

Laser marking systems

Technology, Innovation and Environment



Permanent and high-contrast marking

The lasers developed and produced by ACI Laser HmbH can be used to mark the following materials:

- Inorganic materials such as metal, plastics, foil, etc.
- Organic materials such as wood, paper, leather, etc.



Plastics



Ceramics



Coatings and Finishes



Wood



Leather



Labels and Laser Foils



Glass



Metal

Business Diode

Technical details

The BusinessDiode series of lasers are the all-rounders in the ACI range. Their high energy efficiency and beam quality make them suitable for use both with individual components and in series production lines. The systems are typically used in manual workplaces for marking entire pallets with workpieces as well as in automated production lines. The excellent beam quality enables clean and precise marking on metals, plastics and ceramics. Lasers ranging between 8W, 12W and 16W can be selected according to the application and the marking time available. All Nd:YAG lasers possess thermoelectric air cooling. This provides long system running times with no expensive maintenance work necessary. These systems represent a solution in accordance with laser safety class 4. For operation in accordance with laser safety class 1, ACI Laser GmbH also provides complete solutions in the form of lasers in conjunction with different manual workplaces.

Fields of application

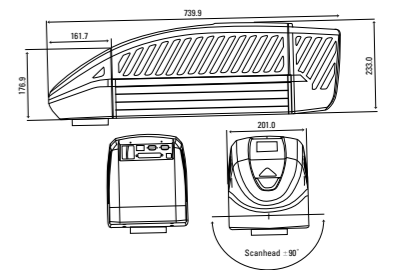
The BusinessDiode lasers can be used either at a manual workplace or as integration components in an automated system.

Software

The marking software required for operation is included in the scope of delivery. This enables the marking of texts, graphics, codes such as Data Matrix or barcodes, serial numbers, logos, wraparound circumferential marking without lap marks on rotationally symmetrical workpieces and genuine greyscale images on plastics. An intelligent rights management system supports the establishment of different operator groups, thus allowing customisation of the system to the user's individual requirements. Even semiautomatic operation with independent data exchange to different data sources is possible without any problems.

Technical data

Lasertype	Nd:YAG
Wave length	1064 nm
Pumping principle	Longitudinal
Laser power	8W, 12W, 16W
Pulse length	15-100 ns
Pulse repetition rate	1-100 kHz
Laser class	4
Input	100W ≤ P _{el} ≤ 300W
Weight	20 kg
Length	740 mm
Width	201 mm
Height	233 mm
Connected load	100-240 VAC / 16 A / 50-60 Hz
Interfaces	USB 2.0, SPS-Interface



DPL Nexus Marker 12W

Materials

Metal

- Annealing marking ●
- Coating ablation ○
- Material ablation ●

Plastic

- Foaming ●
- Carbonation ●
- Engraving —

Glass

- Engraving —

Ceramics

- Engraving ○

Wood, Paper, Leather

- Engraving —

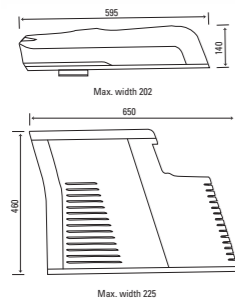
unsuitable —
good ○
very good ●

Suitable systems

- Workstation BASIC
- Workstation CLASSIC
- Workstation COMFORT
- Workstation ROFESSIONAL
- Foil STAR

Business Fibre

DFL Ventus Marker



Technical details

The BusinessFibre product series of fibre laser systems are suitable for use in time-critical manufacturing processes. Although the main area of application is in metal machining, the system can also be used for marking plastics, ceramics and laser foils. For maximum flexibility, the pulse shapes of the BusinessFibre series of lasers can be variably adjusted. This enables clean and topquality marking results, thus satisfying the highest quality standards. All fibre lasers possess air cooling. This provides long system running times with no expensive maintenance work necessary. Depending on the application, the systems can be integrated either in an ACI manual workplace or in an automated production line. A power range of 20W to 70W is available to the user in the BusinessFibre series. These systems represent a solution in accordance with laser safety class 4. For operation in accordance with laser safety class 1, ACI Laser GmbH also provides complete solutions in the form of lasers in conjunction with different manual workplaces.

Fields of application

The BusinessFibre lasers can be used either at a manual workplace or as integration components in an automated system.

