

HEM SYSTEM®
SELF-MONITORING HEATING CABLE FOR PIPING

Frost protection heating cable with plug

at + 5 °C ON
at +15 °C OFF



A MINIMUM OF ENERGY FOR THE MAXIMUM IN FROST PROTECTION

Plug and heat – reliable frost protection

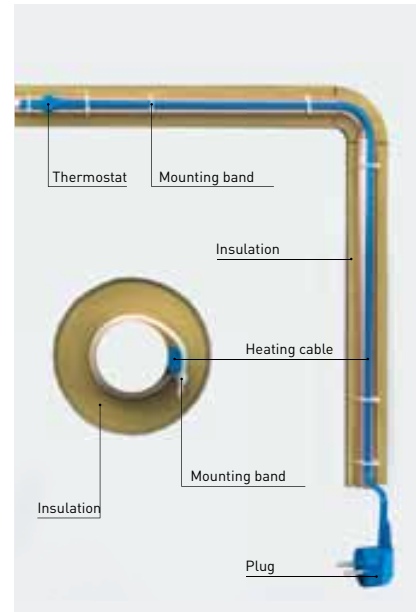
The HEM heating cable is designed for heating metal or plastic water pipes that are subject to freezing down to $-20\text{ }^{\circ}\text{C}$. It is self-monitoring, prevents impermissible cooling and general frost damage, and ensures a minimum temperature, e.g. for the supply of drinking water to animals outdoors and in stables. A thermostat monitors the point on the pipe suspected of having the lowest temperature. For frost protection the heating cable is activated at $+5\text{ }^{\circ}\text{C}$ and is deactivated when the temperature exceeds $+15\text{ }^{\circ}\text{C}$. Benefit: The required electrical energy is automatically kept to a minimum.

All in one: Fitted quickly and effortlessly

The HEM SYSTEM[®] heating cable is fixed loosely with slight bends, preferably along the bottom of the pipe. At locations requiring additional energy such as valves, some loosely placed windings of the heating cable for the required energy supply. The cable is fixed with adhesive aluminium tape or loosely fitted with temperature resistant plastic cable binders. Plastic pipes must be wrapped beforehand in aluminium foil.

An industry standard heat insulation layer at least 20 mm thick not only guarantees the functioning of the heating cable but also reduces the heat requirement.

Simply plug in and frost protection is guaranteed.



The sleeveless splice is absolutely waterproof and therefore ideal for installations requiring moisture proofing.

Hemstedt
HEM-SYSTEM[®]
sleeveless

- Direct from the manufacturer
- Factory tested
- 100 % waterproof
- Sleeveless
- Ready to plug
- 100 % electrical safety
- VDE approval
- With single-end connection cable



Self-Regulating
New! VDE-tested!

Frost protection
pipe heating element FS



Low-current!

FS FROST PROTECTION PIPE HEATING ELEMENT

With temperature regulator and earthed plug



Heating cable with single-end cold connection cable, earthed plug and temperature regulator, +5 °C On / +15 °C Off; 10 W/m HEM SYSTEM® heating cables installed along water pipes prevent impermissible cooling and also protect the supply of drinking water to animals outdoors and in stables.

Technical data

Nominal voltage	230 Volt
Output	approx. 10 W/m
Cold connection cable	1 x 2.00 m
Minimum installation temperature	5 °C
Nominal temperature	65 °C
Temperature regulator 16 A	+5 °C On / +15 °C OFF
Smallest bending radius	5 x dA
Resistance tolerance	-5 % / +10 %
Approval (heating cable)	VDE
Cold/warm splice	sleeveless
Outer diameter	approx. 9.00 mm

