

TRUMPF



TruMark

The individual
solution for
your industry



#mymarkinglaser



The demands are increasing: Faster, more precise, more individual and more flexible reactions are required, as well as the highest quality – no matter what the material. The marking lasers from TRUMPF are your perfect answer to these challenging requests: Nowhere else will you find so much knowledge drawn from the most diverse sectors, combined with technical brilliance. TruMark marking lasers are versatile and optimized for a variety of requirements. Find the perfect marking laser for your needs here.



**Your requirements –
your marking laser.**
Find out more about
sector-specific solutions
from TRUMPF in our
online special:
[www.trumpf.com/s/
mymarkinglaser](http://www.trumpf.com/s/mymarkinglaser)

The diversity of marking

Start here to find your ideal marking laser. No matter which marking laser requirements are especially important to you: Discover how TRUMPF can support you in selecting your hardware and software, and advise you on your individual process. Together with TRUMPF, you will be prepared for the production processes of the future – through expert knowledge of Industry 4.0, Smart Factory and through providing custom-made, top-class services.

What really counts is quality, performance and safety.


**TruMark:
This is what you can expect
6–7**

The right solutions for your sector.

**What type of user
are you?
8–11**

Joint process development in the TRUMPF Laser Application Centers.

**Together, we will find the
right marking laser for you
12–13**



Discover your perfect marking laser here.

**An overview of the
TruMark marking lasers
14–31**

Your software solution: standardized or tailor-made.

**Software solutions
for your marking laser
32–35**

Services and support to get your competitive edge.

**TruServices.
Your Partner in Performance
36–39**

All the technical information you need at a glance.

**Technical data
40–45**

TruMark: This is what you can expect

You know: A marking laser is an important element in your production chain. With TRUMPF, you have a well-informed partner who knows what you need. You can rely on the quality, performance and safety of the new TruMark generation.



Quality

TruMark lasers ensure high-quality, long-lasting markings. With their high pulse peak power, you can combine quality with rapid cycle times. The excellent ability to focus very precisely means you can also achieve this at high peak intensities and for small markings. VisionLine facilitates the automatic or manual positioning of the marking content on the component, automatically handles all process and laser data for the documentation, and thus ensures enhanced quality.

Performance

Quick, quicker, TruMark. With the marking lasers from TRUMPF you can really pick up speed. Lasers in different power classes ensure that every application has just the right laser available. Rapid laser availability and a highly dynamic scanner ensure short processing times. The established parameter library facilitates quick process set-up.



**No compromises on
quality**

**High speed for your
processes**



Safety

With Performance Level e, system safety remains a top priority during integration. With Plug & Produce, nothing can go wrong, even during component exchange. Furthermore, additional components such as mechanical shutters provide safety.

With TruMark marking lasers, you can confidently make your mark



View our comprehensive overview of all TruMark marking lasers:
www.trumpf.com/s/markingslasers

What type of user are you?



“In the automotive industry, I need an overall system that is efficient. The TruMark is the ideal marking laser for that.”

Joerg M., process and system planner

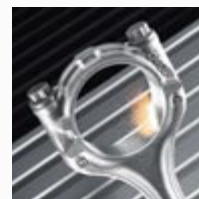
Automotive

Maximum system efficiency, simple integration

During vehicle production, numerous components are used, which must each carry specific designations and traceability information. Individual TruMark marking solutions from TRUMPF offer vehicle manufacturers the durable marking quality necessary for this purpose, and can be efficiently and safely integrated in production facilities. The modular construction of TruMark marking lasers makes them versatile, compact and easy to extend. A further advantage of the laser is its excellent robustness.



VisionLine image processing and an integrated autofocus feature ensure constant high quality.



Mark, structure, clean: TruMark lasers can take on many automotive industry tasks.



By foam marking: Barcodes and marking rear car lights with free text.

What is especially important to you about a marking laser? Ease of integration into your production line? Marking speed? Efficiency? High availability? Best marking quality? No matter what your priorities are – you’ll find your perfect TruMark marking laser here.



“In the medical industry, every part must be traceable. TruMark is the marking solution that I trust absolutely.”

Caroline T., quality assurance officer

Medical engineering

Process reliability first

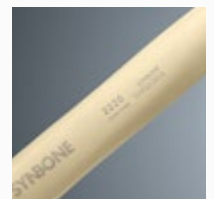
TruMark lasers inscribe medical devices and instruments, as well as implants with absolute precision. With their ability to focus very precisely, they can create even the finest markings on sensitive surfaces and meet all the criteria for perfect UDI (unique device identification) markings. Short pulse durations in the range of picoseconds or femtoseconds ensure the highest degree of contrast and maximum corrosion resistance – with minimal heat penetration and without residues on the surface. Black marking negates the need for downstream passivation processes, and therefore decreases the overall process time.



Traceable due to durable marking: With its extreme pulse peak power, the TruMicro Mark generates deep black UDI codes with enhanced corrosion resistance for traceability.



Perfect UDI codes in accordance with regulations: Laser-marked hose clamp in surgical stainless steel.



TruMark lasers mark a wide variety of materials. We have the right wavelength for every one.



“With household appliances, all the marking possibilities are needed, and for this I need exactly one solution: TruMark.”
 Marc E., technology officer

White goods and household items

Highest marking quality, utmost flexibility

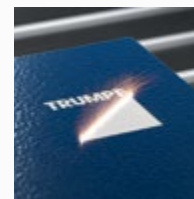
Household appliances have many visible parts. Here, exceptionally high-grade, durable and haptically high-quality marking is essential. The applications within the sector are diverse, calling for flexible solutions with regard to focal lengths, marking field sizes or wavelengths.



With TruMark marking lasers, you can mark household appliances highly economically and to an exceptional standard.



The TruMark lasers even mark more complex forms with precision.



You can work cleanly and with a high degree of precision, and even easily remove paint from sheets just using a marking laser.



Find out more about TruMark marking lasers in different sectors here: www.trumpf.com/s/mymarkinglaser



“In the electromechanical industry, I need high marking quality without system failures, something I can use quickly and flexibly. TruMark is just the thing!”

Alexander S., purchaser

Electronics

Highest performance, maximum reliability

Housings, switches, power supply units, circuit boards: with TruMark marking lasers, you can mark and structure many different electromechanical industry components in high quantities – contactless, durable and free of wear.



