

EASYTRACE / X-TRACE Heat Tracing System

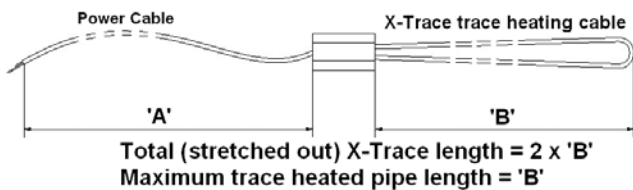


6 Function

6.1 X-TRACE ...

A special characteristic of the X-TRACE is the single-core heating cable complete with stainless steel sheath that is designed as a double-line cable. The back-and-forth cable can be stretched along the length of the pipe. In case of differential pressure measuring lines insulated together, single installation is also possible.

To designate the double-line style of heating cable, the required length of the heating cable is always stated in stretched out metres, i. e. double metres. For example, to heat a 8 m pipe or 8 m long differential pressure cable at least 16 stretched out metres, i. e. 8 double meters of heating cable are required.



Ordering Designation:

X-TRACE ATEX CK2 2500 16 MiVA C2

CK2 = Designed as a double-line cable

2500 = Resistance of the heating line in ohms/km

16 = Stretched out trace heating length = 2 x 'B' (in this case 16 meter, which equals 8 double meter)

MiVA = Mineral-insulated heating line with stainless steel sheath

C2 = Length of the connection cable (in this case 'A'=2m)

6.2 EASYTRACE ...

A special feature of the EASYTRACE is the possibility to directly connect heating cables ranging from 3 to 30 double metres as well as the simple installation without the necessity of a temperature sensor and temperature limiter along the heating line.

Working Principle:

The installed heating power W/m and the heat losses on the insulated pipe are simulated in the same proportion on a reference model in the controller housing. The temperature is measured on two resistance wires that are embedded in the potted housing and connected in series to the heating circuit, controlled to the setpoint temperature of the pipe and limited to 72°C in case of incorrect operating conditions. The pipe and reference model temperatures are approximately the same if the pipe insulation corresponds to the insulation value of the potting material and the controller is installed in the open air. If the heat flow increases through the pipe insulation with decreasing ambient temperature, it also increases through the potting material. To compensate for the heat losses, the controller then increases the heating power to ensure safe freeze protection on single or jointly insulated measuring lines up to ambient temperatures of - 35°C.

The pipe insulation should consist of 30 - 40 mm thick glass wool, mineral wool etc.

Power Control:

A power setting integrated in the controller housing controls the heating power with a delay of up to five minutes after

switching on in a linearly increasing manner from 0 % to the value required to compensate the heat losses. In combination with the P-behaviour of the controller it thus prevents, even with short, lowly resistive heating circuits, the temperature exceeding the setpoint. Whenever the operating voltage is switched off for longer than 30 seconds, the power setting is set back to the initial value, so that a new start is possible, starting with 0% of the initial power.

Failure Alarm:

The only mechanical switching element in the controller housing is a bi-metallic contact closing at 16°C and opening at 7°C. It is heated to the reference point temperature and can therefore be used for the connection of a signal circuit for failure indication.

Ordering Designation:

EASYTRACE ATEX F 6-60 2500 AM J

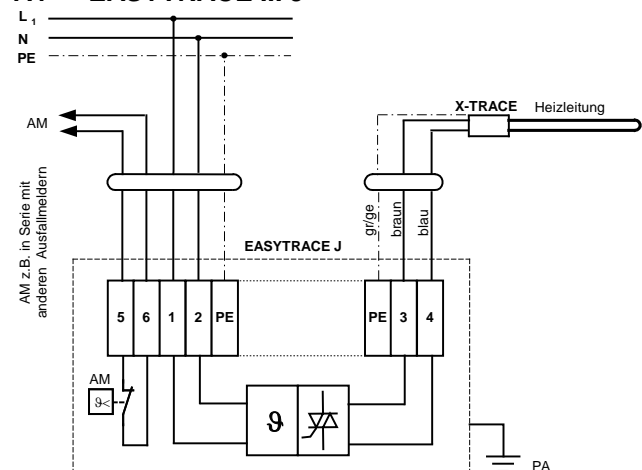
Design with terminal section (J).

EASYTRACE ATEX F 6-60 2500 AM C2

Standard design with 2 m long cable outlets (C2).

7 Electric Wiring

7.1 EASYTRACE ... J



7.2 EASYTRACE ... C

