### Operating Instructions

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<td>Betriebsanleitung Bodenfeuchtesensor</td>
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Art. 1188
GARDENA Soil Moisture Sensor

Welcome to the Garden of GARDENA...

Translation of the original instructions from German. Please read these operating instructions carefully and observe the information they contain. Use these operating instructions to familiarise yourself with the GARDENA Soil Moisture Sensor, its proper use and the notes on safety.

For safety reasons, children under the age of 16 as people, who are not familiar with the operating instructions should not use the Soil Moisture Sensor.

→ Please keep these instructions in a safe place.

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1. Where to use Your GARDENA Soil Moisture Sensor

Intended use: The GARDENA Soil Moisture Sensor is designed to be used solely outdoors in domestic and private gardens and in greenhouses to control sprinklers and watering systems via a GARDENA Water Computer and multi-channel control systems taking account the soil moisture level. The Soil Moisture Sensor can also be used together with the GARDENA Fully Automatic Flower Box Watering Set Art. 1407.

Please note: It is not permitted to use the Soil Moisture Sensor for industrial or commercial applications and in conjunction with chemicals, foodstuffs, highly combustible or explosive substances.

2. Safety instructions

Batteries: For reasons of operational reliability the Soil Moisture Sensor should only be operated with two 1.5 V (alkaline) round cells type IEC LR14. To prevent failure of the Soil Moisture Sensor due to weak batteries in conjunction with a lengthy absence, batteries should be replaced in due course.

This will depend on the previous operating life of the batteries and the probable length of absence, which should not exceed a year in total.
Information regarding use:
The Soil Moisture Sensor is equipped with a safety switch. If the sensor cable is damaged or the batteries flat, the selected watering time of the Water Computer will be used for watering. The spread of moisture in the soil after watering or rainfall is rather slow. In the worst-case scenario it may happen that irrigation and a rain shower overlap until the required soil moisture is attained.

3. Function

With the GARDENA Soil Moisture Sensor the soil moisture level is taken into consideration for watering. The Soil Moisture Sensor measures the soil moisture at the root level of the plants automatically approximately every 10 minutes and sends the measured results to the Water Computer.

Control panel of Soil Moisture Sensor:

- **Indicator button:** Activates display of moisture level last measured.
- **“Dry” LED:** Indicates that the Soil Moisture Sensor is measuring dry in relation to the switching controller 4.
- **“Damp” LED:** Indicates that the Soil Moisture Sensor is measuring damp in relation to the switching controller 4.
- **Switching controller:** Sets the soil moisture level at which watering is to take place.
- **Battery LED:** If the battery LED flashes the batteries have to be replaced.

If the batteries are flat and are not replaced, the connected Water Computer will function with the watering program selected.

→ Replace batteries (see 7. Maintenance “Replace batteries”).

4. Initial Operation

Insert batteries:

→ To insert batteries (see 7. Maintenance “Replace batteries”).

Select correct location for Soil Moisture Sensor:

Correct location:
The Soil Moisture Sensor must be positioned at a location in the watering area which is exposed to the same climatic conditions as the plants (sun, wind, rain, etc.).

Incorrect location:
The Soil Moisture Sensor should not be covered by neighbouring plants. Areas of shade should be avoided. To rule out erroneous reaction results caused by waterlogging, the Soil Moisture Sensor should not be positioned in dips in the ground.
**“Plant” Soil Moisture Sensor:**

1. Dig a funnel-shaped hole in the ground ① at least 12 cm deep.
2. Break up the soil ① removed and take out any stones.
3. If the soil is dry, moisten.
4. Replace the damp broken-up soil ① in the funnel-shaped hole without packing tight.
5. Immerse entire sensor tip ② in water (felt must be wet).
6. Insert sensor cable (long) ⑤ in the sensor socket ⑥ of the Soil Moisture Sensor (on purchase this is already inserted).
7. Insert the Soil Moisture Sensor to the upper edge of the sensor ③ in the broken-up soil ①.
   *Here the sensor tip ② must be in full contact with the damp soil on all sides.*
8. Press down the soil ① around the sensor ③ lightly.
   *The Soil Moisture Sensor should not stand loose in the ground.*
9. Water the area around the Soil Moisture Sensor with approx. 1 litre water.
   *Depending on the ground it may take several hours until the Soil Moisture Sensor measures the actual soil moisture.*

