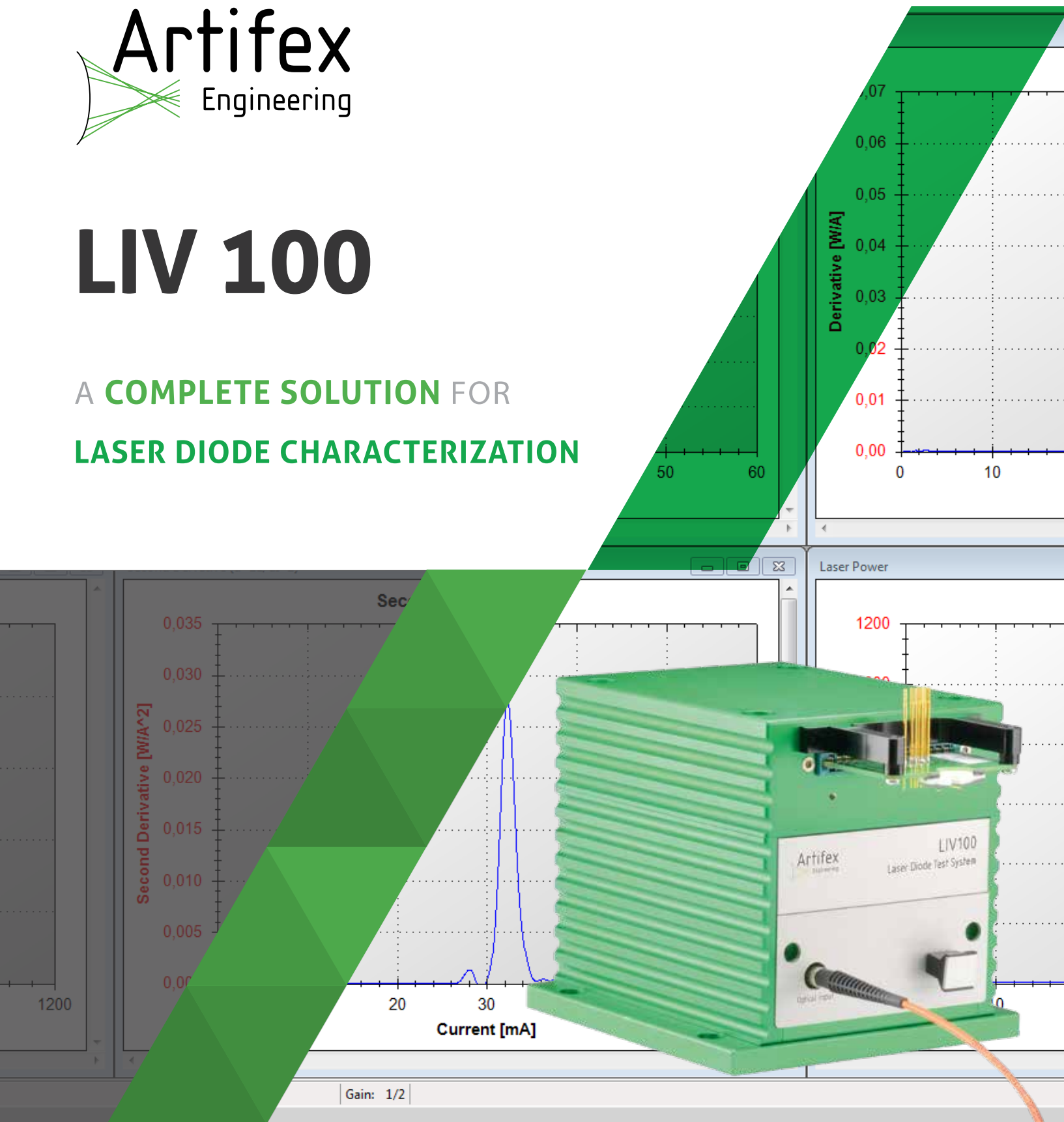


LIV 100


A COMPLETE SOLUTION FOR
LASER DIODE CHARACTERIZATION



Your Supplier
for Instruments & Optics



ISO 9001 CERTIFIED
www.artifex-engineering.com

A close-up, shallow depth-of-field photograph of several thin, cylindrical metal pins or needles. The pins are arranged in a slightly curved line, with their tips pointing towards the viewer. The background is a soft, out-of-focus green and blue.

