

# Simple Transmission Measurement for Plastics

## LPKF TMG 3



# LPKF TMG 3



## Calibrated Measuring Tool for Preventative Quality Assurance

The optical transmission of a plastic is crucial for the quality of the welded joint. This material property can be influenced by the upstream processes of compounding and injection molding. A quick and easy test of the optical transmission prior to laser plastic welding is an essential part of integrated quality assurance.

### **Better Safe than Sorry**

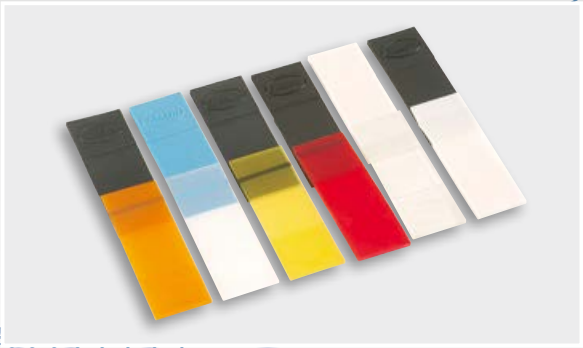
The LPKF TMG 3 enables the transparency properties of plastics to be quickly and easily checked and proved. It only takes a few seconds to check that the actual transparency metrics match the set values in the process definition. Testing reveals any deviations in the materials before an unsuitable component enters the production process.



## Easy and Reliable

The LPKF TMG 3 can be used directly in the production as calibrated measuring tool. It determines the amount of laser radiation transmitted through a sample of plastic pursuant to DVS Regulation 2243. The beam intensity measured without a sample in the beam path is the reference level. A laser beam is then sent through the sample and its intensity determined where the beam exits the sample. An optional component-specific holder ensures reliable and reproducible test results.

- Detects transmission fluctuations between components with an accuracy of  $\leq 1$  percent
- Insensitive to light interference



- Stand-alone operation via a PC and application software, or integration in the laser system and automation per SPS via an RS232 interface
- Power comfortably supplied via USB
- Laser class 1

### **Areas of Application**

- Quality assurance of the compounding or injection molding process
- Weldability validation, process sampling
- 100 percent material qualification prior to the welding process or for incoming goods control



## Features

- Optically power-regulated laser diode for stable test conditions with the wavelengths of typical laser plastic welding systems
- Homogeneous, rotation-symmetrical intensity profile of the test beam
- Fastening option for component-specific holding
- Integratable in production lines, optional control via SPS
- Meets DIN EN 9001 requirements for measuring tools and inspection equipment

## LPKF TMG 3

<b>Laser class</b>	1
<b>Laser wavelength</b>	980 nm
<b>Power supply</b>	5 V DC via USB
<b>Interfaces</b>	USB, RS232
<b>Diameter of the sensor aperture</b>	3 mm
<b>Focus diameter of the laser beam</b>	~ 1.2 mm
<b>Precision</b>	≤ 1 % transmission (in ref. operating state)
<b>Dimensions (W x H x D)</b>	220 mm x 257 mm x 295 mm (8.7" x 10.1" x 11.6")
<b>Weight</b>	3.5 kg (7.7 pounds)

The LPKF TMG 3 is calibrated with a measurement standard according to DIN EN ISO/IEC 17025 and is shipped with a works calibration certificate.



### LPKF Service & Support

LPKF provides worldwide premium customer support. Learn more:  
[www.lpkf.com/support](http://www.lpkf.com/support)

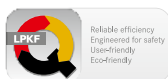


# LPKF

Laser & Electronics

### LPKF WeldingEquipment GmbH

Alfred-Nobel-Str. 55 - 57 90765 Fürth Deutschland  
Tel. +49 (911) 669859-0 info.laserwelding@lpkf.com  
[www.lpkf.com](http://www.lpkf.com)



Made in Germany

© LPKF Laser & Electronics AG. LPKF reserves the right to change specifications and other product information without notice.