

WARM-ON

ELECTRIC

UNDERFLOOR HEATING MATS

EN

**INSTALLATION & OPERATION
MANUAL**

CLASSIC LIGHT 100 W/M²

CLASSIC 150 W/M²

ULTRA 200 W/M²

30
YEAR
WARRANTY

& Safe
Secure
3600V
Tested under
15-times load

100%
QUALITY
CONTROL

CONTENTS

General information to installation..... 3

Installation plan..... 5

Installation..... 5

Safety warnings 10

Claims..... 10

Warranty..... 10

Guarantee card and test record..... 12

Technical data..... 15

Confirmity..... 17

GENERAL INFORMATION TO INSTALLATION

- Never electrically connect or turn the heating mats on while coiled.
- Only the heating mat cold lead wires are allowed to be lengthened or shortened during the installation.
- Never electrically connect or shorten the heating wires.
- Always install the electrical underfloor heating mat strictly using an all pole disconnection (e.g. relay, power contactor) with a contact opening of minimum 3 mm.
- Multiple heating mats must be connected parallel in a recessed electrical box.
- Always connect the braided shield or screen to the PE ground conductor.
- Always install the thermostat outside of the protected zone 2, according to VDE 0100.
- Always connect the electrical underfloor heating mat, by means of an electrical box, firmly to the power supply 230 VAC (3x1,5mm²). Electrical installation is only allowed according to DIN-VDE or local regulations and installation by a qualified electrician.
- Never exceed the total amperage of the thermostat (refer to thermostat specifications and installation instructions) by parallel connected heating mats.
- Never cross or fold the heating wires.
- Never bend the heating cables less than 30 mm radius at the turnings.
- Always operate the electrical underfloor heating mat with a ground fault circuit breaker (30mA).
- Never impact the termination joints more than 120 N.
- The connections cannot be folded or damaged.
- Never install the heating cable over a building expansion joint.
- The minimum installation temperature is +5°C.
- Never install the heating conductors through or behind insulation material. Further, they can't be laid under furniture, bathtubs, shower trays or similar. Heat accumulation in these areas and the fasteners (nails, screws, etc.) used to install the fixed objects could damage the heating section.
- The minimum distance of the heating mat to the wall or to ascending components (e.g. bathtubs, shower trays) must be 5 cm. The distance to conductive building parts (e.g. hot water pipes) must be at least 3 cm. In order to remain flexible in the positioning of the furniture, or in cases where the final position of the furniture is not yet known (especially in rental apartments and houses), a distance of 60 cm to the partition wall should be kept free.
- Before and after the installation, always measure and record the total resistance of the heating mat and the insulation resistance.
- Always make sure all electrical work is executed by qualified persons in accordance with the local building regulations, electrical codes and the latest VDE regulations (for example VDE 0700 Part 753, VDE 0700 Part 701 and DIN VDE 1264-3).
- Always verify that the existing floor thermal insulation complies with the latest technical standards and regulations. Therefore, a high energy consumption is excluded.
- It is not allowed to change the surface area of the subfloor, on which the heating mat is installed. Underlaying materials other than mortar or screed are not allowed to be used.
- Never install the electrical heating mat in walls or ceilings.

- We guarantee that our products are free from defects in materials and workmanship. Products that have been mechanically damaged due to incorrect connection or due to disregard of the terms of operating rules and servicing, are not subject to warranty repairs, replacement or return.
- The subfloor should be even, secure, solid and with an appropriate load capacity. The surface has to be dry, clean, free of grease, dust and sharp objects.
- If the subfloor is uneven, it is necessary to level it, using a self-leveling floor compound before installation of the heating section in order to avoid air cavities underneath the heating section.
- The heating cables must be completely covered by levelling compound or tile adhesive along their entire length.
- Never put the underfloor heating system into operation before the tile adhesive, levelling or spattling compound is fully hardened.
- Always use materials for the installation which are certified by the manufacturer for underfloor heating systems.
- Always install the cold lead cable of the heating mat inside a separate corrugated tube (DIN EN 61386-1).
- Always install the floor temperature sensor cable inside a separate corrugated tube (DIN EN 61386-1).
- The heating mat should not be exposed to temperatures above 80°C (rated limit temperature, heating element).

