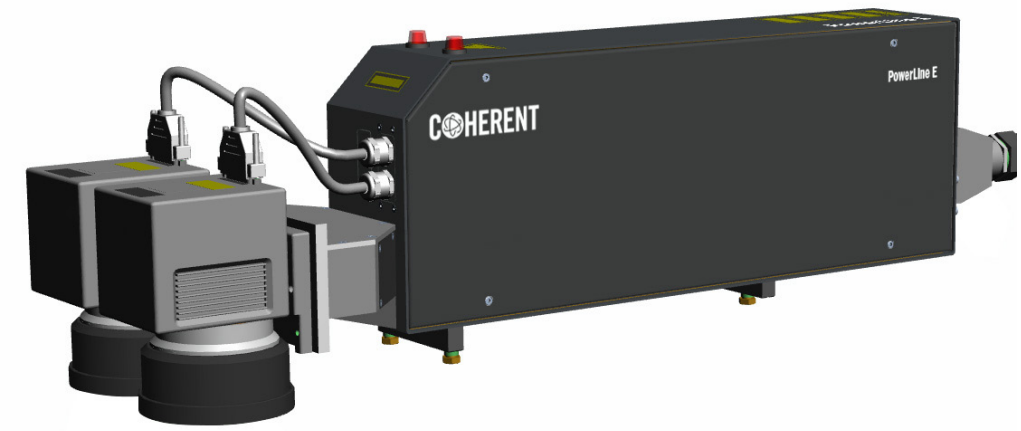
PowerLine E Series with Beam Splitter

High-Performance DPSS Laser Markers for Semiconductor IC Marking

PowerLine E is an economical, high-speed, and flexible marking solution used widely throughout the semiconductor industry with IC strips, lead frames and JEDEC trays. PowerLine E can mark two parts simultaneously, therefore doubling throughput. This is accomplished by splitting the output of a single DPSS laser in two, and then using two separate, high-performance galvanometer scanners and beam delivery systems. Each scanner has its own, individual marking field calibration file to ensure accurate marking results on all semiconductor devices.



FEATURES

- Compact design for easy integration
- Water/Air-cooling
- Precision optics for superior mark quality
- Powerful VLM marking software
- Control by PC or PLC
- Marking software supports Matrix Objects
- SECS/GEM equipment to host communication (optional)
- Versatile configuration options including internal power sensor or positioning laser