Software

The marking software required for operation is included in the scope of delivery. This enables the marking of texts, graphics, codes such as Data Matrix or barcodes, serial numbers, logos and wraparound circumferential marking without lap marks on rotationally symmetrical workpieces. An intelligent rights management system supports the establishment of different operator groups, thus allowing customisation of the system to the user's individual requirements. Even semiautomatic operation with independent data exchange to different data sources is possible without any problems.

Technical data

Lasertype	Yb:fibre
Wave length	1064 nm ± 5 nm
Laser power	20W(S,L), 30W(S,H), 40W(H)
Beam quality Type S	$M^2 \leq 1.2$
Beam quality Type H	$1,6 \leq M^2 \leq 2.0$
Beam quality Type L	$2,6 \leq M^2 \leq 3.0$
Pulse length	Depending on the application, adjustable
Pulse repetition rate	Depending on the application, adjustable
Laser class	4
Input	$100W \leq P_{el} \leq 400W$
Weight	36 kg
Length	595 mm
Width	202 mm
Height	460 mm
Connected load	85-240 VAC, 10 A /50-60 Hz
Interfaces	USB 2.0, SPS-Interface

Materials

Metal

- Annealing marking ●
- Coating ablation ●
- Material ablation ●

Plastic

- Foaming ○
- Carbonation ○
- Engraving —

Glass

- Ceramics ○

Wood, Paper, Leather

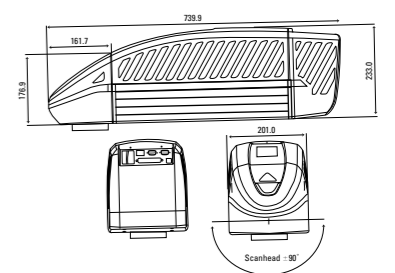
- unsuitable —
- good ○
- very good ●

Suitable systems

- Workstation BASIC
- Workstation CLASSIC
- Workstation COMFORT
- Workstation ROFESSIONAL
- Foil STAR

Business CO2

CO Two Marketr 30W



Technical details

The COTwo Marker is a gas laser with a wavelength of 10,600nm, which allows plastics, glass as well as organic materials to be machined. The solely air-cooled, compact laser system is suitable for both small batch and line production. As is the case with all ACI lasers, it is equipped with an optical focusing aid and preview function to ensure easy handling. The COTwo Marker is a closed system and does not require any CO2 gas supply. This low-maintenance device allows continued operation with no long downtimes. This system represents a solution in accordance with laser safety class 4. For operation in accordance with laser safety class 1, ACI Laser GmbH also provides complete solutions in the form of lasers in conjunction with different manual workplaces.

Fields of application

The BusinessCO2 lasers can be used either at a manual workplace or as integration components in an automated system.

Software

The marking software required for operation is included in the scope of delivery. This enables the marking of texts, graphics, codes such as Data Matrix or barcodes, serial numbers, logos and wraparound circumferential marking without lap marks on rotationally symmetrical workpieces. An intelligent rights management system supports the establishment of different operator groups, thus allowing customisation of the system to the user's individual requirements. Even semiautomatic operation with independent data exchange to different data sources is possible without any problems.

Technical data

Lasertype	CO2, sealed off
Wave length	10.600 nm
Laser power	30W @50% ED, 20W @75% ED
Laser class	4
Input	$100W \leq P_{el} \leq 400W$
Weight	20 kg
Length	740 mm
Width	201 mm
Height	233 mm
Connected load	100-240 VAC /16 A /50-60 Hz
Interfaces	USB 2.0, SPS-Interface

Materials

Metal

- Annealing marking —
- Coating ablation —
- Material ablation ○

Plastic

- Foaming —
- Carbonation —
- Engraving ●

Glass

- Ceramics ○

Wood, Paper, Leather

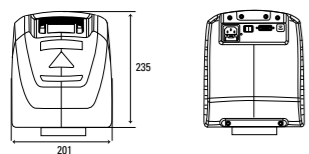
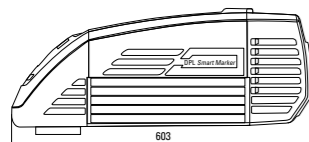
- unsuitable —
- good ○
- very good ●

Suitable systems

- Workstation CLASSIC
- Workstation COMFORT
- Workstation ROFESSIONAL

Economy Diode

DPL Smart Marker 4W



Technical details

The EconomyDiode series of lasers are the perfect entry-level systems for small and medium-sized companies with a modest demand for marking. The short resonator allows an outstanding beam quality for clean and precise marking on metals, plastics, ceramics and other materials. The lasers work with thermoelectric air cooling. We do not use high-maintenance air/water or water cooling and so save the user on time-consuming maintenance work and expensive downtimes.