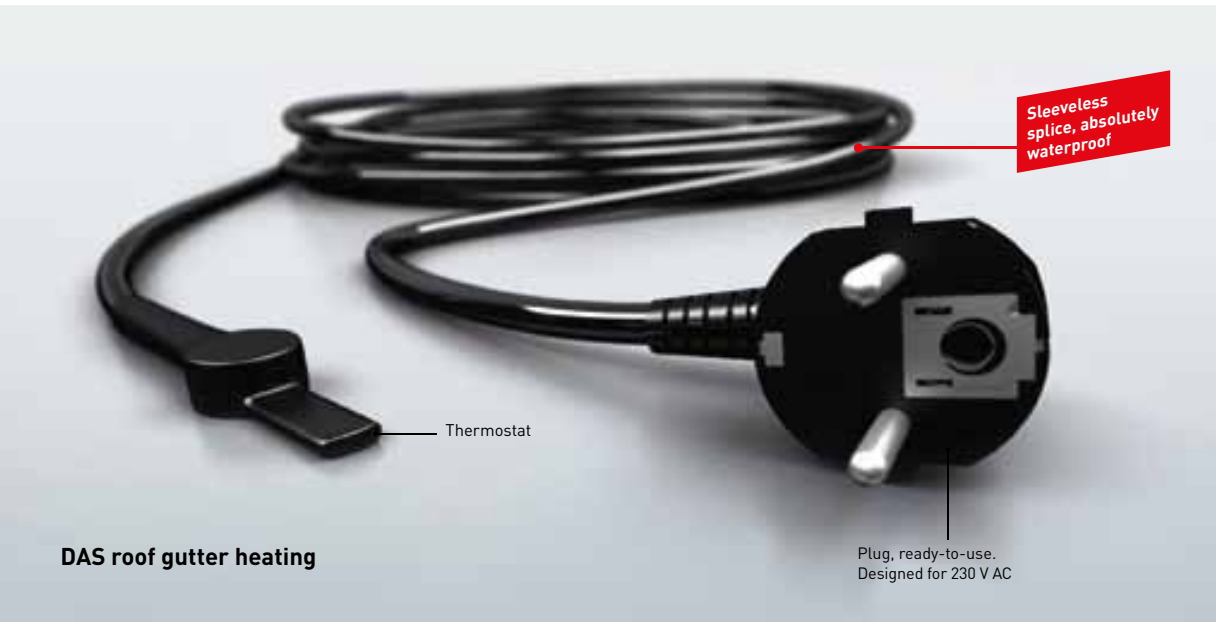
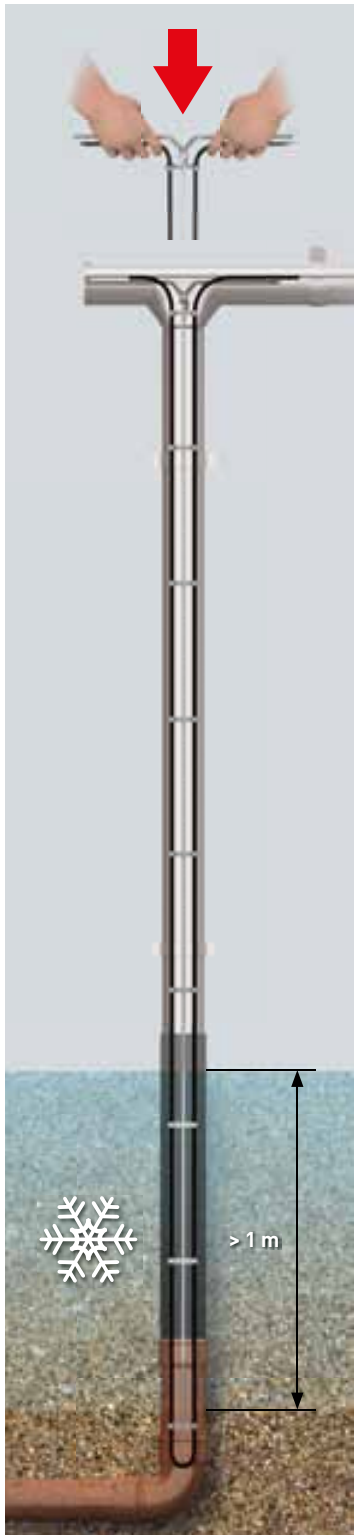
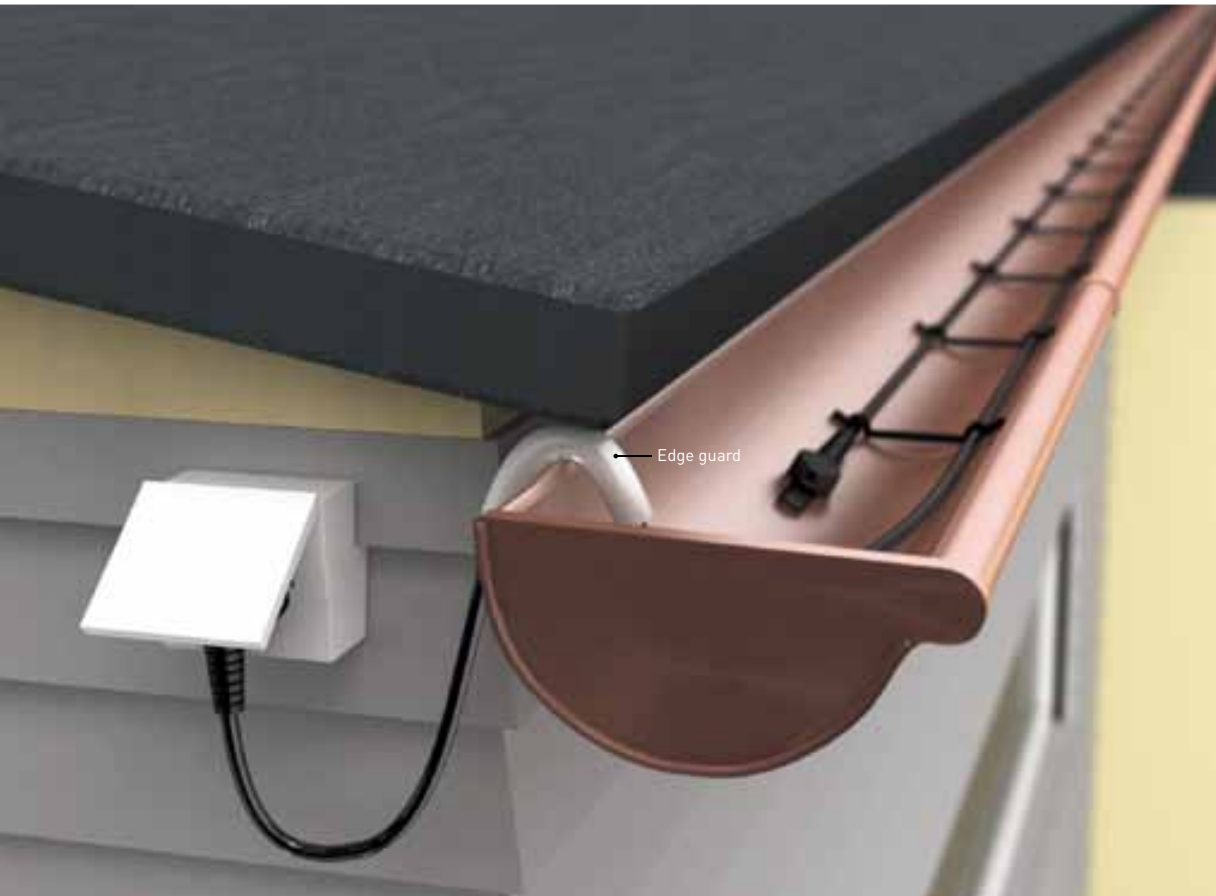
approx. 10 W/m