APPLICATIONS

- Marking of lead frames
- Marking of IC strips
- Marking of JEDEC trays

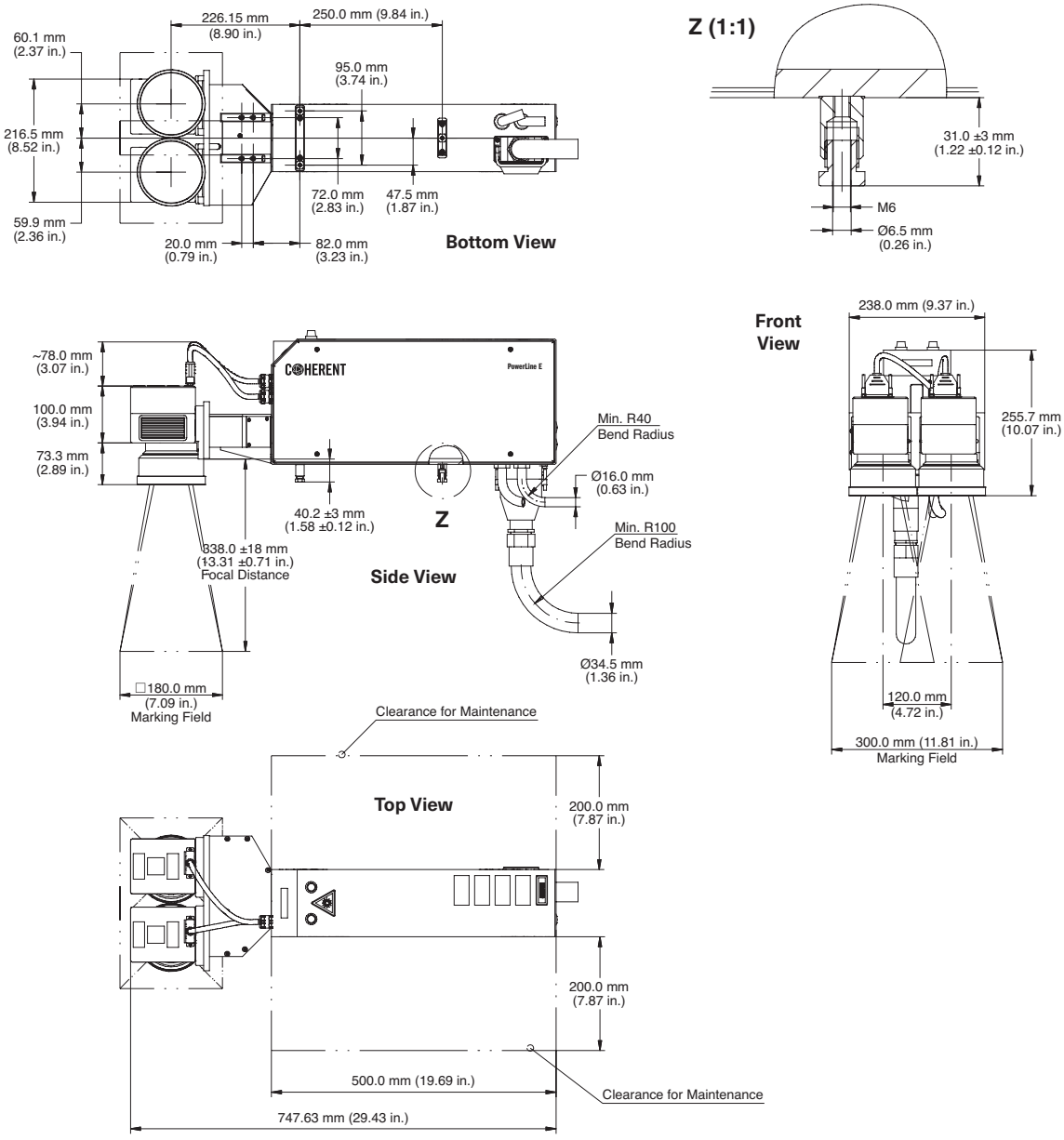
COHERENT

Specifications	PowerLine E 30-1064 D	PowerLine E 40-1064 D	PowerLine E 20-532 D	PowerLine E 25-532 D
Laser Type	DPSS			
Wavelength (nm)	1064	1064	532	532
Average CW Power[1] (W)	25	40	-	-
Average Power[1] (W)	20 (at 60 kHz)	35 (at 60 kHz)	12 (at 50 kHz)	18 (at 50 kHz)
Pulse Energy[1] (mJ)	0.36 (at 60 kHz)	0.60 (at 60 kHz)	0.24 (at 50 kHz)	0.36 (at 50kHz)
Pulse Stability (% rpm)	3	3	2	2
Frequency Range (kHz)	cw, 0 to 200	cw, 30 to 200	15 to 200	15 to 200
Pulse Width (ns)	40 (at 60 kHz)	35 (at 60 kHz)	25 (at 50 kHz)	32 (at 50 kHz)
M^2	2 to 4	2 to 4	≤1.5	≤1.5
Beam Diameter (mm)	3.4 ±0.4	3.3 ±0.4	2.5 ±0.3	2.7 ±0.4
Cable Laser Head - Supply Unit	5 m (optional: 3 m)			
Weight Laser Head (kg)	15			
Weight Beam Splitter (kg)	7			
Weight Supply Unit (kg)	16			
Weight Water/Air Chiller (kg)	45 (PowerLine E 40-1064 D)			
DPSS Laser Type	Vanadate			
Cooling	Water-air or water-water cooling. Ambient operating temperature: +15 to +35°C			
Scanners	Range of scanners for general marking, on-axis alignment, high precision marking (digital encoder)			
Optical Z-Axis	No			
Marking Field Size	120 mm x 240 mm or 180 mm x 300 mm, depending on f-Theta objectives			
Positioning Help Laser	Optional			
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			
PC	Intel Core i3, 3.6 GHz, 256 GB SSD, single-board PC integrated into supply unit			
Supply Unit	19” rack mount unit, height: 3 rack units			
Water-Air Chiller	19” rack mount unit, height: 6 rack units (PowerLine E 40-1064 D: 7 rack units)			
Water-Water Chiller	19” rack mount unit, height: 6 rack units			
Interfaces (PLC control)	Parallel interface (digital I/Os)			
Interfaces[2] (PC control)	LAN (TCP/IP), RS-232[3]			
Variable Data	Keyboard input, local file (lot file), barcode reader, via LAN (TCP/IP)[2], 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), CAD Extension, AI, PDF and PS Import, SECS/GEM			
Operating System	Windows 10			
Certificates	PowerLine E 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.			

