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<http://www.thorlabs.com>

Certificate of Calibration

No	19353113759
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X New Unit
 Returned Unit

Result as left: **PASS**

Manufacturer Thorlabs GmbH
Model Number PM100D
Serial Number P0025281
Date of Calibration 19-Dec-2019

Calibration Standards

NO	MANUFACTURER	MODEL	SERIAL NO	LAST CAL
1	Keithley Instruments Inc.	Model 2611B	4314709	18-Jun-2019
2	Agilent Technologies	34450A	MY53225217	18-Jun-2019

Thorlabs GmbH does hereby certify that the above mentioned equipment has been calibrated in accordance with our quality management system.

Our Quality Management System is certified according to DIN EN ISO 9001.

The measurement equipment used for calibration is traceable to national standards of the 'EUROMET' members (NPL, PTB, BNM etc.), the US 'NIST' or other national metrological institutions.

Measurements which cannot be traced to national standards can be traced to natural constants, other accepted standards or relational measurements.

Additional documentation concerning traceability of the measurement equipment is available and can be examined upon request.

The certificate of calibration may only be forwarded in complete form without any changes.

The recommended calibration interval is 12 months. The calibration period of this instrument / system begins on the date of receipt by the customer.

Calibrated by Ruikai Qin Ruikai Qin
 Thorlabs GmbH

Date Received _____

Calibrated Due _____

Test Report

Model PM100D
 Serial No P0025281
 Firmware V2.6.0

Temperature 23°C +/-5°C
 Humidity 35% +/-15%
 Scan CAL_PM100D

Test Date 19-Dec-2019
 Tester Ruikai Qin
 Test Result PASS

CURRENT INPUT

AMP RANGE	INPUT CURRENT	DISPLAY (AMP)	UNCERT.	TOL.	ANALOG OUT (VOLT)	UNCERT.	TOL.	RESULT
5 mA	5,0005E-03	5,0006E-03	0,05%	0,20%	1,9983E+00	0,09%	3,00%	PASS
500 µA	5,0005E-04	5,0006E-04	0,05%	0,20%	1,9973E+00	0,14%	3,00%	PASS
50 µA	5,0004E-05	5,0006E-05	0,05%	0,20%	1,9920E+00	0,41%	3,00%	PASS
5 µA	5,0005E-06	5,0005E-06	0,05%	0,20%	1,9974E+00	0,14%	3,00%	PASS
500 nA	5,0005E-07	5,0006E-07	0,05%	0,20%	1,9969E+00	0,16%	3,00%	PASS
50 nA	5,0004E-08	5,0019E-08	0,08%	0,50%	1,9907E+00	0,47%	5,00%	PASS

VOLTAGE INPUT

Pyroelectric Sensor

VOLT RANGE	INPUT VOLTAGE	MEASURED (VOLTS)	UNCERT.	TOL.	ANALOG OUT (VOLT)	UNCERT.	TOL.	RESULT
100 V	4,0005E+01	4,0007E+01	0,06%	0,50%	8,0229E-01	0,28%	3,00%	PASS
10 V	1,0001E+01	1,0002E+01	0,06%	0,50%	2,0038E+00	0,18%	3,00%	PASS
1 V	1,0001E+00	9,9991E-01	0,07%	0,50%	2,0013E+00	0,05%	3,00%	PASS
100 mV	1,0006E-01	9,9859E-02	0,25%	0,50%	2,0006E+00	0,03%	3,00%	PASS

Thermal Sensor

VOLT RANGE	INPUT VOLTAGE	DISPLAY (VOLT)	UNCERT.	TOL.	ANALOG OUT (VOLT)	UNCERT.	TOL.	RESULT
1 V	1,0000E+00	1,0001E+00	0,05%	0,50%	1,9985E+00	0,07%	3,00%	PASS
100 mV	1,0003E-01	1,0003E-01	0,05%	0,50%	2,0064E+00	0,32%	3,00%	PASS
10 mV	1,0002E-02	1,0002E-02	0,05%	0,50%	2,0048E+00	0,24%	3,00%	PASS
1 mV	1,0001E-03	1,0001E-03	0,05%	0,50%	2,0082E+00	0,41%	5,00%	PASS

Certificate of Calibration

No 20003095625

X New Unit
Returned Unit

Result as left: PASS

Manufacturer Thorlabs GmbH
Model Number S122C
Serial Number 200103300
Date of Calibration 3-Jan-2020

Calibration Standards

NO	MANUFACTURER	MODEL	SERIAL NO	CERTIFICATION	LAST CAL
1	Thorlabs	GM10HS	THO508	73324 19 PTB	3-Apr-2019
2	Hamamatsu	S2281	THO505	73330 19 PTB	16-May-2019
3	Thorlabs	S148C	15050530	NIST 685/0-79-19/1	31-May-2019
4	Thorlabs	S180C	190605400	NIST 685/0-79-19/2	17-Jun-2019

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Measurements which cannot be traced to national standards can be traced to natural constants, other accepted standards or relational measurements.

Additional documentation concerning traceability of the measurement equipment is available and can be examined upon request.

The certificate of calibration may only be forwarded in complete form without any changes.

The recommended calibration interval is 12 months. The calibration period of this instrument / system begins on the date of receipt by the customer.