FS frost protection heating element, ready to connect

Voltage V	Output W	Length m	kg/reel	Order no.
230	10	1	0.26	35602-01
230	20	2	0.32	35602-02
230	30	3	0.40	35602-03
230	40	4	0.48	35602-04
230	50	5	0.55	35602-05
230	60	6	0.60	35602-06
230	70	7	0.68	35602-07
230	80	8	0.75	35602-08
230	90	9	0.80	35602-09
230	100	10	0.90	35602-10
230	120	12	1.07	35602-12
230	140	14	1.20	35602-14
230	180	18	1.47	35602-18
230	220	22	1.77	35602-22
230	240	24	1.86	35602-24
230	280	28	2.24	35602-28
230	320	32	2.24	35602-32
230	360	36	2.70	35602-36
230	480	48	3.50	35602-48
230	500	50	3.66	35602-50
230	600	60	4.02	35602-60

HEM SYSTEM® DAS ROOF GUTTER HEATING

Heating cable with thermostat for protection from snow and ice



HEM SYSTEM® HEATING CABLE WITH THERMOSTAT

Safety for persons and building

Ice on buildings, roof gutters and roof surfaces forms up in winter due to heat losses on buildings and poor exposure to sunlight. The resulting condensation water cannot flow away and freezes. HEM SYSTEM® DAS roof gutter heating systems keep the areas at risk reliably free from snow and ice thus preventing:

- Formation of icicles (danger to persons and property)
- Bursting downpipes
- Freezing of downpipes in frost area (ground)
- Water penetration into buildings
- Damage to external facades

All in one: Fitted quickly and effortlessly

Plug, ready-to-use. With sleeveless splice and PE insulating covering. HEM SYSTEM® DAS roof gutter heating systems have multiple uses for pitched roof areas, semi-circular and box gutters and downpipes. Installation is simple, the electrical connection can also be carried out by unqualified persons. The plug is already made up.

For normal semi-circular gutters, the expected energy consumption is approx. 50 to 60 W/m per meter of guttering. This also applies to downpipes that have to be heated up to the frost limit (approx. 1 m in ground area).

Important: When calculating the requirement and length, remember that the heating cable may have to be applied several times.