INSTALLATION PLAN

Draw the layout of the electrical underfloor heating mat and write down the zones free of the heating mat and spacings at the surrounding walls.

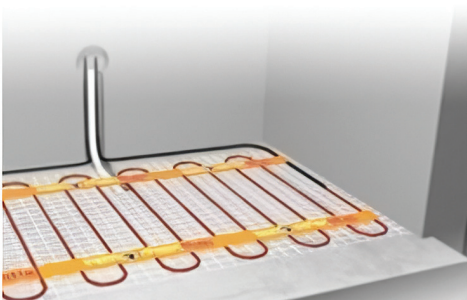
The distance of the electrical heating mat and any conductive parts of the building have to be at a minimum of 30 mm (for example, water pipe).

INSTALLATION



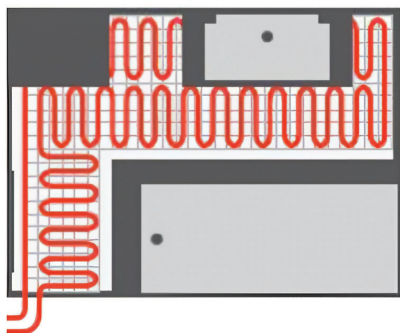
SUBFLOOR PREPARATION

The subfloor should be even, secure, solid and with an appropriate load capacity. The surface has to be dry, clean, free of grease, dust and sharp objects. If the subfloor is uneven, it is necessary to level it, using a selfleveling floor compound before installation of the heating mat, in order to avoid air cavities underneath the heating mat. Never install the heating cable over a building expansion joint.



THERMOSTAT INSTALLATION PREPARATION

Chisel out channels for the power supply wires, cold leads and temperature sensor in the wall and floor (**Attention! Cold leads and sensor cable have to be installed into two separate corrugation tubes!**). A standard plastic round recessed electrical box with 230 VAC power supply is preferred for installation at the chosen thermostat location. A ground fault circuit breaker (30 mA) must be provided.



MAT ADJUSTMENT

Fix the heating mat with the adhesive fibre mesh side down to the subfloor according to your layout. Adjust the mat to the heating area layout by cutting the glass fibre mesh at the intended turning point (**Attention! Do not cut or damage the heating cable!**) and lay the heating mat as shown in the illustration.

After positioning the heating mat into the intended layout, press the heating mat firmly to the subfloor. The glass fibre mesh has to be laid without any folds. The heating mat should be fixed using 4 to 6 dowels per m^2 to prevent the heating mat from swimming when using leveling screed.

KEEPING THE SAFETY DISTANCE

Keep a safety distance of around 4-6 cm (it is not permitted to install under the minimum distance of 3 cm) between the turnings of the mat. Take caution not to drop sharp objects or stepping on the heating cables in order to avoid damage to the heating mat. Wear soft elastic sole shoes and cover the mat surface with plywood boards or other material in order to prevent damage of the heating mat cables during installation.

INSTALLATION WITH DIFFERENT FLOOR FINISHINGS

PVC, Carpet, and Other Soft Floor Coverings

For soft floor finishings such as PVC, vinyl, linoleum, laminate, or carpet, the heating mats must be completely embedded in a leveling compound **5–10 mm thick**, or covered with a **cement–sand screed 30–50 mm thick** (WARMON CLASSIC and ULTRA).

If the subfloor is uneven, it must be pre-leveled with a self-leveling compound before laying the heating mat to prevent air gaps underneath.