**We are dedicated to
attaining high quality,
innovation and service for
our customers.**

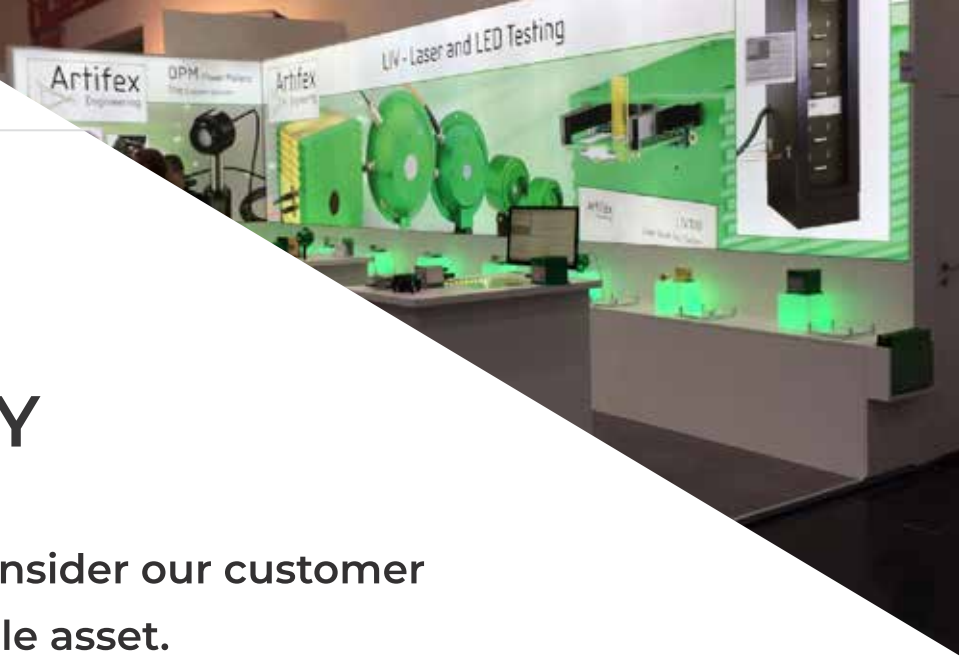


Artifex Engineering designs and manufactures systems and subsystems for industrial and R&D metrological applications. Let your product engineers concentrate on measuring your devices - not wasting your resources designing test equipment.



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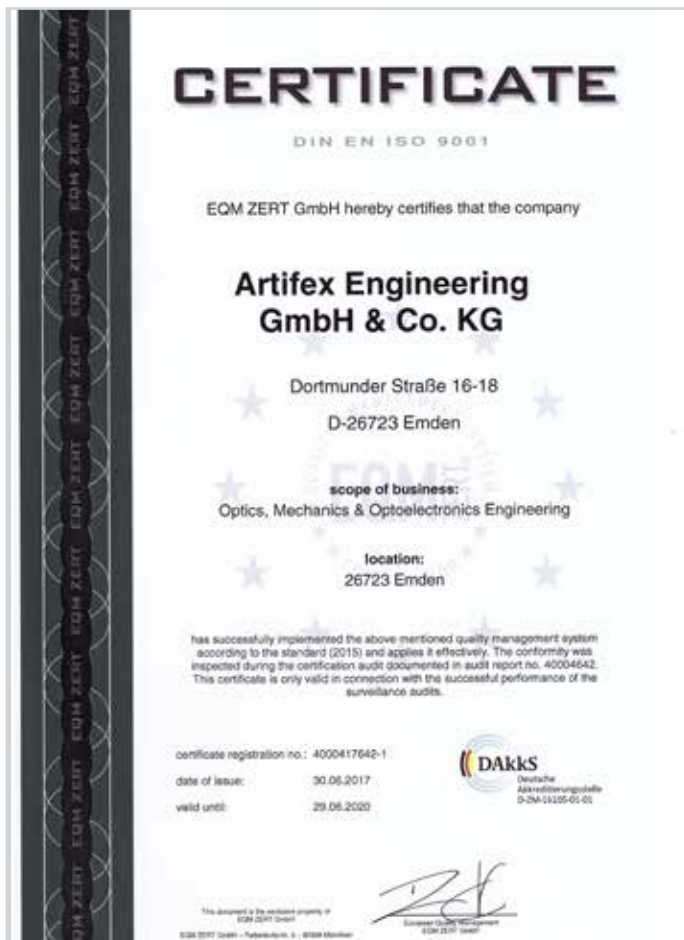
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OUR COMPANY

