THORLABS

## Optical Power Meter

# PM100A
# Quick Reference




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# Contents

Foreword

1 General Information 1

2 First Steps 2

2.1 Parts List 2

2.2 Requirements 2

3 Operating Instructions 3

3.1 Basic Setup 3

4 Appendix 4

4.1 Safety 4

4.2 Manufacturer Address 5

4.3 Certifications and Compliances 6

4.4 Warranty 7

4.5 Copyright and Exclusion of Liability 7

4.6 Thorlabs Worldwide Contacts and WEEE policy 8

**We aim to develop and produce the best solution for your application in the field of optical measurement technique. To help us to live up to your expectations and improve our products permanently we need your ideas and suggestions. Therefore, please let us know about possible criticism or ideas. We and our international partners are looking forward to hearing from you.**

***Thorlabs GmbH***

**Warning**

**Sections marked by this symbol explain dangers that might result in personal injury or death. Always read the associated information carefully, before performing the indicated procedure.**

**Attention**

**Paragraphs preceded by this symbol explain hazards that could damage the instrument and the connected equipment or may cause loss of data.**

**Note**

**This manual also contains "NOTES" and "HINTS" written in this form.**

**Please read this advice carefully!**

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# 1 General Information

The PM100A handheld Optical Power Meter measures the optical power of laser light or other monochromatic or near monochromatic light, detected by an appropriate sensor. The space-saving, battery powered design, the compatibility with all Thorlabs “C-Series” Photodiodes, Thermal Sensors, and respective custom sensors and a fast USB device interface open a wide range of applications in Manufacturing, Quality Control, Quality Assurance, and R&D for stationary and field use.

The unit combines a precise four digit power readout with a mechanical, mirror supported analog needle meter to perform laser tuning tasks or watching trends. The unit's lithium polymer battery can be recharged with the supplied AC adapter or via USB connection to a PC or laptop.

Settings can be changed either directly on the PM100A or through the utility software Optical Parameter Monitor OPM from a PC, tablet or laptop that is connected via a fast USB interface. This makes it easy to integrate the instrument in test and measurement systems. The OPM software, including the instrument drivers, is available for download from the Thorlabs website. For previous Thorlabs software versions, please visit the Thorlabs software website.

Please refer to the full user manual of the PM100A or OPM software for detailed function description.

**Attention**

Please find all safety information and warnings concerning this product in the chapter Safety in the Appendix.

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# 2 First Steps

Please inspect the shipping container for damage. Do not cut through the cardboard. You might need the box for storage or returns.

If the shipping container seems to be damaged, keep it until you have inspected the contents mechanically and electrically.

Verify that you have received the following items within the package:

## 2.1 Parts List

1. PM100A power meter
2. Power supply with power cord according to the country of shipping address
3. USB cable, type ‘A’ to ‘mini-B’
4. Quick Reference
5. Certificate of Calibration

## 2.2 Requirements

The software Optical Parameter Monitor (OPM) for remote operation of the PM100A requires a PC hardware and software environment as specified on the software website.


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# 3 Operating Instructions

The PM100A can be operated either through the device display or remotely using the software Optical Parameter Monitor (OPM). The OPM provides additional features as for example the option to run multiple power meters in parallel or for long-term data logging.

## 3.1 Basic Setup

- Configure the plug-in power supply with the primary plug for your local power supply.
- Connect the power supply to a mains socket and to the PM100A.
- Connect a suitable sensor to the PM100A.
- Switch the unit on by pressing the power button in the side panel.
- The needle now deflects to full scale and the graphics display shows the device status and then jumps to the measurement screen last shown before power down.
- The PM100A is now ready to use.

For more information on the operation of the PM100A, please see the full manual.

# 4 Appendix

## 4.1 Safety

**Attention**

The safety of any system incorporating the equipment is the responsibility of the assembler of the system.

All statements regarding safety of operation and technical data in this instruction manual will only apply when the unit is operated correctly as it was designed for.

The PM100A must not be operated in explosion endangered environments!

Do not obstruct the air ventilation slots in the housing!

Do not remove covers!

Do not open the cabinet. There are no parts serviceable by the operator inside!