Ceramic Tiles, Stone, and Other Hard Floor Coverings

For hard floor coverings with good thermal conductivity—such as ceramic tiles, porcelain stoneware, or natural stone—the heating mat can be embedded directly into an appropriate tile adhesive.

Heating mats with an output of **more than 150 W/m²** may be used as the **primary heating source** when installed under hard floor coverings, provided that the cement–sand screed has a thickness of **50–80 mm**.

When installing heating mats within a screed layer, it is recommended to include a **3–5 cm layer of thermal insulation** beneath the heating system.

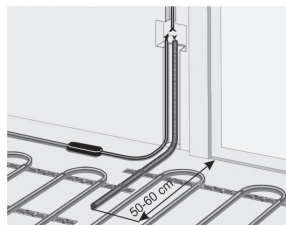
For primary heating applications, the heated floor area must cover **at least 70% of the total floor surface**, and the ceiling height should not exceed **3 m** to ensure efficient heat distribution.

Heating Mat Installation Compatibility

	Comfort Heating– Tile Adhesive	Comfort Heating – Cement–Sand Screed 3–5 cm	Primary Heating – Tile Adhesive	Primary Heating – Cement – Sand Screed 5–8 cm
WARMON LIGHT (100)	✓ Suitable	✓ Suitable	X Not recommended	X Not recommended
WARMON CLASSIC (150)	✓ Suitable	✓ Suitable	✓ Possible (with conditions)	✓ Recommended (50–80 mm screed + insulation)
WARMON ULTRA (200)	✓ Suitable	✓ Suitable	✓ Possible (with conditions)	✓ Recommended (50–80 mm screed + insulation)

FLOOR TEMPERATURE SENSOR INSTALLATION

The floor temperature sensor cable has to be placed into a separate conduit according to EN 61386-1. It should be placed at heating level directly underneath the heating mat by chiselling out a groove in the subfloor. The sensor should be centrally positioned between two heating conductors, which is in the middle of a cable loop. Route the heating mat cold lead through a separate corrugated tube sideward to the recessed electrical box with not crossing the heating conductor! Do not cross the cold lead over or place it closer than about 2 cm to the mat heating wires. Thermostat installation requires a standard plastic wall mounting box with 230 V AC mains connection cable from the local wiring at the intended location. A fault-current circuit breaker (30 mA) has to be used.



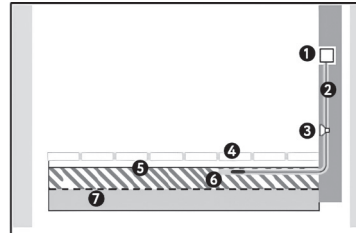
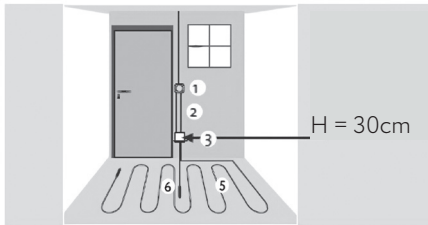
Double-check that the floor temperature sensor is positioned in a corrugated tube (Ø16mm) and can be easily removed from; check this during installation of the conduit and again before installation of the screed and floor covering respectively!

APPLY TILE ADHESIVE OR SPATTLING COMPOUND

Be careful not to damage the heating conductor insulation with the tile trowel during the laying of the tile adhesive or spatting compound. The heating wire has to be completely covered over the full extent of the heating mat. If necessary after the laying of the tile adhesive or spatting compound, the heating mat may be adjusted by slightly lifting and then pressing it firmly back into the laying material again. For different coverings, e.g. PVC or carpet, the electrical underfloor heating section has to be completely covered with a self-leveling floor compound about 5-10 mm. The heat transition coefficient (conductance) of the leveling material is not permitted to exceed $RI = 0,15 \text{ m}^2\text{K/W}$ and the leveling material exposure temperature resistance has to be minimum 50°C . The appropriate conductance of the floor finishing is found under THERMOSTAT INSTALLATION AND FLOOR CONSTRUCTION in Fig. 4.

