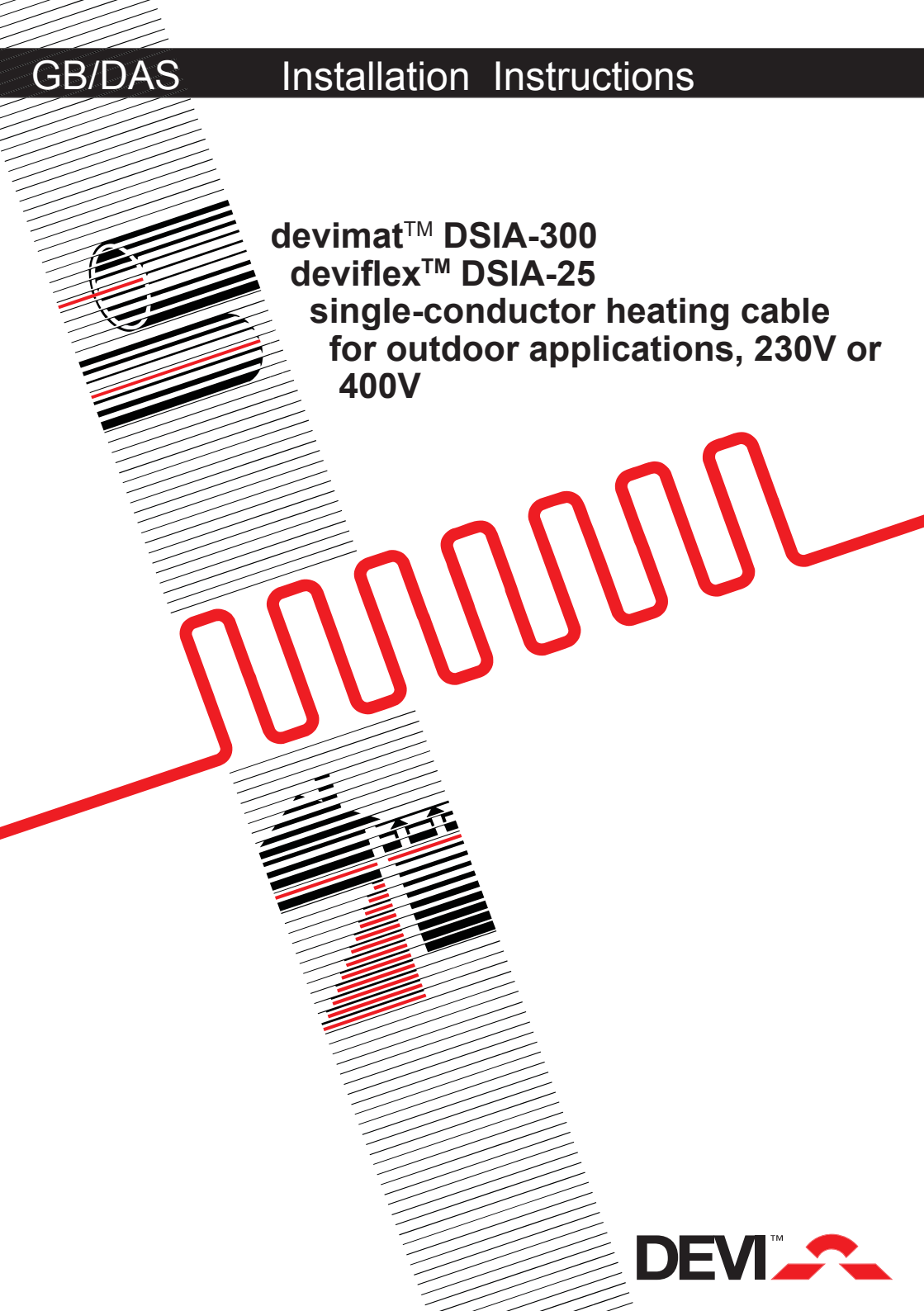
GB/DAS Installation Instructions

devimat™ DSIA-300
deviflex™ DSIA-25
single-conductor heating cable for outdoor applications, 230V or 400V



DEVI™

Notes

deviflex™ DSIA heating cable and devimat™

deviflex™ and devimat™ DSIA heating cable/mat is used for ice and snow melting of outdoor area and other applications with embedding in concrete.

This instruction covers ice and snow melting of outdoor areas.
Should you require further information about other areas of use please consult our DEVI heating cable compendiums.

