

# Ebeco T-18      E 89 604 80

## Self-regulating heating cable for frost protection of roofs and gutters

**Range of application:** Frost protection for roofs and gutters, roof-constructions

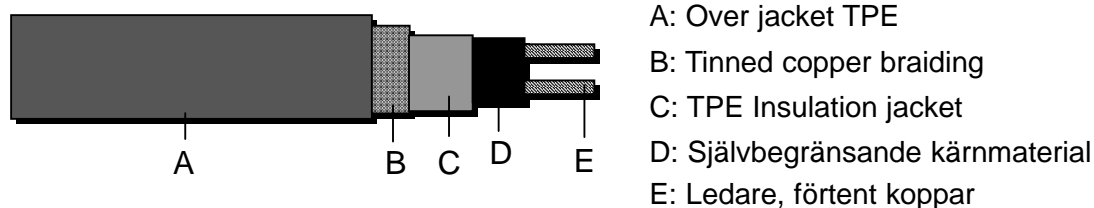
**Dimensioning:** Cable is installed only one-way

The self-regulating construction makes it possible to cut and cross the cable so it fits perfectly to the object without any risk of overheating. The cable regulates its power to the ambient temperature. The fact that the cable only uses it's maximum power in case of snow and ice makes the T-18 a very economical choice when you search for an efficient and reliable frost protection system.

The installation of T-18 is simple; you can just roll out the cable and cut it in any length. After the installation of the connection – end kit you can fix the cable to the gutter, with glue 89 604 14. Then you just have to connect it. At each downpipe you fix a heater support 89 609 62. The T-18 does not require a cold connection cable.

The T-18 is durable and robust. The built in UV-protection protects the cable from drying out and creating cracks in strong sun exposure. The T-18 is also completely PVC free. For convenience, the T-18 is offered by the meter and each meter is marked.

**Voltage:** 230V  
**Maximum connection length:** 10A - 50m  
16A - 80m



### General specifications

Maximum ambient temperature	65°C Powered, 85°C Unpowered
Voltage	230 V
Minimum installation temperature	-30°C
Minimum bending radius	30 mm
Dimensioning	10,5 X 6,0 mm
Power at +5°C in the air	approximately 18 W / metre
Power in ice and snow	approximately 30 W / metre

Tested and approved by SEMKO and CE certificated

### Accessories T-18 heating cable

E 89 604 11	Connection - End kit T-18
E 89 604 12	Splice kit
E 89 604 14	Glue Cartridge T-18
E 89 609 62	Heater support

All of these Control systems below are provided with an electronical regulation. The Control system with max/min thermostat, is needed when the total effect of the construction is less than 4-5kW. At larger constructions is a control system with regulation function needed, which sensing damp and temperature. This will reduce the operating time with approximately 75%. All of them are provided with earth fault breaker 30mA. At 1-3 phase systems is manoevre switch provided and the larger systems than 3 phase has also a operation delay. All of them are provided with an operative indicator.

- E 89 609 40 Control system 1x10A, earth fault breaker, max/ min-thermostat IP54
- E 89 609 42 Control system 1x16A, earth fault breaker, max/ min-thermostat IP54
- E 89 609 46 Control system 3x10A, earth fault breaker, max/ min-thermostat IP54
- E 89 609 48 Control system 3x16A, earth fault breaker, max/ min-thermostat IP54
- E 89 609 50 Control system 3x20A, earth fault breaker, max/ min-thermostat IP54

- E 89 608 00 Control system 3x10A Temp.-fukt-givare Roof IP54
- E 89 608 02 Control system 3x16A Temp.-fukt-givare Roof IP54
- E 89 608 04 Control system 3x20A Temp.-fukt-givare Roof IP54
- E 89 608 06 Control system 6x10A Temp.-fukt-givare Roof IP55
- E 89 608 08 Control system 6x16A Temp.-fukt-givare Roof IP55
- E 89 608 10 Control system 6x20A Temp.-fukt-givare Roof IP55
- E 89 608 12 Control system 9x10A Temp.-fukt-givare Roof IP55
- E 89 608 14 Control system 9x16A Temp.-fukt-givare Roof IP55
- E 89 608 16 Control system 9x20A Temp.-fukt-givare Roof IP55

*There are more models and sizes of control systems. Contact Ebeco for more information.*

- E 85 805 03 Frostprotectionthermostat 16 A, IP54, Max-min thermostat for roof constructions.

### DESIGN GUIDE

The T-18 self-regulating heating cable, installed with a proper control system, delivers a fast adjustable and economical frost protection. We will give you a quick step-by-step design guides, which will give you an overview how to design the frost protection system.

1. Add up the overall length for all gutters and drainpipes, which you want to protect, and add 1 percent for the installation and 0,5 m for each junction box. For each deviation shorter than two meters you can make a loop rather the installing a junction box. If the drainpipe has an extender at the end, can you fold the cable back, which means that the last half-meter of the drainpipe will have two parallel cables. If the construction is equipped with drainpipes below ground level, is it necessary to extend the heating cable below the frost limit. That means usually approximately 1 meter below ground level.

2. To ensure proper sizing of electrical protection do not exceed the maximum heater lengths listed below. In case of more extensive installation might be necessary to divide the cable into different groups, to minimize the size of the fuses. RCD 30 mA and delayed action fuses must be used.

Maximum connection lengths:           10A - 50m  
  16A - 80m

3. Connection-end kit E 89 604 11 and standard connection boxes should be used for the installation. You need one connection-end kit for each cable.

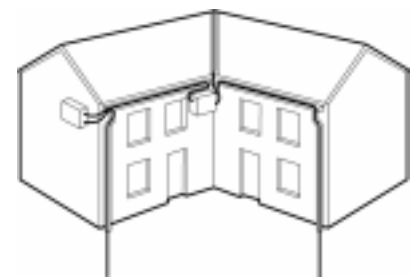
4. You need one heater support E 89 609 62 for each gutter.

5. To make the construction as economical as possible is it important to use the appropriate controller. You can choose between two different kinds..

The min-max-thermostat should be used when the total power is 4-5 kW. For more extensive constructions should you use a control system with temperature-humidity sensors which is automatically adjustable.

#### Important notice:

The temperature sensor should be installed in the shadow on the north side of the building and the humidity sensor should be installed inside the gutter.



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2

- 1. Temp. sensor
- 2. Humidity sensor