UV marking lasers can mark even flame-retardant materials in high-quality using ultra-violet wavelengths.



Even highly reflective materials such as copper can be easily marked using TruMark lasers.



Benefit from short cycle times thanks to the scalable laser power and short reaction times.

Together, we will find the right marking laser for you

We are at your side right from the start, no matter whether you have basic application questions or detailed optimization requirements. In our Laser Application Centers (LAC) we are ready and waiting to assist you – no matter when, no matter where. This is because we want you to find the right partner in the right place who always has the optimum technologies for your needs.

Together, we will find your ideal marking process

Our experts will be delighted to help you select the ideal marking laser for your task in our Laser Application Centers.

1. Determining factors

Specify the determining factors for your marking task, such as desired process duration, parts handling or production environment.

2. Marking content

Supply us with sample components and the desired marking content (logo, text, data matrix code, etc.).

3. Marking procedure

We will identify the ideal marking procedure for you, with a perfectly balanced combination of marking result, laser beam source and workstation. We develop optimum process parameters for you, tailored to your criteria.

4. Installation

If you wish, we can accompany and support you further with installation, training, maintenance, telephone support, and other services.





Product finder

Easily find your perfect TruMark with the online configurator. Simply answer a few questions about your application and we will show you which laser is your best fit!



www.trumpf.com/s/productfinder-1

“We have always been able to rely on the service from TRUMPF throughout our long years of collaboration. I appreciate the fact that I can always count on the highest process reliability in my marking tasks.”

Jürgen Diesenberger, production director for instruments and sterile technology, Karl Leibinger Medizintechnik GmbH & Co. KG



“The trend in laser marking is moving in the direction of industry-specific solutions, such as in software, and increased machine intelligence. It is important to us that marking lasers always meet the requirements of an industrial environment, and that their installation, commissioning and operation is as simple as possible. Additionally, we offer our customers a sustained collaboration which they can trust.”

Holger Breitenborn, product manager for marking lasers and systems



“TRUMPF has always been a good partner throughout many years of collaboration – globally as well. We have always been able to rely on quick support when developing new marking ideas and varieties.”

Victor Vasconcelos, industrial mechanic, MüKo Maschinenbau GmbH



“We benefit significantly from the experience which TRUMPF provides. The high dependability of their systems and the international availability of spare parts ensure our production success.”

Ricus Müller, senior technical expert for manufacturing technology/process development, Continental Temic microelectronic GmbH



Find out more about how we can help you at our Laser Application Centers here: www.trumpf.com/s/7smpvy

TruMark 6030

A whole new dimension in marking.

01
High-quality markings
on complex 3D surfaces

05
Unlimited number of switching cycles
due to a design specifically for highly automated applications

02
Highly productive laser
with fast marking activation

03
Innovative safety concept and interface design
Performance Level e for unlimited switching cycles

04
Perfect machining results
due to integrated control

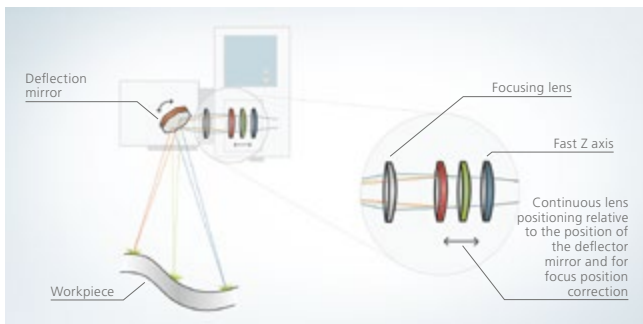


01

High-quality markings

on complex 3D surfaces

The TruMark 6030 enables 3D markings, even on complex components. Users can easily create geometries and marking content using the 3D CAD software. The new optical Z axis allows Z travel ranges of up to 100 mm. This eliminates additional costs for a mechanical axis to move the laser head.



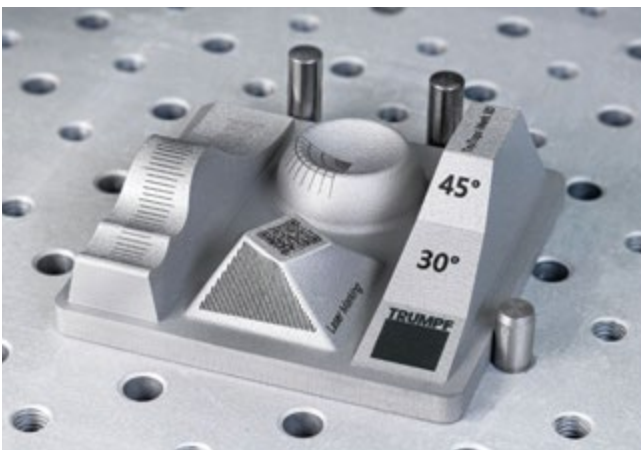
The 3D CAD software and the fast optical lens processes enable premium quality, distortion-free marking on workpieces.

02

Highly productive laser

with fast marking activation

The TruMark 6030 reduces processing time with its high-capacity mid-range output and pulse energy at the workpiece. Outstanding beam quality and high irradiance ensure clean ablation and high-contrast markings. After closing the safety circuit, the laser is available within 50 ms. Integrating the output signal into the laser safety status not only provides additional freedom during integration – it can also further reduce processing time.



03

Innovative safety concept and interface design

Performance Level e for unlimited switching cycles

A self-monitoring safety concept ensures that there is no risk for the operator at any time or in any situation. Furthermore, it is also possible to integrate the laser into the production environment using OSSD-capable components (Output Signal Switching Device). Depending on how your system is designed, it is also possible to have unlimited switching cycles, meaning that laser maintenance for safety reasons does not have to be performed after a certain number of switching cycles.

04

Perfect machining results

due to integrated control

The TruMark 6030's closed-loop control ensures perfect machining results over the entire service life. Different frequency ranges, temperature changes or reduced pump output do not influence the laser output.

By using an external modulator, the laser power can be linear-scaled – parameters such as pulse duration or pulse stability are not affected. In addition, each individual laser pulse can be adapted exactly, which prevents crosstalk between the pulses. Softening and run-in behavior at the beginning of vectors are avoided. Strikingly sharp bitmap marks can be realized.

