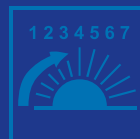




solutions
for everyone

electric
heating systems



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Headquarters



ELEKTRA leading brand

ELEKTRA specializes in electric heating systems for both residential and commercial buildings. Established in 1985, the company is currently the largest and most reputable producer of floor heating systems in Central Europe. From the beginning product quality has been the first priority for the company. This is the only way to satisfy all customers and achieve and maintain leadership in the market.

ELEKTRA stock availability

Throughout the EU and around the world, ELEKTRA products are readily available through a network of approved and authorized distributors, installers and even dedicated websites.



Distribution in dozens of countries across Europe, Asia, North America and Australia



1

Know-how & Experience

Many years of continuous operation combined with the latest technology ensures the expert ELEKTRA engineers constantly develop new and innovative solutions. ELEKTRA products remain at the forefront, providing the highest level of quality and customer satisfaction.



2

Raw Material Control

The rigorous selection, approval and use of an established and qualitative raw material supply chain including: Isabellenhütte, Sandvik, 3M & Borealis, ensures the quality and integrity of ELEKTRA products.

Multi-wire Construction



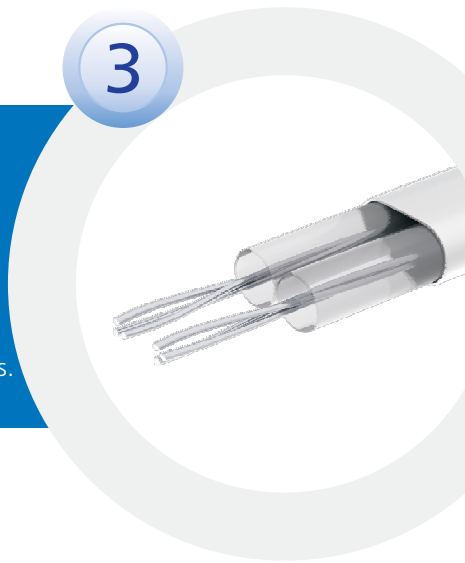
4

Dual Heating Cores

Both cores are heating, allowing equal power distribution of 50% to each core. This significantly lowers the actual operating temperatures of the heating cores which prolongs the life span of the products.

3

The heightened mechanical durability and flexibility of ELEKTRA heating cables is achieved through the use of multi-stranded wire construction of the cores.



Double-layer Insulation

The use of double-layer insulation in products especially designed for extremely demanding operating conditions ensures superior thermal and electric features, thus significantly enhancing durability of the products.

5



6

Precise Extrusion

Precise parameter settings are achieved with computer controlled extrusion processes, ensuring correct structure and necessary quality of the extruded insulation and outer sheath.



7

Laser Measurement

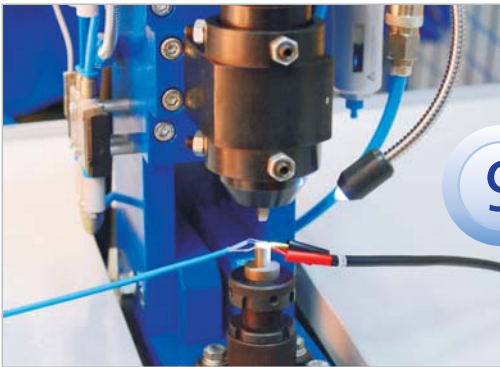
Laser measurement equipment in extrusion lines guarantees insulation and outer sheath thickness to within a tolerance of 0.05mm, and maintains uniform cable centricity.



Uniformity of Resistance

The necessary maintenance of uniform cable tension and therefore stability of resistance is achieved through the use of modern production machines at each stage of the production process. This uniformity and stability is confirmed with 6 individual measurements of heating wire resistance during production.

8



9

Faultless Joint

Only modern precision calibrated pneumatic devices guaranteeing adequate uniform force of joint clamping are used. The material and construction of joints to the level of IPX7 minimum, guarantees the protection of connections in products.

High Voltage Control

Production defects are wholly eliminated by rigorous high voltage control monitoring in the production line, and an additional final high voltage test of every single product, not random testing.

10





11

Unique Code

The marking of each product with a unique production code, means the history of the entire production process and materials used in manufacture can be traced.



12



Quality Confirmed

ELEKTRA quality confirmed by the research results and certificates of VDE and EAC, as well as certificates issued by, among others, UL (Underwriters Laboratories), ETL, Predom OBR, BBJ, Bureau Veritas and PZH.

ELEKTRA Heating Mats

ELEKTRA MD Heating Mats are ready-to-install heating elements which are produced in accordance with EN 60335-2-96. Consisting of a thin heating cable attached to a self-adhesive glass fibre mesh, the system is designed for indoor use and direct heating. It should be installed directly under the surface to be heated, in either flexible tile adhesive or self-levelling compound.

Single-side power supply MD



This package contains:

- ELEKTRA heating mat,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor, capped on one end,
- recessed distribution box Ø 60 mm for the temperature controller,
- instruction manual,
- installation video, DVD for PC and Mac.



> Technical data:

Power output:	100, 160 or 200 W/m ² (200 W/m ² applicable in the UK only)
Power supply:	230 V ~ 50/60 Hz
Mat thickness:	~ 3.9 mm
Min. installation temperature:	-5°C
Max. working temperature:	+110°C
Conduit cables:	1 x 4 m; 3 x 1.00 mm ²
Type of heating cable:	double-core of diameter ~ 3.4 mm, single-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Power output of heating cable:	~ 7 W/m (MD100), ~ 10 W/m (MD160), ~ 12 W/m (MD200)
Insulation:	double layer, FEP + XLPE
Outer sheath:	XLPE
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX7
Product certificates:	VDE, EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



100 W/m²

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
MD 100/1.0	0.5 x 2.0	1.00	100
MD 100/1.5	0.5 x 3.0	1.50	150
MD 100/2.0	0.5 x 4.0	2.00	200
MD 100/2.5	0.5 x 5.0	2.50	250
MD 100/3.0	0.5 x 6.0	3.00	300
MD 100/3.5	0.5 x 7.0	3.50	350
MD 100/4.0	0.5 x 8.0	4.00	400
MD 100/4.5	0.5 x 9.0	4.50	450
MD 100/5.0	0.5 x 10.0	5.00	500
MD 100/6.0	0.5 x 12.0	6.00	600
MD 100/8.0	0.5 x 16.0	8.00	800
MD 100/10.0	0.5 x 20.0	10.00	1000
MD 100/12.0	0.5 x 24.0	12.00	1200

160 W/m²

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
MD 160/0.5	0.5 x 1.0	0.50	80
MD 160/1.0	0.5 x 2.0	1.00	160
MD 160/1.5	0.5 x 3.0	1.50	240
MD 160/2.0	0.5 x 4.0	2.00	320
MD 160/2.5	0.5 x 5.0	2.50	400
MD 160/3.0	0.5 x 6.0	3.00	480
MD 160/3.5	0.5 x 7.0	3.50	560
MD 160/4.0	0.5 x 8.0	4.00	640
MD 160/5.0	0.5 x 10.0	5.00	800
MD 160/6.0	0.5 x 12.0	6.00	960
MD 160/7.0	0.5 x 14.0	7.00	1120
MD 160/8.0	0.5 x 16.0	8.00	1280
MD 160/9.0	0.5 x 18.0	9.00	1440
MD 160/10.0	0.5 x 20.0	10.00	1600

200 W/m² (applicable in the UK only)

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
MD 200/1.0	0.5 x 2.0	1.00	200
MD 200/1.5	0.5 x 3.0	1.50	300
MD 200/2.0	0.5 x 4.0	2.00	400
MD 200/2.5	0.5 x 5.0	2.50	500
MD 200/3.0	0.5 x 6.0	3.00	600
MD 200/3.5	0.5 x 7.0	3.50	700
MD 200/4.0	0.5 x 8.0	4.00	800
MD 200/4.5	0.5 x 9.0	4.50	900
MD 200/5.0	0.5 x 10.0	5.00	1000
MD 200/6.0	0.5 x 12.0	6.00	1200
MD 200/7.0	0.5 x 14.0	7.00	1400
MD 200/8.0	0.5 x 16.0	8.00	1600
MD 200/10.0	0.5 x 20.0	10.00	2000

> Accessories:

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Mats

ELEKTRA MG Heating Mats are ready-to-install heating elements which are produced in accordance with EN 60335-2-96. Consisting of a thin heating cable attached to a self-adhesive glass fibre mesh, the system is designed for indoor use and direct heating. It should be installed directly under the surface to be heated, in either flexible tile adhesive or self-levelling compound.

Double-side power supply MG



This package contains:

- ELEKTRA heating mat,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor, capped on one end,
- recessed distribution box Ø 60 mm for the temperature controller,
- instruction manual,
- installation video, DVD for PC and Mac.



> Technical data:

Power output:	100 or 160 W/m ²
Power supply:	230 V ~ 50/60 Hz
Mat thickness:	~ 3 mm
Min. installation temperature:	-5°C
Max. working temperature:	+105°C
Conduit cables:	2 x 4 m; 2 x 1.0 mm ²
Type of heating cable:	one-core of diameter ~ 2.5 mm, double-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Power output of heating cable:	~ 7 W/m (MG100), ~ 10 W/m (MG160)
Insulation:	double layer, FEP + HDPE
Outer sheath:	XLPE
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX7
Product certificates:	VDE, EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



100 W/m²*

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
MG 100/1.0	0.5 x 2.0	1.00	100
MG 100/1.5	0.5 x 3.0	1.50	150
MG 100/2.0	0.5 x 4.0	2.00	200
MG 100/2.5	0.5 x 5.0	2.50	250
MG 100/3.0	0.5 x 6.0	3.00	300
MG 100/3.5	0.5 x 7.0	3.50	350
MG 100/4.5	0.5 x 9.0	4.50	450
MG 100/5.0	0.5 x 10.0	5.00	500
MG 100/6.0	0.5 x 12.0	6.00	600
MG 100/8.0	0.5 x 16.0	8.00	800
MG 100/9.0	0.5 x 18.0	9.00	900
MG 100/10.0	0.5 x 20.0	10.00	1000
MG 100/12.0	0.5 x 24.0	12.00	1200

160 W/m²

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
MG 160/1.0	0.5 x 2.0	1.00	160
MG 160/1.5	0.5 x 3.0	1.50	240
MG 160/2.0	0.5 x 4.0	2.00	320
MG 160/2.5	0.5 x 5.0	2.50	400
MG 160/3.0	0.5 x 6.0	3.00	480
MG 160/3.5	0.5 x 7.0	3.50	560
MG 160/4.0	0.5 x 8.0	4.00	640
MG 160/5.0	0.5 x 10.0	5.00	800
MG 160/6.0	0.5 x 12.0	6.00	960
MG 160/7.0	0.5 x 14.0	7.00	1120
MG 160/8.0	0.5 x 16.0	8.00	1280
MG 160/9.0	0.5 x 18.0	9.00	1440
MG 160/10.0	0.5 x 20.0	10.00	1600

* ELEKTRA MG 100 available until the stock lasts.