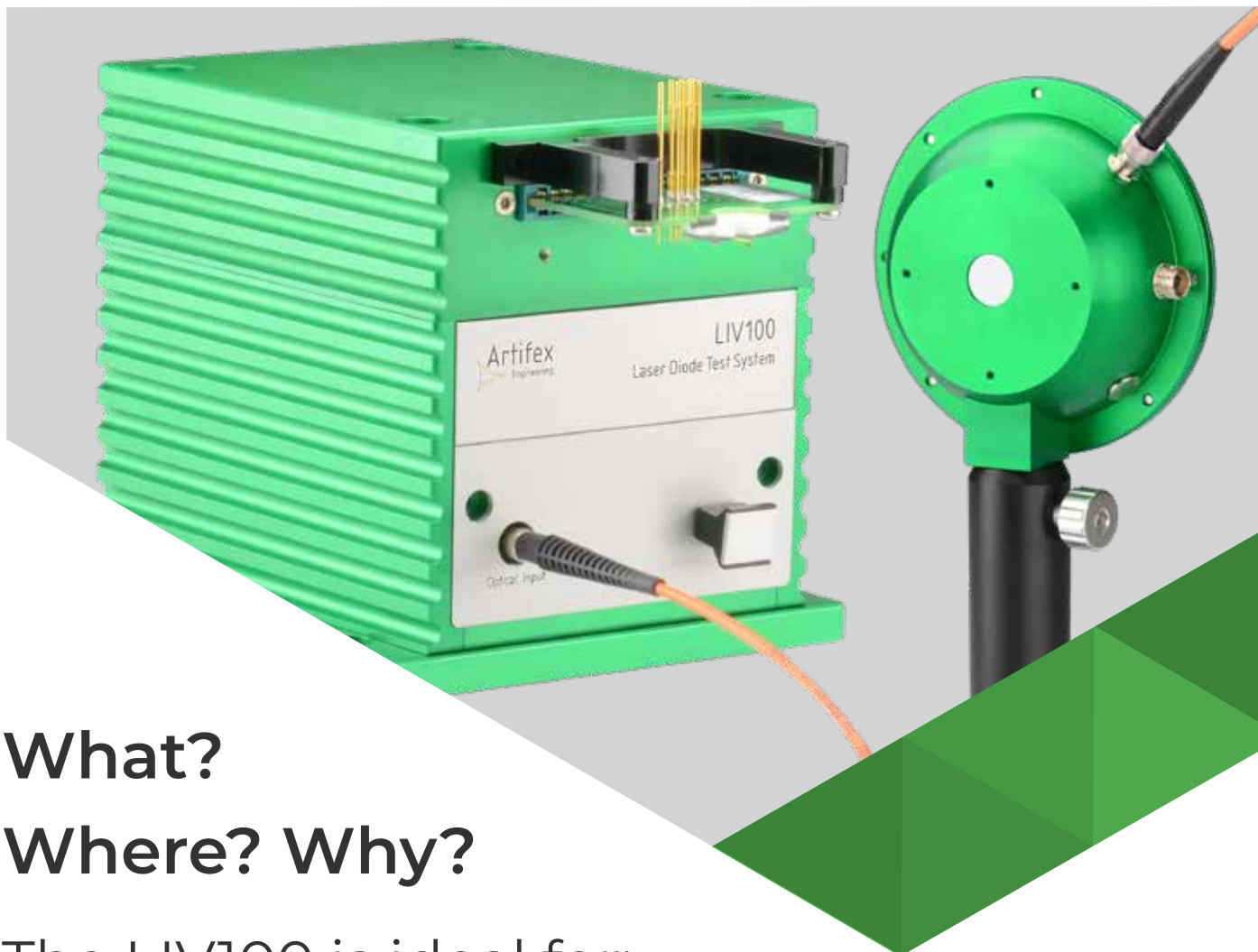
As an OEM supplier, we consider our customer relationship to be a valuable asset.

We see a major component of our products in the comprehensive pre and post sales support we provide. With more than 20 years experience in the field, we are well positioned to offer our customers advice and design consultation.



Our products form the basis of a wide range of industrial R&D metrological applications. At Artifex Engineering we strive to maintain a close relationship with our customers to ensure that the products we deliver meet your needs cost effectively. We understand that your application is not standard and so we offer customization of all of our products, even for single units. Our manufacturing infrastructure includes rapid prototyping machinery and a flexible manufacturing environment allowing us to customize quickly and efficiently – a definite pricing advantage.

Artifex Engineering is **ISO 9001 certified**. We are dedicated to attaining high quality, innovation and service for our customers.



What? Where? Why?

The LIV100 is ideal for:



DIODE CHARACTERIZATION

at the chip, bar level or wafer



QUALITY CONTROL

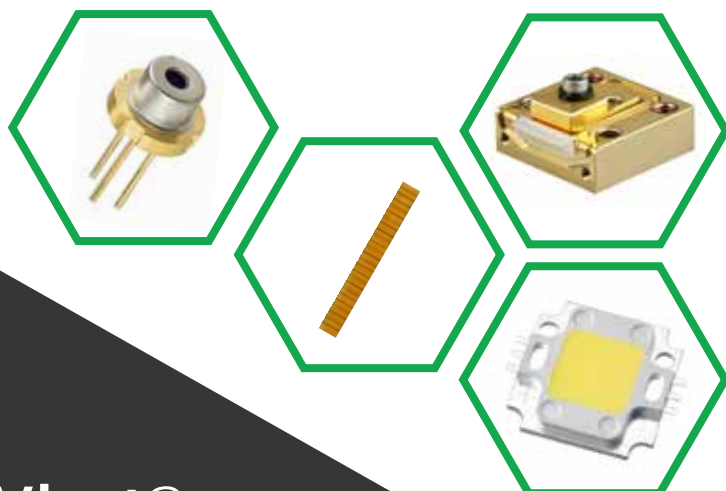
of incoming goods and in production



R&D

fully customizable

The LIV100 is a cost effective, powerful test system for use in the lab as well as for OEM applications such as integration into a production environment. We offer this modular instrument with a variety of standard end stages covering current ranges from 0.5A up to 600A. We are happy to provide custom solutions for higher or lower maximum currents as required. And fast: complete LIV curves in less than 1 second !



Chips

Bars

Wafers (VCSEL)

Packaged Lasers

LEDs

What? Where? Why?

Let your product engineers concentrate on measuring your devices - not wasting your resources designing test equipment.

