FOBA®

*Laser at your service*

CO2 Laser Marker C.0100

A tiny CO2 laser marker for big tasks in the electronics industry

FOBA C.0100 **laser marker** is small, short and compact. Just tailor-made for the manufacture of electronic components and devices in the electronic industry where space is often scarce.

C.0100 applies microscopic and fine laser marks on equally tiny components: Immediately, in zero-tolerance quality and anytime traceable – just as requested within the industry. FOBA C.0100 applies complex, variable data both on moving and static products and is therefore first choice for the application of permanent marks on electronic devices and boards.
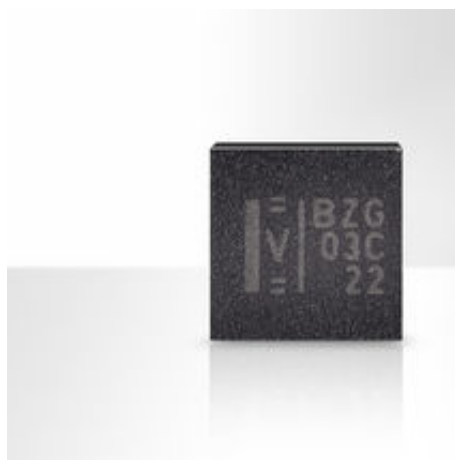
Microchip (epoxy resin) with 6 x 6 mm marking field, marking time 45 ms

Microchip (epoxy resin) with 2 x 1 mm marking field, marking time 10 ms

Components of the marking system

Standard configuration	– Marking unit: laser, digital high-speed galvanometer scanners, one lens with lens protection, controller, I/O panel, built-in keypad, power supply, connectors, lamps, switches, focus finder for adjustment of working distance – Beam exit straight (0°) or 90° – Marking software FOBA Draw
Laser	Sealed CO2 laser, power class 10 W, central emission wavelength 10.6 μm
Laser class	4 (according to DIN EN 60825-1:2008-05)
Focusing	4 focusing lenses
Languages	English, French, German, Italian, Spanish, Portuguese, Chinese
Options	– Beam shield – Exhaust unit – Product detector/light barrier – Pilot laser – PC or laptop

User interfaces

Integrated keypad	– Start/Stop buttons – LED lights for status, laser emission, error
Marking software	FOBA Draw (can be configured in 20 languages, included in the scope of delivery)
Software interfaces	Ethernet (TCP/IP, 100Mbit LAN), RS232, digital I/O

Supply

Electrical requirements	100 - 120 V, 200 - 240 V, Autorange | 1 PH, 350 VA, 50/60 Hz
Cooling	Internally air-cooled
Ambient temperature	$5 - 35°C$
Humidity range	$10 - 90\%$, non-condensing
IP rating	IP30
Weight	Marking unit approx. 12,5 kg

Main fields of application

Electronics industry (manufacturing of components, marking of circuit boards and components: transistors, diodes, small ICs)

Your product benefits

– Small and compact: One-box design

– In short: the most concise system in the market

– Simple integration: compact construction, flexible software/interface concept, multilingual user interface, different beam-exit variants

▼   C.0100 product datasheet

▼   Laser purchasing guidelines

Further information

→ **Laser marking**

→ **Application examples: marking of electronics and semiconductors**

CO2 Laser Marker C.0102/C.0302

*Reliable, field-proven CO2 laser marking technology
combined with unrivalled flexibility*

Wavelengths, scan head aperture, marking head position, IP rating, power and much more can be configured to suit your application needs. Flexibility is built-in. With print speeds up to 2,000 characters/sec. and line speeds up to 900 m/min., these marking lasers address both simple and complex code requirements on a range of substrates including paperboard, glass, painted metals and many plastic materials. This flexibility makes the C-Series lasers well suited for laser marking applications in various industries: for automotive parts, electronic components, plastic parts, cables, and many more. Marking your products on-the-fly or when

stationary, with simple date codes or complex graphics, the C.0102 and C.0302 offer cost effective solutions to your part marking challenges.

The C.0102 10-Watt offers all the performance features the C.0302 30-Watt marking laser provides, but with a power source better matched for moderate line speed applications or those at rest. The 30-Watt C.0302 is perfect for higher speed mark-on-the-fly applications (of up to 150,000 products/hour) or more demanding materials such as many plastics.

Laser marked auto cuff

Laser marked ignition distributor

Marking features

| Marking heads and focusing | − 6 mm head with 5 focus lenses (f =64/95/127/191/245 mm) |
| | − 10/12/15 mm heads (optional) with various focus lenses (10/12 mm: f =63.5/85/100/150/200/300/351/400 mm, 15 mm: f = 400/500/600 mm) |

Marking fields (mm2)	Depends on marking head and focus lens
	− 6mm head: from (AxB) 44.7 x 44.7 to 177.3 x 177.3
	− 10mm head: from (AxB) 30.8 x 38.2 to 294.7 x 406.9
	− 12mm head: from (AxB) 29.1 x 36.2 to 294.7 x 350.8
	− 15mm head: from (AxB) 66.7 x 100.1 to 439.8 x 601.0

Laser

Type	Sealed CO2 laser, power class 10/30-Watt, Wavelengths 9.3 µm, 10.2 µm and 10.6 µm
Laser class	4 (as per IEC 60825-1)

User interfaces

Handheld controller	
PC Software	FOBA Draw, MarkUS 2.12 (as of Q2.2018)
Smart Graph Com	ActiveX interface
Interfaces	− Ethernet (TCP/IP), optional RS232 − Inputs for encoders and product detector triggers − inputs/outputs for start/stop signals, machine/operator interlocks, alarm outputs; additional I/Os available

Integration

- Machine safety: Optional safety module for Performance Level d (PL d) in accordance with EN 13849-1
- Line integration: Direct integration via scripting interface
- Beam delivery: 32 standard beam delivery options (beam extension unit/ turning unit)
- Quick connect: Detachable umbilical for simple integration; available in 3 lengths

Supply

Electrical requirements	L/N/PE 100 − 240 VAC, 50/60 Hz
Power consumption	C.0102: max. 0.4 kW, C.0302: max. 0.7 kW
IP rating	− Marking unit: IP54 (optional IP65) − Supply unit: IP54 (optional IP65)
Cooling	Air-cooled

Temp./Humidity	5-40°C/ 10-90%, non-condensing
Weight	Marking unit C.0102 (IP54) ~13 kg Marking unit C.0302 (IP54) ~19.1 kg Supply unit (IP54) approx. ~11.5 kg
Applicable Certifications	CE, TÜV, NRTL/FCC; RoHS compliant

Main fields of application

Automobile industry; medical devices manufacturing; electronics; extrusion; plastics processing; packaging industry; food and beverage industry
Various industrial direct part marking applications (serial marking, barcodes, 2D codes);
Markings while the object is stationary or in motion (MOTF – marking on the fly)

Your product benefits

- **Reliability**: Air-cooled laser virtually eliminates maintenance intervals; High-resolution marking head for high quality, permanent and consistently crisp codes that assure product traceability and tamper-proofing.

- **Built-in productivity**: A variety of mark window options and high-speed marking heads allow for a throughput increase of up to 67 %.

- **Simple usability**: Most flexible integration solution with 32 standard beam delivery options; Quick set up and easy redeployment via detachable umbilical cable and simple-to-use accessory connections; 4 interface options plus a choice of networking communications to match your preferred workflow

▼ C.0102/C.0302 product datasheet

▼ Laser purchasing guidelines

Further information

→ **Laser marking**

→ **Application examples**

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