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***BN*thermic**

Installation instructions for

GP-18

Self Regulating Cable for Gutters and Down Pipes



Keep gutters and downpipes ice-free

GP-18 Specification

Voltage: 230V

Nominal output at 0°C

In ice water 36W/m

In air 18W/m

Minimum installation temperature -40°C

Maximum exposure temperature

Power on 65°C

Power off 85°C

Minimum bending radius 25mm

Maximum circuit length 65m



BNTMGP-02

Installation Instructions

1. Important Information

- GP-18 self-regulating cable must be installed and operated in accordance with local regulations and operating data supplied. Installation must be carried out by a qualified electrician.
- Improper installation or damage to the cable can cause failure or short circuits.
- A 30mA RCD should be used.
- Never connect the cable's two parallel live conductors together.
- The cable's cut ends must be protected from moisture.
- Terminations must be made using BN Thermic's recommended devices.
- Do not install onto bitumen or tar related surfaces such as roofing felt

Breaker Selection for GP Self Regulating Cable

Breaker	Cable Length (m)
10A	1 to 60
13A	60 to 63
16A	63 to 65

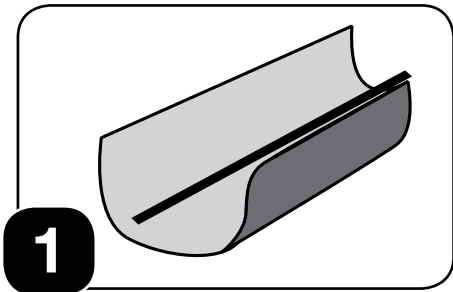
- Use type C breaker

2. Storage

- Upon receipt, cables must be inspected for transit damage.
- Cables must be stored in a clean and dry environment.
- Contact with chemicals (for example oil) must be avoided.
- Storage temperatures min. -40°C
 max +65°C.

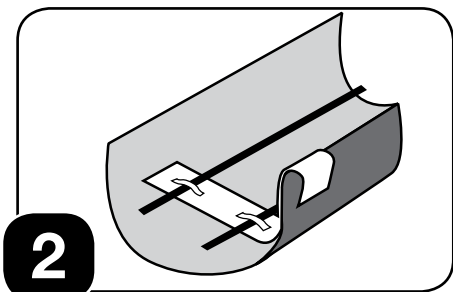
3. Installation Preparation

- Inspect the gutter and downpipe for unevenness and remove sharp edges that could damage the cable. Clean and dry the gutter before installing cable.
- Lacquered or painted surfaces must be allowed to dry completely before installation.
- Remove the heating cable from the roll in a straight line. Do not bend or pinch the cable or pull it over sharp edges.
- Do not walk or drive over the cable.
- Use a 500V insulation resistance tester to measure insulation resistance between the cable's earth braid and the live conductors. A minimum reading of 10mΩ is required.

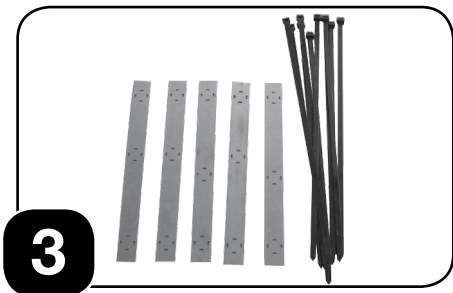


4. Installation

- The cable can be cut and terminated at any point along its length whilst maintaining the required W/m output.
- Gutters up to 120mm width: use a single run of cable (Fig. 1).



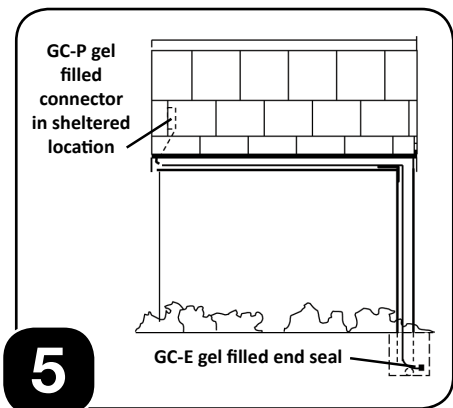
- Gutters between 120mm and 240mm width: use a double run of cable (Fig. 2).
- Gutters over 240mm width: use multiple runs of cable.



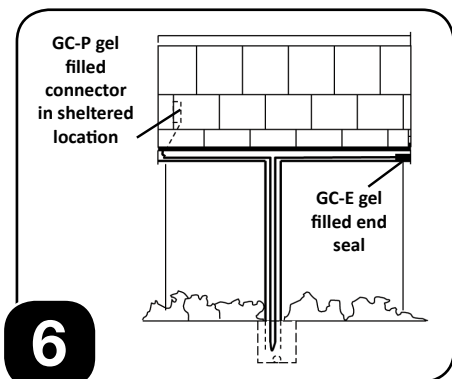
- Cable runs should be approximately 120mm apart. Use GP-S spacer kit to maintain this distance (Fig. 3).



