

METRON 80 BTC

SOLA 
PASSION FOR PRECISION

- DE** Gebrauchsanweisung
- EN** Operating Instructions
- FR** Manuel d'instructions
- IT** Istruzioni d'uso
- ES** Instrucciones de uso
- NL** Gebruiksaanwijzing
- RU** Руководство по применению
- PL** Instrukcja obsługi
- LT** Eksploatacijos instrukcija
- LV** Lietošanas instrukcija
- SR** Uputstvo za upotrebu
- CS** Návod k použití
- RO** Manual de utilizare
- BG** Ръководство за употреба
- HU** Használati útmutató



METRON 80 BTC Delivery Contents

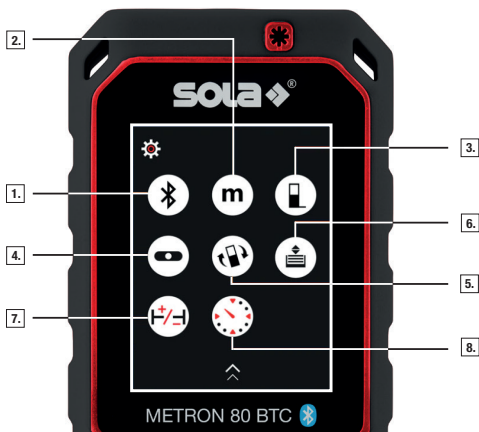
1. Laser distance meter
2. Belt pouch
3. Charging/data cable
4. Strap
5. 3 x 1.2 V Ni-Mh battery



2.1 Function Buttons



2.2 Display





Operating Instructions

METRON 80 BTC Laser Distance Meter (original version)

About this Manual

Congratulations on the purchase of your new METRON 80 BTC! 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 a 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 possibly dangerous situation that could lead to serious injury or death.

CAUTION

For a possibly dangerous situation that could lead to slight 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 battery into the fire



Do not heat battery above 60°C



2 Class 2 laser device



Do not look into the laser beam!



2. Description

2.1 Function Buttons

1. Measure button
2. Function button
3. SET button
4. Laser symbol
5. Display
6. Camera
7. Add/up
8. Subtract/down
9. ON/OFF
10. Battery compartment
11. Tripod connection 1/4"
12. Mini-USB port

2.2 Display

1. Bluetooth
2. Unit
3. Measuring edge
4. Tilt sensor
5. Rotate display
6. Measurement memory
7. Manual measurement adjustment
8. Timer

2.3 Intended Use

The device is designed to measure distances. The display shows the measurement, the setting, as well as the device status. An emitted laser beam is directed towards a reflective surface and sent back to the laser distance meter. This allows the distance to be determined. The range depends on the model of the laser distance meter, the reflectivity, and the quality of the reflective surface.



3. Technical Data

3.1 General

Measuring range	0.05–80 m*
Accuracy	± 1.5 mm**
Laser class	2
Laser type	630–670 nm < 1 mW
Protection class	IP65
Automatic power off, laser	45 s
Automatic power off, device	180 s
Operating time	up to 5,000 measurements***
Battery type	3 x 1.2 V Ni-Mh battery (3 x 850 mAh)
Operating temperature	0–40°C
Storage temperature	-20–60°C
Tripod connection	1/4"
Dimensions (H x W x D)	115 x 49 x 26
Weight with batteries	150 g

*For measurements with 100% reflectivity of the target (e.g. a wall painted white), low background lighting, and 25°C operating temperature. Measurements may become less accurate in adverse conditions, such as direct sunlight, a poorly reflective surface, or measurement on glass or glossy surfaces, leading to measurement errors.

The visibility range of the laser point depends on the ambient conditions.

**Accurate from 0.05–10 m. The maximum tolerance of 0.1 mm/m may deteriorate at distances between 10 m and 80 m.

***Use at room temperature.

3.2 Functions

➤ Length measurement	➤ Triangular area measurement	➤ Timer
➤ Min./max. measurement	➤ Circular area measurement	➤ Camera
➤ Continuous measurement	➤ Cylinder volume measurement	
➤ Area measurement	➤ Layout measurement	
➤ Volume measurement	➤ Addition	
➤ Indirect 2-point measurement	➤ Subtraction	
➤ Indirect 3-point measurement	➤ Measurement memory	
➤ Automatic distance measurement	➤ Tilt sensor	
➤ Indirect measurement via angle	➤ Rotate display	
➤ Indirect distance measurement	➤ Manual measurement adjustment	

4. Safety Instructions

4.1 Area of Responsibility

4.1.1 Manufacturer

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

4.1.2 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.



