



# PowerLine F Series with Beam Splitter

## Fiber-Laser Markers for the Semiconductor Industry

PowerLine F is an economical, high-speed marking solution that is used widely in the semiconductor industry with IC strips, lead frames and JEDEC trays. It utilizes a beam splitter to direct the output of a single infrared fiber laser into two separate, high-performance galvanometer scanners and their associated beam delivery optics. The ability to mark two parts simultaneously doubles throughput. Plus, each scanner has its own, individual marking field calibration file to ensuring accurate marking results on all semiconductor devices. PowerLine F also includes drive electronics and powerful control software to complete this fast, flexible, and cost-effective marking platform.

### FEATURES & BENEFITS

- High throughput
- Air-cooled
- Controlled by PC or PLC
- 19" rack-mount control electronics
- Versatile configuration options
- Low operating cost

### APPLICATIONS

- Marking of Lead Frames
- Marking of IC Strips
- Marking of JEDEC Trays



## PowerLine F Series with Beam Splitter Datasheet

MODEL	PL F 20-1064 D	PL F 30-1064 D	PL F 50-1064 D	PL F 100-1064 D	PL F 20 Varia D	PL F 50 Varia D
Laser Type	Fiber					
Wavelength (nm)	1064					
Average Power <sup>1</sup> (W)	2 x 9.0	2 x 13	2 x 22.0	2 x 45.0	2 x 9.0	2 x 22.0
Pulse Energy (mJ)	<2 x 0.43					
Frequency Range (kHz)	20 to 100	30 to 100	50 to 200	5.1 to 200	2 to 1000	2 to 1000 <sup>2</sup>
Pulse Width (ns)	100 (at 20 kHz)	100 (at 30 kHz)	120 (at 50 kHz)	100 (at 100 kHz)	4 to 200 <sup>2</sup>	1 to 120 <sup>2</sup>
M <sup>2</sup>	<2.0					
Beam Diameter (mm)	7.5 ±1.5	7.5 ±1.5	5.0 ±1.0	5.0 ±1.0	5.0 ±1.0	5.0 ±1.0
Cable Between Laser Head and Supply Unit <sup>3</sup> (m)	2.6	2.6	2.6	2.6	1.65	1.65
Weight Laser Head (kg)	7.5 / 4.5 <sup>4</sup>	7.5 / 4.5 <sup>4</sup>	7.5	7.5	7.5	7.5
Weight Beam Splitter (kg)	7	7	7	7	7	7
Weight Supply Unit (kg)	22	22	25	27	21	25
Fiber Laser Type	Yb-doped fiber laser					
Cooling	Air 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	Standard housing: Yes / Short housing: No					
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					
Supply Unit	19" rack mount unit, height: 3 rack units (PowerLine F 100-1064: 4 rack units)					
Interfaces PLC Control PC Control <sup>5</sup>	Parallel interface (digital I/Os). Encoder devices can be connected to differential I/Os. LAN (TCP/IP), RS-232 <sup>6</sup>					
Variable Data	Keyboard input, local file (lot file), barcode reader, via LAN (TCP/IP) <sup>5</sup> , 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					
OS-Single Board PC	Windows 10					
Certificates	PowerLine F laser markers are certified according to 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 and fulfill the CDRH (radiation) standard.					

<sup>1</sup> Measured behind splitter flange without scanner and optics.

<sup>2</sup> Pulse width is selectable. PowerLine F 50 Varia: Available frequency range depends on selected pulse width.

<sup>3</sup> The fiber laser module is mounted inside the supply unit. The fiber link between marker head and laser module cannot be unplugged.

