

New housing
(22% smaller)

Improved IP rate and
electrical protection

Z-FIBER source

Improved thermal
management

Multi reference sensors



Model: LP-HFD2

Max. power 28 mW	IP 65	Fiber-coupled laser	Highly precise	Multi system	Multicolor possible	LPM software	Opening angle up to 80°
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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 output power of 7 mW. When requested, output power up to 28 mW is possible. The range of standard optic focus is 0.5 m to 7.0 m. With a tele-optic, working distances up to 14 m can be realized. 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.

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
- Optional extended air hose and water cooling
- Data transmission serial or Ethernet
- Integration to a multi projection system

APPLICATIONS

- Automotive
- Vehicle construction
- Aerospace
- Composites
- Metal
- Wood
- Stone
- Glass
- Concrete
- Construction
- Textile

ORDER CODE

Z??	-	XS20	-	?	-	?	-	?	-	?
Power		Product name Size of head		Electronics		F = focusable		Wavelength		Optics

SYSTEM SPECIFICATIONS

Laser source
Wavelength
Output power
Laser class (on EN 60825)
Special features of the model
Fan angle
Accuracy ⁽²⁾ (depends on projection distance)
Focus range
Frequency of projection
Weight
Dimensions (L x W x H)
IP protection class

SOFTWARE / HANDLING

Software
Graphic files without LPM

ACCESSORIES

Remote control

ELECTRICAL SPECIFICATIONS

Operating voltage
Protection class electrical
Electrical isolation
Interfaces
Power consumption (typical)

AMBIENT CONDITIONS

Operating condition
Storage temperature
Humidity (max.)
Working range in relationship to the mounting height (in mm)
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000

Fiber-coupled red or green laser diode			
520 nm		638 nm	
7 mW ⁽¹⁾	14 mW	7 mW ⁽¹⁾	28 mW
2M	3R	2M	3R
Standard	High Precision	Tele-optic	
80° x 80°	60° x 60°	60° x 60°	
0.25 mm/m	0.1 mm/m	0.2 mm/m	
0.5 m up to 7 m (standard focus)		Up to 14 m	
Max. 50 Hz (depends on the projection)			
7.3 kg (plus ca. 1.4 kg for separate power supply)			
500 x 200 x 141 mm (181 mm incl. fan)			
19.685 x 7.874 x 5.551 in (7.126 incl fan)			
IP65			

LPM
HPGL / HPGL 3D

Optional

24 VDC ±5%
3 (protective low voltage)
Potential-free housing, connection to GND through 500 kΩ
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
50 W (max. 100 W)

+0 °C up to +50 °C (with passive cooling)	
+0 °C up to +60 °C (with cooling air hose)	
+0 °C up to +60 °C (with adaptive water cooling)	
-20° C up to +70 °C	
< 80% relative, non-condensing	
Optical angle 76° (in mm)	Optical angle 60° (in mm)
1.562	1.155
3.125	2.309
4.687	3.464
6.250	4.619
7.812	5.774
9.375	6.928
10.938	8.083
12.500	9.238
14.063	10.393

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

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