To ensure that the quantity of water delivered is registered by the sensor tip when using the GARDENA Micro-Drip-System, a drip head must be installed directly above the sensor.

→ Fit a Supply Pipe 4.6 mm (3/16”) with drip head to the drip head holder ④ of the Soil Moisture Sensor.

**Connect GARDENA Micro-Drip-System:**

**Connect adapter cable:**

1. Lay the sensor cable ⑤ in / on the ground so that it cannot be damaged or trip people up. The cable should be laid in the ground in a bed of sand to prevent any damage being caused by stones.
2. Fit adapter cable (short) ⑦ to sensor cable ⑤ (on purchase this is already fitted).
3. Insert adapter cable ⑦ in sensor connection of GARDENA Water Computer.

If the sensor cable is not long enough, it can be extended with the GARDENA Extension Cable *Art. 1186* (up to 105 m).

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**WARNING !**

The tip of the sensor will only measure the soil moisture correctly if the sensor tip is in full contact with the ground on all sides! No air should be trapped at the sensor tip in the ground.

1. Dig a funnel-shaped hole in the ground ① at least 12 cm deep.
2. Break up the soil ① removed and take out any stones.
3. If the soil is dry, moisten.
4. Replace the damp broken-up soil ① in the funnel-shaped hole without packing tight.
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If the sensor cable is not long enough, it can be extended with the GARDENA Extension Cable *Art. 1186* (up to 105 m).
5. Operation

The water requirement of plants depends on many factors, e.g. type of plant, soil, sunshine, wind. To find the suitable switching point of the Soil Moisture Sensor, it has to be observed during irrigation over a period of approx. 1 – 2 weeks and re-adjusted if necessary. If the soil moisture has exceeded the switching point selected, the watering program of the Water Computer is terminated prematurely or an outstanding irrigation process blocked.

Select presetting of switching controller:

On delivery, the switching controller is set to the centre position, which is suitable for normal non-forest soils (loamy humus).

For sandy soils the switching controller ⑧ should be preset slightly to the right (damper).

For potting soil the switching controller ⑧ should be preset slightly to the left (drier).

Set switching point of Soil Moisture Sensor:

Increase soil moisture level:
→ If the soil seems too dry for an application (type of soil or plant species), turn the switching controller ⑧ to the right towards “Damp” (e.g. with a coin).

Reduce soil moisture level:
→ If the soil seems too damp for an application (type of soil or plant species), turn the switching controller ⑧ to the left towards “Dry” (e.g. with a coin).

Display soil moisture:

The soil moisture can be displayed at any time with the Soil Moisture Sensor. When the Soil Moisture Sensor shows “Damp” ⑪, watering is not carried out.

→ Press indicator button ⑨.

The soil moisture value last measured is indicated for 1 minute with the relevant LED (“Dry” ⑩ or “Damp” ⑪).

During the minute in which the measured result is displayed, the switching controller can be used to find the relevant switching point by turning the switching controller until the display changes from “Dry” ⑩ to “Damp” ⑪ or vice versa. If the display does not change, the ground is either very dry or very damp.

Usage:

To keep the soil moisture level as constant as possible, irrigation should be carried out with short watering cycles and short watering times. This especially applies to flower boxes on balconies, which have a watering time of < 5 min.
6. Putting into Storage

**Storage / Overwintering:**

- The storage location must not be accessible to children.
- 1. Remove batteries from Soil Moisture Sensor.
- 2. Store the Soil Moisture Sensor in a dry place protected from frost.