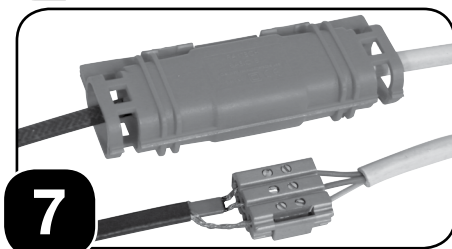
- Protect the cable as it passes over a sharp edge by means of the GP-S spacer kit (Fig. 4).



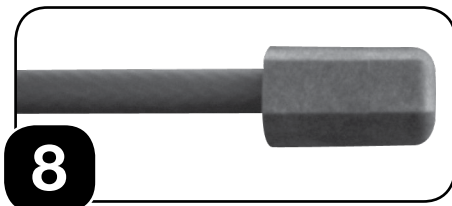
- For downpipes at the end of a gutter, a single run of cable will be required (Fig. 5).



- For down pipes which interrupt a gutter, a loop of cable should be installed (Fig. 6).
- The cable should extend approximately 500mm beyond the bottom of the downpipe.
- Strain relief will be needed for downpipes longer than 30m.



- Connection to the power lead should be made, using a GC-P gel filled connector according to the instructions supplied (Fig. 7). The GC-P should be located in a sheltered location (Figs. 5 & 6).



- The far end of the cable should be sealed using a GC-E gel filled end seal according to the instructions supplied. The GC-E should be located so that it cannot be immersed in water (Fig. 8).
- The GC-P and GC-E must be connected at the same time as the cable is installed to protect the cable from moisture penetration.

- IT IS MOST IMPORTANT NOT TO EXPOSE THE CUT ENDS OF THE CABLE TO MOISTURE AS CAPILLARY ACTION CAN DRAW MOISTURE ALONG THE ENTIRE LENGTH OF THE CABLE VERY QUICKLY PERMANENTLY DAMAGING THE CABLE
- Suitable thermostatic control is recommended.

5. Testing

- After installation, use a 500V insulation resistance tester to measure insulation resistance between the cable's earth braid and the live conductors. A minimum reading of 10mΩ is required.

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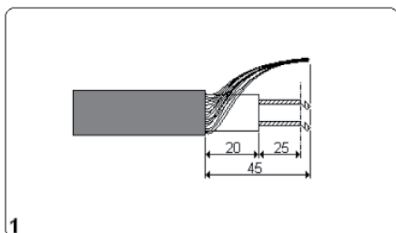
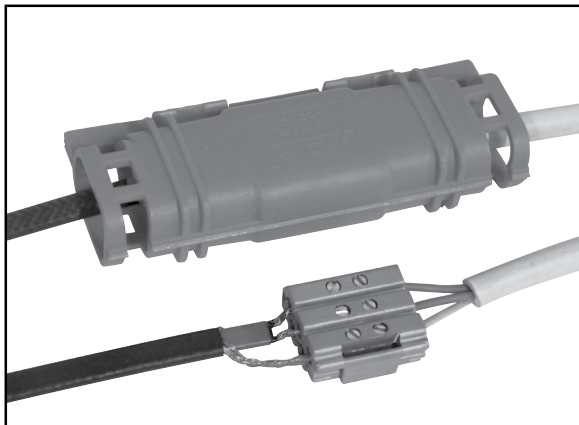
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Installation instructions for

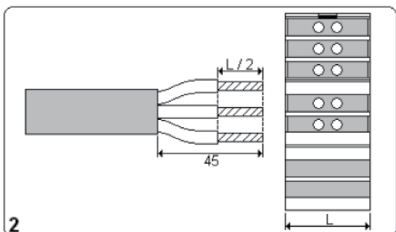
GC-P

Gel-filled Cable Connector

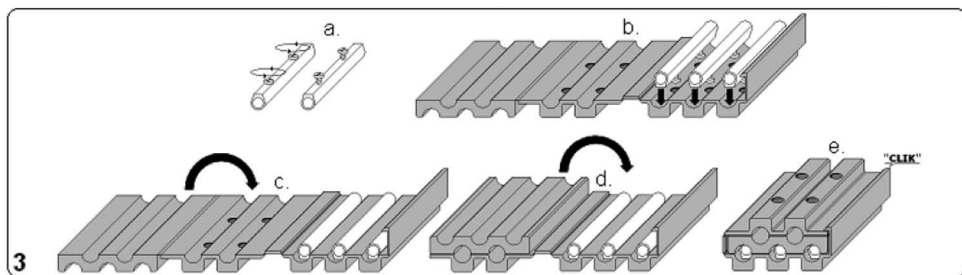
This device is designed to connect a power cable to a self-regulating heating cable. It should be installed by a qualified electrician.