Notes:
1. At beam exit before entering the splitter flange
2. Requires Host Coupling HK, Marker Job Control (MJC) or SECS/GEM software feature.
3. Requires an RS-232-to-USB-adapter.

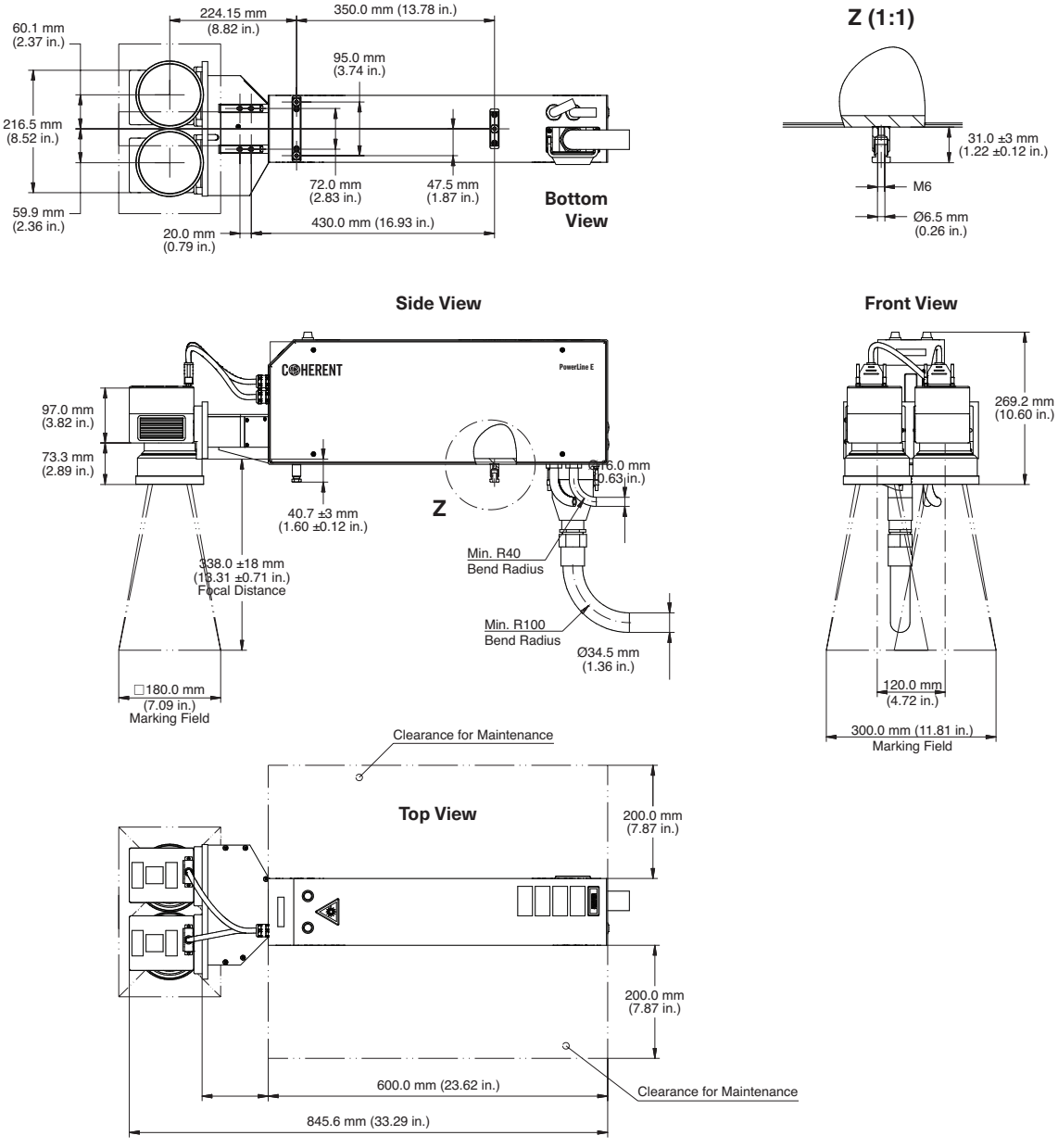
Mechanical Specifications

PowerLine E 30-1064 D, PowerLine E 20-532 D,
cable connected at bottom of laser head, standard splitter flange



