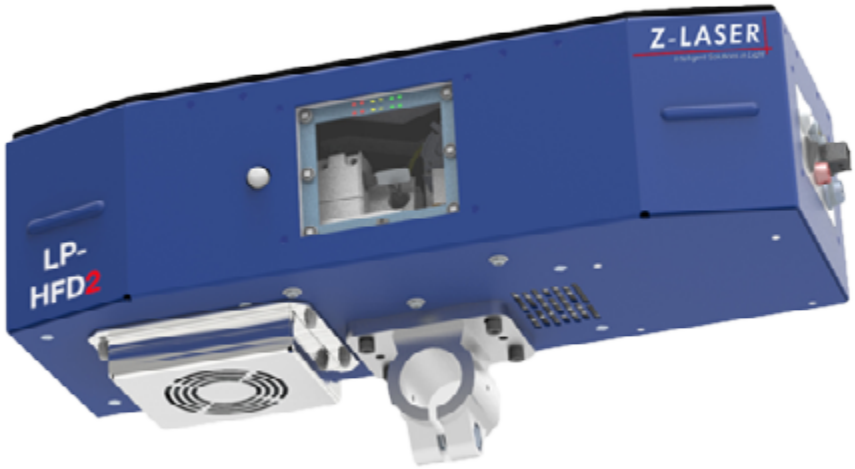
LP-HFD2

Z-LASER
Intelligent Solutions in Light



Max 28 mW

IP 65

Fiber-coupled Laser

Multi system

The LP-HFD2 is the successor of our well-known and reliable LP-HFD. In addition to the housing, the technical equipment has been optimized, such equipped projectors can now simultaneously display multi-colored contours (red, green, yellow).

Fiber-coupled lasers with an output power of 7 mW are installed by default. Special solutions allow up to 40 mW. The standard optics range from 0.5 m to 7.0 m. With a tele-optic, working distances up to 14 m can be realized.

The necessary data can be transferred either via Ethernet, serial, or PLC. There are different cooling options available such as passive cooling, Peltier cooling integrated in the cover, or optional a water cooling system is available according to customer specification.

HIGHLIGHTS

- Very exact, fast and stable laser projection
- Optimized for projection on 3D objects
- High fiber-coupled laser beam performance
- Large fan angle enables large operating range (up to 80° x 80°)
- Industrial IP65 housing
- Improved thermal management
- Operating up to 60°C ambient temperature with water cooling
- External power supply with improved properties
- Data transmission serial or Ethernet
- Optional extended air hose and water cooling
- Integration to a multi projection system

APPLICATIONS

Construction

Concrete

Composites

Automotive

Wood

Logistic

Stone

Textile

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SYSTEM SPECIFICATIONS

Laser source	Fiber-coupled red or green laser diode			
Wavelength	520 nm		638 nm	
Output power	7 mW (1)	14 mW	7 mW (1)	28 mW
Laser class (on EN 60825)	2M	3R	2M	3R

Special features of the model	Standard	High Precision	Tele-optic
Fan angle	80° x 80°	60° x 60°	60° x 60°
Accuracy (2) (depends on projection distance)	0,25 mm/m	0,1 mm/m	0,2 mm/m
Focus range	0,5 m up to 7 m (standard focus)		Up to 14 m

Frequency of projection	Max. 50 Hz (depends on the projection)
Weight	7.3 kg (plus ca. 1.4 kg for separate power supply)
Dimensions (L x W x H)	500 x 200 x 141 mm (181 mm incl. fan) 19.685 x 7.874 x 5.551 in (7.126 incl fan)
IP protection class	IP65

SOFTWARE / HANDLING

Software	LPM
Graphic files without LPM	HPGL / HPGL 3D

ACCESSORIES

Remote control	Optional

ELECTRICAL SPECIFICATIONS

Operating voltage	24VDC ±5%
Protection class electrical	3 (protective low voltage)
Electrical isolation	Potential-free housing, connection to GND through 500 kΩ
Interfaces	1. Ethernet TP, 100 Base TX Cat5/Cat6 2. RS-232 IV24 (max. cable length 15 m) 3. Profi Net external optional, other fieldbus systems on request
Power consumption (typical)	50 W (max. 100 W)

AMBIENT CONDITIONS

Operating condition	+5 °C up to +45 °C (with passive cooling) +5 °C up to +50 °C (with cooling air hose) +5 °C up to +60 °C (with adaptive water cooling)
Storage temperature	-5° C up to +60 °C
Humidity (max.)	<80% relative, non-condensing

Working range in relationship to the mounting height (in mm)	Optical angle 76° (in mm)	Optical angle 60° (in mm)
1.000	1.562	1.155
2.000	3.125	2.309
3.000	4.687	3.464
4.000	6.250	4.619
5.000	7.812	5.774
6.000	10.938	6.928
7.000	10.938	8.083
8.000	12.500	9.238
9.000	14.063	10.393

(1) (TÜV CDRH certified nominal at beam exit)

(2) (At 32° C block temperature, optical angle 70° and 0° incline)

CE CE-Conformity according to the directives 2004/108/EC and 73/23/ECC.

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