

Optimized for industrial applications, the Pearl™ P-72 TKS delivers industrial-grade controls in a high-power direct diode laser system.

Integrating nLIGHT's single-emitter based Pearl™ fiber-coupled diode laser modules, the system offers unparalleled reliability. Fast modulation rates, high reliability and robust industrial design make it the perfect tool for many industrial applications.

Features

- CE certified for industrial applications
- Convenient user interfaces: RS232, CAN-BUS, USB, Analog, or front panel control
- FieldFlex™ technology allows for in-field upgrade or replacement of Pearl modules
- Field replaceable fiber optic cables
- Redundant interlocks for machine tool integration
- Advanced warning protocol prior to system errors
- Up to 72 Pearl Single-Emitter diode laser engines coupled into a single output fiber
- Up to 500W of optical power at 50% efficiency
- 19" rack mounted driver electronics with slim 2U profile
- Industrial grade electronics with multiple operation modes

Applications

- Thin metal welding
- Plastic welding
- Soft soldering
- Marking / engraving
- Material heating

Optional Accessories

- Turn-key control panel with EMO switch
- Collimation and process optics
- Closed loop process control, ideal to optimize and lock a process
- Integrated thermopile with self-calibrating power monitoring
- Pyrometer process monitoring
- Integrated pilot beam
- Flow meter / flow switch

Proven Performance

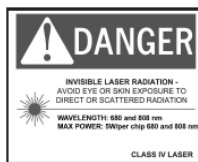
Typical Device Performance

Package		P-72 400	P-72 500
Optical			
Mode of Operation		CW/QCW	
Polarization		Random	
Maximum Output Power	W	400	500
Minimum Fiber Size	um	200	400
Output Power Tunability	%	0-100	
Output Power Stability	%	<1	
System Characteristics			
Nominal Cooling Water Temperature	°C	20	
Maximum Diode Waste Heat	W	400	500
Water cooling requirements	L/min	6	
Electrical			
Supply Voltage	VAC	200-400	
AC Power Supply Frequency	Hz	50-60	
Power Consumption	W	1000	1300
Min Pulse Width	µs	100	
Rise/Fall Time	µs	<10/10	
Drive Electronics Mechanical			
Dimensions (LxWxH)	mm ³	432x482x89	
Weight	kg	14	
Cooling Method		Air Cooled	
General Condition			
Operating Temperature	°C	20 to +35	
Storage Temperature	°C	-20 to + 60	
Relative Humidity ¹	%	10 to 95	

¹A non-condensing environment is required for storage and operation.

IEC regulations

This product complies with CEI IEC regulation 60825-1-2007. The purchaser acknowledges the need to bring the final product into compliance with IEC 60825 before it can be sold to an end-user. Complies with FDA performance standards for laser products for Laser Notice No. 50, April 2010.



Notice

nLIGHT continually improves its products to provide our customers with outstanding quality and reliability. nLIGHT may make changes to specifications and product descriptions at any time, without notice. In addition, nLIGHT offers a limited warranty to ensure customer satisfaction. For complete details, please contact your nLIGHT sales representative.

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