

FOR SPECIALIZED TRADE AND PLANNERS

CONVINCING ANSWERS FOR
MODERN HOME COMFORT

PRODUCT INFORMATION 2016

EXCERPT:
UNDERFLOOR HEATING SYSTEMS

KEEPING FEET WARM AROUND THE CLOCK – SAVING ENERGY AND CUTTING COSTS

AEG underfloor heating systems are the convenient solution for entire homes and also businesses with cold floors where there is no need to heat up the ambient air (e.g. in food stores). These systems use healthy radiation heat and heat the body directly without detouring via the ambient air. They distribute room temperature in a manner perfect for the body (warm feet, cool head) and don't disperse dust – a godsend for people with allergies. The good news is that they use around 10 % less heating energy while making you feel just as warm.

An overview of the benefits of convenient AEG underfloor heating systems

- System solutions for heating complete rooms or controlling the temperature of the floor
- Used as a direct, partial or complete storage heating, in some cases with special lower rates from power supply companies
- Healthy, energy-saving output of heat
- Zero-maintenance systems, low procurement costs
- Optimum heating comfort without disruptive radiators
- No space needed for fuel or heating system
- Ideal for low-energy buildings, passive houses and 3-litres-houses
- Heating costs can be calculated precisely from the electricity meter

TIP FOR SAVING ENERGY

Since the THERMO BODEN is laid just below the surface, it responds faster than a classic underfloor heating system. The THERMO BODEN heats up in less than an hour and features an intelligent temperature

controller with individually programmable weekly timer which means that it only runs when actually being used, thereby saving energy

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THERMO BODEN FOR OVER 25 YEARS



You can rely on over 25 years of experience in electric underfloor heating with thousands of AEG THERMO BODEN systems already installed. Decades of experience are reflected in the new generation of products:

Even higher adhesive strength. The sewn-on heating conductor offers greater convenience when laying the system, with the safety and quality you have come to expect from AEG

Affordable

AEG THERMO BODEN is the affordable alternative to traditional underfloor heating systems and is used as an auxiliary or main heating system for low energy and passive houses.

Ideal for new builds and modernisation projects

In new builds, it can be laid quickly while the interior is being fitted out.

When modernising older buildings, retrofitting AEG THERMO BODEN is an affordable solution.

Simple design and installation

THERMO BODEN needs only one power cable. The self-adhesive support webbing makes it very easy to lay.

Optimal installation and heat distribution

The high form stability of the sewn-on heating conductors and the narrow clearance ensure perfect heat distribution.

Safe technology, high quality

Extremely high grade heating conductor with double insulation; protective copper braiding for maximum safety in the case of heating conductor damage; no electrosmog due to opposing conductors.

Fast heat

THERMO BODEN can be laid anywhere quickly. It has electric underfloor heating with a short response time; heat is available after just 20 - 50 minutes.

Safety and quality – that's AEG Haustechnik

**... and that's why there is a 10 year warranty
on the original product**

HEATING WITH ELECTRICITY FUTUREPROOF

Heating with electricity is a growing market, because without electricity in the heating market, there can be no energy transition. The primary energy factor has been falling due to higher proportions of renewable electricity being generated: 2009 to 2.6 / 2014 to 2.4 / 2016 to 1.8.

Electricity is constantly becoming "greener", because the proportion generated from solar, wind and water is increasing year on year. This benefits all heating systems that are powered by electricity, including existing systems.

THE NEW GENERATION

The innovation

The new line of heating mats is equipped with a sewn-on heating conductor. This provides the perfect protection and consistent heating conductor clearance when laying the system.

High adhesive strength

The adhesive strength of the heating mats has been increased to ensure even better fixing to almost any substrate.

Easy operation

Another innovation is the all-in-one comfort controller with touchscreen. It is as easy to use as a smartphone.

Proven technology

The THERMO BODEN range is clearly designed according to application area and is put together perfectly. From the secure, informative packaging through to quality control ...

... and if you use our all-inclusive service, we also provide you with customers for the products.

THE LINK BETWEEN INNOVATION AND PROVEN TECHNOLOGY

BENEFITS FOR CONTRACTORS

- Easy installation thanks to the self-adhesive support webbing and higher adhesive strength for fixing
- Sewn-on heating conductors ensure consistent clearance when laying the system
- Low installed height of approx. 3 mm
- Heating mats available for virtually every floor covering
- Special heating mats for wet areas
- System solution for older buildings (Turbolight UZIN)
- Comfort controller with touchscreen technology

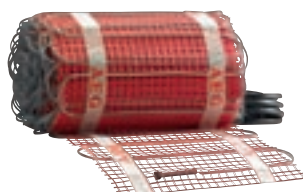
BENEFITS FOR END CUSTOMERS

- Low investment and installation costs
- Ideal for new builds and modernisation projects
- High efficiency: the heat is produced directly under the floor covering
- Low operating costs and no maintenance
- Precise heat-up and shut-down units
- Self-explanatory touchscreen controller

FUTUREPROOF CONVENIENCE WITH AEG THERMO BODEN



THERMO BODEN THE NEW PRODUCT RANGE AT A GLANCE



Comfort TURBO

200
W/m²

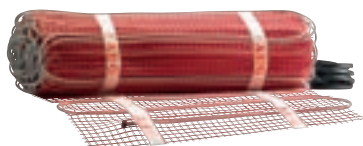
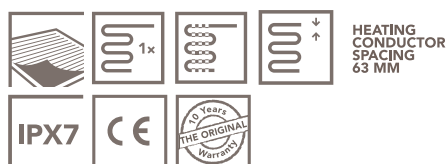
THERMO BODEN for extremely fast heating in rooms fitted with large floor tiles or floor panels. Also available for small floor plans. The heating mat has a low installed height of approx. 3 mm.



Comfort

130
W/m²

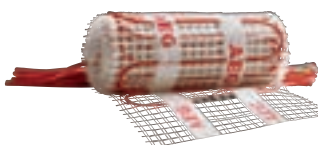
Warm feet in the living space with soft surfaces, e.g. carpet, cork, vinyl. Can also be used in damp areas. Clear geometry of rooms is required. The heating mat has a low installed height of approx. 3 mm.



Basis

160
W/m²

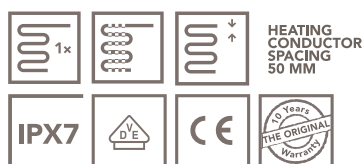
For ceramic, tiles, natural stone. A wide range of applications in large areas with clear geometry. The heating mat has a low installed height of approx. 3 mm.



Comfort Wellness

200
W/m²

Underfloor heating mats especially for wet and spa areas, e.g. shower rooms, pool surrounds, hot tubs, etc. The heating mat has a low installed height of approx. 3 mm.



Comfort Parquet

100
W/m²

The right heating system for parquet and laminate floors. Also available for small rooms of 3 m² or larger. The heating mat has a low installed height of approx. 3 mm.

Practical sets are available for all systems.

... and for the entire product range:

The technical service team is there to support you throughout the design and installation phase.

ONE FOR ALL

The new all-in-one FRTD 903 TC comfort controller uses the touchscreen technology already familiar in smartphones. The new controller has all the functions that guarantee efficient, economical operation of the AEG THERMO BODEN. All the data is displayed clearly.

The controller can be operated intuitively thanks to self-explanatory user prompts. It supports the user from commissioning through to overall programming of the heating system from 7 to 365 days. Operation is simple, self-explanatory and no instructions are necessary.

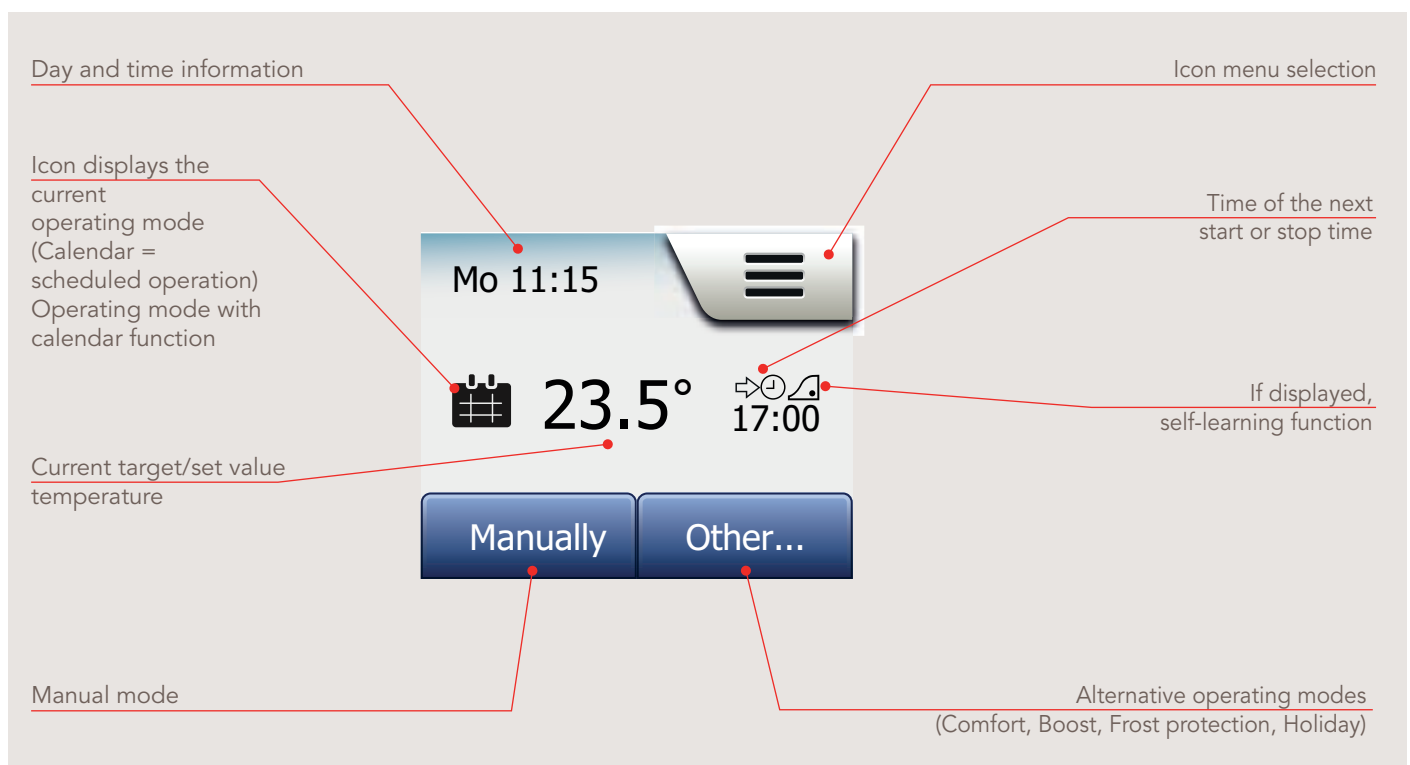
Each function can be set individually via touchscreen technology to optimise energy consumption. Working days and rest days, days away from home, holidays etc. Manual mode is also possible without having to amend the program.

The FRTD 903 TC is the size of a switch and can be flush mounted. The new controller is also perfect for replacing existing thermostats. It is compatible with all conventional temperature sensors.

THE NEW ALL-IN-ONE-COMFORT CONTROLLER WITH COLOR TOUCHSCREEN



FRTD 903 TC



- Simple touchscreen technology
- Self-explanatory user prompts, intuitive operation
- Control by comparison of actual and set values
- Self-explanatory controls
- Window open detection
- Efficient and energy saving
- Compatible with all conventional temperature sensors

HIGHLIGHTS

USEFUL INFORMATION ABOUT UNDERFLOOR HEATING SYSTEMS

Distribution of temperature with conventional heating and underfloor heating systems

Fans of underfloor heating are attracted by their healthy heat which is based directly on surface heating action. Unlike conventional convection heating, the heat is not given off to the room via the air but as healthy radiation heat via a large surface, the floor. It's healthy because the radiation heat directly heats the body. And because we lose more than half of our body heat through our legs and feet, recovering a lot of heat into your body through your feet is the fastest way to get snug and warm again.

