



**SOLARIS LASER**

a **DOVER** company



## Medium-duty fiber laser coder **e-SolarMark+ eFLS**



### Long-lasting laser coder for permanent, readable and chemical free coding

The e-SolarMark+ eFLS fiber laser is an exceptional solution for permanent and readable coding. Engineered to offer over 100,000 plus maintenance-free working hours and to guarantee costs-effective operation.

The e-SolarMark+ eFLS fiber laser units deliver superb marking of alphanumerical texts, dates, timers, serial numbers, barcodes, 2D codes, and graphics.

### Your benefits

- Fast and permanent coding on different substrates
- Lower OPEX with fewer line stoppages, increased efficiency and no chemicals—ensures greater sustainability
- Virtually maintenance-free
- Increased efficiency, reduced maintenance and fewer line stoppages
- 125% larger screen area and intuitive user interface for increase in operator efficiency
- Easy integration into production line thanks to compact design

## Product features

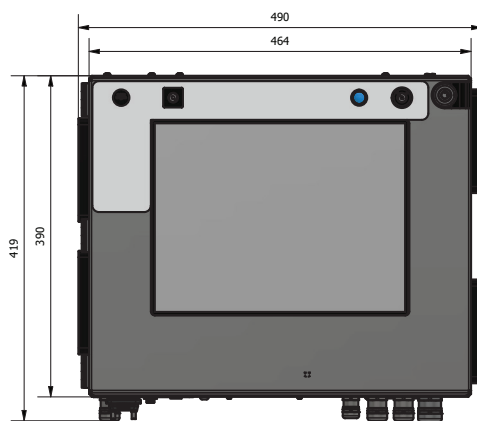
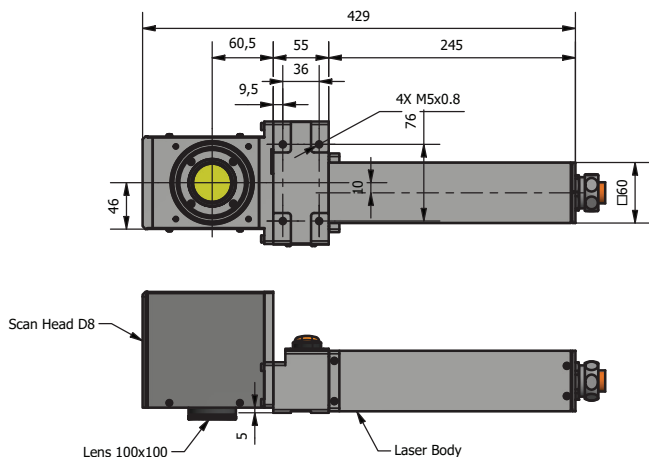
### High-definition, damage-resistant, permanent codes

- Clean, readable and permanent coding on foils, plastic parts, metals, and other various materials
- Unique marking method, and unique marking algorithms
- Coding of alphanumerical texts, dates / timers, serial numbers, barcodes, 2D codes and graphics.
- Meets the highest standard of safety for E-stop and interlock circuits per ISO 13849-1 / PL<sup>1</sup>

### Lower OPEX, higher efficiency and chemical-free

- No consumables needed
- Virtually maintenance-free
- Higher reliability means higher productivity and fewer line stoppages
- Eliminating solvents and chemicals contributes to achieving sustainability goals

# e-SolarMark+ eFLS Specifications



## Laser type and properties

35W 1064nm ytterbium pulsed fiber laser, digital galvanometers

## Applications/substrates

Flexible film, metals, some polymers (e.g., HDPE, PP, PVC, PS, etc.)<sup>2</sup> Coding in stationary or moving "on the fly" applications

## Marking speed (max.)

**Characters/sec:**<sup>2</sup>  
Up to 1600 char/s

**Line speed:**<sup>2</sup> Up to 720 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, 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

### Data automation:

Static, user-prompted, alphanumeric counter, serial, multi-code/calculated field (e.g., yyyymmddnnn)

### Time/date handling:

Standard, custom, time / day offsets, start week, update and rounding rules, custom calendars

### Print field manipulation:

Linear, angular, rotation, mirror, circular, scaling

## Interface and control

### Connections:

Ethernet TCP/IP, RS-232, USB, digital I/O, sensor, encoder, shutter, fume extractor controls, alarm beacon, start/stop, safety shutter, dual channel interlocks<sup>1</sup>

### Direct laser control:

USB / RS232 / Ethernet

### Pointing diode:

Standard, configurable: rectangle outline, content

### User interface:

15" touchscreen user interface in languages: English, Chinese, French, German, Spanish, Italian, Dutch, Polish, Swedish and Portuguese

### Other UI options:

Remote PC access

### Software solutions:

SolPad, CoLOS<sup>®</sup>

### Industrial interfaces:

Optional Interface: OPC UA (CoLOS<sup>®</sup>)<sup>3</sup>, PackML V3.0

### Safety interlock:

Two independent interlock circuits (GIC – General Interlock Circuit & SIC – Shutter Interlock Circuit) enable system integration according to category 4 of machinery safety (EN ISO 13849-1) to achieve Performance Level up to PLe.

## Options and accessories

### Scanheads:

Standard SH 90° angle

### Lens options: print area,

100x100 mm; FL= 160mm;  
150x150 mm; FL= 254mm

## Physical characteristics

**Ingress protection:** IP52 / NEMA 12

### Safety performance level:

ISO13849 safety performance level: PLe<sup>1</sup>; 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, 400W

### Controller dimensions:

229 mm x 422 mm x 490 mm

### Printhead dimensions

122 mm x 126 mm x 429 mm

**Controller weight:** 21 kg (46 lbs)

**Printhead weight:** 5 kg (11 lbs)

**Umbilical length:** 2.7 m

### Outer material:

Controller cabinet: stainless steel; head: stainless steel and aluminum

**Laser source MTBF:** 100,000 hours

### Cooling:

Fan cooled. No plant air required for cooling

1 – Applicable only with use of Safety Box

2 – Variable based on specific application requirements and substrates

3 – Regional availability applies

 **SOLARIS LASER**  
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**CE and CDRH**  
compliant



Solaris Laser  
LIA member since 1996