Operating Instructions

# CROSSLINE GREEN NX

Line laser for horizontal and vertical operation




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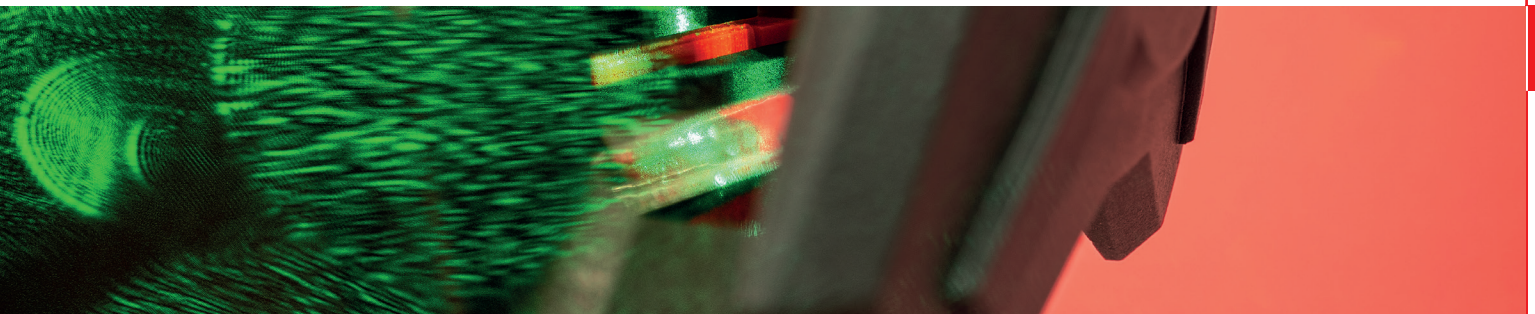
Passion for Precision

# Operating Instructions CROSSLINE GREEN NX Line Laser (Translation of Original Version)

## About this Manual

Congratulations on the purchase of your new CROSSLINE GREEN NX! You have acquired a SOLA measurement device, which can make your work easier, faster, and more precise. To utilize the complete functionality range of this measurement device, and to ensure safe operation, please observe the following instructions:

- Please read these operating instructions before commissioning the device.
- Always keep the operating instructions near the device.
- Only hand over the device to other persons together with the operating instructions.
- Never render the attached warning signs unreadable.



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# 1. General Information

## 1.1 Signal Words and their Meaning

**DANGER**
For an imminent danger that could lead to serious injury or death.

**WARNING**
For a potentially dangerous situation that could lead to serious injury or death.

**CAUTION**
For a potentially dangerous situation that could lead to minor injury or property damage.

**NOTE**
For application notes and other useful information.

## 1.2 Pictograms and Other Information

### 1.2.1 Warning Signs



Warning of dangers in general

### 1.2.2 Symbols



Read the operating instructions before use.



Batteries and devices may not be disposed of with household waste.



Do not throw the battery into the fire.




Warning label on packages with Li-Ion rechargeable batteries.




Do not heat battery above 60°C.




Class 2 laser device



Do not look into the laser beam!

# 2. Delivery Contents and Accessories

## 2.1 CROSSLINE GREEN NX Delivery Contents

1. 1 line laser CROSSLINE GREEN NX
2. 1 battery adapter BA
3. 3 Mignon batteries (AA)
4. 1 wall mount WB
5. 1 case







## 2.2 Optional Accessories

- Receiver REC LGD0
- Universal clamp tripod UTC
- Telescopic tripod TST
- Crank tripod KST
- Tripod BST
- Compact tripod FST
- Threaded adapter set GA-SET
- Magnetic target plate ZLM GREEN
- Flexi-rod FL
- Measuring rod ML
- Inclination adapter NK1
- Laser visibility glasses, green LB GREEN

Further information on accessories can be found at **www.sola.at**

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# 3. Description

## 3.1 Device Components, Display and Operating Elements

1. Outlet opening laser radiation
2. On/Off switch, transport lock
3. Status/battery voltage display “BATT-ON”
4. H/V button
5. Operating mode status “PULSE”
6. Tripod screw connection 1/4"
7. Battery compartment cover
8. Rotatable stand base



## 3.2 Intended Use

The CROSSLINE GREEN NX is a line laser with which a single person is able to level and align both horizontally and vertically. The device is preferably intended for indoor use. For outdoor applications, care must be taken to ensure that the environmental conditions correspond to those indoors. The range of the visible laser lines depends on the ambient conditions. The handheld receiver can be used to locate the laser lines in poor lighting conditions, or at greater distances. Follow the instructions contained in this manual. The device and accessory equipment may present a danger if they are utilized improperly or inappropriately by persons who are not instructed as required.