**Disposal:**

*(in accordance with RL2002/96/EC)*

- Important!
  - Return spent batteries to one of the sales outlets or dispose of batteries via your municipal recycling collection centre.
  - Only dispose of battery once **discharged**.

The product must not be added to normal household waste. It must be disposed of in line with local environmental regulations.

→ Important: Make sure that the unit is disposed of via your municipal recycling collection centre.

7. Maintenance

**Replace batteries:**

- **Caution:** Rechargeable batteries should not be used!
- 1. Unlock battery cover with a coin (or large screwdriver) by turning clockwise and remove.
- 2. Remove battery holder and insert 2 batteries (round cells 1.5 V alkaline type IEC LR14). **When doing so, ensure correct polarity (+/-).**
- 3. Insert battery holder in Soil Moisture Sensor. When doing so, make sure that cables are not trapped.
- 4. Insert catch lug of battery cover in housing slot and press down battery cover. When doing so, make sure that O-ring is positioned correctly.
- 5. Relock battery cover with a coin (or large screwdriver) by turning anticlockwise.

**Clean control panel:**

- The control panel should be cleaned when soiled.

→ **No caustic/abrasive cleaning agents should be used.**

- Clean control panel with a damp cloth (do not use solvent).

**Clean/replacement sensor tip:**

- Whenever the Soil Moisture Sensor is relocated, the sensor tip should be cleaned/replaced. The felt on the tip should not come into contact with grease.

→ Clean sensor tip with clear water.

If the felt becomes damaged, the sensor tip can be re-ordered from GARDENA Service.

→ Unscrew sensor tip and screw on new tip.
## 8. Troubleshooting

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watering is switched on although soil is damp</td>
<td>Soil Moisture Sensor not positioned in watering area.</td>
<td>→ Position Soil Moisture Sensor in watering area.</td>
</tr>
<tr>
<td></td>
<td>Switching controller too far to the right on “Damp”.</td>
<td>→ Turn switching controller to the left accordingly.</td>
</tr>
<tr>
<td></td>
<td>Defective or loose sensor cable.</td>
<td>→ Check sensor cable and connections.</td>
</tr>
<tr>
<td></td>
<td>Batteries spent / inserted incorrectly / wrong battery used.</td>
<td>→ Replace batteries / insert correctly / use alkaline battery.</td>
</tr>
<tr>
<td></td>
<td>Air trapped at sensor tip.</td>
<td>→ Remove trapped air (see 4. Initial Operation “Plant Soil Moisture Sensor”).</td>
</tr>
<tr>
<td>Watering is not switched on although soil is dry</td>
<td>Soil Moisture Sensor is in a dip in the ground.</td>
<td>→ Reposition Soil Moisture Sensor at correct location (see 4. Initial Operation “Select correct location for Soil Moisture Sensor”).</td>
</tr>
<tr>
<td></td>
<td>Switching controller too far to the left on “Dry”.</td>
<td>→ Turn switching controller to the right accordingly.</td>
</tr>
<tr>
<td>Battery display of Soil Moisture Sensor flashing</td>
<td>Batteries of Soil Moisture Sensor are flat.</td>
<td>→ Replace batteries of Soil Moisture Sensor.</td>
</tr>
<tr>
<td></td>
<td>Soil Moisture Sensor defective.</td>
<td>→ Contact GARDENA Service.</td>
</tr>
</tbody>
</table>

⚠️ In the event of other faults please contact GARDENA Service. Repairs should only be carried out by GARDENA service centres or dealers authorised by GARDENA.