After the laying of the floor finish, measure and record the heating section and insulation resistance. Please record the resistance readings in the attached test protocol under "after installation". Once the tile adhesive is cured, grout the tiles with appropriate material. Tile expansion joints shall be provided at all adjoining building units and built-ins. These expansion joints are to be grouted by means of silicone. The product identification label (located at the cold at the electrical box.

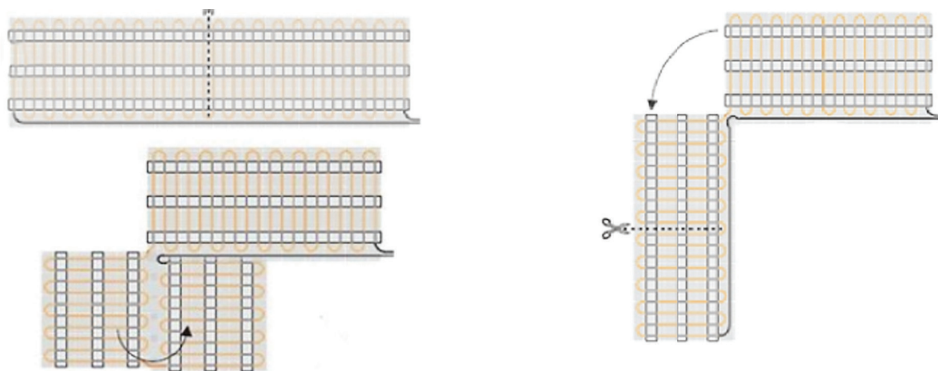
THERMOSTAT INSTALLATION AND FLOOR CONSTRUCTION



Electrical thermostat; Power supply distribution cable NYM 3 x 1,5 mm ²
Corrugated tube for the temperature sensor or the cold lead (both are not to be installed inside the same tube)
Recessed electrical box (only necessary for more than one heating mat)
Floor finishing ^o
Electro-Comfort Ultra-Thin heating mat embedded in tile adhesive
Temperature sensor, centered between two heating conductors
Subfloor with thermal insulation

Floor finishing ^o		Rλ	
Tile	≤ 13 mm	0.012 m ² K/W	(0.12 TOG)
Carpet	≤ 10 mm	0.09 m ² K/W	(0.90 TOG)
PVC	≤ 2 mm	0.01 m ² K/W	(0.10 TOG)
Cork	≤ 11 mm	0.13 m ² K/W	(1.30 TOG)
Parquet	≤ 22 mm	0.11 m ² K/W	(1.10 TOG)

APPLICATION EXAMPLES



SAFETY WARNINGS

The electrical connection and connection to the power supply must be performed by a professional electrician, observing the applicable national laws, rules and regulations. Otherwise, the warranty invalidates. Disconnect your local wiring from the mains before connecting the thermostat or disconnecting it to check or replace it. Only use plastic electrical wall mounting boxes for the thermostat installation. The installation instructions and wiring diagram do not replace the professional skill of the device installer. Ensure that the sensor can be placed into and removed from the corrugated tube ($\varnothing$ 16mm); once during installation of the tubing and again before installation of the screed and the floor finishing.

CLAIMS

In case of failure during the warranty period, please contact the seller.

WARRANTY

The manufacturer guarantees the conformity of the heating mat with the design description, assuming compliance with the installation and operating instructions.

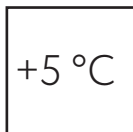
Warranty period – 30 years from date of purchase.

In case of a failure during guarantee period caused by a manufacturing defect, the customer has the right to supplementary performance. The warranty does not cover any damages due to inadequate handling, damages through a third party, wrong installation (not following the manual) or its consequential damages. Please keep your receipt.

