



# IPG D20 High Power Scanner



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The IPG D20 2D High-Power Scanner is a revolutionary product offering by IPG for remote laser welding. With the cost of manufacturing footprint continuously on the rise, the compact form factor of the D20-HPS enables users to reduce system foot print and save on premium manufacturing space. Greater savings can be achieved thanks to the scanners reduced weight, which allows for low payload robotic and gantry motion systems. Despite the compact form factor, the D20-HPS was designed with the most grueling manufacturing environments in-mind. Built-in contamination sensing easily allows users to be notified when it is time to change Protective Windows. The D20-HPS industrial design ensures continuous system operation and total quality assurance.

As the world leader in Fiber Laser technology, IPG has set a new standard with the D20-HPS where exceptional process performance comes at a reduced cost. **Capable of wobble frequencies up to 1.2 kHz, the D20-HPS enables users to process at higher travel speeds than previously possible.** With IPGScan software, users can easily setup On-The-Fly processes and optimize product throughput. Combined with the patented process monitoring technology of LDD, users can rest assured that parts coming off of the production line are of the highest possible quality. Ultimately, the IPG D20-HPS provides outstanding features at a reduced cost.

- IPGScan software allows users to configure remote laser welding applications in minutes.
- Complete scanning solution designed with the EV Battery, Automotive, Aerospace, and General Fabrication markets in-mind.
- Compatible with YLS, YLS-AMB, YLR, and YLPN Series IPG Lasers.
- Compatible with industry leading LDD Process Monitoring technology for total quality assurance.

## IPGScan Software

### NO SOFTWARE LICENSES

Eliminate excessive license and renewal fees with IPGScan remote scanning software, which is available for download at any time.

### PROCESS VISUALIZATION

By importing STL models, users can create realistic process simulations in IPGScan. This functionality allows users to develop precise process timings and ensure beam angles will not clip expensive fixturing.

### OTF LASER WELDING

Advanced Timeline functionality allows users to reduce process cycle time by providing detailed process timings and easy to use tools for making process parameter changes.

**COMPACT FORM FACTOR**  
Substantially reduce motion system costs thanks to the D20-HPS compact form factor and reduced payload.

**Industrial Design**  
Designed for the most rugged environments, D20 High-Power Scanners feature industrial IP67 tested enclosures

**Quick Exchange Window Assembly**  
Reduce production down-time for Protective Window change-out thanks to the quick exchange Window Assembly design

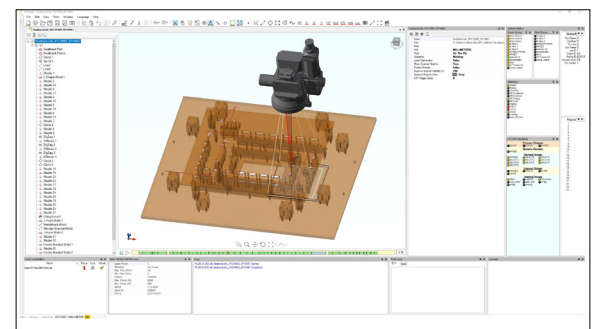


**Industrial Connectors**  
Plug and play architecture utilizing industrial connectors allows for quick installation and easy integration

## CONFIGURE REMOTE LASER WELDING APPLICATIONS IN MINUTES

IPGScan is a powerful software suite that provides users with process parameters specifically tailored to the application and laser being utilized. Within IPGScan, users have the ability to **import CAD models, place process objects** (e.g. welds), **create simulated motion paths, and optimize process timings** using advanced timeline functionality.

Graphical display of the laser beam emitting from the scan head helps to ensure that expensive fixturing will not be clipped by the beam. These powerful features enable users to visualize the complete process before equipment ever hits the shop floor. When equipment is set up, users can **easily transition from programming in the offline world to the real world with a few quick calibrations.** Loaded with powerful software features, IPGScan allows users to develop complete process solutions while reducing overall costs.



IPGScan Process & Timing Visualization

## Specifications

Compatible Laser Series	YLS, YLS-AMB, YLR, YLPN	
Max Multi-Mode CW Power (kW)	6.0	
Max Single-Mode CW Power (kW)	3.0	
Available Fiber Adapters	HLC-8, HLC-8 with Rotary, LCA	

## Optical Specifications

Wavelength (nm)	1065 – 1075	
Clear Aperture (mm)	20	
Focus Lens Name	F260 SM	F500 SM
Focal Length (mm)	260	500
Nominal Working Distance (mm)	329	604
Square Field Size ([X]mm x [Y]mm) <sup>1</sup>	112 x 112	250 x 250
Galvo Long-Term Drift (μm) <sup>2</sup>	<30	<60
Galvo Positioning Repeatability (μm) <sup>3</sup>	<8	<15
Collimator Options (mm)	50, 60, 85, 100, 120, 160	

## Mechanical Specifications

IP Rating	IP67 Tested	
Scanner Dimensions [LxWxH] (mm)	100 x 264 x 300	
Scanner Weight (kg) <sup>4</sup>	8.9-11.1	

## Available Accessories

Linear and Circular Air Knife	For Spatter and Process Control	
Through the Lens Vision Cameras	Ethernet, HDMI	
Integration Control Center	Complete solution containing power supplies, Scanner Fieldbus Interface, and appropriate cables	

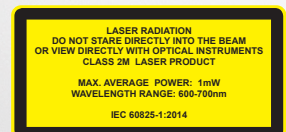
## External Interfaces for Automated Systems Integration

Scanner Fieldbus Interface	Supported Protocols: Ethernet/IP, ProfiNet, EtherCAT	
Extended IO	Discrete IO Interface: 19 Digital Inputs, 16 Digital Outputs	
Motion Interface	For motor control or encoder feedback Capable of single-ended or differential signal feedback	

1. Rectangular fields of view are available for some lens configurations
2. Long-term drift with constant ambient conditions after the readiness for operation (heat-up time). Both galvos considered
3. Both galvos considered
4. Assuming D20 2D High-Power Scanner with 500mm focal length, 50mm collimator, HLC-8 fiber receiver, with linear air knife. Lower limit without LDD. Upper limit with LDD.



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