Compared with convection heating using radiators, underfloor heating produces a reverse temperature profile in the room. In the key floor-level area, users enjoy a pleasant temperature of 20 – 26 °C in living rooms and 25 – 28 °C in bathrooms while higher up just under the ceiling, where the warmth isn't used, it's relatively cool. Surface heating provides an even distribution of heat and makes the room temperature seem subjectively 1 – 2 °C warmer than it actually is. Lowering the room temperature with this "subjective heat reserve" allows for an annual energy saving of 10 – 15 %, which is good for the environment – and your wallet!



Consumer safety thanks to
VDE certified products



**SHORT
HEAT-UP TIME**

Faster temperature regulation
provided by 200 W/m² heating output



**SEWN-ON
HEATING
CONDUCTOR**

Heating mat with sewn-on heating conductor.
Perfect protection and constant
heating conductor spacing when laying



**HEATING
CONDUCTOR
SPACING
45 MM**

Comfort WELLNESS heating mats with just
45 mm heating conductor spacing for
particularly even distribution of heat when
used with mosaics



**HEATING
CONDUCTOR
SPACING
50 MM**

Comfort heating mats with just 50 mm heating
conductor spacing for the best and most even
distribution of heat



**HEATING
CONDUCTOR
SPACING
63 MM**

Basic heating mats with 63 mm heating
conductor spacing for good distribution of
heat



**PROTECTION
AGAINST
CONSTANT
IMMERSION**

Protection rating: IPX 8 for the complete mat
including PTC resistor connection. For laying
in wet areas, e.g. tiled shower trays, peripheral
areas of whirlpool baths and swimming pools



**PROTECTION
AGAINST
INTERMITTENT
IMMERSION**

Protection rating: IPX7 for the heating conduc-
tor. For laying in areas suffering from the damp



**SELF-
ADHESIVE
SUPPORT
FABRIC**

Self-adhesive heating mats for fixing without
the need for tile adhesive



**ONLY ONE
CONNECTION
CABLE**

Just one connection cable for efficient
planning and installation



Temperature regulation system for dry laying
under parquet or laminate flooring

Area of use

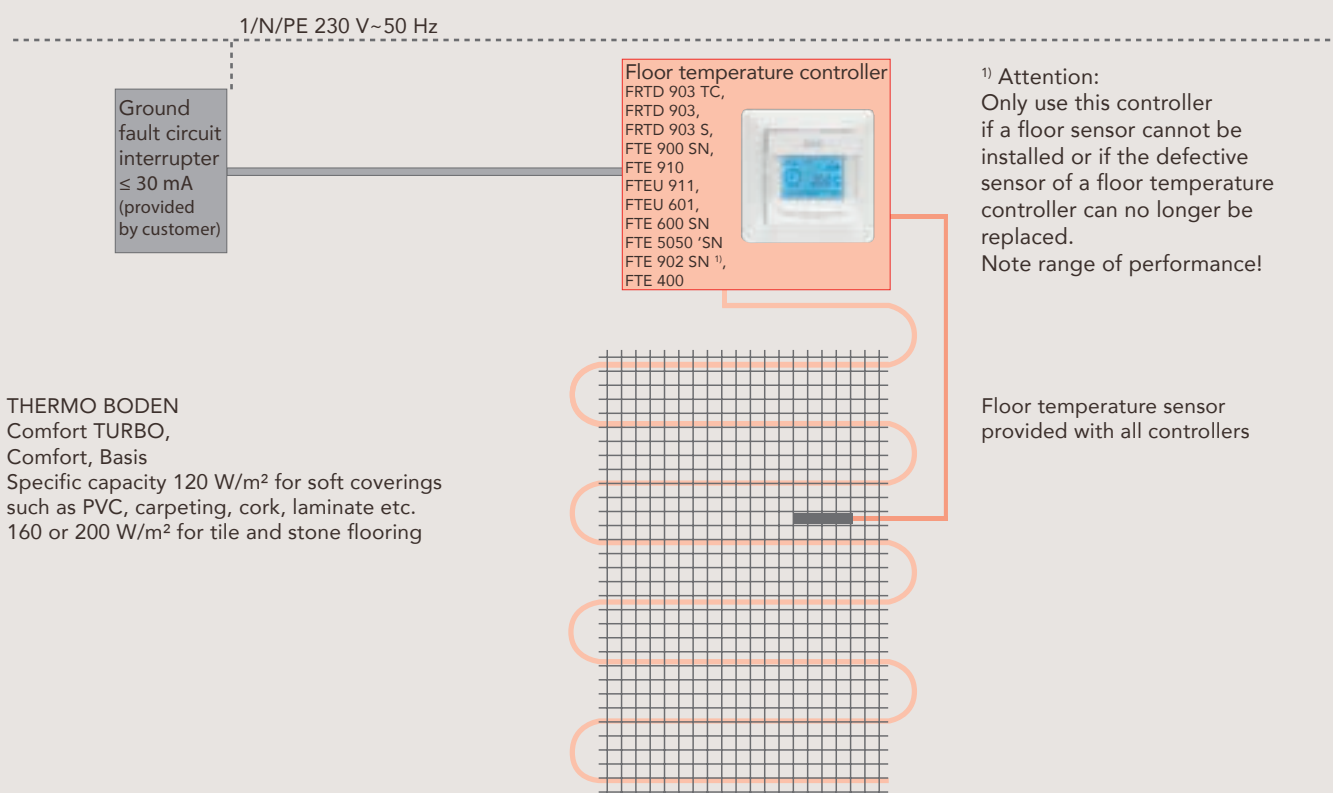
- THERMO BODEN electric underfloor heating for all cold floor areas in old and new builds
- Ideal for bathrooms, conservatories, kitchens, eating areas, furniture suites in living rooms, nurseries, in the commercial area behind serving counters, reception areas etc.
- The THERMO BODEN has a low installation height which makes it easy to retrofit during renovation work

Components

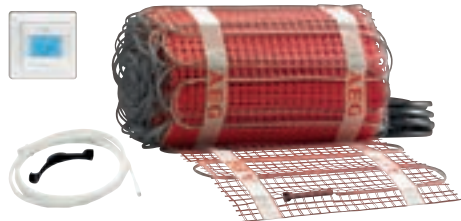
- High-quality heating conductor with FEP insulation
- Heats up quickly as fitted close to the surface
- Convenient to operate using floor temperature controllers
- Clearly structured, extensive range of heating mats
- Practical sets, complete with controller and sensor tube, available between 1 – 5 m²

Installation

- The heating mats are fitted in the tread area, directly above the screed, just below the surface
- With tiled floors, the THERMO BODEN is embedded in the tile adhesive. With other types of surface, a mechanical layer of protection must be provided (e.g. levelling compound)
- Flexible tile adhesives and levelling compounds should be used to lay the THERMO BODEN
- There must a sufficient layer of thermal insulation under the screed
- Temperature sensors for measuring the floor temperature are fitted directly between two heating conductors
- When fitting on wood bases (chipboards), note the recommendations of the adhesive manufacturers (e.g. Ardex, Deitermann, Ceresit, PCI)
- The AEG Haustechnik technical support team will be happy to help with planning and installation



TBS TC - COMFORT TURBO 200 W/m² (SET)



TBS TC 30 Set 200/3 T

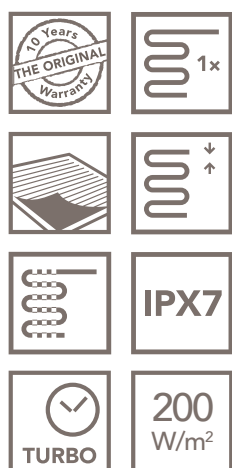
- Turbo heating output of 200 W/m² for extremely fast temperature heating of ceramic floors. Better temperature heating with thick tiles or natural stone surfaces
- Effective width 30 cm – particularly suitable for small rooms with odd angles
- Optimal heat distribution thanks to 50 mm loop centres of the heating conductor, low length load (W/m)
- Durable, high grade heating conductor and outer sheath insulation made from FEP
- Close-mesh plastic support webbing with sewn-on heating conductor
- Self-adhesive support webbing for clean installation
- Low installed height of approx. 3 mm
- Single-sided connection, power cable approx. 5 m long (cold lead)
- Protection rating IPX7 for laying the heating mat in damp areas

THERMO BODEN - TBS TC Comfort TURBO Set consisting of:

- TBS TC Comfort TURBO
- FRITD 903 comfort floor temperature controller
- Special tube with sensor sleeve for laying the temperature sensor, length 2 m, with a 90° elbow (anti-kink protection)

Model	TBS TC 30 Set 200/1 T	TBS TC 30 Set 200/1.5 T	TBS TC 30 Set 200/2 T	TBS TC 30 Set 200/2.5 T	TBS TC 30 Set 200/3 T	TBS TC 30 Set 200/4 T	TBS TC 30 Set 200/5 T
EAN	40 41056 03094 4	40 41056 03095 1	40 41056 03096 8	40 41056 03097 5	40 41056 03098 2	40 41056 03099 9	40 41056 03100 2
E-Number	234 352	234 353	234 354	234 355	234 356	234 357	234 358
Area m ²	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Length m	3.3	5.0	6.7	8.3	10.0	13.3	16.6

THERMO BODEN Set, specific output 200 W/m², effective width 30 cm, * mat length tolerance: 0/-6 %



TBS TC - COMFORT TURBO 200 W/m²



TBS TC 30 200/2.5 T

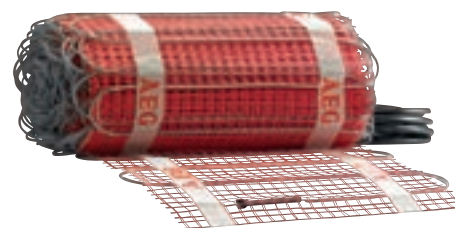
- Turbo heating output of 200 W/m² for especially quick temperature regulation for ceramic flooring. Better temperature regulation for thick tiles or natural stone coverings
- Effective width 30 cm – particularly well suitable for small ground plans with lots of nooks and crannies
- Optimal heat distribution thanks to 50 mm loop centres of the heating conductor, low length load (W/m)
- Durable, high grade heating conductor and outer sheath insulation made from FEP
- Close-mesh plastic support webbing with sewn-on heating conductor
- Self-adhesive support webbing for clean installation
- Low installed height of approx. 3 mm
- Single-sided connection, power cable approx. 5 m long (cold lead)
- Protection rating: IPX7 for laying the heating mat in damp areas

Modell	TBS TC 30 200/1 T	TBS TC 30 200/1.5 T	TBS TC 30 200/2 T	TBS TC 30 200/2.5 T	TBS TC 30 200/3 T	TBS TC 30 200/4 T	TBS TC 30 200/5 T
EAN	40 41056 03101 9	40 41056 03102 6	40 41056 03103 3	40 41056 03104 0	40 41056 03105 7	40 41056 03106 4	40 41056 03107 1
E-Number	234 359	234 360	234 361	234 362	234 363	234 364	234 365
Area m ²	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Length m	3.3	5.0	6.7	8.3	10.0	13.3	16.6

THERMO BODEN, specific output 200 W/m², effective width 30 cm, * mat length tolerance: 0/-6 %

TC - COMFORT 130 W/m²

- Heating output of 130 W/m² for particularly gentle heating of parquet, laminate, cork, PVC/vinyl, carpet and designer flooring
- Effective width 50 cm – particularly suitable for large areas with clear geometry
- Optimal heat distribution thanks to 50 mm loop centres of the heating conductor, low length load (W/m)
- Durable heating conductor insulation made from FEP, PVC outer sheath insulation
- Close-mesh plastic support webbing with sewn-on heating conductor
- Self-adhesive support webbing for clean installation
- Low installed height of approx. 3 mm
- Single-sided connection, power cable approx. 5 m long (cold lead)
- Protection rating: IPX7 for laying the heating mat in damp areas