These systems represent a solution in accordance with laser safety class 4. For operation in accordance with laser safety class 1, ACI Laser GmbH provides a complete solution in the form of lasers with different manual workplaces.

Fields of application

The EconomyDiode lasers can be used either at a manual workplace or as integration components in an automated system.

Software

The marking software required for operation is included in the scope of delivery. This enables the marking of texts, graphics, codes such as Data Matrix or barcodes, serial numbers, logos, wraparound circumferential marking without lap marks on rotationally symmetrical workpieces and genuine greyscale images on plastics. An intelligent rights management system supports the establishment of different operator groups, thus allowing customisation of the system to the user's individual requirements. Even semiautomatic operation with independent data exchange to different data sources is possible without any problems.

Technical data

Lasertype	Nd:YAG
Wave length	1064 nm
Pumping principle	Longitudinal
Laser power	4 W (Pumping)
Pulse length	15-100 ns
Pulse repetition rate	1-100 kHz
Laser class	4, optional 1
Input	$75W \leq P_{el} \leq 150W$
Weight	15 kg
Length	603 mm
Width	201 mm
Height	235 mm
Connected load	100-240 VAC/16 A / 50-60 Hz
Interfaces	USB 2.0, SPS-Interface

Materials

Metal

- Annealing marking ○
- Coating ablation ○
- Material ablation ●

Plastic

- Foaming ●
- Carbonation ●
- Engraving —

Glass

- Ceramics —

Wood, Paper, Leather

- Wood, Paper, Leather —

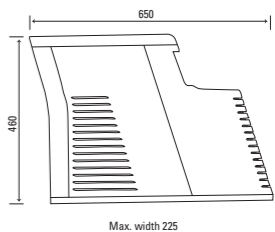
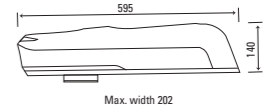
- unsuitable —
- good ○
- very good ●

Suitable systems

- Workstation BASIC
- Workstation CLASSIC
- Workstation COMFORT
- Workstation ROFESSIONAL
- Foil STAR

Economy Fibre

DFL Ventus Marker



Technical details

The EconomyFibre product series of fibre laser systems are suitable for use in time-critical manufacturing processes. These lasers operate with a fixed pulse width and their main area of use is in the quick marking of metals. The user can select between various powers and beam qualities. According to the use required, a suitable system can be used for depth engraving, annealing marking, fast surface engraving or ablation marking. All fibre lasers possess air cooling. This provides long system running times with no expensive maintenance work necessary. The lasers can be integrated either in a manual workplace or an automated production line. These systems represent a solution in accordance with laser safety class 4. For operation in accordance with laser safety class 1, ACI Laser GmbH also provides complete solutions in the form of lasers in conjunction with different manual workplaces.

Fields of application

The EconomyFibre lasers can be used either at a manual workplace or as integration components in an automated system.

Software

The marking software required for operation is included in the scope of delivery. This enables the marking of texts, graphics, codes such as Data Matrix or barcodes, serial numbers, logos and wraparound circumferential marking without lap marks on rotationally symmetrical workpieces. An intelligent rights management system supports the establishment of different operator groups, thus allowing customisation of the system to the user's individual requirements. Even semiautomatic operation with independent data exchange.

Technical data

Lasertype	Yb:fibre
Wave length	1064 nm ± 5 nm
Laser power	10W (S), 20W (L)
Beam quality Type S	$M^2 \leq 1.2$
Beam quality Type L	$2.6 \leq M^2 \leq 3.0$
Pulse length	fest
Pulse repetition rate	Adjustable
Laser class	4
Input	$100W \leq P_{el} \leq 300W$
Weight	36 kg
Length	595 mm
Width	202 mm
Height	460 mm
Connected load	85-240 VAC, 10 A /50-60 Hz
Interfaces	USB 2.0, SPS-Interface

Materials

Metal

- Annealing marking ●
- Coating ablation ●
- Material ablation ●

Plastic

- Foaming ○
- Carbonation ○
- Engraving —

Glass

- Ceramics ○

Wood, Paper, Leather

- Wood, Paper, Leather —

- unsuitable —
- good ○
- very good ●

Suitable systems

- Workstation BASIC
- Workstation CLASSIC
- Workstation COMFORT
- Workstation ROFESSIONAL
- Foil STAR