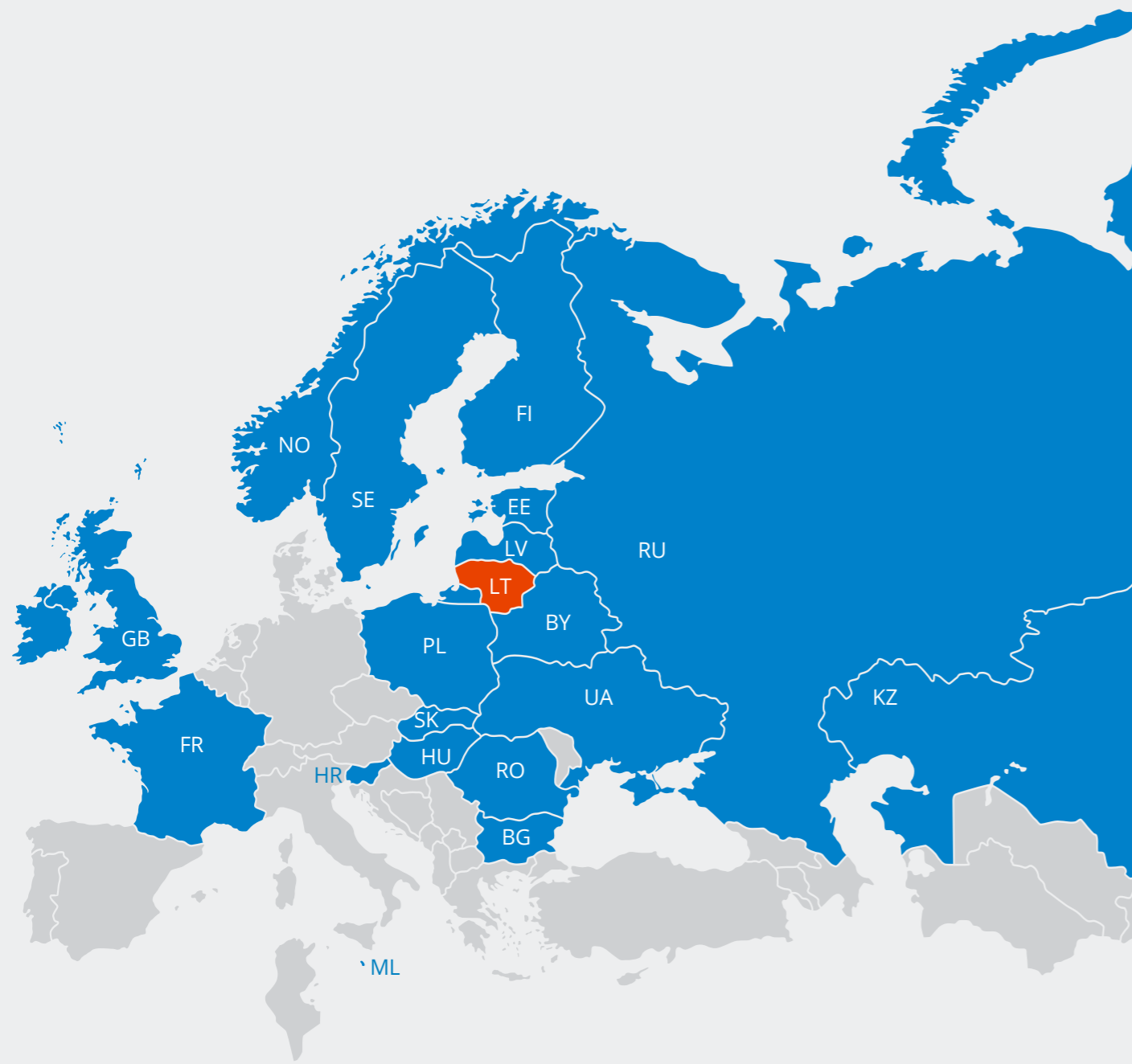




Comfort Heat

PRODUCT CATALOG '19



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Comfort Heat

Comfort Heat is a production and development company of heating cables, mats and control systems. We develop electrical heating systems business in Europe for over 24 years and provide affordable comfort, intelligent solutions for heating systems.

Being an innovative company, Comfort Heat is focused on market demand, latest technological research and innovation development. In cooperation with Kaunas University of Technology and leading European electronic manufacturers, Comfort Heat invests in R&D – advanced engineering solutions.

We work hard to meet the growing need for energy efficiency, smart solutions and anticipate them. Comfort Heat is active in the field of renewable solar energy and works towards sustainable and efficient heating systems for residents and communities.

Comfort Heat manufactures products that are part of commercial building optimization and residential smart home heating systems. Therefore, we design and develop long-lasting and easy to install electric heating applications for:

- The main and complementary floor heating for domestic and public buildings,
- Ice and snow melting, pipeline frost protection for building and road engineering,
- Frost protection and technological temperature maintenance for oil and gas industry pipelines,
- Black ice prevention for road and railway infrastructure.

Comfort Heat has been serving the needs of the electric heating industry in Europe for more than 24 years. We aim to be a reliable and trustworthy business partner for our clients with intelligent solutions that are clearly following the basic principles:

- Reliability,
- Expertise,
- Excellent design,
- Fast and qualified service.

We are proud to be Lithuanian Production Company constantly investing in innovation and smart technologies. Since 2011 yearly Comfort Heat has been acknowledged by Business News for contribution to a better future of Lithuanian economy, as well as for its high solvency ratio.

In 2013 the company introduced the quality management system according to ISO 9001 and ISO 14001 standards in order to manage performance and identify potential environmental improvements. Today Comfort Heat is taking the lead in implementing knowledge management and LEAN systems.

We supply Comfort Heat products and intelligent heating solutions to our clients from the various industries such as electric heating systems wholesalers, construction material dealers, oil and gas industry, food companies, railway and road infrastructure. Comfort Heat exports its products to more than 17 countries such as Baltic and Scandinavian counties, Poland, Hungary, Bulgaria, Romania, Slovenia, Croatia, Malta, Ukraine, Belarus, Russia, Azerbaijan, United Kingdom and it continues to expand its export markets.





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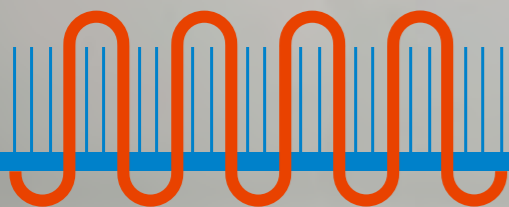
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CTAE-160
twin conductor heating mat 



CTAE-160 is a twin conductor heating mat of 160 W/m² output, with extra aluminium foil braid (with memory), drainage wire and fiberglass mesh. It is self-adhesive on concrete base. Green line design, environmentally friendly heating mat has no lead.

Floor heating mat **CTAE-160** is designed for installation of new or renewable heated floor. It can be laid directly into tile adhesive/glue layer.

Installation:

It can be laid directly on concrete or on top of old tiles in a bathroom, kitchen, hall, bedroom and livingroom, or other living areas, predesigned to be installed under various tiles, marble, and granite flooring.



TECHNICAL DATA

Voltage	230 V
Output	160 W/m ²
Thickness of mat	4,2 mm
Max temperature	+80 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Overjacket	Polypropylene (XLPE)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CTAE-160	0,5×1	0,5	80	85541000
CTAE-160	0,5×2	1	160	85541002
CTAE-160	0,5×3	1,5	240	85541004
CTAE-160	0,5×4	2	320	85541006
CTAE-160	0,5×5	2,5	400	85541008
CTAE-160	0,5×6	3	480	85541010
CTAE-160	0,5×7	3,5	560	85541012
CTAE-160	0,5×8	4	640	85541014
CTAE-160	0,5×10	5	800	85541016
CTAE-160	0,5×12	6	960	85541018
CTAE-160	0,5×15	7,5	1210	85541020
CTAE-160	0,5×18	9	1400	85541022
CTAE-160	0,5×22	11	1800	85541024
CTAE-160	0,5×27	13,5	2150	85541026
CTAE-160	0,5×33	16,5	2600	85541028

CTAE-100
twin conductor heating mat 



CTAE-100 is a twin conductor heating mat of 100 W/m² output, with extra aluminium foil braid (with memory), drainage wire and fiberglass mesh. It is self-adhesive on concrete base. Green line design, environmentally friendly heating mat has no lead.