Specifications

Mat	devimat™ DSIA-300 (300 W/m²)
Cable	deviflex™ DSIA-25 (25 W/m)
Type	Single-conductor with screen and armour
Voltage	230 or 400 V AC (check the lable)
Diameter	Ø 5,5 mm.
Cold tail	2 x 4 m, 2 x 1,5 mm² + screen
Conductor insulation	XLPE (Polyethylene)
Sheath	PVC 90ºC
Max. temperature	60ºC
Deformation strength	2000 N (IEC 800 Class C)

Connections

Phase 1 - Black
Phase 2 - Black
Ground - Screen

Areas of use

The table shows a variety of areas where the heating cable or mat is used and the required effects in connection with ice and snow melting.

Area of use	Effect W/m²
Car park	175 - 300
Drive ways	175 - 300
Pavements	175 - 300
Outdoor steps (ins.)	200 - 300
Loading platforms (ins.)	200 - 300
Bridges (ins.)	200 - 300
Outdoor steps (no ins.)	250 - 350
Bridges (no ins.)	250 - 350

ins. = insulated

Warning!

- The system must be disengaged at temperatures of more than +10ºC.
- The cable must not be shortened or cut in any manner or subjected to strain at the cable connection.
- Connecting the cable or mat to the mains must be undertaken by an authorised electrician.

General installation

When installing heating cables the following should be observed:

1. The heating cable or mat may only be used in the applications recommended by DEVI and should be properly connected to the main electrical source.
2. Connection of the heating cable or mat must be done by an authorised electrician.
3. The maximum effect for the different installations and operating effects must be observed.
4. The heating cable or mat must be protected against excess strain and tension.
5. The area below the heating cable or mat must be clean and free of sharp objects.
6. The heating cable bending diameter may not be less than 6 x the diameter of the cable.
7. The heating cable or mat may not lie in lines touching each other and must not cross itself.
8. The screen of the heating cable must be connected to ground.
9. The heating cable or mat may not be cut/shortened or exposed to strain in the areas of the cold cable.
10. The heating cable must be laid with even spacing over the whole area.
11. If using deviflex we recommend the use of devifast fitting band to ensure an accurate and easy method of laying the cable
12. The DSIA-25 is a single-conductor cable, which means that both ends have to be connected to the thermostat, this has to be taken into consideration when laying out the cable (see fig. 1).
13. The sensor cable must be protected by a length of conduit. Place the conduit between the cables at the open end of a cable loop. The conduit, is sealed at the end so that concrete cannot seep in.
14. Special care should be taken not to damage the heating cable with tools etc. during the casting of the concrete.
15. The concrete may not contain sharp stones.
16. Should the cable become damaged while laying it out or later on in the building process, it is an advantage to know how and where the cable, connections and cold tails are laid. E.g. by using a drawing or a photo.
17. When laying the heating cable or mat, special care must be taken that it is not pushed down into insulating material. Also ensure that the cable and the cold cable connections are completely enveloped by the concrete and without air pockets.

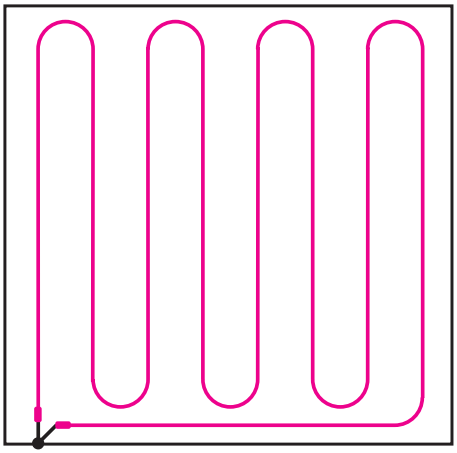


Fig. 1
Installation with one single-conductor cable.

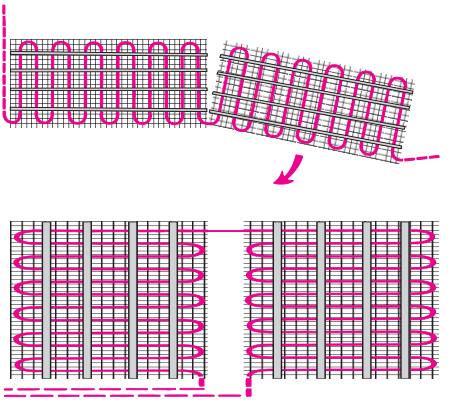
18. The ohmic value of the heating cables and insulation resistance should be measured both after the cable or mat has been laid, and after the concrete has been cast. The Ohmic value of the cables must be the same as shown on the cold-cable/heating-cable connection: -5 - +10%.
19. It must be possible to turn the heating cable off. We recommend a devireg™ thermostat.
20. Allow the concrete to dry for approx. 30 days before switching on the heating cables.
21. At low temperatures the heating cable can become stiff and difficult to work with. This problem is solved by connecting the cable to the mains for a brief period of time.