# 4. Technical Data

## CROSSLINE GREEN NX

| | |
|---|---|
| Working range* | r = 25 m* (laser line)<br>r = 80 m* (receiver) |
| Max. measuring tolerance | ±0.2 mm/m (laser lines) |
| Protection class | IP 54 |
| Leveling range (typical) | ±4 ° |
| Leveling time (typical) | ≤ 5 s |
| Power supply | 3 x 1.5V Mignon (AA) batteries |
| Operating time (at 20 °C)<br>Mignon (AA) batteries | 8 hrs |
| Operating temperature | -10 °C to +50 °C |
| Storage temperature | -20 °C to +60 °C |
| Laser diodes | 510 - 530 nm |

| | |
|---|---|
| Laser class | 2, DIN EN 60825-1: 2014 |
| Tripod screw connection | ¼" |
| Weight without rechargeable battery | 450 g |
| Dimensions | 120 x 65 x 105 mm |

* Depending on ambient conditions at the work site.
We reserve the right to make changes (sketches, descriptions and technical data).

# 5. Safety Instructions

## 5.1 Area of Responsibility

### 5.1.1 Manufacturer

- SOLA is responsible for the safe delivery condition of the product, including the operating instructions and the original accessories.

### 5.1.2 Operator

- The operator is responsible for using the product as intended, the deployment of personnel, their training, and the operational safety of the product.
- The operator understands the safety information which is stated on the product and the instructions in the operating instructions.
- The operator shall comply with the standard local regulations relating to safety and accident prevention regulations, as well as worker protection laws and regulations.
- The operator shall immediately notify SOLA if safety-related issues should arise relating to the product or during its utilization.
- The operator shall ensure that the product is not utilized any further if defects become evident, and they will have the product repaired professionally.

## 5.2 Improper Use

- Use of the device and the accessories without instruction.
- Use of third-party accessories or additional equipment.
- Use outside of the intended limits (see Chapter 4/Technical Data).
- Use under extreme temperature fluctuations without adequate acclimatization.
- Disabling of safety devices and removal of hazard notices and labels.
- Unauthorized opening of the device.
- Performance of modifications or alterations to the device or the accessories.
- Deliberate blinding of third parties.
- Inadequate safeguarding at the installation site.

## 5.3 Utilization Limitations

- The CROSSLINE GREEN NX is suitable for continuous use in an atmosphere which can be inhabited by humans.
- Do not operate the product in explosion-prone or corrosive environments.

- Inform the local safety authorities and safety experts before working in hazardous environments, in close proximity to electrical installations or similar surroundings.

## 5.4 Usage Hazards

### 5.4.1 General

**WARNING**
Missing or incomplete instructions may result in improper or incorrect use. This can cause accidents with serious damage to persons, property, assets, and the environment.

- Follow the manufacturer's and operator's safety instructions.
- Protect equipment and accessories from being accessed by children.

**WARNING**
Blinding by laser radiation can indirectly lead to serious accidents, especially for people who are driving a vehicle or operating machinery. Do not look into the laser beam.

- Do not set up the laser beam and the laser plane at eye level or directed at people.

**CAUTION**
A fall, longer storage, transportation, or other mechanical effects can lead to erroneous measurement results. Check the unit for damage before use. Do not use damaged equipment.

- Repairs must only be performed by SOLA.
- Before using, check the accuracy of the device (see Chapter 9/Checking the Accuracy).

### 5.4.2 Charger/Batteries/Rechargeable Batteries

**DANGER**
There is a risk of mortal danger from electric shock.

- Never open the SOLA Li-Ion charger and charging station.
- Only use the SOLA Li-Ion charger and charging station in a dry environment and do not bring them into contact with liquids.

**DANGER**
Severe mechanical impact can cause batteries and rechargeable batteries to leak, catch fire or explode, or trigger the release of toxic substances.