Floor heating mat **CTAE-100** is designed for lying under a new floor, and is compatible with renewable flooring materials. It can be laid directly into tile adhesive/glue layer.

Installation:

It can be laid directly on top of old tiles and under carpet flooring. The heating mat can also be laid under parquet, parquet boards and laminate. It is designed for installation in a kitchen, hall, bedroom and livingroom, and other indoor premises.



TECHNICAL DATA

Voltage	230 V
Output	100 W/m ²
Thickness of mat	4,2 mm
Max temperature	+80 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Overjacket	Polypropylene (XLPE)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CTAE-100	0,5×4	2	220	85541040
CTAE-100	0,5×6	3	290	85541042
CTAE-100	0,5×8	4	410	85541044
CTAE-100	0,5×12	6	560	85541046
CTAE-100	0,5×16	8	820	85541048
CTAE-100	0,5×20	10	1000	85541050
CTAE-100	0,5×24	12	1200	85541052
CTAE-100	0,5×36	18	1800	85541054



CTAE-200 twin conductor heating mat

**Comfort
Heat**

CTAE-200 is a twin conductor heating mat of 200 W/m² output with extra aluminium foil braid with memory. It is self-adhesive on concrete base. This heating mat is used for floor heating in bathrooms and other densely furnished rooms of little floor space. It is also suitable for floor heating in winter gardens and large conservatories. Green line design, environmentally friendly heating mat has no lead.

Floor heating mat CTAE-200 is designed for easy installation for both, new and renewable floor. It can be laid directly into adhesive/glue tiles layer.

Installation:

It can be laid directly on concrete or old tiles in a bathroom, kitchen, hall, bedroom, livingroom, winter garden or other premises under tile, carpet, marble and granite flooring.



ERC CE

TECHNICAL DATA

Voltage	230 V
Output	200 W/m ²
Thickness of mat	4,2 mm
Max temperature	+80 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Overjacket	Polypropylene (XLPE)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area(m ²)	Output (W)	Order No.
CTAE-200	0,5×2	1	200	85541072
CTAE-200	0,5×3	1,5	300	85541074
CTAE-200	0,5×4	2	400	85541076
CTAE-200	0,5×5	2,5	500	85541078
CTAE-200	0,5×6	3	600	85541080
CTAE-200	0,5×7	3,5	700	85541082
CTAE-200	0,5×8	4	800	85541084
CTAE-200	0,5×10	5	1000	85541086
CTAE-200	0,5×12	6	1200	85541088
CTAE-200	0,5×14	7	1400	85541090
CTAE-200	0,5×16	8	1600	85541092
CTAE-200	0,5×20	10	2000	85541094

CSCV-150 single conductor heating mat



CSCV-150 is a single conductor heating mat of 150 W/m² output, with extra aluminium foil braid, drainage wire and tinned cooper screen and fiberglass mesh. It is self-adhesive on concrete base.

Floor heating mat **CSCV-150** is designed for installation for both, new and renewable floor. It can be laid directly into adhesive/ glue tiles layer.

Installation:

It can be laid directly on old tiles in a bathroom, kitchen, hall, bedroom, livingroom or other premises under tiles, carpet, marble and granite flooring.



TECHNICAL DATA

Voltage	230 V
Output	150 W/m ²
Thickness of mat	3,2 mm
Max temperature	+80 °C
Connection cable	2 x 3 m
Min installation temperature	+5 °C
Conductor insulation	Fluorpolymer (FEP)
Overjacket	Polyvinyl chloride (PVC)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CSCV-150	0,5×2	1	150	83020024
CSCV-150	0,5×3	1,5	225	83020025
CSCV-150	0,5×4	2	300	83020026
CSCV-150	0,5×6	3	450	83020028
CSCV-150	0,5×7	3,5	525	83020029
CSCV-150	0,5×8	4	600	83020030
CSCV-150	0,5×10	5	750	83020032
CSCV-150	0,5×12	6	900	83020033
CSCV-150	0,5×14	7	1050	83020034
CSCV-150	0,5×16	8	1200	83020035
CSCV-150	0,5×18	9	1350	83020036
CSCV-150	0,5×20	10	1500	83020037



CSCV-100 single conductor heating mat



CSCV-100 is a single conductor heating mat of 100 W/m² output, with extra aluminium foil braid (with memory), drainage wire and fiberglass mesh. It is self-adhesive on concrete base.

Floor heating mat **CSCV-100** is suitable for installation of new or renewable heated floor. It can be laid directly into tile adhesive/ glue layer.

Installation:

It can be laid directly on old tiles in a kitchen, hall, room or other premises under tile, carpet, marble and granite flooring. It can be also laid under wood, parquet, parquet boards and laminated flooring.



TECHNICAL DATA

Voltage	230 V
Output	100 W/m ²
Thickness of mat	3,2 mm
Max temperature	+80 °C
Connection cable	2 x 3 m
Min installation temperature	+5 °C
Conductor insulation	Fluorpolymer (FEP)
Overjacket	Polyvinyl chloride (PVC)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CSCV-100	0,5×4	2	220	83020008
CSCV-100	0,5×6	3	290	83020010
CSCV-100	0,5×8	4	410	83020012
CSCV-100	0,5×12	6	560	83020014
CSCV-100	0,5×16	8	820	83020015
CSCV-100	0,5×20	10	1000	83020016
CSCV-100	0,5×24	12	1200	83020017
CSCV-100	0,5×36	18	1800	83020018



CATE-80 aluminium heating mat

**Comfort
Heat**

CATE-80 is a twin conductor aluminium heating mat of 80 W/m² output for “dry” room heating. It is suitable for installation of new or renewable heated floor. It can be laid directly under laminate or parquet using “dry” installation method (without adhesive/ glue).

Installation:

It can be laid directly under parquet, parquet board or laminate in a kitchen, lounge, children’s room or other premises.



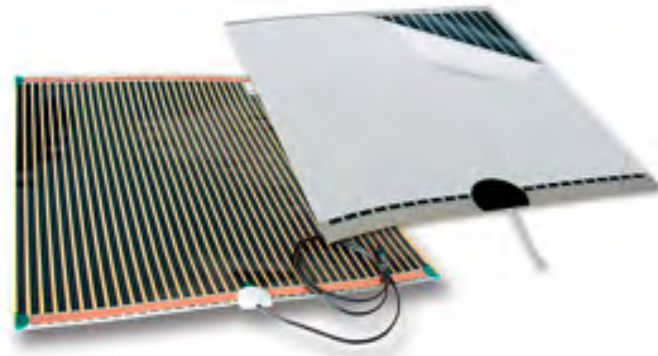
ERC CE

TECHNICAL DATA

Voltage	230 V
Type	Twin conductor
Output	80 W/m ²
Thickness of mat	3 mm
Max temperature	+80 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CATE-80	0,5×7	3,5	280	83020059
CATE-80	0,5×8	4	320	83020060
CATE-80	0,5×9	4,5	360	83020061
CATE-80	0,5×10	5	400	83020062
CATE-80	0,5×12	6	480	83020063
CATE-80	0,5×14	7	560	83020064
CATE-80	0,5×16	8	640	83020065
CATE-80	0,5×18	9	720	83020066
CATE-80	0,5×20	10	800	83020067

CAHF-25/50/100
mirror heating foil



Mirror heating foil **CAHF-25/50/100** is used to prevent mirror steam. Whether it is a small or large bathroom, it is ideal solution to mirror steam in houses, apartments and hotels.

Installation:

It is quick and easily installed, applied on by simply sticking the adhesive foil on the back of a mirror. These products are low - cost and easily installed; designed for new and renewable bathrooms. The heating can be switched on/ off using a switch of a bathroom or mirror light.



