PYROTEC PACKMARK

20-watt fiber laser coder

SmartLase® F250

Smart, safe and compact – An intelligent choice for your smart factory

Power in a small package! The SmartLase® F250 delivers high-quality, chemical-free, permanent coding as it lowers your operating expenses. Exceptional performance in high- speed applications—even with increasing code complexity of 1D and 2D codes—all in an easy-to-integrate and easy-to-operate compact unit.

Your benefits

- High-quality, permanent coding on high density substrates
- Lower OPEX with fewer line stoppages, increased efficiency and no chemicals—ensures greater sustainability
- Improved, easier to operate and more intuitive user interface for up to 20% increase in operator efficiency
- Industry 4.0 ready–enabling advanced Packaging Intelligence
- Compact, safe and powerful

Product features

Crisp, superb quality, permanent codes

- Clean, readable and traceable–even at the highest line speeds and product throughput
- Indelible marking protects against counterfeiting
- High-speed digital galvanometers driven by a unique algorithm

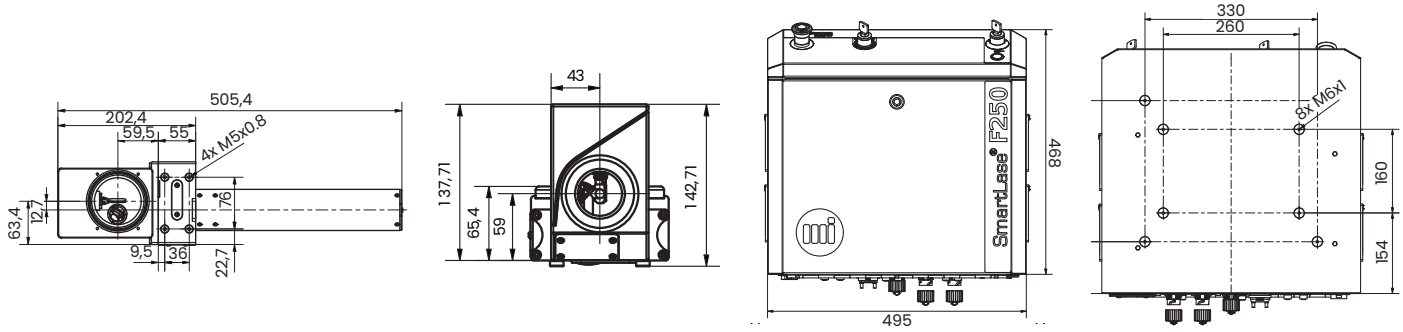
Lower OpEx, higher efficiency and chemical-free

- No added costs for consumables or external cooling
- Increased efficiency, reduced maintenance and fewer line stoppages
- Virtually maintenance-free
- Clean, sustainable and compliant

Industry 4.0 ready, rugged and safe

- Industry 4.0 optimized with a variety of industrial interfaces such as Ethernet/IP, PROFINET, NGPCL and full-featured CoLOS® software support
- Designed for the most challenging manufacturing environments with a complete IP55 controller and printhead
- Meets the highest standard of safety for E-stop and interlock circuits per ISO 13849-1 / PLe

SmartLase F250 Specifications



Laser type and properties

20 W 1064 nm ytterbium pulsed fiber laser, digital galvanometers, pulse 20-200 kHz

Applications/substrates

Flexible film, metals, some plastics and polymers (e.g., HDPE, PP, PVC, PS, etc.)*
Coding in stationary or moving "on the fly" applications

Marking speed (max.)