- Batteries and rechargeable batteries must not be opened or exposed to mechanical loads.
- Damaged rechargeable batteries, chargers and charging stations may not be used.
- Repairs must only be performed by SOLA.

**WARNING**
High ambient temperatures and immersion in liquids can cause batteries and rechargeable batteries to leak, explode, or catch fire or trigger the release of toxic substances.

- Protect batteries and rechargeable batteries from mechanical damage during transport.
- Do not store the Li-Ion rechargeable battery in the sun, on heaters or behind glass panes.
- Do not overheat batteries and rechargeable batteries or expose them to fire.
- Avoid the ingress of moisture into batteries and rechargeable batteries.
- Do not use damaged batteries or rechargeable batteries. Perform proper disposal (see Chapter 12/Disposal).

**WARNING**
Short-circuiting or improper use can cause batteries to overheat and create an injury or fire hazard.

- Do not transport or store batteries in the pockets of garments.
- Do not bring the battery contacts in contact with jewelry, keys, or other electrically conductive objects.
- Do not charge the batteries.
- Do not discharge the batteries through short-circuiting.
- Do not solder the batteries in the device.
- Do not mix old and new batteries, and do not mix batteries from different manufacturers or with a different type designation.

**WARNING**
Using charging devices from other manufacturers can damage the Li-Ion rechargeable batteries. This can lead to a fire and explosion hazard.

- Only use original SOLA accessories.

**⚠ WARNING**

If disposed of improperly, third parties may possibly be seriously injured and the environment polluted.
Burning plastic components generate toxic fumes which may impair health. Batteries may explode if they are damaged or heated excessively, and thereby cause poisoning, burning, corrosion, or environmental contamination. If disposed of negligently, unauthorized persons are able to use the product improperly.

- The product must not be disposed of together with household waste. Dispose of the device and accessories properly (see Chapter 12/Disposal).
- Protect the product against access by unauthorized persons at all times, especially children.

## 5.5 Electromagnetic Compatibility (EMC)

- The electromagnetic compatibility is the ability of the product to function in an environment where electromagnetic radiation and electrostatic discharge are present, without causing electromagnetic interference to other devices.

### 5.5.1 Interference with Other Devices by CROSSLINE GREEN NX

- Although the product meets the strict requirements of the relevant directives and standards, SOLA cannot completely exclude the possibility of interference with other devices (for example, when using the product in combination with third-party devices, such as field computers, personal computers, wireless devices, cell phones, certain cables, or external batteries).
- When using computers and radio equipment, be sure to observe to the vendor-specific information about electromagnetic compatibility.
- Only use original SOLA equipment and accessories.

### 5.5.2 Interference with CROSSLINE GREEN NX by Other Devices

- Although the product meets the strict requirements of the relevant directives and standards, SOLA cannot entirely exclude the possibility that intense electromagnetic radiation in the immediate vicinity of radio transmitters, two-way radios, diesel generators, etc., may distort the measurement results.
- When performing measurements under these conditions, check the plausibility of the results.

# 6. Laser Safety / Classification

The CROSSLINE GREEN NX emits two visible laser lines and one laser point.
The laser is subject to class 2 according to DIN EN 60825-1:2014.

**Laser Class 2:**
When using Class 2 laser devices, the eye is protected by the blink reflex or aversion reaction in the case of random and short-term exposure.




**WARNING**
Looking directly into the laser beam with optical aids (e.g. binoculars, telescopes) can be dangerous.

**CAUTION**
Looking into the laser beam may be hazardous to the eye.

- Do not look into the laser beam.
- Do not direct the laser beam at other people.

**Labeling on the device:**



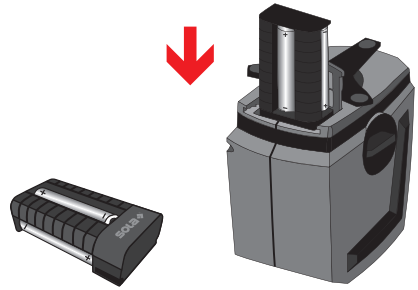

See cover page for the type plate position.
**Do not remove the type plate!**

# 7. Getting Started

1. Open the battery compartment cover.
2. Insert the batteries into the SOLA battery adapter observing the correct polarity.
3. Insert the SOLA battery adapter in the correct position.
4. Close the battery compartment cover (audible click of the cover).

