

PowerLine E 6/12 QS (AC) Series

High-Performance
Air-Cooled Green DPSS
Laser Markers

PowerLine E QS Series are air-cooled Class 4 laser marking sub-systems ideal for applications where mark quality, aesthetics and legibility are critical. They combine a diode-pumped, green solid-state laser with high-performance scanning and beam delivery optics, drive electronics, and powerful control software to yield a fast, flexible, and accurate marking platform. The included Visual Laser Marker (VLM) applications software enables mark artwork to be transferred directly from a computer to the marker, and supports a number of sophisticated functions, including marking-on-the-fly and 3D marking, and marking of variable data (bar codes, serial numbers).

Features and Benefits

- Compact design for easy integration
- Air cooling
- Precision optics for superior mark quality
- Powerful VLM marking software
- Control by PC, PLC, or fieldbus
- Versatile configuration options including optical z-axis, internal power sensor, positioning laser

Applications

- Semiconductor IC and Wafer Marking
- Organics and Glass Marking
- Marking-on-the-Fly (conveyor belt or rotary axis)
- SmartMap3D Freeform Marking
- High-Precision Marking with PartVision-System



PowerLine E 6/12 QS (AC) Series

High-Performance Air-Cooled Green DPSS Laser Markers

SPECIFICATIONS

SPECIFICATIONS	PL E 6 QS (AC)	PL E 12 QS (AC)	PL E 12 QS (AC) D
Laser Type	DPSS		
Wavelength (nm)	532		
Average CW Power (W)	-	-	-
Average Power (W)	6 (at 50 kHz)	12 (at 50 kHz)	12 (at 50 kHz)
Pulse Energy (mJ)	0.12 (at 50 kHz)	0.24 (at 50 kHz)	0.24 (at 50 kHz)
Pulse-to-Pulse Stability (% rms)	<1		
Frequency Range (kHz)	5 to 200	15 to 200	15 to 200
Pulse Width (ns)	<60 (at 50 kHz)	<30 (at 50 kHz)	<30 (at 50 kHz)
M ²	≤1.2		
Beam Diameter (mm) (typ.)	1.6 ±0.2	2.5 ±0.3	2.5 ±0.3
Weight (kg)			
Laser Head	20	20	25
Supply Unit	23	23	23
Cable Laser Head - Supply Unit (m)	5 (optional: 3)		
DPSS Laser Type	Vanadate		
Cooling	Air cooling. Ambient operating temperature: +18 to +35°C		
Scanners	Range of scanners for general marking, on-axis alignment, high precision marking (digital encoder)		
Optical Z-Axis	Yes (option) [not available for PowerLine E 12 QS (AC) D]		
Marking Field Size	Between 60 mm x 60 mm and to 600 mm x 600 mm depending on f-Theta objective and wavelength		
Positioning Help Laser	Yes (option)		
Physical Dimensions	Physical dimensions and working distance of the laser marker depend on the detailed configuration. Please refer to the technical drawing.		
Mounting of Laser Marker	Horizontal. Optionally, other mounting directions possible on demand.		
Supply Unit	19" rack mount unit, height: 3 rack units		
PC	Intel Core i3, 3.7 GHz, 256 GB SSD, single-board PC integrated into supply unit		
Interfaces			
PLC Control	Parallel interface (digital I/Os). Encoder devices can be connected to differential I/Os.		
PC Control ¹	LAN (TCP/IP), RS-232 ²		
Fieldbus Control ³	Profibus DP, Profinet IO		
Variable Data	Keyboard input, local file (lot file), barcode reader, via LAN (TCP/IP) ¹ , Matrix objects		
Standard Software	Visual Laser Marker (VLM), Visual Marking Controller (VMC2), Laser Console, RCU.exe		
Marking Objects	Vector graphics, text, logos, ring, bitmap, banding		
Barcodes	GS1 DataBar, Code 39, Code 128, EAN8, EAN13, UPC-A, UPC-E, BookLan and others		
2D Codes	ECC200, Code 49, Micro-PDF417 and other data matrix and QR codes		
Optional Software Features	MJC (Marker Job Control), HK (Host Coupling), Marking-on-the-Fly (MoF), SmartMap3D, CAD Extension, AI, PDF and PS Import, SECS/GEM		
Operating System	Windows 10		
Certificates	PowerLine E Air laser markers comply with the following international standards: EN 60825-1:2014, EN 55011:2009/A1:2010, EN 61000-6-4:2007, EN 61000-6-2:2005, EN 61000-3-2:2014, EN 61000-3-3:2013, 47 CRF Part 18 ICES-003 Issue 4:2004, CDRH (radiation) standard.		