TECHNICAL DATA

Voltage	230 V
Output	25 W / 50 W / 100 W
Thickness of mat	1 mm
Connection cable	1 m
Max temperature	+90 °C
Protection class	IP44
Warranty	2 years

PRODUCT LIST

Type	Output (W)	Dimensions (mm)	Order No.
CAHF-25	25	274x574	96651860
CAHF-50	50	524x519	96651870
CAHF-100	100	524x1004	96651880

INSTALLATION DIAGRAM



CTAE-160
mirror heating mat



CTAE-160 is a twin conductor heating mat. It is easily secured to the back side of a mirror and is the ideal solution to mirror steam in a new or renewable house, apartments and hotel bathrooms.

Installation:

It is installed by simply sticking an adhesive mat on the back of a mirror. Low-cost and easy installation. The heating can be switched on/off using a switch of a bathroom or mirror light.



TECHNICAL DATA

Voltage	230 V
Output	80 W / 160 W
Thickness of mat	4,2 mm
Connection cable	3 m
Max temperature	+80 °C
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Output (W)	Dimensions (m)	Area (m ²)	Order No.
CTAE-160	80	0,47x1	0,5	96651820
CTAE-160	160	0,47x2	1,0	96651840



CFTAV-300 outdoor heating mat



CFTAV-300 twin conductor heating mat of 300 W/m² output, made with double insulation (M2), an aluminium foil and tinned copper screen (with memory), conductor fluoropolymer insulation and polypropylene overjacket. The cable is UV resistant.

It is designed for stairs, pavements, driveways, entrances to car parks, bridges, landing of ramps, etc.), ice prevention, or thawing soil in winter (construction sites).

Installation: CFTAV-300 can be laid into concrete or stone dust layer, directly under tiles, with purpose of frost protection of entrances, driveways, car parks, ramps, pavements and bridges. It can be laid directly on frozen soil covering it with rockwool mats afterwards.



TECHNICAL DATA

Voltage	230 V
Type	Twin conductor
Output	300 W/m ²
Max temperature	+90 °C
Connection cables	2 x 5 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP) + (PEX)
Overjacket	Polyvinyl chloride (PVC)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

PRODUCT LIST

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CFTAV-300	0,5×3	1,5	450	85510510
CFTAV-300	0,5×4	2	600	85510515
CFTAV-300	0,5×6	3	900	85510520
CFTAV-300	0,5×8	4	1200	85510525
CFTAV-300	0,5×10	5	1500	85510540
CFTAV-300	0,5×12	6	1800	85510545
CFTAV-300	0,5×14	7	2100	85510550
CFTAV-300	0,5×18	9	2700	85510555
CFTAV-300	0,5×20	10	3000	85510560



CFSAV-300 outdoor heating mat



CFSAV-300 single conductor heating mat of 300 W/m² output, made with double insulation (M2), an aluminium foil and tinned copper screen (with memory), conductor fluoropolymer insulation and polypropylene overjacket. The cable is UV resistant.

It is designed for stairs, pavements, driveways, entrances to car parks, bridges, landing of ramps, etc.), ice prevention, or thawing soil in winter (construction sites).

Installation: CFSAV-300 can be laid into concrete or stone dust layer, directly under tiles, with purpose of frost protection of entrances, driveways, car parks, ramps, pavements and bridges. It can be laid directly on frozen soil covering it with rockwool mats afterwards.



TECHNICAL DATA

Voltage	400 V
Type	Single conductor
Output	300 W/m ²
Max temperature	+90 °C
Connection cables	2 x 5 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP) + (PEX)
Overjacket	Polyvinyl chloride (PVC)
Protection class	IP67
Width of mat	50 cm
Warranty	20 years

PRODUCT LIST

Type	Width × Length (m)	Area (m ²)	Output (W)	Order No.
CFSAV-300	0,5×6	3	900	85517037
CFSAV-300	0,5×8	4	1200	85517038
CFSAV-300	0,5×12	6	1800	85517039
CFSAV-300	0,5×14	7	2100	85517040
CFSAV-300	0,5×18	9	2700	85517041
CFSAV-300	0,5×24	12	3600	85517044
CFSAV-300	0,5×28	14	4200	85517144
CFSAV-300	0,5×32	16	4800	85517147
CFSAV-300	0,5×36	18	5400	85517149
CFSAV-300	0,5×44	22	6600	85517151



CTAV-18 twin conductor heating cable

**Comfort
Heat**

CTAV-18 is a twin conductor heating cable of 18 W/m output, with aluminium tape and tinned cooper screen. This thin cable "with memory" is used for installing heating system within thin or thick floor constructions and renewable floor (as main, additional or accumulation heating), as well as for cold zones heating next to large windows. Also, used for frost protection of outdoor steps under stone or tiles (within adhesive/ glue layer of tiles), for frost protection of water, sewerage and technological pipes in unheated premises.

Installation: It can be laid directly onto concrete or old tiles, under tiles, marble, granite, carpet, parquet boards and laminate flooring in a kitchen, hall, bedroom, livingroom and other premises. This cable can also be installed under stone or tile covering (in tile adhesive/ glue layer), in outdoor steps, as well as for pipe protection, installing it on pipes, under thermo-insulation layer



ERC CE

TECHNICAL DATA

Voltage	230 V AC
Output	18 W/m
Diameter	4,6 mm
Max temperature	+70 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Overjacket	Polyvinyl chloride (PVC)
Min bending radius	8 diameters
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Voltage (V)	Length (m)	Output (W)	Order No.
CTAV-18	230	8	160	82244200
CTAV-18	230	14	260	82244205
CTAV-18	230	24	420	82244210
CTAV-18	230	28	520	82244215
CTAV-18	230	34	600	82244220
CTAV-18	230	46	830	82244225
CTAV-18	230	57	1000	82244230
CTAV-18	230	69	1200	82244235
CTAV-18	230	83	1500	82244240
CTAV-18	230	100	1700	82244245
CTAV-18	230	123	2200	82244250

CTAV-10 twin conductor heating cable



CTAV-10 is a twin conductor heating cable of 10 W/m output, with aluminium tape and tinned cooper screen with memory. This thin cable with memory can be laid directly into concrete or directly into tile adhesive/ glue layer for installation of new or renewable floor. **CTAV-10** is accustomed to pipe frost protection whereby the cable is installed on pipe, under thermal insulation layer, compatible within cold stores.

Installation: It can be laid directly on concrete or old tiles in a kitchen, hall, room or other premises under tile, as well as marble, granite, carpet, parquet, parquet boards and laminate flooring. **CTAV-10** can be also used for heating installation under wood flooring and for pipe frost protection, installing the cable on the pipe under thermal insulation layer or under thermal insulation layer in cold stores.



TECHNICAL DATA

Voltage	230 V AC
Output	10 W/m
Diameter	4,6 mm
Max temperature	+70 °C
Connection cable	3 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)
Overjacket	Polyvinyl chloride (PVC)
Min bending radius	8 diameters
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Voltage (V)	Length (m)	Output (W)	Order No.
CTAV-10	230	10	120	82244300
CTAV-10	230	20	250	82244305
CTAV-10	230	30	320	82244306
CTAV-10	230	40	400	82244310
CTAV-10	230	50	520	82244315
CTAV-10	230	60	600	82244320
CTAV-10	230	70	750	82244325
CTAV-10	230	90	950	82244330
CTAV-10	230	120	1100	82244335
CTAV-10	230	130	1300	82244340
CTAV-10	230	160	1700	82244345
CTAV-10	230	195	2000	82244350



CTACV-20 twin conductor heating cable



CTACV-20 is a twin conductor heating cable of 20 W/m output, it has a double protection (M2), aluminium tape and tinned cooper screen with memory, fluoropolymer insulation and polypropylene overjacket. The heating cable is UV resistant. It is designed for roof ice and snow melting systems (roof gutters and downpipes) and/ or the soil frost prevention (ramps, driveways, entrances to car parks, pavements, bridges, stairs, etc.), and frozen soil in winter (construction sites).

Installation: It can be laid in roof gutters, downpipes, roof edges and into concrete or stone dust layer under tiles for frost protection of entrances, driveways, car parks, ramps, pavements and bridges. The cable can be laid directly on frozen soil, whereby covering it with rockwool mats.