TBS TC 50 130/3



HEATING
CONDUCTOR
SPACING
50 MM



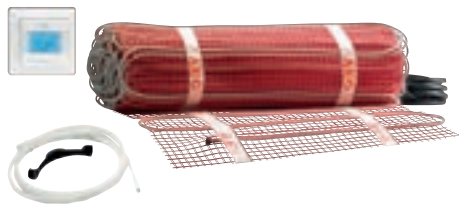
Model	TBS TC 50 130/1	TBS TC 50 130/1.5	TBS TC 50 130/2	TBS TC 50 130/2.5	TBS TC 50 130/3
EAN	40 41056 03141 5	40 41056 03142 2	40 41056 03143 9	40 41056 03144 6	40 41056 03145 3
E-Number	234 523	234 524	234 525	234 526	234 527
Area m ²	1.0	1.5	2.0	2.5	3.0
Length m	2.0	3.0	4.0	5.0	6.0

THERMO BODEN, specific output 130 W/m², effective width 50 cm, * mat length tolerance: 0 /-6 %

Model	TBS TC 50 130/4	TBS TC 50 130/5	TBS TC 50 130/6	TBS TC 50 130/7	TBS TC 50 130/8
EAN	40 41056 03146 0	40 41056 03147 7	40 41056 03148 4	40 41056 03149 1	40 41056 03150 7
E-Number	234 528	234 529	234 530	234 531	234 532
Area m ²	4.0	5.0	6.0	7.0	8.0
Length m	8.0	10.0	12.0	14.0	16.0

THERMO BODEN, specific output 130 W/m², effective width 50 cm, * mat length tolerance: 0 /-6 %

TBS TB - BASIS 160 W/m² (SET)



TBS TB 50 Set 160/3

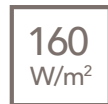
- Heating output of 160 W/m² for ceramic floor coverings
 - Effective width 50 cm – particularly suitable for large areas with clear geometry
 - Good heat distribution thanks to 63 mm loop centres of the heating conductor
 - Durable heating conductor insulation made from FEP, PVC outer sheath insulation
 - Close-mesh plastic support webbing with sewn-on heating conductor
 - Self-adhesive support webbing for clean installation
 - Low installed height of only approx. 3 mm
 - Single-sided connection, power cable approx. 5 m long (cold lead)
- TBS TB BASIS Set consisting of:**
- THERMO BODEN TBS TB BASIS
 - FRTD 903 comfort floor temperature controller
 - Special tube with sensor sleeve for laying the temperature sensor, length 2 m, with a 90° elbow (anti-kink protection)

Model	TBS TB 50 Set 160/1	TBS TB 50 Set 160/1.5	TBS TB 50 Set 160/2	TBS TB 50 Set 160/2.5	TBS TB 50 Set 160/3	TBS TB 50 Set 160/4	TBS TB 50 Set 160/5	TBS TB 50 Set 160/6	TBS TB 50 Set 160/7	TBS TB 50 Set 160/8
EAN	40 41056 03084 5	40 41056 03085 2	40 41056 03086 9	40 41056 03087 6	40 41056 03088 3	40 41056 03089 0	40 41056 03090 6	40 41056 03091 3	40 41056 03092 0	40 41056 03093 7
E-Number	234 277	234 278	234 279	234 280	234 281	234 282	234 283	234 284	234 285	234 286
Area m ²	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	7.0	8.0
Length m	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0

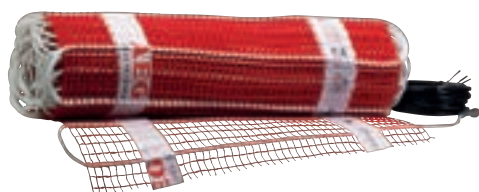
THERMO BODEN Set, specific output 160 W/m², effective width 50 cm, * mat length tolerance: 0 /-6 %



HEATING CONDUCTOR SPACING 63 MM



TBS TB - BASIS 160 W/m²



TBS TB 50 160/3

- Heating output of 160 W/m² for ceramic floor coverings
- Effective width 50 cm – particularly suitable for large areas with clear geometry
- Good heat distribution thanks to 63 mm loop centres of the heating conductor
- Durable heating conductor insulation made from FEP, PVC outer sheath insulation
- Close-mesh plastic support webbing with sewn-on heating conductor
- Self-adhesive support webbing for clean installation
- Low installed height of only approx. 3 mm
- Single-sided connection, power cable approx. 5 m long (cold lead)

Model	TBS TB 50 160/1	TBS TB 50 160/1.5	TBS TB 50 160/2	TBS TB 50 160/2.5	TBS TB 50 160/3	TBS TB 50 160/4	TBS TB 50 160/5	TBS TB 50 160/6	TBS TB 50 160/7	TBS TB 50 160/8
EAN	40 41056 03074 6	40 41056 03075 3	40 41056 03076 0	40 41056 03077 7	40 41056 03078 4	40 41056 03079 1	40 41056 03080 7	40 41056 03081 4	40 41056 03082 1	40 41056 03083 8
E-Number	234 267	234 268	234 269	234 270	234 271	234 272	234 273	234 274	234 275	234 276
Area m ²	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	7.0	8.0
Length m	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0

THERMO BODEN, specific output 160 W/m², effective width 50 cm, * mat length tolerance: 0 /-6 %

Area of use

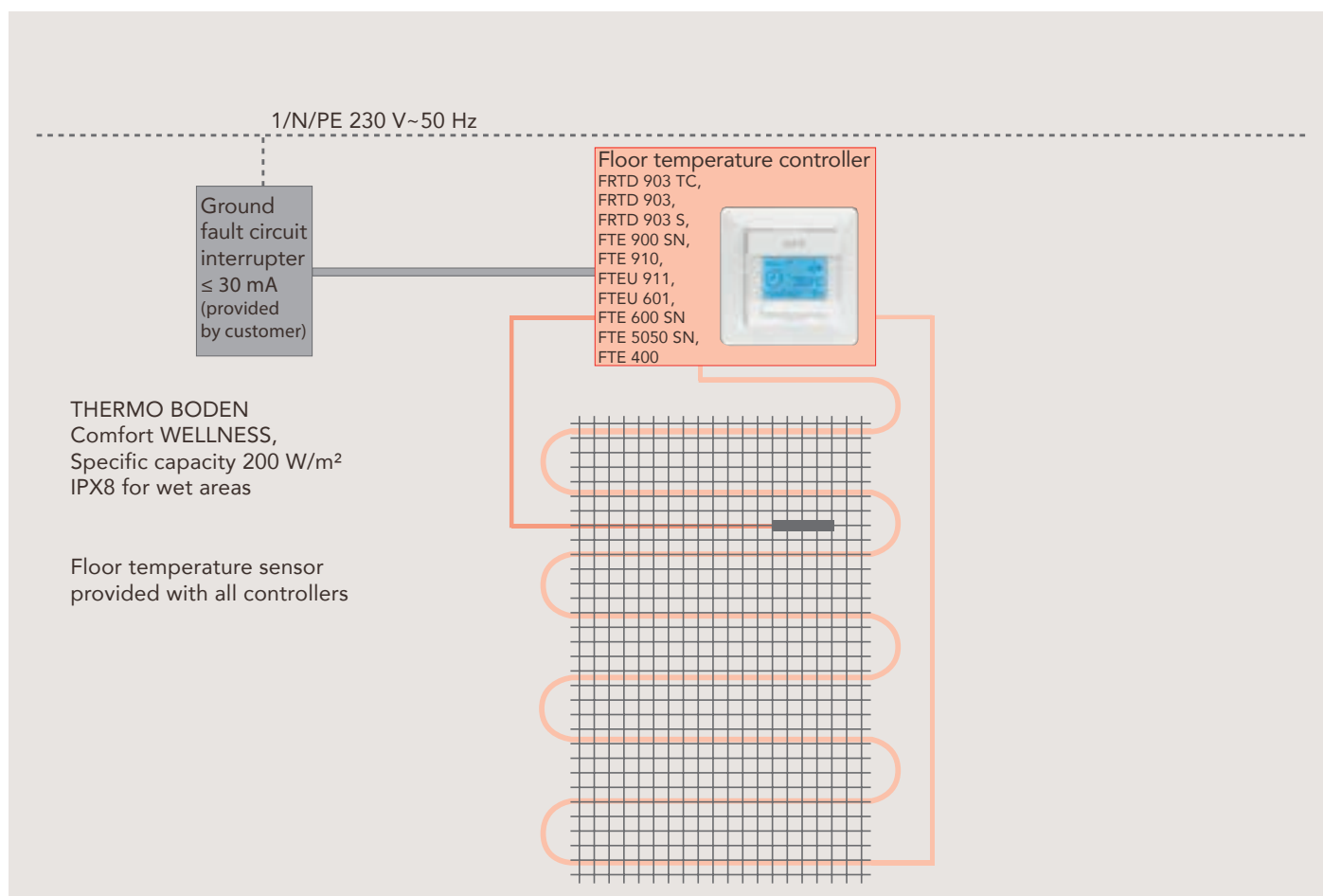
- Comfort WELLNESS THERMO BODEN temperature regulation system for controlling the temperature of floors, loungers and benches in wet areas
- Ideal for wellness areas, tiled shower trays, relaxation loungers, benches, areas around whirlpool baths and much more.
- The THERMO BODEN's low installation height, makes it easy to fit anywhere

Components

- Heating mat with protection rating: IPX 8 for laying in wet areas
- Small heating conductor spacing, for even heating especially of small tiles and mosaics
- High-quality heating conductor with FEP insulation
- Heats up quickly as fitted close to the surface
- Extensive range of heating mats with pre-assembled special sizes for shower trays and relaxation loungers
- Convenient temperature control using thermostats

Installation

- The heating mats are fitted in the tread area, directly above the screed, just below the tiles
- With tiled floors, the THERMO BODEN is embedded in the tile adhesive (Uzin Utz AG / codex)
- Flexible tile adhesives and levelling compounds should be used to lay the THERMO BODEN
- There must a layer of thermal insulation under the screed
- Temperature sensors for measuring the floor temperature are fitted directly between two heating elements
- The AEG Haustechnik technical support team will be happy to help with planning and installation



Block diagramm temperature regulation system THERMO BODEN Comfort WELLNESS

COMFORT WELLNESS 200 W/m²



TBSG S 200/0.6 WE
Picture summary

- THERMO BODEN with protection rating IPX8, particularly suitable for wet areas, walk-in showers, seating areas and loungers
- Special size 80 x 80 cm for particularly easy processing with flush-to-floor shower base elements
- Heating output of 200 W/m² for extremely fast temperate heating
- Loop centres of the heating conductor only 45 mm, providing optimal heat distribution when laying under mosaic
- Support webbing with sewn-on heating conductor
- Low installed height of approx. 3 mm
- Double-sided connection
- Length of power cables (cold leads) approx. 4 m each

Modell	TBSG S 200/0.6 WE ¹⁾	TBSG S 200/0.8 WE	TBSG S 200/1.1 WE
EAN	40 41056 02423 3	40 41056 03170 5	40 41056 03253 5
E-Nummer	223 446	234 701	234 915
Area m ²	0.6	0.8	1.1
Length x Width m	0.80 x 0.80	0.2 x 4.0	0.2 x 5.5