Throughput	$\leq 1s / \text{diode}^1$
Pulse duration	0.15 - 2000 μ s
Current ranges	min.: 2.5 - 500mA max.: 2 - 600A
Wavelengths	250 - 1100nm 400 - 1600 nm
Optional:	max. 2500nm

No. of current steps	1 - 4000
Resolution	12 bit
Interface	Industrial USB
Dimensions	114 x 150 x 125 mm

¹At 2 μ s pulse width, 200 current steps and 0.2% duty cycle

Detailed Analysis

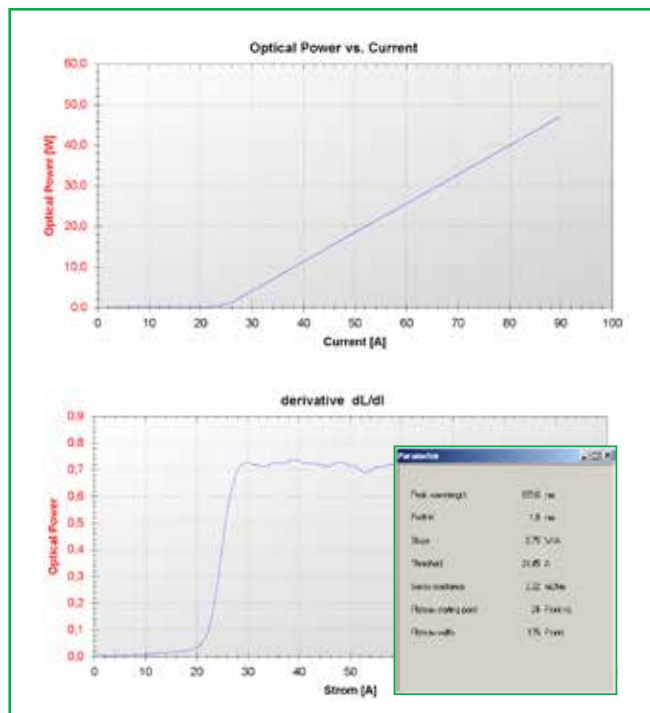
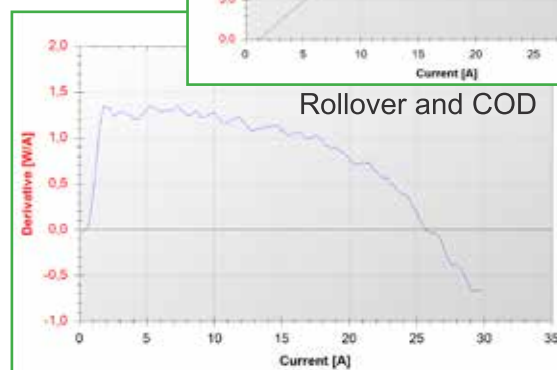
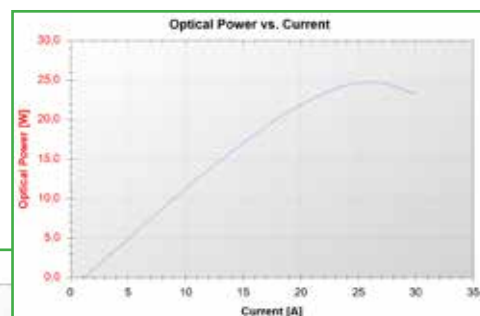
A complete parameter set for a given measurement sequence may be uploaded to the LIV100. The LIV100 then takes over the measurement procedure beginning with a test of proper laser contact. Once this preliminary test is passed, the unit drives the laser with the given prescription and performs the data acquisition and storage. Many laser diodes of the same type may now be tested in this manner with very high throughput.

