**Far Infrared Molecular Pulsed Laser**

**CLOUD - F**

A close-up of a computer chip

Description automatically generated with medium confidence A picture containing chart

Description automatically generated

CLOUD - F is a miniature pulsed carbon dioxide (CO2) laser designed for medical, scientific and industrial applications. The laser includes build in laser driver, control and communication electronics and a build in output laser beam expander.

CLOUD - F iscompact and lightweight, it has low power consumption. CLOUD - F is a sealed device protected from environmental impacts**.**

CLOUD - F is supplied with factory set divergence, providing divergence in the range 0.25mrad to >25mrad.

A specific divergence value within the range can be set per customer request.

Common applications are processing of glasses, plastics and organic materials, laser welding, sealing for medical materials packaging, marking of plastic enclosures, electronic components, optical memory discs, glass lenses and plastic components. Another application is atmosphere sensing in LWIR spectral range, laser assisted night vision using thermal cameras, imaging in low light conditions. The laser can be used for medical procedures, including aesthetic and surgery.

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| **FEATURES**  • High Laser Pulse energy and Peak Power  • Affordable cost. • Low Maintenance  • Passive cooled • Low Power Consumption  • Compact • Build in Test  • Withstands field environmental conditions | APPLICATIONS  • Medical • Aesthetic  • Atmosphere Remote Sensing  • Testing • Marking  • Material Processing  • Illumination • Alignment |

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| CARBON DIOXIDE LASER MAIN PARAMETERS, MODEL: CLOUD - F | |
| Laser Type | Carbon Dioxide (CO2) Pulsed Laser |
| Laser Wavelength | 8-12um (typical 10.6um) |
| Laser Average Output Power | 1 Watt |
| Laser Repetition rate | 100 pps |
| Laser Pulse width (FWMH) | 1000ns |
| Laser Output Pulse Energy | 10mJ |
| Laser On / Cool Down Time | 5 minutes / 5 minutes |
| Laser Output Beam Diameter /Aperture Diameter | 3mm / 8mm |
| Laser Output Divergence, full angle | Between 0.25 to > 25 mrad |
| Radiant Intensity Peak | 500 MW/srad |
| Radiant Intensity Average | 50 KW/srad |
| Operating Voltage | 16 - 34 Volts, filtered includes EMI filters |
| Power consumption | <10 w standby, <100w lasing,  <100w warm up |
| Controls, Interfaces, Protocols | Ethernet/RS422, Discretes, Lase Enable, Power adjustment, Lase timer, System BIT (Temperatures, Laser Current, Voltage) |
| Lifetime, Operational | >1000h |
| MTBF | >100,000h |
| Operational Temperatures Range | Normal: -20°C to +65°C; |
| Warm-up time | <1 minute |
| Cooling Interface | Passive conductive cooling to the bottom surface |
| IP Classification | IP67 |
| Weight | < 1.5 kg |
| Dimensions (not including connectors) | 127 x 201 x 39mm (width x length x height) |
| CDRH and IEC Laser Classification | Class Ⅳ and Class 4 |
| Laser Safety Distance | ~10m |
| Applied Standards | EN-60825, IEC60825-1, IEC 825-1 2001-08 |

Specifications in this document are subject to change without notice.

Product Part Numbers:   
CLOUD-F Basic model includes adjustable divergence.

CLOUD-F-xA Basic model with set beam divergence (A=divergence value).

Example:

CLOUD-F-x5 Basic model with set divergence x5 (divergence > 1mrad)

CLOUD-F-x20 Basic model with set divergence x20 (divergence >0.25mrad)

CLOUD-F-x0.2 Basic model with set divergence x0.2 (divergence >25mrad)



**Beam Diameter 3mm**

ARCF-ASY-000

CLOUD - F