¹⁾ THERMO BODEN Comfort WELLNESS for walk-in showers 80 x 80 cm



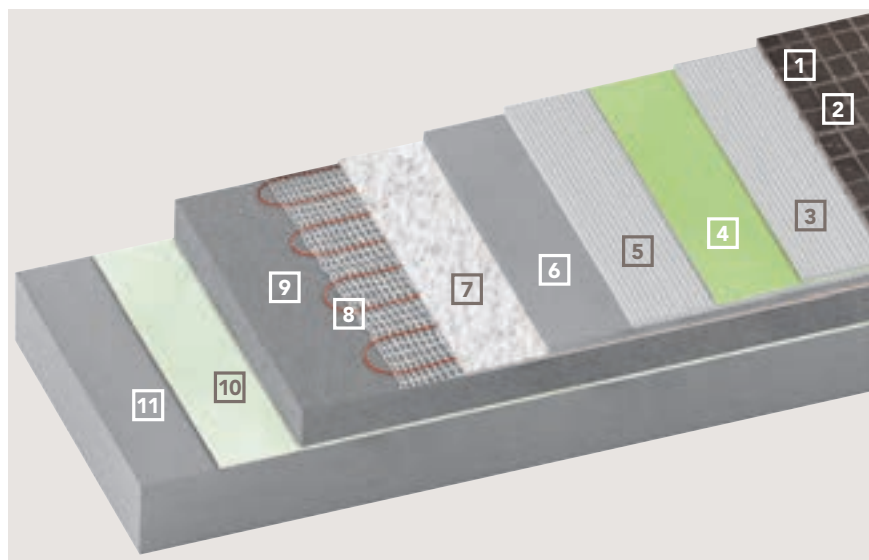
HEATING
CONDUCTOR
SPACING
45 MM



A PERFECT COMBINATION

AEG THERMO BODEN Comfort TURBO and UZIN Turbolight®-System for tiles

1. codex Brillant Cristal cement grout
2. ceramic tiles
3. codex Power RX 6 Turbo thin-bed adhesive
4. codex Hydrostop sealing strip
5. codex Power RX 6 Turbo thin-bed adhesive
6. codex NC 395 slope levelling compound
7. UZIN RR 201 renovation fleece
8. AEG THERMO BODEN Comfort WELLNESS electric heating mat
9. UZIN SC 914 Turbo light smoothing mortar
10. codex tile dispersion primer
11. concrete floor



Area of use

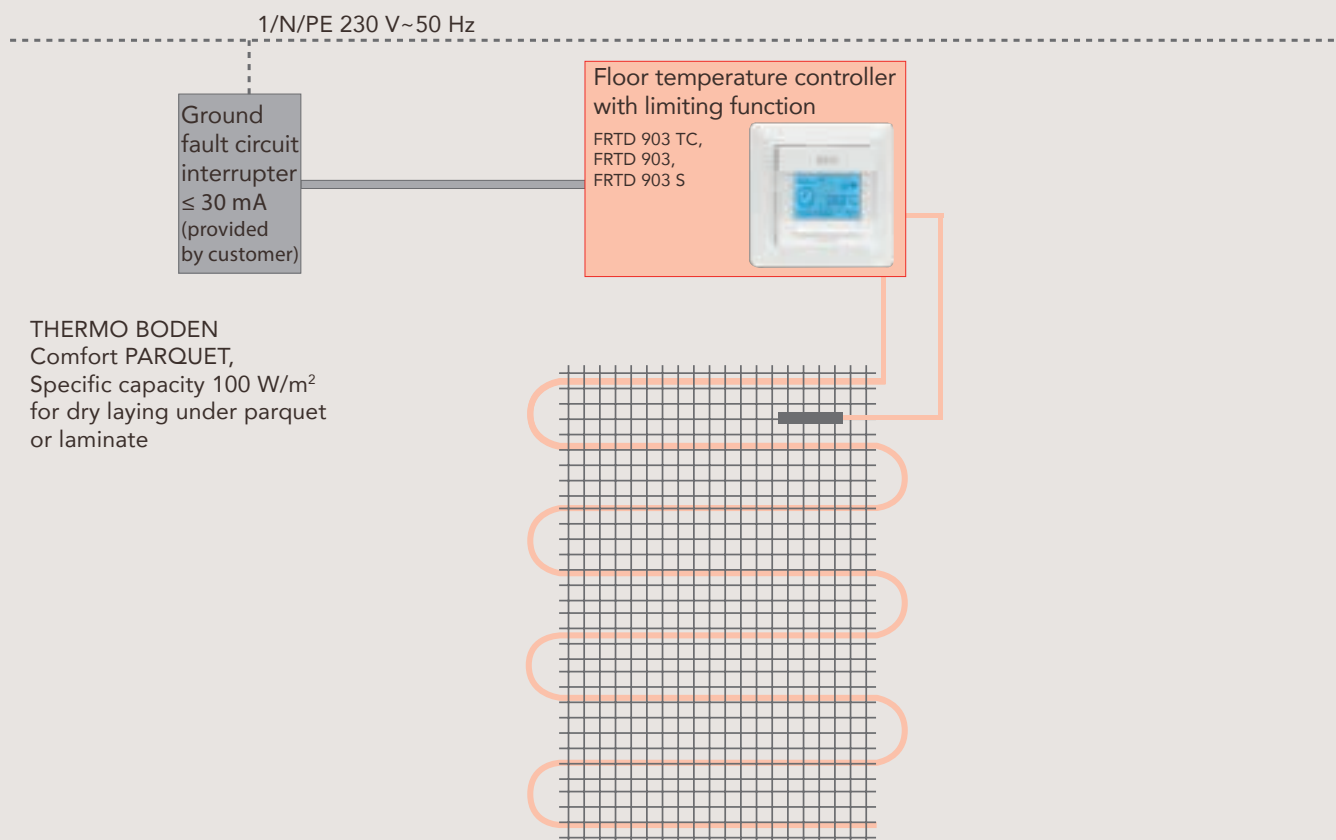
- THERMO BODEN Comfort PARQUET especially for dry laying under parquet and laminate flooring
- The THERMO BODEN Comfort PARQUET system's low installation height makes it easy to fit anywhere

Components

- Supplied as complete set
- Floor temperature controller (special accessories) available, e.g. FRTD 903 (S), TC
- Small heating conductor spacing for even heating of surface
- High-quality heating element with FEP insulation
- Convenient temperature control with floor thermostats
- Extensive range of heating mats

Installation

- The insulating boards are first placed on the base. These are followed by the heating mats. Compensating mats are used in the peripheral zone and unheated areas
- The surface is placed (floating) on the THERMO BODEN Comfort PARQUET as usual
- The temperature sensor for measuring floor temperature and the temperature limiter sensor are positioned between two heating conductors
- The AEG Haustechnik technical support team will be happy to help with planning and installation



COMFORT PARQUET 100 W/m² (SET)



TBA TC 50 Set 100/3 PL

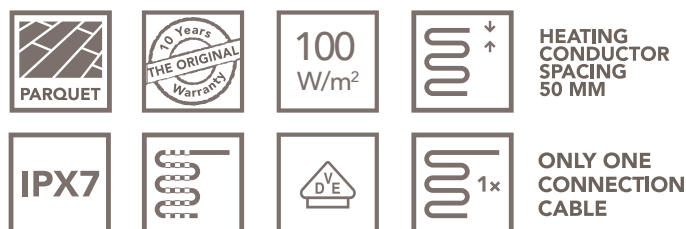
- THERMO BODEN set, for controlling the temperature of parquet and laminate flooring
- Complete set (without controller) including THERMO BODEN 2 mm heating mat, 5 mm insulation board, 2 mm equalising mat and 30 °C temperature limiter
- Floor temperature controller available (special accessories), e.g. FRTD 903
- Optimal heat distribution thanks to aluminium coating and low loop centres of the heating conductor, low length load (W/m)
- Close-mesh backing fabric with heating conductor woven in
- Single-sided connection, length of power cables (cold leads) approx. 4 m
- Heating output of 100 W/m²
- Effective width 50 cm

Model	TBA TC 50 Set 100/2 PL	TBA TC 50 Set 100/3 PL	TBA TC 50 Set 100/4 PL	TBA TC 50 Set 100/5 PL	TBA TC 50 Set 100/6 PL	TBA TC 50 Set 100/7 PL	TBA TC 50 Set 100/8 PL
EAN	40 41056 02360 1	40 41056 02361 8	40 41056 02362 5	40 41056 02363 2	40 41056 02364 9	40 41056 02365 6	40 41056 02366 3
E-Number	223 260	223 261	223 262	223 263	223 264	223 265	223 266
Area of heating mat m ²	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Dimensions L x W m	4.0 x 0.5	6.0 x 0.5	8.0 x 0.5	10.0 x 0.5	12.0 x 0.5	14.0 x 0.5	16.0 x 0.5
Area of insulation board m ²	3.0	4.5	6.0	7.5	9.0	10.5	12.0
Area of equalising mat m ²	5.0	5.0	5.0	10.0	10.0	10.0	10.0
Begrenzer 30 °C	1	1	1	1	1	1	1

THERMO BODEN Comfort PARQUET · scope of supply for sets

Model	TBA Platte	TBA Netz
EAN	40 41056 02367 0	40 41056 02368 7
E-Number	223 267	223 268
Description	6 x Insulation board 0.5 x 0.5 m = 1.5 m ²	Equalising mat 0.5 x 10 m = 5 m ²

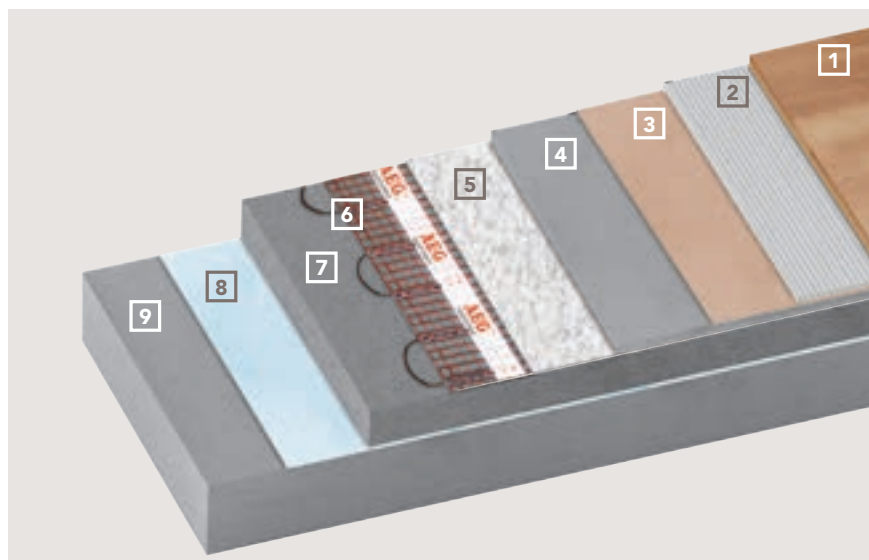
Accessories for THERMO BODEN Comfort PARQUET



A PERFECT COMBINATION

AEG THERMO BODEN Comfort TURBO and UZIN Turbolight®-System for Parquet*

1. solid wood and laminate parquet flooring
2. UZIN MK 250 wood flooring adhesive
3. UZIN PE 414 Turbo one-component rapid primer
4. UZIN NC 195 bonded levelling compound
5. UZIN RR 201 renovation fleece
6. AEG THERMO BODEN Comfort TURBO electric heating mat
7. UZIN SC 914 Turbo light smoothing mortar
8. UZIN PE 360 PLUS universal primer
9. concrete floor



ELECTRONIC ALL-IN-ONE COMFORT ROOM AND FLOOR TEMPERATURE CONTROLLER WITH LIMIT SENSORS, FLUSH-MOUNTED

- All-in-one: can be used as floor temperature controller and room temperature controller with limit sensor
- For controlling heating of peripheral zones with limit sensor and weekly programmer
- Compatible with virtually all switch programs (55 mm x 55 mm)
- Self-adjusting, adaptive control, automatic calculation of preheating time
- Large, easy-to-read, illuminated display 26 mm x 38 mm with graphics
- Timer operation, party operation and manual operation are all easy to select
- 28 program spaces for various, individual time programs
- Simple, logical menu-guided operation
- Rapid heating up at the touch of a button
- ECO function available at the touch of a button
- Factory setting for all functions with simple reset function
- Energy consumption check for 2, 30, 365 days
- Compatible with other floor temperature sensors (characteristics can be adjusted)
- With NTC ground sensor Ø 5 mm, 3 m long
- For flush-mounted assembly in 55-type flush-mounted socket
- Installation depth of just 20 mm
- Power reserve of up to 10 years
- L/N/~230V +/- 10%, 50/60 Hz
- Suitable for virtually all design variants of switch programs
- Switching current/capacity 16 A / 3600 W
- Color: white RAL 9010 or silver
- Protection rating: IP 21
- 5-year guarantee
- **FRTD 903:** Designer cover in two versions (square/round) included in scope of supply, **FRTD 903 S:** Designer cover square included in scope of supply