Extraction of Salient Parameters

- 3 selectable algorithms for threshold

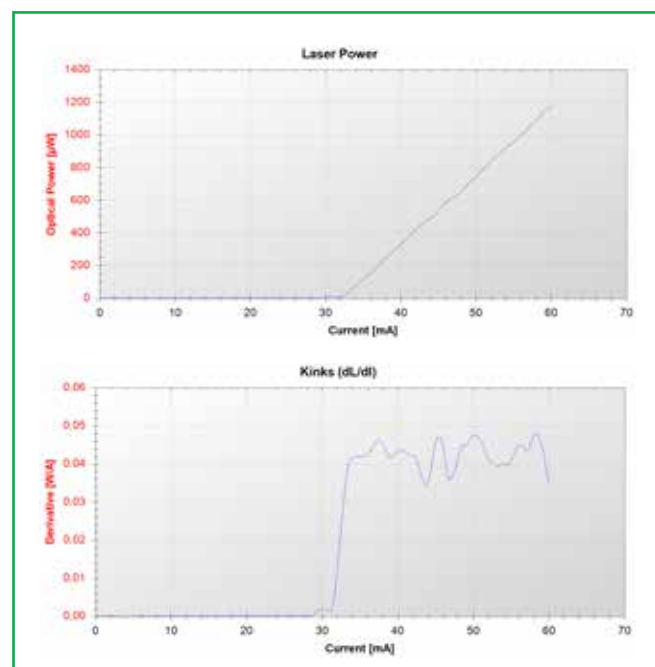
Range of features for in-depth testing

- thermalization period
- repeat mode (consistency)
- sweep averaging



GOOD LASER

Slope analysis of a good laser

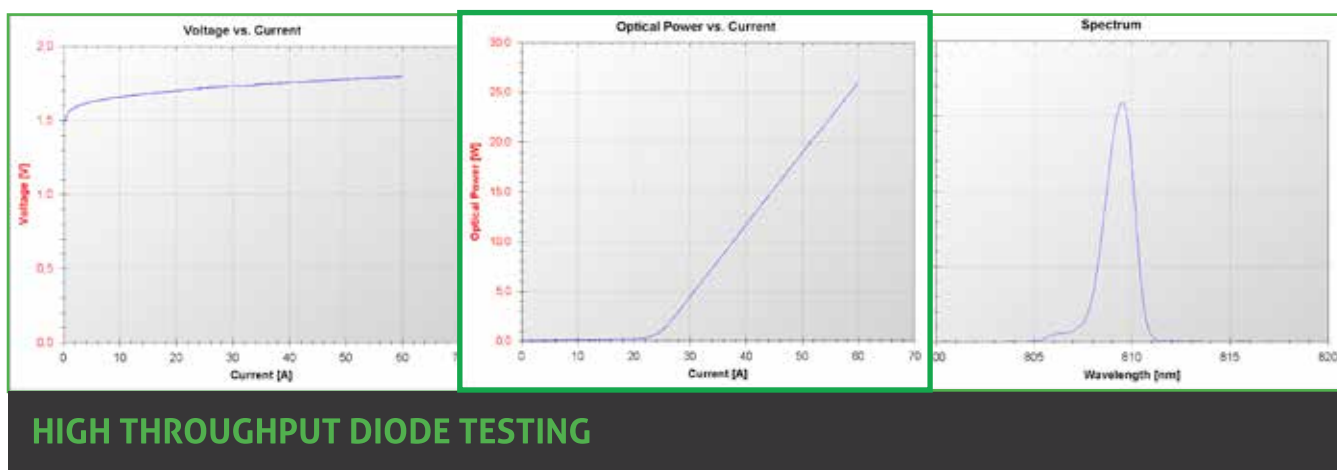


BAD LASER

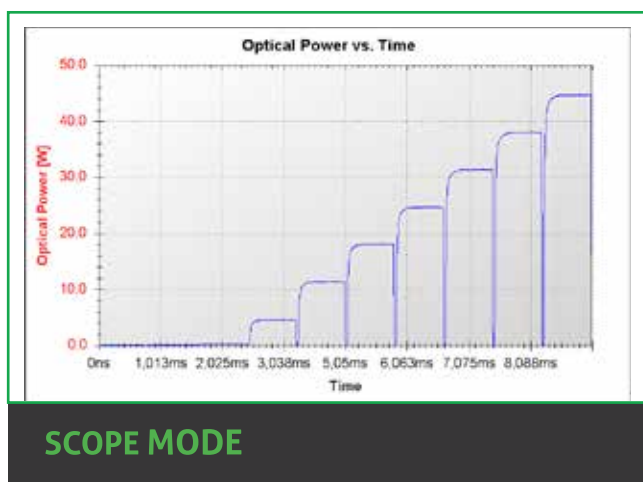
Kink analysis

Graphical Clarity

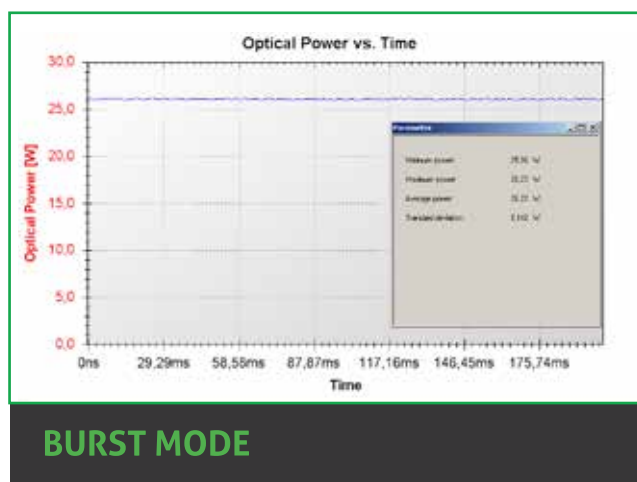
Intuitive operation and clear results. Export in csv and pdf formats.



Following setup of a test sequence, each diode maybe tested in less than 1 second, depending on the parameters chosen. The graphical data output is displayed in a clear fashion and can be exported directly to a preconfigured pdf report. This report has your logo embedded and may be used as a data sheet for the device tested.



Useful for system setup by checking pulse form integrity.



Analyse power stability and thermal characteristics.