4.2 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 3/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.

4.3 Utilization Limitations

The METRON 80 BTC 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.



4.4 Usage Hazards

4.4.1 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 aim 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.

4.4.2 Batteries



DANGER

Mechanical damage can cause batteries to leak, explode, or catch fire or trigger the release of toxic substances.

- Batteries and rechargeable batteries must not be opened or exposed to mechanical loads.
- Repairs must only be performed by SOLA.



WARNING

High ambient temperatures and immersion into liquids can cause 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 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 a proper disposal (see Chapter 11/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 differing type designation.



WARNING

If disposed of improperly third parties may possibly be seriously injured and the environment polluted. Burning plastic components generates toxic fumes which may impair health. Batteries/rechargeable 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 11/Disposal).
- Protect the product against access by unauthorized persons at all times, especially children.

4.5 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.



4.5.1 Interference with Other Devices by METRON 80 BTC

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, mobile 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.

4.5.2 Interference with the METRON 80 BTC 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.

5. Laser Safety / Classification

The METRON 80 BTC emits a visible laser point.

The product corresponds to laser class 2 according to DIN EN 60825-1:2007-03

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 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 aim the laser beam at other people.

Labeling on the device:



- Do not remove the type plate!

6. Getting Started

6.1 Batteries

1. Slide the battery compartment cover on the rear of the device to open it.
 2. Insert the batteries in the device with the correct polarity.
 3. Slide the battery compartment cover to close it.
- Remove the batteries if the device is not used for an extended period.



6.2 Belt Pouch

The laser device can be stowed in a belt pouch for transport. The laser device must be removed from the pouch for measurement.



7. Operation

7.1 Getting Started

7.1.1 Switching On and Off

Press and hold ON/OFF for 2 seconds to turn the laser device on.

Press and hold ON/OFF for 2 seconds to turn the laser device off.

7.1.2 Back

Press ON/OFF once to undo the most recent action. Press ON/OFF twice to exit the current function and return to single measurement mode.

7.1.3 Setting the Measurement Level

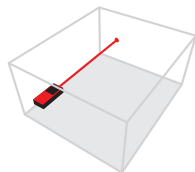
Press the SET button and use add/up to move to the measuring edge icon. Pressing the measure button lets you choose between the front, tripod connection, and rear. This is shown by an arrow in the display. The rear of the device is set as the measuring edge by default. The rear of the device is set as the measuring edge whenever the device is restarted.

7.2 Applications

7.2.1 Single Measurement

1. Turn on the laser device.
2. Press the measure button to activate the laser point.
3. Direct the laser point at the target.
4. Press the measure button.

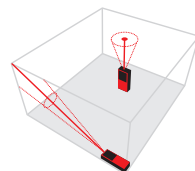
When the signal sounds, the measurement is complete. The distance can be read. To measure additional distances, press the measure button again.



7.2.2 Min./Max. Measurement

1. Turn on the laser device.
2. Press the measure button to activate the laser point.
3. Direct the laser point at the target.
4. Press and hold the measure button for 2 seconds.

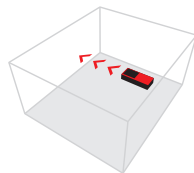
The minimum and maximum values are shown in the display. To stop the measurement, simply press the measure button.



7.2.3 Continuous Measurement

1. Turn on the laser device.
2. Press the measure button to activate the laser point.
3. Direct the laser point at the target.
4. Press and hold the measure button for 2 seconds.

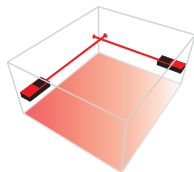
The minimum and maximum values are shown in the display. To stop the measurement, simply press the measure button.



7.2.4 Area Measurement

1. Turn on the laser device.
2. In the function menu, select the area measurement icon.
3. Measure the length and width in succession, just like for a single measurement.

The laser beam remains switched on between the two measurements. After completing the second measurement, the area is automatically calculated and shown in the bottom line of the display. The single measurements are shown in measurement lines 1 and 2.

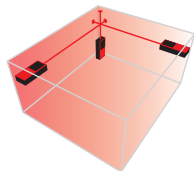


7.2.5 Volume Measurement

1. Turn on the laser device.
2. In the function menu, select the volume measurement icon.
3. Measure the length, width, and height, just like for a single measurement.

The laser beam remains switched on between the three measurements.

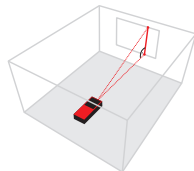
After completing the third measurement, the volume is automatically calculated and shown in the bottom line of the display. The single measurements are shown in measurement lines 1, 2, and 3.