- Only use 1.5V Mignon (AA) batteries!
- Remove the batteries if the device is not used for an extended period.

**NOTE**
The intensity of the laser lines may vary depending on the battery quality.



# 8. Operation

## 8.1 CROSSLINE GREEN NX

### 8.1.1 Switching the Laser On/Off

**ON**
Turn the On/Off switch to the left (switch position ON), pendulum unit is released - **BATT-ON** display illuminates (the device sends all lines from the outlet openings). The instrument levels itself automatically in the specified inclination range (see Chapter 4/Technical data).

**OFF**
Turn the On/Off switch to the right (switch position OFF), pendulum unit is locked - **BATT-ON** display goes out.

> ⚠ **NOTE**
> Magnets can affect the measurement device and lead to incorrect results.

If the vertical laser line is not projected perpendicular to the wall or the detection surface, unevenness can lead to incorrect measurement results.
**Ensure that the vertical line is projected perpendicular to the wall or detection surface.**

Significant temperature fluctuations can lead to incorrect measurement results.
**Allow the device to acclimatize to the ambient conditions before use.**

The **BATT-ON** display flashes if the rechargeable battery capacity falls below 10%.
**Charge rechargeable battery in time, or provide additional spare SOLA Li-Ion rechargeable batteries.**

### 8.1.2 PULSE Mode

The PULSE mode is automatically enabled and can be used at any time with the REC LGD0.

### 8.1.3 Creating Inclinations Outside of the Self-leveling Range

**ON**
Switch off CROSSLINE GREEN NX (On/Off switch, switch position OFF).
Press and hold the **H/V** button for 5 seconds - **PULSE** and **BATT-ON** displays illuminate.
To indicate that self-leveling is disabled, the lines flash every 4 seconds.
**OFF**
Press and hold the **H/V** button for 5 seconds - **PULSE** display goes out.

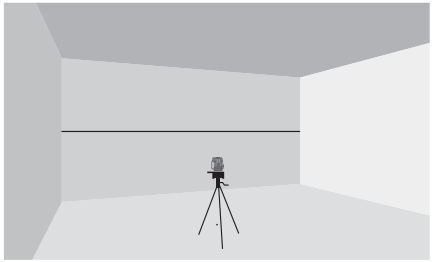
**Ensure that the laser line is projected perpendicular to the wall or detection surface.**



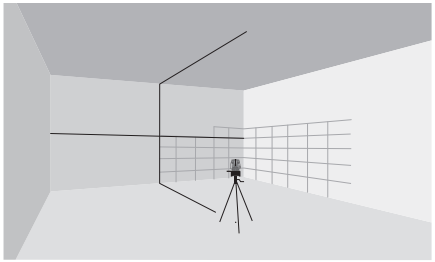
### 8.1.4 H/V Button
By pressing the H/V button, it is possible to switch between the vertical and horizontal lines.

## 8.2 Applications

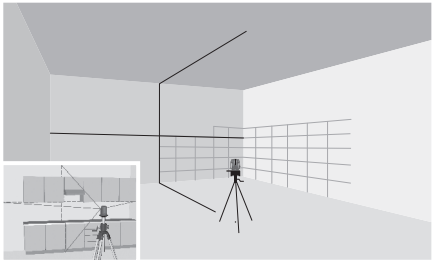
### 8.2.1 Horizontal Leveling



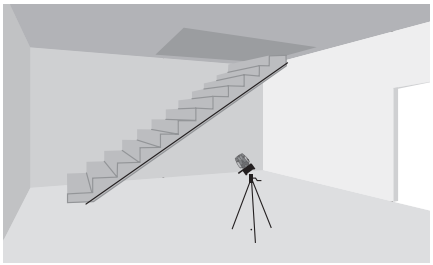
### 8.2.2 Vertical Leveling



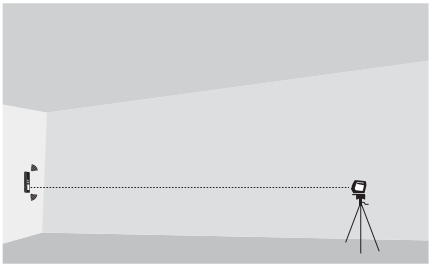
### 8.2.3 90° Angle



### 8.2.4 Inclination



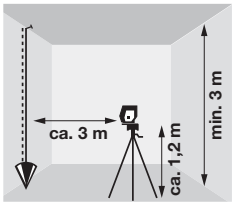
### 8.2.5 Working at a Distance



# 9. Checking the Accuracy

Check the accuracy of the CROSSLINE GREEN NX before carrying out every measurement. Before starting the check, let the device acclimatize to the ambient conditions.