05

Unlimited number of switching cycles

due to a design specifically for highly automated applications

The optical and electronic design and manufacturing technologies used in the TruMark 6030 make it a robust, high-capacity, industrial marking system. The laser head comes standard with the capability of working in ambient temperatures of up to 40°C and, with a rating of IP64, is protected from the manufacturing environment. The unlimited number of switching cycles eliminates the need for certain safety maintenance measures and the associated planned downtime and costs. The laser can simply continue marking and producing components.



More details about the next dimension of marking:
www.trumpf.com/s/trumark-6030

TruMicro Mark Series 2000

Precise marking made simple.

01

Maximum process stability and reproducibility

with internal online power regulation

04

Black marking

with ultrashort pulsed marking lasers

02

Keeping an eye on process reliability

thanks to innovative image processing

03

The complete solution for marking applications

with pulse durations in femtosecond and picosecond ranges



01

Maximum process stability and reproducibility

with internal online power regulation

Maximum process stability for each individual pulse is guaranteed thanks to the patented quadruple closed-loop control. Different frequency ranges, temperature changes or aging processes do not influence the laser output. The closed control circuit enables perfect machining results for your components throughout the entire operating life, thus ensuring the best possible reproducibility.

02

Keeping an eye on process reliability

thanks to innovative image processing

Modular VisionLine image processing automatically detects the position of the component and forwards the information to the higher-level controls. It ensures that the marking process is always carried out at the correct position. The system can read and evaluate (standard) Data Matrix Codes, check writing, detect edges, and learn and retrieve the form of entire components. The autofocus function of the laser uses integrated distance measurement. In addition, the focus positions of the camera and the laser can be set independently of one another. This facilitates laser machining and quality control at several levels.



Detect and correct position with VisionLine.

Scan and check marking contents.

03

The complete solution for marking applications

with pulse durations in femtosecond and picosecond ranges

Whether you would like to execute reproducible, corrosion-resistant marking, high-quality engraving or extremely intricate drilling and cutting tasks – the TruMicro Mark Series 2000 is the turnkey solution to do this, using ultrashort pulse lasers. The TruMicro Mark 2000 is available both as an entire system within a TruMark Station and as OEM equipment for integra-

tion. It is particularly well suited for producing medical technology products and for delicate applications, such as manufacturing watches, for example:

- Deep black marking using microstructured surfaces
- UDI-compliant product labeling in plain text with barcode or Data Matrix Code traceability
- Micromarking within the size range of several hundredths of a millimeter
- Microproduction technology for structuring, cutting and drilling
- Many additional surface effects are possible thanks to adjustable pulse duration, frequencies, burst and QCW modes



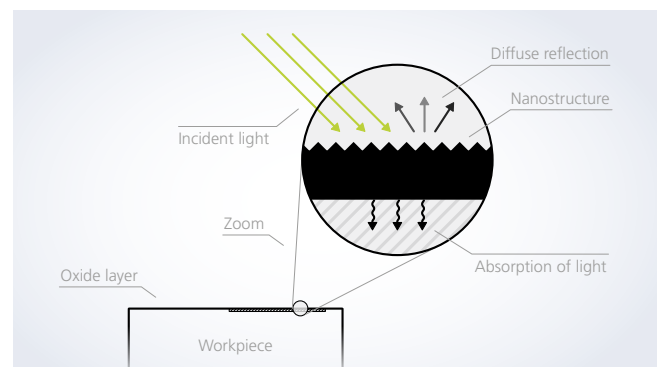
High-quality engraving in the watch industry: titanium (left), 316L (center), copper (right).

04

Black marking

with ultrashort pulsed marking lasers

Extremely short laser pulses lead to micrometer structures on the surface. The microstructured surface ensures that the directed reflection of the light is reduced and creates a deep blackening of the marking, which is clearly visible from any angle. If the laser pulses used for this marking are ultrashort, the color change will remain corrosion-free in certain parameter ranges. The reason: using an ultrashort laser pulse keeps the heat-affected zone extremely small, thus ensuring sufficient free chrome on the surface to create a self-healing oxide film.



Take a closer look at other possible applications:
www.trumpf.com/s/trumicro-mark-2000

TruMark Series 5000

Our compact marking lasers for deep engraving, annealing marking, microstructuring, and surface treatment.

01

Save time

thanks to the high processing speed

05

Consistent performance

across the entire frequency range

02

Flexible with regard to material

thanks to adjustable pulse duration

03

Work in safety

with fiber protection duct and shutter

04

Easy to integrate

thanks to logical modular design



01

Save time

thanks to the high processing speed

The special thing about the TruMark Series 5000 is that it has high pulse frequencies – a key factor for high processing speeds. With its software-controlled focus position adaptation, you can mark components at different processing levels in one operation, without mechanically moving them.



In addition to laser marking, functional surface structures can also be specifically modified, thereby influencing the tribological characteristics.

02

Flexible with regard to material

thanks to adjustable pulse duration

Application-specific setting of the pulse duration whilst maintaining constant peak intensity and high pulse frequency means that you no longer have to choose between quality and productivity for your marking processes. After all, with reduced pulse duration, you also get high-quality marking results even with short cycle times – for a wide variety of materials.

03

Work in safety

with fiber protection duct and shutter

In addition to an especially robust fiber protection hose, the TruMark Series 5000 also possesses additional features such as a mechanical shutter and fiber plug monitoring between laser and processing unit. This means that operators can work safely even if the workstation is open.

“With its high performance and simple integration, the TruMark Series 5000 fits perfectly into my production line.”



Joerg M., process and system planner

04

Easy to integrate

thanks to logical modular design

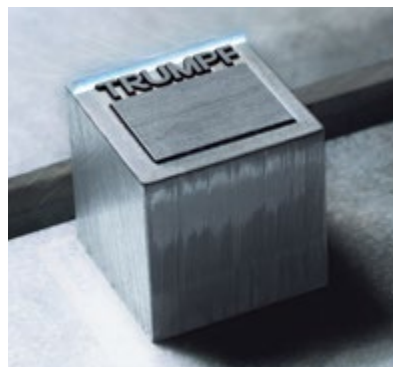
The scanner optics, the processing unit and the supply unit are coupled via connectors, so that it is very simple to build the laser into your production system or your plant. Numerous interfaces make integration into your production area even easier.