FRTD 903



FRTD 903 S

FRTD 903 TC WITH TOUCH-COLORSCREEN

- **FRTD 903 TC:** User friendly touchscreen with 2.2" colour display
- Automatic shutdown in case of rapid temperature drop for 30 minutes (when a window has been left open for example)
- Changeover from 4 to 6 program times per day (comfort-ECO mode)
- QR code generator for incorrect readings in the case of a fault
- Cover size 63 mm x 63 mm
- External frame dimensions 84 mm x 84 mm
- 5 year warranty



FRTD 903 TC

Model	FRTD 903 TC	FRTD 903	FRTD 903 S
EAN	40 41056 03039 5	40 41056 02605 3	40 41056 02823 1
E-Number	233 919	229 702	231 682
Description	Comfort controller: white, touchscreen with colour display	Comfort controller, white	Comfort controller, silver
Installation	flush-mounted	flush-mounted	flush-mounted
Switching current/cap. A/W	16/3600	16/3600	16/3600

THERMO BODEN FLOOR TEMPERATURE CONTROLLER, FLUSH-MOUNTED

- Electronic floor temperature controller with mains switch and telltale
- Night-time reduction of 5K, possible using separate timer
- With NTC ground sensor Ø 8 mm, connection cable 3 m
- Ground sensor can be extended up to 50 m (NYM-3 x 1.5 mm²)
- For flush-mounted assembly in 55-type flush-mounted socket
- Suitable for the following switch programs: Busch Jaeger Reflex SI polished alpine white, Merten Atelier 3971 19 polar white and Merten M1 3971 18 RAL 9010 polished
- 5-year guarantee



FTE 900 SN

Model	FTE 900 SN
EAN	40 14890 75312 6
E-Number	184 879
Description	2-point-controller
Installation	flush-mounted
Switching current/cap. A/W	14/3200

THERMO BODEN OUTPUT CONTROLLER



FTE 902 SN

- Electronic output controller without sensor
- With 2-pin mains switch
- Triac control connected load, min. 200 W and max. 1000 W
- Caution: Only use this controller if a floor sensor cannot be installed or if the defective sensor of a floor temperature controller can no longer be replaced. Note performance range.
- For flush-mounted assembly in 55-type flush-mounted socket
- Suitable for the following switch programs: Busch Jaeger Reflex SI polished alpine white, Merten Atelier 3971 19 polar white and Merten M1 3971 18 RAL 9010 polished
- 5-year guarantee

Model	FTE 902 SN
EAN	40 14890 75314 0
E-Number	184 881
Description	Output controller
Installation	flush-mounted
Switching capacity	A/W 200 up to 1000

THERMO BODEN FLOOR TEMPERATURE CONTROLLER WITH LIMIT SENSOR



FTEU 911



FTE 910

- Floor temperature controller with sensor and limitation function
- **FTEU 911:** with weekly program timer for setback operation, setback of 20K and clear LC-Display
- Optimum operational reliability using 1-pin shutdown
- With sensor failure and short circuit recognition
- Power reserve of 12 hours
- NTC ground sensor Ø 6 mm, 4 m long
- Flush-mounted assembly in 55-type flush-mounted socket
- Housing colour: white RAL 9010, mechanics make it suitable for the following switch ranges: Busch Jaeger pulse series, Jung LS 990 series, stainless steel series, Kopp Rio series, Pallas series
- **AR 21:** installation frame for FTE 910, FTEU 911 for fitting in hollow socket, colour: pure white

Model	FTEU 911	FTE 910	AR 21
EAN	40 41056 00412 9	40 41056 00411 2	40 41056 00448 8
E-Number	184 905	184 904	184 996
Description	Floor temperature with temperature limiter and program timer	Floor temperature with temperature limiter	Installation frame for cavity socket
Installation	flush-mounted	flush-mounted	–
Switching current/cap.	A/W 10/2300	10/2300	–



FTEU 601

THERMO BODEN FLOOR TEMPERATURE CONTROLLER WITH 24-HRS TIMER

- Electronic floor temperature controller with 24-hour timer and switch for daytime/automatic/night-time/frost protection/off
- With control LED
- With NTC ground sensor Ø 8 mm, connection cable 4 m
- Blind plug provided for sensor tube
- For surface-mounted assembly in 55-type flush-mounted socket

Model	FTEU 601
EAN	40 14890 75317 1
E-Number	184 884
Description	with 24 hrs-clock
Installation	surface-mounted
Switching current/cap.	A/W 10/2300

THERMO BODEN FLOOR TEMPERATURE CONTROLLER

FTE 600 SN:

- Electronic floor temperature controller with 2-pin ON/OFF switch and control LED (FTE 600 SN 1-pin)
- Modern, functional design
- NTC ground sensor Ø 8 mm, connection cable 4 m
- Blind plug provided for sensor tube
- Switching current/capacity: 16 A / 3600 W

FTE 5050 SN:

- Temperature can be reduced using timer
- Suitable with virtually all switch programs (50 mm x 50 mm)



FTE 600 SN



FTE 5050 SN

Model	FTE 600 SN	FTE 5050 SN
EAN	40 41056 02401 1	40 41056 02406 6
E-Number	223 301	223 306
Description	2-point-controller	2-point-controller
Installation	surface-mounted	flush-mounted

THERMO BODEN CONTROLLER FOR DISTRIBUTOR INSTALLATION

- All-in-one: May be used as underfloor temperature controller and room temperature controller with limit sensor
- Suitable for floor tempering
- Large, easy to read, backlit display
- Easy, logical operation
- Frost protection function
- Night setback via external switching available, e.g. time switch
- Optimum operational safety due to 2-pole shutdown
- Variable adjustment of switching hysteresis, lower and upper temperature limits
- With NTC floor sensor Ø 5 mm, 3 m long
- Scale: Degree Celsius or numerical
- For top hat rail assembly, width: 3 modular spacings
- Switching capacity: 16 A
- Ambient temperature: -20 °C/ +55 °C



FTE 400

Model	FTE 400
EAN	40 41056 02816 3
E-Number	231 533
Description	Temperature controller with digital display for installation in a distribution system

SENSOR TUBE WITH SENSOR SLEEVE FOR THERMO BODEN



FR TB

- Sensor tube with metal sensor sleeve for laying floor temperature sensors
- **FR TB 10:** only suitable for FRTD 903 (S), FRTD 903 TC and FTE 400
- Supplied with two 90° elbows (bend protection)
- 2 m long

Model	FR TB	FR TB 10
EAN	40 41056 03171 2	40 41056 03220 7
E-Number	234 702	234 799
Description	Sensor tube, A Ø 15 mm, with metal sleeve and two 90° elbows, suitable for all floor temperature sensors up to Ø approx. 9 mm	Sensor tube, A Ø 12 mm, with metal sleeve and two 90° elbows, only suitable for FRTD 903 and FTE 400, sensor diameter approx. 5 mm



N 100

PLASTIC NAIL

- Plastic nail for securing heating mat

Model	N 100
EAN	40 41056 03172 9
E-Number	234 703
Description	Plastic nail in connection with Turbo Light System Fa. Uzin · Packaging unit of 100 items

PTC RESISTOR EXTENSION AND CONNECTION KIT

- PTC resistor extension and connection kit for correctly extending the underfloor heating systems mat connection cables

Model	KLV Twin 1,5	VS Twin
EAN	40 41056 03173 6	40 41056 03174 3
E-Number	234 704	234 705
Description	PTC resistor extension for SDH Twin, 1.5 mm², 10 m	Connection kit for PTC resistor extension SDH Twin

FLOOR TEMPERATURE LIMITER



TF 19 BF-UP

- To limit the floor temperature in the peripheral zone
- Capillary tube with sensor bulb
- For flush-mounted assembly in flush-mounted box 105 x 105 mm

Model	TF 19 BF-UP
EAN	40 41056 02115 7
E-Number	220 994
Description	Floor temperature limiter
Switching current/cap. A/W	10/2300

Area of use

- HMA electric underfloor heating for all cold floor areas in old and new builds
- Ideal for bathrooms, conservatories, kitchens, eating areas, furniture suites in living rooms, nurseries, in the commercial area behind serving counters, reception areas etc.
- The HMA has a low installation height which makes it easy to retrofit during renovation work

Components

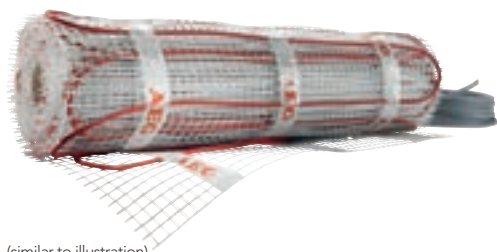
- High-quality heating conductor with FEP insulation
- Heats up quickly as fitted close to the surface
- Convenient to operate using floor temperature controllers
- Clearly structured, extensive range of heating mats

Installation

- The heating mats are fitted in the tread area, directly above the screed, just below the surface
- With tiled floors, the HMA is embedded in the tile adhesive. With other types of surface, a mechanical layer of protection must be provided (e.g. levelling compound)
- Flexible tile adhesives and levelling compounds should be used to lay the HMA
- There must a sufficient layer of thermal insulation under the screed
- Temperature sensors for measuring the floor temperature are fitted directly between two heating conductors
- When fitting on wood bases (chipboards), note the recommendations of the adhesive manufacturers (e.g. Ardex, Deitermann, Ceresit, PCI)
- The AEG Haustechnik technical support team will be happy to help with planning and installation



UNDERFLOOR HEATING SYSTEM HMA TE 50



(similar to illustration)

- Heating mat with heating output of 150 W/m²
- Very convenient; it responds faster than a classic underfloor heating system
- Provides an even distribution of heat
- High-quality, long-life FEP heating conductor
- Low installation height
- Self-adhesive support webbing for clean installation
- Protection rating: IPX7 for laying the heating mat in damp areas
- VDE approved quality
- 10 years warranty

Model	HMA TE 50 150/1	HMA TE 50 150/1.5	HMA TE 50 150/2	HMA TE 50 150/2.5	HMA TE 50 150/3	HMA TE 50 150/4	HMA TE 50 150/5	HMA TE 50 150/6	HMA TE 50 150/7	HMA TE 50 150/8
EAN	40 41056 02745 6	40 41056 02746 3	40 41056 02747 0	40 41056 02818 7	40 41056 02748 7	40 41056 02749 4	40 41056 02750 0	40 41056 02751 7	40 41056 02752 4	40 41056 02753 1
E-Number	231 067	231 068	231 069	231 578	231 070	231 071	231 072	231 073	231 074	231 075
Technical Data										
Power supply	V	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230
Connected load	W	150	225	300	375	450	600	750	900	1050
Electric resistance (+10/-5%)	Ω	351	236	164	147	105	87	67	55	48
Length	mm	2000	3000	4000	5000	6000	8000	10000	12000	14000
Width	mm	500	500	500	500	500	500	500	500	500
Area	m ²	1	1.5	2	2.5	3	4	5	6	7
Protection class		I	I	I	I	I	I	I	I	I
Nominal limit temperature heating element	°C	80	80	80	80	80	80	80	80	80



UNDERFLOOR HEATING SYSTEM HMA TE 50 SET


 HMA TE 50 Set 150/1
 (similar to illustration)

- Heating mat with heating output of 150 W/m²
- Very convenient; it responds faster than a classic underfloor heating system
- Provides an even distribution of heat
- High-quality, long-life FEP heating conductor
- Low installation height
- Self-adhesive support webbing for clean installation
- Protection rating: IPX7 for laying the heating mat in damp areas
- 10 years warranty

Set with:

- 2 ductworks for temperature sensor and connection cable
- Anti-kink protection bend
- 1 flush mount box
- Floor temperature controller