¹ Requires Host Coupling HK, Marker Job Control (MJC) or SECS/GEM software feature.

² Requires an RS-232-to-USB adapter.

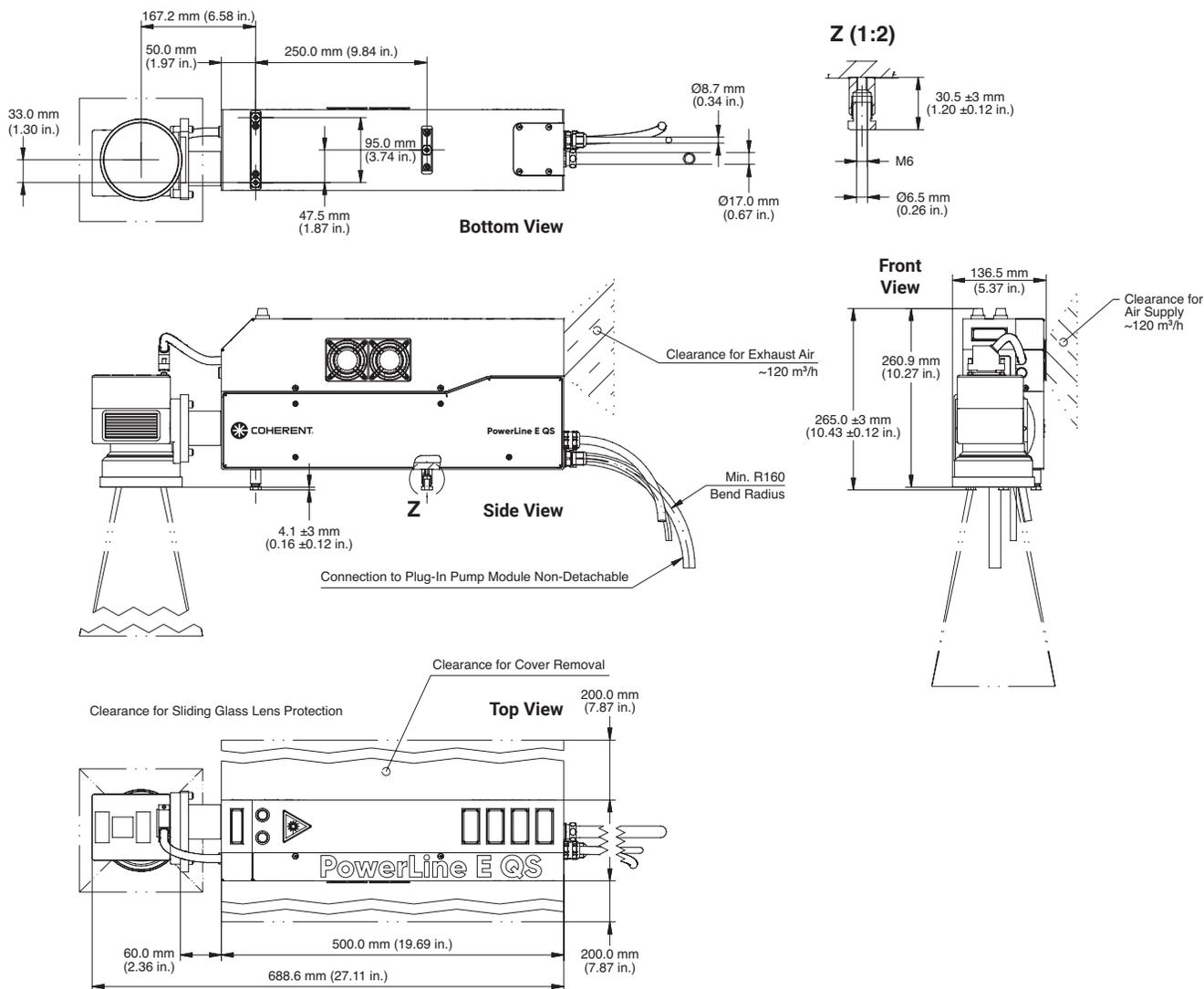
³ The fieldbus interface is provided by a fieldbus coupler. The fieldbus coupler is connected to the supply unit by Fast Ethernet connection.

