

# *Laser Driver* *Electronics and Mechanics*

*Everything you need from one competent source. With a high level of vertical integration, flexibility, excellent quality and high reliability.*



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東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング TEL:03-3356-1064  
大阪支店 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館 TEL:06-6305-2064  
名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル TEL:052-569-6064

E-mail: [info@optoscience.com](mailto:info@optoscience.com)



*"Our core competences along with our qualified and experienced team allow us to take up with confidence every challenge from the market and from our customers."*

**Kersten Stoebe, CEO  
MESSTEC Power Converter GmbH**

## *Competent and Powerful*

*Are you looking for an enterprise for your laser technologies which has its focus on power supplies and high frequency components? Your portfolio needs mature electronic circuit developments, special electronic modules or mechanical components? Then you will find the right partner with us.*

For nearly 40 years we have been working dynamically with a high degree of vertical integration, flexibility, excellent quality, high reliability and a level of commitment to our customers that is second to none.

Whether you require a complete order handling service for your project or if you require our dynamic support for parts of your production – we are reliable, powerful and motivated from the enquiry to completion of your order.

MESSTEC's technical and logistical flexibility is to your benefit which is characterized by

- high vertical integration
- short lead time
- absolute reliability in deliveries
- highest quality for the production of single units through to series production
- fast technical service.

MESSTEC can provide both Electronics and Mechanics from one competent source. Our know-how comprises all processes of the electronic development and mechanical construction, the electronic and mechanical production of components as well as the complete assembly and testing. This applies to our own developed products and your contract orders.



### Core competences of MESSTEC Power Converter GmbH

Range of Services	Laser Driver	Electronics and Mechanics	Engineering Services
Development	✓		✓
Part Production	✓	✓	
Assembly	✓	✓	
Testing	✓	✓	

Flexibility is the basis for a state-of-the-art developing and manufacturing enterprise. This is also expressed in the range of goods and services which can be individually customised to your requirements. Whether you need complete products or only components for your production – you are in capable hands. We adapt our service to your requirements

without any compromises. Starting from development through assembly and testing we cover all relevant steps for the production of modules for laser power supplies as well as for the electronic and mechanical production. Of course this also includes all engineering service requirements on request.



## *Power Supplies and Components for Laser*

*MESSTEC is an important German leader of technologies for laser drivers and has more than 25 years experience in development, production and application of power supplies and components for lasers. MESSTEC is a globally sought-after partner for standard products as well as for individual customised solutions.*

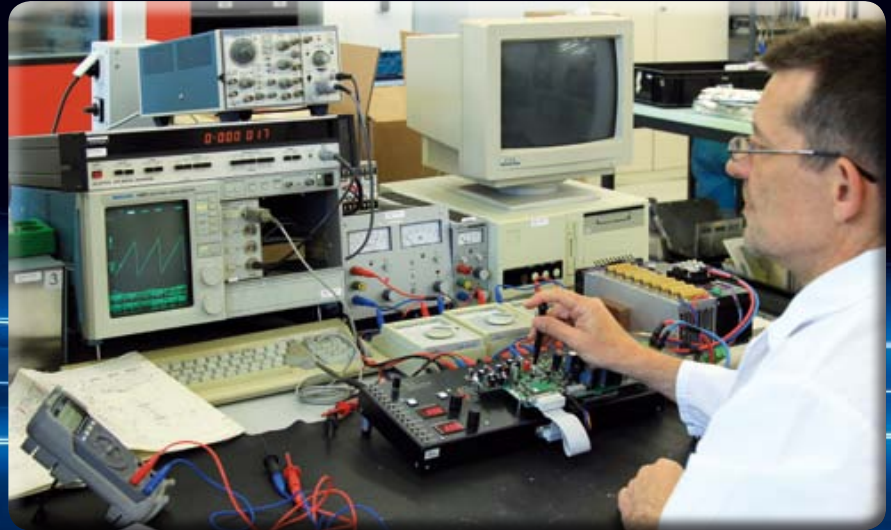


We have more than 100 different devices with patent-registered technical solutions for diode pumped lasers, diode lasers and lamp pumped lasers in our portfolio. Our comprehensive range of accessories, such as external control panels, safety interlocks or bus interfaces, enable our customers to realise multi-functional applications.

### **Some key features of our products**

- ideal dynamic power supply behaviour without overshoot and with steep rising and falling edge
- constant output current independent from diode voltage
- high accuracy and temperature stability
- low current ripple
- overlayable setpoint curves / pulses
- analog, parallel and / or serial interfaces, such as CAN bus, RS 232
- no additional power line filters necessary
- integrated power factor correction
- high electromagnetic capability, CE marking
- configuration via PC

The following list is not extensive and we can offer custom built solutions and individual developments by collaborating with our customers.