TECHNICAL DATA

Voltage	230 V
Output	20 W/m
Diameter	5,9 mm
Max temperature	+80 °C
Connection cable	5 m
Min installation temperature	+5 °C
Conductor insulation	Fluoropolymer (FEP)+(XLPE)
Overjacket	Polypropylene (PVC)
Min bending radius	8 diameters
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Voltage (V)	Length (m)	Output (W)	Order No.
CTACV-20	230	8	160	82000500
CTACV-20	230	14	270	82000505
CTACV-20	230	17	340	82000510
CTACV-20	230	22	450	82000515
CTACV-20	230	27	540	82000520
CTACV-20	230	32	640	82000525
CTACV-20	230	40	780	82000535
CTACV-20	230	44	870	82000540
CTACV-20	230	53	1070	82000550
CTACV-20	230	65	1290	82000555
CTACV-20	230	80	1580	82000560
CTACV-20	230	93	1850	82000565
CTACV-20	230	117	2300	82000570
CTACV-20	230	141	2750	82000575



CTACV-30 is a twin conductor heating cable of 30 W/m output, it has double protection (M2), aluminium tape and tinned cooper screen with memory, fluorpolymer insulation and polypropylene overjacket. The heating cable is UV resistant.

It is designed for roof ice and snow melting systems (roof gutters and downpipes) and/ or ground frost protection of ground (ramps, driveways, entrances, car parks, pavements, bridges, stairs, etc.), and frozen soil in winter (construction sites).

Installation: It can be laid in roof gutters, downpipes, roof edges and into concrete or stone dust layer under tiles for frost protection of entrances, driveways, car parks, ramps, pavements and bridges. The cable can be laid directly on frozen soil whereby covering it with rockwool mats.



TECHNICAL DATA

Voltage	230 V
Output	30 W/m
Diameter	5,9 mm
Max temperature	+80 °C
Connection cable	5 m
Min installation temperature	+5 °C
Conductor insulation	Fluorpolymer (FEP)+(XLPE)
Overjacket	Polyvinyl chloride (PVC)
Min bending radius	8 diameters
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Voltage (V)	Length (m)	Output (W)	Order No.
CTACV-30	230	7	210	82253505
CTACV-30	230	11	330	82253510
CTACV-30	230	14	420	82253515
CTACV-30	230	18	540	82253520
CTACV-30	230	22	660	82253525
CTACV-30	230	26	780	82253530
CTACV-30	230	32	960	82253535
CTACV-30	230	36	1080	82253540
CTACV-30	230	44	1320	82253545
CTACV-30	230	52	1560	82253550
CTACV-30	230	65	1950	82253555
CTACV-30	230	76	2280	82253560
CTACV-30	230	96	2880	82253565
CTACV-30	230	114	3420	82253570



CTACV-30 is a twin conductor heating cable of 30 W/m output, it has double protection (M2), aluminium tape and tinned cooper screen with memory, fluorpolymer insulation and polypropylene overjacket. The heating cable is UV resistant. It is designed for roof ice and snow melting systems (roof gutters and downpipes) and/ or ground frost prevention (ramps, driveways, entrances to car parks, pavements, bridges, stairs, etc.), and frozen soil in winter (construction sites).

Installation: It can be laid in roof gutters, downpipes, roof edges and into concrete or stone dust layer under tiles for frost protection of entrances, driveways, car parks, ramps, pavements and bridges. The cable can be laid directly on frozen soil whereby covering it with rockwool mats.



TECHNICAL DATA

Voltage	400 V
Output	30 W/m
Diameter	5,9 mm
Max temperature	+80 °C
Connection cable	5 m
Min installation temperature	+5 °C
Conductor insulation	Fluorpolymer (FEP)+(XLPE)
Overjacket	Polyvinyl chloride (PVC)
Min bending radius	8 diameters
Protection class	IP67
Warranty	20 years

PRODUCT LIST

Type	Voltage (V)	Length (m)	Output (W)	Order No.
CTACV-30	400	12	360	82253605
CTACV-30	400	20	600	82253610
CTACV-30	400	24	720	82253615
CTACV-30	400	32	960	82253620
CTACV-30	400	39	1170	82253625
CTACV-30	400	46	1380	82253630
CTACV-30	400	56	1680	82253635
CTACV-30	400	63	1890	82253640
CTACV-30	400	76	2280	82253645
CTACV-30	400	92	2760	82253650
CTACV-30	400	114	3320	82253655
CTACV-30	400	132	3960	82253660
CTACV-30	400	163	4890	82253665
CTACV-30	400	196	5880	82253670

PipeHeat-10

self-limiting heating cable with plug



PipeHeat-10 is a self-limiting heating cable with a plug, of 10 W/m output, it has Adflex (thermoplastic polyolefin) overjacket.

It can be installed directly on surface of pipe whereby the cable is fixed alongside two layers of adhesive aluminium tape for covering or inserted into pipe through a metal fitting otherwise.

PipeHeat-10 is quick and straightforward to set up for connection: simply plug it into a socket, for example, when temperature drops below 3 °C, and plug it off when it is warm enough (air temperature above 3 °C), or you can set-up the cable together with a thermostat, saving your time and money. The wide range of PipeHeat-10 cables serves your choice for a proper length and power output that stops pipes from freezing.



TECHNICAL DATA

Voltage	230 V, +10/-15 %
Type	Self-limiting
Dimensions	10,8x6,3 mm / 7,9x5,6 mm
Connection cable	1,5m with plug
Max operational temperature	+65 °C (cable switched on)
Max withstanding temperature	+85 °C (cable switched off)
Min ambient temperature	-30 °C
Overjacket	Adflex (thermoplastic polyolefin)
Min bending radius	30-40 cm
Protection class	IP67
Warranty	2 years

PRODUCT LIST

Type	Cable length (m)	Output (W)	Order No.
PipeHeat-10	1	10	33761001
PipeHeat-10	2	20	33761002
PipeHeat-10	3	30	33761003
PipeHeat-10	4	40	33761004
PipeHeat-10	5	50	33761005
PipeHeat-10	6	60	33761006
PipeHeat-10	7	70	33761007
PipeHeat-10	8	80	33761008
PipeHeat-10	9	90	33761009
PipeHeat-10	10	100	33761010
PipeHeat-10	11	110	33761011
PipeHeat-10	12	120	33761012
PipeHeat-10	15	150	33761015
PipeHeat-10	17	170	33761017
PipeHeat-10	20	200	33761020
PipeHeat-10	22	220	33761030



GTe2

self-limiting heating cable with connection cable



GTe2 is a self-limiting cable with connection cable of 18/36 W/m output for ice protection of roof gutters and downpipes, and frost protection of roof systems. Self-limiting cable automatically adjusts its output to ambient temperature. **GTe2** is UV resistant and ensures durable frost protection of roof systems.



TECHNICAL DATA

Voltage	230 V, +10/-15 %
Type	Self-limiting
Dimensions	12,95x5,95 mm
Connection cable	5 m
Max operational temperature	+60 °C (cable switched on)
Max withstanding temperature	85 °C (cable switched off)
Min ambient temperature	-40 °C
Overjacket	Thermoplastic
Jacket	UV resistant
Min bending radius	35 mm
Protection class	IP67
Warranty	2 years

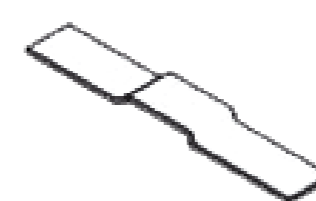
PRODUCT LIST

Type	Cable length (m)	Voltage (V)	Order No.
GTe2-18/36	3	230	33762003
GTe2-18/36	5	230	33762005
GTe2-18/36	7	230	33762007
GTe2-18/36	9	230	33762009
GTe2-18/36	12	230	33762012
GTe2-18/36	15	230	33762015
GTe2-18/36	20	230	33762020
GTe2-18/36	22	230	33762022
GTe2-18/36	25	230	33762025

Fixing bracket FB/GT



FC-GT fixing clip



Thermostat DTR-E 3102



C101
electronic thermostat



The electronic thermostat **C101** with a floor temperature sensor has a setback temperature function.

C101 thermostat is designed for floor heating control, and is wall-mounted in all rooms. It comes with 3 m length floor temperature sensor cable.