PowerLine E 6/12 QS (AC) Series

High-Performance Air-Cooled Green DPSS Laser Markers

MECHANICAL SPECIFICATIONS

PowerLine E 6 QS (AC) / E 12 QS (AC), cable connected at rear of laser head

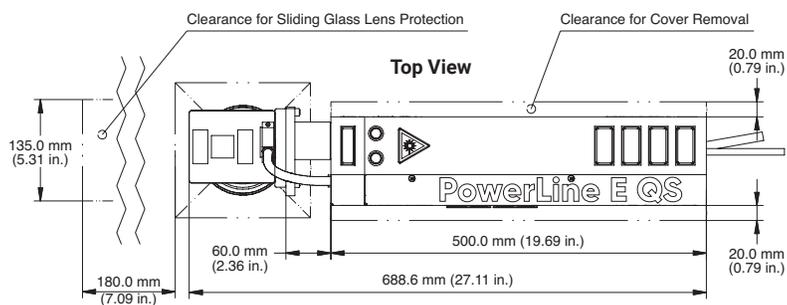
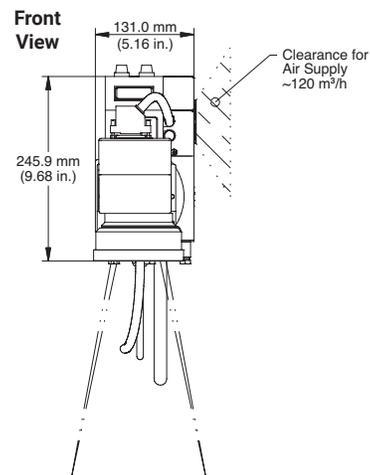
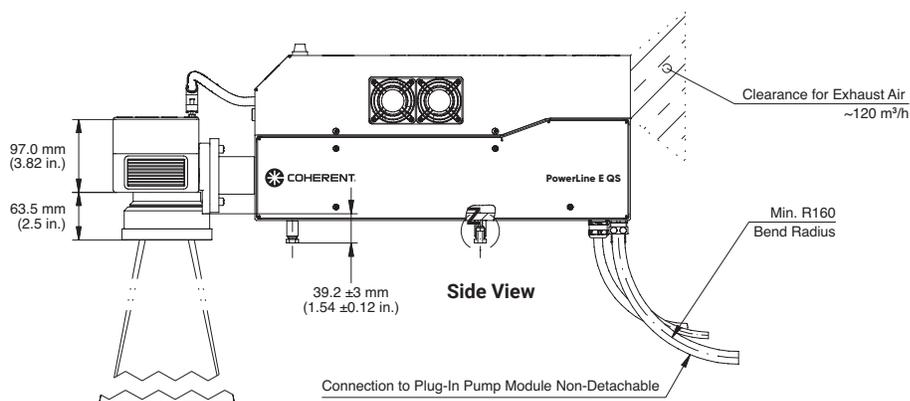
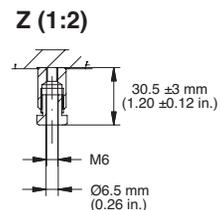
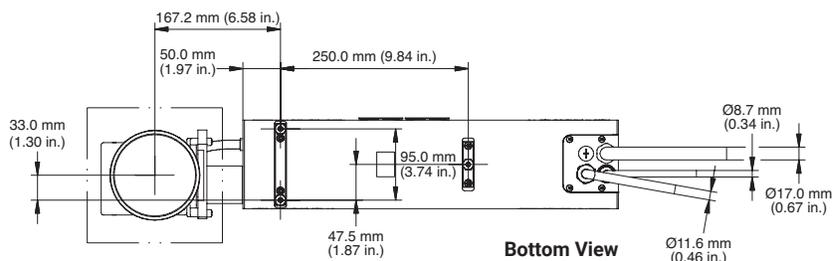