Characters/sec:
Up to 2000 char/s (8 mm scanhead) or up to 1500 char/s (10 mm scanhead) *

Product per hour: 150,000 pph*

Line speed: Up to 900 m/min*

Print features

Number of text lines:
Limited only by character height and allowable print area

Character height:
From 0.2 mm to allowable print area

Fonts:
English/Latin, Arabic, Cyrillic, Hebrew, Korean, Japanese (Katakana, Hiragana, Kanji), Chinese (Hanzi) OCR, TrueType** and Unicode

1D barcodes:
Code 39, Code 128, Code 2 of 5 (industry), I2 of 5, EAN 8, EAN 13, Code 128-A, Code 128-B, UPC-A, UPC-E, EAN 128, ITF 14

2D barcodes:
Data Matrix ECC200, QR Code, HIBC QR Code, Micro QR Code, Aztec, DotCode and HIBC Aztec

Logos, graphics:
DXF, PLT, FPS, EPS, PS, SVG, AI, CDR, PDF**

Data automation:
Static, user-prompted, alphanumeric counter, serial, external promotional codes (CoLOS only), multi-code/ calculated field (e.g., yyyymmddnnn)

Time/date handling:
Standard, custom, time / day offsets, prompting BBE date (CoLOS only), start week, update and rounding rules, custom calendars

Print field manipulation:
Linear, angular, rotation, mirror (SL F250), circular, scaling, matrix (CoLOS only)

Interface and control

Connections:
Ethernet TCP/IP, PoE and industrial, RS-232, USB, digital I/O, custom programmable outputs, sensor, encoder, shutter, fume extractor controls, alarm beacon, start/stop, safety shutter, dual channel interlocks

Direct laser control:
TCP/IP, UDP, RS-232, Optional PROFINET or EtherNet/IP, NGPCL

Pointing diode:
Standard, configurable: rectangle outline, content

User interface:
10"/250 mm touchscreen user interface in languages: Arabic, Chinese, Croatian, Czech, Dutch, English, French, German, Hebrew, Italian, Korean, Polish, Portuguese, Romanian, Russian, Slovenian, Spanish, Swedish, Turkish, and Vietnamese

Other UI options:
Remote PC access via VNC

Software
CoLOS® V6 full support includes matrix layout design, promotional coding, OPC UA, PackML V3.0

Industrial interfaces:
Optional Interface: OPC UA (CoLOS), PackML V3.0 (CoLOS)

Safety interlock:
Dual independent channel with safety relays per PL e/ Category 4 of machinery safety

Options and accessories

Scanheads:
Standard: 8 mm Straight
Standard: 8 mm 90° angle
HD: 10 mm Straight
HD: 10 mm 90° angle

Lens options: print area, working distance and depth of field:
8 mm scanhead:
100x100 mm / FD 160 mm / WD: 192 mm
150x150 mm / FD 254 mm / WD: 298 mm
10 mm scanhead:
60x60 mm / FD 100 mm / WD: 125 mm
100x100 mm / FD 160 mm / WD: 200 mm
150x150 mm / FD 254 mm / WD: 356 mm
220x220 mm / FD 330 mm / WD: 442 mm
300x300 mm / FD 420 mm / WD: 548 mm

Misc: Standard MI laser accessories: encoder, sensors, beacon towers, fume extractors, etc.

Physical characteristics

Ingress protection: IP55; Remote UI: IP66

Safety performance level:
ISO13849 safety performance level: PLe; Category 4 machine safety

Operating temperature range:
5° C (41 °F) to 40° C (104° F)

Operating humidity:
10 to 95% non-condensing

Electrical power supply:
1 phase 115/230 V 50/60 Hz, 300 VA

Controller dimensions:
506 mm x 497 mm x 210 mm

Printhead dimensions
492 mm x 112 mm x 129.2 mm

Controller weight: 27 kg (59.5 lbs)

Printhead weight: 8.6 kg (18.9 lbs)

Umbilical length: 2.7 m

Outer material
Controller cabinet: stainless steel; head: stainless steel and anodized aluminum

Laser source MTBF: 100,000 hours

Cooling:
Fan cooled. No plant air required for cooling

Certifications/Approvals

CE, cMETus (UL/CSA/IEC 62368-1, IEC/CSA 60825-1), CRDH, FCC, UKCA, CMIM, RCM

Remote services

Miva, intelligent self-support solution
Live helpdesk support with remote video capabilities

*variable based on specific application requirements and substrates

**may require Markem-Imaje support

www.pyrotec.co.za | packmark@pyrotec.co.za | +27 21 787 9600

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