EAC CE

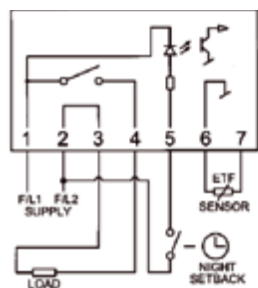
TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	16A / 3600 W
On / off switch	Unipolar
Temperature range	+5 °C ... +45 °C
Hysteresis	+/-0,4 °C
Sensor type	Floor (NTC)
Sensor resistance	14,8 kOhm / 20 °C
Light indicator	LED
Dimensions	84x84x28 mm
Protection class	IP20
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Sensor	Order No.	Model
C 101	+5 °C ... +45 °C	floor, 3 m	19111801	Elko

WIRING DIAGRAM



C501
electronic thermostat



The electronic thermostat **C501** with a floor temperature sensor has a night setback option to slack off up to +5 °C. The thermostat is wall - mounted into a standard recessed box.

It comes with 3 m length floor temperature sensor cable.

EAC CE

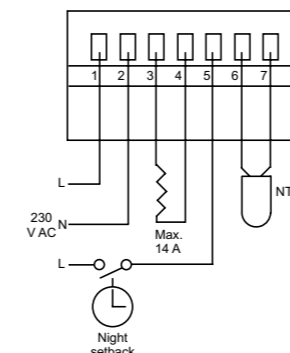
TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	14 A / 3200 W
On / off switch	Unipolar
Temperature range	+5 °C ... +40 °C
Hysteresis	+/-0,4 °C
Setting of temperature range	Min / max
Sensor type	Floor (NTC)
Sensor resistance	14,8 kOhm / 20 °C
Temperature setback	-5 °C
Light indicator	LED
Dimensions	80x80x50 mm
Protection class	IP21
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Sensor	Order No.	Model
C 501	+5 °C ... +40 °C	floor, 3 m	19115952	Jussi
C 501	+5 °C ... +40 °C	floor, 3 m	19115953	Elko

WIRING DIAGRAM





C511T programmed clock thermostat

**Comfort
Heat**

Modern, electronic clock thermostat **C511T** with fine LCD display designed for floor heating control. It comes with a floor temperature sensor, which undertakes an integral temperature adjustment control, a pre-set saving function, and includes energy consumption management system. Pre-programmed factory settings, are adjusted to Lithuanian climate, and weekly mode. Factory settings and data are retrieved beyond power failure.

The thermostat has an adaptive function for work with other producer's sensors.

C511T is wall - mounted into a standard recessed box.



ERC CE

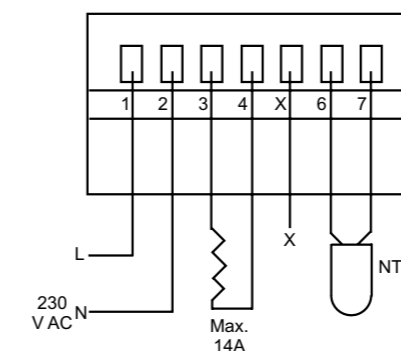
TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	16 A / 3600 W
On / off switch	Bipolar
Temperature range	+5 °C ... +40 °C
Hysteresis	+/-0,4 °C
Saved time	100 hours
Saved programming (ECU)	Unlimited time
Pre-programmed in factory	I-V, VI-VII mode
Sensor type	Floor (NTC)
Sensor resistance	14,8 kOhm at 20 °C
Energy consumption indicator (floor heating time %)	2 days, 30 days, 365 days
Dimensions	84x84x40 mm
Protection class	IP21
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Sensor	Order No.	Model
C511T	+5 °C ... +40 °C	floor, 3 m	19115966	Elko

WIRING DIAGRAM





The electronic clock thermostat **C510T**, with fine LCD display comes with floor temperature sensor and energy consumption management system.

C510T thermostat has pre-programmed functions adjusted to Lithuanian climate and weekly mode. Factory settings and data are retrieved beyond power failure.

The thermostat is wall - mounted into a standard recessed box. Energy consumption management system informs of percentage consumption of adjusted temperature levels, what your monthly consumption is, and upcoming year's expenditure.

User-friendly **Comfort WiFi** thermostat gives you an opportunity to control heating via a smartphone with simple and intuitive App from anywhere around the world. **Connecting to the App takes seconds.** With the **Comfort WiFi** thermostat App you can control thermostat combined or individual heating zones. The App has a multiple User Access and can control several residential houses or apartments. A **Comfort Heat** thermostat is easily compatible with other producer's sensors. Smart detailed energy consumption data allows you to manage your energy consumption. Each **Comfort WiFi** thermostat has built-in WiFi, which does not need any additional components such as gateways. The built-in wizard takes you simply through every single step, ensuring trouble-free commissioning.



EAC CE

EAC CE

TECHNICAL DATA

Voltage	100-240 V
Max load	16 A / 3600 W
Screen	2", 176x220 points, touch screen
On / off switch	Bipolar
Standby mode energy consumption	0,5 W
Temperature range	+5 °C ... +40 °C
Hysteresis	+/-0,4 °C
Energy consumption and saved time memory	5 years
Saved programming	Unlimited time
Sensor type	Floor and room
Sensor resistance	NTC (14,8 kOhm at 20 °C) 3m
Dimensions	84x84x40 mm
Protection class	IP21
Warranty	3 years

TECHNICAL DATA

Voltage	230 V AC
Max load	16 A / 3600 W
Temperature range	+5 °C ... +40 °C
Built-in interrupter	2 pole, 16A
Control principle	PWM/PI
Standby mode energy consumption	0,5W
Energy consumption and saved time memory	10 years
Wi-Fi	IEEE 802.11 b/g/n - 2.4GHz
Security	WPA/WPA2
Temperature range	+5°C...+40°C
Sensor type	Floor and room
Sensor resistance	NTC (14,8 kOhm at 20 °C), 3m
Dimensions	84x84x40 mm
Protection class	IP21
Warranty	3 year

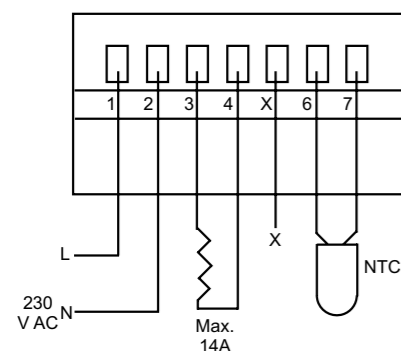
PRODUCT LIST

Type	Temperature range	Sensor	Order No.	Model
ComfortTouch	+5 °C ... +40 °C	Floor and room, 3m	19115967	Elko

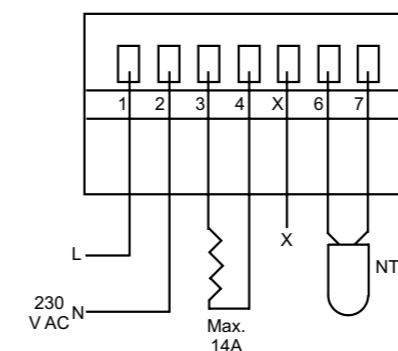
PRODUCT LIST

Type	Temperature range	Sensor	Order No.	Model
Comfort WiFi	+5°C ... +40°C	Floor and room, 3m	19115970	Elko

WIRING DIAGRAM



WIRING DIAGRAM



Full control. Any time, anywhere.

- Key features are
- Trouble free setup and use
 - No Gateway required
 - Redundant control - full control at thermostat
 - Full App control of
 - Heating Zones
 - Individual thermostats
 - Heating schedules
 - Support of Multiple User Access

Connecting to the app takes seconds

The user-friendly Comfort Heat app, offers detailed assistance on how to install and connect with the Comfort WiFi thermostat.

Key features are

- Multiple languages for highest user-friendliness
- Wizard guidance for trouble free installation
- Integrated QR-reader for easiest connection with thermostats
- Full graphical user interface for ease of use



ETV-1991 thermostat (0 °C...+40 °C)

**Comfort
Heat**

ETV-1991 is an electronic thermostat designed for the DIN rail mounting. It comes with ETF 144/99 temperature sensor.

The thermostat is produced for heating system control, industrial pipe line tracing and pipe frost protection. Thermostat has an option of temperature setback of up to 5 degrees (-5 °C), which can be activated with the help of an additional relay.