05

Consistent performance

across the entire frequency range

With TruMark Series 5000, you can be sure that your performance remains consistent across all frequency ranges – and thanks to its different power classes satisfies every requirement in terms of performance.



Deep engraving with high volume removal – no problem with the high performance of the TruMark Series 5000, even with short cycle times.



Find out more about the TruMark Series 5000 at: www.trumpf.com/sl/g6rbaf

TruMark 5010

The one-box laser as a complete package for total laser marking freedom.

01

Easy to integrate

with our innovative one-box concept

04

Low investment costs

thanks to an excellent price/performance ratio



02

Versatile

suitable for a wide variety of marking tasks

03

Compact and brilliant

entirely without a supply unit

01

Easy to integrate

with our innovative one-box concept

The TruMark 5010 manages perfectly without a supply unit. An ingenious, powerful air cooling system prevents the component from overheating. This makes the integration far easier for you – especially since the space-saving laser possesses all key industrial interfaces.

02

Versatile

suitable for a wide variety of marking tasks

Don't underestimate it because it's so small! You can mark metals, plastics and organic materials with the infrared one-box marking laser TruMark 5010 – with brilliant beam quality. The marking laser delivers high-quality results especially for deep engraving and surface processing at a unique price-performance ratio.



You can mark data matrix codes in your tools using black engraving, making it easier to manage them.

03

Compact and brilliant

entirely without a supply unit

The TruMark 5010 combines average power with brilliant beam quality. Space-saving, air-cooled and equipped with the most important interfaces, the marking laser is simple to integrate. The TruMark 5010 is a true all-in-one solution: Fiber laser, scanner and control unit, as well as internal focus position control unit are combined within its housing. You don't need a separate supply unit.



A true all-in-one solution: laser, scanner, control unit, and focal position control are integrated into the housing.

04

Low investment costs

thanks to an excellent price/performance ratio

The TruMark 5010 allows for profitable laser processing even for small to medium-sized quantities. It is thus ideally suited for all who want to integrate laser marking in their production line without compromising on quality.



Laser-marked single-point lubrication system: The TruMark 5010 is your perfect point of entry into laser marking.



More about marking with the one-box laser:
www.trumpf.com/sl_mv4c6x

TruMark Series 3000

The tried-and-tested top solution for a wide variety of materials and applications.

01

Excellent results

thanks to a perfectly tuned performance package

05

Perfect for all components

thanks to its internal focus position control unit

02

Flexible material selection

using different wavelengths

03

High availability

thanks to ingenious design

04

Integration made easy

thanks to compact size and modular design



01

Excellent results

thanks to a perfectly tuned performance package

Enjoy top-quality markings. The TruMark Series 3000 is an attractive proposition with its bundle of technical top ratings: reliable pulse-to-pulse stability, brilliant beam quality, comprehensive pulse powers up to 100 kW, and high pulse energies.

02

Flexible material selection

using different wavelengths

The lasers of the TruMark Series 3000 are available with infrared, green, and UV wavelengths. This variety allows you to select your materials free of limitations – even plastics without laser additives can be marked without problems. This means you always achieve the best in terms of quality and performance for your application.

03

High availability

thanks to ingenious design

The laser represents reliable performance even under difficult conditions. To further improve availability and to make maintenance quick and easy, the electrical components are separated from the optical ones.



Laser-marked electrical components: Information applied to the tiniest area facilitates the secure identification of the product at all times.



“The decisive factor for our team when purchasing the TruMark 3330 was the fact that it would be easy to integrate into our plant concept.”

Alexander S., purchaser

04

Integration made easy

thanks to compact size and modular design

The modular design and compact dimensions of the processing unit of the TruMark Series 3000 make it especially easy for you to integrate the laser into your production system. Additionally, the removable hybrid cable and the numerous available interfaces ensure that start-up is convenient.

05

Perfect for all components

thanks to its internal focus position control unit

Does your workpiece include different heights? No problem! The TruMark Series 3000 possesses variable focal positioning adjustment, which allows you to process at different levels. In this way, you can continue production at different processing levels more quickly and with high process reliability.



Top-class markings on a diverse range of materials: Here a color change onto a flame-retardant plastic via the UV laser.



Find out everything else you would like to know about the TruMark Series 3000: www.trumpf.com/s/hf9ntx

TruMark Series 1000

The cost-effective and compact all-in-one solution, completely integrated with a laser, scanner and control unit.

01

Precise marking results

thanks to outstanding beam quality

04

Integration made easy

with diverse interfaces



02

Flexible material processing

thanks to a robust solid-state laser

03

Small initial outlay

thanks to low investment costs

01

Precise marking results

thanks to outstanding beam quality

Don't compromise: With the TruMark Series 1000, you can count on the best marking results. The outstanding beam quality of the laser ensures precise processing any time.



Top-class marking results: This marking was produced by a color change via carbonization and foaming.

02

Flexible material processing

thanks to a robust solid-state laser

The short pulses of the vanadate laser ensure high-quality markings. Efficient and safe material processing is possible even at high pulse frequencies. You remain flexible and can process a diverse spectrum of materials, such as metals, plastics or organic materials.



Day-and-night design for the automotive sector: The marking laser removes partial covering layers of multilayered plastic. The color contrast produces the design effect.

03

Small initial outlay

thanks to low investment costs

All-in-one, compact and versatile: The TruMark Series 1000 is the perfect solution for small to medium quantities, with low investment costs and ease of integration.



TruMark Series 1000 marking lasers are ideally suited for layer removal.

04

Integration made easy

with diverse interfaces

The TruMark Series 1000 manages perfectly without an external supply unit, and is equipped with a range of interfaces. This makes it easy for you to integrate it into your production flows.



The wide range of interfaces offered by the TruMark Series 1000 make it easy to integrate into your production line.



Find out more about this great-value first point of entry into laser marking: www.trumpf.com/s/mv4c6x

TruMark Station 7000

Robust and flexible.

01

Marking of large and heavy components

thanks to the use of a mineral cast plate

04

Batch production specialist

thanks to a large work area



02

Easy to operate

thanks to intuitive software

03

Perfect application results

thanks to a large selection of integrated beam sources

01

Marking of large and heavy components

thanks to the use of a mineral cast plate

The TruMark Station 7000 marking system offers plenty of space for your workpieces and devices with its large interior dimensions. It is possible to mark individual large or heavy components, or a large number of smaller parts alongside each other in one workpiece holder and process them automatically. The machine is designed to be extremely rigid, and contains a mineral cast plate as a central element. This facilitates precise markings, even for heavy and large components.