> Accessories:

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Mats

ELEKTRA WoodTec₂[™] Heating Mats are ready-to-install heating elements which are produced in accordance with EN 60335-2-96. Consisting of a very thin heating cable attached to a glass fibre mesh and aluminum foil, the system is designed for indoor use and direct heating. It should be installed directly under laminate flooring and/or engineered wood.

Single-side power supply WoodTec₂[™]



This package contains:

- ELEKTRA WoodTec₂[™] heating mat,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor,
- recessed distribution box Ø 60 mm for the temperature controller,
- aluminum adhesive tape,
- instruction manual.



> Technical data:

Power output:	70 W/m ² (140 W/m ² applicable in the UK only)
Power supply:	230 V ~ 50/60 Hz
Mat thickness:	~ 2.8 mm
Min. installation temperature:	-5°C
Max. working temperature:	+95°C
Conduit cables:	1 x 4 m; 3 x 1.0 mm ²
Type of heating cable:	double-core of diameter ~ 2.3 mm, single-side power supply
Power output of heating cable:	~ 3 W/m (WoodTec ₂ [™] 70), ~ 6 W/m (WoodTec ₂ [™] 140)
Insulation:	double layer, FEP + XLPE
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Screen of heating mats:	PET covered aluminum foil
Protection:	IPX1
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



70 W/m²

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
WoodTec2™ 70/2.0	0.5 x 4.0	2.00	140
WoodTec2™ 70/3.0	0.5 x 6.0	3.00	210
WoodTec2™ 70/4.0	0.5 x 8.0	4.00	280
WoodTec2™ 70/6.0	0.5 x 12.0	6.00	420
WoodTec2™ 70/8.0	0.5 x 16.0	8.00	560
WoodTec2™ 70/11.0	0.5 x 22.0	11.00	770
WoodTec2™ 70/13.0	0.5 x 26.0	13.00	910

140 W/m² (applicable in the UK only)

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
WoodTec2™ 140/3.0	0.5 x 6.0	3.00	420
WoodTec2™ 140/4.0	0.5 x 8.0	4.00	560
WoodTec2™ 140/5.0	0.5 x 10.0	5.00	700
WoodTec2™ 140/6.0	0.5 x 12.0	6.00	840
WoodTec2™ 140/8.0	0.5 x 16.0	8.00	1120
WoodTec2™ 140/10.0	0.5 x 20.0	10.00	1400

> Accessories:

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Mats

ELEKTRA WoodTec₁[™] Heating Mats are ready-to-install heating elements which are produced in accordance with EN 60335-2-96. Consisting of a very thin heating cable attached to a glass fibre mesh and aluminum foil, the system is designed for indoor use and direct heating. It should be installed directly under laminate flooring and/or engineered wood.

Double-side power supply WoodTec₁[™]

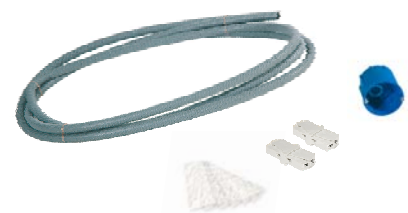


This package contains:

- ELEKTRA WoodTec₁[™] heating mat,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor,
- recessed distribution box Ø 60 mm for the temperature controller,
- 2 electrical connectors,
- aluminum adhesive tape,
- instruction manual.

> Technical data:

Power output:	60 W/m ²
Power supply:	230 V ~ 50/60 Hz
Mat thickness:	~ 1.9 mm
Min. installation temperature:	-5°C
Max. working temperature:	+80°C
Conduit cables:	2 x 4 m; 2 x 1.0 mm ²
Type of heating cable:	one-core of diameter ~ 1.3 mm, double-side power supply
Power output of heating cable:	~ 3 W/m
Insulation:	double layer, FEP + HDPE
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Screen of heating mats:	PET covered aluminum foil
Protection:	IPX1
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



60 W/m²

TYPE	DIMENSIONS	SURFACE	POWER
-	m x m	m ²	W
WoodTec1™ 60/2.0	0.5 x 4.0	2.00	120
WoodTec1™ 60/3.0	0.5 x 6.0	3.00	180
WoodTec1™ 60/4.0	0.5 x 8.0	4.00	240
WoodTec1™ 60/6.0	0.5 x 12.0	6.00	360
WoodTec1™ 60/8.0	0.5 x 16.0	8.00	480
WoodTec1™ 60/10.0	0.5 x 20.0	10.00	600
WoodTec1™ 60/12.0	0.5 x 24.0	12.00	720

 **Accessories:**

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Mats

ELEKTRA SnowTec® Heating Mats are ready-to-install heating elements, composed of an ELEKTRA VCD heating cable produced in accordance with EN 60335-1. The cable is secured with unique tape in the mat shape. This system is designed for outdoor use to protect against snow and ice on driveways, walkways, ramps, etc.

Single-side power supply
SnowTec®



This package contains:

- ELEKTRA SnowTec® heating mat,
- instruction manual.

> Technical data:

Power output:	300 W/m ²
Power supply:	230 V, 400 V ~ 50/60 Hz
Mat thickness:	~ 7.5 mm
Min. installation temperature:	-5°C
Max. working temperature:	+95°C
Conduit cables:	1 x 4 m; 3 x 1.5 mm ² or 3 x 2.5 mm ²
Type of heating cable:	double-core of diameter ~ 5 x 7 mm, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Power output of heating cable:	30 W/m
Insulation:	XLPE
Outer sheath:	heat resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



230V

TYPE	DIMENSIONS	POWER
-	m x m	W
SnowTec® 300/2	0.6 x 2	400
SnowTec® 300/3	0.6 x 3	520
SnowTec® 300/4	0.6 x 4	670
SnowTec® 300/5	0.6 x 5	930
SnowTec® 300/7	0.6 x 7	1140
SnowTec® 300/10	0.6 x 10	1860
SnowTec® 300/13	0.6 x 13	2560
SnowTec® 300/16	0.6 x 16	2890
SnowTec® 300/21	0.6 x 21	3730

400V

TYPE	DIMENSIONS	POWER
-	m x m	W
SnowTec® 300/2 400V	0.6 x 2	400
SnowTec® 300/3 400V	0.6 x 3	600
SnowTec® 300/4 400V	0.6 x 4	820
SnowTec® 300/5 400V	0.6 x 5	950
SnowTec® 300/7 400V	0.6 x 7	1360
SnowTec® 300/9 400V	0.6 x 9	1680
SnowTec® 300/11 400V	0.6 x 11	2100
SnowTec® 300/13 400V	0.6 x 13	2360
SnowTec® 300/15 400V	0.6 x 15	2650
SnowTec® 300/20 400V	0.6 x 20	3550
SnowTec® 300/25 400V	0.6 x 25	4600

> Accessories:

Temperature controllers: ETOG2, ETR2G

ELEKTRA Heating Mats

ELEKTRA SnowTec[®]_{Tuff} Heating Mats are ready-to-install heating elements, dedicated to special applications, composed of an ELEKTRA TuffTec[™] heating cable produced in accordance with EN 60335-1. The cable is secured with unique tape in the mat shape. This system is designed for outdoor use to protect against snow and ice on driveways, walkways, ramps, etc.

Exceptional mechanical and thermal resistance allows for the application in spots especially exposed to harsh installation and operation conditions. Very high temporary exposure temperature (240°C) will make it possible to install the SnowTec[®]_{Tuff} heating mats even directly in asphalt.

Single-side power supply
SnowTec[®]_{Tuff}



This package contains:

- ELEKTRA SnowTec[®]_{Tuff} heating mat,
- instruction manual.