Many devices are based on the patent-registered MESSTEC power supply topologies. This is ideally suited in order to drive lasers with high accuracy, stability and safety.



**Product features DT(P) 400 – 1700**

- diode current up to 60A, diode voltage up to 49V
- cw and pulse operation up to 200kHz (burst-mode 1MHz)
- TEC driver with temperature control for cooling and heating with Peltier elements



**Product features DPS(P) X000**

- diode current up to 100A, diode voltage up to 30V
- cw and pulse operation up to 20kHz (burst-mode 50kHz)
- integrated programmable pulse generator, stand-by mode



**Product features FM, VFM, MSM**

- diode current up to 240A, diode voltage up to 49V
- cw and pulse operation up to 20MHz
- arbitrary current curves



**Product features LS 400 (FP)**

- complete device with integrated control panel, serial interface RS 232, interface 0-10V, safety interlock, pilot laser, shutter control
- diode current up to 60A, diode voltage up to 23V
- cw and pulse operation up to 5kHz
- TEC driver with temperature control for cooling and heating with Peltier elements

## Engineering Services

Our developments are focused on laser technologies. Our core competences are the conceptual and project design of

- laser drivers, high frequency components
- electronic circuits, single line diagrams
- design of circuit boards

In addition to that we design layouts according to customers' requests and related mechanical components. Our service also includes the co-operation with our customers during all development stages – from the product idea through to series production.



## *Electronic and Mechanical Production*

*MESSTEC produces, assembles and tests circuit boards, modules and complete devices. We utilise fully automated SMD technology with reflow soldering and semi-automated THT placement with wave soldering for prototypes, special circuit boards and series. Our business activities also comprise the non-cutting and cutting machining of single parts and modules.*

### **From a single unit to mass production**

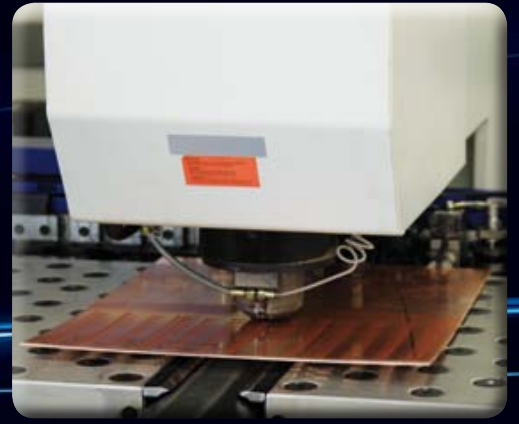
Our customers for electronic and mechanical components come from various industrial areas.

Order volumes from a single unit up to mass production are our day to day business. Subsequent solder joint checks and visual controls with microscope work stations supported by monitors as well as the mechanical controls guarantee continued high quality in our production.

### **Electronic production**

Within the electronic production we wind reactance coils and transformers and cast them in a vacuum process. We manufacture and adapt necessary cables and connectors according to your requirements and technical conditions.

Electro-mechanical modules and devices are assembled, mounted and wired in-house. The intermediate and final controls can be carried out according to customers' requests as tests of single components or as functional tests of complete modules.



## Mechanical Machining

Further strengths of MESSTEC are based in the various possibilities of the non-cutting and cutting machining of aluminum, copper, brass, steel and stainless steel.

This includes:

### Non-cutting CNC machining

- cutting
- punching, nibbling
- bending
- forming

### Cutting CNC machining

- milling
- turning
- drilling, threading

### Joining technologies

- soft-soldering
- hard-soldering
- welding

### Surface finishing

- grinding
- lapping
- vibratory fine grinding
- polishing



## Our demand: quality

MESSTEC's in-house quality management system secures for the core process of the complete order process as well as management processes and supporting processes, e.g. research and development, a permanent continuous quality.





## History

For more than 40 years MESSTEC have been your experienced partner for products and services for laser technologies as well as for electronic and mechanical components. The story of our success is not only by our innovative technological developments and our qualified team but also by our customers. Here are some of our milestones:

- 1976** Establishment of the engineering company Peter Moosbauer
- 1982** Establishment of the individual company MESSTEC Peter Moosbauer  
Start-up of the electronic and mechanical production
- 1985** Move into the company owned building
- 1986** Development of the first laser driver
- 1997** Establishment of MESSTEC Power Converter GmbH
- 2000** Registration of the first patent
- 2006** Reconstruction and expansion of the electronic production area
- 2011** Merger of the single enterprises into MESSTEC Power Converter GmbH
- 2012** Acquisition of MESSTEC Power Converter GmbH by Kersten Stoebe  
as sole shareholder and CEO