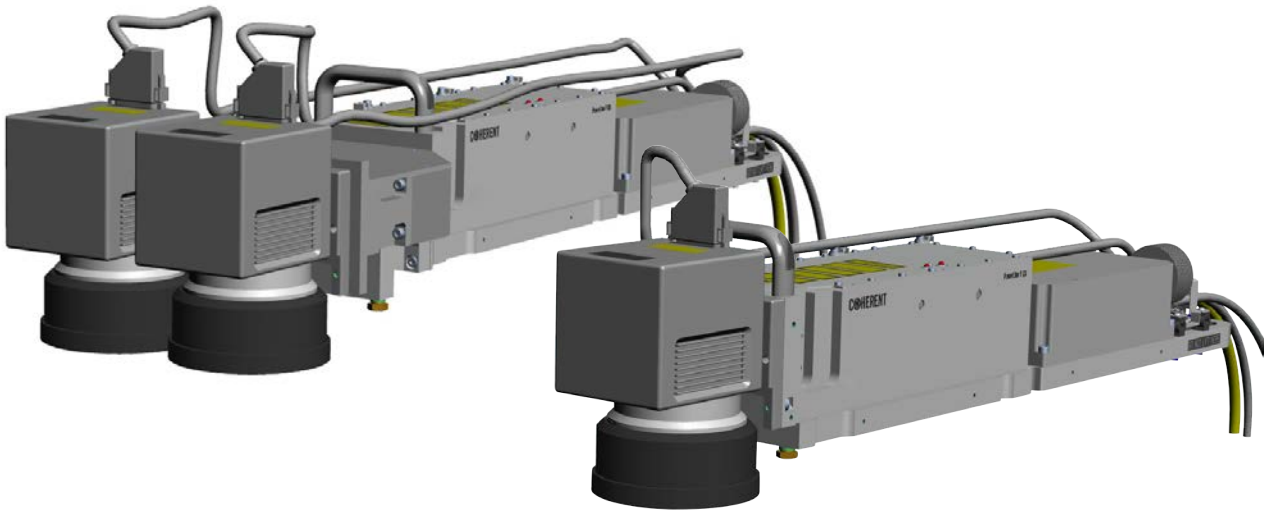
PowerLine F 10/30 QS

Laser Markers with Green Fiber Laser

PowerLine F 10 QS and PowerLine F 30 QS laser markers deliver shallow marks on semiconductor ICs and other heat sensitive components. This is accomplished by combining a green wavelength, nanosecond pulse length fiber laser with high quality scan optics. The PowerLine F 30 QS is available as a dual head laser marker with beam splitter in order to make efficient use of its high power. It offers a very cost-effective solution for high throughput marking in semiconductor fab or other high volume production environments. Marking software included with the PowerLine F 10 QS and PowerLine F 30 QS simplifies the design of sophisticated marks and facilitates the use of variable data (bar codes, serial codes).



FEATURES

- Compact green fiber laser
- Fully air-cooled
- High quality scanners and optics
- Powerful marking software
- Control by PC, PLC, or fieldbus
- SECS/GEM (optional)
- Versatile configuration options

APPLICATIONS

- Shallow depth marking of semiconductor ICs
- Marking of organic materials
- Marking-on-the-Fly (conveyor belt or rotary axis)
- SmartMap3D freeform marking
- Laser Cutting