> Technical data:

Power output:	400 W/m ²
Power supply:	230 V, 400 V ~ 50/60 Hz
Mat thickness:	~ 7.5 mm
Min. installation temperature:	-25°C
Max. working temperature:	+110°C
Max. exposure temperature (10 min.):	+240°C
Conduit cables:	1 x 4 m; 3 x 1.5 mm ² or 3 x 2.5 mm ²
Type of heating cable:	double-core of diameter ~ 6.8 mm, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Power output of heating cable:	~ 40 W/m
Insulation:	double layer, FEP + HDPE
Outer sheath:	HFFR
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



230V

TYPE	DIMENSIONS	POWER
-	m x m	W
SnowTec [®] _{Tuff} 400/1.5	0.6 x 1.5	310
SnowTec [®] _{Tuff} 400/3.0	0.6 x 3.0	730
SnowTec [®] _{Tuff} 400/4.5	0.6 x 4.5	1100
SnowTec [®] _{Tuff} 400/6.0	0.6 x 6.0	1350
SnowTec [®] _{Tuff} 400/7.5	0.6 x 7.5	1800
SnowTec [®] _{Tuff} 400/9.0	0.6 x 9.0	2150
SnowTec [®] _{Tuff} 400/10.0	0.6 x 10.0	2350
SnowTec [®] _{Tuff} 400/12.0	0.6 x 12.0	2800
SnowTec [®] _{Tuff} 400/14.0	0.6 x 14.0	3400
SnowTec [®] _{Tuff} 400/16.0	0.6 x 16.0	3650
SnowTec [®] _{Tuff} 400/18.0	0.6 x 18.0	4400

400V

TYPE	DIMENSIONS	POWER
-	m x m	W
SnowTec [®] _{Tuff} 400/2.5 400V	0.6 x 2.5	560
SnowTec [®] _{Tuff} 400/5.0 400V	0.6 x 5.0	1260
SnowTec [®] _{Tuff} 400/8.0 400V	0.6 x 8.0	1940
SnowTec [®] _{Tuff} 400/10.0 400V	0.6 x 10.0	2350
SnowTec [®] _{Tuff} 400/13.0 400V	0.6 x 13.0	3100
SnowTec [®] _{Tuff} 400/15.0 400V	0.6 x 15.0	3870
SnowTec [®] _{Tuff} 400/17.0 400V	0.6 x 17.0	4150
SnowTec [®] _{Tuff} 400/20.0 400V	0.6 x 20.0	4910
SnowTec [®] _{Tuff} 400/22.0 400V	0.6 x 22.0	5310
SnowTec [®] _{Tuff} 400/25.0 400V	0.6 x 25.0	5800
SnowTec [®] _{Tuff} 400/27.0 400V	0.6 x 27.0	6480

> Accessories:

Temperature controllers: ETOG2, ETR2G

ELEKTRA Heating Cables

ELEKTRA UltraTec Heating Cables are ready-to-install heating units which are produced in accordance with EN 60335-1. They consist of an ultra-thin, high temperature resistant cable, terminated with a cold tail. This system is designed for indoor use and direct heating. It should be installed directly under the surface to be heated, in either flexible tile adhesive or self-levelling compound.

Single-side power supply UltraTec



This package contains:

- ELEKTRA heating cable (on a spool),
- self-adhesive installation tape,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor, capped on one end,
- recessed distribution box Ø 60 mm for the temperature controller,
- instruction manual.



> Technical data:

Power output:	10 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 2 x 3 mm
Min. installation temperature:	-20°C
Max. working temperature:	+150°C
Conduit cables:	1 x 2.5 m; 2 x 1.0 mm ²
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Insulation:	FEP
Outer sheath:	FEP
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX8
Product certificates:	B, EAC
Certificate of ISO 9001:	IQNET, PCBC
Produkt mark:	CE



TYPE	LENGTH	POWER
-	m	W
UltraTec 10/90	8.5	90
UltraTec 10/135	13.5	135
UltraTec 10/145	15.0	145
UltraTec 10/220	22.5	220
UltraTec 10/285	28.5	285
UltraTec 10/320	32.0	320
UltraTec 10/400	40.0	400
UltraTec 10/450	45.0	450
UltraTec 10/555	55.0	555
UltraTec 10/690	70.0	690
UltraTec 10/780	78.0	780
UltraTec 10/980	98.0	980
UltraTec 10/1100	110.0	1100
UltraTec 10/1320	132.0	1320
UltraTec 10/1650	165.0	1650
UltraTec 10/2050	203.0	2050

> Accessories:

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Cables

ELEKTRA DM Heating Cables are ready-to-install heating units which are produced in accordance with EN 60335-1. A thin heating cable of the length depending on the model, has factory connected cold tail cable. This system is designed for indoor use and direct heating. It should be installed directly under the surface to be heated, in either flexible tile adhesive or self-levelling compound.

Single-side power supply DM



This package contains:

- ELEKTRA heating cable (on a spool),
- self-adhesive installation tape,
- 'cold tails' flexible conduit,
- flexible conduit for the temperature sensor, capped on one end,
- recessed distribution box Ø 60 mm for the temperature controller,
- instruction manual.

> Technical data:

Power output:	10 W/m
Power supply:	230 V ~ 50/60 Hz
Diameter of cable:	~ 4.3 mm
Min. installation temperature:	-5°C
Max. working temperature:	+110°C
Conduit cables:	1 x 2.5 m; 2 x 1.0 mm ²
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Insulation:	double layer, FEP + XLPE
Outer sheath:	heat resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Produkt mark:	CE



TYPE	LENGTH	POWER
-	m	W
DM 10/90	8.5	90
DM 10/135	13.5	135
DM 10/145	15.0	145
DM 10/220	22.5	220
DM 10/285	28.5	285
DM 10/320	32.0	320
DM 10/400	40.0	400
DM 10/450	45.0	450
DM 10/555	55.0	555
DM 10/690	70.0	690
DM 10/780	78.0	780
DM 10/980	98.0	980
DM 10/1100	110.0	1100
DM 10/1320	132.0	1320
DM 10/1650	165.0	1650
DM 10/2050	203.0	2050

> Accessories:

Temperature controllers: OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETN4

ELEKTRA Heating Cables

Single-side power supply VCD

ELEKTRA VCD Heating Cables are ready-to-install heating units which are produced in accordance with EN 60335-1. Heating cable of the length depending on the model, has factory connected cold tail cable.

Typical use:

- VCD10** - floor heating (installation in mortar), antifrost protection of pipes.
- VCD17** - floor heating (installation in mortar).
- VCD25** - protection against snow and ice of external surfaces e.g. driveways, walkways, ramps, etc.



This package contains:

- ELEKTRA heating cable (on a spool),
- instruction manual.

> Technical data:

Power output:	10, 17 or 25 W/m
Power supply:	230 V and 400 V (VCD 25 only) ~ 50/60 Hz
External dimension of cable:	~ 5 x 7 mm
Min. installation temperature:	-5°C
Max. working temperature:	+95°C
Conduit cables:	1 x 2.5 m; 3 x 1.0 mm ² , 3 x 1.5 mm ² or 3 x 2.5 mm ²
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Insulation:	XLPE
Outer sheath:	heat resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



10 W/m

TYPE	LENGTH	POWER
-	m	W
VCD 10/70	7.5	70
VCD 10/90	9.0	90
VCD 10/110	11.0	110
VCD 10/135	13.5	135
VCD 10/170	16.5	170
VCD 10/200	20.0	200
VCD 10/235	23.5	235
VCD 10/265	27.0	265
VCD 10/315	32.0	315
VCD 10/370	36.5	370
VCD 10/415	42.0	415
VCD 10/460	46.0	460
VCD 10/570	57.0	570
VCD 10/700	70.0	700
VCD 10/910	92.0	910
VCD 10/1100	111.0	1100
VCD 10/1220	122.0	1220
VCD 10/1450	144.0	1450
VCD 10/1560	156.0	1560
VCD 10/1740	174.0	1740
VCD 10/1920	191.0	1920
VCD 10/2030	203.0	2030
VCD 10/2260	225.0	2260

17 W/m

TYPE	LENGTH	POWER
-	m	W
VCD 17/100	5.5	100
VCD 17/140	8.5	140
VCD 17/180	10.0	180
VCD 17/215	13.0	215
VCD 17/260	15.5	260
VCD 17/305	18.0	305
VCD 17/350	20.5	350
VCD 17/410	24.5	410
VCD 17/480	28.0	480
VCD 17/545	32.0	545
VCD 17/610	35.0	610
VCD 17/745	43.0	745
VCD 17/910	54.0	910
VCD 17/1200	70.0	1200
VCD 17/1430	85.0	1430
VCD 17/1590	93.0	1590
VCD 17/1900	110.0	1900
VCD 17/2030	120.0	2030
VCD 17/2280	133.0	2280
VCD 17/2490	147.0	2490
VCD 17/2660	155.0	2660
VCD 17/2950	172.0	2950

25 W/m

TYPE	LENGTH	POWER
-	m	W
VCD 25/120	4.5	120
VCD 25/170	7.0	170
VCD 25/265	10.5	265
VCD 25/320	12.5	320
VCD 25/365	15.0	365
VCD 25/420	17.0	420
VCD 25/505	20.0	505
VCD 25/585	23.0	585
VCD 25/655	26.5	655
VCD 25/725	29.5	725
VCD 25/890	36.0	890
VCD 25/1120	44.0	1120
VCD 25/1450	58.0	1450
VCD 25/1740	70.0	1740
VCD 25/1910	77.0	1910
VCD 25/2270	92.0	2270
VCD 25/2480	98.0	2480
VCD 25/2730	110.0	2730
VCD 25/3030	120.0	3030
VCD 25/3300	130.0	3300
VCD 25/3550	142.0	3550

25 W/m 400V

TYPE	LENGTH	POWER
-	m	W
VCD 25/200 400V	8.0	200
VCD 25/300 400V	12.0	300
VCD 25/470 400V	18.0	470
VCD 25/550 400V	22.0	550
VCD 25/635 400V	26.0	635
VCD 25/720 400V	30.0	720
VCD 25/870 400V	35.0	870
VCD 25/1020 400V	40.0	1020
VCD 25/1170 400V	45.0	1170
VCD 25/1280 400V	50.0	1280
VCD 25/1570 400V	62.0	1570
VCD 25/1930 400V	77.0	1930
VCD 25/2530 400V	100.0	2530
VCD 25/3070 400V	120.0	3070
VCD 25/3350 400V	135.0	3350
VCD 25/3970 400V	160.0	3970
VCD 25/4280 400V	172.0	4280
VCD 25/4820 400V	190.0	4820
VCD 25/5260 400V	210.0	5260
VCD 25/5600 400V	225.0	5600
VCD 25/6150 400V	250.0	6150

> Accessories:

Temperature controllers: **OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETOG2, ETR2G, ETV, ETN4, ETI**

Installation accessories: **page 47 and 48**

ELEKTRA Heating Cables

Single-side power supply TuffTec™

ELEKTRA TuffTec™ Heating Cables are ready-to-install heating units, dedicated to special applications, which are produced in accordance with EN 60335-1. Heating cable of the length depending on the model, has factory connected cold tail cable. The major use is the snow and ice protection of external surfaces e.g. garage drives, pavements, also roofs, gutters and down pipes.

Exceptional mechanical and thermal resistance allows for the application in spots especially exposed to harsh installation and operation conditions. Very high temporary exposure temperature (240°C) will make it possible to install the TuffTec™ cables even directly in asphalt.