    The cable must be rolled out when this is done!

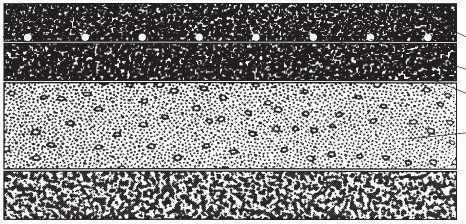
Installations with devimat™

If the length of the devimat™ exceeds the required area, the mat must be turned when reaching the end. This is done by cutting the mesh or the tape (NOT THE CABLE), and the mat is then turned and placed parallel with the first lane.

The devimat™ may not be shortened in any way. Any exceeding length of the heating mat must be placed in the concrete. This must be calculated before the installation.



Installation in concrete.



Concrete

Concrete.
deviflex™ heating cable or mat.
devifast™ fitting band for cables.
Sand or grit.

Calculating the C-C distance

The C-C distance is the distance between the centre of one cable loop to the centre of the next.
Calculating the C-C distance can be done in two ways, either by using the cable length or by using the required effect.

$$\text{C-C} = \frac{\text{Amount of m}^2\text{ free area} \bullet 100}{\text{Cable length in m}}$$

or

$$\text{C-C} = \frac{\text{Effect per m cable} \bullet 100}{\text{Effect per m}^2\text{ free area}}$$

result in cm.

Controlling and regulating

The optimal control for deviflex™ and devimat™ is reached by using an electronic devireg™ thermostat which reacts quickly and effectively.

There are a wide variety of devireg™ thermostats which cover both the demands and wishes for each individual installation.

Thermostats

For the choice of thermostats - please see our product catalogue.

Accessories

- devifast fitting bands, 5 m. and 25 m.

The DEVI Warranty:

You have purchased a deviheat™ system, which we are certain will improve your comfort and economy.

deviheat™ provides complete heating solutions with deviflex™ heating cables, devireg™ thermostats and devifast™ fitting bands.

If, however, contrary to all expectations, a problem should occur with your heating system, we at DEVI, with manufacturing sites in Denmark, are, as European Union suppliers, subject to general product liability rules, as stated in Directive 85/374/CEE, and all relevant national laws.

DEVI provides a warranty for deviflex™ heating cables for a 10 year period and all other DEVI products for a 2 year period against defects in material.

The guarantee is granted on conditions that the WARRANTY CERTIFICATE on the overleaf is filled out properly in accordance to instructions and that the defect is inspected by, or presented to, an authorised DEVI distributor.

Please note that the wording of the WARRANTY CERTIFICATE must be provided in local language and with the ISO code for your country in the upper left corner of the front page of the installation instructions in order to release the warranty.
The obligation of DEVI will be to repair or supply a new unit, free of charge to the customer, whitout secondary charges linked to repairing the unit. In case of defective devireg™ thermostats, DEVI reserves the right to repair the unit free of charge and without unreasonable delay to the customer.

No repairs will be accepted by DEVI without prior concent from DEVI.

The DEVI warranty does not cover installations made by unauthorised electricians, or faults caused by incorrect designs supplied by others, misuse, damage caused by others, or incorrect installation or any subsequent damage, that may occur. If DEVI is required to inspect or repair any defects caused by any of the above, then all work will be fully chargeable.
The DEVI warranty is void, if payment of the equipment is in default.

At all times, we at DEVI will respond honestly, efficiently and promptly to all queries and reasonable requests from our customers.

DEVI™

Warranty Certificate

The DEVI Warranty is granted to:

Name: Phone:

Address: Postal code:

Please Observe!

In order to obtain the DEVI Warranty, the following must be carefully filled in. See other conditions on the overleaf.

Cable layout contractor Lay-out date

Electrical Installation by Installation date

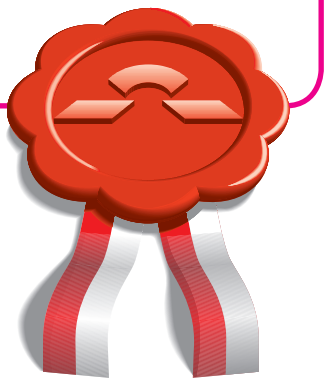
Cable length Watt

Stock code Cable code Joint code

Application:

- ☐ Concrete
- ☐ Wooden floor
- ☐ Pipes
- ☐ Roof and roofgutters
- ☐ Ground
- ☐ Under asphalt

Supplier stamp:



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