COHERENT

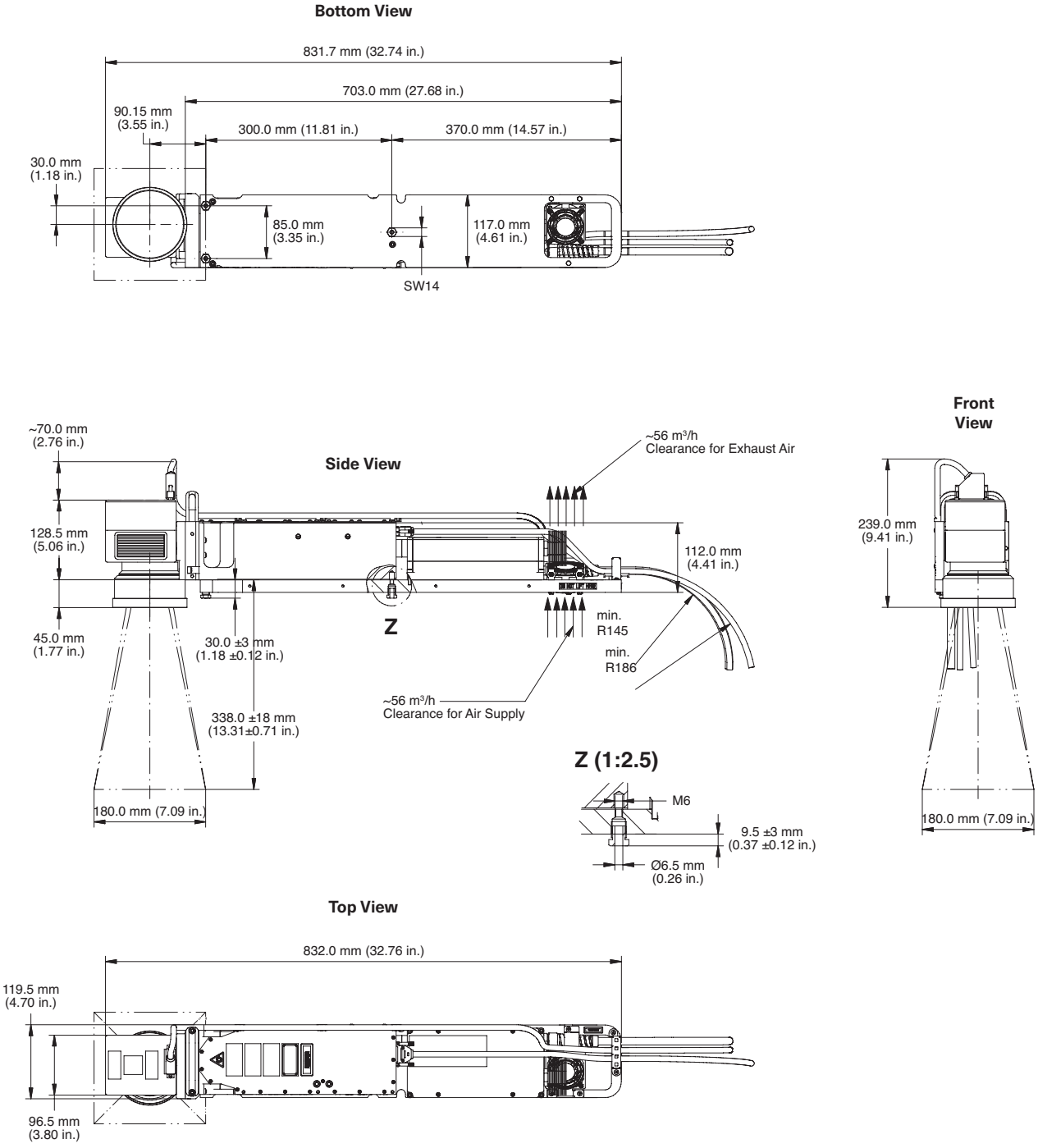
Specifications	PowerLine F 10 QS	PowerLine F 30 QS	PowerLine F 30 QS D
Laser Type	Fiber		
Wavelength (nm)	532		
Average Power (W)	>9 W (at 250 kHz)	>27 W (at 900 kHz)	>27 W (at 900 kHz)[1]
Adjustable Power Range (%)	20 to 100		
Pulse Burst Energy (µJ)	>35	>30	
Pulse-to-Pulse Stability (%rms)	2		
Frequency Range (kHz)	10 to 250	10 to 900	
Pulse Width (ns) (each pulse in the burst)	1.5 ±0.5 (3-pulse burst)		
M2	<1.2		
Beam diameter (mm)	4.5 ±1.0		
Cable between Laser Head and Supply Unit[2] (m)	2.6		
Weight (kg) Laser Head[6] Supply Unit	 20 22	 20 22	 30 22
Fiber Laser Type	Frequency-doubled Yb-doped fiber laser		
Cooling	Air cooling		
Ambient Operating Temperature	+15 to +30°C	+15 to +25°C	
Scanners	Range of scanners for general marking, on-axis alignment, high precision marking (digital encoder)		
Optical z-axis	Yes (option)		
Marking Field Size	Between 60 mm x 60 mm and to 600 mm x 600 mm depending on f-Theta objective(s)		
Positioning Help Laser	Yes		
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 (laser head and supply unit)		
Supply Unit	19” rack mount unit, height: 4 rack units		
Interfaces (PLC control)	Parallel interface (digital I/Os). Encoder devices can be connected to differential I/Os.		
Interfaces[3] (PC control)	LAN (TCP/IP), RS-232[4]		
Fieldbus Control[5]	Profibus DP, Profinet IO		
Variable Data	Keyboard input, local file (lot file), barcode reader, via LAN (TCP/IP) 4, Matrix objects		

Notes:
1. At beam exit before entering the splitter flange.
2. The fiber laser module is mounted inside the supply unit. The fiber link between marker head and laser module cannot be unplugged.
3. Requires Host Communication (HK), Marker Job Control (MJC) or SECS/GEM software feature.
4. Requires an RS-232-to-USB-adapter.
5. The fieldbus interface is provided by a fieldbus coupler. The fieldbus coupler is connected to the supply unit by Fast Ethernet connection.
6. Weight of laser head incl. standard optics and scanner heads.