This precision device is only serviceable if returned and properly packed into the complete original packaging including the cardboard insert that holds the enclosed devices. If necessary, ask for replacement packaging. Refer servicing to qualified personnel.

Only with written consent from Thorlabs may changes to single components be made or components not supplied by Thorlabs be used.

All modules including control inputs / outputs and the sensor must be connected with duly shielded connection cables.

**Attention**

The following statement applies to the products covered in this manual, unless otherwise specified herein. The statement for other products will appear in the accompanying documentation.

**Note**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules and meets all requirements of the Canadian Interference-Causing Equipment Standard ICES-003 for digital apparatus. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Thorlabs GmbH is not responsible for any radio television interference caused by modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Thorlabs GmbH. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.
The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may violate FCC and ICES rules.

**Attention**

Mobile telephones, cellular phones or other radio transmitters are not to be used within the range of three meters of this unit since the electromagnetic field intensity may then exceed the maximum allowed disturbance values according to IEC 61326-1.

This product has been tested and found to comply with the limits according to IEC 61326-1 for using connection cables shorter than 3 meters (9.8 feet).


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## 4.2 Manufacturer Address

**Manufacturer Address Europe**
Thorlabs GmbH
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Fax: +49-8131-5956-99
www.thorlabs.de
Email: europe@thorlabs.com

**EU-Importer Address**
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Fax: +49-8131-5956-99
www.thorlabs.de
Email: europe@thorlabs.com

## 4.3 Certifications and Compliances

# EU Declaration of Conformity

*in accordance with EN ISO 17050-1:2010*

*We:* Thorlabs GmbH

*Of:* Münchner Weg 1, 85232 Bergkirchen, Deutschland

*in accordance with the following Directive(s):*

| | |
|---|---|
| 2014/35/EU | Low Voltage Directive (LVD) |
| 2014/30/EU | Electromagnetic Compatibility (EMC) Directive |
| 2011/65/EU | Restriction of Use of Certain Hazardous Substances (RoHS) |

*hereby declare that:*

*Model:* ***PM100A (-Bundle)***

*Equipment:* ***Analog Optical Power Meter***

*is in conformity with the applicable requirements of the following documents:*

| | | |
|---|---|---|
| EN 61010-1 | Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use. | 2010 |
| EN 61326-1 | Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements | 2013 |

*and which, issued under the sole responsibility of Thorlabs, is in conformity with Directive 2011/65/EU of the European Parliament and of the Council of 8th June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, for the reason stated below:*

does not contain substances in excess of the maximum concentration values tolerated by weight in homogenous materials as listed in Annex II of the Directive

*I hereby declare that the equipment named has been designed to comply with the relevant sections of the above referenced specifications, and complies with all applicable Essential Requirements of the Directives.*

*Signed:* *On:* 20 November 2019

*Name:* Bruno Gross

*Position:* General Manager

*EDC - PM100A (-Bundle) -2019-11-20*

CE


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## 4.4 Warranty

This precision device is only serviceable if returned and properly packed into the complete original packaging including the complete shipment plus the cardboard insert that holds the enclosed devices. If necessary, ask for replacement packaging. Refer servicing to qualified personnel.

General Terms and Conditions:

https://www.thorlabs.com/Images/PDF/LG-PO-001_Thorlabs_terms_and_%20agreements.pdf

and

https://www.thorlabs.com/images/PDF/Terms%20and%20Conditions%20of%20Sales_Thorlabs-GmbH_English.pdf

## 4.5 Copyright and Exclusion of Liability

Thorlabs has taken every possible care in preparing this document. We however assume no liability for the content, completeness or quality of the information contained therein. The content of this document is regularly updated and adapted to reflect the current status of the product.

All rights reserved. This document may not be reproduced, transmitted or translated to another language, either as a whole or in parts, without the prior written permission of Thorlabs. Copyright© Thorlabs 2025. All rights reserved.

Please refer to the general terms and conditions linked under Warranty.

## 4.6 Thorlabs Worldwide Contacts and WEEE policy

For technical support or sales inquiries, please visit us at www.thorlabs.com/contact for our most up-to-date contact information.



**USA, Canada, and South America**
Thorlabs, Inc.
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