02

Easy to operate

thanks to intuitive software

You can use TruTops Mark 3D marking software to quickly configure the laser process and marking content for your respective application. A further benefit of the software is its intuitive operation, which can also be used to perform complex manufacturing tasks.

You can optimally connect your system to your production environment with additional options. For example, you can easily use your TruTops Mark Module Interface to create process programs, read and write information from and to databases or external sources, automatically generate correct UDI codes, and integrate VisionLine image processing for position recognition and quality assurance. This leads to flexible, easy and error-free manufacturing processes while increasing the traceability and productivity of your production.

03

Perfect application results

thanks to a large selection of integrated beam sources

A number of lasers with different power classes, wavelengths and pulse durations are available for the TruMark Station 7000. Furthermore, additional options such as a rotary table, focusing lenses, camera systems and lighting provide additional flexibility. For example, rotationally symmetrical workpieces can be fully processed using swivel mechanisms and rotary axes, making many different applications possible.

04

Batch production specialist

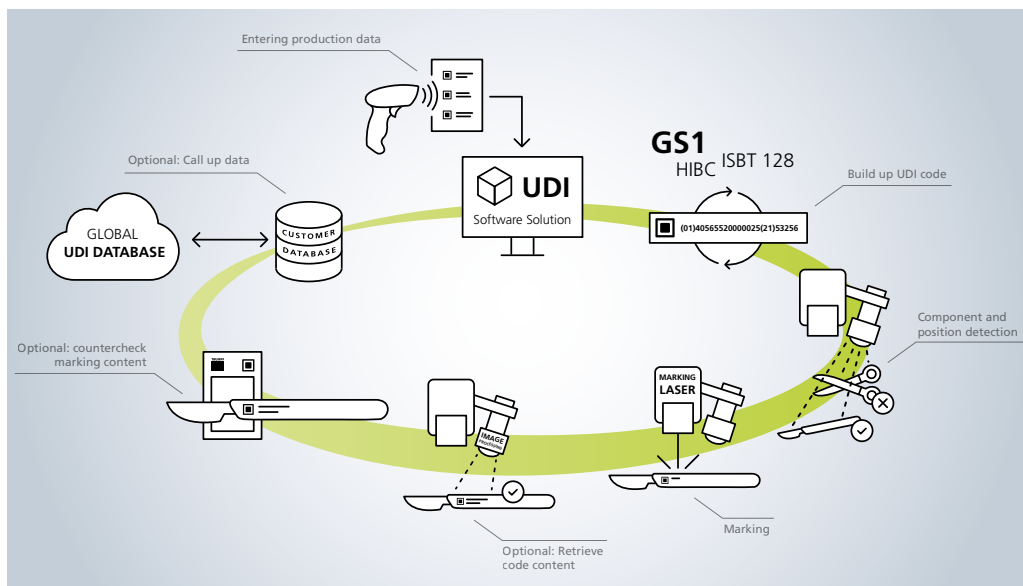
thanks to a large work area

The TruMark Station 7000 can be easily integrated into efficient batch production. Large workpiece carriers for a variety of workpieces can be integrated in the machining room and processed automatically. Automatic loading and unloading of workpiece carriers and connection to a storage system provide an additional boost in productivity.

As a result of its large work area and wealth of options, this station is ideal for handling large lot sizes – especially the variation with the rotary table option. The components are brought to the machining area and processed using a rotary table system. The machine can already be reloaded with components during the machining process.



Further details about the TruMark Station 7000:
www.trumpf.com/s/trumark-station-7000



Customized UDI-compliant marking procedure using the TruTops Mark Module Interface.

TruMark Station 5000

The intelligent all-rounder for those who like to take things easy.

01

Universally usable

thanks to a wide selection
of lasers

04

Can be used anywhere

in the production line or as a single workstation



02

Work in safety

thanks to integrated extractor

03

Flexible integration

with the option of transferring
workpieces lengthways

01

Universally usable

thanks to a wide selection of lasers

The TruMark Station 5000 provides a variety of lasers with different focusing optics in different focal lengths and wavelengths.



The TruMark Station 5000 offers a free choice of lasers and optics.

02

Work in safety

thanks to integrated extractor

The smoke and particle emissions extractor is integrated in the TruMark Station 5000's housing and connected to the work area. The combination filter with activated carbon is monitored using a differential pressure controller, and the volume flow can be set.



The integrated extractor protects staff from smoke and particles.

03

Flexible integration

with the option of transferring workpieces lengthways

The TruMark Station 5000 is easy to slot into your workflow and integrate into your production line, as the openings on the sides of the housing make it possible to transfer workpieces lengthways. Or you can choose the TruMark Station 5000 entirely without casing (laser safety class 4), to process larger components. There is also the option of extending the closed work area on both sides.



Simple to integrate into your flow line, even without an enclosure (laser safety class 4).

04

Can be used anywhere

in the production line or as a single workstation

Benefit from the unbeatable combination of a larger work area and a compact design. The TruMark Station 5000 makes the perfect addition to your production line – or it can simply be set up as a single workstation. Do you prefer to sit or stand when working? You can do either thanks to the machine's intelligent, ergonomic design.



TRUMPF has conducted numerous applications trials to prepare the TruMark Station 5000 for flexible usage in industry.



Visit the website of our all-rounder, TruMark Station 5000: www.trumpf.com/s/i8ub63

TruMark Station 3000

The compact marking cube for small and medium-sized batches: simple and user-friendly.

01

Just get started

with intuitive operability

05

Mark safely

with a motorized laser protection door and laser safety class 1

04

Perfectly equipped

for any application or batch size

03

Compact desktop application

with the TruMark one-box lasers

02

Work comfortably

because of our focus on ergonomics



01

Just get started

with intuitive operability

The TruMark Station 3000 is perfectly suited to customers with small and medium batch sizes. The spectrum of applications encompasses the removal, structuring and targeted coloring of surfaces. The simple, safe but industrially robust marking station is straightforward and comfortable to operate.



Laser-marked headrest: Make your customers happy with individually-designed single parts.