This package contains:

- ELEKTRA TuffTec™ heating cable (on a spool),
- instruction manual.

> Technical data:

Power output:	30 W/m
Power supply:	230 V, 400 V ~ 50/60 Hz
Cable diameter:	~ 6.8 mm
Min. installation temperature:	-25°C
Max. working temperature:	+110°C
Max. exposure temperature (10 min.):	+240°C
Conduit cables:	1 x 4 m; 3 x 1.5 mm ² or 3 x 2.5 mm ² , rubber outer jacket
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Insulation:	double layer, FEP + HDPE
Outer sheath:	HFFR, UV resistant
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



230V

TYPE	LENGTH	POWER
-	m	W
TuffTec™ 30/290	9.5	290
TuffTec™ 30/640	21.0	640
TuffTec™ 30/980	33.0	980
TuffTec™ 30/1230	40.0	1230
TuffTec™ 30/1580	53.0	1580
TuffTec™ 30/1920	64.0	1920
TuffTec™ 30/2110	70.0	2110
TuffTec™ 30/2520	83.0	2520
TuffTec™ 30/2710	90.0	2710
TuffTec™ 30/3030	100.0	3030
TuffTec™ 30/3320	110.0	3320
TuffTec™ 30/3900	130.0	3900

400V

TYPE	LENGTH	POWER
-	m	W
TuffTec™ 30/500 400 V	17.0	500
TuffTec™ 30/1100 400 V	37.0	1100
TuffTec™ 30/1710 400 V	57.0	1710
TuffTec™ 30/2120 400 V	70.0	2120
TuffTec™ 30/2760 400 V	92.0	2760
TuffTec™ 30/3350 400 V	110.0	3350
TuffTec™ 30/3660 400 V	122.0	3660
TuffTec™ 30/4360 400 V	145.0	4360
TuffTec™ 30/4700 400 V	157.0	4700
TuffTec™ 30/5230 400 V	175.0	5230
TuffTec™ 30/5760 400 V	192.0	5760
TuffTec™ 30/6800 400 V	226.0	6800

> Accessories:

Temperature controllers: ETOG2, ETOR2, ETR2G, ETR2R

Installation accessories: page 47 and 48

ELEKTRA Heating Cables

Single-side power supply VCDR

ELEKTRA VCDR Heating Cables are ready-to-install heating units which are produced in accordance with EN 60335-2-83. Heating cable of the length depending on the model, has factory connected cold tail cable. A system designed for outdoor use to protect roofs, gutters and downpipes against snow and ice.



This package contains:

- ELEKTRA heating cable (on a spool),
- instruction manual.

> Technical data:

Power output:	20 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 5 x 7 mm
Min. installation temperature:	-5°C
Max. working temperature:	+95°C
Conduit cables:	1 x 4 m; 3 x 1.5 mm ² or 3 x 2.5 mm ² , rubber outer jacket
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Insulation:	XLPE
Outer sheath:	heat and UV resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TYPE	LENGTH	POWER
-	m	W
VCDR 20/190	9.5	190
VCDR 20/235	12.0	235
VCDR 20/330	16.5	330
VCDR 20/380	19.0	380
VCDR 20/520	26.0	520
VCDR 20/600	29.0	600
VCDR 20/800	40.0	800
VCDR 20/1000	50.0	1000
VCDR 20/1140	57.0	1140
VCDR 20/1300	65.0	1300
VCDR 20/1560	78.0	1560
VCDR 20/1720	86.0	1720
VCDR 20/2050	102.0	2050
VCDR 20/2360	118.0	2360
VCDR 20/2710	135.0	2710
VCDR 20/3000	150.0	3000
VCDR 20/3450	175.0	3450

Other types available on special order.

> Accessories:

Temperature controllers: ETOR2, ETR2R

Installation accessories: page 47

ELEKTRA Heating Cables

Double-side power supply VC

ELEKTRA VC Heating Cables are ready-to-install heating units which are produced in accordance with EN 60335-1. Heating cable of the length depending on the model, has factory connected cold tail cable.

Typical use:

- VC10** - floor heating (installation in mortar), antifrost protection of pipes.
- VC15** - floor heating (installation in mortar).
- VC20** - floor heating (installation in mortar), protection against snow and ice of external surfaces e.g. driveways, walkways, ramps, etc.



This package contains:

- ELEKTRA heating cable (on a spool),
- instruction manual.

> Technical data:

Power output:	10, 15 or 20 W/m
Power supply:	230 V ~ 50/60 Hz
Diameter of cable:	~ 5 mm
Min. installation temperature:	-5°C
Max. working temperature:	+95°C
Conduit cables:	2 x 2.5 m; 2 x 1.0 mm ² , 2 x 1.5 mm ² or 2 x 2.5 mm ²
Type of heating cable:	one-core, double-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Insulation:	XLPE
Outer sheath:	heat resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



10 W/m*

TYPE	LENGTH	POWER
-	m	W
VC 10/80	7.5	80
VC 10/105	10.0	105
VC 10/130	13.0	130
VC 10/155	15.5	155
VC 10/190	19.5	190
VC 10/240	23.5	240
VC 10/285	28.5	285
VC 10/330	33.0	330
VC 10/375	38.0	375
VC 10/450	45.0	450
VC 10/515	52.0	515
VC 10/590	59.0	590
VC 10/655	65.0	655
VC 10/805	80.0	805
VC 10/990	100.0	990
VC 10/1290	130.0	1290
VC 10/1560	156.0	1560
VC 10/1720	172.0	1720
VC 10/2040	205.0	2040
VC 10/2210	220.0	2210
VC 10/2460	246.0	2460
VC 10/2710	270.0	2710
VC 10/2850	290.0	2850
VC 10/3170	320.0	3170

15 W/m*

TYPE	LENGTH	POWER
-	m	W
VC 15/90	6.5	90
VC 15/125	8.5	125
VC 15/160	10.5	160
VC 15/190	12.5	190
VC 15/230	15.5	230
VC 15/285	19.5	285
VC 15/350	23.0	350
VC 15/405	27.0	405
VC 15/460	31.0	460
VC 15/545	37.0	545
VC 15/640	42.0	640
VC 15/725	48.0	725
VC 15/800	53.0	800
VC 15/985	65.0	985
VC 15/1230	80.0	1230
VC 15/1590	105.0	1590
VC 15/1900	128.0	1900
VC 15/2100	140.0	2100
VC 15/2500	167.0	2500
VC 15/2700	180.0	2700
VC 15/3030	200.0	3030
VC 15/3320	220.0	3320
VC 15/3510	235.0	3510
VC 15/3900	260.0	3900

20 W/m

TYPE	LENGTH	POWER
-	m	W
VC 20/110	5.5	110
VC 20/140	7.5	140
VC 20/185	9.0	185
VC 20/215	11.0	215
VC 20/265	13.5	265
VC 20/330	17.0	330
VC 20/400	20.0	400
VC 20/465	23.5	465
VC 20/530	27.0	530
VC 20/630	32.0	630
VC 20/730	37.0	730
VC 20/830	42.0	830
VC 20/930	46.0	930
VC 20/1130	57.0	1130
VC 20/1410	70.0	1410
VC 20/1820	92.0	1820
VC 20/2210	110.0	2210
VC 20/2460	120.0	2460
VC 20/2880	145.0	2880
VC 20/3140	155.0	3140
VC 20/3440	175.0	3440
VC 20/3830	190.0	3830
VC 20/4130	207.0	4130
VC 20/4480	225.0	4480

* ELEKTRA VC10 and VC15 available only on special order.

> Accessories:

Temperature controllers: **OCD4, OCD5, DIGI2, OTN, OTD, ELR, ETOG2, ETR2G, ETV, ETN4, ETI**

Installation accessories: **page 47 and 48**

ELEKTRA Heating Cables

ELEKTRA FreezeTec® Heating Cables are ready-to-install heating units. They consist of the ELEKTRA VCD heating cable with integrated thermostat ending in conduit cable with hermetic plug. An antifrost protection system for pipes and other objects which may be damaged by low temperatures.

Single-side power supply FreezeTec®



This package contains:

- ELEKTRA FreezeTec® heating cable,
- 5, 10 or 20 m of self-adhesive installation tape,
- instruction manual.



> Technical data:

Power output:	12 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 5 x 7 mm
Min. installation temperature:	-5°C
Max. working temperature:	+70°C
Conduit cables:	1 x 1.5 m; 3 x 0.75 mm ² ; with the plug
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Insulation:	XLPE
Outer sheath:	heat resistant PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	3.5 D
Control:	built-in bimetallic thermostat
ON:	+3°C
OFF:	+10°C
Protection:	IPX7
Product certificates:	EZU, EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TYPE	LENGTH	POWER
-	m	W
FreezeTec® 12/2	2	24
FreezeTec® 12/3	3	36
FreezeTec® 12/5	5	60
FreezeTec® 12/7	7	84
FreezeTec® 12/10	10	120
FreezeTec® 12/15	15	180
FreezeTec® 12/21	21	252
FreezeTec® 12/30	30	360
FreezeTec® 12/42	42	504

ELEKTRA Heating Cables

Single-side power supply BET

ELEKTRA BET Heating Cables are ready-to-install heating units. They consist of a heating cable terminated at one end with a power supply conductor with a hermetic plug. This system is designed for direct installation on reinforcement, and they are dedicated to construction concrete curing in low temperatures.



This package contains:

- ELEKTRA BET heating cable (when longer on a spool),
- instruction manual.