PowerLine E 6/12 QS (AC) Series

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MECHANICAL SPECIFICATIONS

PowerLine E 6 QS (AC) / E 12 QS (AC), cable connected at bottom of laser head

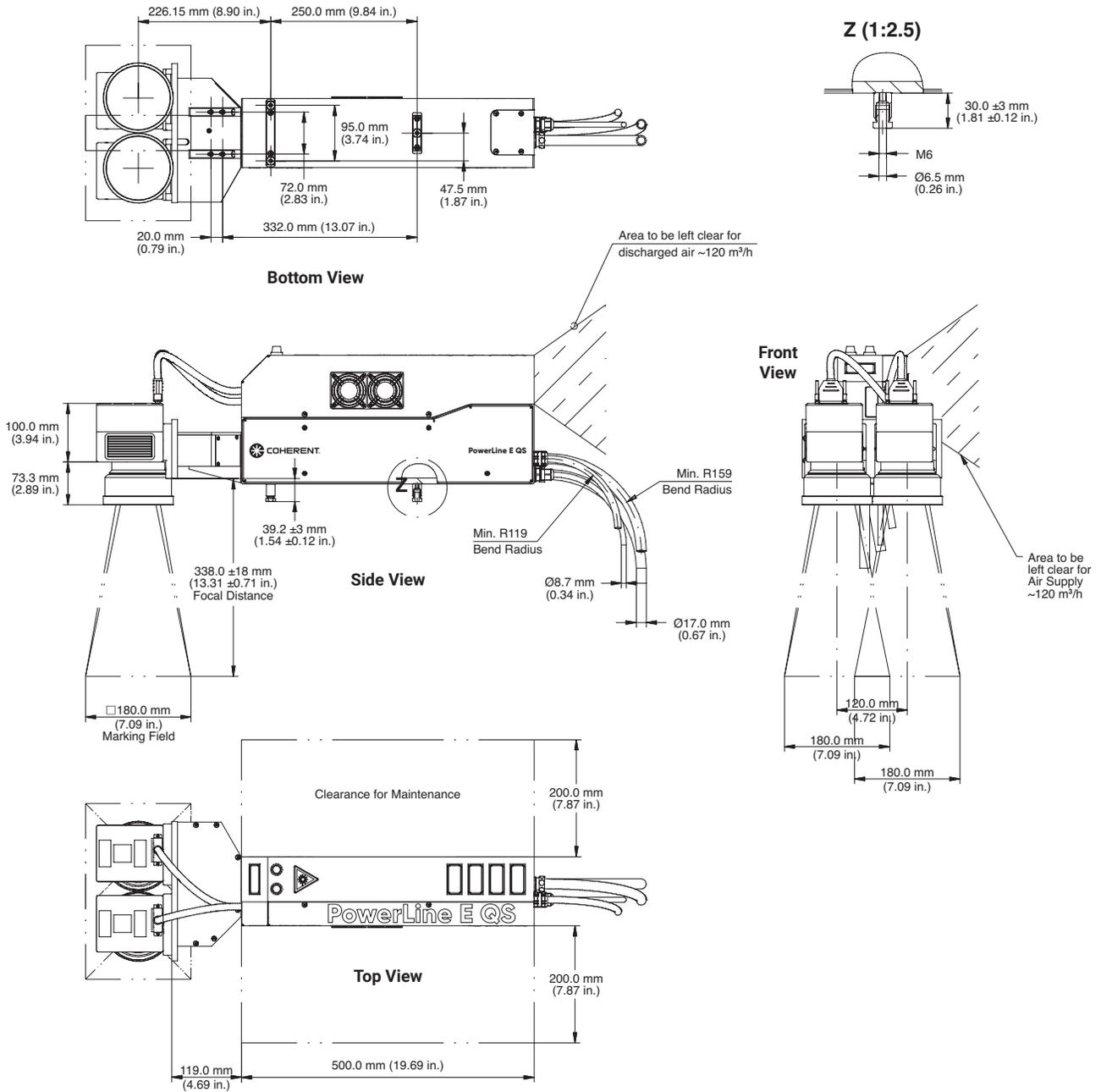


PowerLine E 6/12 QS (AC) Series

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MECHANICAL SPECIFICATIONS

PowerLine E 12 QS D (AC), cable connected at rear of laser head, short splitter flange