02

Work comfortably

because of our focus on ergonomics

The operating elements of the TruMark Station 3000 are ergonomically attached, and it is controlled via the tried-and-tested TruTops Mark software. An automatic door facilitates quick and comfortable loading and unloading. In addition, a motorized Z-axis supports component positioning and the achievement of the exact focus position.

03

Compact desktop application

with the TruMark one-box lasers

Simply equip your TruMark Station 3000 with a TruMark one-box laser. With its small external dimensions, the marking station even fits on your desk. There is also a stand-alone version available for standing and sitting operation in the processing area.

04

Perfectly equipped

for any application or batch size

The TruMark Station 3000 offers optimum compatibility with the TruMark Series marking lasers, and therefore offers the ideal solution for any application and small and medium batch sizes. An optional rotational axis further enhances the flexibility of the marking station. And if you wish to convert to series production, simply remove the side flaps and pass your conveyor belt through.



You can also use the TruMark Station 3000 as a desktop workspace or as a stand-alone solution – the supply unit and extractor are integrated into the substructure.

05

Mark safely

with a motorized laser protection door and laser safety class 1

Excellent safety in a compact design: the electrically operated and monitored laser protection door ensures the safety of your staff.



The laser protection door is electrically operated and monitored – perfect safety for your staff.



For further details on the TruMark Station 3000: www.trumpf.com/s/h168zv

Everything under control with TruTops Mark

With TruTops Mark, mastering laser technology is easy. The marking software is based on Windows 10 and available in several languages. TruTops Mark combines marking software, a CAD editor, a management tool for laser parameters and interfaces, sequence programming, and a sophisticated diagnostic tool. This means you have all aspects of your laser operations under control with just this one piece of software. And if you do not want to deal with the nitty-gritty of laser marking, NAVIGATOR is there to help. This laser parameter assistant brings our application development expertise to your business.

Simple operation

CAD editor in TruTops Mark

Here you will find the full range of options for drawing, designing, creating data matrix codes as well as barcodes, importing vector and pixel formats as well as TrueType fonts. Numerous laser-optimized standard characters are available.

Managing parameters and interfaces

The large number of interfaces allows you to import variable data into your marking program. TruTops Mark also offers you plenty of options with regard to integration into existing production machinery via the control unit.

Parameter library

You can easily copy parameters you have already used to new marking files. This is a fast and productive means of creating new marking files. It also helps ensure that your parts are consistently marked with the same quality, even with multiple machines.

Adjusting the focal position

The camera solution lets you automatically set the correct focal position. This is an advantage when marking components with varying processing heights.

Simple integration

Sequence programming with QuickFlow

An object-oriented environment that makes for easy drag-and-drop programming of sequences. It enables you to control complete marking cycles. It also allows you to respond to production measurement data by varying the markings.

TruTops Mark Module Interface (TTM-MI)

TruTops Mark also offers standardized module interfaces to suit your industry and your particular needs. These interfaces can easily be integrated into any production process. This includes a base module, a scan module, a database module as well as a camera module and a special UDI module for medical technology. Customer-specific modules are also available.

ActiveX TruTops Mark Component

The ActiveX software component for TruTops Mark facilitates integration by ActiveX data exchange. The predefined TLV commands can be easily integrated into your process environment.



Simple diagnostics

Diagnostic tool

This tool visualizes and analyzes laser operating data and displays a complete list of monitoring notifications and live status information. This means that faults can be quickly identified and corrected.

Laser Power Monitor

The Laser Power Monitor is an internal module for measuring laser power. It is conveniently controlled using the software.

Laser Power Calibration

The Laser Power Calibration option allows the power of the marking laser to be calibrated. The power reserves mean your marking results will look the same as the first day, even years after.



Everything in view

With third-generation VisionLine image processing, TRUMPF is setting new standards when it comes to object recognition, distance measurement, user-friendliness and process reliability – tailored to the high requirements in industries such as automobile manufacture, medical technology and white goods.

01

Process reliability

thanks to automatic component and position recognition as well as autofocus

02

Prepared for any task

thanks to its modular design

03

Marking and reading

on several component levels

04

Simple operation and quality assurance

with an intuitive user interface and attribute library



01

Process reliability

thanks to automatic component and position recognition as well as autofocus

VisionLine recognizes the placement and position of the component and thus ensures that every marking is in exactly the right place, checking and evaluating it immediately. The system actively prevents markings from being applied twice. At the same time, costly component equipment can be eliminated, which saves costs.

The integrated autofocus function ensures that the distance between the component and the marking laser always remains consistent. Deviations can be reliably determined and then taken into account for the marking process.

02

Prepared for any task

thanks to its modular design

No matter the task, VisionLine image processing software adapts. To do this, one camera is aimed at the beam path of the laser, and a second camera is laterally aimed at the marking field. They are thus optimally prepared for finding and checking the marking position. Select whether you would like to use two different cameras for finding the marking position and for checking to achieve high cycle times. VisionLine can precisely determine the distance to the workpiece and, using the stitching function – which strings images together – you can even keep an eye on large components with high resolution.

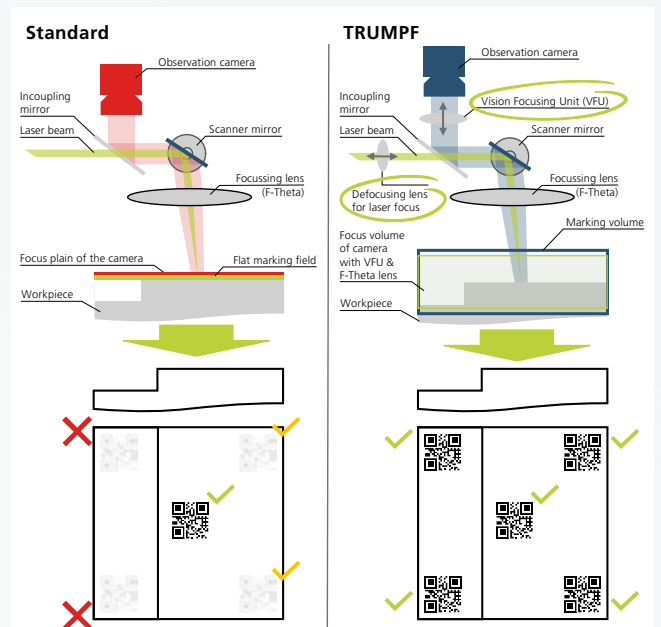


03

Marking and reading

on several component levels

VisionLine can be used to read bar codes, Data Matrix Codes and texts after laser marking, assess their quality and reliably document the obtained results. This gives you the ability to seamlessly verify that each component has been produced to high quality standards with the corresponding marking content. The system also notifies users if the wrong component has been inserted or if it has already been marked. This helps to eliminate defective parts. The focus positions of the camera and marking laser can be set independently of one another. This facilitates laser processing and use of image processing on several levels of the workpiece, even without using an additional mechanical axis.