> Technical data:

Power output:	32, 40 W/m
Power supply:	230 V ~50/60 Hz
Diameter of cable:	~ 5.0 mm
Min. installation temperature:	-5°C
Max. working temperature:	+80°C
Conduit cables:	1 x 2.0 m; 3 x 1.0 mm ² or 3 x 1.5 mm ² ; with 16A hermetic plug
Type of heating cable:	double-core, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, two tinned copper wires
Insulation:	XLPE
Outer sheath:	PVC
Rated power output tolerance:	+5%, -10%
Min. radius of bending cable:	5 D
Protection:	IPX7
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TYPE	LENGTH	POWER
-	m	W
BET 32/105	3.3	105
BET 40/540	13.5	540
BET 40/1360	34.0	1360
BET 40/3320	83.0	3320

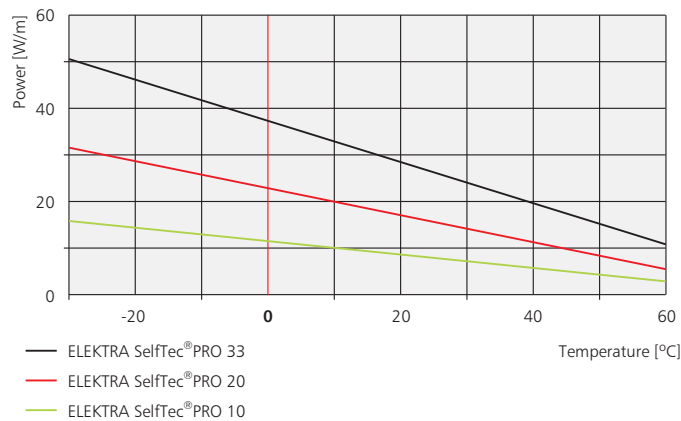
ELEKTRA Heating Cables

Self-regulating SelfTec®PRO

ELEKTRA SelfTec®PRO Self-regulating Heating Cables on a spool. An advanced antifrost protection system for pipes, gutters, downpipes, valves and other objects which may be damaged by low temperatures.



ELEKTRA SelfTec®PRO



This package contains:

- ELEKTRA SelfTec®PRO heating cable on a spool.

> Technical data:

Power output (+10°C):	10, 20 or 33 W/m
Power output (0°C in ice water):	36 W/m (SelfTec®PRO20) 61 W/m (SelfTec®PRO33)
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 7 x 11 mm (10, 20 W/m), ~ 7 x 13 mm (33 W/m)
Min. installation temperature:	-25°C (10,20 W/m), -30°C (33 W/m)
Max. working temperature:	+65°C
Max. exposure temperature:	+85°C (power-on, 1000h - cumulative)
Type of heating cable:	self-regulating, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Conductor:	tin-coated copper 2 x 1.00 mm ² (10, 20 W/m), 2 x 1.25 mm ² (33 W/m)
Insulation:	modified polyolefin
Outer sheath:	UV resistant, halogen free polyolefin
Min. radius of bending cable:	3.5 D
Max. cable length per circuit:	see next page
Max. circuit-breaker, C-type:	see next page
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TURN-ON TEMPERATURE	SelfTec®PRO 10		SelfTec®PRO 20		SelfTec®PRO 33			
	CIRCUIT-BREAKER, C-TYPE							
	10A	16A	10A	16A	16A	20A	32A	40A
	MAX. CABLE LENGTH PER CIRCUIT [m]							
-20°C	79	118	42	58	45	58	85	105
-15°C	90	136	49	71	50	65	95	105
0°C	100	145	55	85	60	72	98	105
+10°C	118	154	79	110	70	90	108	108
0°C in ice water	—	—	42	45	40	52	65	72

EC-PRO joint set



BT-PRO mounting bracket for the UTR 60-PRO controller



KF 5045-PRO junction box with M25 gland



BKF-PRO mounting bracket for the KF 5045-PRO installation box



ECM25-PRO joint set with M25 gland



EK-PRO Insulation entry kit for self-regulating heating cables



CL-PRO caution label



> Accessories:

Temperature controllers: ETOR2, ETR2R, UTR 60-PRO, ETI, TDR 4020-PRO, ETV
 Installation accessories: page 47 and 48

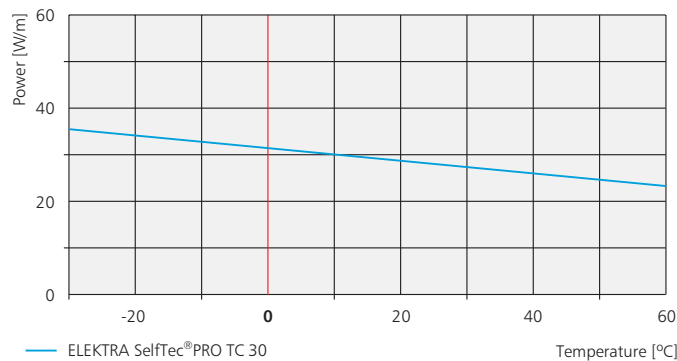
ELEKTRA Heating Cables

Self-regulating SelfTec®PRO TC

Self-regulating ELEKTRA SelfTec®PRO TC Heating Cables. An advanced anti frost protection system for objects which may be damaged by low temperatures: central heating and process heat pipelines, also valves during pauses in operation. The cable is high-temperature resistant during normal operation, as well as when switched off.



ELEKTRA SelfTec®PRO TC



This package contains:

- ELEKTRA SelfTec®PRO TC heating cable on a spool.

Technical data:

Power output (+10°C):	30 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 5 x 11 mm
Min. installation temperature:	-40°C
Min. switched on temperature:	-50°C
Max. working temperature:	+110°C
Max. exposure temperature:	+130°C (power-off)
Type of heating cable:	self-regulating, single-side power supply
Screen of heating cables:	100% coverage, tinned copper braiding
Conductor:	nickel-coated copper 2 x 1,25 mm ²
Insulation:	TPC
Outer sheath:	TPC
Min. radius of bending cable:	25 mm
Product certificates:	EAC
Max. cable length per circuit:	see next page
Max. circuit-breaker, C-type:	see next page
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TURN-ON TEMPERATURE	SelfTec®PRO TC 30		
	CIRCUIT-BREAKER, C-TYPE		
	16A	20A	32A
	MAX. CABLE LENGTH PER CIRCUIT [m]		
-20°C	69	92	114
-15°C	72	96	114
0°C	78	104	114
+10°C	85	114	114
0°C in ice water	–	–	–

EC-PRO joint set



BT-PRO mounting bracket for the UTR 60-PRO controller



KF 5045-PRO junction box with M25 gland



BKF-PRO mounting bracket for the KF 5045-PRO installation box



ECM25-PRO joint set with M25 gland



EK-PRO Insulation entry kit for self-regulating heating cables



CL-PRO caution label



> Accessories:

Temperature controllers: ETOG2, ETR2G, ETI,
UTR 60-PRO, TDR 4020-PRO
Installation accessories: page 47 and 48

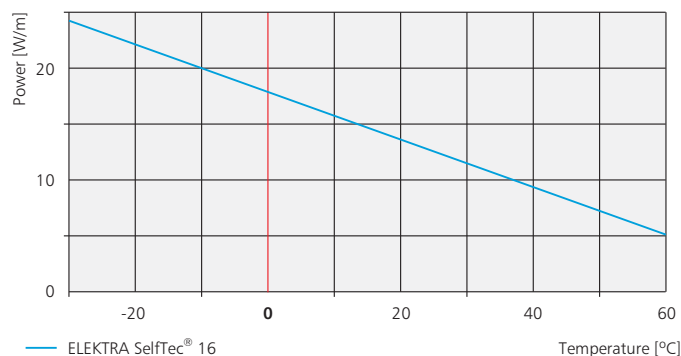
ELEKTRA Heating Cables

Self-regulating SelfTec®

ELEKTRA SelfTec® Self-regulating Heating Cables are ready-to-install heating units. They consist of heating cable ending in conduit cable with hermetic plug. An antifrost protection system for pipes, gutters, downpipes, valves and other objects which may be damaged by low temperatures.



ELEKTRA SelfTec®



This package contains:

- ELEKTRA SelfTec® heating cable,
- 5 or 10 m of self-adhesive installation tape,
- instruction manual.



Technical data:

Power output (+10°C):	16 W/m
Power output (0°C in ice water):	19 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 6 x 9 mm
Min. installation temperature:	-25°C
Max. working temperature:	+65°C
Max. exposure temperature:	+65°C
Conduit cables:	1 x 3 m; 3 x 0.75 mm ² or 3 x 1.0 mm ² , with the plug
Type of heating cable:	self-regulating, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Conductor:	tin-coated copper 2 x 0.6 mm ²
Insulation:	modified polyolefin
Outer sheath:	UV resistant, halogen free polyolefin
Min. radius of bending cable:	3.5 D
Protection:	IPX7
Max. cable length per circuit:	52 m (-20°C) 55 m (-15°C) 66 m (0°C) 72 m (+10°C) 36 m (0°C in ice water)
Max. circuit-breaker, C-type:	10A
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



TYPE	LENGTH	POWER (+10°C)
-	m	W
SelfTec® 16/1	1	16
SelfTec® 16/2	2	32
SelfTec® 16/3	3	48
SelfTec® 16/5	5	80
SelfTec® 16/7	7	112
SelfTec® 16/10	10	160
SelfTec® 16/15	15	240
SelfTec® 16/20	20	320
SelfTec® 16/X	length acc. to order (up. to 72 m)	

> Accessories:

Temperature controllers: ETOR2, ETR2R, ETV, ETI

Installation accessories: page 47 and 48

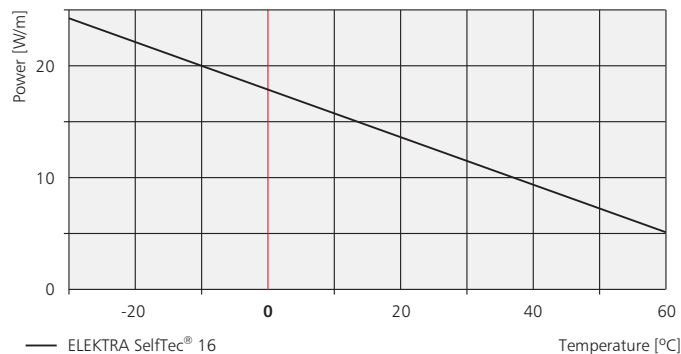
ELEKTRA Heating Cables

Self-regulating SelfTec® (spool)

ELEKTRA SelfTec® Self-regulating Heating Cables on a spool. An antifrost protection system for pipes, gutters, down-pipes, valves and other objects which may be damaged by low temperatures.