Model	HMA TE 50 Set 150/1	HMA TE 50 Set 150/1.5	HMA TE 50 Set 150/2	HMA TE 50 Set 150/3	HMA TE 50 Set 150/4	HMA TE 50 Set 150/5	HMA TE 50 Set 150/6	HMA TE 50 Set 150/7	HMA TE 50 Set 150/8
EAN	40 41056 02754 8	40 41056 02755 5	40 41056 02756 2	40 41056 02757 9	40 41056 02758 6	40 41056 02759 3	40 41056 02760 9	40 41056 02761 6	40 41056 02762 3
E-Number	231 076	231 077	231 078	231 079	231 080	231 081	231 082	231 083	231 084
Technical Data									
Power supply	V	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230	1/N/PE~ 230
Connected load	W	150	225	300	450	600	750	900	1050
Electric resistance (+10/-5%)	Ω	351	236	164	105	87	67	55	48
Length	mm	2000	3000	4000	6000	8000	10000	12000	14000
Width	mm	500	500	500	500	500	500	500	500
Area	m ²	1	1.5	2	3	4	5	6	7
Protection class		I	I	I	I	I	I	I	I
Nominal limit temperature heating element	°C	80	80	80	80	80	80	80	80

Area of use

- Electric underfloor heating systems for cost-effective and convenient heating of complete rooms for modern low-energy buildings
- Depending on where the heating conductor is positioned in the screed, the electric underfloor heating systems can be operated as partial storage, storage or direct heating depending on the rate structure of the energy supplier

Installation

- The heating mats are fixed in place with plastic nails and embedded in the screed itself
- Particularly easy to install in floating screed
- Temperature sensors for measuring the floor temperature are fitted directly between two heating conductors
- The AEG Haustechnik technical support team will be happy to help with planning and installation

**Components**

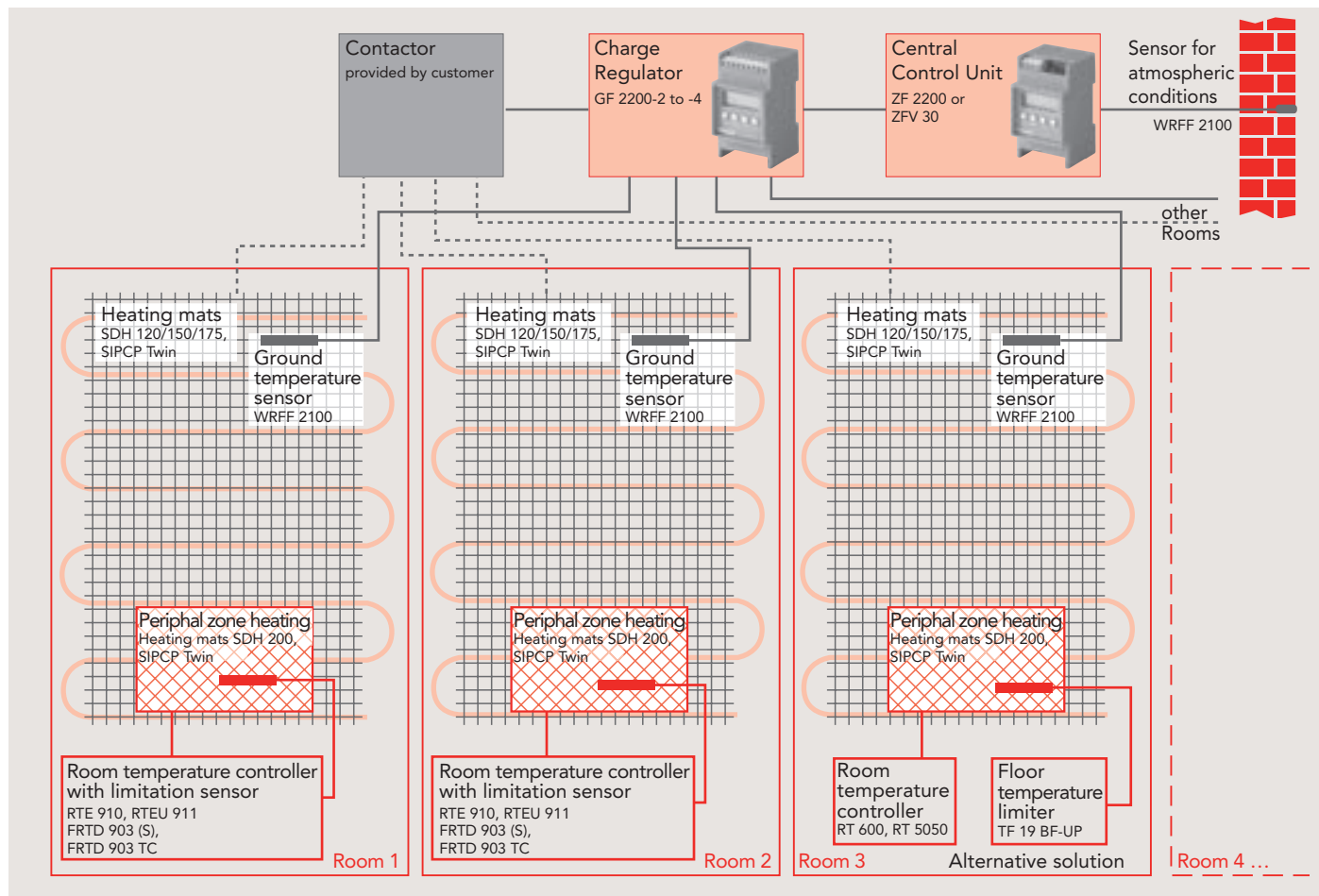
- High-quality heating conductor with FEP insulation
- Heating system integrated out of sight in the floor, heater room not needed, the system's control unit fits in a fuse box
- Convenient operation using room-based thermostats
- Extensive range of heating mats

Block diagram for underfloor storage heating with central charge regulators (p. 144)

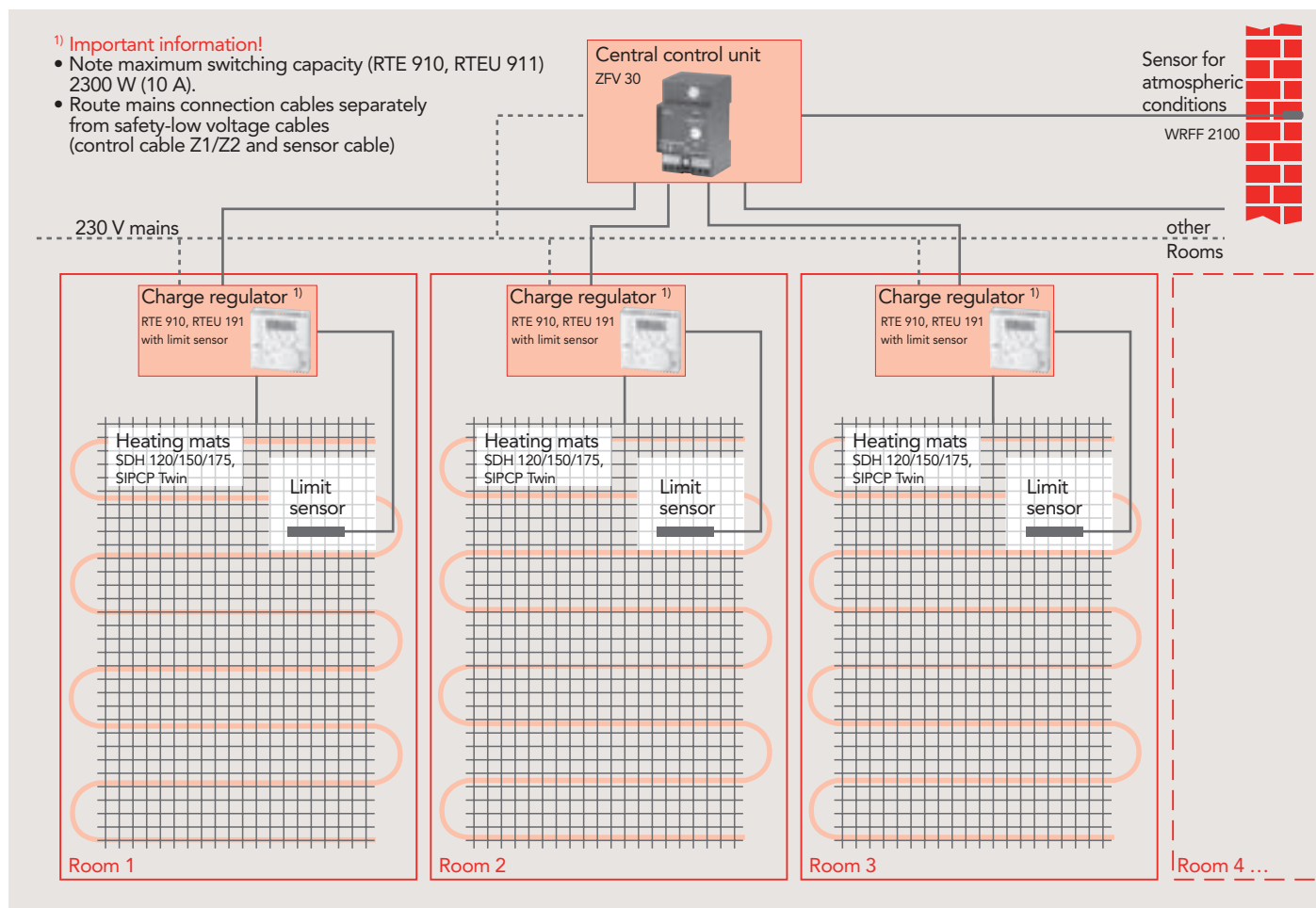
- A floor temperature sensor is installed in each room
- Central control unit and charge regulator control charging depending on the outside temperature, the floor's residual heat and the energy supplier's on period
- The heating mats are controlled using contactors
- If necessary, peripheral zone heating must be planned for certain areas, mainly around the outside wall where the floor gives off heat faster. Room temperature controllers with integrated or separate limit sensors are responsible for control
- The output of the heating mats is defined during system planning

Block diagram of partial underfloor storage and direct heating with decentralised charge regulators (p. 144)

- A charge regulator with limit sensor is installed in each room
- The central control unit and the charge regulators control charging depending on the outside temperature, the floor's residual heat and the energy supplier's on period
- The heating mats are controlled directly by the charge regulators (note max. switching capacity)
- The longer on periods mean that peripheral zone heating is not needed here



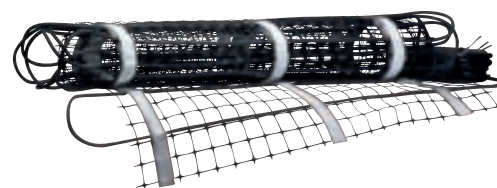
Block diagram for underfloor storage heating with central charge regulators



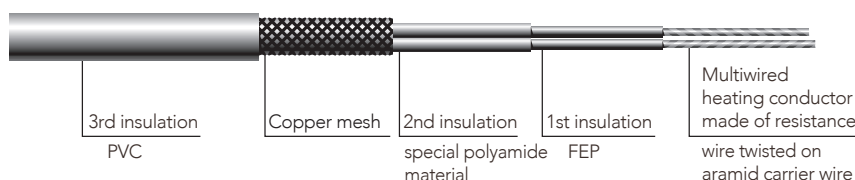
Block diagram of partial underfloor storage and direct heating with decentralised charge regulators

HEATING MATS SDH TWIN WITH SINGLE-SIDED CONNECTION, SHIELDING AND PVC OUTER CLADDING

- Heating mat SDH Twin, for use in dry, damp and wet rooms
- Simple planning and laying using single-sided connection, connection cable (PTC resistor) 4 metres
- Effective width 90 cm
- Heating conductor fitted in serpentine pattern on plastic mesh
- With particularly heat-stabilising PVC protective cladding
- Specific capacity of max. 25 W/m
- Power supply 1/N/PE~230 V 50 Hz
- Loop spacing approx. 90 mm
- Installation height approx. 8 mm



SDH 120/1.5 Twin



Model	SDH 120/1.5 Twin	SDH 120/2.4 Twin	SDH 120/3.5 Twin	SDH 120/4.7 Twin	SDH 120/5.7 Twin	SDH 120/6.7 Twin	SDH 120/8.5 Twin	SDH 120/10.5 Twin	SDH 120/12.5 Twin
EAN	40 41056 01629 0	40 41056 01630 6	40 41056 01631 3	40 41056 01632 0	40 41056 01633 7	40 41056 01634 4	40 41056 01635 1	40 41056 01675 7	40 41056 01676 4
E-Number	189 708	189 709	189 710	189 711	189 712	189 713	189 714	189 742	189 743
Area m ²	1.5	2.4	3.5	4.7	5.7	6.7	8.5	10.5	12.5
Length m	1.7	2.7	3.9	5.2	6.3	7.4	9.4	11.7	13.9
Specific capacity 120 W/m ²									

