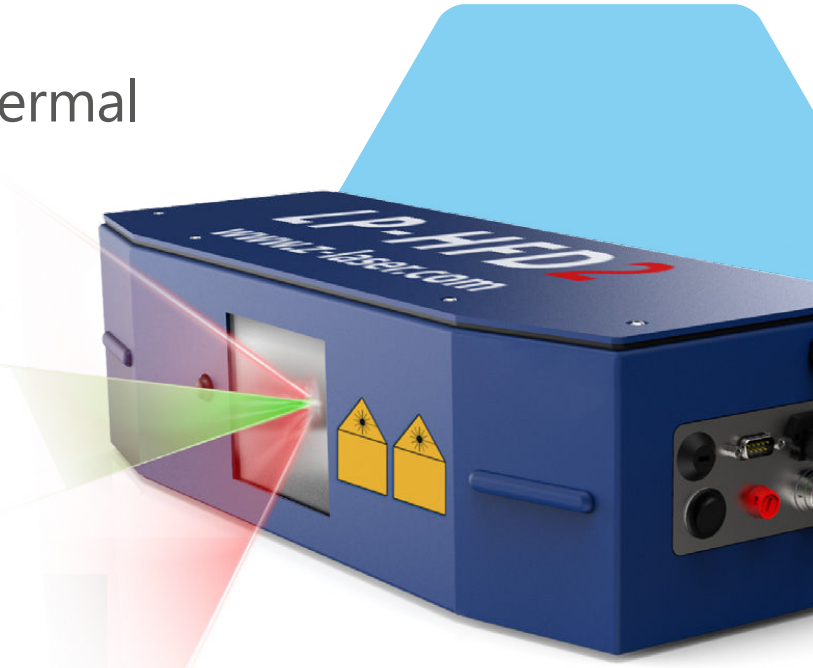
Model LP-HFD2

High-power laser with thermal management



The LP-HFD2 is the successor of our reliable laser projector LP-HFD. In addition to the new housing, stated IP65, the development has been focused on temperature stability in particular.

Fiber-coupled lasers (with red and/or green laser source) are applied with an output power of 7 mW. When requested, output power up to 14 mW is possible. With our standadard optic, we achieve a focus range of 0.5m to 7m. Optionally, our teleoptic enables a working distance of up to 14m. For higher ambient temperatures there are several cooling options available such as extended air hose or water cooling system.

Typical data connection is Ethernet, more communication options via PROFINET or serial connection are also possible.

Fan angle up to 80°

Optimized for 2D and 3D projection

Integration into multiprojector systems

Improved thermal management

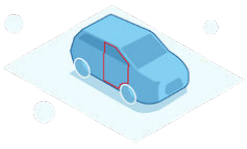
IP65

Wavelength: 520 nm 638 nm

Highlights

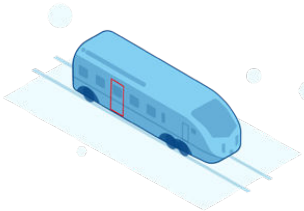
- Very exact, fast and stable laser projection
- Optimized for projection on 3D objects
- High performance by fiber-coupled laser technology
- Large fan angle enables large operating range (up to 80° x 80°)
- Industrial IP65 housing
- Improved thermal management
- Operating up to 60 °C ambient temperature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

Aerospace

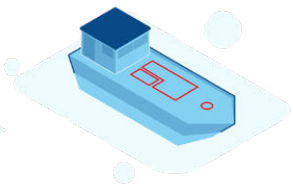


Automotive

Composite



Train Construction



Ship Building

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]
Laser class (on EN 60825)	2M	3R	2M
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	0.25 mm/m	0.25 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		
Laser operation mode	APC		
Electrically adjustable focus	optional		

Software / handling

Software	LPM
Graphics format	HPGL / HPGL 3D

Accessories

Remote control	Optional (standard or industrial)

Electrical specifications

Operating voltage	24 VDC ±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) 3. Profi Net external optional, other fieldbus systems on request
Power consumption (typical)	50 W (max. 100 W)

Ambient Conditions

Operating condition	+0 °C up to +50 °C (standard) +0 °C up to +60 °C (with cooling air hose)
Storage temperature	-20° C up to +70 °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	9.375	6.928
7.000	10.938	8.083
8.000	12.500	9.238

[1] TÜV CDRH certified nominal at beam exit

[2] At 28° C block temperature, optical angle 70° and 0° inclination

CE CE-Conformity according to the directives 2014/30/EU, 2011/65/EU and 2006/25/EU. Subject to technical change. Version: June 2021