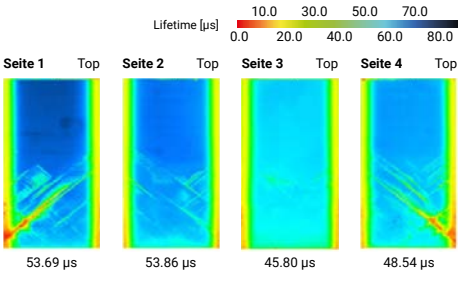
Freiberg
Instruments

MDPpro 850+

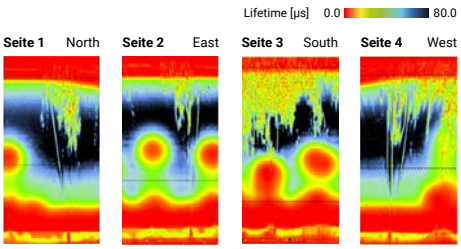
For production and quality control of monocrystalline Si ingots, bricks and wafers

Materials

Si for HJT, HIT, TOPcon, bifacial PERC, PERC+ solar cells, Perovskites and more



Slip lines in Cz-Si ingot



Lifetime measurement of a quasi-mono Si ingot with a lot defects

Features

Range of lifetimes
20 ns to 100 ms
(for samples > 0.3 Ohm cm)

SEMI standard
PV9-1110

Measurement speed
< 30 sec for linescan
< 5 min for complete mapping

Simultaneous measurement of
lifetime µPCD/MDP (QSS)
and resistivity

Automatic geometric recognition
G12, M10 bricks and wafers

Applications

- Lifetime & Resistivity Mapping
- Crystal Growth Monitoring (i. e. Slip lines)
- Contamination Monitoring
- Oxygen Striations/OSF Ring
- Iron Mapping for p-doped Si
- Light Beam Induced Current (LBIC)
- Sheet Resistance for Emitter Layer and more

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MDPpro 850+

MDPstudio – Operating & Evalution Software

User-friendly and advanced operating software with:

- → Export and import functions
- → User structure with operator
- → Overview over all performed measurements
- → Sample parameter input
- → Single point measurements e. g. injection dependent measurements
- → Mapping
- → Recipes
- → Package of analysis functions
- → View of line scans and single transients

Configuration options

- → Spot size variation
- → Resistivity measurement (bricks/wafers)
- → Background/Bias light
- → Reflection measurement (MDP)
- → LBIC
- → Internal iron mapping of p-doped Si
- → P/N detection
- → Bar code reader
- → Automatic geometric recognition
- → Wide range of lasers

Technical specifications

Material
monocrystalline silicon

Ingot size
between 125 x 125 to 210 x 210 mm², brick length 850 mm or longer

Wafer Size
up to 300 ¬mm diameter

Resistivity range
0.5 – 5 Ohm cm. Other ranges on request

Conduction type
p, n

Measureable properties
lifetime - µPCD/MDP (QSS), photoconductivity, resistivity and more

Default excitation
IR laser diode (980 nm, max. 500 mW) and IR laser diode (905 nm, max. 9000 mW. Other wavelengths are available on request

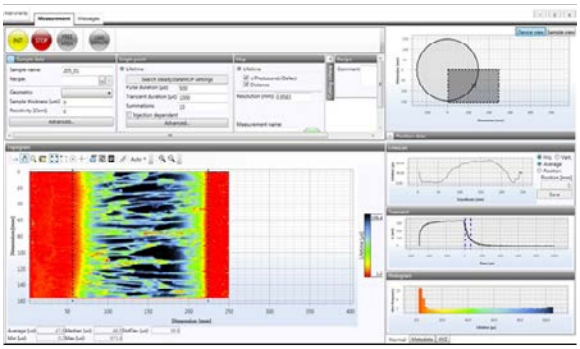
PC workstation
Windows 11 or latest, .NET Framework update, 2 Ethernet ports

Power requirements
100 – 250 V AC, 6 A

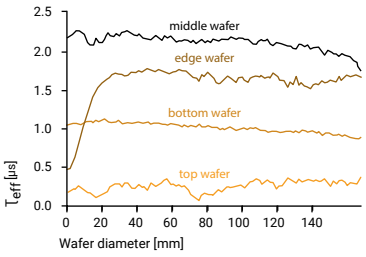
Dimensions (W × H × D)
2560 × 1910 × 1440 mm

Weight
approx. 200 kg

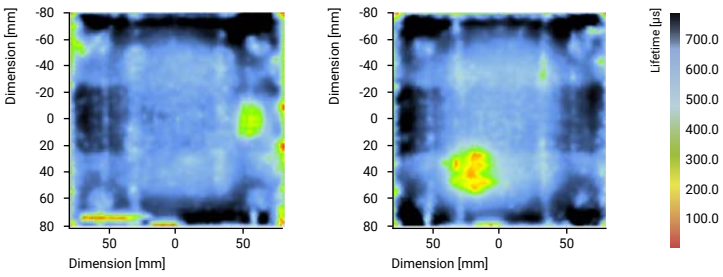
Certification
manufactured under ISO 9001 guidelines, CE conform



Remote accessibility IP based system allows remote operation and technical support from anywhere in the world



Line scan of mc-Si wafer



Lifetime measurements of HJT wafers

Relevant products

PIDcon bifacial

MDPlinescan