For any warranty claims you have to show your sales receipt as well as completed resistance acceptance test certificate and guarantee card.



Follow the installation manual instructions



Minimum installation temperature



Protect against damage



Power supply

GUARANTEE CARD AND TEST RECORD

The completed resistance acceptance test certificate/guarantee card are necessary for warranty claims.

Heating mat type:

Company stamp

Customer

Name

Street

Postal Code, City

Country

Tel

e-mail

Purchase date

Client's signature

Name

Company name

Tel

e-mail

Street

Postal Code, City

Country

Installation date

Installation date

Installer's signature



First measurement: Before and after installation of the heating mat.

Total resistance inW		Isolation resistance in MW (>10 MW)	
before installation	after installation	before installation	after installation
Ω	Ω	M Ω	M Ω

☐

The sensor can be removed through the corrugated tube (Ø 16mm) during installation of the heating mat.



Second measurement: Before and after installation of the flooring.

Total resistance inW		Isolation resistance in MW (>10 MW)	
before installation	after installation	before installation	after installation
Ω	Ω	M Ω	M Ω

☐

The sensor can be removed through the corrugated tube (Ø 16mm) before installation of the flooring.

INSTALLATION PLAN

Please prepare an exact drawing of the room, the installed heating mat(s) and the floor temperatur sensor.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									
17																									
18																									
19																									
20																									
21																									
22																									
23																									
24																									
25																									

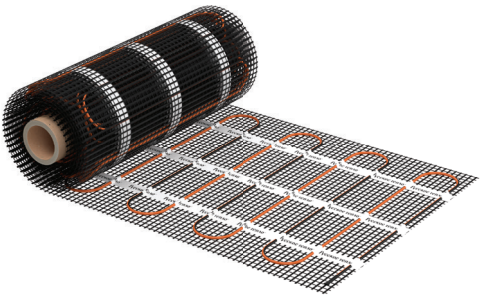
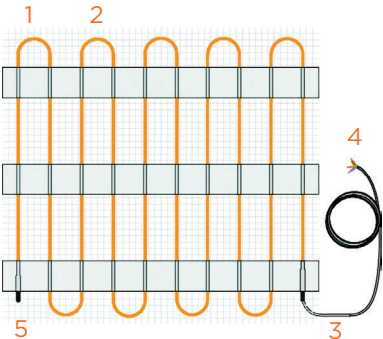
TECHNICAL DATA

The double-core heating mat WARMON fit is made of a screened series resistance heating cable, affixed on a sticky fibreglass mesh with the help of an adhesive tape. The heating cable is arranged meandering on the mesh, and thus with constant cable-to-cable distance. A metallic sheath of aluminium tape with 100% coverage provides additional mechanical strength and earth screen for safe use. WARMON fit heating mat is equipped with a power-supply cable and a reliable coupling.

WARMON fit	
Supply voltage	230 VAC, 50 Hz
IP rate	IPX7
Minimum installation temperature	+5 °C
Heating cable diameter	~ 3,2 mm
Minimum bending radius of the heating cable	6 x D ¹⁾
Cold lead length	up to 3 m ² (inclusive) 3 m, over 3 m ² – 4 m
Cable color	orange
Mesh color	black

¹⁾ D = Heating cable diameter

WARMON fit	
1	Glass fibre mat
2	Heating circuit
3	Connection sleeve
4	Cold lead
5	End termination sleeve