7.2.6 Indirect 2-point Measurement

1. Turn on the laser device.
2. In the function menu, select the indirect 2-point measurement icon.
3. Measure the 2 measurement points in succession, just like for a single measurement.

The laser beam remains switched on between the two measurements. After completing the second measurement, the length is automatically calculated and shown in the bottom line of the display. The single measurements are shown in measurement lines 1 and 2.



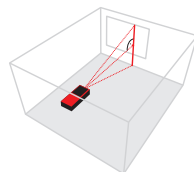


CAUTION

The two points must be measured in a line and the second measurement point must be at a right angle to the measuring surface, otherwise the measurements may be incorrect.

7.2.7 Indirect 3-point Measurement

1. Turn on the laser device
2. In the function menu, select the indirect 3-point measurement icon.
3. Measure the 3 measurement points in succession, just like for a single measurement. The laser beam remains switched on between the three measurements. After completing the third measurement, the length is automatically calculated and shown in the bottom line of the display. The single measurements are shown in measurement lines 1, 2, and 3.



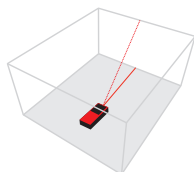
CAUTION

The three points must be measured in a line and the second measurement point must be at a right angle to the measuring surface, otherwise the measurements may be incorrect.

7.2.8 Automatic Distance Measurement

1. Turn on the laser device.
2. In the function menu, select the automatic distance measurement icon.
3. Perform the measurement just like for a single measurement.

After completion, the length is automatically calculated and shown in the bottom line of the display. The measured distance and the height are shown in measurement lines 1 and 2.

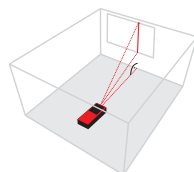


CAUTION

The two points must be measured in a line and the second measurement point must be at a right angle to the measuring surface, otherwise the measurements may be incorrect.

7.2.9 Indirect Measurement via Angle

1. Turn on the laser device.
2. In the function menu, select the indirect measurement via angle icon.
3. Measure the 2 measurement points in succession, just like for a single measurement.



The laser beam remains switched on between the two measurements. After completing the second measurement, the length is automatically calculated and shown in the bottom line of the display.

The single measurements are shown in measurement lines 1 and 2.



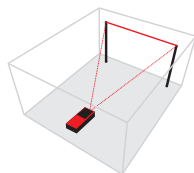
CAUTION

The two points must be measured in a line and the second measurement point must be at a right angle to the measuring surface, otherwise the measurements may be incorrect.

7.2.10 Indirect Distance Measurement

1. Turn on the laser device.
2. In the function menu, select the indirect distance measurement icon.
3. Measure the 3 measurement points in succession, just like for a single measurement.

The laser beam remains switched on between the three measurements. After completing the third measurement, the length is automatically calculated and shown in the bottom line of the display. The single measurements are shown in measurement lines 1, 2, and 3.



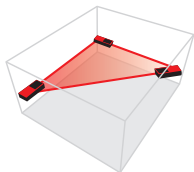
CAUTION

The three points must be measured in a line and the third measurement point must be at a right angle to the measuring surface, otherwise the measurements may be incorrect.

7.2.11 Triangular Area Measurement

1. Turn on the laser device.
2. In the function menu, select the triangular area measurement icon.
3. Measure the 3 measurement points in succession, just like for a single measurement.

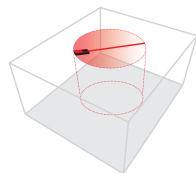
The result shows the measured area and the single measurement.



7.2.12 Circular Area Measurement

1. Turn on the laser device.
2. In the function menu, select the circular area measurement icon.
3. Measure the diameter just like for a single measurement.

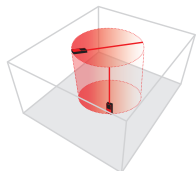
The result shows the measured area and the single measurement.



7.2.13 Cylinder Volume Measurement

1. Turn on the laser device.
2. In the function menu, select the cylinder volume measurement icon.
3. Measure the diameter just like for a single measurement.
4. Measure the height just like for a single measurement.

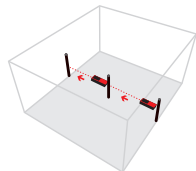
The result shows the measured volume, the area, and the single measurement.



7.2.14 Layout Measurement

1. Turn on the laser device.
2. In the function menu, select the layout measurement icon.
3. Set the distance you want.
4. Press the measure button to start measuring.

the device displays the current distance and starts to beep as you approach the set distance.