The sleeveless splice is absolutely waterproof, and therefore ideal for installations requiring moisture proofing.

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HEM-SYSTEM®
sleeveless

- Direct from the manufacturer
- Factory tested
- 100 % waterproof
- Sleeveless
- Ready to plug
- 100 % electrical safety



DAS ROOF GUTTER HEATING

With temperature regulator and earthed plug



HEM-SYSTEM® DAS gutter heating with single-end connection cable, PE-insulated, seamless sleeve transfer, XLPE insulation sleeve and UV-resistant PVC jacket (black).

DAS roof gutter heating



Sleeveless splice

Class: M2

1500 N

Concrete heating cables BRF-IM

Distance bars for roof gutter heating

Technical data

Nominal voltage	230 Volt
Output	approx. 30 W/m
Cold connection cable	1 x 4.00 (0.5-1 mm ²)
Minimum installation temperature	5 °C
Nominal temperature acc. VDE 0253	90 °C
Smallest bending radius	5 x dA
Resistance tolerance	-5 % / +10 %
Cold / warm splice	sleeveless, without shrinkable sleeve
Outer diameter	approx. 7.90 mm
Insulation	XLPE/PVC

approx. 30 W/m - with plug

DAS roof gutter heating

Voltage V	Output W	Length m	Order no.
230	120	4	36613-04
230	150	5	36613-05
230	200	6	36613-06
230	290	10	36613-10
230	370	12	36613-12
230	419	14	36613-14
230	471	16	36613-16
230	627	20	36613-20
230	700	23	36613-23
230	919	30	36613-30
230	1103	35	36613-35
230	1265	41	36613-41
230	1440	49	36613-49
230	1719	55	36613-55
230	2062	70	36613-70

approx. 30 W/m - without plug

BRF-IM concrete heating cables

Voltage V	Output W	Element length m	Order no.
230	891	32.15	37731-32.15
230	1068	38.10	37731-38.10
230	1350	48.29	37731-48.29
230	1593	57.64	37731-57.64
230	1905	68.69	37731-68.69
230	2430	87.38	37731-87.38

UV-resilient. Suitable for gutter heating.

Other lengths on request.

Accessories

Article designation	Order no.
Cross-beam, stainless steel (only roof gutter heating)	20075
Cord grip, stainless steel (only roof gutter heating)	20076
Support cable (only roof gutter heating)	20074
Distance bars (mounting bars) see page 28	20063
Edge guard	20103
Repair sleeves on request	

A residual current device (FI < 30 mA) must be provided as a protection measure.

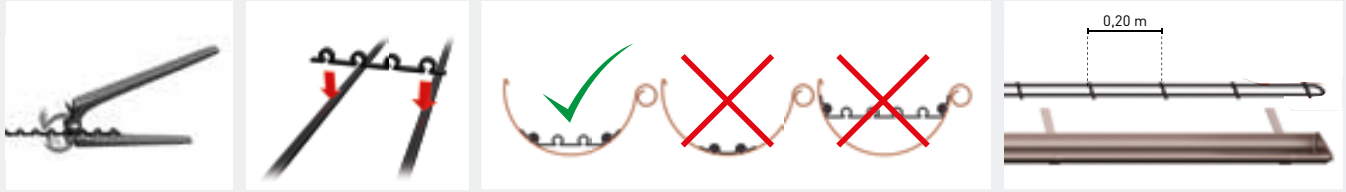
Further information in our installation instructions.
Thermostats see page 15.

Placement in the gutter

1.1 Place heating line in loop



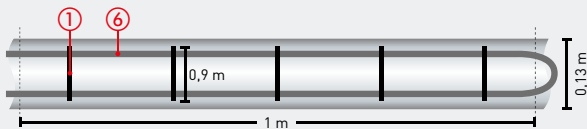
1.2 Cut distance bars to size and attach them every 20 cm



What must be ordered?

Calculation model 1

Gutter: Width 0.13 m / length 8 m



What must be ordered?

⑥ Heating line

1 m gutter = 2 m heating line (double placement)

8 m gutter x 2 = 16 m heating line

➔ Order no. 38613-16

① Distance bars

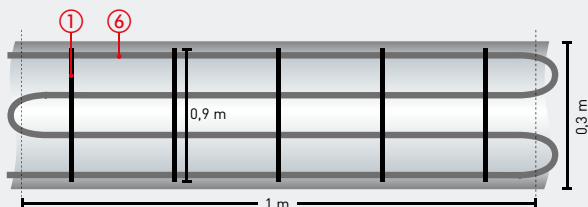
1 m gutter = 5 x 0.09 m distance bars = 0.45 m

8 m gutter = 8 x 0.45 m distance bars = 3.60 m rounded up 4 m, since yard goods

➔ 4 x order no. 20063

Calculation model 2

Box gutter: Width 0.30 m / length 15 m



What must be ordered?