Model	SDH 150/1.5 Twin	SDH 150/2.4 Twin	SDH 150/3.5 Twin	SDH 150/4.7 Twin	SDH 150/5.7 Twin	SDH 150/6.7 Twin	SDH 150/8.5 Twin	SDH 150/10.5 Twin	SDH 150/12.5 Twin
EAN	40 41056 01223 0	40 41056 01224 7	40 41056 01225 4	40 41056 01226 1	40 41056 01227 8	40 41056 01228 5	40 41056 01229 2	40 41056 01677 1	40 41056 01678 8
E-Number	187 576	187 577	187 578	187 579	187 580	187 581	187 582	189 744	189 745
Area m ²	1.5	2.4	3.5	4.7	5.7	6.7	8.5	10.5	12.5
Length m	1.7	2.7	3.9	5.2	6.3	7.4	9.4	11.7	13.9
Specific capacity 150 W/m ²									

Model	SDH 175/1.5 Twin	SDH 175/2.4 Twin	SDH 175/3.5 Twin	SDH 175/4.7 Twin	SDH 175/5.7 Twin	SDH 175/6.7 Twin	SDH 175/8.5 Twin	SDH 175/11.3 Twin	SDH 175/15.6 Twin
EAN	40 41056 03157 6	40 41056 03158 3	40 41056 03159 0	40 41056 03160 6	40 41056 03161 3	40 41056 03162 0	40 41056 03163 7	40 41056 03164 4	40 41056 03165 1
E-Number	234 539	234 540	234 541	234 542	234 543	234 544	234 545	234 546	234 547
Area m ²	1.5	2.4	3.5	4.7	5.7	6.7	8.5	11.3	15.6
Length m	1.7	2.7	3.9	5.2	6.3	7.4	9.4	12.5	17.3
Specific capacity 175 W/m ²									

Model	SDH 200/1.5 Twin	SDH 200/2.4 Twin	SDH 200/3.5 Twin	SDH 200/4.7 Twin	SDH 200/5.7 Twin	SDH 200/8.5 Twin
EAN	40 41056 01237 7	40 41056 01238 4	40 41056 01239 1	40 41056 01240 7	40 41056 01241 4	40 41056 01908 6
E-Number	187 590	187 591	187 592	187 593	187 594	220 398
Area m ²	1.5	2.4	3.5	4.7	5.7	8.5
Length m	1.7	2.7	3.9	5.2	6.3	9.4
Specific capacity 200 W/m ²						



PLASTIC NAIL

- Plastic nail for securing heating mat
- Packaging unit of 100 items

Model	N 100
EAN	40 41056 03172 9
E-Number	234 703
Description	Plastic nail

PTC RESISTOR EXTENSION AND CONNECTION KIT



KLV Twin 1,5

VS Twin

- PTC resistor extension and connection kit for systems mat connection cables correctly extending the underfloor heating

Model	KLV Twin 1.5	VS Twin
EAN	40 41056 03173 6	40 41056 03174 3
E-Number	234 704	234 705
Description	PTC resistor extension for SDH Twin, 1.5 mm², 10 m	Connection kit for PTC resistor extension SDH Twin

SENSOR FOR ATMOSPHERIC CONDITIONS AND RESIDUAL HEAT



WRFF 2100

FH DN 20

- Sensor for atmospheric conditions and residual heat for the connection to central control units ZF 2200, ZFV 30, charge regulators GF 2200-2 to GF 2200-4, FTE 910 and FTEU 911
- Supply line 6 m, Ø 10 mm
- **FH DN 20:** Metal sensor sleeve, ensures optimum conduction of heat to temperature sensor, suitable for DN 20 installation pipe

Model	WRFF 2100	FH DN 20
EAN	40 41056 00407 5	40 41056 01903 1
E-Number	184 902	220 379
Description	Temperature sensor	Sensor sleeve

FLOOR TEMPERATURE LIMITER



TF 19 BF-UP

- To limit the floor temperature in the peripheral zone
- Capillary tube with sensor bulb
- For flush-mounted assembly in flush-mounted box 105 x 105 mm
- For anhydrite floor up to 50 °C
- Capillary tube length 2.4 m
- Voltage ~230 V 50 Hz
- Temperature range 15 °C – 55 °C

Model	TF 19 BF-UP
EAN	40 41056 02115 7
E-Number	220 994
Description	Floor temperature limiter
Switching current/cap. A/W	10/2300

CENTRAL CHARGE CONTROL (UNIVERSAL)

- Central charge control for underfloor heating systems, dependent on atmospheric conditions
- The WRFF 2100 sensor for atmospheric conditions is needed for operation
- Load characteristics for spread/forward/reverse supervision
- Control voltage -4.35...-2.85 V
- Automatic screed heating programme
- Clear LCD with two operating loops for all key user information
- For top hat rail assembly, width: 3 modular spacings



ZF 2200

Model	ZF 2200
EAN	40 41056 01175 2
E-Number	187 620
Description	Central control unit

CENTRAL CHARGE CONTROL (FORWARD SUPERVISION)

- Central charge control for underfloor heating systems, dependent on atmospheric conditions
- The WRFF 2100 sensor for atmospheric conditions is needed for operation
- Forward supervision
- Control voltage -3.6...-2.85 V
- For top hat rail assembly, width: 3 modular spacings



ZFV 30

Model	ZFV 30
EAN	40 41056 00410 5
E-Number	184 903
Description	Central control unit without timing element (forward supervision)

CENTRAL CHARGE REGULATOR

- Central charge regulator for charging storage underfloor heating systems dependent on atmospheric conditions and residual heat in combination with ZF 2200 or ZFV 30 central control unit
- Heating curve setting for adjustment to various systems
- Heating curve can be set to between 30 °C and 90 °C
- Parallel shifting of heating curve by around ± 1 K for day- and night-time operation
- Own consumption 2.5 VA
- For top hat rail assembly, width: 3 modular spacings
- Outgoing contact 3 A resistive load at ~230 V 50 Hz
- GF 2200-4: For 4 heating circuits, connection 4 NTC residual heat sensor WRFF 2100
- GF 2200-3: For 3 heating circuits, connection 3 NTC residual heat sensor WRFF 2100
- GF 2200-2: For 2 heating circuits, connection 2 NTC residual heat sensor WRFF 2100
- One WRFF 2100 sensor for atmospheric conditions is needed per heating circuit for operation



GF 2200-4

Model	GF 2200-4	GF 2200-3	GF 2200-2
EAN	40 41056 01178 3	40 41056 01177 6	40 41056 01176 9
E-Number	187 623	187 622	187 621
Description	Charge regulator for 4 heating circuits	Charge regulator for 3 heating circuits	Charge regulator for 2 heating circuits

DECENTRALISED CHARGE REGULATOR



RTEU 911



RTE 910

- Decentralised charging for partial underfloor storage and direct heating systems controlled by atmospheric conditions and room temperature
- **RTEU 911:** With weekly program timer for setback operation, setback of 3K
- Z1/Z2 connection terminals for connecting the ZFV 30 central control unit
- If Z1/Z2 are not interconnected, can also be used as room temperature controller with limit sensor for peripheral zone heating
- Optimum operational reliability using 2-pin shutdown
- Supplied with floor temperature limit sensor (Ø 6 mm, supply line 4 m)
- With sensor failure and short circuit recognition
- Power reserve of 12 hours
- Housing colour: white RAL 9010, mechanics make it suitable for the following switch ranges: Busch Jaeger pulse series, Jung LS 990 series, stainless steel series, Kopp Rio series, Pallas series
- For flush-mounted installation in flush-mounted socket Ø 55 mm
- **AR 21:** installation frame for RTE 910, RTEU 911 for fitting in cavity sockets, colour: pure white

Model	RTEU 911	RTE 910	AR 21
EAN	40 41056 00409 9	40 41056 00408 2	40 41056 00448 8
E-Number	184 993	184 992	184 996
Description	Charge regulator with weekly clock	Charge regulator	Installation frame
Switching current/cap. A/W	10/2300	10/2300	–

ELECTRONIC ALL-IN-ONE COMFORT ROOM AND FLOOR TEMPERATURE CONTROLLER WITH LIMIT SENSOR, FLUSH-MOUNTED



FRTD 903



FRTD 903 S

- All-in-one: can be used as floor temperature controller and room temperature controller with limit sensor
- For controlling heating of peripheral zones with limit sensor and weekly programmer
- Compatible with virtually all switch programs (55 mm x 55 mm)
- Self-adjusting, adaptive control, automatic calculation of preheating time
- Large, easy-to-read, illuminated display 26 mm x 38 mm with graphics
- Timer operation, party operation and manual operation are all easy to select
- 28 program spaces for various, individual time programs
- Simple, logical menu-guided operation
- Rapid heating up at the touch of a button
- ECO function available at the touch of a button
- Factory setting for all functions with simple reset function
- Energy consumption check for 2, 30, 365 days
- Compatible with other floor temperature sensors (characteristics can be adjusted)
- With NTC ground sensor Ø 5 mm, 3 m long
- For flush-mounted assembly in 55-type flush-mounted socket
- Installation depth of just 20 mm
- Power reserve of up to 10 years
- L/N/~230V +/- 10%, 50/60 Hz
- Suitable for virtually all design variants of switch programs
- Switching current/capacity 16 A / 3600 W
- Color: white RAL 9010 / silver
- Protection rating: IP 21
- 5-year guarantee
- **FRTD 903:** Designer cover in two versions (square/round) included in scope of supply, **FRTD 903 S:** Designer cover square included in scope of supply

FRTD 903 TC – NEW – WITH TOUCH-COLORSCREEN



FRTD 903 TC

- **FRTD 903 TC:** User friendly touchscreen with 2.2" colour display
- Automatic shutdown in case of rapid temperature drop for 30 minutes (when a window has been left open for example)
- Changeover from 4 to 6 program times per day (comfort-ECO mode)
- QR code generator for incorrect readings in the case of a fault
- Cover size 63 mm x 63 mm
- External frame dimensions 84 mm x 84 mm
- 5 year warranty

Model	FRTD 903 TC	FRTD 903	FRTD 903 S
EAN	40 41056 03039 5	40 41056 02605 3	40 41056 02823 1
E-Number	233 919	229 702	231 682
Description	Comfort controller: white, touchscreen with colour display	Comfort controller, white	Comfort controller, silver
Installation	flush-mounted	flush-mounted	flush-mounted
Switching current/cap. A/W	16/3600	16/3600	16/3600

ELECTRONIC ROOM TEMPERATURE CONTROLLER WITH LIMIT SENSOR, FLUSH-MOUNTED

- Room temperature controller with limit sensor for peripheral zone heating
- **RTEU 911:** With weekly program timer for setback operation, setback of 3K
- Usuable also as charge regulator. Z1/Z2 connection terminals for connecting the ZFV 30 central control unit
- Optimum operational reliability using 2-pin shutdown
- Supplied with floor temperature limit sensor (Ø 6 mm, supply line 4 m)
- With sensor failure and short circuit recognition
- Power reserve of 12 hours
- Housing colour: white RAL 9010, mechanics make it suitable for the following switch ranges: Busch Jaeger pulse series, Jung LS 990 series, stainless steel series, Kopp Rio series, Pallas series
- For flush-mounted installation in flush-mounted socket Ø 55 mm
- **AR 21:** installation frame for RTE 910, RTEU 911 for fitting in cavity sockets, colour: pure white



RTEU 911



RTE 910

Model	RTEU 911	RTE 910	AR 21
EAN	40 41056 00409 9	40 41056 00408 2	40 41056 00448 8
E-Number	184 993	184 992	184 996
Description	Room temperature controller with weekly clock	Room temperature controller	Installation frame
Switching current/cap. A/W	10/2300	10/2300	–

2-POINT ROOM TEMPERATURE CONTROLLER

- High control accuracy thanks to thermal feedback
- Temperature can be set between around 5 °C and 30 °C
- Modern, functional design, colour: pure white
- Temperature can be reduced using separate timer
- With adjustable restriction of range



RT 600



RT 5050

Model	RT 600	RT 5050
EAN	40 41056 02397 7	40 41056 02402 8
E-Number	223 297	223 302
Description	Room temperature controller	Room temperature controller
Installation	surface-mounted	flush-mounted
Switching current/cap. A/W	10/3600	10/2300

1. Applicability

- 1.1. All our supplies – also in the future – exclusively take place on the basis of these Terms and Conditions of Delivery and Payment. They are accepted by the Customer at the latest with placing the order however with the acceptance of the first supply, and shall apply for the entire duration of the business relationship. We hereby expressly contradict to any opposing business and purchasing conditions of the Customer. Deviations from our terms/conditions shall be effective only if confirmed by us in writing.
- 1.2. General terms and conditions of the customer apply only to that extent, when we agreed them expressly in writing. This written-form requirement cannot be waived.