ELEKTRA SelfTec®



This package contains:

- ELEKTRA SelfTec® heating cable on a spool.

> Technical data:

Power output (+10°C):	16 W/m
Power output (0°C in ice water):	19 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 6 x 9 mm
Min. installation temperature:	-25°C
Max. working temperature:	+65°C
Max. exposure temperature:	+65°C
Type of heating cable:	self-regulating, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Conductor:	tin-coated copper 2 x 0.6 mm ²
Insulation:	modified polyolefin
Outer sheath:	UV resistant, halogen free polyolefin
Min. radius of bending cable:	3.5 D
Max. cable length per circuit:	52 m (-20°C) 55 m (-15°C) 66 m (0°C) 72 m (+10°C) 36 m (0°C in ice water)
Max. circuit-breaker, C-type:	10 A
Product certificates:	EAC
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE



EC-PRO joint set

> Accessories:

EC-PRO joint set

Temperature controllers: ETOR2, ETR2R, ETV, ETI

Installation accessories: page 47



Self-regulating SelfTec®DW



This package contains:

- ELEKTRA SelfTec®DW heating cable on a spool.



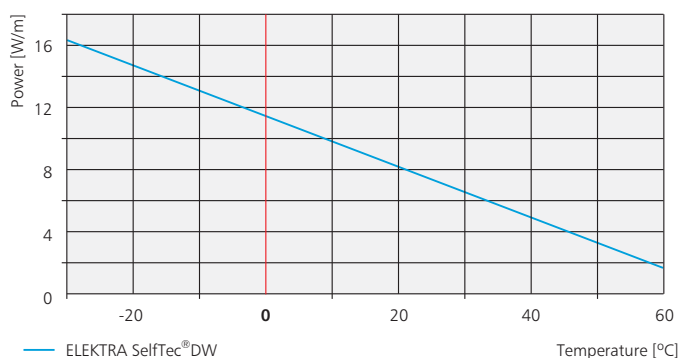
EC-PRO joint set



Lead-through

ELEKTRA Heating Cables

ELEKTRA SelfTec®DW Self-regulating Heating Cables. Multi-purpose antifrost protection system, for applications both outside and inside of pipes. Certified for drinking water applications. Available in a double layer polyolefin + LDPE sheath (SelfTec®DW), as well as a single layer fluoropolymer sheath (SelfTec®DW F).



> Technical data:

Power output (+10°C):	10 W/m
Power output (0°C in ice water):	16 W/m
Power supply:	230 V ~ 50/60 Hz
External dimension of cable:	~ 7 x 10 mm (SelfTec®DW) ~ 6 x 9 mm (SelfTec®DW F)
Min. installation temperature:	-25°C
Max. working temperature:	+65°C
Max. exposure temperature:	+65°C
Type of heating cable:	self-regulating, single-side power supply
Screen of heating cables:	100% coverage, PET covered aluminum foil, tinned copper braiding
Conductor:	tin-coated copper 0.6 mm ²
Insulation:	modified polyolefin
Outer sheath:	double-layer, halogen free polyolefin + external LDPE, certified for drinking water applications (SelfTec®DW); single layer, fluoropolymer, certified for drinking water applications (SelfTec®DW F)
Min. radius of bending cable:	3.5 D
Max. cable length per circuit:	155 m (+10°C) 130 m (0°C) 70 m (+10°C in water) 65 m (0°C in water)
Max. circuit-breaker, C-type:	16 A
Product certificates:	EAC, FBUZ, PZH (SelfTec®DW) and NSF 61 (SelfTec®DW F) Hygienic Certificates
Certificate of ISO 9001:	IQNET, PCBC
Product mark:	CE

> Accessories:

EC-PRO joint set

Lead-through (1/2", 3/4" & 1" set)

Temperature controllers: ETV, ETI



ELEKTRA Installation Accessories

Installation Tapes TME

TME 10 (10 m), TME 15 (15 m), TME 25 (25 m)

Thickness: ~ 0.8mm, Substance: aluminium

Installation Tape TMS

TMS 10 (10 m)

Thickness: ~ 1.0 mm, Substance: zinc-coated steel

Roof runner installation tape (0.5 m)

Width: 25 mm, Substance: aluminium (0.8 mm)
with special self-adhesive tape suitable for metal and PVC

Gutter spacing wire with clips (20 m)

The distance between the holders along the wire: 40 cm
Substance: stainless steel and all weather resistant polymer

Downpipe spacing wire with clips (20 m)

The distance between the holders along the wire: 40 cm
Substance: stainless steel and all weather resistant polymer

Roof runner installation band (1 m)

Substance: all weather resistant polymer

Gutter holder (25 pieces)

Substance: all weather resistant polymer

Downpipe spacing clip (25 pieces)

Substance: all weather resistant polymer

Roof edge installation holder

(25 pieces) Substance: ZnTi or Cu

Flexible cable support (25 x 250mm, 2 pieces)

Substance: stainless steel

Downpipe spacing wire support bar

(Ø 6 x 325mm)

Substance: stainless steel



Underfloor heating installation monitor

Monitoring device for detection of damages occurring during heating mats and cables' installation

Self-adhesive installation tape

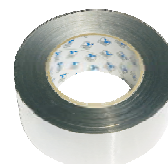
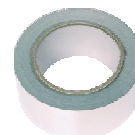
(5, 10 or 20 m)

Self-adhesive aluminium foil

(5 m, 10 m, 25 m, 45 m) Width: 50 mm

Tape-PRO

Self-adhesive aluminium foil of increased mechanical durability
(100 m) Width: 50 mm



ELEKTRA Towel Dryers

CX 700, CX 800, CX 900

ELEKTRA Towel Dryers are adjusted to dry and warm clothes and towels, and to heat up spaces. They are produced in accordance with EN 60335-2-43:2002. The Dryer is composed of ladder shaped metal tubes with heating cable installed inside the tubes.



This package contains:

- ELEKTRA dryer,
- installation set,
- instruction manual.



> Technical data:

Power output:	95 ÷ 230 W
Power supply:	230 V ~ 50/60 Hz
Tubes diameter:	25 mm
Max. working temperature (constant):	60°C
Conduit cables:	1 x 2 m, 3 x 1.5 mm ² , end of plug (CX xxx) or connection through the bracket without plug (CX xxxN)
Type of heating cable:	one-core silicon insulated
Protection:	IP44
Certificate of ISO 9001:	PCBC, IQNET
Product mark:	CE



Standard version. Power lead with plug.

TYPE	DIMENSIONS	POWER	COLOUR
-	width x height (mm)	W	-
CX 700	527 x 697	130	White
CX 700r	527 x 697	130	RAL
CX 700c	527 x 697	95	Chromium
CX 800	527 x 997	175	White
CX 800r	527 x 997	175	RAL
CX 800c	527 x 997	175	Chromium
CX 900	527 x 1227	230	White
CX 900r	527 x 1227	230	RAL
CX 900c	527 x 1227	230	Chromium

Special version. Power lead without plug. Connection through the bracket.

TYPE	DIMENSIONS	POWER	COLOUR
-	width x height (mm)	W	-
CX 700N	527 x 697	130	White
CX 700Nr	527 x 697	130	RAL
CX 700Nc	527 x 697	95	Chromium
CX 800N	527 x 997	175	White
CX 800Nr	527 x 997	175	RAL
CX 800Nc	527 x 997	175	Chromium
CX 900N	527 x 1227	230	White
CX 900Nr	527 x 1227	230	RAL
CX 900Nc	527 x 1227	230	Chromium

ELEKTRA Temperature Controllers

The Electronic 6-event Temperature Controller ELEKTRA OCD4 is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-2-9. It consists of controller with built-in air sensor and a thin floor sensor. Possible configuration of 3 temperature measurement methods through: air sensor, floor sensor or air and limitation floor sensor. Compatible with most of floor sensors in the market. New advanced Dot Matrix multi-language display.

Electronic programmable OCD4



> Technical data:

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	flush mounting
Built-in switch:	2-pole, 16A
Clock functions:	6 programmable events for each day
Comfort temperature range:	0°C ÷ +40°C for each event
Economical temperature range:	0°C ÷ +40°C for each event
Limitation floor sensor:	
Min.:	0°C ÷ +40°C
Max.:	0°C ÷ +40°C
Manual work mode:	
temperature range:	0°C ÷ +40°C
work time:	to the next event or to the cancellation
Difference/Hysteresis:	0.4K
Protection:	IP 21
Work signalization:	display function
Dimensions (H x W x D):	84 x 84 x 40 mm
Display:	100 x 64 pixel STN with backlight
Display dimensions (H x W):	25 x 37 mm
Certificates:	GOST-R, VDE, BEAB, NEMKO
Product mark:	CE

This package contains:

Type OCD4-1999

- controller OCD4 with built-in air temperature sensor,
- a thin floor temperature sensor with 3 m tail (ETF-144/99T),
- programming instruction,
- instruction manual.



ETF-144/99T

Possible installation in the common frame:

PRODUCER	PRODUCT
Busch-Jaeger	Reflex SI
Merten	Atelier & M1
Eljo	Trend



Electronic
programmable
touch
OCD5



ELEKTRA Temperature Controllers

The Electronic 6-event Temperature Controller ELEKTRA OCD5 is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-2-9. It consists of controller with built-in air sensor and a thin floor sensor. Possible configuration of 3 temperature measurement methods: air sensor, floor sensor or air and limitation floor sensor. Compatible with most of floor sensors in the market. Equipped with a 2-inch colour touch-screen.

The calendar installed in the controller enables entering the date of the beginning and ending of your holiday/absence - in this time the heating will be off, or only the required min. set temperature will be maintained. Application of the QR code enables fast preview of the controller's settings in your smartphone.

This package contains:

Type OCD5-1999

- controller OCD5 with built-in air temperature sensor,
- a thin floor temperature sensor with 3 m tail (ETF-144/99T),
- instruction manual (with a link to programming instruction).



