rate measurement frequency	Adjustable from 1.0 Hz to 200 Hz
iQ-Trigger ON time	Adjustable from 0.1 s to 25.5 s in steps of 0.1 s
LEDs follow-up time after iQ-Trigger OFF	Adjustable from 0 to 65535 ms in steps of 1 ms
Defocus time before iQ-Trigger ON	Adjustable from 0 to 65535 ms in steps of 1 ms
Specialties	• Dimmable LED array and LCD display • Designed to be combined with iQ-Trigger-T, iQ-AF Box, lightSTUDIO, iQ-Trigger • Manual and software control possible

Software

System requirements	PC with Windows 7 operating system (or higher) USB port

Functions	• Software control LED-Panel V5
	• Analysis of images taken from LED-Panel V5
	   o Shooting time lag
	   o Shutter release time lag
	   o Autofocus time
	   o Display refresh rate
	   o Exposure time
	   o Rolling shutter speed
	   o Startup time

Output data	Text (*.txt) or XML file
API (C++)	Available as a separate option (LED-Panel API)

General description hardware

Line voltage for included power supply	100 – 240 V AC, 50/60 Hz
Supply voltage	15 V DC, 1A
Ports	1 x USB Mini (connection to PC for software control) 1 x port for power supply 15 V 2 x 3.5 mm TRS connector (camera trigger input, stop trigger input) 1 x 6.3 mm TRS connector (iQ-Trigger) 1 x 6.3 mm TRS connector (iQ-Defocus)
Dimension [W x H x D]	240 x 130 x 55 mm
Weight	1 kg
Operating conditions	Optimal: 22 - 26 °C, maximum: 18 - 28 °C
Warm-up time	< 2 min. at optimal ambient temperature

Scope of delivery	LED-Panel V5, power supply, USB cable, control software

Electrical wiring diagrams

Signal input (stop trigger, camera trigger)	
Signal output (iQ-Trigger, Defocus)	

Camera trigger and stop trigger input voltage level

+5 V		trigger inactive
+4 V		
+3 V		
V(ih)	+1,9 V	undefined
V(il)	+1,2 V	trigger active
GND	0 V	

LED-Panel V5 outputs

	Defocus	iQ-Trigger
Max. load current	350mA	500mA
Output voltage	12V *	15V

* voltage @ R load = 32 Ohm

Miscellaneous

Standards	ISO 15781 Measuring shooting time lag, shutter release time lag, shooting rate, and startup time IEC 62676 Part 5: Data specifications and image quality performance for camera devices
Accessories	C++ API

* Depending on the measurement mode