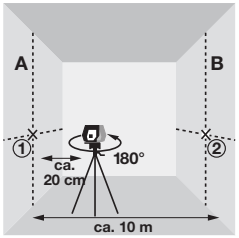
## 9.1 Checking the Accuracy of the Vertical Line




- Suspend a plumb line as close as possible to a wall that is at least 3 m high.
- Mount the CROSSLINE GREEN NX on a tripod at a height of approx. 1.2 m.
- Set up the device approx. 3 m in front of the plumb line.
- Switch on the CROSSLINE GREEN NX and project the vertical laser line onto the plumb line.

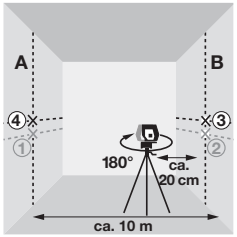
**If the deviation is greater than 4 mm, the device must be readjusted. Contact your dealer.**

## 9.2 Checking the Leveling Accuracy of the Horizontal Line




1 Select two horizontal, level walls (A & B) that are approx. 10 m apart.

- Mount the CROSSLINE GREEN NX on a tripod and position it at a distance of approx. 20 cm from wall A.
- Mark the intersection ① of the vertical and horizontal laser line on wall A.

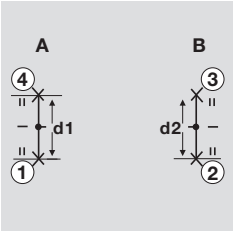



2 Rotate the CROSSLINE GREEN NX by 180° and mark point ② on wall B.

- Position laser at the same height, approx. 20 cm away from wall B, and mark point ③ on wall B.

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# 9. Checking the Accuracy




3 Rotate the CROSSLINE GREEN NX by 180° and mark point ④ on wall A.

- Measure vertical distance ⓓ1 of the selected points ①-④ and vertical distance ⓓ2 of the points ②-③.
- Mark center point of ⓓ1 and ⓓ2.
- If the reference points ① and ③ are on different sides of the center point, ⓓ2 must be subtracted from ⓓ1.
- If the reference points ① and ③ are on the same sides of the center point, ⓓ2 and ⓓ1 must be added.
- Divide the result by twice the value of the room length.

**If the result is greater than 4 mm, the device must be readjusted. Contact your dealer.**

# 10. Maintenance, Storage, and Transportation

## 10.1 Cleaning

- Wipe off the dirt with a soft damp cloth.
- Check the outlet openings of the laser distance meter regularly, and thoroughly clean them if necessary. Do not touch the glass with your fingers.
- Do not use aggressive cleaning agents or solvents.
- Do not immerse the device in water!
- Clean and dry wet equipment, accessories, and transport containers prior to packaging them. Only pack equipment again when it is completely dry.
- Keep plug connections clean and protected from moisture.

## 10.2 Storage

### 10.2.1 General

- The equipment may only be stored within the specified temperature limits (see Chapter 4/Technical Data).
- After prolonged storage, check the accuracy of the measuring device before using it.

## 10.3 Transport

### 10.3.1 General

- The device may be damaged if it falls or is subjected to strong vibrations.
- Never transport the product loose. Always use the original packaging or an equivalent transport container.
- Switch off the measuring device before transporting it. When switching off, the pendulum unit is locked and protected against damage.
- Check the unit for possible damage before use.
- Check the leveling accuracy of the device regularly (see Chapter 9/Checking the Leveling Accuracy).