WARMON CLASSIC LIGHT 100	l > l, m	$\overline{\lambda}_{\text{v}}$, m	m²	W	Ω @ +20°C (-5%, +10%)		A
WARMON CLASSIC LIGHT (100)-100-1,00	0.5	2	1.0	100	516.0	490.23 - 567.64	0.45
WARMON CLASSIC LIGHT (100)-150-1,50	0.5	3	1.5	150	342.9	325.75 - 377.19	0.67
WARMON CLASSIC LIGHT (100)-200-2,00	0.5	4	2.0	200	269.0	255.56 - 295.91	0.85
WARMON CLASSIC LIGHT (100)-250-2,50	0.5	5	2.5	250	226.1	214.83 - 248.76	1.02
WARMON CLASSIC LIGHT (100)-300-3,00	0.5	6	3.0	300	163.3	155.11 - 179.60	1.34
WARMON CLASSIC LIGHT (100)-350-3,50	0.5	7	3.5	350	135.5	128.70 - 149.02	1.59
WARMON CLASSIC LIGHT (100)-400-4,00	0.5	8	4.0	400	119.5	113.56 - 131.49	1.80
WARMON CLASSIC LIGHT (100)-500-5,00	0.5	10	5.0	500	99.6	94.63 - 109.57	2.16
WARMON CLASSIC LIGHT (100)-600-6,00	0.5	12	6.0	600	82.1	77.95 - 90.26	2.62
WARMON CLASSIC LIGHT (100)-700-7,00	0.5	14	7.0	700	67.3	63.93 - 74.03	3.19
WARMON CLASSIC LIGHT (100)-800-8,00	0.5	16	8.0	800	64.5	61.23 - 70.90	3.40
WARMON CLASSIC LIGHT (100)-1000-10,00	0.5	20	10.0	1000	47.1	44.78 - 51.85	4.24
WARMON CLASSIC LIGHT (100)-1200-12,00	0.5	24	12.0	1200	37.3	35.45 - 41.05	5.36
WARMON CLASSIC LIGHT (100)-1400-14,00	0.5	28	14.0	1400	31.8	30.16 - 34.93	6.30

WARMON CLASSIC 150	l > l , m	$\frac{\lambda}{\nu}$, m	m²	W	Ω @ +20°C (-5%, +10%)		A
WARMON CLASSIC (150)-150-1,00	0.5	2	1.0	150	345.66	328.38 - 380.23	0.67
WARMON CLASSIC (150)-225-1,50	0.5	3	1.5	225	226.53	215.21 - 249.19	1.02
WARMON CLASSIC (150)-300-2,00	0.5	4	2.0	300	181.90	172.80 - 200.09	1.26
WARMON CLASSIC (150)-375-2,50	0.5	5	2.5	375	129.66	123.18 - 142.62	1.66
WARMON CLASSIC (150)-450-3,00	0.5	6	3.0	450	111.56	105.99 - 122.72	1.93
WARMON CLASSIC (150)-525-3,50	0.5	7	3.5	525	92.97	88.32 - 102.27	2.31
WARMON CLASSIC (150)-600-4,00	0.5	8	4.0	600	80.68	76.65 - 88.75	2.66
WARMON CLASSIC (150)-750-5,00	0.5	10	5.0	750	64.92	61.67 - 71.41	3.31
WARMON CLASSIC (150)-900-6,00	0.5	12	6.0	900	56.00	53.20 - 61.60	3.84
WARMON CLASSIC (150)-1050-7,00	0.5	14	7.0	1050	43.29	41.13 - 47.62	4.62
WARMON CLASSIC (150)-1200-8,00	0.5	16	8.0	1200	38.00	36.10 - 41.80	5.26
WARMON CLASSIC (150)-1500-10,00	0.5	20	10.0	1500	30.67	29.14 - 33.74	6.52
WARMON CLASSIC (150)-1800-12,00	0.5	24	12.0	1800	26.16	24.85 - 28.78	7.64
WARMON CLASSIC (150)-2100-14,00	0.5	28	14.0	2100	21.77	20.68 - 23.95	9.19