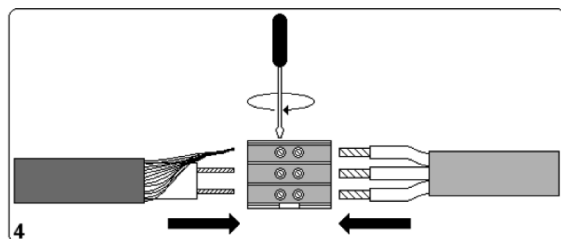
1. Prepare the self-regulating cable (see fig. 1)



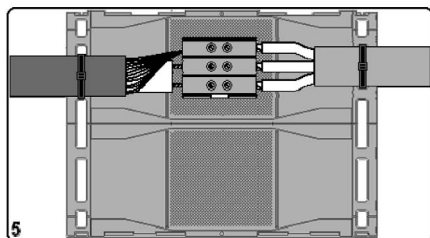
2. Prepare the power cable (see fig. 2)



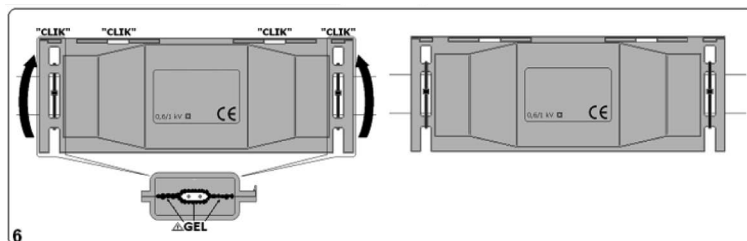
3. Locate brass connectors in 'connector box' (see fig.3)



4. Connect the two cables to the brass connectors (see fig.4)



5. Locate the 'connector box' in the gel filled chamber and secure cables with cable ties (see fig. 5)



6. Securely close the outer enclosure (see fig 6). A small amount of gel should be visible at the point the cables exit the enclosure. If gel is not visible, open the enclosure and insert the plastic fillers supplied into the gel reservoir before securely re-closing the enclosure.

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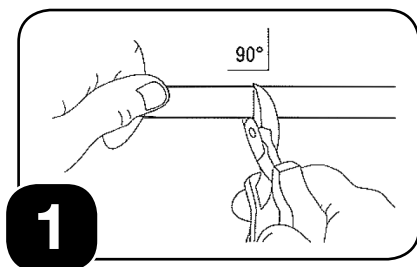
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Instructions for

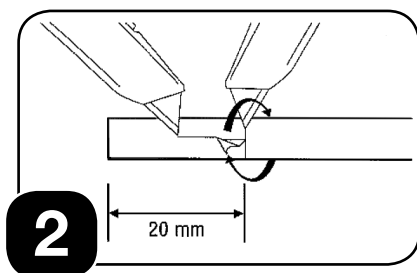
GC-E

End Seal

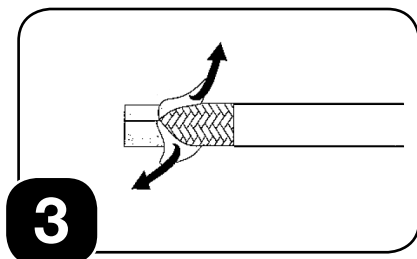
This device is designed to provide an end seal for self-regulating heating cable. It should be installed by a qualified electrician.

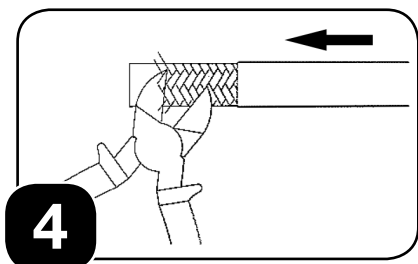


1. Cut the cable end at 90° (see fig. 1)

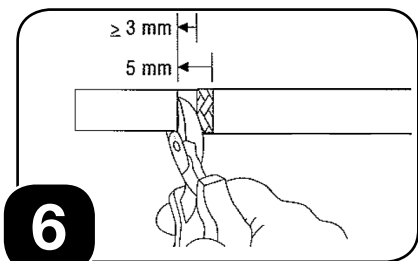
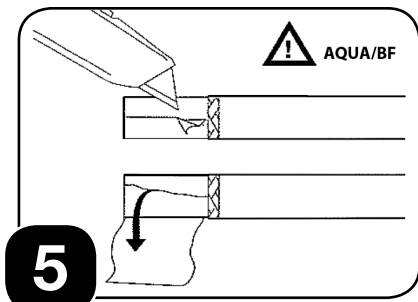


2. Cut away and remove 20mm of the outer jacket from the end of the cable (see fig. 2 and 3)

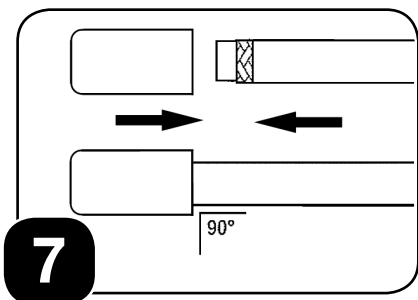




3. Cut away exposed earth braid leaving 2mm protruding beyond the outer jacket (see fig. 4 and 5)



4. Cut the exposed cable end back to 5mm and at 90° (see fig.6)



5. Push the prepared cable end into GC-E End Seal's insulating gel to its full extent maintaining a 90° angle (see fig.7)

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