TRUMPF VisionLine facilitates the reading and evaluation of marking content on several processing levels.

04

Simple operation and quality assurance

with an intuitive user interface and attribute library

The intuitive user interface facilitates setup of the VisionLine image processing software for the operator. Whether setting up a new component requires the use of predefined attributes or defined parameters such as exposure times – the operator quickly and easily achieves the desired result.



Further information about image processing solutions:
www.trumpf.com/s/image-processing

TruServices. Your Partner in Performance

To be successful in the future, you need the right services to keep you on track for the long term. Do you want to create the perfect manufacturing environment or make the best use of your TRUMPF equipment and tailor it to your evolving needs? Whatever the case, we're on hand to help you maximize your added value and lock those benefits in. TRUMPF is the right choice if you're looking for a reliable partner that can support you with a wide range of custom solutions and service packages, ensuring that your manufacturing business continues to be a resounding success.

EMPOWER

Looking to create the best conditions for successful manufacturing? We can give you the support you need.

SUPPORT

Are flexibility and machine availability top priorities in your ongoing manufacturing activities? We're on hand to help.

IMPROVE

Do you want to gradually shift your production processes towards maximum added value? We can achieve that together.



Financing

Technical Service

Monitoring & Analysis

Training

Genuine Parts

Product Enhancements

Service agreements

Process Optimization

Design and Programming Software

Technical Service

Process Optimization



Do you want to get fast access to technical service? Or take proactive steps to maximize the availability of your TRUMPF system? Our global network of service teams is here to help! Whether your manufacturing business is based in Europe, America, or Asia, you can count on fast and professional support worldwide, covering everything from installation to maintenance and repairs. Simply call our Technical Service team and talk to a specialist to decide which is the most efficient way to handle your particular case – an on-site mission by one of our service engineers or troubleshooting with our Teleservice.

Your processes are influenced by a whole host of different parameters, and adjusting those parameters can often unlock potential for optimization. Identifying that hidden potential is the key to making your production activities more efficient, and that’s where we can help. With our help, you can uncover the hidden potential of your production process, for example by using our expertise to secure your competitive edge: TRUMPF specialists can offer you individual advice on your particular applications and can optimize your marking processes.



- Qualified TRUMPF service engineers
- High standard of service worldwide
- Fast responses and lower costs thanks to innovative services



- Developing solutions together
- Expert know-how gained from multiple industries and applications
- Boost the added value of your manufacturing activities

Monitoring & Analysis

Service agreements



Do you like the idea of constantly keeping tabs on the current status and performance of your marking laser? TRUMPF offers monitoring and analysis products that take transparency to the next level. Monitoring machine status and processes in real time shows whether the actions you take have the effects you want. Plus, you save time and money by preventing costly machine and plant downtime and identifying potential savings. An additional alarm function is also available for your marking laser, which updates you on process disruptions and their causes by e-mail or text message around the clock. Enabling you to react as quickly as possible.

Our service agreements offer a range of service packages to help make your manufacturing business run more smoothly. By bundling together different services, we can offer cheaper packages with less hassle and complexity, so you can simply choose the package that best suits your needs at a fixed price you can budget for. Continuous access to professional support maximizes machine availability over the long term, ensuring consistently high production quality and low running costs. Regular servicing by the manufacturer also increases your machines' service life.



- Rapidly identify potential ways of increasing productivity
- Track whether the measures you take are successful
- Secure, controlled data transfer.



- Periodic optimization of your machines
- Consistently high production quality
- Longer service life for your system
- Predictable costs thanks to fixed-price packages or annual fee
- Makes planning and arranging servicing easier



You can learn more about our complete and comprehensive package of useful services here: www.trumpf.com/s/services

Technical data

TruMark Station 3000, 5000, 7000

Technical data		
		TruMark Station 3000
Available marking lasers		TruMark Series 1000, 3000, 5000, 6030
Dimensions (W × D × H)	mm	625 × 730 × 672 / 1092 ^[2] (desktop) / 1577 / 1998 ^[2] (stand-alone)
Weight (without laser, supply unit)	kg	82 (desktop) / 145 (stand-alone)
Electrical connection (voltage)	V	120 / 230
Electrical connection (frequency)	Hz	50 / 60
Electrical connection (amperage)	A	16 at 230 V, 20 at 120 V
Max. power consumption	W	1300
Max. workpiece dimensions (W × H × D)	mm	450 × 350 × 200
Max. workpiece weight	kg	12
Available axes		Z
Max. travel	mm	200
Max. traveling speed	m/min	3.75
Rotational axis	mm	65
Door		Motorized
Extractor		Integrated, external possible
Laser safety class		1

^[1]Without TruMark 5010 and 5020. ^[2]Height of the machine with the lift door open.
Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruMark Station 5000	TruMark Station 7000	TruMark Station 7000R
TruMark Series 1000, 3000, 5000, 6030	TruMark Series 3000, 5000 ^[1] , 6030, TruMicro Mark Series 2000	TruMark Series 3000, 5000 ^[1] , 6030
860 × 1312 × 2010/2310 ^[2]	1150 × 1420 × 2000/2524 ^[2]	1150 × 1624 × 2000/2524 ^[2]
480	1250	1400
120/230	120/230	120/230
50/60	50/60	50/60
16 at 230 V, 20 at 120 V	16 at 230 V, 20 at 120 V	16 at 230 V, 20 at 120 V
1800	2500	1800
384 × 375 × 500	960 × 375 × 500	Rotary plate Ø 770 mm
50/25 (with X/Y-axis)	75/50 (with Y-axis)	35 per side
X Y Z	X Y Z	X Z
300 300 500	650 350 500	650 500
6 6 3.75	6 6 4.5	6 6
65, 150	125	125
Motorized	Motorized	Motorized
Integrated, external possible	Integrated, external possible	Integrated, external possible
1, 4 possible	1	1