ERC CE

TECHNICAL DATA

Voltage	230 V
Max load	16 A / 3600 W
Temperature range	0 °C ... +40 °C
Hysteresis	+/-0,4 °C
Sensor type	NTC
Sensor resistance	14,8 kOhm at 20 °C
Setback mode	-5 °C
Heating off in case of sensor's defect	yes
Light indicator	LED
Dimensions	86x36x58 mm
Protection class	IP21
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Jutiklis	Sensor
ETV 1991	0 °C ... +40 °C	External	19113689
Sensor ETF 144/99*	-10 °C ... +50 °C	External	19115965
Sensor ETF 622**	-20 °C ... +120 °C	External	19121436

*the sensor is included; **the sensor is supplied additionally

ACCESSORIES

Sensor ETF 144/99*	Sensor ETF 622**
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THERMOSTATS FOR OUTDOOR APPLICATIONS

ETI-1221 thermostat (+10 °C...+110 °C)



ETI-1221 is an electronic thermostat with variable temperature differentials, an independent control relay, and DIN rail - mounted contacts built in panel.

The thermostat is designed for pipe tracing of high temperature industrial lines temperature and other heating systems control. Sensor (*) **ETF 144/99** or **ETF-622** is applicable, depends on controlled temperature requirements. Both sensors can be prolonged with a 100 m cable.

EAC CE

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	10 A / 2200 W
Temperature range	+10 °C ... +110 °C
Hysteresis	+/-0,4 °C
Setback mode	0,5...10 °C
Sensor type (selected*)	NTC
Heating off in case of sensor's defect	Yes
Light indicator	LED
Dimensions	86x36x58 mm
Protection class	IP20
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Sensor	Order No.
ETI 1221	+10 °C ... +110 °C	External	19113680
Sensor ETF 144/99**	-10 °C ... +50 °C	External	19121438
Sensor ETF 622**	-20 °C ... +120 °C	External	19121436

*the sensor is supplied additionally **the sensor is supplied additionally

ACCESSORIES

Sensor ETF 144/99*



Sensor ETF 622**



ETN4-1999 electronic thermostat with LCD screen (-19 °C...+70 °C)

ETN4-1999 is an electronic thermostat with LCD display, temperature differentials adjustment, independent control relay, and DIN rail - mounted contacts built in a panel. The thermostat is made to control both, heating or cooling systems, with support of one or two sensors. Thermostat comes with **ETF 144/99** sensor.

ETN4-1999 is designed to control temperature of room heating systems, pipe tracing, and is made for roof gutters and downpipes frost protection, soil frost protection and stores floor frost protection. Additionally, it comes with a night temperature control sensor (*) **ETF-622** and can be prolonged with a 100 m cable



EAC CE

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	16 A / 3600 W
On / off switch	Bipolar
Hysteresis	+/-0,4 °C
Temperature range	-19,5 °C ... +70 °C
Sensor type	NTC
Sensor resistance	14,8 kOhm at 20 °C
Ambient temperature	-20 °C ... +55 °C
Setback mode range	-19,5 °C ... +30 °C
Setback mode	0-100 %
Frost protection	0 °C ... +10 °C
Protection class	IP20
LCD	25x38 mm
Dimensions	86x52,5x58 mm
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Sensor	Order No.
ETN4-1999	-19,5 °C ... +70 °C	External	19113682
Sensor ETF 144/99*	-10 °C ... +50 °C	External	19121438
Sensor ETF 622**	-20 °C ... +120 °C	External	19121436

*the sensor is supplied additionally **the sensor is supplied additionally

ACCESSORIES

Sensor ETF 144/99*



Sensor ETF 622**



ETO2-4550 microprocessor based thermostat for snow melting system control



ETO2-4550 is a programmed microprocessor controller for ice and snow melting systems. It controls two independent zones according to the data from two separate sensors (one roof sensor **ETOR-55**, **ETF-744/99** and one ground sensor **ETOG-55**) or two similar sensors (2 roof sensors **ETOR-55**, **ETF-744/99** or 2 ground sensors **ETOG-55**). Optimal operation is ensured, thanks to output control which makes the system effective and economical. The thermostat is DIN rail - mounted in panel or wall - mounted with a cover box.

Additional functions: control of electric or water-based ice and snow melting systems, efficient control – minimising energy consumptions, alarm relay with external signal, time extension of residual heating and language options.

Remote control: ETO2 thermostat can be controlled from a distance via external signal: system: switch ON/ OFF, or heating period extension switch ON option.

Used for: frost protection on roof gutters and downpipes; frost protection of steps, entrances, driveways, parking lots, ramps, sideways and bridges.



TECHNICAL DATA

Voltage	115/230 V AC 50/60 Hz
Three outlet relays	3 × 16 A / 11 kW
Signal relay	Max 5 A
Control valve signal	0-10 V DC
Supply voltage (valve)	24 V AC/100 mA
Temperature range	-20 °C ... +10 °C
Hysteresis	+/-1 °C
Sensor type (selected*)	Ground or roof / temperatures
Ambient temperature	0 °C ... +50 °C
Extension of heating time	0-6 hours
Ambient humidity	10-95 %
Protection class	IP20
Dimensions	90x156x45 mm
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Order No.
ETO2-4550	-20 °C ... +10 °C	19117900
Sensor ETOG-55*	-50 °C ... +70 °C	19122035
Sensor ETOR-55*	-50 °C ... +70 °C	19122045
Sensor ETF 744/99*	-50 °C ... +70 °C	19116054

*the sensor is supplied additionally

ACCESSORIES



ETR2-1550 electronic thermostat for snow melting system control



ETR2-1550 is an electronic thermostat which comes with temperature and moisture sensors designed for ice and snow melting systems control. It controls one zone according to roof sensor data (**ETOR-55**, **ETF-744/99***) or ground sensor data (**ETOG-55***). It can reach up to 16A (ON / OFF up to 3600 W). Optimal operation function is linked to output control in different weather conditions, what makes the system effective and economical. The thermostat is DIN rail - mounted in panel.

Additional functions: indication of heating operation, temperature, humidity and period extension of residual heating.

Used for: frost protection of roof gutters and downpipes; ice and snow protection of steps, entrances, driveways, parking lots, ramps, pathways, bridges and small ground areas.



TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	16 A / 3600 W
Hysteresis	+/-0,3 °C
Temperature setting for startup	0 °C ... +10 °C
Sensor type (selected*)	Ground or roof / temperatures
Ambient temperature	-10 °C / +50 °C
Extension of heating time	0-5 hours
Ambient humidity	10-95 %
Protection class	IP20
Dimensions	86x52x59 mm
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Order No.
ETR2-1550	-10 °C ... +50 °C	19117909
Sensor ETOG-55*	-50 °C ... +70 °C	19122035
Sensor ETOR-55*	-50 °C ... +70 °C	19122045
Sensor ETF 744/99*	-50 °C ... +70 °C	19116054

*the sensor is supplied additionally

ACCESSORIES



DTR-E 3102

thermostat for snow melting
system control



DTR-E 3102 is a bimetallic thermostat with upper and lower temperature range. It is used for snow melting and frost protection systems control.

DTR-E 3102 thermostat is designed for frost protection system management of icicle formation on small roofs, gutters and downpipes. The systems are applied in residential houses on stairs, at entrances and on driveways.



TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Max load	16 A
Hysteresis	+/-0,3 °C
Sensor type	Bimetal
Temperature range	-20 °C ... +25 °C
Ambient temperature	-30 °C ... +50 °C
Protection class	IP65
Dimensions	122x120x55 mm
Warranty	3 years

PRODUCT LIST

Type	Temperature range	Order No.
DTR-E 3102	-20 °C ... +25 °C	19113688



Installation accessories

Type		Order No.
Installation tape (5 m) Installation tape (20 m)		19808188 19808193
Aluminium tape (50 mm x 50 m), temperature resistant up to +180 °C		19805077
Roof gutter clip (25 pcs.)		19805191
Downpipe clip (25 pcs.)		19805258
Galvanized chain (4 mm, 1 m)		19805241
Stainless steel chain holder		19805243
Fixing bracket FB/GT		19805746
Self-limiting cable fixing clip FC/GT		19805754
Self-limiting cable junction seal (for connection with power cable)		19805761
Junction seal SF-P for connection of one self-limiting cable with electric cable. Junction seal SF-T for connection of three self-limiting cables		30376009 30376010
Metal fitting M20/25 (1" and 3/4") for self-limiting cable		19805368
Repair kit for heating cables and mats		18055228



GTe / GTe-F

self-limiting heating cable for downpipe protection

Comfort Heat

SELF-LIMITING HEATING CABLES

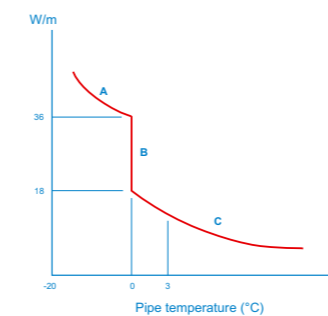
GTe2 is a self-limiting heating cable of **18/36 W/m** output for ice protection of roof gutters and downpipes, and frost protection of drain systems. It automatically adjusts its output in response to ambient temperature. The cable is UV resistant. The cable is produced with nanotechnologies, ensuring for long-lasting properties benefits of roof systems.

GTe2-F self-limiting heating cable with fluoropolymer overjacket can be installed in chemically hazardous zones, such as gutters and downpipes of bitumen roofs, car parking areas and sewerage systems. The cable is available in 200-300 m reel..



ERC CE

TECHNICAL DATA



Output	18 W/m (at 0 °C) 36 W/m (in ice at 0 °C)
Voltage	220/240 V AC
Dimensions	12,59x5,95; 12,65x5,65
Overjacket	UV resistant
GTe	Thermoplastic
GTe-F	Fluoropolymer (F)
Min bending radius	35 mm
Max temperature	+60°C ON or OFF
Min install. temperature	-40°C

- A** – In snow and ice water the heating cable will operate at full power.
- B** – As snow begins to melt and water drains away, the heating cable self-regulates to half a power.
- C** – As it gets warmer, the heating cable will reduce its power output.

MAXIMUM LENGTH OF THE CABLE (M) IN ONE ELECTRICAL CIRCUIT DEPENDS ON THE TEMPERATURE:

Ambient temperature	230 V				
	6 A	10 A	16 A	20 A	32 A
+10 °C	26	42	68	84	90
0 °C	24	38	62	78	86
-15 °C	20	34	54	68	80

PRODUCT LIST

Type	Order No.
GTe2	30116020
GTe2-F	30116021

ACCESSORIES

Self-limiting cable junction seal	FB/GT fixing bracket	FC/GT fixing bracket	ETO2-4550



SELF-LIMITING HEATING CABLES

SELF-LIMITING HEATING CABLES



FSM2-CT self-limiting heating cable of **11 W/m** and **17 W/m** output can be used for heating, temperature maintenance and frost protection of pipes. The cable is produced with nanotechnologies, ensuring durable benefits; it withstands the temperature of **up to +85 °C** (when turned off). It can be installed in residential, public and commercial buildings and within industrial hazardous (Ex) zones.

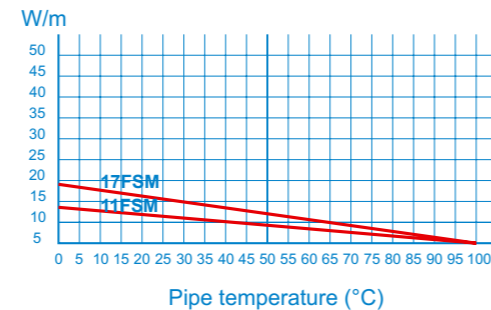
FSM2-CF cable can be installed within chemically hazardous zones, that of bitumen, oil products, food and industrial oils and other chemical products, because approved for use in both, safe and hazardous areas.

Installation: the cable is laid onto small diameter pipes under thermal insulation layer.



TECHNICAL DATA

Voltage	220/240 V AC
Output	11W/m ir 17 W/m (+10 °C)
Dimensions	10,5x5,9 mm
Overjacket	Thermoplastic(CT) Fluoropolymer (CF)
Min bending radius	35 mm
Max temperature:	
•Cable switched on	+65 °C
•Cable switched off	+85 °C
Min install. temperature	-40 °C (CENELEC -20 °C)
Temperature class	T6



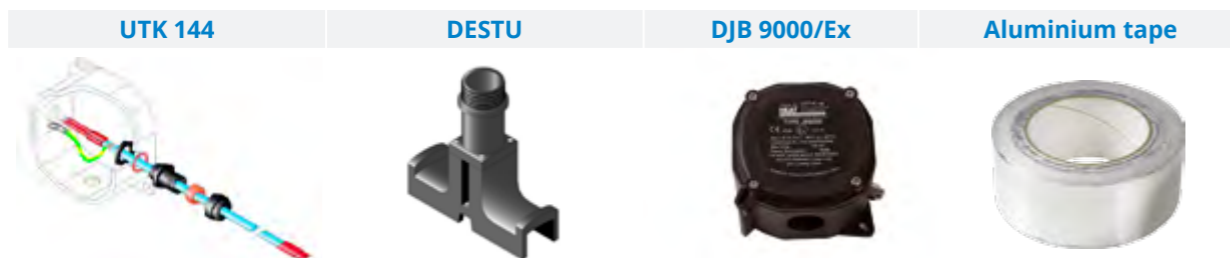
MAXIMUM LENGTH OF THE CABLE (M) IN ONE ELECTRICAL CIRCUIT DEPENDS ON THE TEMPERATURE:

Ambient temperature	11FSM				17FSM			
	230 V							
	6 A	10 A	16 A	20 A	6 A	10 A	16 A	20 A
+5 °C	76	126	128	-	54	88	102	-
0 °C	70	118	128	-	50	84	102	-
-20 °C	46	78	124	128	34	56	88	102
-40 °C	36	60	96	120	26	42	68	86

PRODUCT LIST

Type	Order No.
11FSM2-CT	30111010
17FSM2-CT	30111020

ACCESSORIES



FSLe2-CT self-limiting heating cable of **17 W/m**, **23 W/m**, **31 W/m** output can be used for heating, temperature maintenance and frost protection of pipes. The cable is produced with nanotechnologies, ensuring durable benefits; it withstands the temperature of **up to +85 °C** (when ON or OFF). It can be installed in residential, public and commercial buildings and within industrial hazardous (Ex) zones.

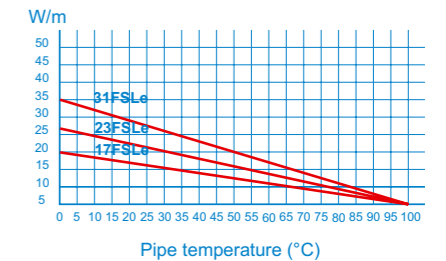
FSLe-CF cable can be installed within chemically hazardous zones, that of bitumen, oil products, food and industrial oils and other chemical products, because approved for use in both, safe and hazardous areas.

Installation: the cable is laid onto medium diameter pipes under thermal insulation layer.



TECHNICAL DATA

Voltage	220/240 V
Output	17W/m, 23 W/m, 31 W/m (+10 °C)
Dimensions	10,5x5,9 mm
Overjacket	Thermoplastic (CT) Fluoropolymer (CF)
Min bending radius	35 mm
Max temperature:	
•Cable switched on	+85 °C
•Cable switched off	+85 °C
Min install. temperature	-40 °C (CENELEC -20 °C)
Temperature class	T6



MAXIMUM LENGTH OF THE CABLE (M) IN ONE ELECTRICAL CIRCUIT DEPENDS ON THE TEMPERATURE:

Ambient temperature	17FSLe		23FSLe		31FSLe	
	230 V					
	16 A	20 A	6 A	10 A	16 A	20 A
+5 °C	146	-	46	76	92	102
0 °C	146	-	42	70	84	102
-20 °C	130	146	34	56	56	66
-40 °C	112	138	28	46	54	66

PRODUCT LIST

Type	Order No.
17FSLe2-CF	30112021
23FSLe2-CT	30112022
23FSLe2-CF	30112027
31FSLe2-CF	30112038
31FSLe2-CT	30112037

ACCESSORIES





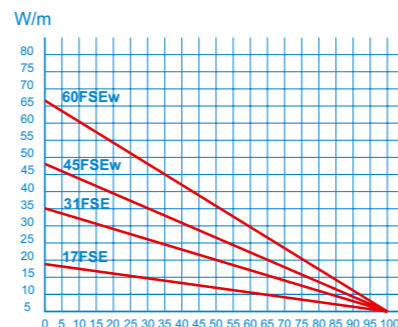
FSE2-CF, FSEw2-CF self-limiting heating cable, of **17 W/m, 31 W/m, 45 W/m** and **60 W/m** output for heating and frost protection of industrial pipes, can be installed in both, safe and hazardous (Ex) zones. The cable is produced with nanotechnologies, ensuring long-lasting benefits, withstands the temperature of **up to 100 °C** (when switched ON or OFF).