## 9. Accessories

<table>
<thead>
<tr>
<th>GARDENA Extension Cable (length: 10 metres)</th>
<th>Used to extend sensor cable to max. 105 metres.</th>
<th>Art. 1186</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARDENA sensor tip with felt</td>
<td>For replacement with damaged sensor tip.</td>
<td>obtainable via GARDENA Service</td>
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</table>

## 10. Technical data

**Soil Moisture Sensor (Art. 1188)**

<table>
<thead>
<tr>
<th>Sensor cable:</th>
<th>5 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter cable:</td>
<td>20 cm</td>
</tr>
<tr>
<td>Temperature range:</td>
<td>5 – 60°C</td>
</tr>
<tr>
<td>Batteries:</td>
<td>2 x round cells type IEC LR14 (1.5 V alkaline 7.8 Ah)</td>
</tr>
<tr>
<td>Operating life of batteries:</td>
<td>approx. 1 year (with alkaline battery)</td>
</tr>
</tbody>
</table>
11. Service / Warranty

**Warranty**

GARDENA guarantees this product for 2 years (from date of purchase). This guarantee covers all serious defects of the unit that can be proved to be material or manufacturing faults. Under warranty we will either replace the unit or repair it free of charge if the following conditions apply:

- The unit must have been handled properly and in keeping with the requirements of the operating instructions.
- Neither the purchaser or a non-authorised third party have attempted to repair the unit.

As a wear part the sensor tip with felt is not covered by the guarantee.

This manufacturer's guarantee does not affect the user's existing warranty claims against the dealer/seller.

If a fault occurs with your Soil Moisture Sensor, please return the faulty unit together with a copy of the receipt and a description of the fault, with postage paid to one of the GARDENA Service Centres listed on the back of these operating instructions.
Wir weisen ausdrücklich darauf hin, dass wir nach dem Produkthaftungs-
gesetz nicht für durch unsere Geräte hervorgerufene Schäden einzu-
stehen haben, sofern diese durch unsachgemäße Reparatur verursacht
oder bei einem Teleaustausch nicht unsere Original GARDENA Teile oder
von uns freigegebene Teile verwendet werden und die Reparatur nicht
vom GARDENA Service oder dem autorisierten Fachmann durchgeführt
wird. Entsprechendes gilt für Ergänzungssteile und Zubehör.

Product Liability

We expressly point out that, in accordance with the product liability law,
we are not liable for any damage caused by our units if it is due to im-
proper repair or if parts exchanged are not original GARDENA parts
or parts approved by us, and, if the repairs were not carried out by a
GARDENA Service Centre or an authorised specialist. The same applies
to spare parts and accessories.

Responsabilité

Nous vous signalons expressément que GARDENA n’est pas responsa-
sable des dommages causés par ses appareils, dans la mesure où ces
dommages seraient causés suite à une réparation non conforme, dans la
mesure où, lors d’un échange de pièces, les pièces d’origine GARDENA
n’auraient pas été utilisées, ou si la réparation n’a pas été effectuée par
le Service Après-Vente GARDENA ou l’un des Centres SAV agréés
GARDENA. Ceci est également valable pour tout ajout de pièces et d’ac-
cesseurs autres que ceux préconisés par GARDENA.

Productaansprakelijkheid

Wij wijzen er nadrukkelijk op, dat wij op grond van de wet aansprakelijk-
heid voor producten niet aansprakelijk zijn voor schade ontstaan door onze
apparaten, indien deze door onvakkundige reparatie veroorzaakt zijn, of er
bij het uitwisselen van onderdelen geen gebruik gemaakt werd van onze
originele GARDENA onderdelen of door ons vrijgegeven onderdelen en de
reparatie niet door de GARDENA technische dienst of de bevoegde vak-
man uitgevoerd werd. Ditzelfde geldt voor extra-onderdelen en accessoires.

Produktansvar

Tillverkaren är inte ansvarig för skada som orsakats av produkten om
skadan beror på att produkten har reparerats felaktigt eller om, vid repara-
tion eller utbyte, andra än Original GARDENA reservdelar har anvånts.
Samma sak gäller för kompletteringsdelar och tillbehör.