Calibrated by



Enrico Nettlau
Thorlabs GmbH

Date Received _____

Calibrated Due _____

Test Report - as left

Model S122C
Serial No 200103300
Scan CAL2

Temperature 23,8°C
Humidity 41%

Test Date 3-Jan-2020
Tester Enrico Nettlau
Result PASS

λ [nm]	η [A/W]	λ [nm]	η [A/W]	λ [nm]	η [A/W]	λ [nm]	η [A/W]	λ [nm]	η [A/W]	λ [nm]	η [A/W]
700	2,68E-04	885	2,33E-03	1070	4,20E-03	1255	1,28E-02	1440	4,78E-02	1625	5,29E-02
705	3,17E-04	890	2,37E-03	1075	4,29E-03	1260	1,33E-02	1445	4,91E-02	1630	5,14E-02
710	3,65E-04	895	2,41E-03	1080	4,38E-03	1265	1,38E-02	1450	5,05E-02	1635	5,01E-02
715	4,14E-04	900	2,45E-03	1085	4,48E-03	1270	1,44E-02	1455	5,18E-02	1640	4,88E-02
720	4,63E-04	905	2,49E-03	1090	4,58E-03	1275	1,50E-02	1460	5,32E-02	1645	4,75E-02
725	5,14E-04	910	2,53E-03	1095	4,68E-03	1280	1,55E-02	1465	5,45E-02	1650	4,63E-02
730	5,66E-04	915	2,57E-03	1100	4,79E-03	1285	1,62E-02	1470	5,59E-02	1655	4,51E-02
735	6,20E-04	920	2,61E-03	1105	4,91E-03	1290	1,68E-02	1475	5,72E-02	1660	4,40E-02
740	6,76E-04	925	2,65E-03	1110	5,03E-03	1295	1,75E-02	1480	5,86E-02	1665	4,28E-02
745	7,33E-04	930	2,69E-03	1115	5,16E-03	1300	1,82E-02	1485	5,99E-02	1670	4,17E-02
750	7,91E-04	935	2,72E-03	1120	5,29E-03	1305	1,89E-02	1490	6,12E-02	1675	4,07E-02
755	8,49E-04	940	2,76E-03	1125	5,44E-03	1310	1,97E-02	1495	6,25E-02	1680	3,96E-02
760	9,09E-04	945	2,80E-03	1130	5,59E-03	1315	2,04E-02	1500	6,38E-02	1685	3,85E-02
765	9,69E-04	950	2,84E-03	1135	5,74E-03	1320	2,12E-02	1505	6,51E-02	1690	3,75E-02
770	1,03E-03	955	2,88E-03	1140	5,91E-03	1325	2,21E-02	1510	6,63E-02	1695	3,65E-02
775	1,09E-03	960	2,92E-03	1145	6,09E-03	1330	2,29E-02	1515	6,76E-02	1700	3,55E-02
780	1,15E-03	965	2,96E-03	1150	6,27E-03	1335	2,38E-02	1520	6,88E-02	1705	3,45E-02
785	1,22E-03	970	3,00E-03	1155	6,46E-03	1340	2,47E-02	1525	7,00E-02	1710	3,35E-02
790	1,28E-03	975	3,04E-03	1160	6,67E-03	1345	2,57E-02	1530	7,12E-02	1715	3,25E-02
795	1,34E-03	980	3,09E-03	1165	6,88E-03	1350	2,66E-02	1535	7,24E-02	1720	3,16E-02
800	1,40E-03	985	3,13E-03	1170	7,09E-03	1355	2,76E-02	1540	7,35E-02	1725	3,06E-02
805	1,47E-03	990	3,18E-03	1175	7,32E-03	1360	2,87E-02	1545	7,44E-02	1730	2,96E-02
810	1,53E-03	995	3,22E-03	1180	7,56E-03	1365	2,97E-02	1550	7,51E-02	1735	2,86E-02
815	1,59E-03	1000	3,27E-03	1185	7,80E-03	1370	3,08E-02	1555	7,56E-02	1740	2,77E-02
820	1,65E-03	1005	3,32E-03	1190	8,06E-03	1375	3,19E-02	1560	7,57E-02	1745	2,67E-02
825	1,71E-03	1010	3,38E-03	1195	8,33E-03	1380	3,30E-02	1565	7,54E-02	1750	2,57E-02
830	1,77E-03	1015	3,43E-03	1200	8,62E-03	1385	3,42E-02	1570	7,46E-02	1755	2,47E-02
835	1,82E-03	1020	3,49E-03	1205	8,92E-03	1390	3,53E-02	1575	7,32E-02	1760	2,37E-02
840	1,88E-03	1025	3,54E-03	1210	9,23E-03	1395	3,64E-02	1580	7,14E-02	1765	2,27E-02
845	1,93E-03	1030	3,61E-03	1215	9,56E-03	1400	3,76E-02	1585	6,92E-02	1770	2,16E-02
850	1,99E-03	1035	3,67E-03	1220	9,91E-03	1405	3,87E-02	1590	6,69E-02	1775	2,06E-02
855	2,04E-03	1040	3,74E-03	1225	1,03E-02	1410	3,99E-02	1595	6,45E-02	1780	1,95E-02
860	2,09E-03	1045	3,81E-03	1230	1,06E-02	1415	4,12E-02	1600	6,22E-02	1785	1,84E-02
865	2,14E-03	1050	3,88E-03	1235	1,10E-02	1420	4,24E-02	1605	6,00E-02	1790	1,73E-02
870	2,19E-03	1055	3,96E-03	1240	1,15E-02	1425	4,37E-02	1610	5,80E-02	1795	1,62E-02
875	2,24E-03	1060	4,04E-03	1245	1,19E-02	1430	4,51E-02	1615	5,62E-02	1800	1,52E-02
880	2,28E-03	1065	4,12E-03	1250	1,23E-02	1435	4,64E-02	1620	5,45E-02		