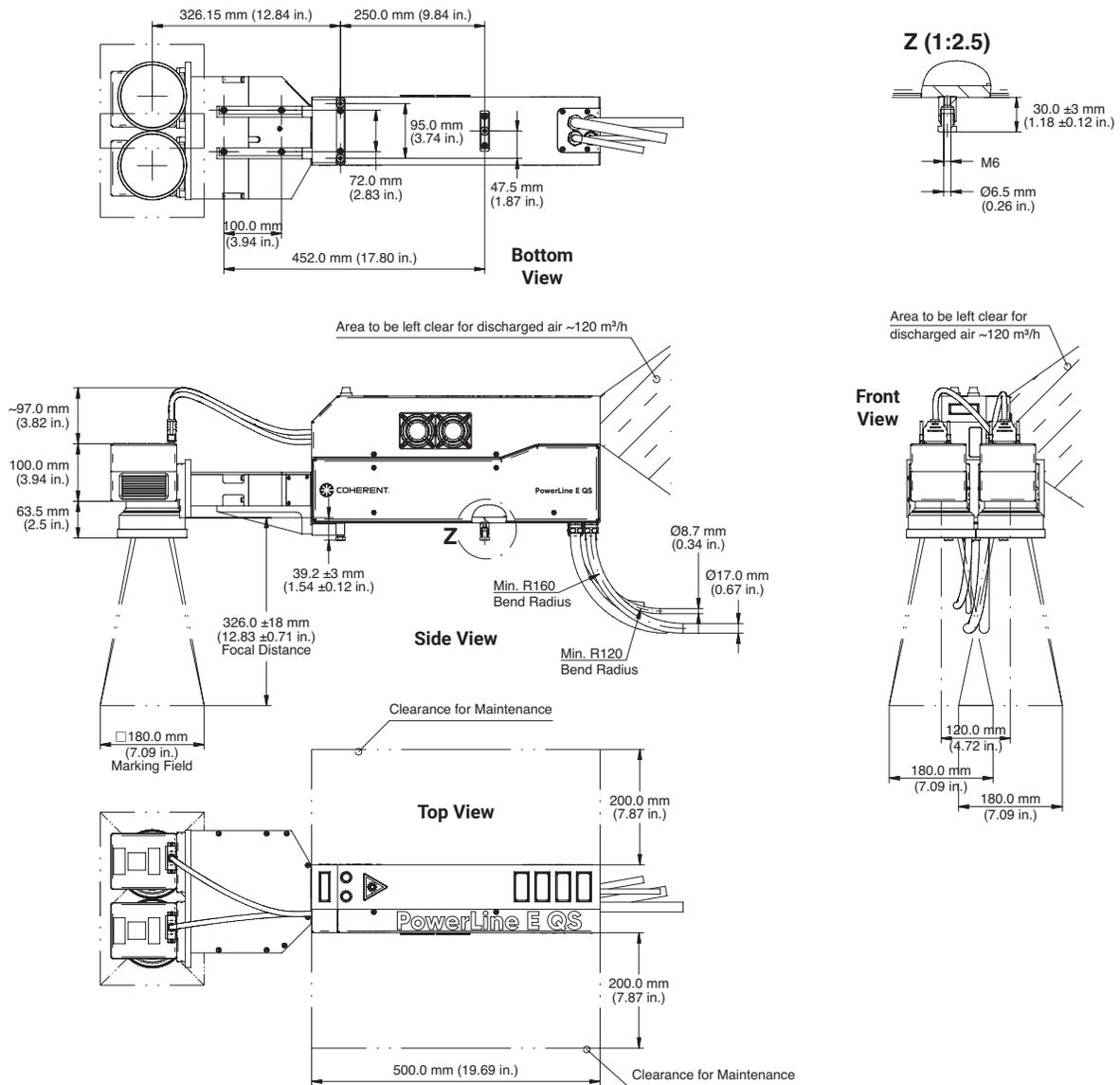


PowerLine E 6/12 QS (AC) Series

High-Performance Air-Cooled Green DPSS Laser Markers

MECHANICAL SPECIFICATIONS

PowerLine E 12 QS D (AC), cable connected at bottom of laser head, long splitter flange



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all PowerLine E Series Lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

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