Touch Down

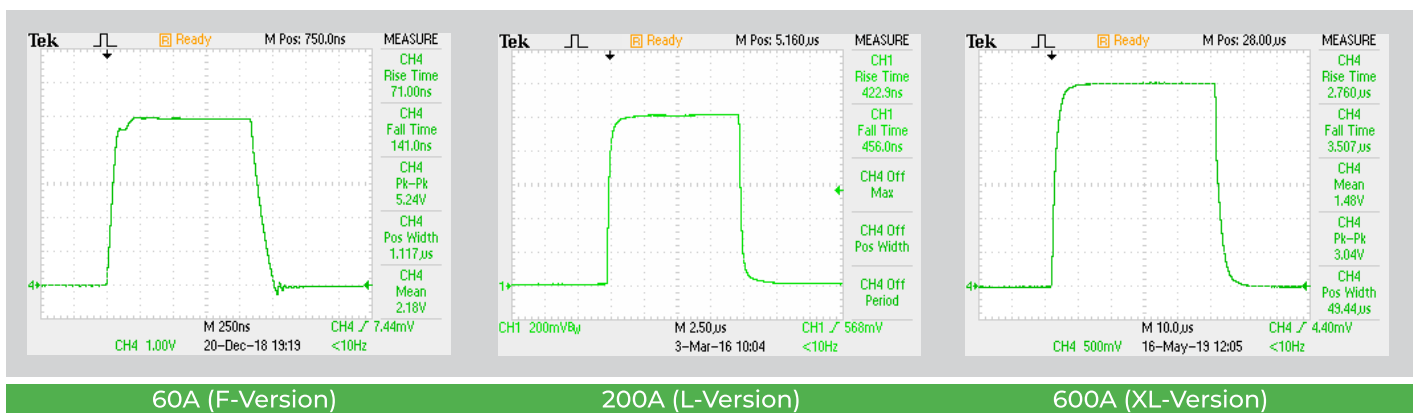
Slot connector for rapid change of contact cards



We offer a wide range of customized contact cards for chips, VCSELs and bars.

Extraordinary PERFORMANCE

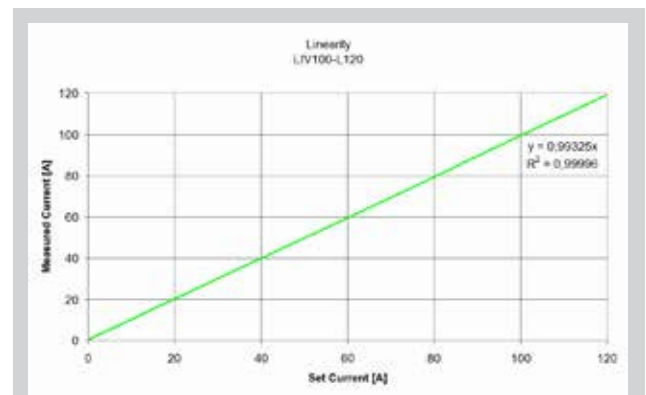
- COMPACT
- ENCLOSED IN ONE SINGLE UNIT



Safe operation with clean square pulses with minimal overshoot and extreme flatness.

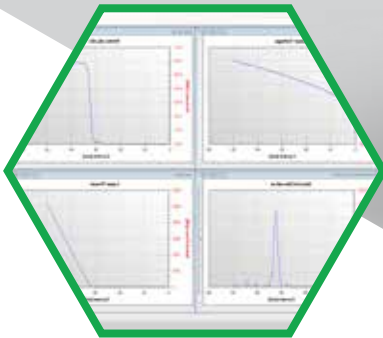
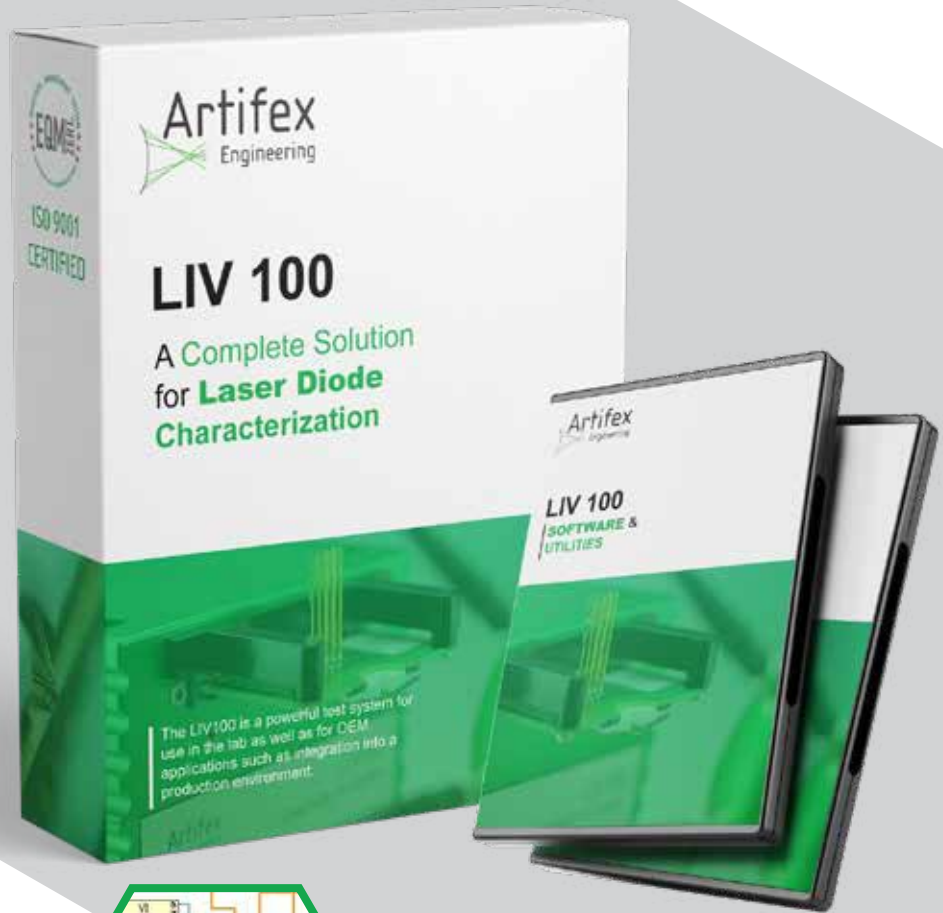