You can find more information at www.trumpf.com

- Technical datasheets available to download
- Ability to clearly compare up to three products
- Displays perfectly on any end device

Technical data

TruMark Series 1000, 3000

Technical data		
		TruMark Series 1000
		1110
Beam quality (M ²)/intensity distribution		< 1,5/TEM ₀₀
Average power at the workpiece	W	5
Wavelength	nm	1064
Pulse duration		ns
Pulse repetition frequency	kHz	15–100
Min. focal diameter	µm	50
Max. internal focus position control	mm	±7
Max. marking field size	mm ²	110 × 110
Standard marking field size	mm ²	110 × 110
Electrical connection values		
Line voltage		24 V ± 10%
Power consumption		20 A at 24 V
Power	kW	max. 0.48
Line frequency	Hz	
Dimensions		
Processing unit dimensions (W × D × H)	mm	333 × 172 × 264
Supply unit dimensions (W × D × H)	mm	–
Installation		
Protection class	IP	54
Permitted ambient temperature	°C	15–40

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruMark Series 3000			
3020	3130	3230	3330
< 1,5/TEM ₀₀	< 1,2/TEM ₀₀	< 1,2/TEM ₀₀	< 1,5/TEM ₀₀
5.5	10.5	7	2.3
1064	1064	532	355
ns	ns	ns	ns
1–100	1–100	1–100	1–120
30	28	15	16
± 60	± 60	± 40	± 25
290 × 290	290 × 290	230 × 230	220 × 220
110 × 110	110 × 110	110 × 110	80 × 80
min. 100 V –15%, max. 240 V +10%, wide-range input			
2.6 A at 230 V, 6.0 A at 100 V			
max. 0.6			
50/60			
138 × 380 × 138	138 × 380 × 138	138 × 380 × 138	138 × 380 × 207
445 × 420 × 466	445 × 420 × 466	445 × 420 × 466	445 × 420 × 466
54	54	54	54
15–40	15–40	15–40	15–40

You can find more information at www.trumpf.com

- Technical datasheets available to download
- Ability to clearly compare up to three products
- Displays perfectly on any end device

Technical data

TruMark 5010, TruMark Series 5000, TruMark 6030, TruMicro Mark 2030

Technical data		
		TruMark 5010
Beam quality (M ²)/intensity distribution		< 1.6/Low Order Mode
Average power at the workpiece	W	18.5
Wavelength	nm	1062 ± 3
Pulse duration		ns
Pulse repetition frequency	kHz	1–200
Min. focal diameter	µm	40
Max. internal focus position control	mm	24
Max. marking field size	mm ²	170 × 170
Standard marking field size	mm ²	110 × 110
Electrical connection values		
Line voltage		24 V ± 10%
Power consumption		20 A at 24 V
Power	kW	max. 0.48
Line frequency	Hz	
Dimensions		
Processing unit dimensions (W × D × H)	mm	175 × 430 × 250
Supply unit dimensions (W × D × H)	mm	–
Installation		
Protection class	IP	54
Permitted ambient temperature	°C	15–40

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruMark Series 5000		TruMark 6030	TruMicro Mark 2030
5020	5050		
< 2.0/Low Order Mode	< 1.6/Low Order Mode	< 1.3/TEM ₀₀	< 1.3/TEM ₀₀
20	45	25	20
1062 ± 3	1062 ± 3	1030	1030
ns	ns	ns	ps/fs
cw, cwm, 1–1000	cw, cwm, 1–1000	40–200	max. 2000
41	28	50	30
± 60	± 60	± 50	–
290 × 290	290 × 290	330 × 330	180 × 180
110 × 110	110 × 110	180 × 180	100 × 100
min. 100 V –15%, max. 240 V +10%, wide-range input		90 ~ 264, wide-range input	
3.0 A at 230 V, 7.0 A at 100 V		8.5 A at 230 V, 15 A at 115 V	
max. 0.6		max. 1.6	
50/60			
131 × 440 × 157	131 × 440 × 157	156 × 435 × 205	
445 × 420 × 550	445 × 420 × 550	483 × 495 × 218	
54	54	64/54	54
15–40	15–40	15–40	15–35

You can find more information at www.trumpf.com

- Technical datasheets available to download
- Ability to clearly compare up to three products
- Displays perfectly on any end device

Commitment is what drives us

Whether manufacturing and production technology, laser technology or material processing: We develop highly innovative products and services for you that are industry standard and completely reliable. In order to offer you persuasive competitive advantages, we give it our all: expertise, experience and plenty of commitment.

Industry 4.0 – solutions for your future

The fourth industrial revolution is changing the world of manufacturing. Is it possible to stay competitive internationally with all this change? Yes – with the opportunities offered by digital networking. With our pragmatic solutions, we will support you every step of the way on your networked manufacturing journey, helping you make your processes more transparent, more flexible and, first and foremost, more cost-effective. This will enable you to make the most of your resources and ensure your production process is fit for the future.

TruConnect is synonymous with Industry 4.0 at TRUMPF. The range of solutions connects man and machine through information while covering all steps of the production process – from quotation through to shipping your parts.



TruConnect
Your Smart Factory



Visit our YouTube channel:
www.youtube.com/TRUMPFtube



Lasers for production technology

Whether macro, micro or nano: We have the right laser and the right technology for any industrial application, allowing you to manufacture in an innovative yet cost-efficient manner. As well as the technology, we will also support you with system solutions, knowledge of applications and advice.



Power supplies for high-tech processes

From manufacturing semiconductors to producing solar cells: Our high- and medium-frequency generators give electricity for induction heating, plasma and laser excitation a defined form based on frequency and demand – highly reliable and with repeat accuracy.

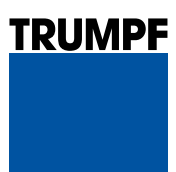


Machine tools for flexible processing of sheet metal and pipes

Laser cutting, stamping and punching, bending, laser welding: For all processes in flexible sheet production, we offer you custom-fit machines and automation solutions, including consultancy, software, and services – enabling you to produce your products reliably and in high quality.



TRUMPF is certified to ISO 9001
(Find out more: www.trumpf.com/s/quality)



TRUMPF Laser- und Systemtechnik GmbH
www.trumpf.com