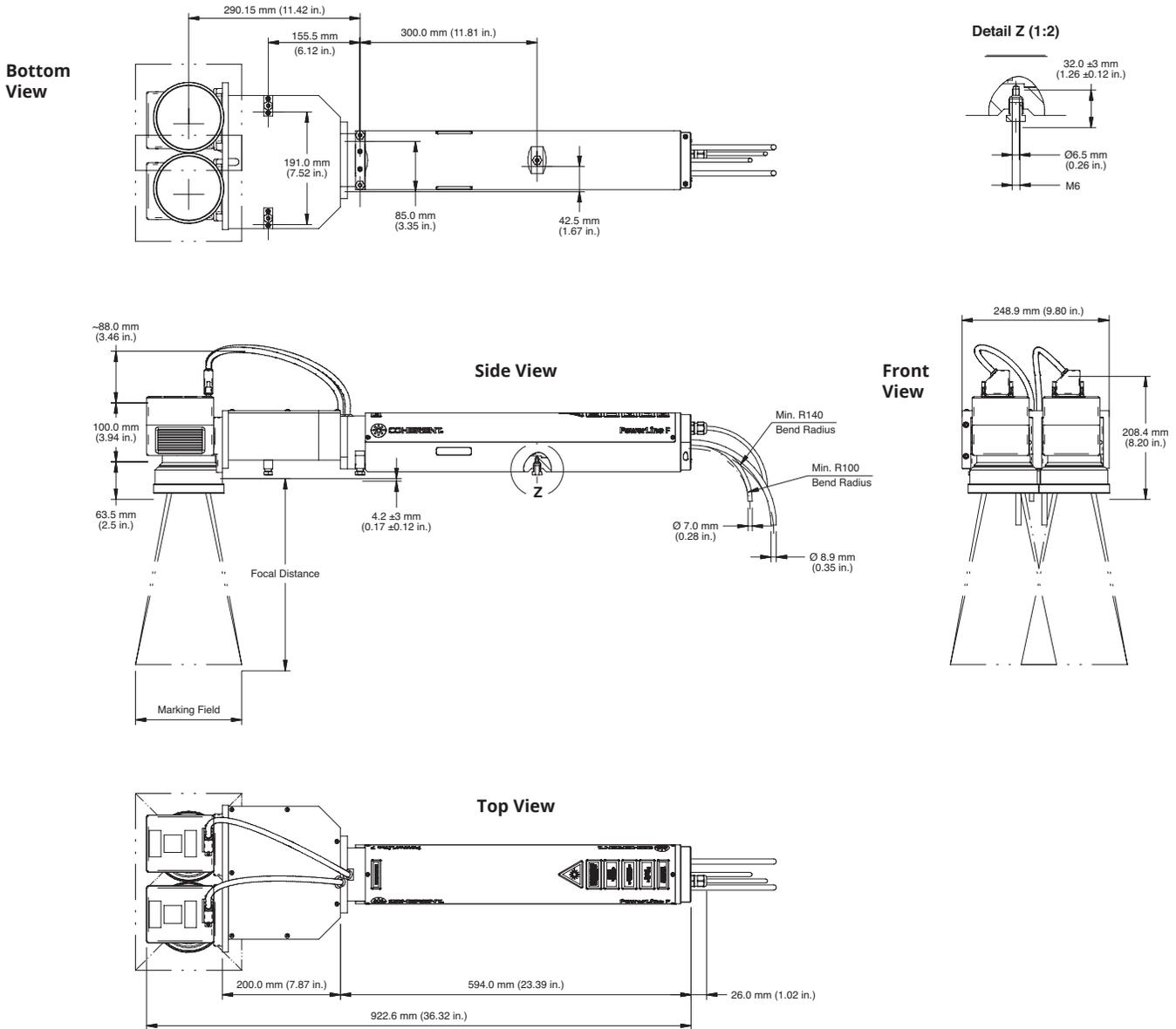
<sup>4</sup> Weight of PowerLine F 20-1064 and PowerLine F 30-1064 with short housing.

<sup>5</sup> Requires Marker Job Control (MJC) or SECS/GEM software feature.

<sup>6</sup> Requires an RS-232-to-USB-adaptor.