Perfect for machine integration



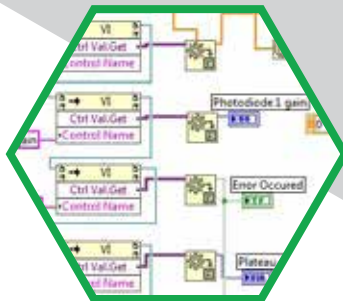
High linearity

Our SOFTWARE DEVELOPMENT KIT (SDK)



Software (GUI)

Entuitive operation with graphical clarity.



LabView® VI

Simple integration into your existing LabView enviroment.

```

Not FT_Read_Bytes
If Chr(strReadBuffer) =
If Not FT_Read_Bytes
error_codes = CStr(st
Return error_codes
Else
If Not FT_Read_Bytes
If send_string("@r
If Not FT_Read_By
If Chr(strReadBu
'skip this
  
```

Source Code (VB.net)

We provide full application software source code. Realize your own software project or make your own modifications.

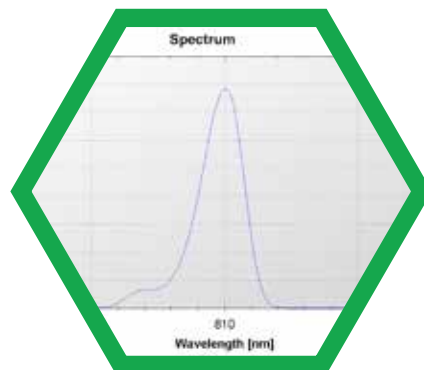


Peripherals

for complete, turnkey solutions.