# 11. Troubleshooting

| Error | Possible Cause | Remedy |
|---|---|---|
| Device is switched on, display is not illuminated and no laser beam is visible | · Battery flat<br>· Rechargeable battery flat<br>· Battery / rechargeable battery incorrectly inserted<br>· Device or switch defective | · Replace battery<br>· Charge or replace rechargeable battery<br>· Insert the battery / rechargeable battery correctly<br>· Contact your dealer and have the device repaired |
| Device switches off immediately after start-up | · Battery flat<br>· Rechargeable battery flat | · Replace battery<br>· Charge rechargeable battery |
| Device is switched on, **BATT-ON** display illuminates, however no laser beam is visible | · Ambient temperature too high / low<br>· Laser diodes or laser control defective | · Allow device to acclimatize<br>· Contact your dealer and have the device repaired |
| Device is switched on, **BATT-ON** display illuminates, however some laser beams are not visible | · Laser diodes or laser control defective | · Contact your dealer and have the device repaired |

| Error | Possible Cause | Remedy |
|---|---|---|
| Laser lines flash at one-second intervals | · Device outside of self-leveling range | · Align device horizontally |
| **BATT-ON** display flashes | · Battery capacity less than 10% | · Have new batteries ready |
| Laser lines flash every 4 seconds | · Device is in manual inclination mode | · Press **H/V** button for 5 seconds, or switch on laser device |

# 12. Disposal

- If disposed of improperly third parties may possibly be seriously injured and the environment polluted.
- Burning plastic components generate toxic fumes which may impair health.
- Batteries may explode if they are damaged or heated excessively, and thereby cause poisoning, burning, corrosion, or environmental contamination.
- If disposed of negligently, unauthorized persons are able to use the product improperly.

**Measuring tools, accessories and packaging must be recycled in an environmentally friendly manner.**

The product as well as the accessories – especially the batteries and rechargeable batteries – must not be disposed of with household waste.



Dispose of the device and the accessories properly.
Only dispose of rechargeable batteries when discharged.
Observe the country-specific disposal requirements.

**Your SOLA dealership will accept returned batteries, as well as old equipment, and will ensure proper disposal.**

**Only for EU Countries**

Electric tools must not be disposed of with household waste!



According to European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its transposition into national law, electrical and electronic equipment that is no longer usable must be collected separately and recycled in an environmentally friendly manner.

# 13. Manufacturer's Guarantee

"The manufacturer warrants to the original purchaser stated on the guarantee card, freedom from defects of the device for a period of two years, with the exception of batteries, from such time as the device is handed over. The guarantee is limited to repairs and/or replacements at the manufacturer's discretion. Defects which are caused through improper handling by the purchaser or third parties, natural wear, and optical flaws that do not affect the usability of the equipment, are not covered by this guarantee. Claims under this guarantee can only be invoked if the device is submitted along with the guarantee card, completely filled out by the dealer, dated, and provided with the company stamp.
If the guarantee claim is justified, the manufacturer shall bear the transport costs.

The duration of the guarantee will not be extended through repair or spare parts work which is carried out within the scope of the guarantee.
Further claims are excluded, unless these are stipulated by the respective national legislation. In particular the manufacturer shall not be liable for any direct, indirect, incidental, or consequential damages, losses or expenses in connection with device's use or because of the inability to use the tool for any purpose whatsoever. Implied warranties for the usage or suitability for a particular purpose are expressly excluded."

# 14. EU Declaration of Conformity

## Konformitätserklärung / Declaration of Conformity / Déclaration de conformité

Wir/We/Nous
**SOLA-Messwerkzeuge GmbH**
**6840 Götzis, Austria**

erklären in alleiniger Verantwortung, dass das Produkt(e)
declare under our sole responsibility that the product(s)
déclarons sous notre seule responsabilité que le(s) produit(s)

**CROSSLINE GREEN NX**
auf das sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt.
to which this declaration relates is in conformity with the following standards.
auquel(s) se réfère cette déclaration est conforme aux normes.

**EN 61326-1: 2013**
**EN 61326-2-2: 2013**
**EN 61000-3-2: 2014**
**EN 61000-3-3: 2013**

Gemäss den Bestimmungen der Richtlinie(n)
Following the provisions of Directive(s)
Conformément aux dispositions de(s) Directive(s)

**2014/30/EU Electromagnetic Compatibility**
**2014/35/EU Low Voltage Directive**
**2011/65/EU The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment**

SOLA-Messwerkzeuge GmbH

Mag. Wolfgang Scheyer CEO

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# Passion for Precision

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