⑥ Heating line

1 m gutter = 4 m heating line (fourfold placement)

15 m gutter x 4 = 60 m heating line

➔ 2 x Order no. 38613-30

① Distance bars

1 m gutter = 5 x 0.30 m distance bars = 1.50 m

15 m gutter = 15 x 1.50 m distance bars = 22.50 m rounded up 23 m, since yard goods

➔ 23 x order no. 20063

Calculation model 3

Drop pipe: Length 10 m (incl. 1 m frost limit)

What must be ordered?

⑥ Heating line

1 m drop pipe = 2 m heating line (double placement)

10 m drop pipe x 2 = 20 m heating line

➔ Order no. 38613-20

④ Tension relieve clamp

1 m drop pipe = 4 x tension relieve clamp (4 per metre)

10 m drop pipe x 4 = 40 x tension relieve clamp

➔ 40 x order no. 20070

③ 3 Suspension, stainless steel

1 x per drop pipe

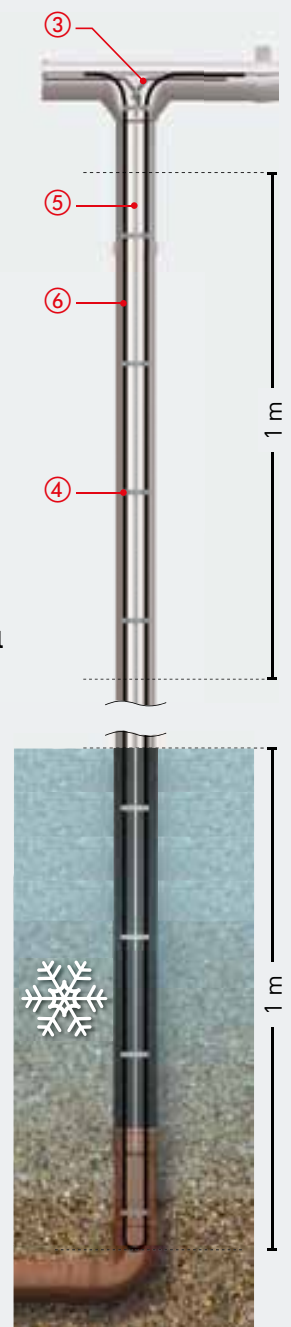
➔ Order no. 20075

⑤ Suspension rope

1 m drop pipe = 1 m suspension rope

10 m drop pipe = 10 m suspension rope

➔ Order no. 20074



DES ICE AND SNOW ALARM

Digital



Used in conjunction with one or two combined moisture and temperature sensors, the digital ice and snow alarm has the task of detecting ice and snow early on and keeping the monitored areas clear by switching on a melting device.



Technical data

Nominal voltage	1/N/AC, 50 Hz, 230 V, to DIN EN 60730
Voltage range	230 V +6/-6 %
Rated output	approx. 10 VA
Output contact	Load max. 250 V~, 6 (2) A
Ambient temperature	0 to 50 °C, condensation not permissible
Degree of protection	II nach DIN 57700, when mounted in distribution panel
Weight	approx. 0.4 kg

DES ice and snow alarm

Article designation	Order no.
Digital ice and snow alarm (for roof gutters and outdoor areas)	93159
Moisture and temperature sensor (for roof gutters)	93156
Ice sensor with 6.00 m supply cable, cable entry from bottom, with protective housing (for outdoor area)	93164
Ice sensor with 6.00 m supply cable, cable entry from side (for outdoor area)	93162

A residual current device (FI < 30 mA) must be provided as a protection measure.

FR FROST ALARM AND REGULATOR

For roof gutter heating



This device is a practical / cost-effective alternative to the digital ice and snow alarm and is used for the economical control of roof gutter heating. The critical temperature range is monitored by two regulators so that the heating is only in operation when there is actually a risk of freezing. Heating is only activated in the critical range from -5 °C to +5 °C.



Technical data

Rated voltage	230 V AC
Switch current	16 (4) A
Ambient temperature	-30 to +50 °C
Temperature range	-20 to -35 °C
Degree of protection	IP 65
Dimensions	122 x 120 x 55 mm
Contact	1 NC / 1 NO

FR frost alarm and regulator

Article designation	Order no.
Frost alarms and regulators for roof gutter heating	93160

A residual current device (FI < 30 mA) must be provided as a protection measure.