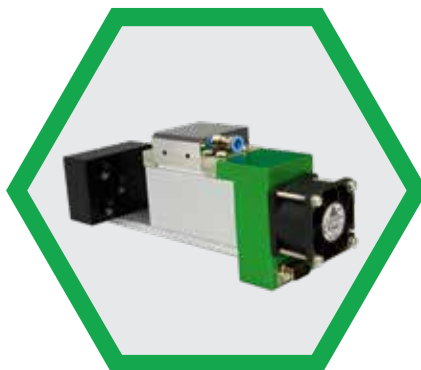
Software integrated
TEC controllers



Third party spectrometers
with software



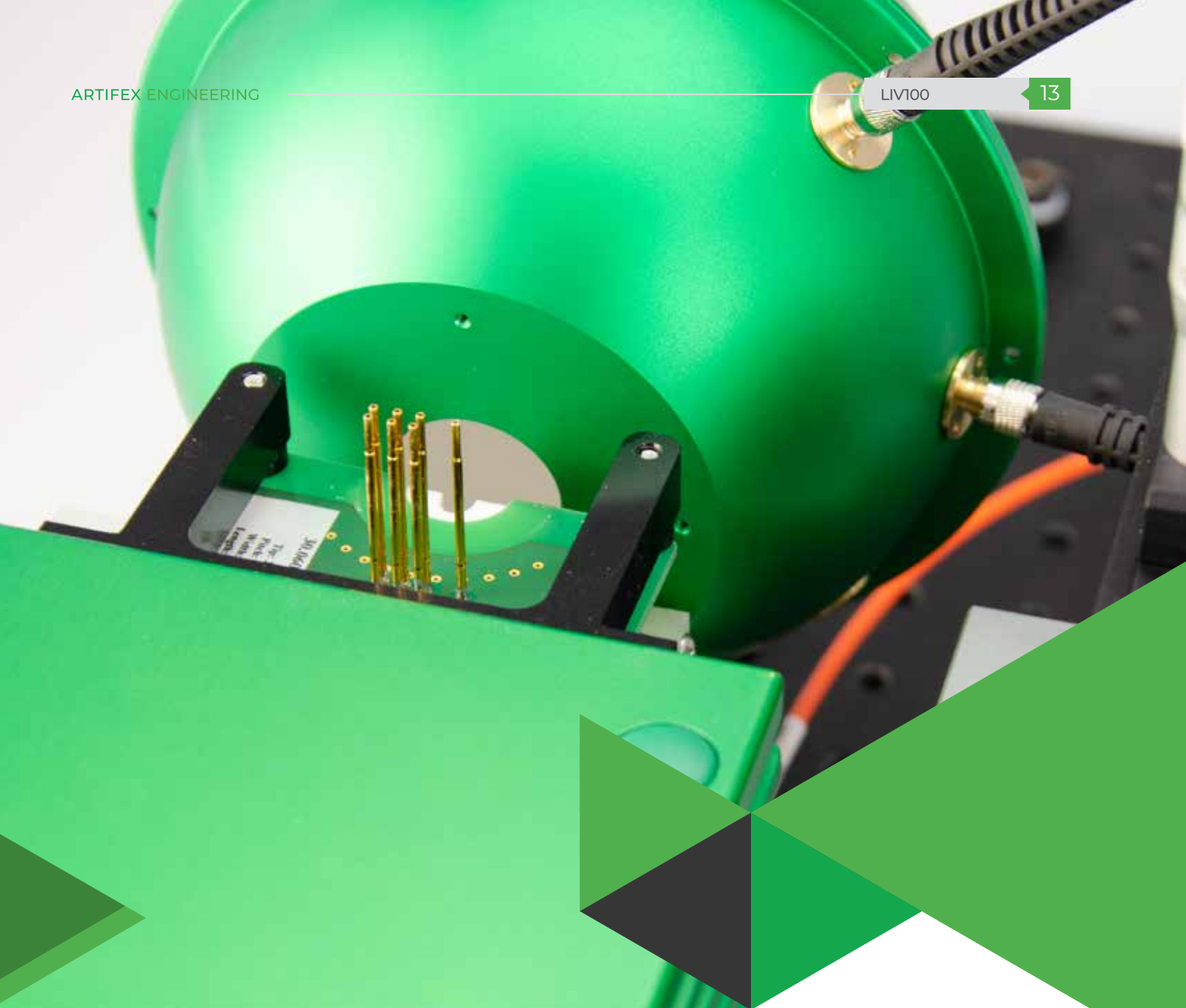
Contact cards



TEC mounts for bars and
packaged devices



Integrating spheres



Artifex Engineering manufactures a wide range of peripherals to complement our LIV instruments giving you a complete, turnkey solution for your testing requirements.

- Contact cards for chips, bars and wafers
- Integrating spheres
- Thermally stabilized (TEC) mounts for bars and packaged devices such as TO, C- and CS-mount and various flat pack devices
- Software integrated TEC controllers with drive power of 40W, 170W and 480W
- Third party spectrometers fully software integrated with all necessary connection hardware

The Nitty Gritty

Ordering Information

Fast rise time version: LIV100-Fc

max.current (c)



Long pulse version: LIV100-Lc

max.current (c)



Extra long pulse version: LIV100-XLc

max.current (c)



Specifications

PARAMETER	CONDITIONS	RESOLUTION	MIN	TYP	MAX	UNITS
INPUT						
Sampling rate	selectable: 20/n MS/s with n = 1 .. 20	n.a.	1		20	MS/s
A/D resolution				13		bit
Photodiode gain	optimum gain automatically selected			1 10		V/mA
Transimpedance amplifier rise time ¹				50		ns
OUTPUT						
Pulse duration ²	F L XL	0.050 0.050 0.050	0.150 2 5		2000 2000 2000	µs
Rise time at maximum current	F L XL			70 420 700	100 500 1000	ns
Current overshoot at maximum current ³				0	3	%
Pulse separation		50	100		500 000	µs
Current range (examples only: any current range from 0.5A to 600A may be specified at time of purchase)	2A max 40 200 600	0.0005 0.01 0.05 0.15	0.01 0.2 1 2		2 40 200 600	A
D/A resolution				12		bit
Compliance voltage					10	V
Duty cycle (examples only: any current range from 0.5A to 600A may be specified at time of purchase)	Fast rise time version: LIV100-F002 LIV100-F040 LIV100-F120 Extra long pulse version: LIV100-XL002 LIV100-XL040 LIV100-XL200				25 1.5 0.5 50 3 0.6	%
SIGNAL PROCESSING						
Depth of storage				512		kB
Number of cycles for averaging		1	1		250	
PC INTERFACE						
Type				USB; 100kB/s		
DIMENSIONS						
	DAQ unit			114 x 150 x 125 mm (W x L x H)		mm

¹ Per ANSI/IEEE Standard 181-1977: 10% - 90%.

² Optimum sampling rate is automatically selected.

³ With optimized strip line connector, no load matching required.

Current:
from 0.5A up to 600A

Pulse Duration:
150ns - 2ms

Throughput:
<1s per diode ¹

Compact:
114 x 150mm footprint

Summary

The LIV100 is a cost effective, powerful, pulsed current test system for use in the lab as well as for OEM applications.

Ideal for:

Diode characterization at the chip, bar level or wafer | Quality control of incoming goods
OEM | R&D

We offer this instrument with a variety of end stages covering current ranges from 0.5A up to 600A.

Your problem is our challenge, flexibility is our standard!

We will gladly adapt, for example, the wavelength or the current to suit your application. Let us know your requirements

¹ At 2µs pulse width, 200 current steps and 0.2% duty cycle.

Thank You

www.art-eng.de



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E-mail: sales@artifex-engineering.com

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