7.2.15 Addition

1. Turn on the laser device.
2. Press the measure button to activate the laser point.
3. Direct the laser point at the target.
4. Perform a single measurement.
5. Press the add/up button to add the next single measurement.
(+ symbol appears on the display)
6. Perform a single measurement.

The laser device shows the result on the bottom line in the display.
This process can be repeated indefinitely.

7.2.16 Subtraction

1. Turn on the laser device.
2. Direct the laser point at the target.



3. Perform a single measurement.
4. Press the subtract/down button twice to subtract the next single measurement.
(- symbol appears on the display)
5. Perform a single measurement.

The laser device shows the result on the bottom line in the display. This process can be repeated indefinitely.

7.3 Selecting a Unit of Measure

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Unit.
3. Press the measure button to select the desired unit.

The device starts with the most recently set unit.

7.4 Tilt Sensor

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Tilt Sensor.
3. Press the measure button to activate the tilt sensor.

Back with ON/OFF.

7.5 Rotate Display

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Rotate Display.
3. Press the measure button to enable and disable the function.

7.6 Camera

1. Turn on the laser device.
2. Press the camera button.
3. Use the camera button to choose between 2x and 4x zoom.
4. Press the measure button to perform the single measurement.

Back with ON/OFF.

7.7 Measurement Memory

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Measurement Memory.
3. Press the measure button to access the memory.

Use add/up or subtract/down to select the various measurements. Back with ON/OFF.



7.8 Unit of Measurement

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Unit.
3. Press the measure button to select the desired unit.

The device starts with the most recently set unit.

7.9 Manual Measurement Adjustment

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Manual Measurement Adjustment.
3. Use add/up or subtract/down to adjust the values.
4. Use the SET button to select the various decimal places.

Back with ON/OFF.

7.10 Timer

1. Turn on the laser device.
2. Press the SET button and use add/up or subtract/down to switch to Timer.
3. Activate with the measure button.
4. The 5-second countdown starts. A single measurement is performed.

7.11 Charging the Batteries

The battery charge status is shown on the display. Charge the batteries when the symbol is permanently flashing on the screen.

Use the charger supplied to charge your laser distance meter. The device cannot be used while charging. The device is fully charged in around 3 hours.

7.12 Important Notes

The laser device must not be moved during measurement. A use of a fixed support with end stop is recommended. Do not cover the laser emission field and the receiving area during measurement. Incorrect measurements are possible depending on the measuring surface. Textured, mirrored, transparent, or porous surfaces should be avoided.



8. Maintenance, Storage, and Transportation

8.1 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.

8.2 Storage

- The equipment may only be stored within the specified temperature limits (see Chapter 3/Technical Data).
- After prolonged storage, check the accuracy of the measuring device before using it.

8.3 Transport

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.
- Check the device for damage before use.



9. Delivery Contents and Accessories

9.1 METRON 80 BTC Delivery Contents

- 1 Laser distance meter
- 1 Belt Pouch
- 1 Charging/data cable
- 1 Strap
- 3 1.2 V Ni-Mh Battery

9.2 Accessories (Optional)

- LB RED laser visibility glasses
- ZS RED magnetic target plate
- MST mini tripod

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

10. Troubleshooting

Error	Possible Cause	Remedy
204	➤ Calculation error	➤ Check specification, repeat process
208	➤ Overvoltage	➤ Please contact supplier
220	➤ Battery flat	➤ Replace battery
252	➤ Temperature too high	➤ Allow device to cool to the specified temperature
253	➤ Temperature too low	➤ Allow device to heat to specified temperature
255	➤ Reception signal too weak	➤ Increase reflectivity of the target
256	➤ Reception signal too strong	➤ Restrict reflectivity of the target
261	➤ Outside measuring range	➤ Observe specified measuring range
500	➤ Component error	➤ Turn the device on and off several times ➤ If the error persists, please contact the supplier

11. Disposal

If disposed of improperly third parties may be seriously injured and the environment polluted. Burning plastic components generates toxic fumes which may impair health. Batteries/rechargeable 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.
- 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.



12. 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.

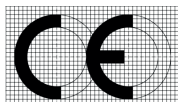
Further claims are excluded, unless these are stipulated by the respective national legislation. In particular the manufacturer shall not be liable for any direct, indirect, incidental, or consequential damages, losses or expenses in connection with device's use or because of the inability to use the tool for any purpose whatsoever. Implied warranties for the usage or suitability for a particular purpose are expressly excluded."



13. EC 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)

METRON 80 BTC

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 60825-1:2007-10

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

Electromagnetic compatibility 2014/53/EU RED

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