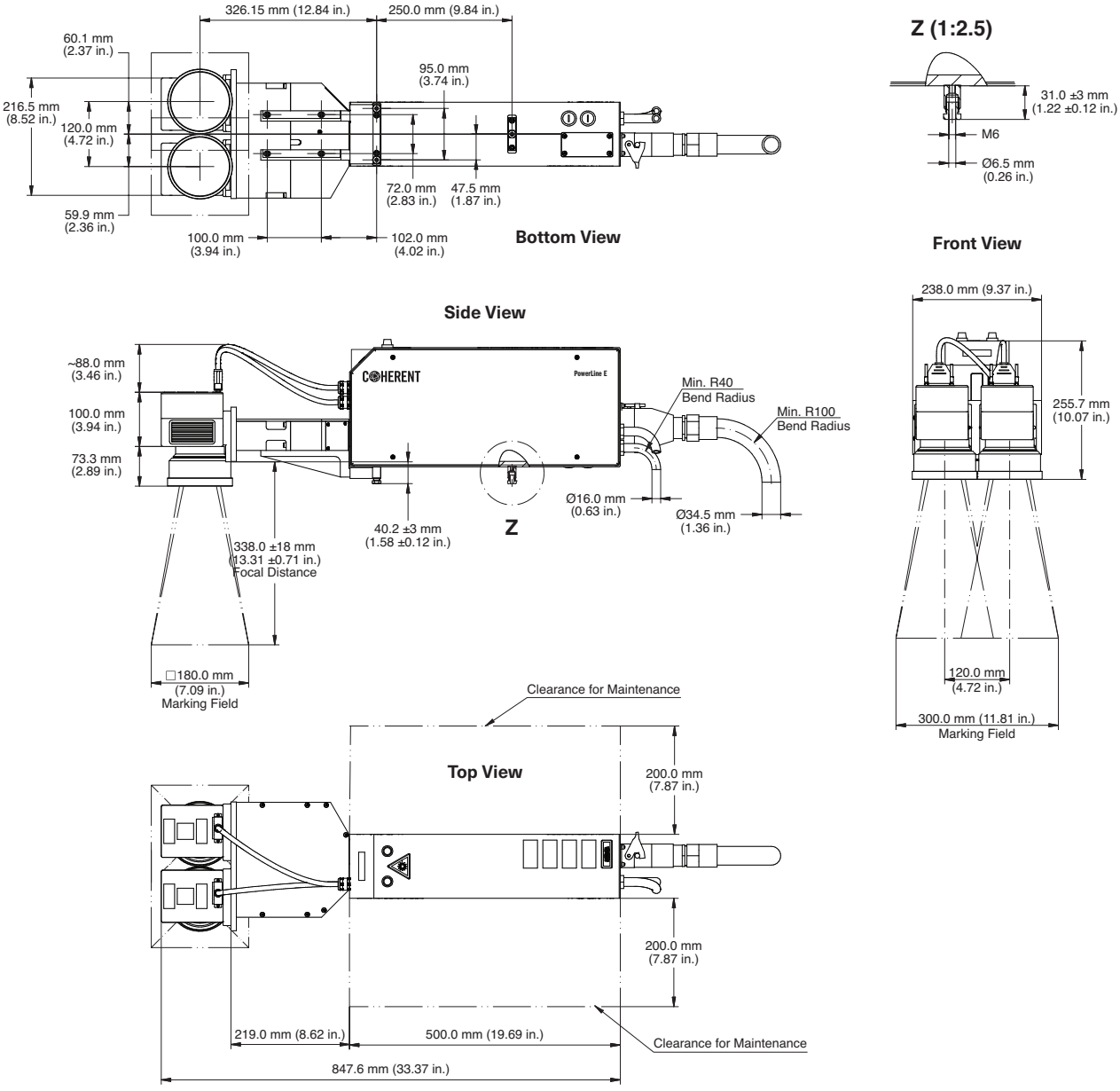
Mechanical Specifications

PowerLine E 40-1064 D, PowerLine E 25-1064 D,
cable connected at bottom of laser head, standard splitter flange