ETF-144/99T

> Technical data:

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	flush mounting
Built-in switch:	2-pole, 16A
Clock functions:	6 programmable events for each day
Comfort temperature range:	+5°C ÷ +40°C for each event
Economical temperature range:	+5°C ÷ +40°C for each event
Limitation floor sensor:	
Min.:	+5°C ÷ +25°C
Max.:	+10°C ÷ +40°C
Manual work mode:	
temperature range:	+5°C ÷ +40°C
work time:	to the next event or to the cancellation
Difference/Hysteresis:	0.4K
Protection:	IP21
Work signalization:	display function
Dimensions (H x W x D):	82 x 82 x 40 mm
Display:	2", 176 x 220 pixel TFT
Certificates:	VDE, BEAB
Product mark:	CE

Possible installation in the common frame:

PRODUCER	PRODUCT
Busch-Jaeger	Reflex SI
Merten	Atelier & M1
Eljo	Trend



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA DIGI2 is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller and sensor appropriate for the application.

Electronic programmable DIGI2



This package contains:

Type DIGI2

- controller DIGI2 with built-in air temperature sensor,
- two batteries AA (R6),
- accessories to install,
- instruction manual.

Type DIGI2p

- controller DIGI2,
- floor temperature sensor with 2.5 m tail,
- two batteries AA (R6),
- accessories to install,
- instruction manual.

> Technical data:

Power supply:	2 alkaline batteries AA (R6)
Max. load:	8A, 230 V ~ 50/60 Hz
Installation:	surface mounting
Clock functions:	4 programs
Comfort temperature range:	+5°C ÷ +30°C
Economical temperature range:	+5°C ÷ +30°C
Manual work mode:	
temperature range:	+5°C ÷ +30°C
work time:	1 ÷ 99 days
Difference/Hysteresis:	0.3K
Protection:	IP 30
Work signalization:	display function
Dimensions (H x W x D):	82 x 120 x 30 mm
Display dimensions (H x D):	23 x 70 mm
Product mark:	CE



Bodenfühler



Electronic
OTN

ELEKTRA Temperature Controllers



The Electronic Temperature Controller ELEKTRA OTN is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller and floor sensor.

This package contains:

Type OTN-1991

- controller OTN,
- floor temperature sensor with 3 m tail (ETF-144/99),
- instruction manual.



ETF-144/99

> **Technical data:**

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	flush mounting
Built-in switch:	1-pole, 16A
Temperature range:	+5°C ÷ +40°C
Setback temperature:	about 5°C
Control of setback temperature:	supply signal 230 V ~ 50/60 Hz
Difference/Hysteresis:	0.4K
Protection:	IP 20
Work signalization:	LED
Dimensions (H x W x D):	80 x 80 x 50 mm
Certificates:	GOST-R
Product mark:	CE

Possible installation in the common frame:

PRODUCER

Busch-Jaeger
Merten
Eljo

PRODUCT

Reflex SI
Atelier & M1
Trend



ELEKTRA Temperature Controllers

The Electronic Ultra-Thin Temperature Controller ELEKTRA OTD2 is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller with built-in air sensor and floor sensor. Possible configuration of 3 temperature measurement methods through: air sensor, floor sensor or air and limitation floor sensor.

Electronic OTD2



This package contains:

Type OTD2-1999

- controller OTD2 with built-in air sensor,
- floor temperature sensor with 3 m tail (ETF-144/99),
- instruction manual.

> Technical data:

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	flush mounting
Built-in switch:	2-pole, 16A
Temperature range:	0°C ÷ +40°C
Limitation floor sensor:	
Min:	+5°C ÷ +30°C
Max:	+15°C ÷ +55°C
Setback temperature:	+2°C ÷ +8°C
Control of setback temperature:	supply signal 230 V ~ 50/60 Hz
Difference/Hysteresis:	0.4K
Protection:	IP 21
Work signalization:	LED
Dimensions (H x W x D):	84 x 84 x 40 mm
Certificates:	GOST-R
Product mark:	CE



ETF-144/99

Possible installation in the common frame:

PRODUCER	PRODUCT
Busch-Jaeger	Reflex SI
Merten	Atelier & M1
Eljo	Trend



Electronic ELR



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA ELR is designed for heating systems, especially for electric floor heating. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller with built-in air sensor and floor sensor. Possible configuration of 3 temperature measurement methods through: air sensor, floor sensor or air and limitation floor sensors.

This package contains:

Type ELR-10

- controller ELR with built-in air temperature sensor,
- floor temperature sensor with 2.5 m tail,
- instruction manual.



Floor temperature
sensor

> Technical data:

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	surface mounting
Built-in switch:	1-pole, 16A
Temperature range:	+5°C ÷ +35°C
Limitation floor sensor:	+40°C
Difference/Hysteresis:	0.5K
Protection:	IP 20
Work signalization:	LED
Dimensions (H x W x D):	80 x 82 x 36 mm
Certificates:	GOST-R
Product mark:	CE



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA ETOG2 is designed especially for snow and ice protection electric heating systems. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of a controller and a ground humidity detector with an integrated air temperature sensor. ETOG2 controls up to 2 zones or a single zone by means of 2 sensors. It is a solution even for large applications, e.g. car parks or driveways.

ETOG2 may also control 2 independent areas, e.g. a driveway and gutters (combination of ETOG-56T, ETOR-55 and ETF-744 sensors).

The controller features the possibility to cooperate analogously with a BMS system via a relay informing about the alarm status and two pairs of connectors enabling manual switch on or stand-by of the heating system from the BMS.

Electronic DIN-rail ETOG2



This package contains:

Type ETOG2

- ETO2-4550 controller,
- humidity detector with an integral temperature sensor (ETOG-56T),
- ETOK-T installation tube for ETOG-56T sensor,
- cover for surface mounting,
- instruction manual.

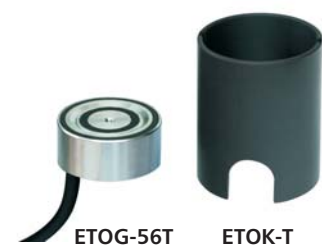
> Technical data:

ETOG-4550

Power supply:	115/240 V ~ 50/60 Hz
Built-in transformer:	24VAC, 6VA
Max. load:	3 x 16A, 230 V ~ 50/60 Hz (potential free relays)
Installation:	DIN-rail or surface mounting
Temperature range:	-20°C ÷ +50°C
Difference/Hysteresis:	0.3K
Controller cover protection (surface mounting):	IP 21
Work signalization:	LED
Temperature sensor calibration:	potentiometer
Working temperature:	0°C ÷ +50°C
Dimensions (H x W x D):	90 x 156 x 45 mm
Modules:	9
Certificates:	GOST-R
Product mark:	CE

ETOG-56T

Installation:	in the ground
Cover protection:	IP 68
Dimensions (H x D):	30 Ø 60 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	humidity and ground temperature



ETOG-56T

ETOK-T



Surface
mounting box



Electronic
DIN-rail
ETOR2

ELEKTRA Temperature Controllers



The Electronic Temperature Controller ELEKTRA ETOR2 is designed for snow and ice protection electric heating systems. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of a controller, gutter humidity and air temperature sensors.

ETOR2 controls up to 2 zones or a single zone by means of 2 sensors. It is a solution even for large applications, e.g. roof runners and roofs.

ETOR2 may also control 2 independent areas, e.g. a driveway and gutters (combination of ETOG-56T, ETOR-55 and ETF-744 sensors).

The controller features the possibility to cooperate analogously with a BMS system via a relay informing about the alarm status and two pairs of connectors enabling manual switch on or stand-by of the heating system from the BMS.

This package contains:

Type ETOR2

- ETO2-4550 controller,
- humidity detector (ETOR-55),
- air temperature sensor in the hermetic cover (ETF-744/99),
- cover for surface mounting,
- accessories for installation,
- instruction manual.



ETF-744/99



ETOR-55



Surface mounting box

Technical data:

ETO2-4550

Power supply:	115/240 V ~ 50/60 Hz
Built-in transformer:	24 VAC, 6 VA
Max. load:	3 x 16A, 230 V ~ 50/60 Hz (potential free relays)
Installation:	DIN-rail or surface mounting
Temperature range:	-20°C ÷ +50°C
Difference/Hysteresis:	0.3K
Controller cover protection (surface mounting):	IP 21
Work signalization:	LED
Temperature sensor calibration:	potentiometer
Working temperature:	0°C ÷ +50°C
Dimensions (H x W x D):	90 x 156 x 45 mm
Modules:	9
Certificates:	GOST-R
Product mark:	CE

ETF-744/99

Installation:	surface mounting, outdoor
Protection:	IP 54
Dimensions (H x W x D):	85 x 50 x 35 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	air temperature

ETOR-55

Installation:	inside the gutter
Protection:	IP 68
Dimensions (H x W x D):	107 x 26 x 15 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	humidity



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA ETR2G is designed specifically for snow and ice protection electric heating systems. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller and a ground humidity detector with an integrated air temperature sensor.

Electronic DIN-rail ETR2G



This package contains:

Type ETR2G

- ETR2-1550 controller,
- humidity detector with an integral temperature sensor (ETOG-56T),
- ETOK-T installation tube for ETOG-56T sensor,
- instruction manual.

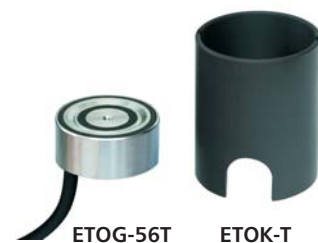
> Technical data:

ETR2-1550

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz (potential free relays)
Installation:	DIN-rail
Temperature range:	0°C ÷ +10°C
Difference/Hysteresis:	0.3K
Temperature controller protection:	IP 20
Work signalization:	LED ON (green) : power on LED RELAY (red) : output on LED TEMP (red) : outdoor temperature below setpoint LED MOIST (red) : moisture detected
Timer:	Switch-off delay adjustable 0-6 hours
Working temperature:	-20°C ÷ +50°C
Dimensions (H x W x D):	86 x 52 x 59 mm
Modules:	3
Certificates:	GOST-R
Product mark:	CE

ETOG-56T

Installation:	in the ground
Cover protection:	IP 68
Dimensions (H x D):	30 Ø 60 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	humidity and ground temperature



Electronic
DIN-rail
ETR2R

ELEKTRA Temperature Controllers



The Electronic Temperature Controller ELEKTRA ETR2R is designed specifically for snow and ice protection electric heating systems. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of controller, gutter humidity and air temperature sensors.