Responsabilità
del prodotto

Si rende espressamente noto che, conformemente alla legislazione sulla
responsabilità del prodotto, non si risponde di danni causati da nostri arti-
coli se originati da riparazioni eseguite non correttamente o da sostituzioni
di parti effettuate con materiale non originale GARDENA o comunque da
noi non approvato e, in ogni caso, qualora l’intervento non venga eseguito
da un centro assistenza GARDENA o da personale specializzato autoriz-
zato. Lo stesso vale per le parti complementari e gli accessori.

Responsabilidad
de productos

Advertimos que conforme a la ley de responsabilidad de productos no nos
responsabilizamos de daños causados por nuestros aparatos, siempre
y cuando dichos daños hayan sido originados por arreglos o reparaciones
inadecuadas, por recambios con piezas que no sean piezas originales
GARDENA o bien piezas autorizadas por nosotros, así como en aquellos
casos en que la reparación no haya sido efectuada por un Servicio Téc-
nico GARDENA o por un técnico autorizado. Lo mismo es aplicable para
las piezas complementarias y accesorios.

Responsabilidade
sobre o produto

Queremos salientar que segundo a lei da responsabilidade do fabricante,
nós não nos responsabilizaremos por danos causados pelo nosso equipa-
mento, quando estes ocorram em decorrência de reparações inadequadas
ou da substituição de peças por peças não originais da GARDENA, ou pe-
ças não autorizadas. A responsabilidade tornar-se-à nula também depois
de reparações realizadas por oficinas não autorizadas pela GARDENA.
Esta restrição valerá também para peças adicionais e acessórios.

Produktansvar

Vi gör uttryckligt opmærksom på at i henhold til produktansvarsloven
er vi ikke ansvarlige for skader forårsaget af vores udstyr, hvis det skyldes
uautoriserede reparationer eller hvis dele er skiftet ud og der ikke er an-
vendt originale GARDENA dele eller dele godkendt af os, eller hvis repara-
tionerne ikke er udført af GARDENA-service eller en autoriseret fagmand.
Det samme gælder for ekstra udstyr og tilbehør.
**EU Certificate of Conformity**

The undersigned GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm, hereby certifies that, when leaving our factory, the units indicated below are in accordance with the harmonised EU guidelines, EU standards of safety and product specific standards. This certificate becomes invalid if the units are modified without our approval.

**EU-overeenstemmingsverklaring**


**Dichiarazione di conformità alle norme UE**


**Declaración de conformidad de la UE**

El que subscribe GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm, declara que la presente mercancia, objeto de la presente declaración, cumple con todas las normas de la UE, en lo que a normas técnicas, de homologación y de seguridad se refiere. En caso de realizar cualquier modificación en la presente mercancia sin nuestra previa autorización, esta declaración pierde su validez.

**Certificado de conformidade da UE**

Os abaixo mencionados GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm, por este meio certificam que ao sair da fábrica o aparelho abaixo mencionado está de acordo com as diretrizes harmonizadas da UE, padrões de segurança e de produtos específicos. Este certificado ficará nulo se a unidade for modificada sem a nossa aprovação.

**EU Overensstemmelse certifikat**

Undertegnede GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm bekræfter hermed, at enheder listet herunder, ved afsendelse fra fabriken, er i overensstemmelse med harmoniserede EU retningslinjer, EU sikkerhedsstandarder og produktspecificationsstandarder. Dette certifikat træder ud af kraft hvis enhederne er ændret uden vor godkendelse.

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**EU-Konformitätserklärung**


**Certificat de conformité aux directives européennes**

Le constructeur, soussigné : GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm, déclare qu’à la sortie de ses usines le matériel neuf désigné ci-dessous est conforme aux prescriptions des directives européennes énoncées ci-après et conforme aux règles de sécurité et autres règles qui lui sont applicables dans le cadre de l’Union européenne. Toute modification portée sur ce produit sans l’accord express de GARDENA supprime la validité de ce certificat.