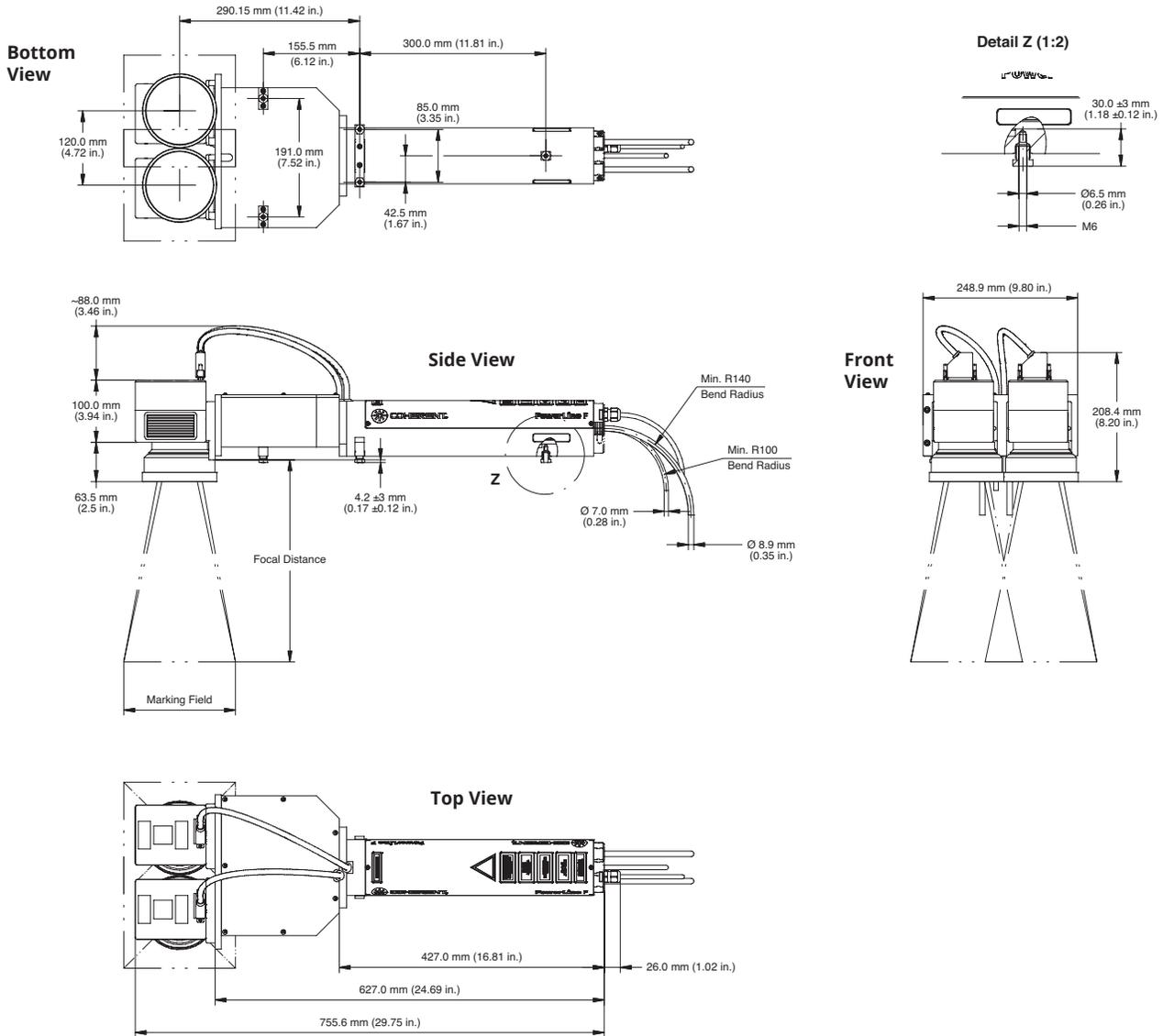
## MECHANICAL SPECIFICATIONS

PowerLine F 20-1064 D / 30-1064 D / 50-1064 D / 100-1064 D / Varia 20 D / Varia 50 D



## MECHANICAL SPECIFICATIONS

### PowerLine F 20-1064 D / 30-1064 D (short housing / no positioning laser)



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Coherent offers a limited warranty for all PowerLine F Series Lasers. For full details of this warranty coverage, please refer to the Service section at [www.coherent.com](http://www.coherent.com) or contact your local Sales or Service Representative. MC-041-20-0M1220 Copyright ©2020 Coherent, Inc.