Laser Marking +
Engraving Solutions

FOBA®
Laser at your service

FOBA F.0100-ir

FOBA's ultrashort pulse laser for deep black markings that are gentle to the material!

FOBA's ultrashort pulse laser F.0100-ir is "ULTRA" in almost every discipline: **ULTRA BLACK**, **ULTRA FAST** and **ULTRA COMPACT**. FOBA's UKP laser system thus features characteristics that are not self-evident for a marking laser of this type.

Due to the **adjustable pulse** duration from the **femtosecond to the picosecond** range, the heat input remains so low despite the **high pulse energy** that even temperature-sensitive materials can be marked precisely, reliably and economically. The fine structures that are created by the laser process prevent the reflection of light, so that the laser markings appear **deep black** and also offer excellent **readability from different viewing angles**.

Almost any material can be marked with the F.0100-ir. From metals to heat-sensitive components and even transparent materials - this UKP laser marker opens up new possibilities. Especially in the field of medical technology, the marking laser is the ideal **marking solution** for medical instruments made of stainless steel, titanium or even plastics, as well as for various applications in the production of automotive and electronic components.

Depending on the material, up to **five times faster** marking times can be achieved compared to nanosecond laser systems. Furthermore, with the F.0100-ir, FOBA offers one of the **most compact designs** in the field of ultrashort pulse lasers and can therefore be **smoothly integrated** into **production lines** and laser marking machines such as the **FOBA M-Series**.

Your product benefits

- **Non-reflective, high-contrast markings** for reliable readability.
- **Wide range of applications** due to high pulse energy and continuously adjustable pulse duration.
- **Minimal heat effect** due to adjustable pulse duration from femto- to picosecond.
- **Compact laser system** for easy integration into machines and production lines.
- **Safety and integrity** even of sensitive and critical materials.
- **Long lifetime** and therefore low TCO (Total Cost of Ownership) of the system.

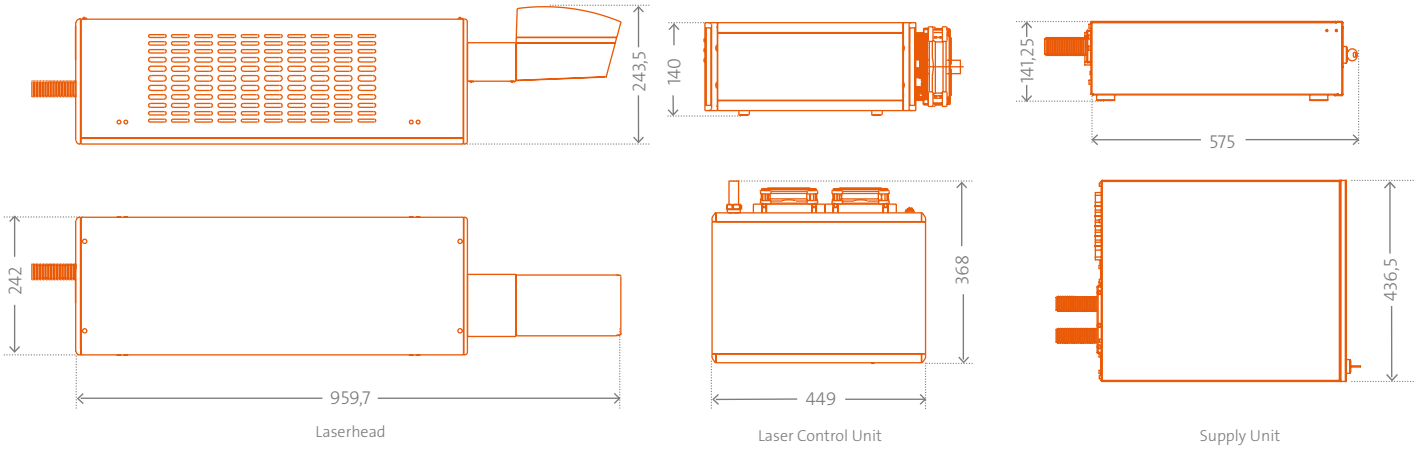
FOBA®
Laser at your service

Technical Data → F.0100-ir

Marking features	
Laser type	Fiber-based ultrashort pulse laser, wavelength 1030nm, 10 Watt, laser class 4 (acc. to IEC 60825-1)
Marking heads	CP-10 with three lenses (f=100 mm/160 mm/254 mm)
Marking field sizes*	Three sizes between f = 100 mm (MarkUS 50.97 x 50.97 mm² | FobaGO 58.18 x 105.74 mm²) and f = 254 mm (MarkUS 138.47 x 138.47mm² | FobaGO 172.66 x 231.81 mm²)
Marking speed*	Up to 6,000 mm/s or 700 characters/s
Adjustable pulse width	400 fs - 4 ps
Pulse energy	Up to 100 µJ
Beam quality M²	< 1,2
Line width	From 23 µm (depends on focusing optic)
Software | Interfaces	FOBA MarkUS, FOBA Go | TCP/IP, Profibus, PROFINET, EtherCAT, EtherNetIP
Supply	
Electrical requirements	L/N/PE 110 – 240 VAC, 50/60 Hz | power consumtion: Typically 400 W
IP rating | Cooling	→ Marking unit IP21 → Lasercontrol unit IP20 → Supply unit IP21 | Air-cooled
Temperature | Humidity	15 – 32°C (59 – 89,6 °F) 90 % (max. 20 °C | 68 °F), 30 % (max. 30 °C | 86 °F), non-condensing
Weight	→ Marking unit approx. 55 kg** | → Supply unit approx. 11 kg | → Laser Control Unit approx. 18 kg
Other options	
→ Vision alignment system: Intelligent Mark Positioning (IMP) for the precise position detection of parts/to-be-processed areas and automatic alignment of marking/engraving/finishing | Laser pointer: Pre-projection of the marking content	

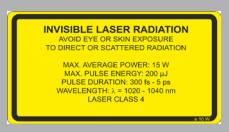
* depends on application ** without F-Theta lens

Dimensioned Drawings → F.0100-ir



Laserhead | Laser Control Unit | Supply Unit

ALLTEC Angewandte Laserlicht Technologie GmbH
An der Trave 27-31
23923 Selmsdorf | Germany
T +49 38823 55-0 | T (US) +1 630 694-3243
F +49 38823 55-222
info@fobalaser.com | www.fobalaser.com



Laser class 4