WARMON ULTRA 200	l<l, m	$\frac{\lambda}{\nu}$, m	m ²	W	Ω @ +20°C (-5%, +10%)		A
WARMON ULTRA (200)-200-1,00	0.5	2	1.0	200	254.41	241.69 - 279.85	0.90
WARMON ULTRA (200)-300-1,50	0.5	3	1.5	300	172.06	163.46 - 189.27	1.34
WARMON ULTRA (200)-400-2,00	0.5	4	2.0	400	120.05	114.05 - 132.06	1.79
WARMON ULTRA (200)-500-2,50	0.5	5	2.5	500	95.63	90.84 - 105.19	2.25
WARMON ULTRA (200)-600-3,00	0.5	6	3.0	600	79.69	75.70 - 87.66	2.70
WARMON ULTRA (200)-700-3,50	0.5	7	3.5	700	68.53	65.11 - 75.39	3.14
WARMON ULTRA (200)-800-4,00	0.5	8	4.0	800	62.27	59.16 - 68.50	3.45
WARMON ULTRA (200)-1000-5,00	0.5	10	5.0	1000	49.39	46.92 - 54.33	4.35
WARMON ULTRA (200)-1200-6,00	0.5	12	6.0	1200	38.00	36.10 - 41.80	5.26
WARMON ULTRA (200)-1400-7,00	0.5	14	7.0	1400	33.82	32.13 - 37.20	5.91
WARMON ULTRA (200)-1600-8,00	0.5	16	8.0	1600	28.18	26.77 - 30.99	7.10
WARMON ULTRA (200)-2000-10,00	0.5	20	10.0	2000	22.18	21.07 - 24.39	9.02
WARMON ULTRA (200)-2400-12,00	0.5	24	12.0	2400	18.66	17.73 - 20.53	10.72
WARMON ULTRA (200)-2800-14,00	0.5	28	14.0	2800	16.10	15.30 - 17.72	12.42

CONFIRMITY

Heating mats CLASSIC 150, CLASSIC LIGHT 100, ULTRA 200 comply with the following directives:

- **Low voltage Directive 2014/35/EU**
- **RoHS Directive 2011/65/EU**
- **WEEE directive 2012/19/EU**

https://warm-on.com/media/DoC_wmlt-100.pdf

https://warm-on.com/media/DoC_wmcl-150.pdf

https://warm-on.com/media/DoC_wmul-200.pdf

RESERVATION

All information given are believed to be reliable and correct according to the best of our knowledge. Modifications, mistakes and printing errors do not justify claims for compensation. Liability is governed exclusively by the general terms and conditions.

Specifications are subject to change without prior notice.

Wichtige Sicherheits- und Installationshinweise

- Befolgen Sie die mit dem Produkt gelieferten Installationsanweisungen sorgfältig.
- Schalten Sie alle Stromkreise vor der Installation oder Wartung ab.
- Stellen Sie sicher, dass keine Teile des Kabels beschädigt werden.
- Stellen Sie sicher, dass dieselbe Heizmatte nicht in verschiedenen Räumen installiert wird.
- Versuchen Sie nicht, ein beschädigtes Heizkabel zu reparieren oder mit Strom zu versorgen.
- Schneiden oder verändern Sie die Kabellänge in keiner Weise. Jede Änderung kann zu einem elektrischen Schlag oder einem Brand führen.
- Verwenden Sie Installationsmaterialien gemäß den Anweisungen.
- Verwenden Sie keine Nägel oder Schrauben zusammen mit Heizmatten.
- Halten Sie die Kabelenden immer gemäß den Installationsanweisungen trocken.
- Verwenden Sie kein Verlängerungskabel, um die Steckdose zu erreichen.
- Fehlerstromschutz und Überstromschutz für Geräte müssen bereitgestellt werden.

MANUFACTURER

SST Thermal Solutions ME FZE
RA08 JA-01 & 02
PO Box No. 392750
Jebel Ali Free Zone, Dubai, United Arab Emirates

IMPORTER

Sigmian GmbH
Rastatter Str. 30
75179 Pforzheim
Germany

DISTRIBUTOR

warm-on GmbH
Rastatter Str. 30
75179 Pforzheim
Germany