2. Prices, packaging, terms of payment, sett-off, right of retention

- 2.1. Our offers are non-binding. The agreement is formed only through our written confirmation or through delivery.
- 2.2. The invoice for orders for which no individual fixed price is agreed on is issued on the basis of the list prices applicable on the day of delivery.
- 2.3. Prices and discounts quoted verbally shall be effective only if confirmed by us in writing.
- 2.4. All prices are understood free carrier (FCA) our factories in Holzminden, Eschwege, Poprad, Ayut-thaya and Tianjin including cardboard packaging, or free on board (FOB) at a German port (Incoterms 2010). Should the need for special packaging arise, we reserve the right to charge for this separately and additionally.
- 2.5. Unless otherwise agreed in writing, our invoices shall be paid against prepayment in the currency indicated in the invoice. Unless otherwise agreed in writing, payment in Euros shall be deemed agreed on.
- 2.6. If the products are exported, the Customer will comply with the German export rules and regulations, and point out to its buyers that German export rules and regulations are applicable in the case of an exportation of products. The Customer undertakes to provide the information necessary to obtain an (import) export permit already when the Customer places the order. If at the Customer's request deliveries are passed on without customs clearance, the Customer shall be liable for any additional or extra payments demanded by the German customs authorities. If the exportation of the goods is prohibited or not permitted by the German authorities although such a permit is required, the Customer cannot derive any claims against us from this. The same shall apply if, for reasons that we are not responsible for, the importation of the goods into the country of destination is prevented or delayed by the authorities there.
- 2.7. The Customer is entitled to set off or retain claims only if they are undisputed or have been ascertained legally binding. The Customer shall have a right of retention only if its counterclaims are based on the same contractual relationship.

3. Delivery/acceptance/impossibility performance/delay/take-back

- 3.1. A delivery period specified in the order shall be binding only if confirmed by us in writing. Delivery shall be deemed to have been made within an agreed delivery period if the goods to be delivered have left our plant before the end of the delivery period, or if the Customer is obliged to notify us prior to delivery of his readiness to collect or take delivery of the goods, but has not done so, and we notify the Customer of our readiness to make shipment. In the latter case, delivery shall be deemed to be made when the written notification of readiness to make shipment is mailed by us.
- 3.2. The delivery period shall be extended in a reasonable way if the Customer subsequently requests changes or additions. The same shall apply in the event of the occurrence of unforeseen difficulties

beyond our control, e.g. force majeure, lawful labour disputes, disruptions of business affecting us or our suppliers.

- 3.3. All delivery obligations are subject to timely and proper delivery to us, also of suppliers' parts, if delivery is impossible within the agreed delivery period because of such circumstances or, if no such delivery period is agreed on, within three months of receipt of the order, we can cancel the agreement. The Customer shall not have any claims against us whatsoever in any of these cases, especially no claims to compensation for default damage and no damage claims.
- 3.4. Compensation for any default damage can be demanded by the Customer only in the event of wilful act or gross negligence on our part. This shall not apply if we commit to a binding delivery date in the confirmation of order and culpably fail to deliver on or before such date. In any case of default, our liability shall be limited to the foreseeable loss which typically arises, unless we intentionally violate the agreement or such breach of contract is attributable to us. The foreseeable loss which typically arises will generally not exceed the double amount of the order value affected by default.
- 3.5. In the event of default, we shall have the right to fix a reasonable deadline for the Customer to declare whether he wishes to cancel the agreement and/or demand damages instead of performance. If the Customer does not make a statement within that deadline, his right to cancel the agreement or to demand damages instead of performance shall lapse.
- 3.6. Goods are always shipped for the Customer's account and at the Customer's risk. All risks shall pass over to the Customer as soon as the goods are handed over to the carrier or leave our warehouse for shipment. In all other respects, the Incoterms 2010 shall be applicable.
- 3.7. The fulfilment of this contract has the reservation that no obstacle in form of German, US-American or other applicable national, EU or international provisions of foreign trade legislation and no embargos or sanctions are in force.
- 3.8. If the ordering party has the desire to return defect-free and correctly delivered goods, the ordering party can apply for a take-back. It is in our free discretion to take back or not to take-back the goods in question, especially after verification of age (not older than 6 months) and condition, against a markdown of at least 20% of the value of the goods. The ordering party has to bear all costs related to the take-back

4. Customer's obligation to complain, liability for defects

- 4.1. Our Customer shall not have any claims because of defects of the goods unless the Customer properly performed all of his obligations to inspect the goods and to complain of defects pursuant to sec. 377 HGB (German Commercial Code).
- 4.2. Any transportation or shipping damage is to be reported in writing by the Customer to the carrier immediately upon receipt of the goods. In addition, we are to be informed without undue delay about the damage, if possible by telefax. The Customer shall bear any damage or any loss of rights incurred by the carrier or by us in consequence of failure to make an immediate report.
- 4.3. If a defect which we are responsible for existed already at the time of the passing of the risk, we shall be obliged to remedy the

defect or, at our option, to make substitute delivery. If we are not prepared or able to do so, in particular if this is delayed unreasonably for reasons that we are responsible for, or if remedial action/substitute delivery fails in some other way, the Customer shall have the right – subject to clause 5 of these General Terms of Payment and Delivery – to assert the rights otherwise provided for by law in the event of a defect.

- 4.4. If we remedy a defect, our obligation also includes payment of all expenses to remedy the defect, especially transportation, forwarding, labour and material costs, unless they are increased due to the fact that the defective goods were taken to a different place than the place of performance.
- 4.5. The limitation period for all rights pertaining to defects shall be two years but for use in commercial companies, craft businesses, industrial companies or comparable activities the limitation period shall be one year; in other respects, the statutory provisions shall apply. Any other more extensive statutory warranty rights shall be unaffected by this.
- 4.6. However, the Customer shall have rights of recourse only to the extent that he did not make any agreement with his buyer which goes beyond the statutory rights in the event of a defect

5. Damages

For damage which is not caused to the actual object of delivery itself, we shall be liable on whatever legal basis only:

1. in the full amount of the damage in the case of wilful intent and the case of gross negligence on the part of management and/or executive staff, and also
2. subject to subparagraph 4 in any case of culpable violation of essential contractual obligations and
3. outside such obligations and subject to subparagraph 4 also for gross negligence on the part of persons employed by us for the performance of our contractual obligations, unless we can exonerate ourselves by virtue of trade customs,
4. in the two cases of subparagraph 2 and 3 above, limited to the amount of damage foreseeable and typical for the contract in question,
5. for defects of the goods which were maliciously concealed by us or whose absence was guaranteed by us,
6. for defects of the goods to the extent that the Product Liability Act provides for liability for personal injury or damage to privately used things,
7. in case of any liability based on an injury of life, body or health.

Further claims shall be excluded.

6. Retention of title

- 6.1. We retain title to all goods delivered until all of our current and future claims against the Customer have been discharged.
- 6.2. Any processing or transformation by the Customer of the goods delivered shall always be done for us. If the goods are processed with other things not belonging to us, we acquire co-ownership of the new thing in the proportion of the value of the goods delivered and transformed or processed (final invoice amount including VAT) to the other processed things at the time of processing. In all other respects, the same shall apply to the thing created through processing as to the object of purchase delivered subject to retention of title.

6.3. If the goods delivered are mixed inseparably with other things not belonging to us, we shall acquire co-ownership to the new thing in the proportion of the value of the object of the purchase (final invoice amount including VAT) to the other mixed things at the time of intermixture. If intermixture takes place in such a way that the Customer's thing is to be regarded as the main thing, it is agreed that the Customer shall transfer co-ownership to us on a pro rate basis. The Customer shall safekeep for us the sole ownership or co-ownership thus created.

The Customer assigns to us by way of security especially also those claims which he obtains against a third party through the combination of the goods delivered with a piece of real estate. This claim shall be subject analogously to the above provisions.

6.4. Any pledge and any transfer of title by way of security is inadmissible as long as we retain title. The Customer must inform us promptly of any pledge or other thirdparty seizure of the goods title to which is retained by us or of the assigned claims, and must assist us in every way in the intervention.

6.5. The customer may sell the goods title to which we retain, in the ordinary course of business, but only for immediate payment on delivery or subject to retention of title. The claims arising from the resale or from any other legal reason (insurance, tort, etc.) with respect to the goods title to which we retain (including all claims to payment of the balance on a current account) are hereby assigned already by the Customer with all ancillary claims to us.

6.6. The Customer is obliged at our request to inform the buyers in writing of the assignment and to give us all information necessary to assert our rights against the buyers, to provide documents and to hand over bills of exchange. For this purpose the Customer must allow us to inspect his records in this respect, if necessary.

6.7. The Customer shall have the right until further notice to collect the claims assigned to us. Any assignment or pledge of these claims is admissible only with our written consent. In the event of the discontinuation of payments, failure to honour a check or a bill of exchange made out by the Customer, an application for the institution of insolvency proceedings, or the institution of such proceedings, or in the case of a foreign customer if proceedings similar to insolvency proceedings or judicial or out-of-court composition proceedings are opened, the right to resell the goods and to collect the assigned claims shall end.

6.8. Under any of the circumstances described in clause 6.7, the Customer must give us access to the goods still in his possession, send us an exact list of the goods, separate the goods and hand over the goods to us. We also have the right to demand the assignment of the Customer's claims for possession against third parties or to cancel the agreement. In either case, whether we take back the goods or assert our rights of retention, we need not cancel the agreement. Neither any of these acts nor a pledge of the goods title to which is retained shall constitute a cancellation of the agreement unless this is expressly declared by us.

6.9. If the value of the security existing for us exceeds our total claims by more than 20%, we will at the Customer's written request release an appropriate part of such security at our option.

6.10. The costs for the performance of the co-operation duties set out in clause 6.4 and clause 6.6 in connection with all rights arising from the retention of title and all costs for preserving and storing the goods shall be borne by the customer

7. Labelling of goods, patent guarantee, redemption and environment friendly disposal of electronic devices

Any change in the goods, the removal of device numbers and type designations as well as labels which constitute a designation of origin for the Customer or a third party or could create the impression that the product is a special product are inadmissible unless expressly agreed on in writing by the parties.

Per the EU guideline 2002/96/EC dated January 27, 2003 (Directive of the European Parliament and of the Council on Waste Electrical and Electronic Equipment) and the county-specific regulations released due to this regulation the purchaser as importer / manufacturer according to law inside the member States of the European Union is obliged to disposal or to let disposal the devices, stated in EU-Guideline and in the country-specific regulations, at his own expenses.

8. Place of performance/jurisdiction

The place of jurisdiction and of performance for all mutual services is Holzminden. However, we also have the right to sue at the Customer's domicile. German law is applicable. The applicability of the provisions of the United Nations Convention on the International Sale of Goods (CISG) is expressly excluded

Stiebel Eltron International GmbH,
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Register Court: Hildesheim HRB 110397
Management Board:
Rudolf Sonnemann, Karlheinz Reitze,
Dr. Marc-Jan Schutte

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www.aeg-haustechnik.com

The current terms and conditions of sale and delivery (domestic) apply.

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