KISTLER
measure. analyze. innovate.

High intensity fiber optic LED light source

for high speed imaging illumination

Type LED-P40, LED-P80, LED-P160

Type LED-P40/80/160 is a robust , high intensity LED light source system for industrial use. The main application is illumination for high speed imaging with a camera.

- Optical combustion analysis
- Luminous flux range 7000 … 72000 lm
- Green or white LED light source
- Operation modes continuous, pulsed, single shot
- Suitable for illumination of engine cylinder
- Adaption with borescope and optical probe
- Universal range of use

LED-P40 LED-P80 LED-P160

Description

The high intensity, high-performance light source Type LED-P40/80/160 is used as a continuous or pulsed light source. It provides a high light output and, in pulse mode, high repetition rate. The user can choose between 3 types of light sources with a different number of LED chips enabled - resulting in a total output of 7000 … 72000 lm. With the connected optical fibre bundle, the system is an ideal choice for many applications in endoscopy and spot illumination.

Applications

The main application is illumination for high speed imaging with a camera. Thanks to its high luminosity, light source Type LED-P40/P80/P160 is able to replace laser illumination technology. This makes the handling of the illumination system much easier and safer, without the safety precautions required for lasers.

The light source Type LED-P40/P80/P160 is used as standalone system or with remote control over an Ethernet connection. Parameter settings, for example the external mode adjustment, are stored and will be available after restart. Operation modes settings can also be controlled manually on the device, status LED display are positioned on the top of the device for user feedback.

The LED-P40/80/160 is the ideal illumination system for the All-In-One Probe. Providing a minimally invasive measuring system, with one optical probe, that has separated illumination and recording channels - thus preventing interfering reflections.

Technical data	LED-P40	LED-P80	LED-P160
Optical accesses; number of LED chips	1	2	4
Luminous flux [lm]			
continious and pulse mode	9 000	18 000	36 000
pulse mode max. 20 µs for 10 ms	15 000	30 000	60 000
single shot max. 20 µs	18 000	36 000	72 000
Max. lamp power [VA]	350	850	1 400
Dimensions [mm x mm x mm]	260x175 x180	275x290 x225	327x305 x340
Weight [kg]	6.6	9.8	19.8

General technical data

Lamp type	LED - green or white
Modes	pulsed / continuous / single shot
Pulsed modes	timed / gated
Min. pulse length	10 µs
Max. pulse length	1000 µs
Active light guide diameter	3,5 mm
Optical mounting	Schölly/Volpi other on demand
Interface	Ethernet, BNC I/O for Trigger
Operating voltage	100-240 VAC; 50/60 Hz
Approvals	in compliance with CE regulations

LED-P40_003-414e-03.20

KISTLER
measure. analyze. innovate.

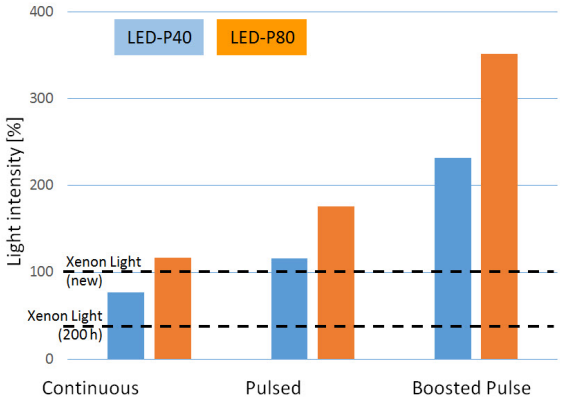

Fig. 1. Comparison of light intensity Xenon Light vs. LED-P40/80 5 mm Fiber Optic Bundle. (Xenon light new = 100%).

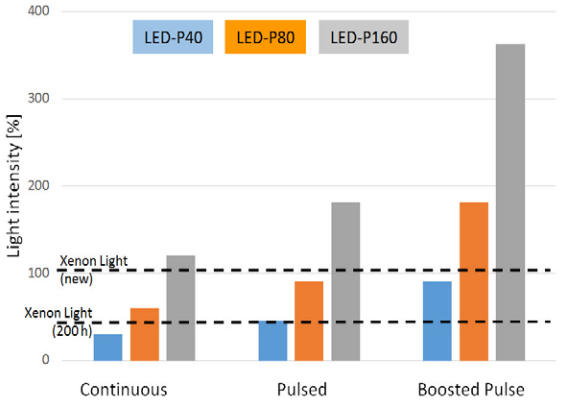

Fig. 2. Comparison of light intensity Xenon Light vs. LED-P40/80/160 8 mm Fiber Optic Bundle. (Xenon light new = 100%).

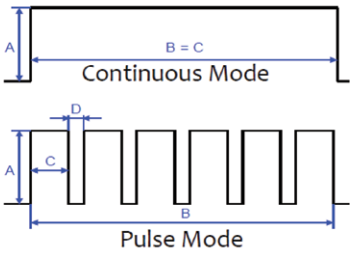

Fig. 3. Illumination modi

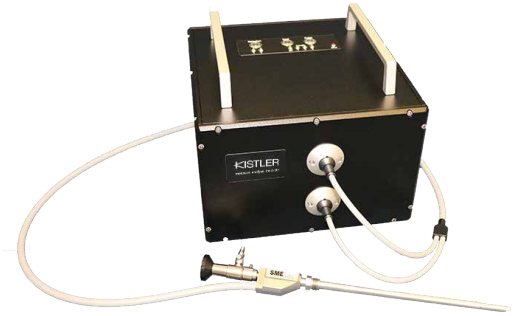

Fig. 4. LED-P80 with customized borescope and optical probe

Mode	A	B	C	D
	Luminous flux [lm] LED-P40	Max. duration	Pulse duration	Off time between pulses
Continuous	7 000	not limited	—	—
Continuous boost	9 000	30 s	—	—
Pulse	9 000	not limited	10 µs - 1 ms	0.4 x C
Pulse boost	15 000	10 ms	10 - 20 µs	10 x C
Pulse ultra boost	18 000	—	10 - 20 µs	1 s

Fig. 5. Customized fiber optic bundle with 4 rectangular front ends

Included accessories

- Software for LED illumination unit (on USB Stick)
- Country-specific power cord