This package contains:

Type ETR2R

- ETR2-1550 controller,
- humidity detector (ETOR-55),
- air temperature sensor in the hermetic cover (ETF-744/99),
- instruction manual.

> Technical data:

ETR2-1550

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz (potential free relays)
Installation:	DIN-rail
Temperature range:	0°C ÷ +10°C
Difference/Hysteresis:	0.3K
Temperature controller protection:	IP 20
Work signalization:	LED ON (green): power on LED RELAY (red) : output on LED TEMP (red) : outdoor temperature below setpoint LED MOIST (red) : moisture detected
Timer:	Switch-off delay adjustable 0-6 hours
Working temperature:	-20°C ÷ +50°C
Dimensions (H x W x D):	86 x 52 x 59 mm
Modules:	3
Certificates:	GOST-R
Product mark:	CE



ETF-744/99



ETOR-55

ETF-744/99

Installation:	surface mounting, outdoor
Protection:	IP 54
Dimensions (H x W x D):	85 x 50 x 35 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	air temperature

ETOR-55

Installation:	inside the gutter
Protection:	IP 68
Dimensions (H x W x D):	107 x 26 x 15 mm
Working temperature:	-50°C ÷ +70°C
Measurement:	humidity



ELEKTRA Temperature Controllers

The ELEKTRA UTR 60-PRO Electronic Temperature Controller is designed for pipe heating systems, including anti-frost protection and maintaining the desired pipeline temperature. Produced in accordance with the EN 60730-1 and EN 60730-2-9 standards. It consists of the controller and a temperature sensor to be mounted on a pipe surface.

Electronic UTR 60-PRO



This package contains:

UTR 60-PRO

- UTR 60-PRO controller,
- temperature sensor with 1.5 m cable (F 892 002),
- instruction manual.



F 892 002

> Technical data:

UTR 60-PRO

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	surface mounting / installation board
Temperature range:	0°C ÷ +60°C
Setback temperature:	about 5°C
Hysteresis:	1 ... 10K
Controller protection:	IP 65
Signalization:	LED
Operation temperature:	-20°C ÷ +50°C
Dimensions (H x W x D):	120 x 122 x 56 mm
Certificates:	GOST-R
Product mark:	CE

F 892 002

Installation:	on pipe
Sensor protection:	IP 67
Working temperature:	-40°C ÷ +120°C



**Electronic
DIN-rail
TDR 4020-PRO**



ELEKTRA Temperature Controllers

The ELEKTRA TDR 4020-PRO Electronic Temperature Controller is designed for pipe heating systems, including anti-frost protection and maintaining the desired pipeline temperature. The temperature controller has got two freely configurable relays, and the TTL port which give the optional possibility to connect the BusAdapter module with the RS-485 bus or the Unicard with the USB port. The controller cooperates with BMS systems via ModBus or Televis protocols, or analogously via a relay operating in the alarm mode. Produced in accordance with the EN 60730-1 and EN 60730-2-9 standards. It consists of the controller and a temperature sensor to be mounted on a pipe surface.

This package contains:

Type TDR 4020-PRO

- TDR 4020-PRO controller,
- temperature sensor (886030081500),
- instruction manual.



886030081500

> Technical data:

TDR 4020-PRO

Power supply:	100-240 V ~ 50/60 Hz
Max. load:	2 x 8A, 230 V ~ 50/60 Hz (potential free relays)
Installation:	DIN-rail
Temperature range:	-200°C ÷ +800°C
Hysteresis:	0.1 ... 30K
Controller protection:	IP 20
Work signalization:	LED
Working temperature:	-5°C ÷ +55°C
Dimensions (H x W x D):	85 x 70 x 61 mm
Modules:	4
Product mark:	CE

886030081500

Mounting:	on pipe
Sensor protection:	IP 67
Working temperature:	-50°C ÷ +110°C



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA ETV is designed for heating systems, especially for floor and pipe electric heating. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of the controller and an appropriate sensor dependent on the application.

Electronic DIN-rail ETV



> Technical data:

ETV-1990

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	DIN-rail
Temperature range:	0°C ÷ +40°C
Setback temperature:	about 5°C
Control of setback temperature:	supply signal 230 V ~ 50/60 Hz
Difference/Hysteresis:	0.4K
Temperature controller protection:	IP 20
Signalization:	LED
Working temperature:	0°C ÷ +50°C
Dimensions (H x W x D):	86 x 36 x 58 mm
Modules:	2
Certificates:	GOST-R
Product mark:	CE

ETF-744/99

Installation:	surface mounting, outdoor
Protection:	IP 54
Dimensions (H x W x D):	85 x 50 x 35 mm
Working temperature:	-50°C ÷ +70°C

ETF-144/99

Installation:	floor or on pipe
Protection:	IP 67
Working temperature:	-20°C ÷ +70°C

ETF-944/99

Installation:	surface mounting, indoor
Protection:	IP 20
Dimensions (H x W x D):	80 x 80 x 16 mm
Working temperature:	-20°C ÷ +70°C

This package contains:

Type ETV-1991

- ETV-1990 controller,
- temperature sensor with 3 m tail (ETF-144/99),
- instruction manual.

Type ETV-1999

- ETV-1990 controller,
- indoor air temperature sensor (ETF-944/99) or (optional) air temperature sensor in the hermetic cover (ETF-744/99),
- instruction manual.



ETF-144/99



ETF-944/99



Electronic
DIN-rail
ETN4

ELEKTRA Temperature Controllers



The ELEKTRA ETN4 electronic temperature controller, is suitable for the purposes of electric heating systems' control, anti-frost protection of pipes, protection of buildings' foundations and control in cooling applications. The controller is manufactured in compliance with the EN 60730-1 and EN 60730-2-9 technical standards. One of the features of ETN4 is significantly wide range of set temperature: between -19.5°C and +70°C. Large backlit display emphasises current operating parameters, while three buttons enable easy menu navigation.

This package contains:

Type ETN4-1999

- ETN4 controller,
- thin floor temperature sensor with 3m tail (ETF-144/99T),
- instruction manual,
- programming instruction.

Option:

Depending on the application, the controller can service one or two sensors of the below:

- ETF-144/99T,
- ETF-744,
- ETF-944,
- ETF-622.

> Technical data:

ETN4-1999

Power supply:	230 V ~ 50/60 Hz
Max. load:	16A, 230 V ~ 50/60 Hz
Installation:	DIN-rail
Built-in switch:	2-pole, 16A
Control principle:	ON/OFF or PWM/PI
Temperature range:	-19.5°C ÷ +70°C
Limit sensor control temperature range:	
Min.:	-19.5/+70°C
Max.:	-19.5/+70°C
Temperature setback or increase:	
with connected sensor:	-19.5/+30°C
no connected sensor:	0-100%
Frost protection:	
with connected sensor:	0-10°C
no connected sensor:	0-100%
Control hysteresis:	0.3-10K
Protection:	IP 20
Frost protection and temperature increase or setback:	with the voltage impulse 230 V / ~ 50/60 Hz
Working temperature:	-20 ÷ + 55°C
Dimensions (H. x W. x D.):	86 x 52.5 x 58 mm
Modules:	3
Certificates:	GOST-R, VDE
Product mark:	CE

ETF-144/99T

Installation:	in-floor or on-pipe
Protection:	IP 67
Working temperature:	-20°C ÷ +70°C

ETF-744/99

Installation:	surface mounting
Protection:	IP 54
Dimensions (H. x W. x D.):	85 x 50 x 35 mm
Working temperature:	-50°C ÷ +70°C

ETF-944/99

Installation:	indoor, surface mounting
Protection:	IP 20
Dimensions (H. x W. x D.):	80 x 80 x 16 mm
Working temperature:	-20°C ÷ +70°C

ETF-622

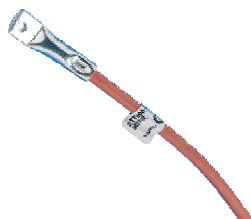
Installation:	on-pipe
Protection:	IP 44
Working temperature:	-40°C ÷ +120°C



ETF-144/99T



ETF-744/99



ETF-622



ETF-944/99



ELEKTRA Temperature Controllers

The Electronic Temperature Controller ELEKTRA ETI is designed for heating and cooling systems, especially basement protection (coolers) and pipelines. Produced in accordance with EN 60730-1 and EN 60730-2-9. It consists of the controller and an appropriate sensor dependent on the application.

Electronic DIN-rail ETI



> Technical data:

ETI-1551

Power supply:	230 V ~ 50/60 Hz
Max. load:	10A, 230 V ~ 50/60 Hz
Installation:	DIN-rail
Built-in switch:	2-pole, 16A
Temperature range:	-10°C ÷ +50°C
Difference/Hysteresis:	0.3 ÷ 6K
Controller protection:	IP 20
Signalization:	LED
Working temperature:	-20°C ÷ +50°C
Dimensions (H x W x D):	86 x 36 x 58 mm
Modules:	3
Certificates:	GOST-R
Product mark:	CE

ETF-622

Installation:	on pipe
Protection:	IP 44
Working temperature:	-40°C ÷ +120°C

ETF-144/99

Installation:	floor or on pipe
Protection:	IP 67
Working temperature:	-20°C ÷ +70°C

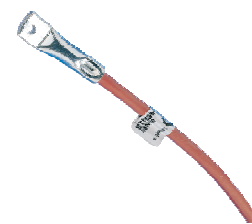
This package contains:

Type ETI-1522

- ETI-1551 controller,
- temperature sensor with special installation opening (ETF-622),
- instruction manual.

Type ETI-1544

- ETI-1551 controller,
- temperature sensor with 3m tail (ETF-144/99),
- instruction manual.



ETF-622



ETF-144/99





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