

## Sparklike Laser Portable™ 2.2 Technical Specification

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Sparklike Laser Portable™ 2.2 is a device to non-invasively measure gas concentration inside an insulating glass unit with a 760 nm wavelength region semiconductor laser (TDLAS). A laser beam is transmitted through the insulating glass unit and the reflection is measured and converted to the oxygen content. From oxygen content the integrated computer automatically calculates the insulating gas (argon, krypton, xenon, etc.) content in percentage.

As the measuring head must be free of oxygen, it needs to be flushed with oxygen free gas during start of the device or if the self-check indicates so. The system is equipped with self-diagnostics and a connection for flushing gas.

Sparklike Laser Portable™ 2.2 differs from the previous models with its replaceable measuring head. This feature enables calibrating the measuring head without sending whole device for calibration. This requires that there are no problems with other parts of the device and only calibration is needed.

The measurement can be done to coated and laminated IGUs. The device can measure double-glazed and triple glazed units.

### Scope of supply:

- Main unit integrated to a heavy duty trolley case with air filled wheels and pulling handle as well as an integrated flushing connection
- Measuring head with vacuum gripping and three handles, all with start buttons
- Touch screen display integrated to the main unit
- Sparklike Software
- Integrated battery and charger system up to 6 hours cordless operation, including stand-by time
- Data connection to external systems
- Remote connection to Sparklike for diagnostics and maintenance
- QR-code reader with integrated holder
  - 1D/2D barcodes, compatibility UPC/EAN, GS1 etc.
- Transport box
- Spare parts kit

### Options:

- Protective cover for the device
- Transport case for measuring head and touch screen
- 4G/LTE Router, WiFi
- Gas bottle holder (diameter of the gas bottle 70-150 mm and height max 700mm)

**Specifications:**

<b>Dimensions (L x W x H)</b>	Main unit	420 x 325 x 585 mm
	Measuring head	320 x 195 x 310 mm
	Device in operation	420 x 390 x 1300 mm (maximum operating height)
	Touch screen	285 x 180 x 35 mm (12")
	Measuring head cable	2 m (length)
<b>Measurement Specifications</b>	Measurement time	18–21 s/ DGU 22–28 s/TGU (depends on the settings and IG structure)
	Maximum IG thickness	51 mm (from surface 1 to surface 3 with DGU, from surface 1 to 5 with TGU)
	Glass thickness range	3-12 mm (2-23 mm; manual presets)
	Cavity range	8-22 mm (4-40 mm; manual presets)
	Measurement range	1–97 %
<b>Weight</b>	Main unit	22 kg
	Measuring head	6 kg
	Transport box	33 kg
	Total weight when transported to the customer	61 kg
<b>Operating conditions</b>	Temperature	+5 – +40 °C
	Humidity	20 –80 %
	Altitude	Up to 2000 m

<b>Main Power Supply</b>	110–120 / 220–240 VAC 50/60 Hz, PE
<b>Power Cord</b>	C13 - CEE 7/7, 250 V AC, 10 A, lenght 5 m
<b>Power Consumption</b>	Max. 250 W
<b>Connections</b>	4x circular multipin connector, RJ-45, 2x USB 2.0, VAC Power (C14), HDMI, Display Power Output
<b>Display</b>	12" HD Touch Screen, Capacitive
<b>Software</b>	Custom Sparklike Laser Portable -software by Sparklike, running on Windows 10 LTSP platform
<b>Data logging capability</b>	SSD Storage (232 GB), USB/Network transfer
<b>Battery</b>	2x 7.5 Ah LiFePO4
<b>Thickness measurement accuracy</b>	$\pm 50 \mu\text{m}$ *
<b>Glass pane transmission</b>	appr. >30% in 760 nm wavelength region
<b>Repeatability of the gas measurements</b>	$\pm 2 \%$ **, **
<p>* Typical construction of the insulating glass unit</p> <p>** At least 30 measurements are needed that 95 % confidence interval is valid</p> <p>Please note that the device is made for indoor use.</p> <p>Calibration interval for the specified accuracy is max. 12 months</p>	