FSE2-CF, FSEw2-CF cables are made with fluoropolymeric overjacket which is resistant to chemically hazardous environments (that of bitumen, oil products, food and industrial oils and other chemical products production).

Installation: the cable is used for installation of industrial technological pipes within chemically hazardous (Ex) zones.

TECHNICAL DATA

Voltage	220/240 V
Output	17 W/m, 31 W/m, 45 W/m and 60W/m (+10 °C)
Dimensions	12,7x5,95 mm
Overjacket	Fluoropolymer (CF)
Min bending radius	35 mm
Max temperature:	
•Cable switched on	+100 °C
Min install. temperature	-40 °C (CENELEC -20 °C)
Temperature class	T4



MAXIMUM LENGTH OF THE CABLE (M) IN ONE ELECTRICAL CIRCUIT DEPENDS ON THE TEMPERATURE:

Ambient temperature	230 V							
	17FSE		31FSE		45FSEw		60FSEw	
	16 A	20 A	16 A	20 A	16 A	20 A	16 A	20 A
+10 °C	120	148	82	104	62	76	52	66
0 °C	98	122	68	84	50	64	44	56
-20 °C	66	82	46	56	34	42	32	40
-40 °C	44	56	30	38	22	28	22	28

PRODUCT LIST

Type	Order No.
17FSE2-CF	312286906
31FSE2-CF	312286905
45FSEw2-CF	312286904
60FSEw2-CF	312286902

ACCESSORIES



DELTA fan heater is robust, reliable, quickly and easily creates pleasant air conditions, whilst maintaining a required temperature level within premises. It is easily transportable and can be used as for permanent and local heating. The DELTA fan heater comes in two sizes: 3-9 kW, small, and 15-21 kW, large. The fan heater with timer T has a time delay function (24 hours).

Usage: heating large premises, warehouses, workshops, sports halls, factories or garages, construction sites and ships; **DELTA** fan heater can be used both, temporarily and permanently.



TECHNICAL DATA

Voltage	3x400 V AC
Output	6 kW... 21 kW
Temperature range	0 °C...+40 °C
Max temperature	+80 °C
Regulation levels	5 positions
Timer	24 hours
Dimensions	410x435x420 mm 505x540x510 mm
Protection class	IPX4
Warranty	2 years

DELTA FAN HEATER PROGRAM TABLE (ACCORDING TO TEMPERATURE AND ROOM SIZE)

Description	ΔT = 5 °C	ΔT = 10 °C	ΔT = 15 °C	ΔT = 20 °C	ΔT = 25 °C	ΔT = 30 °C
DELTA 6000	1200/1680 m³	600/840 m³	400/560 m³	300/420 m³	240/360 m³	200/300 m³
DELTA 9000	2000/2800 m³	1000/1400 m³	680/940 m³	600/700 m³	400/600 m³	350/500 m³
DELTA 15000	3000/4200 m³	15000/2100 m³	1000/1400 m³	750/1050 m³	600/900 m³	500/750 m³
DELTA 21000	4200/5800 m³	2100/2900 m³	1400/1960 m³	1050/1460 m³	840/1260 m³	700/1050 m³

PRODUCT LIST

Description	Output (kW)	Air circulation (m³/h)	ΔT (°C)	Weight (kg)	Order No.
DELTA 6000	3/6	400/600	21/28	13,6	69820058
DELTA 9000	4,5/9	500/800	25/32	14,6	69820074
DELTA 15000	7,5/15	800/1400	26/30	23,6	69820090
DELTA 21000	10,5/21	800/1400	37/42	25,7	69820116



SB is an infrared heater used for heating of offices, sports halls, churches, industrial and agricultural structures.

The infrared heater transmits energy and warms up people and surfaces in a room.

Installed in: Churches, workshops, separate work spaces in office, department stores, farms and other premises. The heaters are installed onto ceiling or suspended at a required height, minimum 1m from the heated surface.



TECHNICAL DATA

Voltage	230 V AC
Output	900 W... 3600 kW
Protection class	IPX4
Warranty	2 years

PRODUCT LIST

Description	Length (mm)	Width (mm)	Height (mm)	Voltage (V)	Output (W)	Order No.
S+09 SB	1500	150	60	230	900	95401609
S+12 SB	1500	150	60	230	1200	95401518
S+18 SB	1500	250	60	230	1800	95401618
S+24 SB	1500	250	60	230	2400	95401524
S+30 SB	1500	350	60	230	3000	95401530
S+36 SB	1500	350	60	230	3600	95401436

Calculations of cable output for pipe frost protection

Insulation thickness	Pipe diameter													
	1/2 "	3/4 "	1 "	1 1/4 "	1 1/2 "	2 "	2 1/2 "	3 "	4 "	5 "	6 "	8 "	10 "	
	15 mm	20 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm	125 mm	150 mm	200 mm	250 mm	
10 mm	17 W/m	17 W/m	23 W/m	23 W/m	31 W/m	31 W/m	45 W/m	45 W/m	60 W/m	60 W/m	75 W/m			
20 mm	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	23 W/m	23 W/m	31 W/m	31 W/m	45 W/m	45 W/m	60 W/m	75 W/m	
30 mm	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	17 W/m	23 W/m	23 W/m	23 W/m	31 W/m	45 W/m	45 W/m	
40 mm	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	17 W/m	23 W/m	23 W/m	31 W/m	45 W/m	
50 mm	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	17 W/m	23 W/m	23 W/m	31 W/m	
75 mm	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	17 W/m	23 W/m	31 W/m	
100 mm	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	17 W/m	17 W/m	23 W/m	
150 mm	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	11 W/m	17 W/m	

Technical data specification for pipe tracing

Company: _____

Customer
 Project location
 General project data
 Installer Phone: Date:
 Supplier of heating cables:

Technical project data
Purpose: Frost protection Temperature maintenance
 Heat up from _____ to _____ °C
 Heat up _____ hours

Temperature
 Required temperature °C
 Ambient temperature: Min..... °C Max..... °C
 Normal technological temperature* °C
 Maximum technological temperature** °C
 Maximum permissible product temperature °C
 Maximum system start up temperature*** °C

Evaporation yes no Vapour temperature °C

Voltage 230 V 400 V Other V
 Installation Outside Inside

Thermal insulation Mineral wool (soft), Mineral wool (shell), Polyurethane
 Other, thermal conductivity rate λ (at 10 °C) W/m

Zone Ex hazardous: - 0 zone - 1 zone - 2 zone Not Ex hazardous

Temperature class T1 T2 T3 T4 T5 T6

Pipe (reservoir) material Carbon steel Stainless steel Plastic Other

Heated product

Pipelines

No.	Length of pipe, m	Diameter, mm	Thermo-insulation thickness, mm	Valves, pcs.	Rings, pcs.	Filters, pcs.	Pumps, pcs.	Supports pcs., dimensions
1								
2								
3								
4								
5								

* Product temperature under normal exploitation conditions
 ** The highest temporary pipeline temperature
 *** The lowest temperature at which the system should switch on

Include: Constant power cables Self-limiting cables

Responsible person: _____ signature: _____ date: _____

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The Comfort **Wi-Fi** thermostat allows to control the heating system with a smartphone.



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Programming: Easy programming and control of room temperature will allow you to maintain optimal heat at your home at the right time.



Energy control: Constant monitoring of energy consumption will reduce your heating costs.