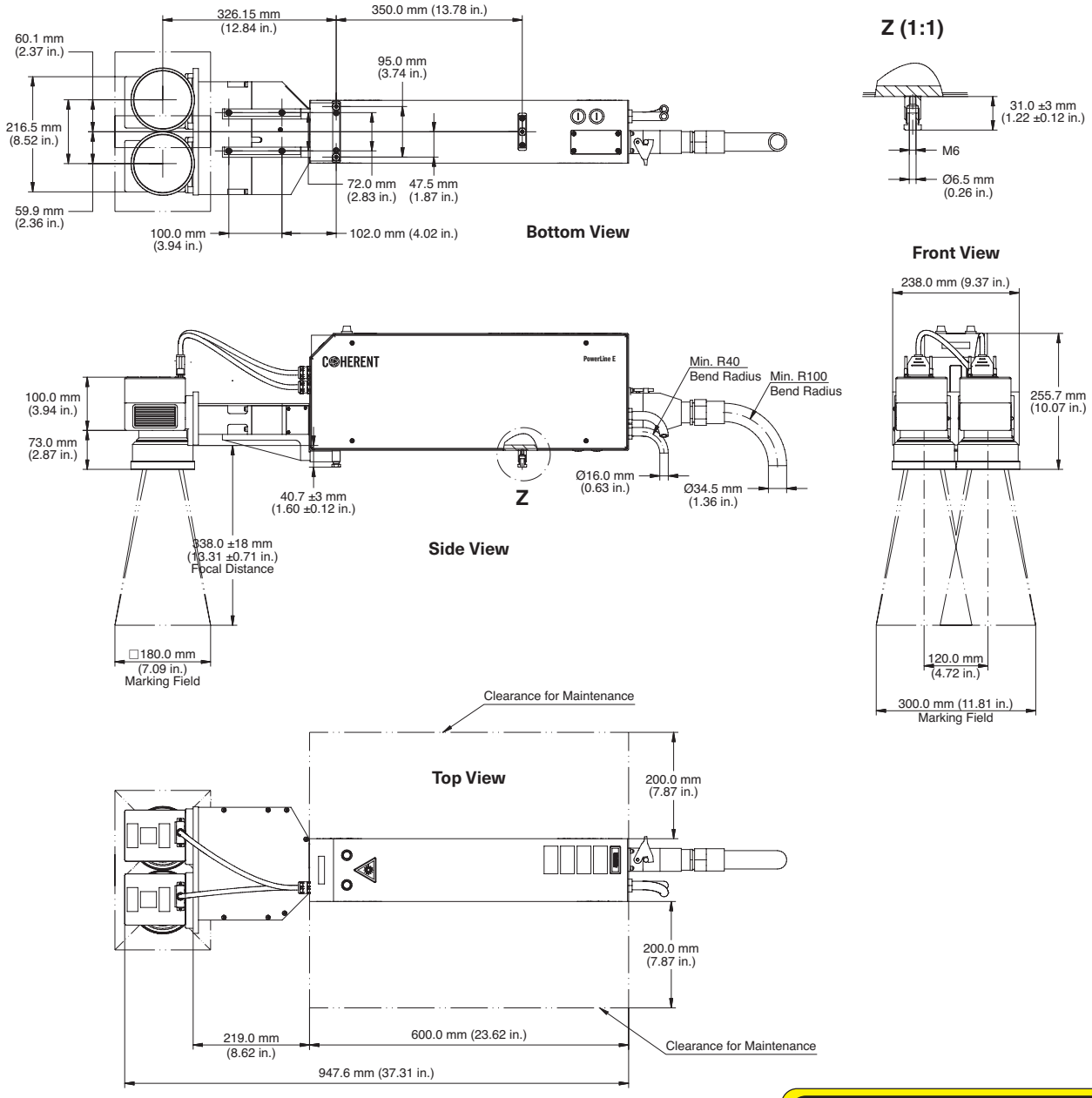
Mechanical Specifications

PowerLine E 30-1064 D, PowerLine E 20-532 D,
cable connected at rear of laser head, long splitter flange for variable beam expander



Mechanical Specifications

PowerLine E 40-1064 D, PowerLine E 25-532 D,
cable connected at rear of laser head, long splitter flange for variable beam expander



For more information
www.coherent.com