Specifications	PowerLine F 10 QS	PowerLine F 30 QS	PowerLine F 30 QS D
Standard Software	Visual Laser Marker (VLM), Visual Marking Controller (VMC2), Laser Console, RCU.exe		
Marking Objects	Vector graphics, text, logos, ring, 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), CAD Extension, AI, PDF and PS Import, SECS/GEM, Marking-on-the-Fly (MoF), SmartMap3D		
OS-Single Board PC	Windows 10		
Compliance	PowerLine F 10 QS laser markers comply with the following international standards: CE compliant; CDRH (Radiation) Standards: 21 CFR subchapter J, as applicable 21 CFR 1040, 10 und 1040, 11; FCC 6		
Classification	Laser class 4, according to EN 60825-1:2014		

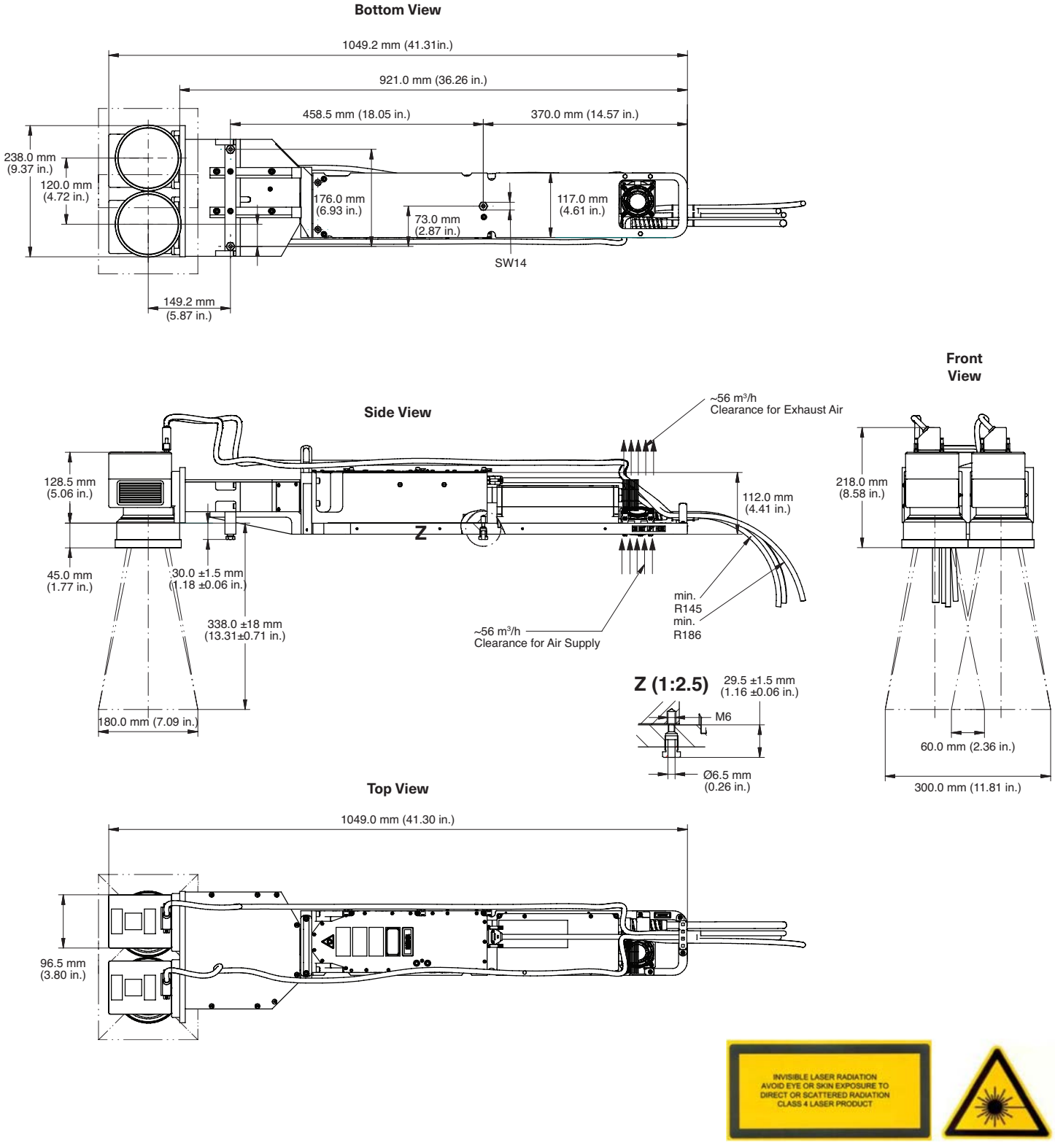
Mechanical Specifications

PowerLine F QS



Mechanical Specifications

PowerLine F QS D



For more information
www.coherent.com